



**NORNICKEL**

Annual report • 2017

# Investing in sustainable development



# CONTENTS

## 2017 ANNUAL REPORT PJSC “MMC “NORILSK NICKEL”

Reporting period from 1 January 2017  
to 31 December 2017

The 2017 annual report of PJSC “MMC “Norilsk Nickel” (MMC Norilsk Nickel, Norilsk Nickel, the Company) incorporates the results of MMC Norilsk Nickel and other operations of the Norilsk Nickel Group (the Group). For the purposes of this annual report, the Norilsk Nickel Group shall refer to a group of companies that includes MMC Norilsk Nickel and its subsidiaries. The largest subsidiaries of the Norilsk Nickel Group and their shares in the capital of MMC Norilsk Nickel are presented in the 2017 consolidated IFRS financial statements.

The accuracy of information contained in this report was confirmed by the Audit Commission and approved by the Company's Board of Directors and Annual General Meeting of Shareholders.

- Preliminarily approved by the Board of Directors of MMC Norilsk Nickel (*Minutes No. GMK/18-pr-bd of 24 May 2018*)
- Accuracy of information confirmed by the Audit Commission of MMC Norilsk Nickel (*Opinion of 16 May 2018*)
- Approved by the Annual General Meeting of Shareholders of MMC Norilsk Nickel (*Minutes No. 1 of 28 June 2018*)

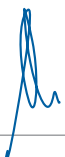
### Vladimir Potanin

President,  
Chairman of the Management Board  
PJSC “MMC “Norilsk Nickel”



### Sergey Malyshev

Senior Vice President,  
Chief Financial Officer  
PJSC “MMC “Norilsk Nickel”



# 1

## 02 Company overview

- 04 Company profile
- 06 Key highlights
- 08 Business model
- 10 Chairman's letter
- 12 President's letter

# 2

## 16 Strategy overview

20

### Environmental programme



22

### Key investments



26

### Shaping growth areas



28

### Efficiency improvement programme



## Company mission

Through the efficient use of natural resources and equity, we supply mankind with non-ferrous metals, which make the world a more reliable place to live in and help people realise their aspirations for development and technological progress.

## Values

### Reliability

an ability to address any challenges to ensure success for the business.

### Growth

effective production ramp-up and upgrade, leverage of groundbreaking technologies and development of our people.

### Efficiency

delivering against our targets in due time and at minimum costs.

### Responsibility

a desire to honour our commitments and take on responsibility for our decisions.

### Professionalism

a sustainably strong performance.

### Collaboration

an ability and desire to achieve goals through team work.

# 3

## 30 Market overview

32	Metals in electric car production
34	Nickel
40	Copper
44	Palladium
50	Platinum

# 4

## 56 Business overview

58	The Group business
58	— Mineral base
62	— Geological exploration
66	— Production assets and activities
87	— Key investment projects
94	— Gas and energy assets
97	— Transportation assets
100	— Products and sales
103	— Research and development
105	— Supply management
108	Corporate responsibility
108	— HR and social policy
128	— Occupational safety
132	— Environment
147	Financial overview (MD&A)

# 5

## 160 Corporate governance

162	Deputy Chairman's letter
165	Corporate governance framework
170	Board of Directors
185	President and Management Board
193	Remuneration
195	Risk management and internal controls
203	Independent audit



Online report  
is available on website  
<https://ar2017.nornickel.com/>

# 6

## 204 Information for shareholders

206	Authorised capital
206	Securities
210	Dividends
213	Shareholder rights
214	Transparency

# 7

## 218 Appendixes

220	Consolidated financial statements
267	The Group structure
268	History of production indicators
270	Minerals resources and reserves
272	Report on compliance with principles and recommendations set forth in the Corporate Governance Code
292	Glossary
294	Metric conversion table and currency exchange rates
295	Contacts



# COMPANY OVERVIEW



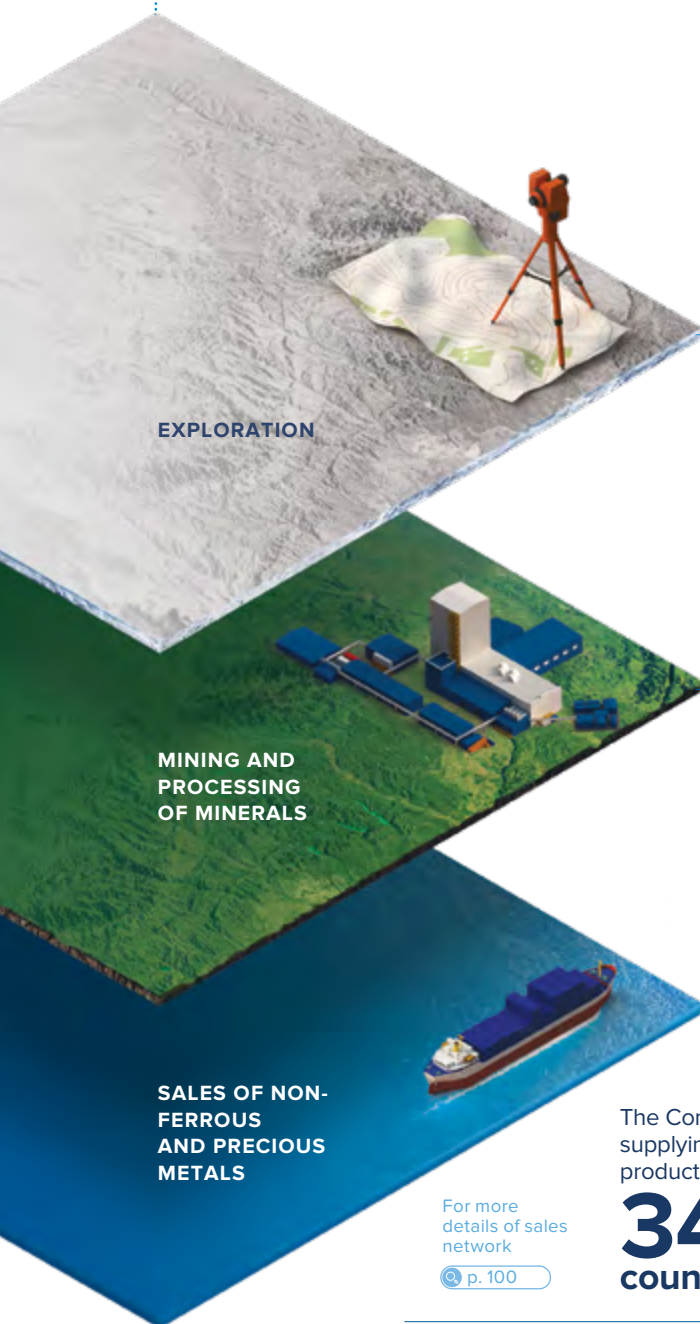




<b>04</b>	Company profile
<b>06</b>	Key highlights
<b>08</b>	Business model
<b>10</b>	Chairman's letter
<b>12</b>	President's letter

# Company profile

The Norilsk Nickel Group's core operations



EXPLORATION

MINING AND  
PROCESSING  
OF MINERALS

SALES OF NON-  
FERROUS  
AND PRECIOUS  
METALS

For more  
details of sales  
network  
p. 100

The Company  
supplying its  
products to  
**34**  
countries

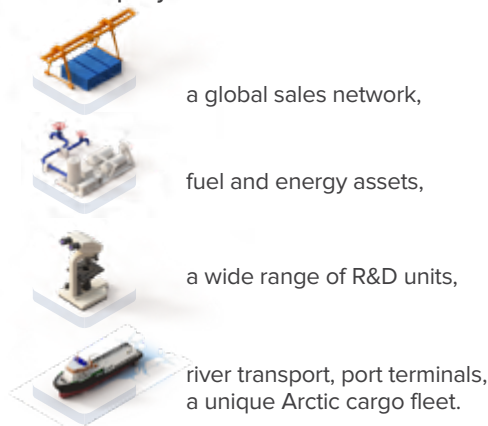
The Norilsk Nickel Group (the Group) includes PJSC MMC Norilsk Nickel (Nornickel, the Company) and its subsidiaries. MMC Norilsk Nickel is the core (parent) company of the Norilsk Nickel Group, having the biggest share in the subsidiaries' authorised capital.

For more details on the Group's structure

p. 267

The Norilsk Nickel Group is Russia's leading metals and mining company, the largest palladium and refined nickel producer in the world, and one of the biggest platinum producers. In addition, the Group produces copper, cobalt, rhodium, silver, gold, iridium, ruthenium, selenium, tellurium, and sulphur.

In addition to the production facilities, the Company owns:



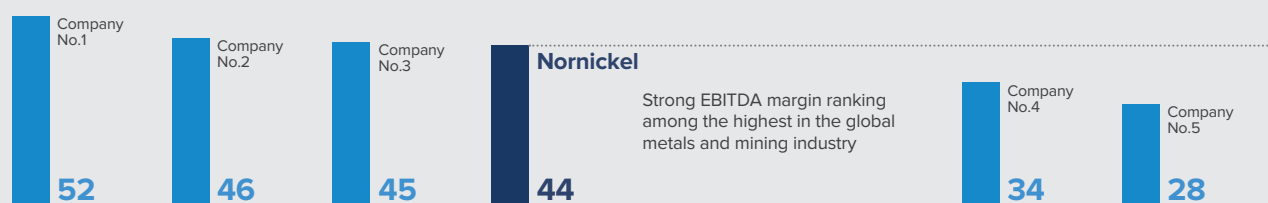
a global sales network,

fuel and energy assets,

a wide range of R&D units,

river transport, port terminals,  
a unique Arctic cargo fleet.

## EBITDA margin in 2017 // %



Strong EBITDA margin ranking among the highest in the global metals and mining industry

## Mineral resources<sup>1</sup>

Nornickel operates the unique Talnakh Ore Field on the Taimyr Peninsula. Its sheer size and remarkably high content of metals in the ore make the field's resource base key contributor to the Company's long-term sustainable growth.

<sup>1</sup> The Company's reserves and resources as at 31 December 2017, including wholly owned overseas assets and excluding deposits in Zabaykalsky Krai are reported according to JORC standards.

Proven and probable reserves	Measured and indicated resources
<b>12.4 mt Copper</b>	<b>23.8 mt Copper</b>
<b>7.1 mt Nickel</b>	<b>15.5 mt Nickel</b>
<b>3.9 kt PGM</b> (125 mln oz)	<b>8.3 kt PGM</b> (264.7 mln oz)

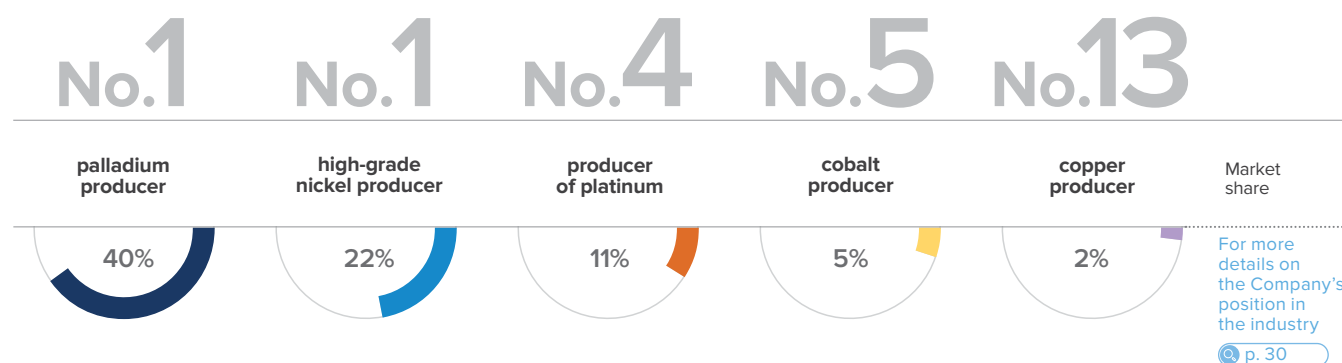
**815 mt Ore**

**2,220 mt Ore**

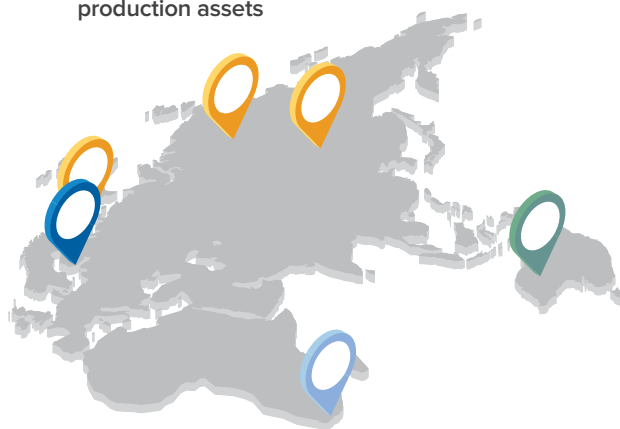
For more details on the Company's reserves and resources

[p. 58](#)

## The Company's position in the global industry

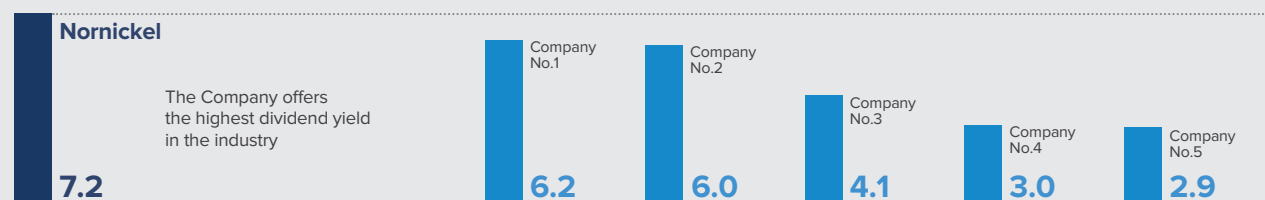


## The Group's production assets



- Russia.** Core businesses in Russia are vertically integrated and include Polar Division, Kola MMC and Bystrinsky GOK.
- Finland.** In Finland, Norilsk Nickel operates Norilsk Nickel Harjavalta, a nickel refining facility that became part of the Group after its acquisition in 2007. The plant is fully integrated into the Group's production chain.
- South Africa.** In South Africa, the Company owns 50% of Nkomati, a nickel mine developed jointly with African Rainbow Minerals.
- Australia.** In Australia, The Company holds a licence to develop the Honeymoon Well Project.

## Dividend yield in 2017 // %





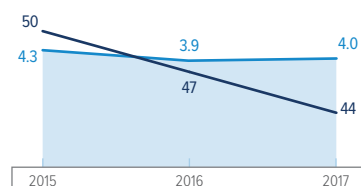
# Key highlights

## Financial stability

For more details on financial results, please see the Financial Results (MD&A) section and IFRS Financial Statements

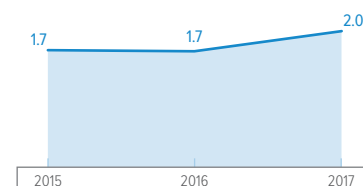
[p. 147, 220](#)

— EBITDA margin // %  
— EBITDA // USD bn



In 2017, EBITDA increased by 2% mainly due to higher metal prices. Strong EBITDA margin remains among the highest in the global industry.

— CAPEX // USD bn



CAPEX increased in 2017 due to the active construction phase of Bystrinsky GOK and upgrade of refining capacities at Kola MMC.

## Operating efficiency



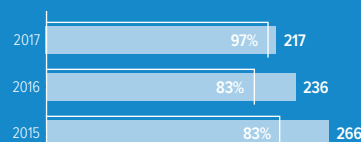
For more details on production outlook, please see the Strategy Day presentation (slide 26) available on the Company's website

For more details on historical production

[p. 268](#)

### PRODUCTION RESULTS

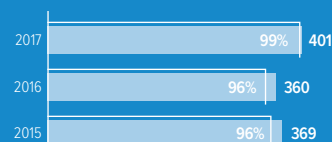
Nickel // kt



From the Company's own Russian feedstock

– 8%  
2017/2016

Copper // kt

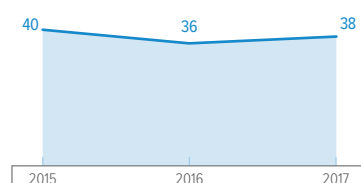


From the Company's own Russian feedstock

+ 11%  
2017/2016

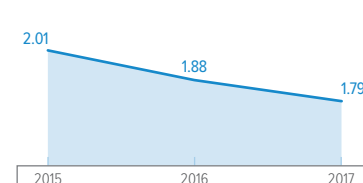
## High level of social responsibility

— Use of renewable energy // %



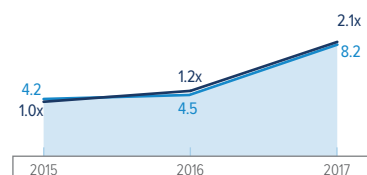
Nornickel's investment programme for 2018–2020 includes several large-scale energy projects aimed at modernizing the Company's captive hydroelectric power plants and enhancing the use of renewable energy sources.

— Sulphur dioxide emissions // mt



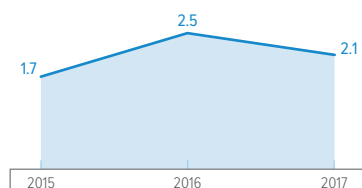
In 2017, sulphur dioxide emissions decreased by 11% from 2015. The decline came as a result of the Nickel Plant shutdown, upgrade of Talnakh Concentrator and the transition to hot briquetting technology at Kola MMC. The emissions within Norilsk city limits dropped by 30–35%.

— Net debt / EBITDA ratio  
— Net debt // USD bn



An increase in net debt by 31 December 2017 was caused by dividend payments in the amount of USD 3 bn and one-off changes in the net working capital. The net debt to EBITDA ratio used to calculate final dividends for 2017 was at 1.88x.

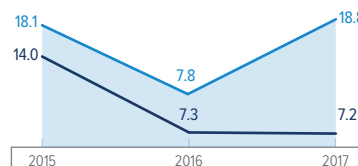
— Net profit // USD bn



In 2017, Nornickel's net profit amounted to USD 2.1 bn.

— Dividend yield<sup>1</sup> // %

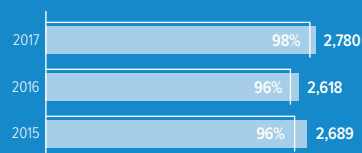
— Dividends paid in the reporting period // USD per share



The Company paid the highest dividend yield in the global metals and mining industry.

<sup>1</sup> Dividend yield was calculated based on the amount of dividends recommended by the Board of Directors and the average ADR price sourced from Bloomberg for the calendar year.

Palladium // koz



From the Company's own Russian feedstock

**+6%**  
2017/2016

Platinum // koz

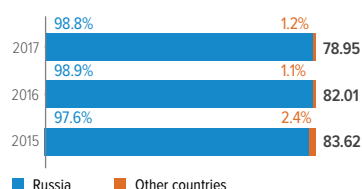


From the Company's own Russian feedstock

**+4%**  
2017/2016

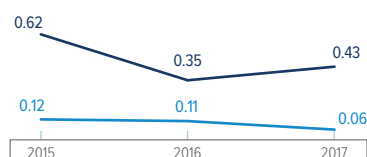
After completion of the main of production reconfiguration programme Talnakh Concentrator reached its design capacity and achieved target recovery rates in 2017. This also led to the normalisation of the work-in-progress inventory levels and helped Nornickel to increase output of all key metals from the Company's own Russian feedstock and meet the production targets for 2017. In addition, the Company substantially decreased low-margin processing of purchased from third parties.

Average headcount // thousand of people



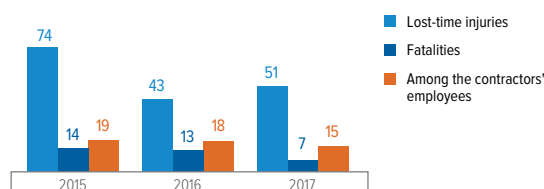
The decrease in headcount in 2017 resulted from the disposal of noncore assets, implementation of a programme to improve labour productivity, and cost optimisation.

— LTIFR  
— FIFR

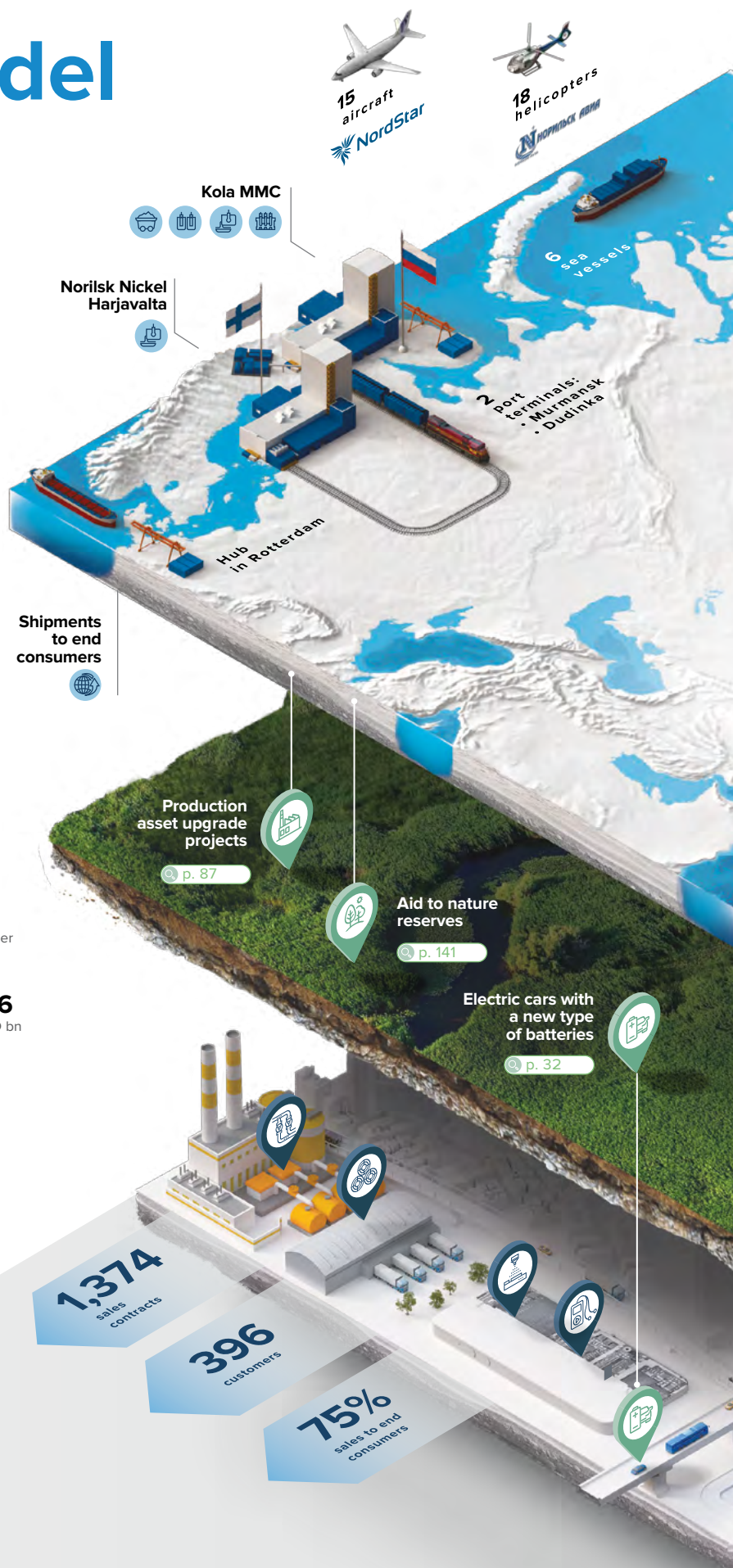
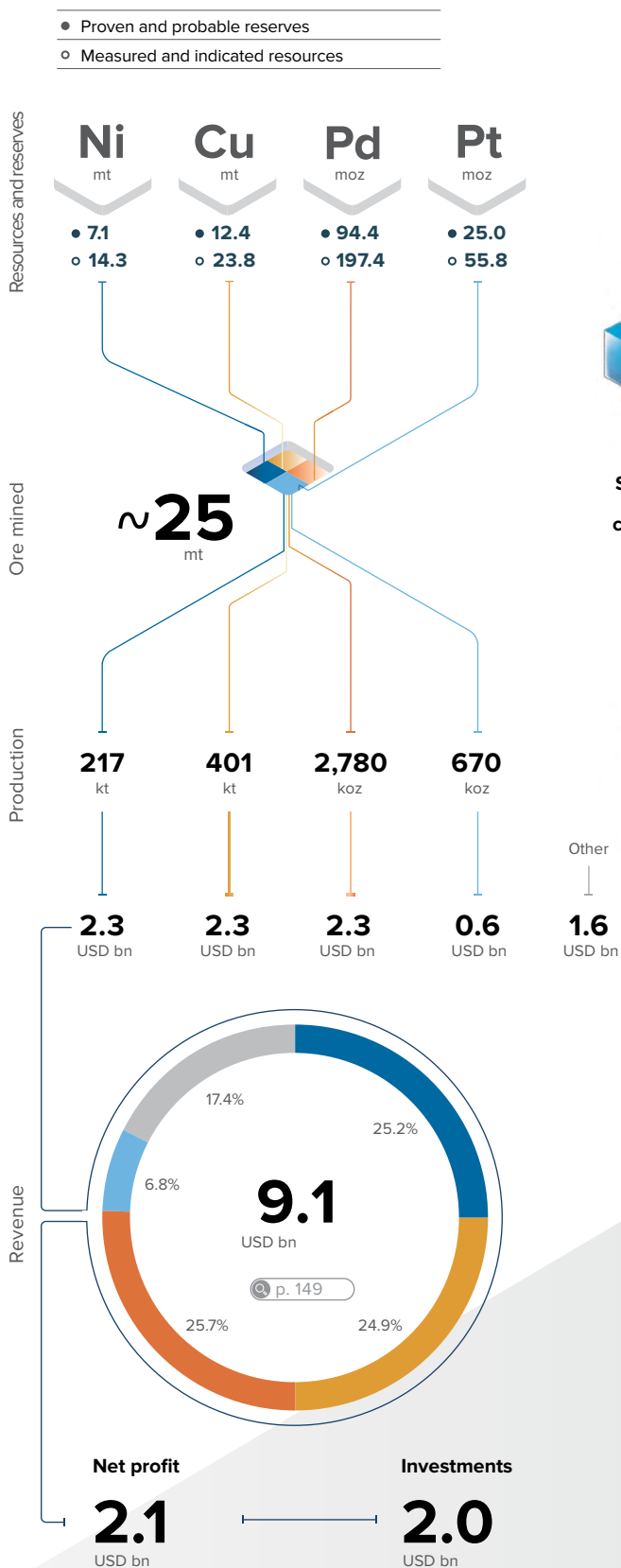


The 2017 LTIFR (Lost Time Injury Frequency Rate (non-fatal LTIs) / total number of hours worked • 1,000,000) is in line with the industry average. The number of fatal injuries decreased by 46% thanks to the implementation of new safety standards and launch of the Risk Control project. The number of accidents among the contractors' employees also declined.

Injury rates // accidents



# Business model





## Polar Division



**Krasnoyarsk Precious Metals Refinery**  
(100% state-owned)



## Bystrinsky GOK



**Gas and energy assets**

**555 river vessels**

**Bystrinsky Transport Division**

**R&D**

[p. 103](#)

**Sulphur Project**

[p. 90](#)

**Catalysts in exhaust gas treatment systems**

[p. 46](#)

**Positive environmental impact**

## Foreign assets



**Australia**  
Honeymoon Well (licence)



**South Africa**  
Nkomati



## Operations



Mining



Refining



Concentration



Logistics



Smelting

Production assets structure

[p. 66](#)



In 2018–2022, Nornickel will become 'greener' and help others to 'get greener'.

**Vladimir Potanin**

## Product applications

Batteries



Ni, Au, Ag, PGM

Catalysts



PGM

Electronics



Cu, Au, Ag

Medicine



Ni, Cu, PGM, Au, Ag

Coins



Stainless steel



Ni, Co, Mo, Fe

Coatings



Ni, Au, Ag

Pipes



Ni, Cu, Co, Mo, Fe

Wire



Cu

Jewellery



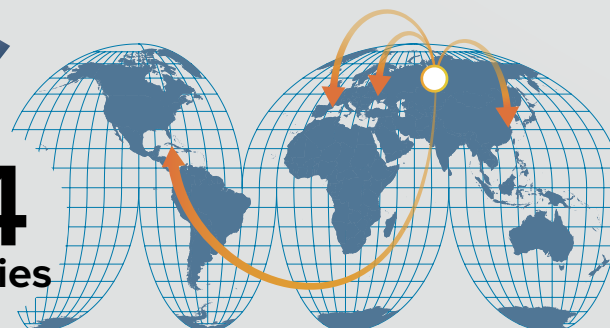
Au, Ag, PGM

## Metal sales geography

[p. 100](#)

The Group's own global sales network spans over

**34 countries**



# Chairman's letter

## Dear Shareholders,

Year 2017 was rough and volatile from both macroeconomic and operating perspective, but it nonetheless became a year of significant achievements and major decisions for our Company.

Thanks to the hard work, commitment and professionalism of our 79,000 employees, we continued to expand our leadership position by delivering on operating and financial results, upgrading our assets, and enhancing safety, while generating significant value for shareholders.

In the second half of 2017, synchronised global economic growth and optimism returned to the metals and mining sector, positively affecting the price of our metal basket. With this tailwind, we generated solid revenues of USD 9.1 billion and strong EBITDA of USD 4.0 billion with a strong margin of 44%.

To allow you, as shareholders, to benefit from our robust cashflow generation, we continued paying dividends with an industry-leading yield. I would like to highlight that the flexibility of our dividend policy allowed us to maintain a proper balance between a conservative level of financial leverage and attractive cash returns, while still investing in sustainable development and future growth.

During the year, we continued to deliver on our value-accretive investment agenda as the expansion and modernisation of concentrating, smelting and refining facilities were largely completed, allowing us to beat initial production guidance and minimize the low-margin processing of third-party feed. Another big achievement was the launch of the Bystrinsky greenfield project, which we have been actively investing in for the last few years. This is positioned to provide a significant boost to our copper and gold output starting from 2018.

With regard to important decisions, I would like to highlight our announcement of a new investment programme focused on environmental and large-scale infra-structural expenditures that are crucial pre-requisites for long-term sustainable growth. The Company is committed to allocating USD 2.5 billion to reduce sulfur dioxide emissions in the Polar division by four times by 2023, in order to improve dramatically the quality of life in Norilsk. During 2018-2022, we also plan to invest over USD 1 billion in renewal of infrastructure including a gas transportation system, power generation and logistics. We understand

+11%

**9.1**  
USD bn  
Revenue in 2017

**2.5**  
USD bn  
CAPEX to Sulphur Project





that these investments may not generate immediate financial returns, but firmly believe that our efforts will pay off and contribute to the growth of shareholder value in the long run. We are witnessing the growing environmental awareness of the global investor community which chooses long-term sustainable development to short-term gains, and hence supports our strategic initiatives.

A year of major decisions will now be followed by the systematic implementation of the measures initiated, with a positive impact on our operations. To ensure the delivery of improved results and higher returns to shareholders, the Board will continue to be deeply involved in oversight of performance, risk and financial efficiency and will keep a constant scrutiny on safety. We have a bold vision for the future — an invigorated sense of what we can accomplish as one team, one Norilsk Nickel.

**Gareth Peter Penny**  
Chairman of the Board  
of Directors  
MMC Norilsk Nickel



# President's letter

## Dear shareholders,

It was half a decade ago, back in 2013, when the Company's new management team launched a five-year strategic programme, so in addition to the last 12 months of 2017, I would also like to speak about the performance over the last five years.

When we took the reins in 2013, we had our work cut out for us. We had to whip the Company into shape, and we started by shoring up the budget and investment discipline, reconfiguring our production chains, upgrading smelting capacities and preparing integrated solutions for multiple environmental problems.

Today, I can say that we have followed through on each of these targets, even despite the constant metal price fluctuations, capital markets uncertainty and geopolitical challenges. Our operations were not the only field where we excelled: thanks to consistently strong financial performance and well-organised dialogue with the investment community, we were able to lock in a substantial dividend yield of more than 60% over the last five years.

## Completion of polar assets reconfiguration and new launches

In 2017, we completed a number of key development projects that were started back in 2013–2014. Talnakh Concentrator reached full design capacity, marking a milestone in Nornickel's major investment project to upgrade equipment and reconfigure processing capacities. Improved concentrate quality and expanded processing capacities at Nadezhda Metallurgical Plant and the Kola MMC refining facilities fully offset the discontinued smelting capacities following the shutdown of Nickel Plant. As a result, the output of all our key metals from own feedstock grew by 7–15% compared to 2016.

**+7–15%**

increased production from own feedstock

**2**  
USD bn  
CAPEX



In late October 2017, we launched Bystrinsky GOK in Zabaykalsky Krai, which was the largest Russian greenfield project of the last decade. For us, Bystrinsky GOK is not just another new asset, which is going to be outputting 70 kt of copper and 250 koz of gold annually, but a platform to implement the most advanced technologies and practices, both in the sphere of production, social policy, environment protection and HR management.

## Financial highlights

Inspired by the synchronised global expansion, investors showed renewed interest in commodities, which supported the recovery of the non-ferrous and platinum group metals prices in 2H 2017. As a result, Nor Nickel's revenue grew by 11% to USD 9.1 bn, while EBITDA stood at USD 4 bn with the margin of 44%. CAPEX amounted to USD 2 bn, the bulk of which was spent on continuing the production capacity reconfiguration programme, executing high-margin mining projects and completing Bystrinsky GOK.

→  
Continued  
overleaf

>100

USD mln

reduction of interest payments

1,087

bids

were received at a grant competition  
for social projects over three years

Thanks to the favourable global market environment and historically low interest rates, we were able to decrease the cost of our debt. During the last year, we repaid high interest rate rouble loans in the amount of RUB 60 bn, placed two Eurobond issues for USD 1.5 bn with record-low coupon rates for Nornickel, made a downward revision to the rates on our existing credit facilities for a total amount of USD 2.5 bn, and raised a syndicated loan of USD 2.5 bn from a pool on international banks at an unprecedentedly low interest rate for a Russian company. Together, these achievements helped drive down the future interest payments by over USD 100 mln.

## Occupational safety and social responsibility

The life and health of its employees remain Nornickel's top priority. The Company has put in place a large-scale programme for prevention of workplace injuries and accidents, carried out behaviour audits and workplace certification, and implemented the latest occupational safety standards. We also started the digitisation of production processes at underground mines. Despite the human factor still causing some work-related fatalities, we were able to almost halve their number. No matter how small, that number is unacceptable for us, and we are going to do all we can to achieve a zero fatality rate.

The Company's social work is not limited to its production facilities. Across all regions of its operation, Nornickel strives to better the urban environment, improve living conditions, and support public initiatives in the respective areas. Since 2014, the Company has been hosting a grant competition of social projects, which aims to support public initiatives and facilitate sustainable development. Over the last three years, the competition drew 1,087 bids, out of which 294 were selected for funding, with the total of RUB 265.5 mln allocated by the Company.

Volunteering is becoming increasingly more popular among Nornickel's employees. For example, the Let's Do It environmental marathon, which seeks to promote careful and responsible attitudes to the regions of operation and ecology on the whole among the Company's staff, has become a corporate tradition. In 2017, it saw participation from thousands of Nornickel employees, who are also part of the Plant of Goodness corporate volunteer programme.

Another important development of 2017 was the end of the fibre optic communication line construction, which finally gave Norilsk residents access to high-speed internet. It will make it faster and easier for us to introduce IT solutions at the production sites while also improving the community's living standard.



# -75%

cut is targeted for Polar Division's  
SO<sub>2</sub> emissions by 2023

# 2.5

USD bn

CAPEX of Sulphur Project

## New strategic cycle's priorities – green Nornickel and investments in growth

Despite the achievements of the last five years, we realise there is still a lot of work ahead of us and do not hesitate to set even more ambitious targets. The absolute priority for us is the material improvement of the environmental conditions in the Norilsk Industrial District and the Kola Peninsula. Last year, we initiated the so-called Sulphur Project, which will enable the Company to cut Polar Division's sulphur dioxide emissions by 75% by 2023. This truly massive project will involve the construction of major sulphuric acid production capacities with subsequent neutralisation capabilities and will cost up to USD 2.5 bn. We will continue work on the Kola MMC production chain upgrade, which will allow us to shut down part of the smelting capacities and thus achieve a twofold decrease in emissions.

We aim to make Nornickel a truly "green" company, which will include not only decreasing the harmful footprint of our facilities, but also promoting our products as a means of ensuring environmentally-friendly development of the humankind. Nornickel is already recognised as the largest global producer of metals used in manufacturing of automotive catalysts, which help improve urban air quality across many countries. High-quality nickel is an indispensable component of batteries for electric cars, which will dominate our planet's roads in the future.

To maintain Nornickel's status of the industry powerhouse long into the future, we are putting together a portfolio of growth projects that include development of the Southern Cluster (potential to ramp up production from 2 to 6 mt of ore), expansion of Talnakh Concentrator, and a project to develop disseminated ore fields in the southern part of the Norilsk Industrial District.

We are certain that successful execution against our targets over the next five-year period will ensure exponential growth of Nornickel and lay the groundwork for generating long-term shareholder value.



**Vladimir Potanin**

President,  
Chairman of the Management  
Board MMC Norilsk Nickel



# STRATEGY OVERVIEW



<b>20</b>	Environmental programme
<b>22</b>	Key investments
<b>26</b>	Shaping growth areas
<b>28</b>	Efficiency improvement programme



# Nornickel's strategy

The Company has embarked on a new investment cycle to secure its sustainable development and establish a platform for future growth. President's priorities include implementing the second stage of the unprecedented environmental programme, completing the production reconfiguration project, developing the Company's mining assets, reaching target performance levels for the Chita project, and delivering on the extensive infrastructure renewal programme, which, together with comprehensive efficiency improvement efforts, is helping to lay foundation for sustainable shareholder value growth.

## President's priorities



The 2023 development programme is designed to renew all production capacities and, ultimately, make Nornickel one of the most advanced and environmentally responsible companies in the industry."

**Vladimir Potanin**



### Environmental programme

- Implementing environmental projects that lead to a many-fold decrease in SO<sub>2</sub> emissions across the Company's footprint
- Working with the "green" industries, including by manufacturing catalysts and electric transport



### Mining development and the new asset replacement cycle

- Consistently renewing the infrastructure and key production facilities
- Upgrading and refurbishing the production assets (reconfiguration project)
- Developing the Talnakh ores and maintaining a stable production level



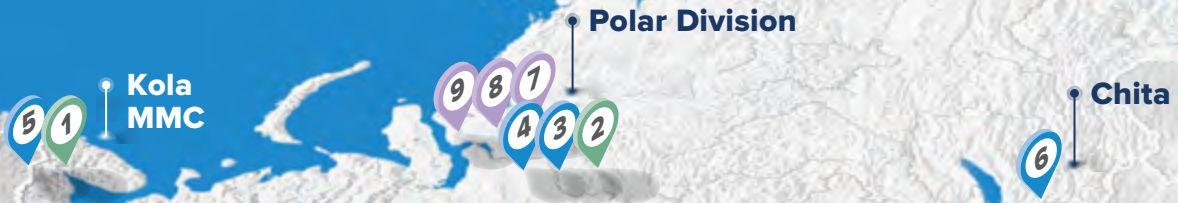
### Shaping growth areas



### Consistent process efficiency improvement

- Comprehensive cost reduction and efficiency improvement programme
- Introducing ERP / automated control systems
- Introducing industrial automation systems

## THE MAP TO ADVANCED, EFFICIENT, AND ENVIRONMENTALLY FRIENDLY PRODUCTION



### 2018–2020 key strategic investments

USD **1.4–1.6** bn

- 1 Optimising the smelting shop capacity utilisation rates to decrease SO<sub>2</sub> emissions
- 2 Implementing the comprehensive environmental programme

USD **4.4–4.8** bn

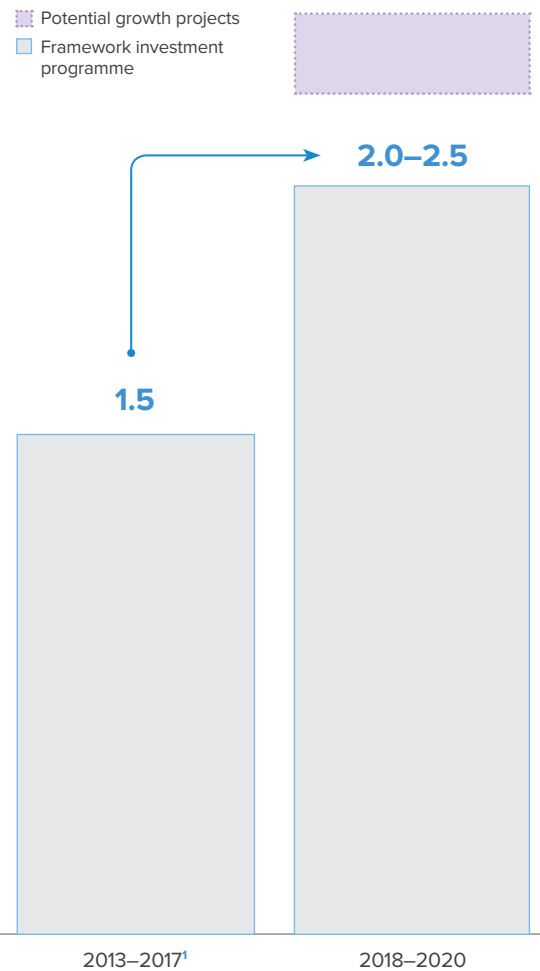
- 3 Infrastructure development and maintenance
- 4 Intensive development of the Talnakh ore mining base
- 5 Completion of the current reconfiguration programme
- 6 Chita Project

- 7 Potential construction of the third stage of Talnakh Concentrator
- 8 Development of the Southern Cluster
- 9 Greenfield PGM production project in the Norilsk Industrial District
- Search for new growth areas in other Russian regions

USD **0.3–0.5** bn

- Efficiency improvement initiatives covering IT, automation, R&D, machinery productivity

### Average annual investment // USD bn p.a.



<sup>1</sup> Excluding Chita Project.



## Environmental programme

**–75%**

target reduction of SO<sub>2</sub> emissions in the Norilsk Industrial District by 2023

**–50%**

target reduction of SO<sub>2</sub> emissions in the settlement of Nickel (Kola MMC) by 2019

The integrated environmental programme expected to receive ca. USD 2.5 bn in investments by 2023 is one of the priority focus areas of Nor Nickel's strategy. The programme is designed to decrease SO<sub>2</sub> emissions by 75% in the Norilsk Industrial District and by 50% on the Kola Peninsula.



We are launching the second stage of our environmental programme, the Sulphur Project, on a scale that is unprecedented not only in Russia but worldwide."

**Vladimir Potanin**

# Improvement of environmental conditions across Russian operations and globally



# Environmental programme 2.0



## Objective

Cut emissions in the Kola Peninsula by 50%

## Goal

Optimise the smelting shop capacity utilisation rates in the settlement of Nickel by separating the concentrate produced at Kola Concentrator



Sulphur Project

## Objective

Cut sulphur dioxide emissions by 75% (as compared to 2015) by 2023 leveraging the most effective technological solution

### The programme includes two stages

Stage 1 was completed in 2016 as a part of the downstream reconfiguration programme that included upgrade of concentrating and smelting capacities as well as the shutdown of Nickel Plant, the oldest and least environmentally friendly site in the Polar Division, to substantially reduce emissions in the residential area of Norilsk. At present, the Company is working to achieve Stage 2 goals.

## Goals (Stage 2)

### Copper plant

- Reconstruct copper production chain, including the shutdown of environmentally harmful conversion operations
- Expand and upgrade the existing sulphur production

### Nadezhda Metallurgical Plant

- Launch a new continuous copper matte converting facility
- Implement a comprehensive SO<sub>2</sub> capture solution including production of sulphuric acid and its subsequent neutralisation with natural limestone

More details on the Sulphur Project

p. 90

# Investing in pure metal



Providing the growing electric vehicle industry with critically important metals



Providing catalyst producers with critically important metals

**Ni, Cu, Co**

More details

p. 34

**Pt, Pd**

More details

p. 44



USD **4.4–4.8** bn

Investments in core projects, 2018–2020

## Key investments

The framework investment programme provides for large-scale modernisation and expansion of the production capacities, consistent renovation and upgrade of the infrastructure, development of the Talnakh ores, and maintaining a stable production level. The Chita project, one of the largest greenfield projects in Russia's mining industry, is also part of the framework investment programme.



Over the next three years, we will be going through a higher CAPEX stage which will allow us to both maintain stable production levels and establish a strong foundation for new high-potential projects."

**Vladimir Potanin**

# Large-scale asset modernization and development of the mining base

# Mining projects

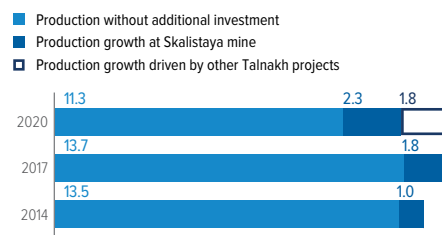
## Taimyr Peninsula Polar Division

### In the mid-term, the investment programme will ensure a stable level of production

- Increased rich ore production at Skalistaya mine will preserve metal content in commercial ore at the current level.

- The resource base of the Talnakh Ore Cluster has a strong potential for further development. In 2018–2019, the Company will make decisions on expanding the production capacities at the Oktyabrskoye and Talnakhskoye Fields.

### Production volumes at Talnakh Ore Cluster // mt



USD **1.5** bn

investments in Talnakh mines development in 2018–2020

# Development project




## Chita Project GRK Bystrinskoye

### Achieving target financial indicators is one of the MMC's key priorities

- Hot commissioning started in November 2017.
- Planned processing capacity post-2021 – 10 mt.
- Target metal output in concentrates:
  - ~70–75 kt of copper,
  - ~250–260 koz of gold,
  - ~2,900 kt of magnetite concentrate.
- Life of the project – over 30 years.

The reserves are estimated at


**336** mt of ore

 **295 t**  
 **2.3 mt**  
 **73 mt**

Project investments

~USD **1.7** bn

More details on the project

 p. 93



# Reconfiguration of the processing capacities

## Kola Peninsula Kola MMC

### Establishment of a nickel refining hub at Severonickel Plant

Works are underway to expand nickel refining capacities from 165 ktpa to 190 ktpa and to switch nickel electrolysis shop-2 to a new chlorine leaching technology.

## Taimyr Peninsula Polar Division

### Upgrade and ramp-up of Talnakh Concentrator

The capacity of Talnakh Concentrator increased from 7.5 mtpa in 2015 to 10.2 mtpa in 2018. Nickel content in nickel-pyrrhotite concentrate increased by more than 60%.

### Upgrade of the flagship Nadezhda Metallurgical Plant

We have upgraded and ramped up smelting capacities of Nadezhda Metallurgical Plant, which has become the smelting hub for all nickel feedstock of Polar Division. Compared to 2014, the capacity grew by 26%.

#### Nickel Plant shutdown

In August 2016, the Company shut down Nickel Plant, which had been in operation since 1942. The shutdown involved providing strong social guarantees to the plant workers. The project resulted in 30–35% reduction of SO<sub>2</sub> emissions in the residential area of Norilsk.



**+25** ktpa

nickel refining capacity  
expansion at Kola MMC

**+2,7** mt

concentration capacity expansion  
at Talnakh Concentrator by 2018

# Infrastructure upgrades

## Project highlights

As part of its strategy, Nor Nickel will allocate USD 1.1–1.2 bn to infrastructure renewal and upgrades during 2018–2020. The projects include a large-scale infrastructure renewal: renovation of worn out gas transportation and hydropower facilities, replacement of power units, and reconstruction of critical production assets, transport infrastructure, and power grid.

**USD 1.1–1.2 bn**

investments in infrastructure projects, 2018–2020

### 2018–2022 targets



#### Power supply

- Gradual replacement of six retiring power units with the total capacity of 550 MW



#### Auxiliary operations

- Replacing the required resources, including construction of a new limestone quarry



#### Core operations

- Replacing core types of equipment to enhance its overall performance
- Transition to new rock bolting systems to improve safety



#### Transport infrastructure

- Reconstruction of critical facilities (airport, seaport, oil depot, warehouses, etc.)



#### Power and utilities

- Parts of the comprehensive programmes: power line replacement (30 km), gas distribution networks (111 km), drinking water supply to Dudinka, etc.

[More on gas and power assets](#)

[p. 94](#)

Scheduled for replacement in 2018–2022 are:



six power units with the total capacity of

**550 MW**



gas distribution networks with the total length of

**111 km**



a power line with the total length of

**30 km**





## Shaping growth areas

Development driven by Tier 1 assets is the Company's long-term strategic goal.

What are Tier 1 assets?

Target annual revenue

> **1**  
USD bn

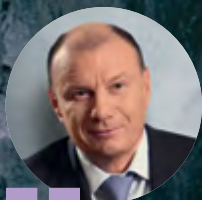
EBITDA margin

**40%**

Reserves-to-production ratio

> **20**  
years

Potentially, growth areas will be centred around the existing assets of Polar Division, with a possibility of initiating a new copper project in Russia's Far East.



”

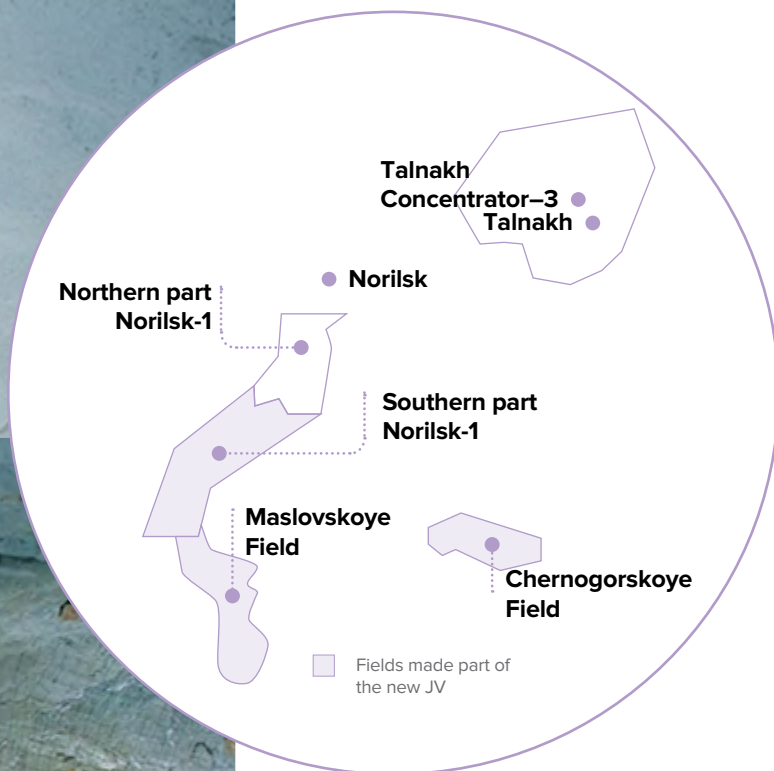
We believe in stronger demand for our products going forward and deem it necessary to put together a portfolio of growth projects. During the next few years, we will be exploring potential development of the Southern Cluster, further expansion of Talnakh Concentrator, and the joint project with Russian Platinum to develop disseminated ore fields in the southern part of the Norilsk Industrial District.”

**Vladimir Potanin**

# Boosting Tier 1 asset potential



## Optional projects



### Strategic partnership with Russian Platinum

*The southern part of the Norilsk Industrial District*

Nornickel is considering a strategic joint venture with Russian Platinum, of a calibre comparable to Polar Division in terms of scale of PGM production. The joint venture is set to become one of the largest global PGM producers.

Target PGM output of the new JV

**70–100**  
mtpa

### Southern Cluster

*Investment decision – 2018*

- Potential to become a Top 5 global PGM producer.
- Optimal capacity utilisation at Norilsk Concentrator (post Talnakh Concentrator–3).
- Potential to raise project financing.

### Talnakh Concentrator–3

*Investment decision – 2018*

- Efficient disseminated ore processing technologies deliver greater metal recovery rates.
- Opportunity to utilise the economies of scale by using several existing facilities of Talnakh Concentrator.
- Opportunity to optimise costs of transporting Talnakh ores to Norilsk Concentrator.

More details on the project

[p. 87](#)

### Russian Far East

Looking for Tier 1 assets for long-term development in the Far East, a poorly developed region with a vast resource potential and proximity to Asian markets.







## Efficiency improvement programme

Target outcome – costs reduced, since 2020, by

USD **200–300** m

The comprehensive programme was enabled by the platform created in the past, including industrial automation and automated control systems, ongoing ERP deployment, and new production processes and standards.



We must ensure that all our process chains are built in the most efficient manner aligned with our objectives."

**Vladimir Potanin**

# Shaping a comprehensive cost reduction ecosystem



## Base programmes

Upgrading production assets

Developing and integrating new production processes and standards

Reconfiguring and shutting down outdated production facilities

Introducing ERP / automated control systems

Introducing industrial automation systems

Introducing new approaches to management

## IT infrastructure upgrade as a tool for achieving operational excellence



### SAP ERP deployment

- Pilot project completed
- 2017 – Chita project, 2018 – Polar Division



### New DCP architecture

- Upgraded server infrastructure and data storage systems according to the Company's needs
- Upgraded data network



### Underground radio communications and positioning systems at the mines

- 369 km of optic fibre cable
- 1,052 Wi-Fi spots
- Real-time control of mining personnel and machinery



### MES layer (Manufacturing Execution System)

- Machinery control system pilot project in Norilsk
- Completed 3D modelling of one mine's shafts; now the system is rolled out to other mines
- Talnakh Concentrator successfully piloted the metal balance project; the system is rolled out to other plants and mines

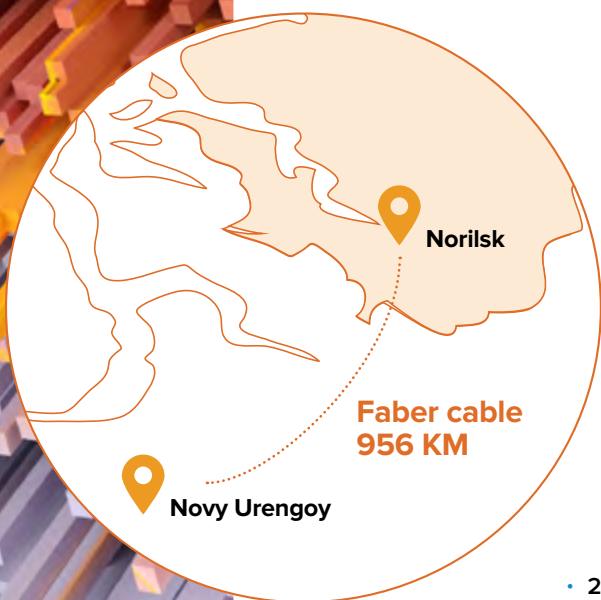


### Optic fibre line to Norilsk

- The 956 km 40 Gbps line is now live
- Unprecedentedly challenging line construction environment
- Enabling the use of advanced IT systems
- Better living standards in Norilsk

More details on the project

p. 119





# MARKET OVERVIEW





<b>32</b>	Metals in electric car production
<b>34</b>	Nickel
<b>40</b>	Copper
<b>44</b>	Palladium
<b>50</b>	Platinum

# Metals in electric car production



## 2017 MILESTONE

In July 2017, Nornickel signed a memorandum with BASF and began negotiations on a project to increase sales to manufacturers of batteries for electric vehicles.



This is a pilot project. If it is successful, we can launch commercial production by 2020.”

“Today, markets are taking a new look at our products. The demand for palladium is growing. Cobalt and nickel are also benefitting from a positive trend supported by the production of batteries for electric vehicles. Accordingly, we are considering ways to increase shareholder value by adjusting our product portfolio to the requirements of new industries and new demand. We see current market expectations as somewhat inflated and do not commit ourselves to large-scale investments. Still, we are trying to be proactive in our marketing policy and proceed with what we call fine-tuning of our product lines.”

“We are an industrial company, not a venture one. For us, a responsible decision is to invest in successful technologies only.”

**Vladimir Potanin**

President of Nornickel

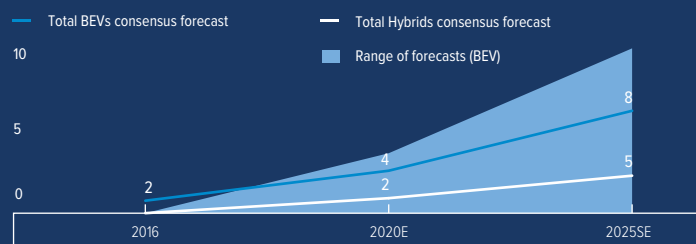
For the Company, this project is an opportunity to carve a niche in the attractive and rapidly growing market for rechargeable battery materials. Cooperation with BASF is part of Nornickel's strategy to develop environmentally-friendly technologies and make an active contribution towards improving the environment globally. Today, the Company provides manufacturers of automotive catalysts with essential chemicals capable of capturing dangerous exhaust fumes generated by petrol engines. By expanding the supply of metals for the automotive industry with its strong potential, the Company makes another step towards sustainable development.

## KEY TREND IN THE GLOBAL AUTOMOTIVE INDUSTRY

The electric vehicle industry is clearly facing a period of intensive growth, which will boost long-term demand for key metals. However, so far experts have not come to a consensus on market growth projections. Sales forecasts for electric and hybrid cars vary from 2 mln cars to 11 mln cars per year by 2025.

Market outlook for 2035 is much more optimistic. BP projects the total number of EV and hybrids to grow to at least 100 mln globally. According to analysts from Carbon Tracker Initiative and Imperial College London, electric vehicles are expected to account for one third of the automotive market by 2035 and for more than a half by 2040. One of the most likely drivers of EV expansion will be government policy in many developed countries committed to introducing a broad range of incentives to promote the production of green cars, up to imposing an ultimate ban on the sale of cars with internal combustion engines. Still, this is unlikely to happen before 2025.

## Consensus in Bullish on Long-term Outlook of Electric Vehicle Sales



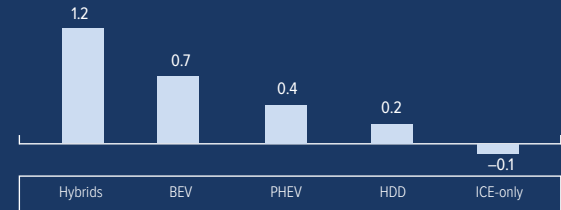


## NORNICKEL'S POSITION

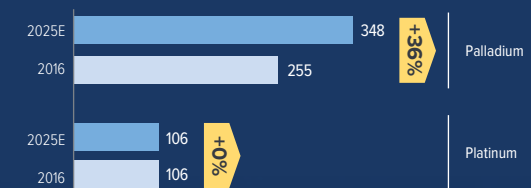
Over a short-term horizon, the Company is not planning any investments in large-scale production of materials for the electric vehicle industry, as the EV technology is still in the development phase. However, the Company is prepared to reconsider its position should the trend change.

Nornickel expects demand for nickel from manufacturers of rechargeable batteries for EV production to increase dramatically in the mid-term, but this will not be the case before 2020, when the automotive industry is ready to shift to electric vehicles. By 2025, the Company forecasts the demand for nickel in the EV market to grow to 420 kt from the current 43 kt, in addition to demand from stainless steel manufacturers, historically the largest consumers of nickel. In the mid-term, the key trend in the EV market will also be the production of hybrid vehicles that rely on both an internal combustion engine (ICE) and an electric engine. Per unit PGM consumption in hybrid cars is higher than in traditional vehicles with the same ICE volume; accordingly, we expect palladium consumption to increase by 3 mln oz by 2025.

Incremental average annual output by powertrain, 2017–2025 // m units

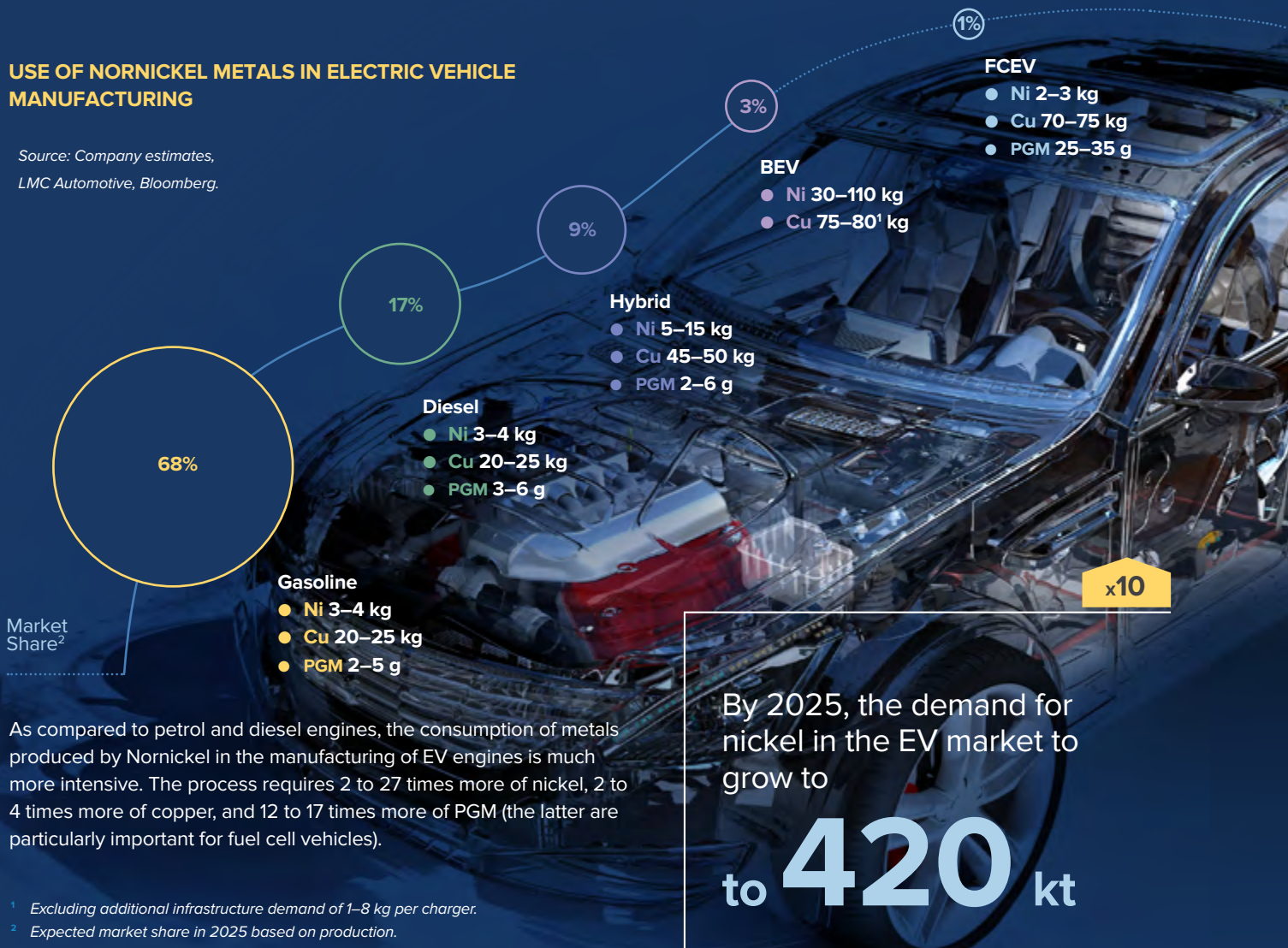


The demand for nickel in the EV market // t



## USE OF NORNICKEL METALS IN ELECTRIC VEHICLE MANUFACTURING

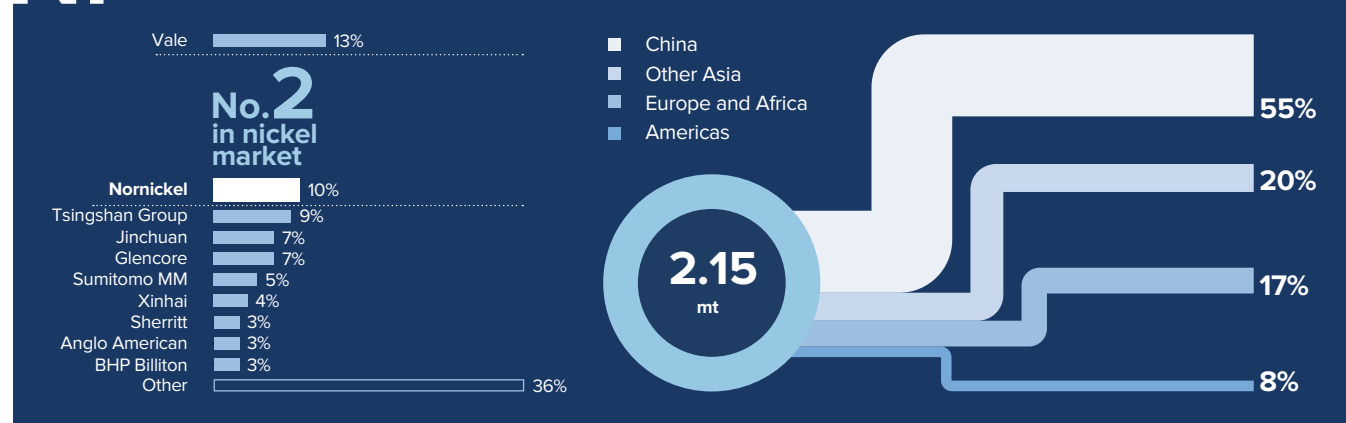
Source: Company estimates,  
LMC Automotive, Bloomberg.



<sup>1</sup> Excluding additional infrastructure demand of 1–8 kg per charger.

<sup>2</sup> Expected market share in 2025 based on production.

# Nickel



Source: Company data

## Key trends in the nickel market

In Q1 2017, the nickel price was highly volatile in the range of USD 9,380–11,045 per tonne reflecting a mixed news background from Indonesia and the Philippines. In early Q2 2017, it started to decline after the Indonesian government issued permits for the export of unprocessed nickel ore and Regina Lopez, Secretary of Environment and Natural Resources of the Philippines, was not re-appointed for a new term of office, which challenged the decisions made after the environmental audit of the country's mining industry. This trend was intensified by a reduction in stainless steel output in China. However, starting Q3 2017, prices began to recover backed by the news about the growth of stainless steel production in China and the launch of a large stainless steel plant in Indonesia. Early Q4 2017 saw a positive price performance amid considerable enthusiasm of the investment community about the potential increase in nickel consumption in electric cars, peaking at USD 12,830 per tonne – the highest level since June 2015. However, by the year-end 2017, there was a price correction to USD 12 thousand per tonne.

## Market balance

Following several years of surplus, the nickel market recovered the balance in 2016, with consumption outstripping production by 20 kt. In 2017, nickel shortage went up to 108 kt. The demand was mainly driven a 7% y-o-y increase in metal consumption primarily attributable to the Asian producers of stainless steel and batteries. In turn, primary nickel output gained as little as 2%. High grade nickel

### 2017

Market deficit widened; demand increased in line with higher production of stainless steel in China and Indonesia and cathode materials for Li-ion batteries; production slightly went up driven by NPI output growth in Indonesia and China, which was almost entirely offset by declining production of high grade nickel.

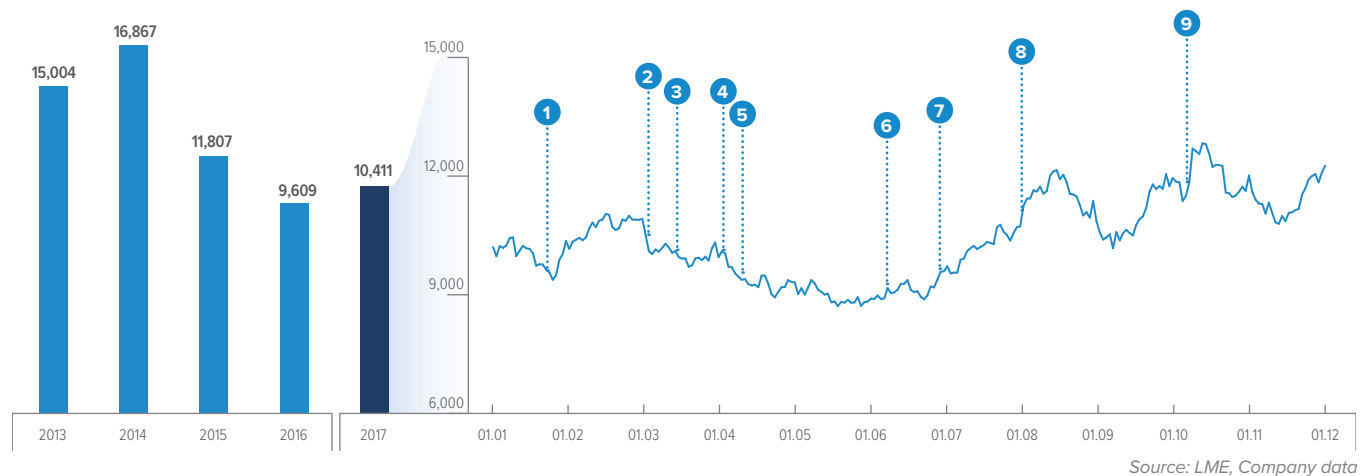
### Outlook: cautiously optimistic.

In 2018, the market deficit may go down a result of a much greater availability of high grade lateritic nickel ore.

production declined by 6% (60 kt) largely triggered by the reconfiguration of the Company's production facilities, shutdown of sulphide ore mines in Canada, and the shortage of hydrometallurgy semi-products and sulphide concentrates on the market after the closure of loss-making mines in 2015–2017, with the Ravensthorpe shutdown coming as the last of those. Only nickel production from lateritic ore was on the rise. In 2017, low grade nickel production increased by 11%, or 100 kt y-o-y, mainly due to the Chinese and Indonesian NPI output growth.

During the year, total exchange warehouse stocks at the LME and the SHFE decreased by 55 kt to 411 kt, which is about 10 weeks of global consumption.

## Key industry developments and nickel price // USD/t



- 1 Leaked data on possible easing of the ban to export ore from Indonesia and uncertainty in the Philippines after environmental audits of the mining industry;
- 2 Lower stainless steel output in China;
- 3 Permit issued by the Indonesian government to PT Antam to export up to 2.7 million wet tonnes of unprocessed nickel ore;
- 4 R. Lopez's failure to be re-appointed as Secretary of the Philippines' Department of Environment and Natural Resources;
- 5 Permits by the Indonesian government issued to Fajar Bhakti Lintas Nusantara to export up to 1.06 million wet tonnes of unprocessed nickel ore;
- 6 Relaunch of Delong's stainless steel plant (China);
- 7 Launch of a stainless steel production line at Tsingshan plant (Indonesia);
- 8 Recovery of stainless steel output in China;
- 9 LME Week that aroused investor interest in nickel on the back of the expected electric car market growth.

## Surplus/deficit in the nickel market // kt



Source: Company data

**+7%**

growth of consumption of primary nickel

**+2%**

growth of primary nickel output in 2017



## Consumption

Stainless steel comes to the market in various grades from all over the world, whereas its smelting structure ultimately determines the primary nickel consumption patterns.

Austenitic stainless steel comprising the 200 series and 300 series steel is the most widespread type of that product (over three quarters of the global production).

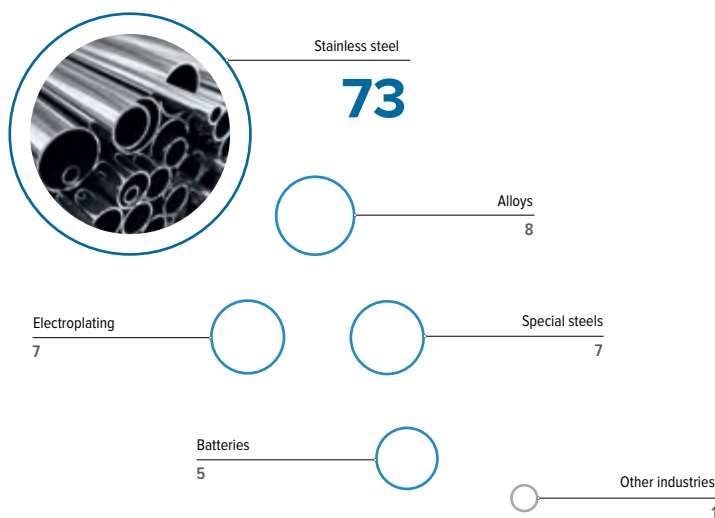
The 300 series steel has a higher nickel content (normally 8–12%, or up to 20% in a number of select grades). Nickel added in this proportion improves the steel's corrosion resistance and robustness in a wide range of temperature conditions, boosts its ductility and durability in aggressive environments, and enhances its non-magnetic properties. This series enjoys the highest demand, as it is applied in various industries, including construction, food and chemicals manufacturing, energy, transportation, etc.

The 200 series steel cannot serve as a full substitute for the high nickel content grades, as it has a lower nickel content due to the addition of manganese. The 200 series steels are susceptible to surface (pitting) corrosion and non-resistant to heat and aggressive environments. Due to the lower price, this steel grade is often used in the production of consumer goods, such as home appliances. China and India account for over 90% of the total 200 series steel output.

Austenitic-ferritic (duplex) stainless steels also use nickel and are characterised by a higher content of chromium (18–25%) and molybdenum (1–4%), but they account only for 1–2% of the global smelting output. For statistical purposes, these steels are usually grouped with the 300 series.

Ferritic and martensite stainless steels (400 series) usually do not contain nickel, while their properties are similar to those of low-carbon and highly corrosion-resistant steels. However, their mechanical properties are inferior to those of austenitic stainless steels. These steels are mainly used to manufacture automotive exhaust systems, cargo container frames, water heaters, washing machines, utensils and cutlery, kitchenware, home decor items and razor blades.

### Primary nickel consumption in 2017 by industry // %



Source: Company data

**Nickel consumption is predominantly driven by the stainless steel industry (over 70% in 2017).**

In 2017, the total stainless steel output increased by 6% and hit a record high of 48 mt.

China (with a share of over 50% of the global output) and Indonesia accounted for the most part of production growth. Smelting output growth in China ensued from the re-launch of Delong's capacities (over 1.1 mtpa) previously suspended after more stringent environmental controls had been imposed. Indonesia is a new steel market player with a robust growth outlook, sufficient reserves of high grade lateritic ore, growing NPI capacities and, hence, low cash cost of austenitic stainless steel.

Except for Europe, where stainless steel smelting stayed flat, nickel consumption in stainless steel making was steadily growing in 2017 across all regions. The USA was leading the charge in this segment with an 8% rise, according to our estimates.

Consumption of primary nickel by the global stainless steel producers rose by 7% to 1.57 mt as a result of an increase in the 300 series and 200 series global output by 7% and 5%, respectively, and a flat share in the use of scrap y-o-y. However, the use of high grade nickel in stainless steel smelting has not changed vs 2016 mostly due to the growing availability of low-grade nickel.

Nearly all types of nickel feedstock are used in stainless steel production (except for a number of specific products, including nickel powder and compounds). Since the quality of nickel barely affects the quality of conventional stainless steel grades, the manufacturers opt for the cheapest nickel feedstock, turning to high grade nickel as their last resort. This is the reason why high grade nickel share has been declining in the structure of nickel units consumed in stainless steel production in recent years with higher volumes of NPI, ferronickel and metallised products with a lower nickel content.

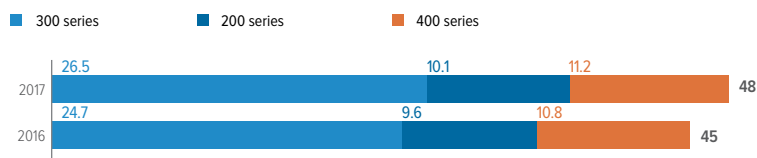
In 2017, primary nickel consumption in alloy production increased by 2%, which was mainly attributable to the recovery of demand from the oil and gas industry, and high demand from the aerospace industry.

## Except for Europe nickel consumption in stainless steel making was steadily growing in 2017 across all regions.

Nickel is widely used in decorative and protective platings with their thickness ranging from 1 to 100 microns. Nickel electroplating is highly corrosion-resistant, hard and pleasing aesthetically. It is used for corrosion protection, and as an alternative to chromium plating. In 2017, primary nickel consumption in the electroplating industry grew by 5% (4 kt), mainly due to demand in Asia. In recent years, China has been the leading manufacturer of nickel electroplating products. Since 2012, though, the electroplating industry has started to develop in other Asian countries, and the Chinese businesses are now transferring their production to achieve cost savings.

The battery industry uses nickel as a major component of the active material for battery cells. The extent of nickel utilisation depends on the battery type.

### Stainless steel production by grade series // mt



Source: Company data

### Primary nickel consumption in 2017 // mt



Source: Company data

**48**  
mt

record stainless steel output in 2017

+6%

+7%

## Battery

### Nickel-cadmium

#### Ni-Cd

The first nickel-cadmium batteries were developed in 1899. Currently, their use is restricted, since cadmium is prohibited as a toxic substance under the EU ban.

### Nickel-metal hydride

#### Ni-MH

Ni-MH batteries were developed in 1989 as a substitute for Ni-Cd batteries to avoid using cadmium. Producers use nickel to manufacture this type of batteries. Currently, though, the nickel-metal hydride battery market is growing at a slow pace (with hybrid vehicles being its only growth driver) and faces considerable competition from the lithium-ion batteries.

### Lithium-ion

#### Li-Ion

Li-Ion batteries were first commercially released in 1991 and became fairly widespread due to their high energy capacity and reliability (capacity is retained after many recharge cycles).

The key driver behind Li-Ion battery growth is electric vehicles gaining ground. Since 2014, CAGR of electric cars (hybrid and battery electric cars) has been around 46%.

The key factors driving electrification of the transport system are:

- incentives offered by the state;
- transformation of the consumer mindset;
- improved technical specifications of batterie.

For instance, Norway (where electric cars account for 30% of all sales) grants tax exemptions (one-off registration tax and VAT) to buyers. Also, annual electric car tax is six times lower than that for a car powered by an internal combustion engine. Buyers of electric cars in a number of other European countries, including Belgium, Germany, the UK and France, enjoy considerable subsidies (ranging from EUR 4,000 to EUR 10,000) and fiscal incentives.

There are several types of lithium-ion batteries depending on the cathode materials: LCO, LFP, LMO, NCM, NCA.

LCO is largely used in portable devices. This type of the cathode material is not applied in electric cars as a result of high cobalt prices, limited capacity, and technical issues of making a high-capacity battery safe for operation. However, other types of Li-Ion batteries are widely applied in the industry. LFP and LMO tend to be replaced with other Li-Ion battery types containing nickel as a result of a higher gravimetric and volumetric capacity of NCM and NCA. It helps to increase mileage and shrink battery volume and weight. The share of nickel compounds in the total cathode material output used in Li-Ion batteries went up from 32% in 2012 to 51% in 2017.

Growing nickel consumption in Li-Ion batteries comes not only on the back of increasing share of NCM/ NCA containing nickel, but also higher average nickel content in the cathode material triggered by the need to substitute expensive cobalt units. While in 2016 NCM 1:1:1 (with nickel mass fraction of 20%) accounted for the lion share of nickel-magnesium compounds of the cathode material, in 2017 Li-Ion batteries with NCM cathodes 6:2:2 (with nickel mass fraction of 36%) and NCM 5:3:2 (30%) took the lead. Going forward, batteries are expected to switch to NCM 8:1:1 (with the nickel mass fraction of 48%), and some producers announce plans to launch commercial production of LNO, a nickel-based cathode material.

Further development of the automotive industry, the growing popularity of electric and hybrid cars, along with the evolution of the cathode technology towards nickel-intensive NCM lay the groundwork for major expansion of primary nickel consumption in this industry in the long run.

#### LFP

*Lithium Iron Phosphate*  
 $\text{LiFePO}_4$

#### LMO

*Lithium Manganese Oxide*  
 $\text{LiMn}_2\text{O}_4$

#### LCO

*Lithium Cobaltite*  
 $\text{LiCoO}_2$

#### NCA

*Nickel Cobalt Aluminium*  
 $\text{LiNi}_x\text{Co}_y\text{Al}_n\text{O}_2$   
(49–54% Ni)

#### NCM

*Nickel Manganese Cobalt*  
 $\text{LiNi}_x\text{Co}_y\text{Mn}_n\text{O}_2$   
(20–48% Ni)



## Production

Primary nickel can be split into two major groups:

### High grade nickel

(cathodes, briquettes, carbonyl nickel and compounds) is produced from both sulphide and lateritic nickel ore. In 2017, the major high grade nickel producers included Nornickel, Vale, Jinchuan, Glencore and Sumitomo Metal Mining.

### Low grade nickel

(ferronickel, NPI and nickel oxide) is only produced from lateritic ore. In 2017, the major low grade nickel producers included Chinese and Indonesian NPI companies and also ferronickel producers: Eramet, Anglo American, South 32, Pamco and Posco (SNNC).

In 2017, primary nickel production grew by 2%, or 48 kt y-o-y, driven only by an increase in low grade nickel output, which more than offset the decline in high grade nickel production that continued into 2017.

In 2017, high grade nickel output dropped by 5%, with production cuts coming from the following producers:

- Vale's Canadian refining operations after the shutdown of its Birchtree (Thompson) and Stobie (Sudbury) mines;
- Nornickel due to ongoing capacity reconfiguration;
- Chinese refined nickel producers as a result of nickel feedstock shortage following the closure of loss-making mines in 2016–2017;
- Ambatovy (Madagascar).

Production of nickel forms for cathode use saw a substantial decline, which entailed their shortage in the market.

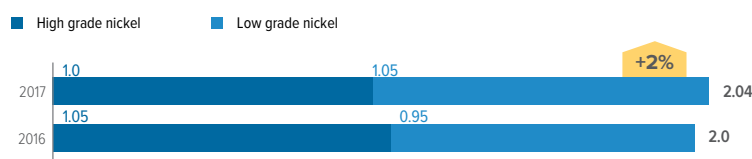
This was coupled with greater output of nickel sulphate that serves as a key feedstock for the precursors of the cathode material in Li-ion batteries.

In 2017, low grade nickel production gained 10% globally. This was driven by NPI output increase in China and Indonesia, along with ferronickel in all major regions except Europe.

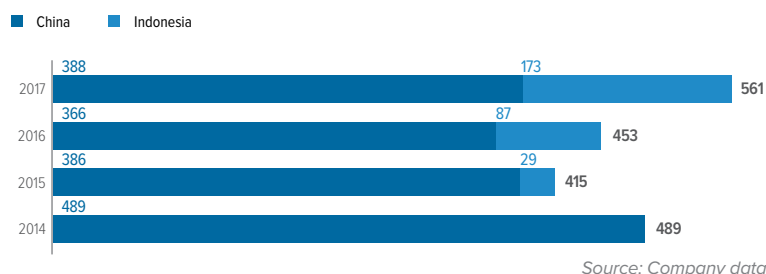
The key driver behind NPI production growth was the easing of the ban on exports of unprocessed nickel ore from Indonesia in March 2017 contributing to the availability of rich nickel ore.

The total amount of Chinese ore imports reached the level of 2015 and exceeded 35 million wet tonnes, considering that the total nickel ore export quota issued by the Government of Indonesia exceeded 24 million wet tonnes by the end of 2017. In 2018, a major growth of NPI output is expected in China.

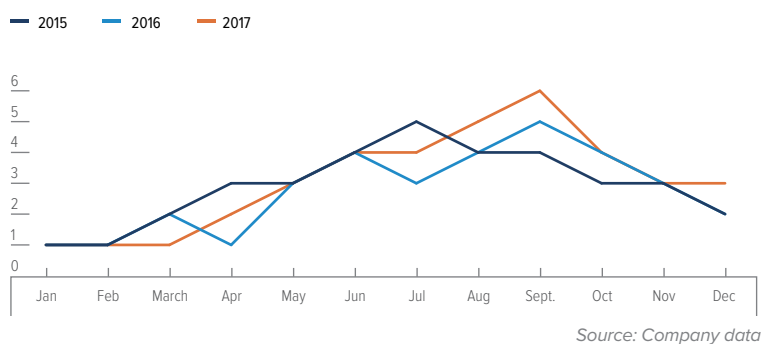
### Primary nickel production // mt



### NPI production // kt

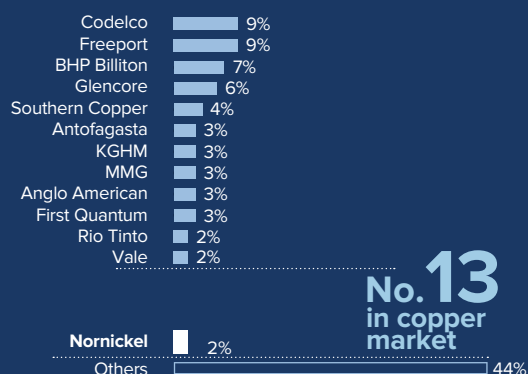


### Nickel ore and concentrate imports to China // mt

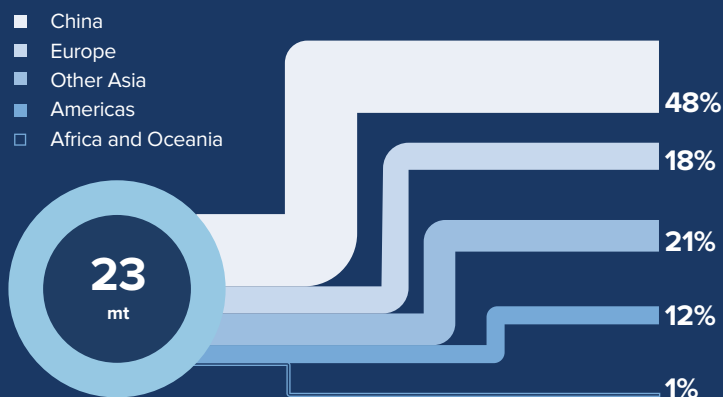


# Copper

## Cu



### Refined copper consumption by region



Source: Company data

## Key trends in the copper market

Early 2017 saw a strike at the largest Chilean mine Escondida and a ban on copper concentrate exports from Indonesia driving copper prices up to USD 6,145 per tonne as at mid-February.

By early May, they plunged to USD 5,470 per tonne as a result of growing exchange inventories, data on decreased copper imports to China and the end of the strike, with the bounce-back starting in mid-May.

Despite the short-term correction in mid-September and late November, copper prices peaked at USD 7,216 per tonne by year-end, the highest since February 2014.

The price growth was supported by the analytical agencies forecasting the copper market deficit in 2018 due to reduced production along with a high demand for copper coming from the booming sector of electric vehicles and EV infrastructure, as well as the upward trend in the construction industry.

In 2017, the average copper price stood at USD 6,166 per tonne (up 27% y-o-y).

### 2017

The prices surged in the second half of the year with copper trading well above the cost curve due to a slump in production triggered by strikes along with a steady demand from the automotive and construction industries.

### Outlook: neutral.

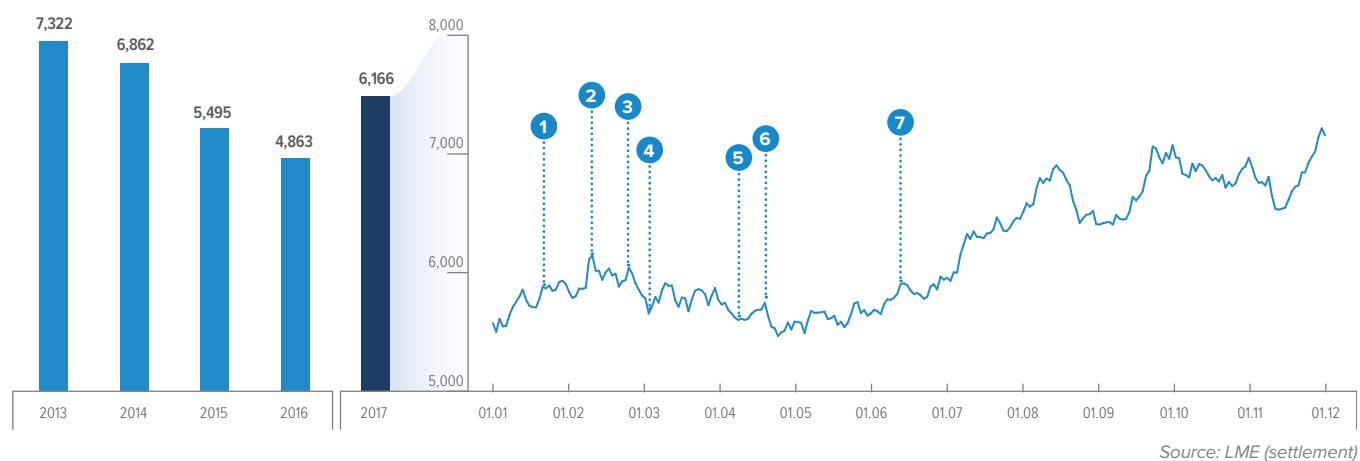
In the mid-term, the market will remain balanced; the upcoming wage talks in Chile and Peru may lead to a short-term uptick in copper prices.

## Market balance

In 2017, the refined copper market that had been somewhat oversupplied for the past six years moved into a slight deficit. It stood at as little as 0.2% of the total market volume, or 50 kt vs a 220 kt surplus in 2016.

Total exchange warehouse stocks remained virtually unchanged from late 2016 at 544 kt (548 kt as at the end of 2016), or nine days of global consumption, with off-exchange inventories going slightly down.

## Key industry developments and copper price // USD/t



1 Outset of a strike at the Escondida mine;

2 Ban on the concentrate exports from Indonesia;

3 Strike at the Cerro Verde mine (Peru);

4 End of a strike at the Escondida mine;

5 Permit to export copper from Indonesia issued to Freeport;

6 Data on production cuts by BHP and Anglo American;

7 WBMS reporting the market's shift to a deficit.

## Surplus/deficit in the copper market // kt



Source: Company data

+27%

6,166  
USD per tonne

the average copper price in 2017

7,216  
USD

copper prices peaked by year-end, the highest since February 2014



## Consumption

Given its high electrical and thermal conductivity, ductility and corrosion resistance, copper is widely used in various industries. Some three quarters of refined copper produced globally are used for manufacturing electrical conductors, including various types of cable and wire. Key copper-consuming industries include construction, electrical and electronic equipment manufacturing, power supply, transport, engineering, machine building and consumer goods production.

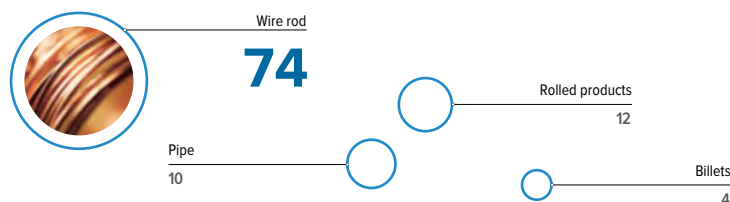
In 2017, global consumption of refined copper totalled 23.0 mt (up 2.0%, or 0.46 mt y-o-y), primarily owing to stronger demand from cable and wire manufacturers. Consumption in pipe, flat rolled products and billet production segments saw moderate growth.

China remains the key copper consumer globally, with its market share reaching 48% in 2017 due to the demand growth of 3.2%, or 0.3 mt. During the year, it kept cutting imports of refined copper while bringing in more copper feedstock. In 2017, Chinese refined copper imports dropped by 5% to 4.7 mt, while copper concentrate and scrap imports went up by 2% and 6% to 17.4 mt and 3.6 mt, respectively. China's growing consumption needs were mainly met through the local production ramp-up.

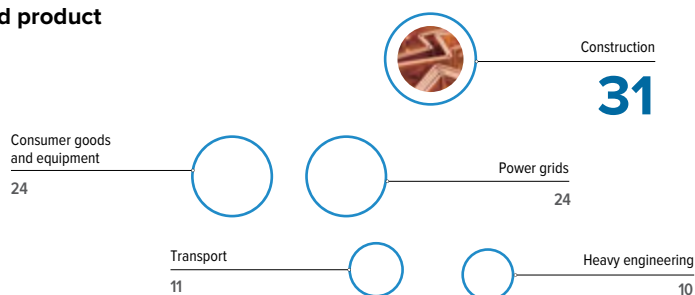
The demand for copper in developed economies saw only a slight increase in 2017, with Europe up (the Company's key market for copper cathodes) by 0.2%, North America by 0.7%, and Asia (excluding China) by 2.3%. Russian domestic copper cathode consumption in 2017 was moderately down.

### Refined copper consumption by industry // %

#### First use product



#### End product

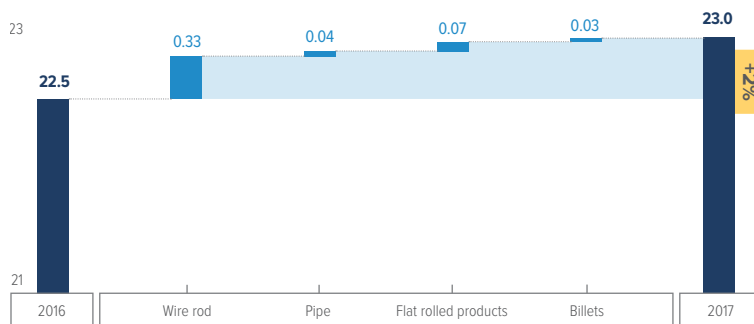


Source: Company data, Wood Mackenzie

## Production

In 2017, global production of refined copper increased by 0.8%, or 0.19 mt, compared to 2016, totalling 22.9 mt. China remains the key driver behind that growth, with the national government firmly committed to the expansion of domestic smelting and refining capacities. In 2017, refined copper production in China grew by 8% to 8.9 mt, while its share in global output was 36%. Only 20% of Chinese production is local extraction, with another 80% coming from imported copper concentrates and scrap.

### Changes in refined copper consumption in 2017 by industry // mt



Source: Company data, Wood Mackenzie

**23.0** mt

total global consumption of refined copper in 2017

+2.0%

In the rest of Asia (excluding China), production growth was 1.4% (going slightly up in India and South Korea along with a slump in Japan). In North America, it shrank by 5.8% (marginally up in Mexico and down in the USA and Canada) and in South America – by 8.6% due to lower output in Chile. In Europe, copper production soared by 4.6% with Germany, Bulgaria and Sweden acting as the main contributors. According to preliminary estimates, Russia saw its production grow by 4% in 2017 after a 2% drop in 2016.

In 2017, global copper mine production slipped by 1.5% to 19.8 mt.

Some 3.1 mt of refined copper was produced from accumulated concentrate stockpiles and scrap on the back of higher scrap collection driven by higher copper prices.

The decline in copper production came as a result of Chilean strikes and technical issues experienced by the US producers.

In Peru, production was below the expectations due to strikes at the Cerro Verde, Cuajone and Toquepala mines in early 2017. However, higher copper output at the new Las Bambas mine operated by China's MMG drove Peruvian production up by 3%.

China, which is currently developing smaller mines, saw its production grow by 6% to 1.5 mt. In Kazakhstan, commissioning of the new Bozshakol and Aktogay mines by KAZ Minerals drove the output up by 15%. A 4% growth in African production was mainly backed by Kolwezi mine in the Democratic Republic of the Congo and Sentinel mine in Zambia.

Chile, the top global supplier of copper, saw a drop in production due to a 1.5-month strike at BHP's Escondida, the world's largest copper mine, causing over 100 kt of production losses from February to March, coupled with lower output by the state-owned Codelco driven by declining copper content at its oldest fields.

In North America, production dropped by 4% due to some technical issues at the US and Canadian mines. Australia reported reduced output at the Mount Isa and Olympic Dam mines. Indonesia saw its copper output shrink by 7% following a ban on copper concentrate exports at the beginning of 2017, which made Freeport limit its operations at the Grasberg mine.

Russian copper production grew marginally in 2017.

The actual refined copper production was above the analyst forecasts issued early in 2017 thanks to the production surge in the second half of the year. It was also backed by the increased use of scrap. At the same time, consumption growth was slightly above the expectations driving the global deficit down by 0.1 mt as compared to the initial estimates.

**19.8 mt**

global copper mine production in 2017

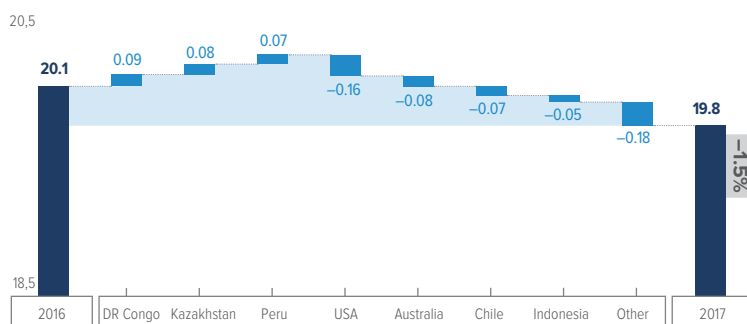
–1.5%

**22.9 mt**

refined copper production in 2017

+0.8%

### Copper production // mt

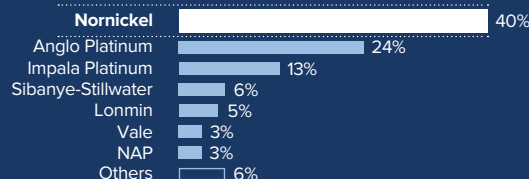


Source: Company data, Wood Mackenzie

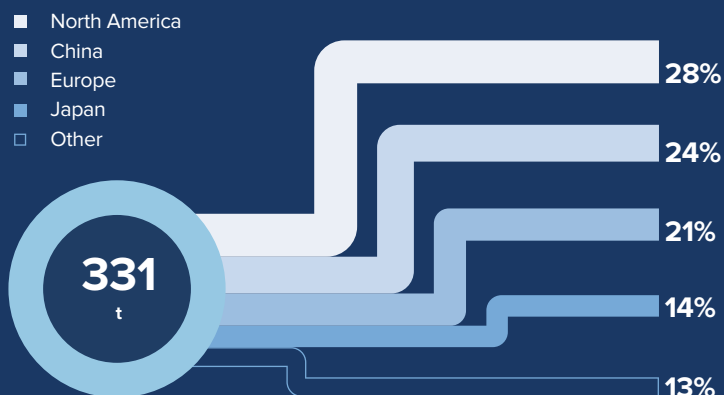
# Palladium

## Pd

**No. 1**  
in palladium  
market



### Industrial consumption of palladium by region



Source: Company data

## Key trends in the palladium market

In 2017, palladium prices went up by a staggering 42%, hitting a 16-year high of USD 1,058 per oz by the end of the year. For FY 2017, palladium was one of the strongest performing commodities in terms of price appreciation. In late September, palladium became more expensive than platinum for the first time in 16 years, with the premium reaching as much as 17% by the end of 2017.

During the year, palladium prices were primarily driven by fundamentals, including the sustaining market deficit that saw palladium production lagging behind consumption. This was due to the expansion in global car-marking (the key consumer industry) as primary production and recycled output grew only moderately.

Along with the fundamental factors, palladium prices were supported by the environment on trading exchanges, which in 2017 were lacking in palladium available for spot purchases. In the futures market, backwardation settled in, with leasing rates strongly up. On the Chicago Mercantile Exchange (CME), palladium inventories were going down.

### 2017

Impressive price growth on the back of strong demand from consumers and limited supply.

### Outlook: positive.

Market deficit is expected to persist amid stable production volumes and upward trend in industrial consumption.

Throughout the year, prices were also driven by the weak USD against other currencies and the challenging geopolitical environment, including concerns around North Korea's nuclear programme.

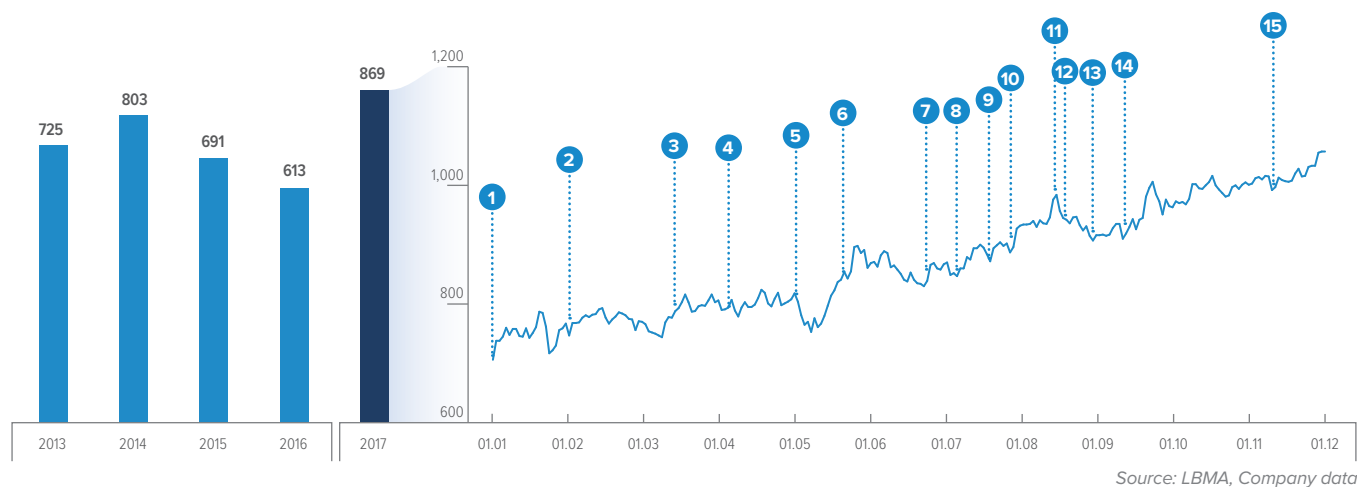
Given the favourable trends described above, the average annual palladium price for 2017 was at its all-time high of USD 869 per oz.

## Market balance

Since 2010, there has been a sustained undersupply in the palladium market covered by the consumption of accumulated reserves. In the reporting period, the imbalance was partially offset by the outflow from ETFs, which, however, slowed down almost twice compared to 2016.

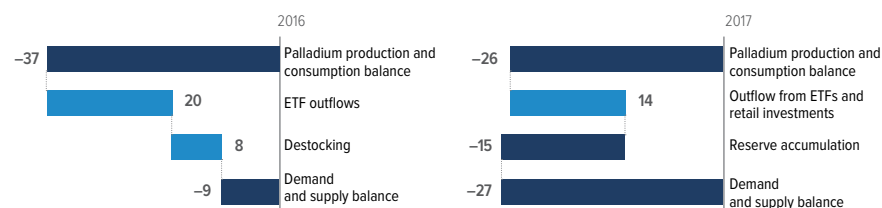


## Key industry developments and palladium price // USD/oz



- 1 On 23 December 2016, China's government released the plan to implement the China 6 emission standard, one of the most stringent regulations among those in place or planned to be introduced;
- 2 South African producers announced a potential decline in PGM output; poor production data came from Canadian assets; Volkswagen revealed plans to switch from small diesel engines to mild hybrids;
- 3 City administrations of London and Paris announced plans to step up measures to control exhaust emissions into the air;
- 4 Demand for risky assets is up; palladium market sees strong backwardation settle in; prices enter correction as the markets wait for new PGM statistics and the results of the Platinum Week in London;
- 5 South Africa's Minister of Mineral Resources said that the country is planning to raise the target for black ownership in mining companies to 30%
- 6 China moved the deadline for quotas on electric cars to 2019;
- 7 South Africa's Bokoni mine will be mothballed;
- 8 Lonmin announced plans to raise cash from selling surplus processing capacity;
- 9 Chancellor Angela Merkel announced Germany's plans to support the EU initiative to ban internal combustion engine cars;
- 10 US Fed Chair Jannet Yellen said the regulator was planning gradual increases in its key interest rate until the end of 2017;
- 11 Palladium markets tested a major price level of USD 1,000 per oz;
- 12 South Africa's Maseve mine will be put on care and maintenance;
- 13 US released strong car production data;
- 14 Additional demand for cars came in the aftermath of the Irma and Harvey hurricanes;
- 15 US Federal Reserve increased the interest rate; Sibanye-Stillwater announced a takeover offer for Lonmin.

## Palladium market balance // t



**+2.4%**  
the expansion in global  
car-marking

## Consumption

In 2017, industrial consumption of palladium increased by 9 t (+3%) compared to the previous year, hitting a new all-time high of 331 t.

Exhaust treatment systems account for nearly 80% of total palladium consumption. In this sector, palladium is used in catalytic converters to detoxify exhaust fumes. In most countries, such converters are legally required to be installed on all cars.

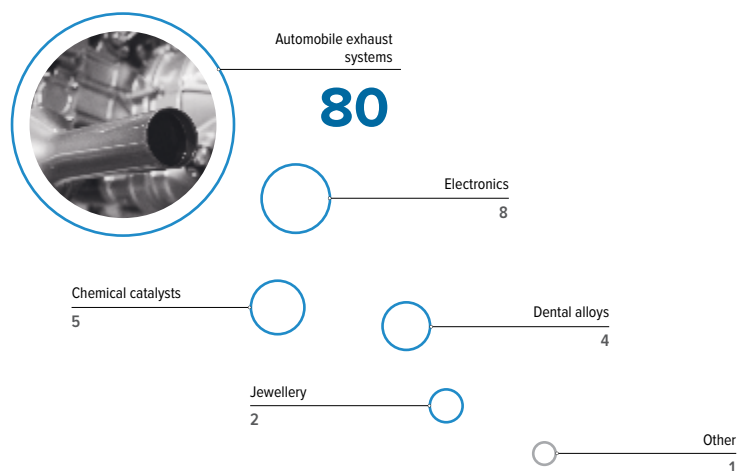
Due to its unique catalytic properties ensuring effective chemical reactions throughout the entire vehicle life cycle (at least 150,000 miles in the US), palladium has almost no substitutes except for platinum, which is used mostly in diesel cars, and rhodium. Given the significant share of already produced vehicles and small market size (global production stands at only 24 t annually), rhodium suffers from high price volatility and the risk of physical metal deficit.

In 2017, palladium consumption by the car-making industry went up by 8 t and reached a new record of 263 t. This was driven by three groups of factors:

### 1) Strong growth of global car production.

Last year, car production around the world expanded by 3% vs the previous year. The strongest performers were China (+3%), Europe (+3%), Japan (+5%), and India (+6%), with Russia (+20%) and Brazil (+25%) also demonstrating a healthy recovery. A major contraction was seen in the US market (-8%), mainly on the back of a natural slowdown (following the

### Palladium consumption in 2017 by industry // %



Source: Company data



+3%

# 331<sub>t</sub>

Industrial consumption  
of palladium in 2017  
(a new all-time high)

record-high performance of 2016) that was the result of high leverage among consumers, rising interest rates, strong discounts previously secured by car manufacturers, and weak demand from car rental companies. The decline mostly affected passenger cars; by contrast, production of SUVs and small trucks (which are more reliant on PGM) is on the rise. The optimistic economic environment in the US gives hope that the domestic car market will soon recover ground.

## 2) Changes in the transport structure.

The key markets for diesel cars (Western Europe and India) are replacing light diesel vehicles with petrol cars and hybrids (combining petrol and electric engines), which make greater use of palladium-based catalytic converters for exhaust gases.

## 3) Tougher regulations on pollutant emissions.

The marked increase in palladium consumption by the car-making industry in China came on the back of toughened environmental requirements as part of the China 5 rollout across the country starting from the end of 2017, followed by transition to China 6 in 2019 and beyond. China 6 regulations are based on best practices in emission control as developed in the US and EU, and in some aspects also add new enhanced requirements. In the US, 2017 marked the rollout of the Tier 3 standards designed to more than halve the fleet-average NO<sub>x</sub> emissions. The EU nations are phasing in Real Driving Emissions (RDE) tests for cars and also made particulate filters mandatory for petrol engines, which additionally helps to expand the use of palladium in exhaust treatment systems.



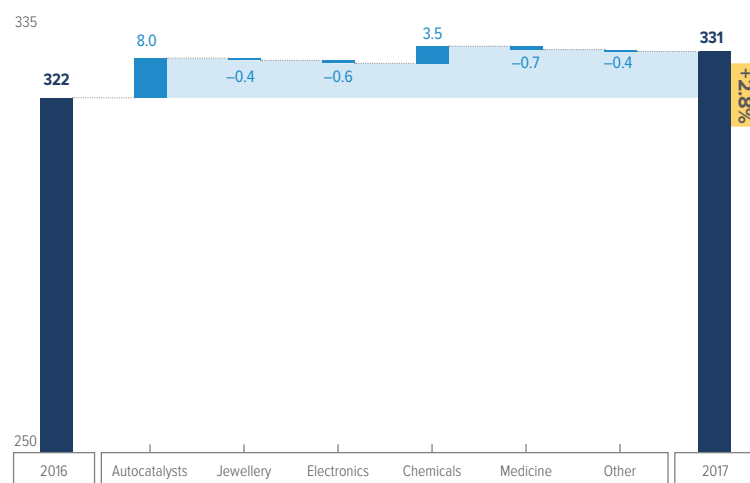
+42%

869

USD per oz

the average annual palladium price for 2017

## Palladium consumption by application area // t



Source: Company data



+3%

263 t

palladium consumption by  
the car-making industry  
in 2017

Palladium consumption in the electronics industry continued a moderate downward trend in 2017 (-0.6 t): lower use of palladium in multi-layer ceramic capacitors was partially offset by an absolute increase in their production and increased use of palladium in the connectors and lead frames.

The use of palladium in chemical catalysts went up by 3.5 t (+26%) in 2017 as a result of China's new basic polymer capacities coming on stream. The trend was also supported by additional purchases of palladium by chemical businesses, which had to move away from the leasing model following price growth amid backwardation.

In the healthcare sector, palladium demand continued declining on the back of transition to alternative composites and dental scrap processing.

While palladium has a number of advantages for jewellery manufacturing, its consumption in the industry dropped by 0.4 t (5%) in 2017 because it does not have a strong brand as a jewellery metal. Today, palladium is used mainly in white gold alloys

or for wedding rings (in its pure form), mainly in the European and US markets. Recently, palladium has seen expanded use as a metal for electroplating (in luxury accessories, clothing, car interior, furniture fittings, etc.), but the overall negative trend still persists.

Investment demand for palladium kept shrinking in 2017, albeit at a slower pace compared to 2016. Withdrawals from ETFs totalled 12 t. This reduction resulted from the profit taking that followed a significant price surge, coupled with investor migration to stocks and to more attractive palladium-linked futures (net long positions in palladium on the Chicago Mercantile Exchange rose by 72% last year, reaching 2.6 moz).

Retail demand for palladium coins and bars was negative in 2017 (-2 t) as a result of profit taking by retail investors, above all in the US, as prices went up. The unfavourable trend was partially offset by the US Mint issuing its first ever palladium bullion coin, a move that confirmed strong investor interest for this instrument.

## Production

In 2017, primary palladium production expanded by 3% against the previous year (214 t vs 207 t).

Russia, the metal's major producer, saw a rise in output driven by the processing of copper concentrate purchased by the Company from the state-controlled Rostec corporation. Other factors at play included using up work-in-progress inventories at Polar Division and the reduction in the work-in-progress materials in transit following the now completed reconfiguration of production facilities.

South Africa, the world's No. 2 palladium producer, demonstrated a strong rise in volumes in 2017. Despite the challenging market conditions and a considerable number of unprofitable facilities, 2017 delivered a moderate rise in primary palladium production. The bulk of the growth came from Anglo American Platinum, which among other things boasted a 13% rise in palladium production at its Mogalakwena mine in the northern limb of the Bushveld Complex, which is richer in palladium compared to the western and eastern limbs. South Africa's refined palladium production was under pressure from the temporary closure of the Mototolo concentrator in August to December 2017, furnace maintenance at Impala Platinum's mines, and challenges in accessing the ore body at Northam Platinum's Zondereinde mine.

In Zimbabwe, production was marginally up, driven by the Zimplats and Mimosa mines. However, planned maintenance at the Unki concentrator in Q4 2017 brought the overall performance slightly down.

Primary palladium production in Canada declined by 3 t as a result of dwindling output at the mines of Vale and Glencore, mainly due to depletion. The negative performance was to some extent offset by the growth posted by North American Palladium. In the US, production remained virtually flat compared to 2016 (launched in 2017, the Blitz project is expected to deliver volume growth starting from 2018).

The main sources of recycled palladium are used exhaust gas autocatalysts, as well as jewellery and electronic scrap. In 2017, recycled output increased by 13 t, up to 91 t, primarily due to growing collections of electronic scrap on the back of higher palladium prices, recovery in steel prices, and also implications of the Irma and Harvey hurricanes that wiped out more than 1 mln cars in the US. Jewellery and electronic scrap volumes remained flat.

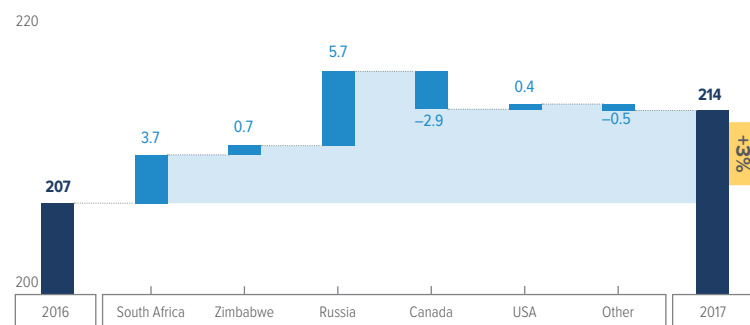
The sources of previously accumulated palladium stockpiles include trading companies, financial institutions, government reserves, and surplus inventories of consumers. In the 1990s and 2000s, Russia's palladium supply came primarily from the country's government stockpiles. In recent years, Russian stockpiles ceased to be part of the palladium supply, which points to their depletion and marks the transition towards a palladium market that is completely market-driven.

In 2017, Nornickel's Global Palladium Fund (GPF) built Pd reserves of around 0.55 moz through purchases from third parties and the Company

# 0.55 moz

Nornickel's Global Palladium Fund (GPF) Pd reserves in 2017

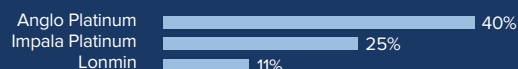
### Annual primary palladium output // t



Source: Company data

# Platinum

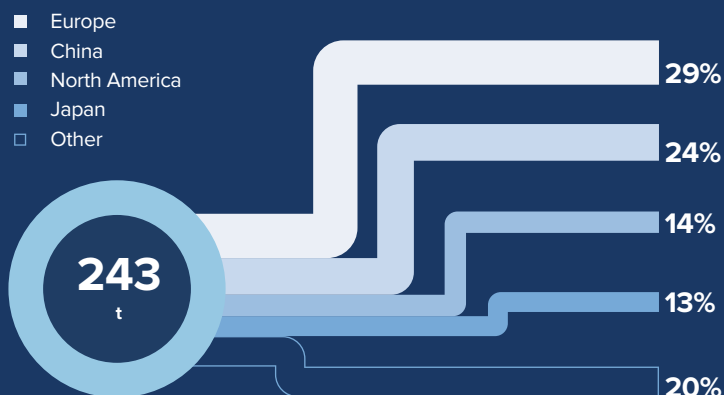
## Pt



**No. 4**  
in platinum  
market



### Platinum consumption by region



Source: Company data

## Key trends in the platinum market

In 2017, platinum prices were trending sideways. Despite several spikes to above USD 1,000 per oz during the year, by the end of the reporting period the metal's price reverted to its starting point of USD 930 per oz.

The changes in platinum and gold prices in 2017 mostly occurred in sync, indicative of platinum prices being highly dependent on macroeconomic trends, which were largely positive during the year. The weak US dollar against other currencies and the challenging geopolitical environment, including concerns around North Korea's nuclear programme, supported precious metal prices. At the same time, they faced certain pressure due to the rally in the US stock market, which resulted in some investors migrating from metals to equities.

In March–April and September, the platinum to gold price spread was increasing, with platinum dragging. The platinum price was 20% weaker compared to gold at the year's outset, and that became 30% by the end of 2017, driven by the platinum market's fundamentals as well as by speculation.

The main fundamental drivers included a drop in platinum consumption by the automotive industry due to reduced share of diesel passenger cars in the key markets of Western Europe and India, no awaited recovery in demand from Chinese jewellers, and primary production not being too receptive to low

### 2017

The market was balanced on the back of decreasing consumption by the automotive and jewellery industries, upward investor demand and consumption trends in other industries, and primary production growth fuelled by low prices.

### Outlook: neutral.

In 2018, the market is expected to remain more or less balanced, with a moderate recovery in demand and stable supply as the decrease in primary production would be offset by higher recycling volumes.

prices. Speculation was another big negative factor, with investors betting on a downward metal price trend. They took twice as many short positions in platinum (amounting to 2 mln oz) on the Chicago Mercantile Exchange (CME) as the year before, while the number of long positions increased only by a third.

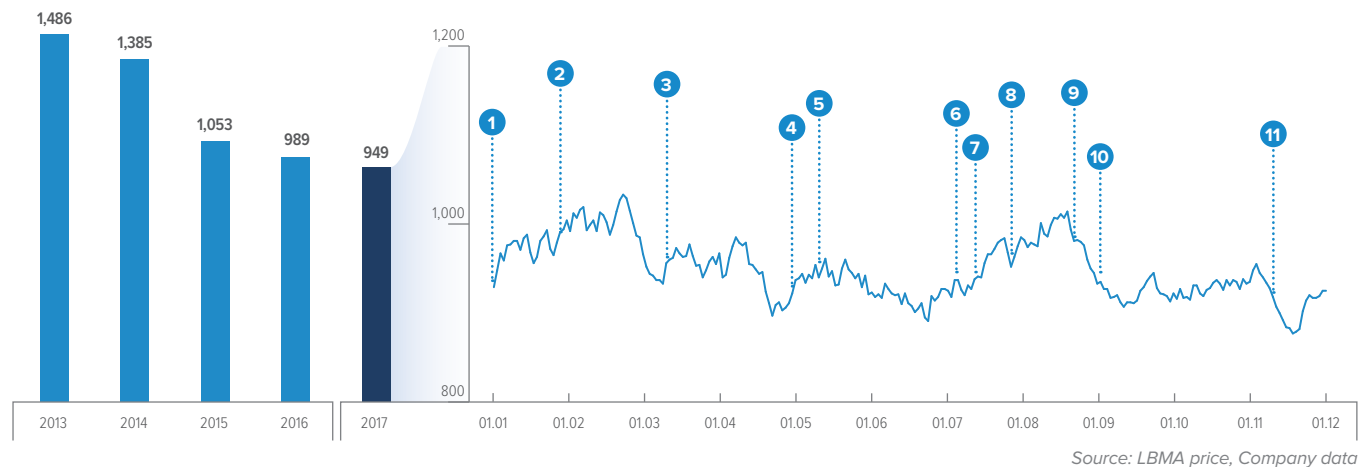
The largely negative sentiment drove the average annual platinum price for 2017 below the last year's level to its twelve-year low of USD 949 per oz.

## Market balance

The platinum market was balanced in 2017. Production of primary and recycled metal exceeded industrial and jewellery consumption, but the surplus was accumulated by ETFs and private investors in the physical market.

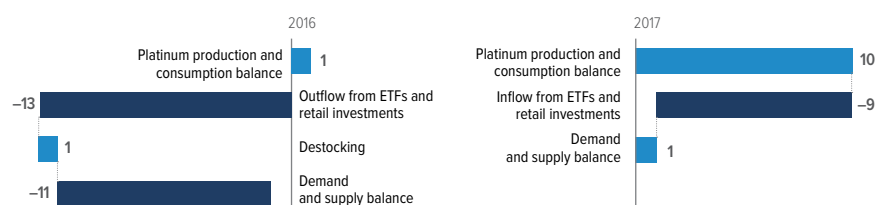


## Key industry developments and platinum price // USD/oz



- 1 On 23 December 2016, China's government released the plan to implement the China 6 emission standard, one of the most stringent regulations among those in place or planned to be introduced;
- 2 South African producers announced a potential decline in PGM output; poor production data came from Canadian assets; Volkswagen revealed plans to switch from small diesel engines to mild hybrids;
- 3 City administrations of London and Paris announced plans to step up measures to control exhaust emissions into the air;
- 4 US released weak statistics on car production; South Africa's Minister of Mineral Resources said that the country is planning to raise the target for black ownership in mining companies to 30%;
- 5 China moved the deadline for quotas on electric cars to 2019;
- 6 South Africa's Bokoni mine will be mothballed;
- 7 Lonmin announced plans to raise cash from selling surplus processing capacity;
- 8 Chancellor Angela Merkel announced Germany's plans to support the EU initiative to ban internal combustion engine cars;
- 9 South Africa's Maseve mine will be put on care and maintenance;
- 10 US released strong car production data; additional demand for cars came in the aftermath of the Irma and Harvey hurricanes;
- 11 Sibanye-Stillwater announced a takeover offer for Lonmin

## Platinum market balance // t



## Consumption

Industrial consumption of platinum in 2017 compared to the previous year rose slightly (by 1 t, or 0.5%) and reached 243 t.

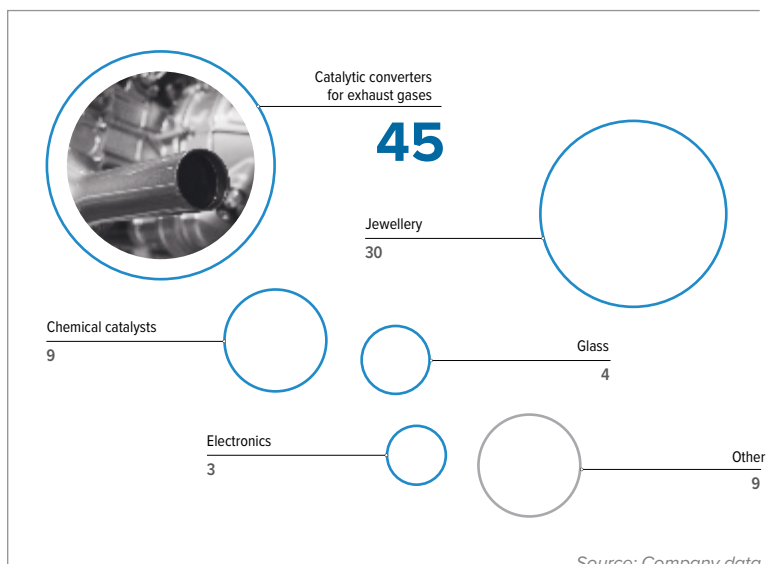
The automotive industry is the main consumer of platinum. Over 70% of platinum in this industry is used to manufacture exhaust gas catalysts for diesel vehicles.

In 2017, platinum consumption in the automotive sector decreased y-o-y by 0.9 t, or 1%, which mainly had to do with a decreased share of diesel vehicles in their key market – Europe. By December 2017, the share of diesel sales in Germany dropped from 46% to 39% y-o-y, having hit its minimum level since 2009 at 36% in September. France also saw a continued decline in diesel vehicle sales, which amounted to 47% compared to 52% in the previous year. Five years ago, that share was three quarters of the market.

India, which is a key market that had been viewed as a bastion for diesel vehicle production, was also on the decline over the recent years, with the share of diesel sales in the country's car market having decreased twofold (from 47% to 23%) during 2012–2017.

Diesel engines are giving way to petrol-based solutions, and more expensive vehicles utilise hybrids (combining petrol and electric engines). Petrol engine being a component of a hybrid necessitates wide use of palladium-based catalysts. Having the same displacement as the internal combustion engine, the hybrid uses more of the metal than a traditional petrol engine due to more frequent cold starts.

### Platinum consumption in 2017 by industry // %



+0.5%

# 243 t

Platinum consumption  
in 2017

Lower platinum consumption by passenger car producers was partially offset by increased manufacturing of heavy-duty vehicles, catalytic devices of which still rely on this metal. Diesel engines, together with hybrids, are the key and most cost-efficient solutions to achieve the EU's targets for reducing CO<sub>2</sub> emissions to 95 g/km by 2020. New diesel cars comply with the existing environmental requirements, but the Volkswagen emissions scandal served to ingrain the public's and authorities' negative attitudes towards diesel transport, especially in the EU, where many cities are now planning to introduce a ban on old diesel cars. This gives reason to expect further declines in the share of passenger diesel cars. However, in absolute terms manufacturing of this type of vehicles will continue to show a positive trend in the near term thanks to overall growth of the automotive industry.

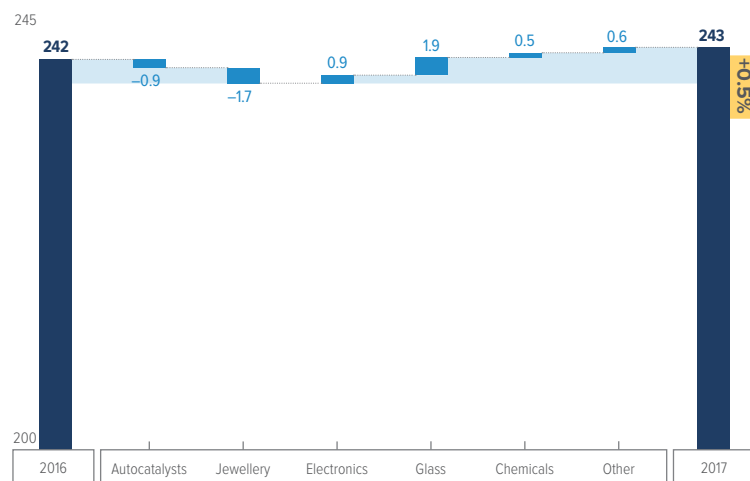
The second biggest platinum consumer is the jewellery industry, accounting for a third of the demand. The reporting period saw a sustained declining trend of platinum consumption in the industry that set in during the previous year, albeit with a lower rate (1.7 t less, or 2%). The decrease was primarily driven by lower jewellery demand in China due to consumers switching to other forms of investing. Still, China retains its high potential, especially when it comes to sales in cities with populations ranging from 150 thousand to 3 mln people.



# >70%

of platinum in automotive industry is used to manufacture exhaust gas catalysts for diesel vehicles.

Platinum consumption by application area // t



Source: Company data



Despite the overall decline, the global platinum demand from jewellers was supported by India's market recovery after the roll-out of its tax reform (according to the preliminary PGI data, the country's platinum jewellery market grew by over 20%). Although not quite enough to offset the negative trend in the larger Chinese market, this did somewhat mitigate it.

In 2017, primary platinum consumption for industrial catalyst manufacturing increased by 0.5 t, following the ramp-up of oil and shale gas processing in North America, growth of chemicals production in Western Europe, and launch of plants in China to produce paraxylene (used for paint and varnish manufacturing and propane dehydrogenation purposes) as well as silicone and other basic chemicals. Nitric acid production slowdown put a damper on growth.

The glass industry needs platinum to produce glass fibre and optical glass used in the LCDs of the majority of electronic products. In 2017, the industry's demand grew significantly by 1.9 t, or 20%, supported by active expansion of LCD production capacities.

The electronics industry saw a modest growth in platinum consumption (by 0.9 t) triggered by the increase in the platinum-based hard drive component production due to the expansion of remote data storage capacities. The following years will see the advent of the new MAMR and HAMR hard drive technologies, which will greatly increase the amount of data that can be stored on a hard disk drive, breathing new life into the technology lately beleaguered by competition from solid-state drives (SSDs).

Platinum is also widely used as an investment instrument. Physical investments may vary from coins and smaller bars to investments in ETFs that accumulate large amounts of platinum in the form of standard-sized bars. The 2017 y-o-y retail demand was somewhat lower (6 t), which was driven by the neutral platinum price trend and a sustained discount to gold. During the year, the investments in platinum ETFs increased by 3 t.

+2%

194 t

global production of primary platinum in 2017

+20%

1.9 t

growth of the glass industry's demand for platinum in 2017

## Production

Global production of primary platinum in 2017 rose by 4 t (or 2%) y-o-y and reached 194 t.

South Africa, the metal's major producer, was affected by the mothballing of the Bokoni and Maseve mines, furnace maintenance at Impala Platinum's mines, process-related closure of the Mototolo concentrator, and challenges in accessing the ore body at the Zondereinde mine. Despite these factors, the country saw a 6.1 t rise in output driven by greater production volumes at other sites, especially at the Mogalakwena mine – Anglo American Platinum's largest asset. Sibanye-Stillwater also boasted a rise in production.

As the market walks the surplus line and prices remain low, putting the margins of many projects at risk, South African producers are being lax on curbing the supply and continue to ramp up production to achieve even lower unit cost of platinum and boost revenues.

Russia saw a moderate increase in output, as lower production at Far Eastern mines was offset by higher volumes from Norilsk Nickel, which it achieved by processing copper concentrate purchased from the state-controlled Rostec corporation, using up work-in-progress inventories at Polar Division, and reducing the work-in-progress materials in transit following the now completed reconfiguration of its production facilities.

In Zimbabwe, production was marginally up, driven by the Zimplats and Mimosa mines. However, planned maintenance at the Unki concentrator in Q4 2017 brought the overall performance slightly down.

Canada sustained a significant drop in production (by 1 t, or 15%) due to lower platinum output by the Vale and Glencore assets, which was partially offset by volumes from the North American Palladium mine. In the USA, Sibanye-Stillwater's production demonstrated moderate growth, which will be bolstered by the volumes from Blitz project that was launched in 2017.

The main sources of recycled platinum are used exhaust gas catalysts and jewellery scrap. Recycled output in 2017 amounted to 6 t (up to 59 t), chiefly due to higher automotive and jewellery scrap volumes.

Collection of autocatalyst scrap increased amid the growth of prices on steel and other PGMs, as well as due to higher recycling volumes of European diesel cars with a high platinum content in the catalysts.

The sources of previously accumulated platinum stockpiles include trading companies, financial institutions, and surplus inventories of consumers, while the movement of these inventories is non-transparent.

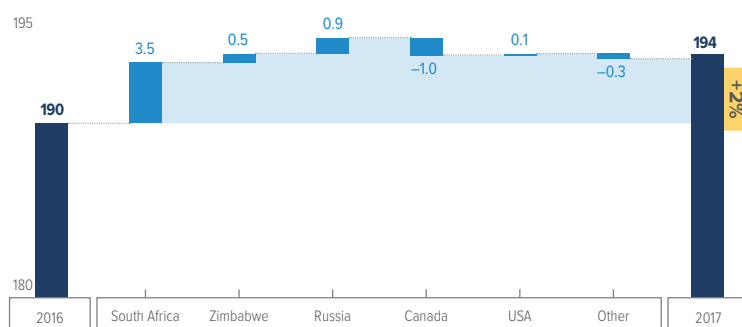
# 949

## USD per oz

the average annual platinum price for 2017

–4%

### Primary platinum production // t



Source: Company data



# BUSINESS OVERVIEW





## **58**

### The Group business

- 58 — Mineral base
- 62 — Geological exploration
- 66 — Production assets and activities
- 87 — Key investment projects
- 94 — Gas and energy assets
- 97 — Transportation assets
- 100 — Products and sales
- 103 — Research and development
- 105 — Supply management

## **108**

### Corporate responsibility

- 108 — HR and social policy
- 128 — Occupational safety
- 132 — Environment

## **147**

### Financial overview (MD&A)

# The Group business

## Mineral base

Nornickel boasts a unique mineral resource base due to its Tier 1 assets on Russia's Taimyr and Kola Peninsulas, in Zabaykalsky Krai. The continued expansion of the resource base secures the Company's long-term development.

### RESERVES AND RESOURCES<sup>1</sup>



Measured  
and indicated resources

**2,220**  
mt

**Ni**  
15.5 mt

**Cu**  
23.8 mt

**PGM**  
8.3 kt  
(265.1 mln oz)

Proven  
and probable reserves






**815**  
mt

**Ni**  
7.1 mt

**Cu**  
12.4 mt

**PGM**  
3.9 kt  
(125 mln oz)

#### Geography of metals produced by Norilsk Nickel

-  **Taimyr Peninsula**  
Ni, Cu, Au, Pt, Pd, Rh, Ru, Os, Ur, Co
-  **Kola Peninsula**  
Ni, Cu, Au, Pt, Pd, Rh, Ru, Os, Ur, Co
-  **Zabaykalsky Krai**  
Cu, Au, Ag, Fe
-  **Australia**  
Ni
-  **South Africa**  
Ni, Cu, Co, Rh, Ru, Os, Ur, Pt, Pd

<sup>1</sup> The Company's reserves and resources as at 31 December 2017, including wholly owned overseas assets and excluding fields in Zabaykalsky Krai. Data regarding the mineral resources and ore reserves of the deposits of the Taimyr and Kola peninsulas were classified according to the Australasian Code for Reporting of Mineral Resources and Ore Reserves (JORC code), created by the Australasian Institute of Mining and Metallurgy, the Australian Institute of Geoscientists, and the Minerals Council of Australia, subject to the terminology recommended by the Russian Code for Public Reporting of Exploration Results, Mineral Resources, Mineral Reserves (NAEN Code). The six platinum group metals (PGMs) are platinum, palladium, rhodium, ruthenium, osmium, and iridium.

## Taimyr Peninsula (Polar Division and Medvezhy Ruchey)

Norilsk Nickel's Polar Division develops copper-nickel sulphide deposits at the Talnakhskoye and Oktyabrskoye Fields (the Talnakh Ore Cluster). Medvezhy Ruchey develops copper-nickel sulphide deposits at the Norilsk-1 Field (part of the Norilsk Ore Cluster).

The Company has a strong potential to maintain the high level of ore reserves given the significant mineral resources available within the existing mining operations. The depleted rich and cuprous

ore reserves at the existing mines are mainly replaced through inferred resources on the flanks of the fields under exploitation. The Company plans to ramp up its mining operations by tapping into new rich ore deposits and focusing on the gradual and active development of disseminated and cuprous ore horizons. The Company will leverage the approved projects to develop new deposits and horizons in the Talnakh Ore Cluster and promising geological exploration data to ensure a sustainable mineral resource base going forward.

### Balance reserves of the Talnakh and Norilsk Ore<sup>2</sup>

**2,160** mt

— **Ni** 15.8 mt  
— **Cu** 30.4 mt  
— **PGM** 10.7 kt

### Proven and probable ore reserves

**690** mt

— **Ni** 6.4 mt  
— **Cu** 12.07 mt  
— **PGM** 3.9 kt  
(124.8 mln oz)

### Measured and indicated mineral resources

**1,714** mt

— **Ni** 12.0 mt  
— **Cu** 22.7 mt  
— **PGM** 8.2 kt  
(over 264.2 mln oz)

### Depletion of balance metal reserves

**15.0** mt

**Ni**—250.5 kt, **Cu**—434.5 kt,  
**PGM**—0.138 kt

### Additional balance reserves<sup>3</sup>

**5.4** mt

Average metal content  
**Ni**—2.87%, **Cu**—7.02%, **PGM**—17.04 g/t

## Kola Peninsula (Kola MMC)

Kola MMC develops copper-nickel sulphide deposits at the Zhdanovskoye, Zapolyarnoye, Tundrovoye, Kotselvaara-Kammikivi and Semiletka Fields as part of Pechenga ore fields. In addition to those,

Pechenga ore fields include the Sputnik, Bystrinskoye and Verkhneye Fields, and Kola MMC also holds an exploration and mining licence for them.

### Balance reserves of Pechenga ore fields<sup>2</sup>

**470.4** mt

— **Ni** 3.16 mt  
— **Cu** 1.54 mt

### Proven and probable ore reserves

**125** mt

— **Ni** 0.7 mt  
— **Cu** 0.36 mt

### Measured and indicated mineral resources

**333** mt

— **Ni** 2.3 mt  
— **Cu** 1.1 mt

### Depletion of balance metal reserves

**6.86** mt

**Ni**—43.6 kt, **Cu**—18.7 kt

### Conversion of balance reserves<sup>4</sup>

**6.7** mt

average metal content  
**Ni**—0.63%, **Cu**—0.27%

<sup>2</sup> Clusters (A + B + C<sub>1</sub> + C<sub>2</sub>).

<sup>3</sup> Operational and follow-up exploration, and re-estimation of reserves within the boundaries of the fields under exploitation.

<sup>4</sup> Operational exploration.





## Zabaykalsky Krai (GRK Bystrinskoye and Bugdainsky Mine)

### Bystrinskoye Field

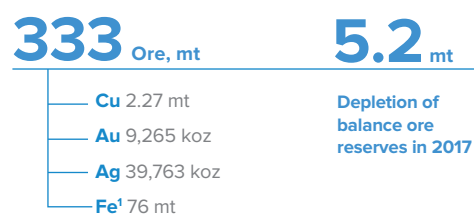
GRK Bystrinskoye develops deposits of gold-iron-copper ores at the Bystrinskoye Field.

### Bugdainskoye Field

Bugdainsky Mine holds an exploration and mining licence for the Bugdainskoye Field.

The exploration of the field resulted in  $B + C_1 + C_2$  mineral reserves entered into the government books in 2007. 2013 saw the launch of a development project at the Bugdainskoye Field in accordance with the duly approved design documents. In 2014, due to the low international molybdenum prices, the subsoil user suspended its right to develop the Bugdainskoye Field for three years. In 2017, the suspension of the right to develop the field was extended for another five years, until 31 December 2022.

### Balance reserves of the Bystrinskoye Field ( $B + C_1 + C_2$ )



### Balance reserves of the Bugdainskoye Field ( $B + C_1 + C_2$ )



<sup>1</sup> Magnetite iron.



## Australia (Norilsk Nickel Cawse)

The Group holds a licence to develop the Honeymoon Well Project including:

- fields with disseminated nickel sulphide ores (Hannibals, Harrier, Corella and Harakka);
- the Wedgetail Field hosting solid and vein ores.

The total measured and indicated mineral resources of the Honeymoon Well Project are estimated at

**173** mt of ore

Average nickel:

**Ni** — 0.68%

## South Africa (Nkomati)

Nkomati is a 50/50 joint venture of the Norilsk Nickel Group and African Rainbow Minerals. Nkomati's performance is reflected in financial results using proportional consolidation according to our stake and not reflected in other totals.

The Nkomati disseminated copper-nickel sulphide ore deposit constitutes part of the Bushveld Complex. Nkomati is comprised of several ore

bodies, the key ones being a solid sulphide ore body (rich nickel ore) and the Main Mineral Zone (MMZ). The field also contains a Peridotite Chromite Mineralisation Zone (PCMZ) with a lower metal content vs MMZ.

The proven and probable ore reserves as at the end of 1H 2017

Proven average content and probable ore reserves<sup>2</sup>

**88.6** mt of ore

Average content:

**Ni** — 0.31%

**Cu** — 0.11%

**Co** — 0.02%

**PGM** — 0.88 g/t

Measured and indicated mineral resources<sup>2</sup>

**182.4** mt of ore

Average content:

**Ni** — 0.35%

**Cu** — 0.14%

**Co** — 0.02%

**PGM** — 0.95 g/t

<sup>2</sup> At the end of 1H 2017.

# Geological exploration

## Taimyr Peninsula (Polar Division)

Exploration and follow-up exploration of copper-nickel sulphide ores are underway at the Maslovskoye Field and deep horizons and flanks of the Oktyabrskoye and Talnakhskoye Fields pertaining to the Norilsk Industrial District. Exploration of the Mokulaevskoye Field's industrial limestone deposits has been completed.

Prospecting of sulphide ores in the Norilsk Industrial District is in progress on the western flank of the Oktyabrskoye Field and in the Lebyazhninskaya Area, 20 km north-west of Norilsk, as well as in the Razvedochnaya, Mogenskaya, Khalilskaya, Nizhne-Khalilskaya and Nirungdinskaya Areas, 150 km south-east of Norilsk.

### Maslovskoye Field



The field is located in the Norilsk Industrial District, 12 km south of the Norilsk-1 Field.

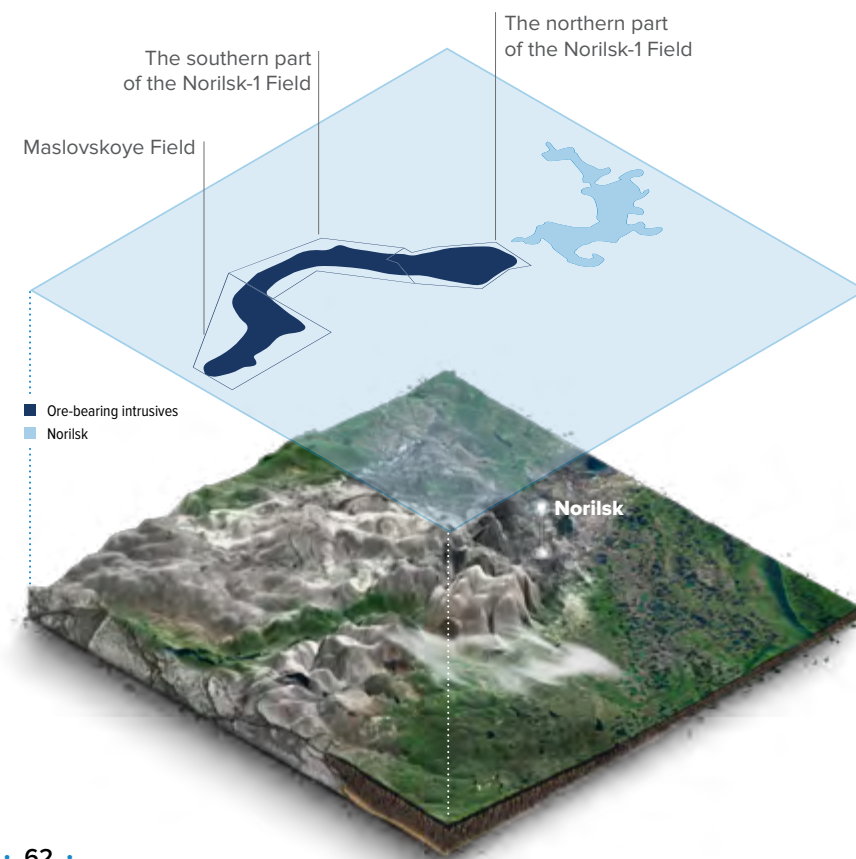
The Maslovskoye Field boasts some of the largest reserves in the world.

The licence to explore and mine copper-nickel sulphide ores at the Maslovskoye Field was obtained by the Company in 2015 following its discovery.

The Maslovskoye exploration project was reviewed and approved by the authorised expert bodies in 2016. A feasibility study of permanent exploratory standards is now in progress. In early February 2018, Nor Nickel and Russian Platinum signed a memorandum of intent to set up a joint venture for further development of disseminated ore deposits in the Norilsk Industrial District. The memorandum provides for the parity of JV partners, with Nor Nickel and Russian Platinum set to hold a 50% interest each. The partners' contributions to the authorised capital of the JV will come in the form of a licence to develop the Maslovskoye Field held by Nor Nickel and a licence to develop the southern part of the Norilsk-1 Field and the Chernogorskoye Field held by Russian Platinum.

### Balance reserves of the Maslovskoye Field $C_1 + C_2$ mineral reserves

215 Ore, mt	Metal content in ore
<b>Pd</b> 32,262 koz	<b>Pd</b> 4.56 g/t
<b>Pt</b> 12,479 koz	<b>Pt</b> 1.78 g/t
<b>Ni</b> 728 kt	<b>Ni</b> 0.33%
<b>Cu</b> 1,122 kt	<b>Cu</b> 0.51%
<b>Co</b> 34 kt	<b>Co</b> 0.016%
<b>Au</b> 1,304 koz	<b>Au</b> 0.19 g/t



Field boasts some of the largest reserves in the world.



## Flanks and deep horizons of the Talnakhsky Ore



The Group's geological exploration of the unregistered reserves at the Oktyabrskoye and Talnakhskoye Fields focuses on the follow-up exploration of rich and cuprous ores.

Geological exploration (follow-up exploration) is underway on the flanks of the Oktyabrskoye Field, southern flanks of the Talnakhskoye Field and the southern flank of Mayak mine to properly assess the boundaries of producing deposits and convert  $C_2$  reserves to the  $C_1$  category. Exploration on the eastern flanks of Skalisty mine and the flanks of the Severnaya 3 deposit has been completed. Following the re-assessment of the Severnaya 4 deposit copper and nickel ore reserves, 7,704.2 kt of rich and cuprous ores were entered in the government books.

In 2017, thanks to the follow-up exploration at the Severnaya 4 deposit, part of the Talnakh Ore Cluster, the Company registered additional balance reserves of copper-nickel ores.

**Reserves of the Severnaya 4 deposit (Oktyabrskoye Field) were re-entered in the government books in 2017**

**Rich:**

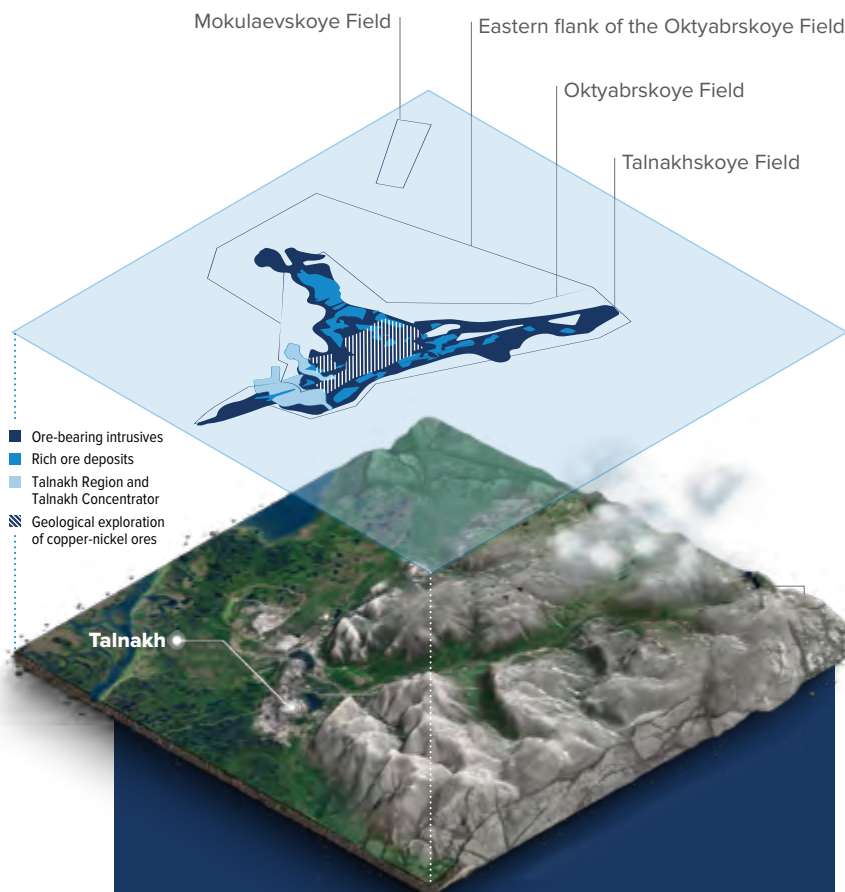
**1.2** Ore, mt

— **Ni** 45.5 kt  
— **Cu** 223.8 kt  
— **Pt** 11.4 t  
— **Pd** 33.9 t

**Cuprous:**

**0.2** Ore, mt

— **Ni** 0.7 kt  
— **Cu** 7.5 kt  
— **Pt** 0.4 t  
— **Pd** 1.5 t



## GROWTH POINTS: TALNAKH OUTLOOK

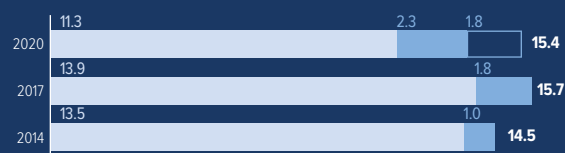
Maintaining a stable level of production at the Talnakh Ore Cluster is a mid-term priority of Norilsk Nickel's new investment cycle launched in 2017 to secure The Company's sustainable development.

In 2018–2020, the Talnakh mines are going to see investment of

**USD 1.5 bn**

## Ore mining at the Talnakh cluster // mt

- Ore mining without additional investment
- Skalisty mine ramp-up
- Talnakh brownfields under construction



## Prospecting and appraisal of new copper-nickel sulphide ore areas

In 2014, the Company obtained subsoil exploration licences for prospecting and appraisal of copper-nickel sulphide ore deposits in the Lebyazhninskaya, Razvedochnaya, Mogenskaya, Khalilskaya, Nizhne-Khalilskaya and Nirungdinskaya Areas of the Taimyrsky Dolgano-Nenetsky Municipal District (Krasnoyarsk Territory). The respective prospecting projects were reviewed and approved by the authorised expert bodies, with prospecting currently in progress, including exploration drilling to confirm anomalies identified earlier.

In 2017, the Company obtained a licence for geological exploration, including prospecting and appraisal of mineral deposits on the western flank of the Oktyabrskoye Field. The prospecting and appraisal project was reviewed and approved by the authorised expert bodies. Prospecting, including drilling, is now in progress.

## Limestone exploration at the Mokulaevskoye Field

The field is located 10 km north and north-west of the industrial facilities of Oktyabrsky and Taimyrsky mines.

The licence to explore and mine limestone at the Mokulaevskoye Field was obtained in 2017 following its discovery. The Mokulaevskoye exploration project was reviewed and approved by the authorised expert bodies. The feasibility study of permanent exploratory standards has been completed, with the mineral reserves estimation report submitted for state expert review.

Razvedochnaya, Mogenskaya, Khalilskaya, Nizhne-Khalilskaya and Nirungdinskaya licence areas

Lebyazhninskaya licence area

Natural outputs of differentiated intrusives

Ore-bearing intrusives  
Norilsk

Norilsk

## Kola Peninsula (Kola MMC)

No geological exploration was carried out on the Kola Peninsula in 2017.

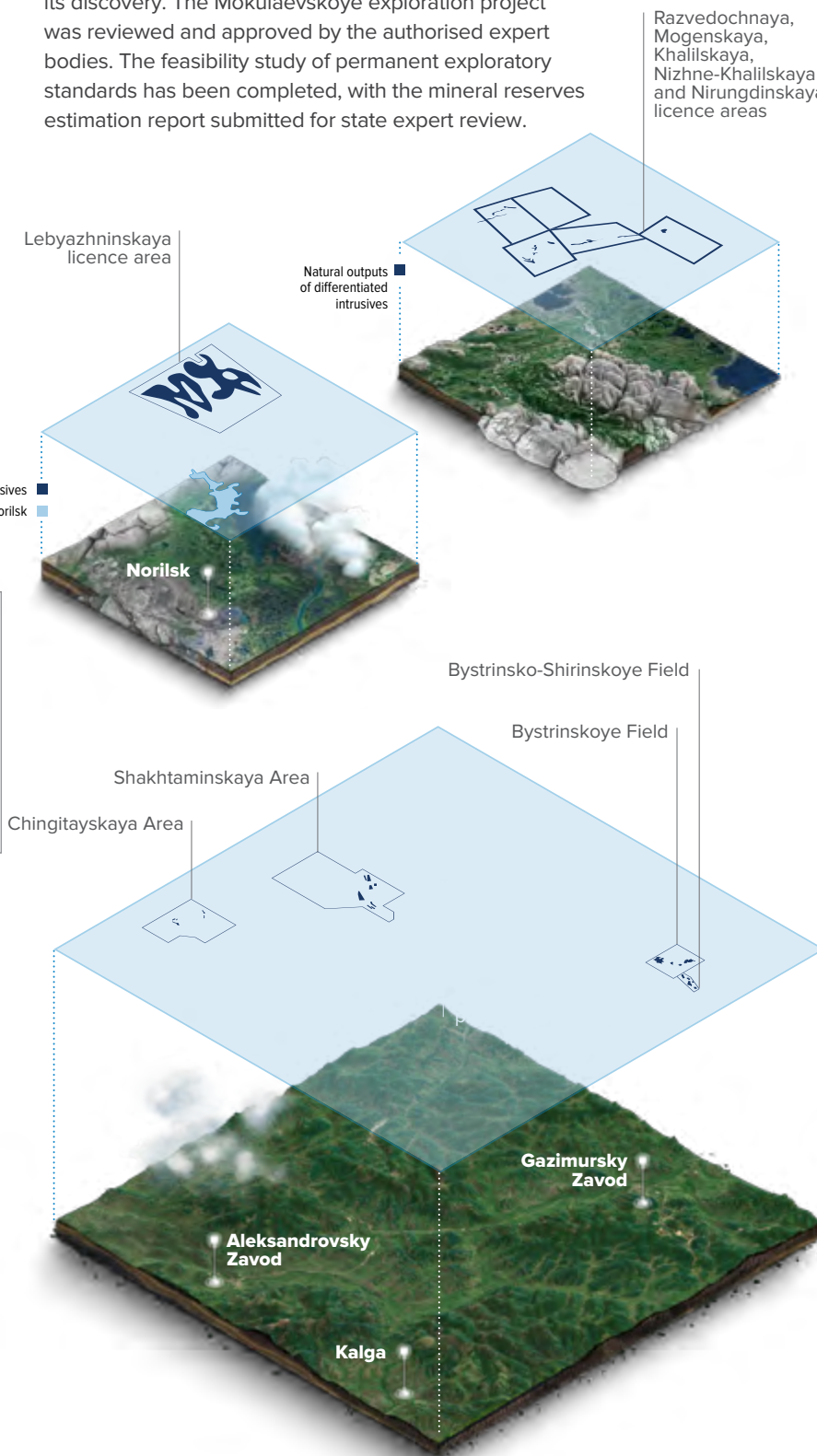
## Zabaykalsky Krai (GRK Bystrinskoye)

Geological exploration in Zabaykalsky Krai is aimed at developing and maintaining the mineral resource base of both the Company and the Chita project.

### Bystrinskoye Field



The Bystrinskoye Field is located 16 km east of Gazimursky Zavod settlement.



In 2015–2016, to increase the volume of development-ready reserves on the flanks and deep horizons of the field, the Company launched a follow-up exploration exercise, which resulted in discovery of additional reserves. In 2017, the identified skarn and gold ores were entered in the government books in 2017.

### Bystrinsko-Shirinskoye Field



The Bystrinsko-Shirinskoye Field is located 24 km south-east of Gazimursky Zavod lying in immediate adjacency to the Bystrinskoye Field.

In 2017, the Company tested the in-situ chlorination technology at the field.

### Zapadno-Shakhtaminskaya and Tsentralno-Shakhtaminskaya Areas

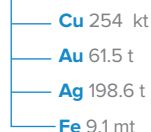


In 2015, the Company obtained a subsoil exploration licence to prospect for and appraise deposits of copper, gold, iron and associated minerals in the Zapadno-Shakhtaminskaya and Tsentralno-Shakhtaminskaya Areas.

These areas are located in the south-eastern part of Zabaykalsky Krai, 22 km away from the Borzys – Gazimursky Zavod railway.

### Increase in the Bystrinskoye Field reserves

**51.8** Ore, mt



In 2017, the Company completed additional geochemical and geophysical surveys and geological traverses, with a number of potential gold-copper mineralisation areas identified. Further prospecting is currently underway.

### Chingitayskaya Area



In 2015, the Company obtained a subsoil exploration licence to prospect for and appraise deposits of copper, gold, molybdenum and associated minerals in the Chingitayskaya Area located 25 km north-west of Aleksandrovsky Zavod.

In 2016, the Company launched a comprehensive prospecting exercise in the area, including geochemical and geophysical surveys and geological traverses, which showed no potential for discovering an iron-copper-skarn field in the area. The prospecting was terminated, with the Company intending to surrender the licence in 2018.

## Australia (Norilsk Nickel Cawse)

### Honeymoon Well Development Project

In 2017, geological exploration under the Company's Australia licences focused on both the Honeymoon Well Nickel Project (Wedgetail, Hannibals, Harrier, Corella and Harakka Fields) and prospective Albion Downs North and Albion Downs South Areas.

Geophysical ground surveys were conducted at the Honeymoon Well Project.

The Wedgetail Field operations included the assessment of options for mining solid sulphide ores with subsequent third-party processing; drilling and geophysical surveys at a previously identified area of

potential sulphide nickel mineralisation on the field's flanks and in its deep horizons; and reinterpreting of the existing geological data to assess the potential of the field's deep horizons.

In 2017, the subsoil user suspended its right to develop the Wedgetail Field for five years, until 7 October 2021.

Desktop studies at the Hannibals Field were conducted to interpret geological data on tectonic zoning. In 2017, drilling operations at Albion Downs North and Albion Downs South were carried out to verify geophysical anomalies of nickel and copper identified earlier.



# Production assets and activities



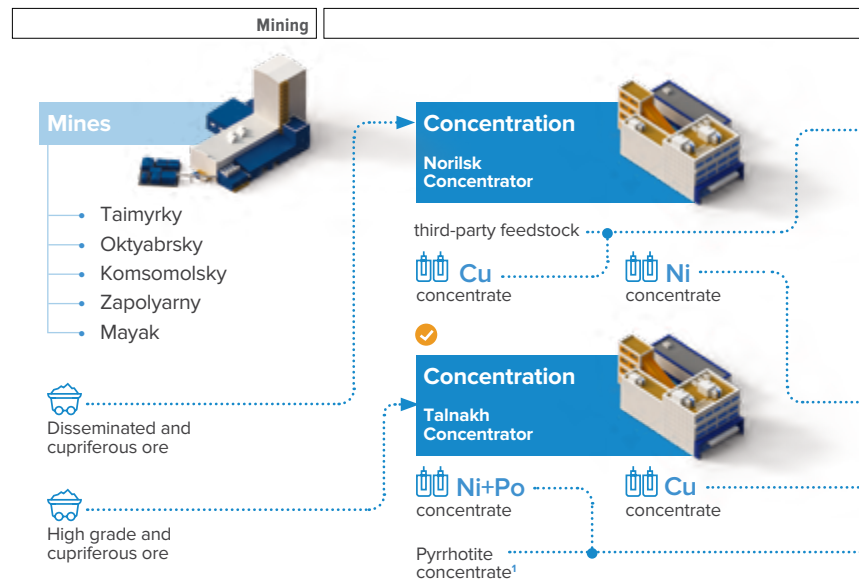
## 2017 MILESTONES

- ✓ Talnakh Concentrator reached the target operating rates set by the upgrade project. Its capacity increased by over 30% from 7.6 to 10.2 mtpa of ore. Metal losses in tailings were reduced, and target nickel and copper content in the collective concentrate and target quality of nickel-pyrrhotite and copper concentrates were met.
- ✓ A new tank-house section is being built at Kola MMC. Deployment of the highly efficient electrowinning technology will see the smelting of nickel anodes phased out. It will enable Nornickel to cut operating costs, drive down metal losses in the production process and improve the quality of products.
- ✓ In October, Bystrinsky GOK was launched in Zabaykalsky Krai, with hot commissioning progressing as scheduled. The facility will be developing the Bystrinskoye Field, a polymetallic deposit in the Gazimuro-Zavodsky District, and the Bugdainskoye Field, a molybdenum deposit in the Alexandrovo-Zavodsky District.

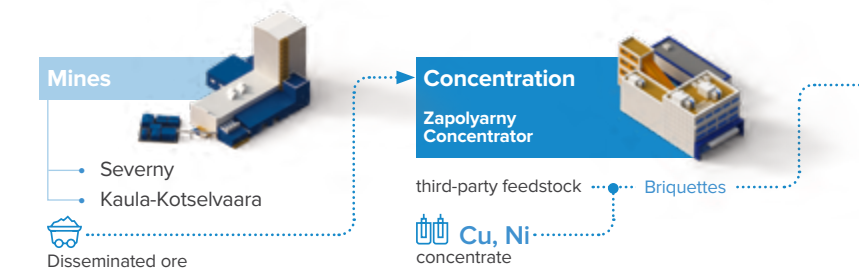
For more details, please see  
Key investment projects

🔍 p. 87

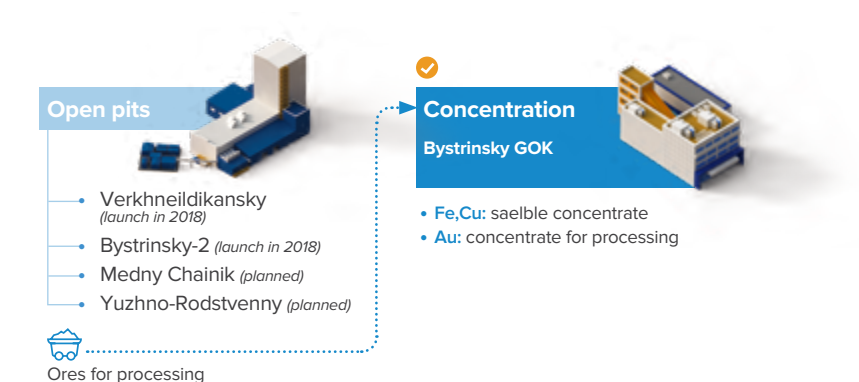
### Polar Division and Medvezhy Ruchey



### Kola MMC



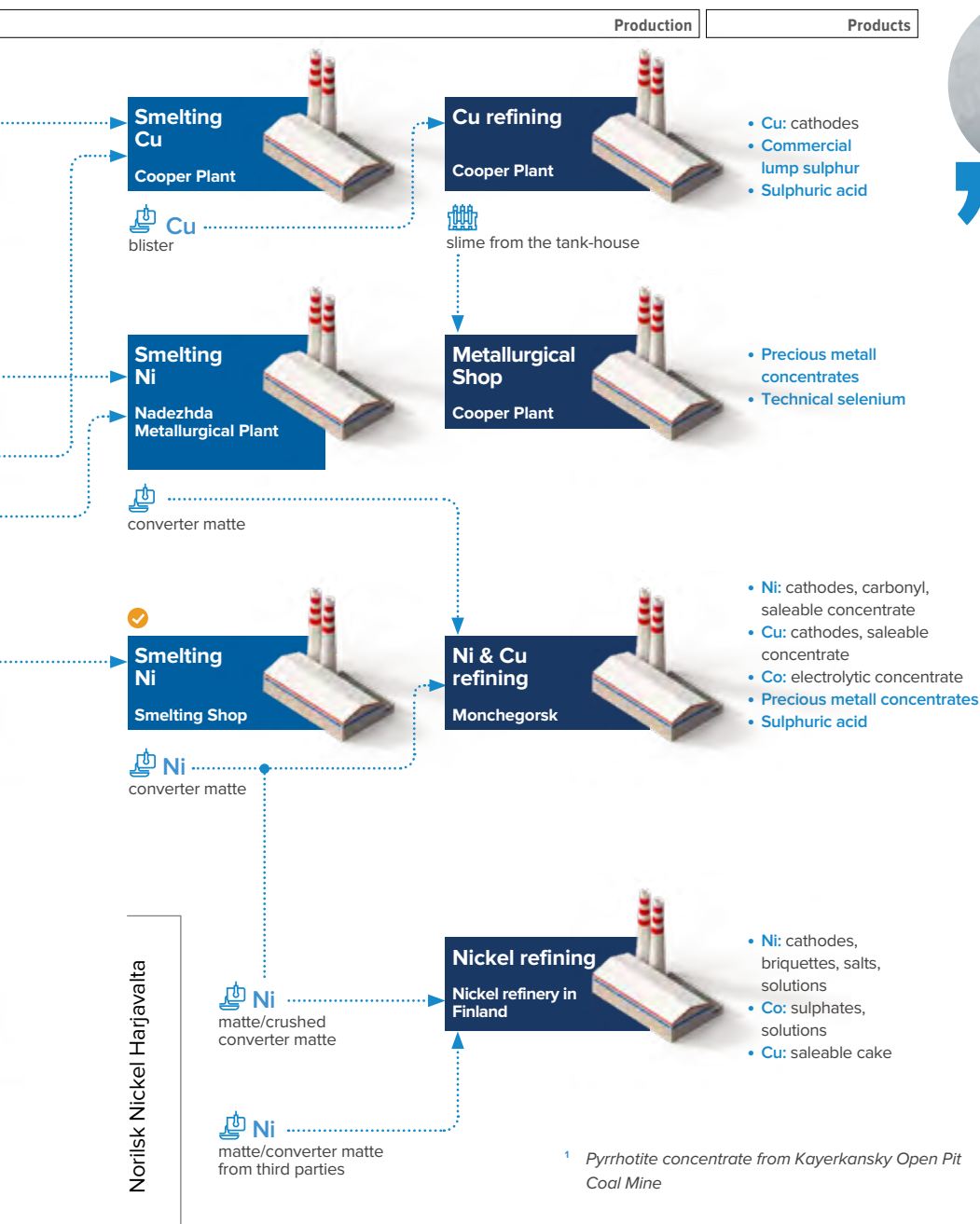
### GRK Bystrinskoye



## Ore mined across Russian assets // mt

■ Polar Division and Medvezhy Ruchey  
■ Kola MMC



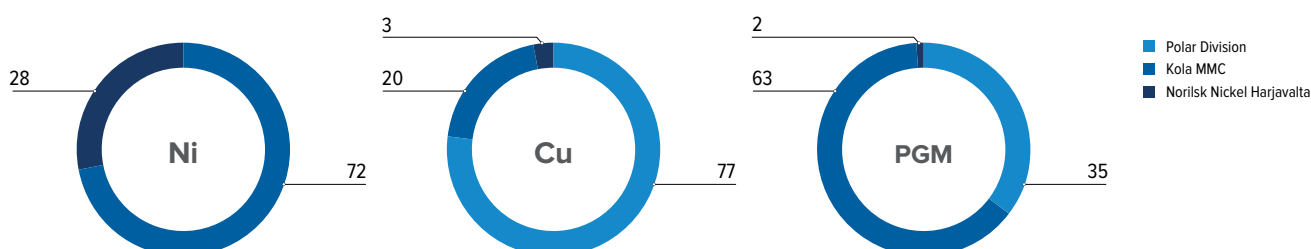


With the key stage of our reconfiguration effort completed, Talnakh Concentrator delivered stronger recovery rates and reached its design capacity while work-in-progress inventory levels normalised, allowing us to meet production targets for 2017. Our own feedstock metals production increased by 7–15% vs 2016, with copper and platinum output beating targets by 4% and 6%, respectively. In 2018, Kola MMC will adopt chlorine leaching, with the refining capacities upgrade and expansion entering the active phase. Copper production is also expected to increase during the year, driven by both Bystrinsky GOK and the existing capacities.”

### Sergey Dyachenko

First Vice President – Chief Operating Officer at Nornickel

### Metals production in 2017 – breakdown by asset // % from the overall Group production



## Operating performance for 2017

### Ore mined across the Group // mt

Asset	2015	2016	2017
<b>Russia</b>			
Polar Division and Medvezhy Ruchey	17.3	17.2	17.4
Kola MMC	8.0	7.6	7.6
<b>Total</b>	<b>25.3</b>	<b>24.8</b>	<b>25.0</b>
<b>South africa</b>			
Nkomati (50%) <sup>1</sup>	4.2	2.8	3.5

### Average metal content

Asset	Nickel, %			Copper, %			PGM <sup>2</sup> , g/t		
	2015	2016	2017	2015	2016	2017	2015	2016	2017
<b>Russia</b>									
Polar Division and Medvezhy Ruchey	1.27	1.23	1.29	2.06	2.09	2.17	6.85	6.81	6.83
Kola MMC	0.62	0.53	0.54	0.25	0.22	0.23	0.07	0.08	0.07
<b>South Africa</b>									
Nkomati	0.34	0.36	0.31	0.14	0.13	0.12	–	–	–

### Metals recovery in concentration // %

Asset	Nickel			Copper			PGM		
	2015	2016	2017	2015	2016	2017	2015	2016	2017
<b>Russia</b>									
Polar Division and Medvezhy Ruchey (ore to concentrate)	81.3	77.1	82.4	95.5	94.2	95.5	79.3	77.7	81.5
Kola MMC (ore to concentrate)	72.7	69.0	69.8	76.0	73.6	75.4	–	–	–
<b>South Africa</b>									
Nkomati (ore to concentrate)	74.1	70.6	70.7	86.1	89.5	90.9	–	–	–

<sup>1</sup> Volumes based on the 50% ownership (not included in the totals).

<sup>2</sup> The five following metals are included: palladium, platinum, rhodium, ruthenium and iridium.



**Metals recovery in smelting // %**

Asset	Nickel			Copper			PGM		
	2015	2016	2017	2015	2016	2017	2015	2016	2017
<b>Russia</b>									
Polar Division and Medvezhy Ruchey	93.1	93.4	93.9	94.2	94.1	94.0	93.8	95.0	95.6
Kola MMC (up to converter matte)	96.5	96.8	96.5	96.3	96.6	96.2	–	–	–
Kola MMC (in refining)	97.8	98.2	98.2	97.3	97.1	97.4	96.3	93.4	96.7
<b>Finland</b>									
Harjavalta	97.8	98.3	98.5	99.6	99.7	99.7	99.6	99.4	99.3

**Saleable metals production across the Group**

Metal	2015	2016	2017
<b>Group total</b>			
Nickel, t	266,406	235,749	217,112
from own Russian feed	220,675	196,809	210,131
Copper, t	369,425	360,217	401,081
from own Russian feed	352,766	344,482	397,774
Palladium, koz	2,689	2,618	2,780
from own Russian feed	2,575	2,526	2,728
Platinum, koz	656	644	670
from own Russian feed	610	610	650
<b>Russia</b>			
Nickel, t	222,016	182,095	157,396
Copper, t	355,706	350,619	387,640
Palladium, koz	2,606	2,554	2,738
Platinum, koz	622	622	660
<b>Finland</b>			
Nickel, t	43,479	53,654	59,716
Copper, t	13,048	9,598	13,441
Palladium, koz	78	64	42
Platinum, koz	33	22	10
<b>South Africa<sup>3</sup></b>			
Nickel, t	11,350	8,486	8,006
Copper, t	5,301	4,007	4,504
Palladium, koz	53	40	46
Platinum, koz	20	15	20

<sup>3</sup> Saleable concentrate production based on the 50% ownership (not included in the totals).

## Production chain

### Mining

#### NEW TECHNOLOGIES

Automation and improvement of production processes, including through the introduction of simulation modelling for underground mining planning at Polar Division, helps boost output in the real-time mode and reduce costs.

#### Stripping

Provides access from the surface to the deposit through underground workings used to transport mined ore, people, etc.

#### Development workings

The deposit is divided into separate sections, including mining levels, blocks, sublevels, stoops, etc.

#### Stoping

- separation of ore from the rock;
- delivery of ore from the mine face to the haulage level;
- maintenance of the excavated area.

#### Rock mass removal

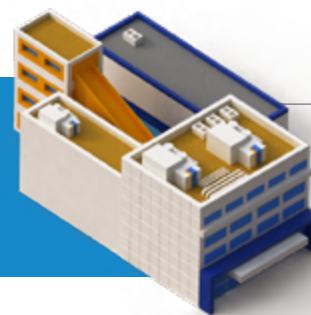
Ore is removed by load-haul dumpers and delivered to the surface by conveyor, railway and motor vehicles, or through skip shafts.



Ore to be transported to the concentrators

- ① Mine
- ② Ore body setting profile
- ③ Inclined shaft
- ④ Ramp
- ⑤ Crosscut
- ⑥ Skip shaft
- ⑦ Cage shaft
- ⑧ Haul roadway
- ⑨ Ventilation shaft

## Concentration



### ✓ Ore dressing

### ● Crushing



### ● Screening



### ● Sizing



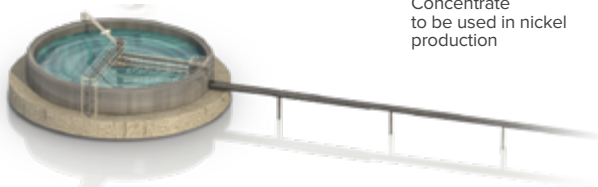
### ● Grinding



### NEW TECHNOLOGIES

Briquetting of copper-nickel concentrate (mechanical pressing of feedstock with a binder material) replaced the obsolete pelletisation and roasting technology (using heat to remove significant portions of sulphur from the concentrate). The introduction of the new feedstock preparation technology helped substantially reduce sulphur dioxide emissions (by 35 -40 ktpa at Polar Division alone). As briquettes have a higher sulphur content than pellets, during conversion the smelting shop produces gases that are richer in sulphur dioxide and are therefore easier to capture and recycle.

### Thickening

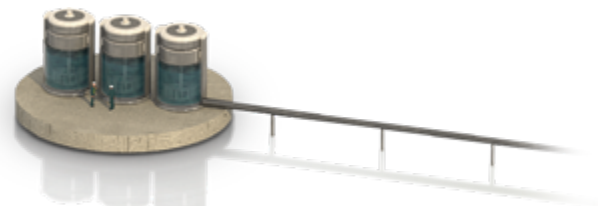


**Cu**  
Concentrate  
to be used in copper  
production

**Ni**  
Concentrate  
to be used in nickel  
production

Tailings to be transported  
to the tailing dump

### Flotation



## Production chain (continued)

### Nickel production

Ni

#### NEW TECHNOLOGIES

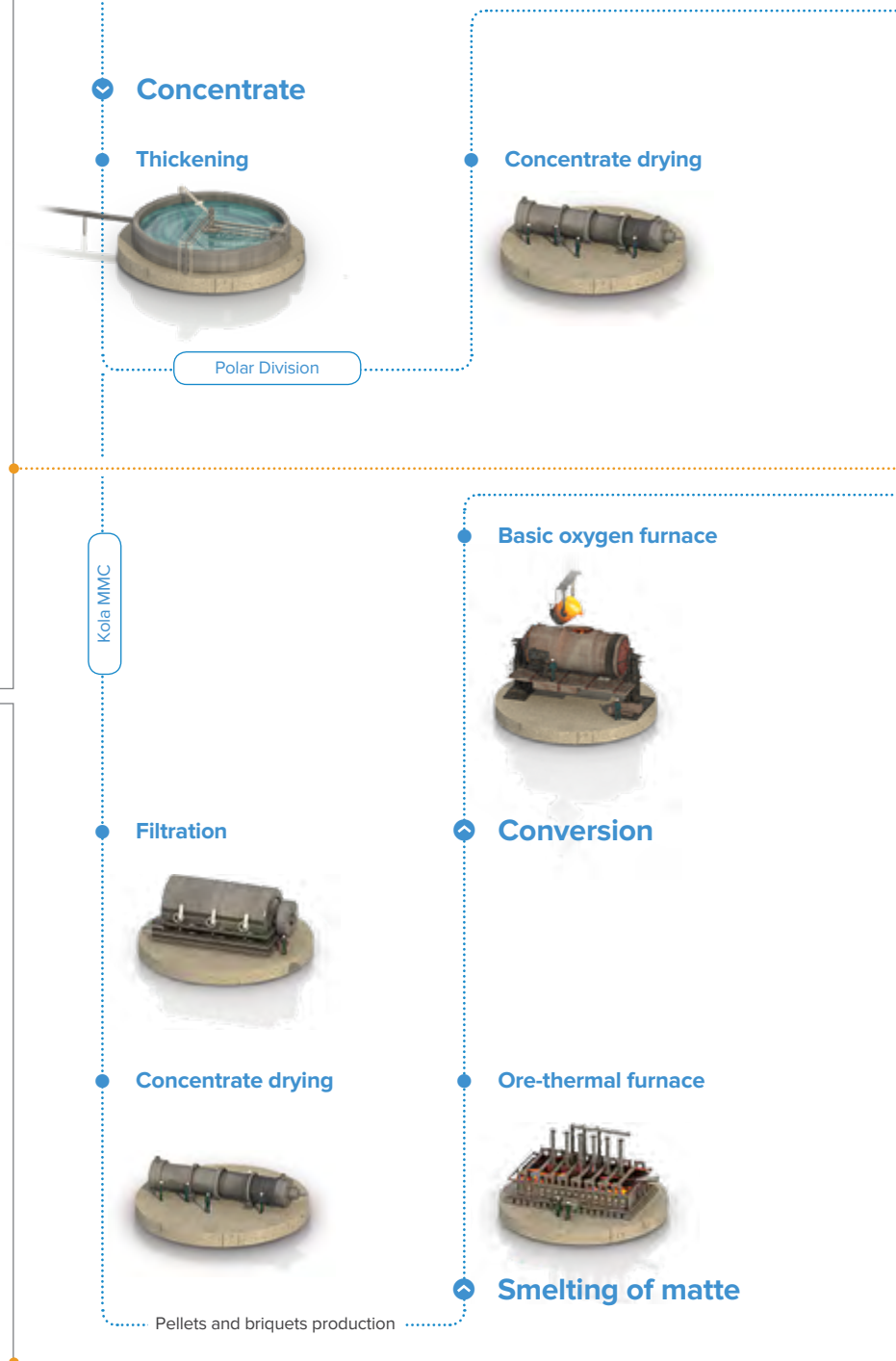
##### Saline effluent disposal process at the tank house

Saline effluent is a by-product of nickel refining operations that has to be disposed of. In Monchegorsk, the process is designed in the form of a closed cycle. The steam and condensate resulting from evaporation are then reused in the tank-house to heat solutions and operate heat exchangers.

The treatment facility for saline effluents also ensured a more advanced treatment of industrial discharges, with chemical agents, specifically boric acid, flowing back to the production circuit. Now, instead of having to deal with harmful waste, the Company produces additional saleable goods - sodium sulphate and chloride. Those are widely used by the chemical industry (production of synthetic detergents) and utility companies (as de-icing agents).

##### State-of-the-art electrowinning technology

The technology has been piloted at Kola MMC and is to be rolled out across the Group. Removal of the anode electric arc furnace from the production chain will help reduce emissions. Nickel powder produced in tube furnaces is used as the feedstock. This technology is less labour-intensive (the cells no longer need to be taken offline and cleaned after each loading cycle thanks to the use of insoluble anodes) and ensures zero losses of both precious and non-ferrous metals. On top of that, the resulting metal has maximum purity.







## Matte smelting

### Flash smelter



Matte

## Conversion

### Basic oxygen furnace



## Preparation of high-grade matte

### Casting mould



Cu, Ni  
High-grade  
matte to Kola MMC



## Preparation of high-grade matte

### Casting mould

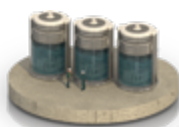


### Grinding



## Separation of high-grade matte

### Flotation



### Anode electric furnace



## Anode smelting

### Fluid-bed furnace



### Casting wheel



## Electrolysis

### Electrolysis baths



Nickel  
cathodes for  
sale



Pt, Pd, Au, Ag  
Slime to be used  
in precious metals  
production



Nickel slime  
to Polar Division

Copper  
concentrate  
to Copper shop

## Production chain (continued)

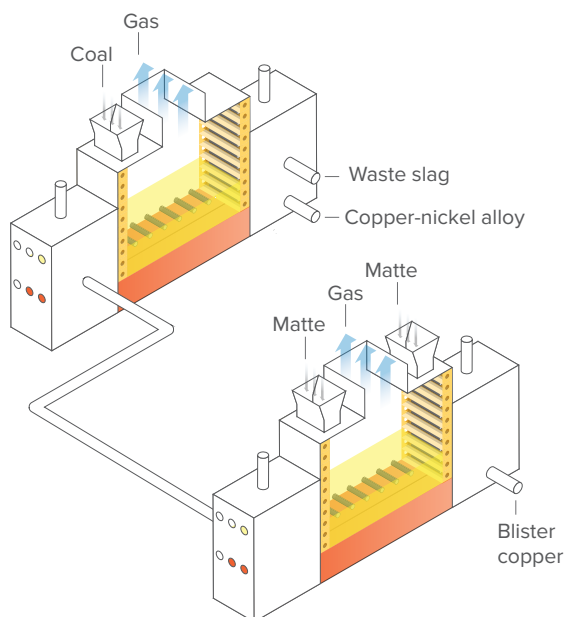
### Copper production

Cu

#### NEW TECHNOLOGIES

##### Continuous converting technology

The technology is being rolled out at NMP's continuous copper matte converting facility (as part of two Vanyukov furnaces – the basic oxygen and slag cleaning ones) to improve its blister copper production cycle. The new process uses a cutting-edge technology to dispose of smelting gases, with sulphur being taken into a continuous stream of highly concentrated gases ready for disposal.

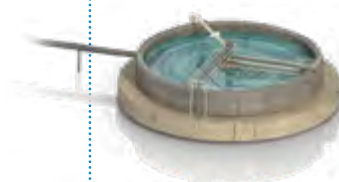


This technology will help reduce sulphur-rich gas emissions by at least

30%

#### Concentrate

##### Thickening



##### Filtration



##### Concentrate drying



#### Smelting of matte

##### Reverberatory furnace



Copper matte



Slug to dump

##### Vanyukov furnace



Kola MMC

Polar Division

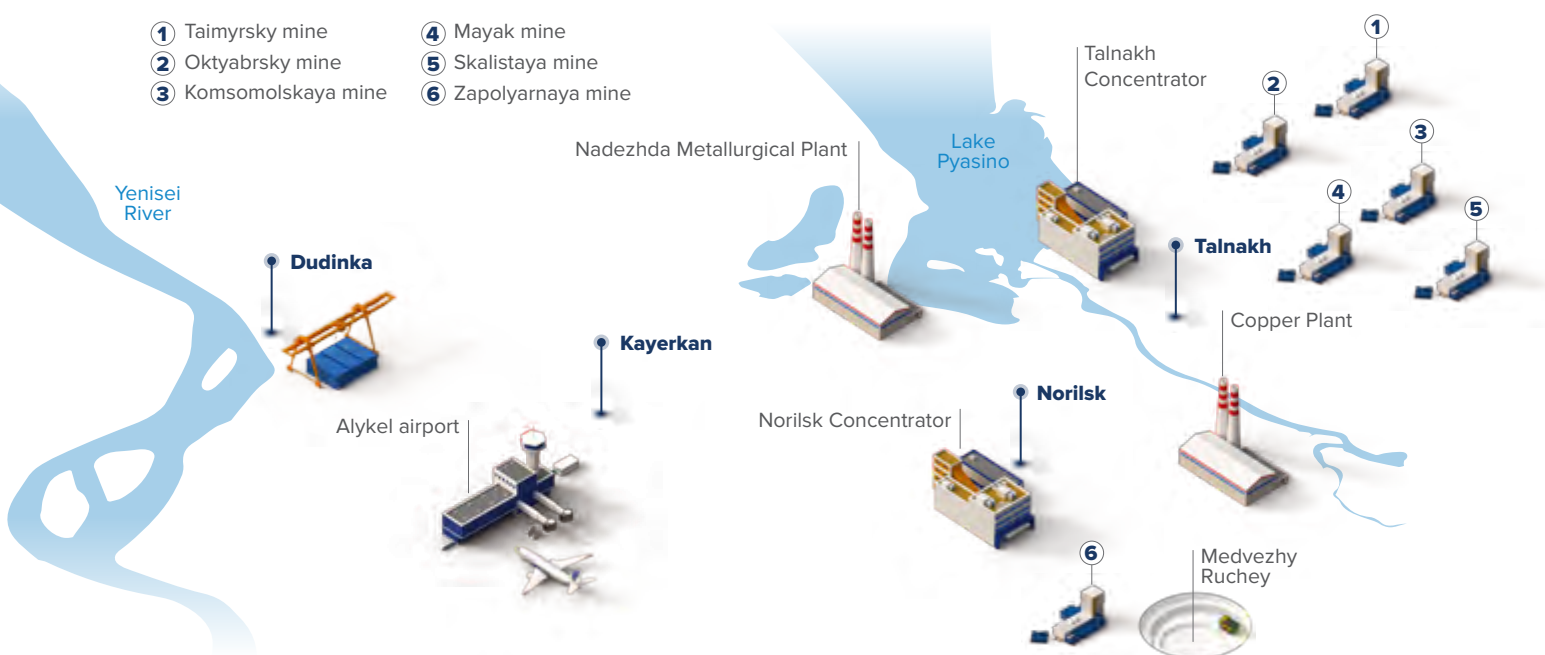


## Taimyr Peninsula (Polar Division and Medvezhy Ruchey)



### 2017 MILESTONE

In 2H 2017, Nornickel established Medvezhy Ruchey, a subsidiary that operates part of the assets of Polar Division, including Zapolyarny mine, Norilsk Concentrator, tailings pit No. 1 and Lebyazhye tailing pit. The carve-out was done to create separate Talnakh and Medvezhy Ruchey sites with a view to ramping up the new unit's capacities by raising investments.



Polar Division and Medvezhy Ruchey are the Group's flagship subsidiaries featuring a full metals production cycle that embraces operations ranging from ore mining to the shipment of end products to customers. Operating the Company's largest fields, they mine ca. 17 mtpa of ore. In 2017, Polar Division and Medvezhy Ruchey accounted for 77% and 35% of copper and PGM output, respectively.

They are located beyond the Arctic Circle on the Taimyr Peninsula in the north of the Krasnoyarsk Territory, Russia. The sites are linked to other regions by the Yenisei River, the Northern Sea Route and by air.

The Talnakhskoye and Oktyabrskoye Fields are developed by Taimyrsky, Oktyabrsky, Komsomolsky (including Komsomolskaya and Skalistaya mines) and Mayak mines. Ores are extracted through slicing and chamber mining with flowable backfilling.

The Norilsk-1 Field is developed by Zapolyarny mine through open-pit and underground mining. Underground mining is carried out through level caving using single-stage excavation and front ore passes.





## Mining

## Mining facilities

Field/mine	Mine type	Ores <sup>1</sup>
<b>Oktyabrskoye Field</b> <span style="float: right;">copper-nickel sulphide</span>		
Oktyabrskoye mine	underground	high grade, cupriferous and disseminated
Taimyrskoye mine	underground	high grade
<b>Talnakhskoye Field</b> <span style="float: right;">copper-nickel sulphide</span>		
Komsomolsky mine <sup>2,3</sup> , including		
Komsomolskaya mine <sup>4</sup>	underground	cupriferous and disseminated
Skalistaya mine	underground	high grade
Mayak mine <sup>5</sup>	underground	high grade and disseminated
<b>Norilsk-1 Field</b> <span style="float: right;">copper-nickel sulphide</span>		
Zapolyarny mine <sup>6</sup> , including		
Zapolyarny open pit	open pit	disseminated
Zapolyarnaya mine	underground	disseminated

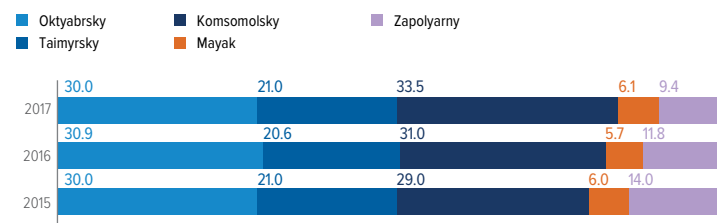
- <sup>1</sup> High grade ores are characterised by a higher content of non-ferrous and precious metals; cupriferous ores are characterised by a higher copper content vs nickel; disseminated ores are characterised by a lower metal content.
- <sup>2</sup> In 2010, the Talnakh Mining Administration was transformed into Komsomolsky mine consisting of Komsomolskaya, Skalistaya and Mayak mines.
- <sup>3</sup> In 2015, Mayak mine was spun off from Komsomolsky mine (consisting of Komsomolskaya, Skalistaya and Mayak mines) to become an independent operation. Komsomolsky mine was left with Komsomolskaya and Skalistaya mines.
- <sup>4</sup> Komsomolskaya mine is responsible for the development of the Talnakhskoye Field and the eastern part of the Oktyabrskoye Field.
- <sup>5</sup> In 2013–2014, part of Komsomolsky mine.
- <sup>6</sup> In 2010, the Norilsk-1 Mining Administration was transformed into Zapolyarny mine. Medvezhy Ruchey mine was integrated into Zapolyarny mine as Zapolyarny open pit. On 14 July 2017, Zapolyarny mine became a standalone unit of Medvezhy Ruchey.

## Ore mined // t

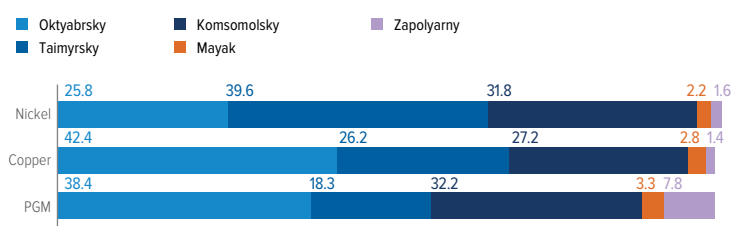
Ore type	2015	2016	2017
High grade	6,541,541	6,191,831	6,593,208
Cupriferous	5,403,755	7,080,627	7,165,500
Disseminated	5,382,273	3,971,752	3,618,576
<b>TOTAL</b>	<b>17,327,569</b>	<b>17,244,210</b>	<b>17,377,284</b>

In 2017, Polar Division's total ore output stood at 17.4 mt, up 133 kt, or 0.8% y-o-y. The production of high grade and cupriferous ores increased by 6.5% and 1.2% y-o-y, respectively, driven by the performance of Taimyrskoye mine and Skalistaya mine demonstrating a 40% growth y-o-y. Cupriferous ore production was higher thanks to Oktyabrskoye mine's results. In 2017, disseminated ore production was down by 9% – primarily due to lower output at Zapolyarny mine. The change in the volumes of ore mined was in line with the annual production plan.

## Ore mined – breakdown by mine // %



## Ore mined – breakdown by metal // %



+0.8%

17.4<sub>mt</sub>

Polar Division and Medvezhy Ruchey total ore output in 2017



## Concentration

### Concentration facilities

- Talnakh Concentrator
- Norilsk Concentrator (now part of Medvezhy Ruchey)

Talnakh Concentrator processes high grade and cupriferous ores from the Oktyabrskoye Field to produce nickel-pyrrhotite and copper concentrates and metal bearing products. The key processing stages include crushing, breaking, flotation and thickening.

Norilsk Concentrator processes cupriferous and all disseminated ores from the Talnakhskoye and Oktyabrskoye Fields and Copper Plant's low grade ores to produce nickel and copper concentrates. The key processing stages include crushing, breaking, gravitation and flotation enrichment, and thickening.

Thickened concentrates are transported via a pipeline from Talnakh and Norilsk Concentrators to smelting facilities for further processing.

In 2017, Polar Division's Production Association of Concentrators processed a total of 18 mt of feedstock (including high grade, cupriferous and disseminated ores).

# 18.0<sub>mt</sub>

of feedstock (including high grade, cupriferous and disseminated ores) was processed by Polar Division's Production Association of Concentrators in 2017

In 1H 2017, Talnakh Concentrator operated against the backdrop of implementing and fine-tuning a new technology, moving on to reach the design capacity in 2H 2017 and beat the 2016 ores processing volume by 1.5 mt in the full year (10.0 mt vs 8.6 mt). Nickel recovered into collective flotation concentrate from ore processed increased by 2.2% y-o-y (81.7% vs 79.5%).

In 2017, volumes of ore processed at Norilsk Concentrator were 0.6 mt lower (7.5 mt vs 8.1 mt in 2016) – in line with the mining plan. Nickel recovered into collective concentrate was 0.8% higher (71.7% vs 70.9% in 2016). During the year, the facility processed significant volumes of Copper Plant's low grade ores.

### Talnakh Concentrator

#### Sulphide ore processed // mt



#### Nickel recovery // %



### Norilsk Concentrator

#### Sulphide ore processed // mt



#### Nickel recovery // %



<sup>1</sup> In 2017, volumes of ore processed decreased in line with the mining plan.



## Smelting

### Smelting facilities

- Nadezhda Metallurgical Plant
- Copper Plant (CP)
- PGM Concentrator (part of Copper Plant)

Nadezhda Metallurgical Plant produces converter matte and elemental sulphur from the following:

- Talnakh Concentrator's nickel-pyrrhotite concentrate and metal bearing products;
- Norilsk Concentrator's nickel concentrate;
- pyrrhotite concentrate previously stored at Kayerkansky Open Pit Coal Mine (KUR-1).

Pyrrhotite concentrate from Talnakh Concentrator and stored pyrrhotite concentrate from Kayerkansky Open Pit Coal Mine is further leached in Hydrometallurgical Shop to produce steam cured sulphide concentrate. Concentrate from Talnakh Concentrator, steam cured sulphide concentrate and stored pyrrhotite concentrate from Kayerkansky Open Pit Coal Mine are delivered to the flash smelting furnaces. The matte is then blown into high grade converter matte.

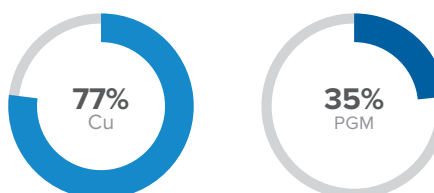
Copper Plant processed all of the copper concentrate from Norilsk and Talnakh Concentrators, as well as third-party feedstock, to obtain copper cathodes, elemental sulphur and sulphuric acid for production needs of Polar Division.

PGM Concentrator (part of Copper Plant) recycles sludge from the tank-house to produce concentrates of precious metals and technical selenium.

Precious metals produced by Polar Division are refined at Krasnoyarsk Precious Metals Refinery under a tolling agreement.

At Polar Division, metals are produced from its own feedstock. Since Q4 2016, all nickel converter matte from Nadezhda Metallurgical Plant has been processed at Kola MMC due to the Nickel Plant shutdown.

In 2017, Polar Division and Medvezhy Ruchey accounted for<sup>1</sup>:



<sup>1</sup> % from the overall Group production.

### Metals output

Metal	2015	2016	2017
Nickel, t	96,916	50,860	0
Copper, t	292,632	280,347	306,859
Palladium, koz	1,935	1,703	956
Platinum, koz	488	449	259

### Product offering:



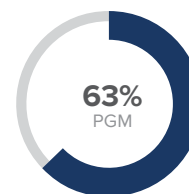
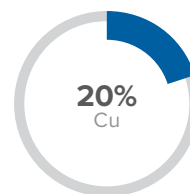
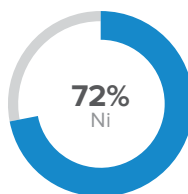
- copper cathodes;
- nickel converter matte for Kola MMC;
- precious metal concentrate;
- commercial lump sulphur;
- technical selenium.

## Kola Peninsula (Kola MMC)

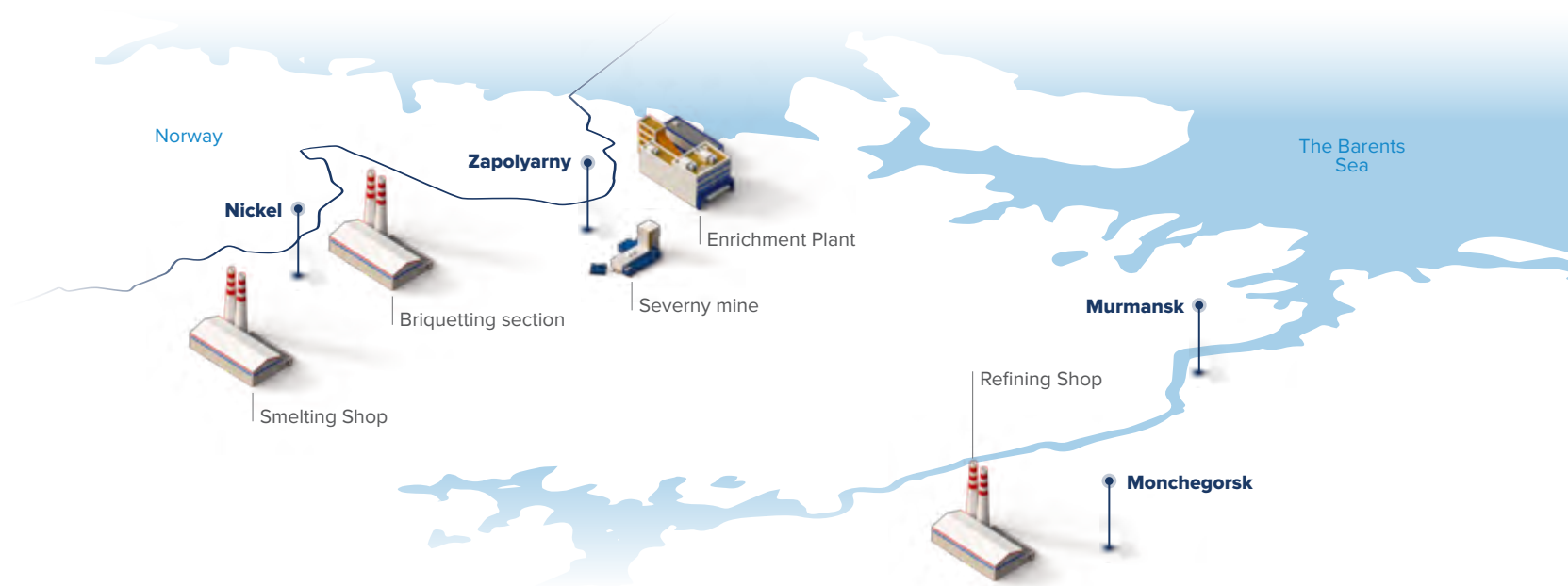
Kola Mining and Metallurgical Company (Kola MMC) is Norilsk Nickel's 100% subsidiary and an important production asset.

Located on the Kola Peninsula in Russia's Murmansk Region, Kola MMC is fully integrated into the transport infrastructure of the Northwestern Federal District.

In 2017, Kola MMC accounted for<sup>1</sup>:



<sup>1</sup> % from the overall Group production.



### Mining

#### Mining assets

Field / mine (section)	Mine type	Ores
<b>Zhdanovskoye Field</b>		<b>Copper-nickel sulphide</b>
Severny underground section	Underground	Disseminated
<b>Zapolyarnoye Field</b>		<b>Copper-nickel sulphide</b>
Severny underground section	Underground	Disseminated
<b>Kotselvaara and Semiletka Fields</b>		<b>Copper-nickel sulphide</b>
Kaula-Kotselvaara mine <sup>2</sup>	Underground	Disseminated

#### Ore mined // t

Ore type	2015	2016	2017
Disseminated	7,962,226	7,615,518	7,643,224

<sup>2</sup> In December 2013, Kaula-Kotselvaara mine was merged with Severny mine and incorporated therein.



Kola MMC is currently developing the Zhdanovskoye, Zapolyarnoye, Kotselvaara and Semiletka Fields.

Severnny mine (including Kaula-Kotselvaara mine) produces disseminated sulphide ores containing nickel, copper and other saleable components.

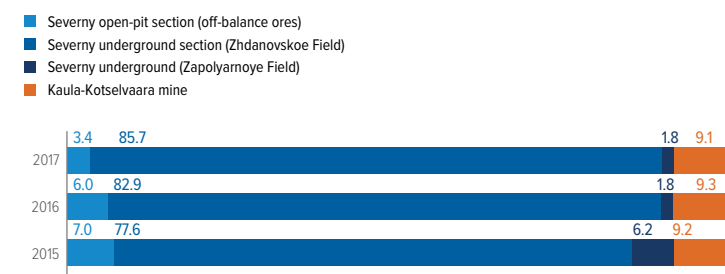
Severnny mine leverages various ore mining methods:

- the Zhdanovskoye Field uses sublevel longwall caving with front ore passes, block caving (limited scope of application), and open-pit mining (at Yuzhny open pit) methods;
- the Kotselvaara and Semiletka Fields primarily use stoping from sublevel drifts and sublevel caving, as well as room-and-pillar short-hole and long-hole stoping (limited scope of application).

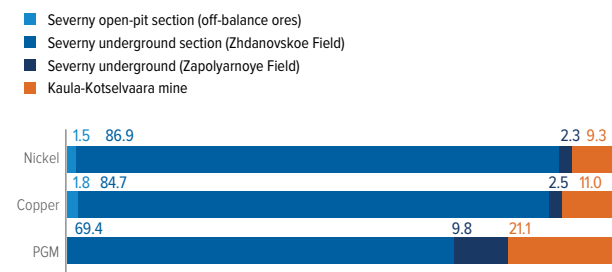
Kola MMC's total ore output amounted to 7.6 mt, up 0.4% (28 kt) y-o-y owing to the development of flank deposits at the Zhdanovskoye Field.

The change in the volumes of ore mined was in line with the annual production plan.

#### Breakdown of ore production at Severnny mine // %



#### Ore production at Severnny mine in 2017 – breakdown by metals // %



+0.4%

# 7.6<sub>mt</sub>

Kola MMC's total ore output in 2017



## Concentration

### Concentration facilities

- Zapolyarny Concentrator

The Concentrator produces briquetted copper-nickel concentrate. Nkomati concentrate also undergoes briquetting. Briquettes are delivered to the Smelting Shop to produce converter matte.

In 2017, Kola MMC's Concentrator processed 7,600 mt of ore, up 32 kt y-o-y.

In 2017, the rate of metals recovery in bulk concentrate was above the 2016 level due to a lower content of hard-to-process and talcose ores in the ore mixture.



## Smelting

### Smelting facilities:

- Smelting Shop (Nickel)
- Briquetting section (Zapolyarny)
- PGM Concentrator (Monchegorsk)
- Refining Shop (Monchegorsk)
- Tank-Houses 1 and 2 (Monchegorsk)

In 2017, Kola MMC continued improving production processes and proceeded with the maintenance of key production equipment at its smelting facilities.

In Q1 2017, it commissioned a disposal facility for saline effluent from nickel refining operations at Tank-House 2. Tank-House 2 saw further implementation of the project for Nickel Electrowinning from Chlorine

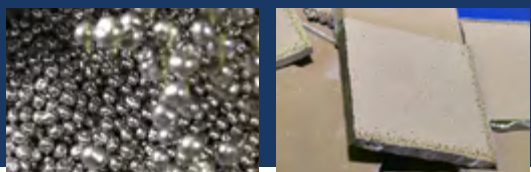
Dissolved Tube Furnace Nickel Powder with the Production Volume of 145 ktpa of Electrolytic Nickel.

Kola MMC's refining facilities in Monchegorsk process converter matte from Nickel's Smelting Shop and Polar Division.

Precious metals produced by Kola MMC are refined at Krasnoyarsk Precious Metals Refinery under a tolling agreement.

In 2017, Kola MMC achieved a higher metal output compared to 2016. The growth was primarily driven by larger converter matte supplies from Polar Division after production reconfiguration.

### Product offering:



- nickel cathodes;
- carbonyl nickel;
- saleable nickel concentrate;
- copper cathodes;
- electrolytic cobalt;
- cobalt concentrate;
- precious metal concentrates;
- sulphuric acid;
- crushed converter matte for Harjavalta;
- saleable copper concentrate.

### Metals output

Metal	2015	2016	2017
Nickel, t	125,100	131,235	157,396
including from the Company's Russian feedstock	123,335	126,937	155,110
Copper, t	63,075	70,272	80,781
including from the Company's Russian feedstock	60,134	63,542	78,586
Palladium, koz	671	851	1,782
including from the Company's Russian feedstock	640	815	1,731
Platinum, koz	134	173	401
including from the Company's Russian feedstock	122	159	385

## 2-fold

In 2017, palladium and platinum output increased in Kola MMC

## +20%

Increased nickel production in Kola MMC in 2017

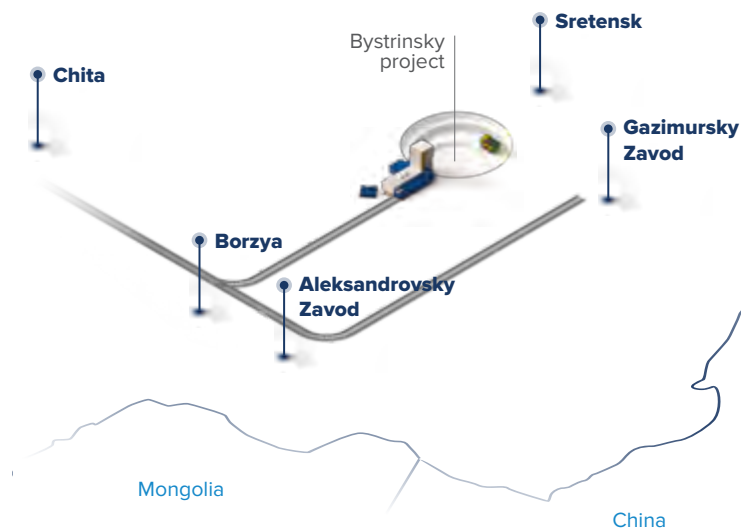
## +15%

Increased copper production in Kola MMC in 2017

## Zabaykalsky Krai (GRK Bystrinskoye)

GRK Bystrinskoye (Bystrinsky GOK) is the Company's 50.01% subsidiary.

**This new Nornickel project is the largest in the metals industry in Russia, as its operations include ore mining, concentration and shipment of end products to customers. The volume of ore mined and processed is expected to exceed 10.0 mtpa.**



The construction of Bystrinsky GOK started in 2013. In October 2017, the Company embarked on the pre-commissioning phase. The facility is expected to switch to normal operation by the end of 2018 reaching its design capacity after 2021.

Bystrinsky GOK is located in the Gazimuro-Zavodsky District of Zabaykalsky Krai, south-east of Gazimursky Zavod in the Ildikan valley (350

km from Chita). The closest residential areas are Novosheirokinsky, 14 km north-east of the facility, and Gazimursky Zavod, a district capital 25 km to the north-west.

The Naryn – Gazimursky Zavod rail line was built to facilitate mining in the south-east of Zabaykalsky Krai. In 2012, the railway became operational, allowing traffic to Gazimursky Zavod.

### Mining

#### Mining facilities

Field/mine	Mine type	Ores
<b>Bystrinskoye Field</b>		<b>Gold-copper-iron</b>
Verkhneildikansky open-pit mine	Open pit	Gold-copper-iron
Bystrinsky-2 open-pit mine	Open pit	
Medny Chainik open pit mine	Open pit	
Yuzhno-Rodstvenny open pit mine	Open pit	

Bystrinsky GOK leverages the vast copper, gold and iron ore reserves of the Bystrinskoye Field.

**333** mt

ore reserves at the Bystrinskoye Field

**10** mtpa

Bystrinsky GOK's planned ore processing capacity



## Concentration

### Concentration facilities

- Concentrator

The construction began in 2015. The Concentrator is intended to process rich and cupriferous ores of the Bystrinskoye Field to produce copper, magnetite, and gold concentrates. The key processing stages include crushing, grinding, flotation, thickening, filtration and packaging.

The Concentrator is designed to have two separate processing streams. The first stream is now at the pre-commissioning stage. Its launch will enable the facility to reach 50% of its design capacity.

In 2018, the second stream will be commissioned for the Concentrator to unlock its full design capacity.

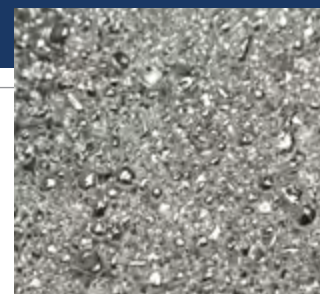
Copper concentrate is expected to be exported to China, while magnetite and gold concentrates will be delivered to the Company's other facilities for further processing.

Cu 25–31 kt Au 90–110 koz

The 2018 production targets for the Chita project

#### Product offering:

- copper concentrate;
- gold concentrate;
- magnetite concentrate;
- silver.



## Finland (Norilsk Nickel Harjavalta)

Norilsk Nickel Harjavalta became part of the Group in 2007. It focuses on processing the Company's Russian feedstock and nickel-bearing raw materials sourced from third-party suppliers.

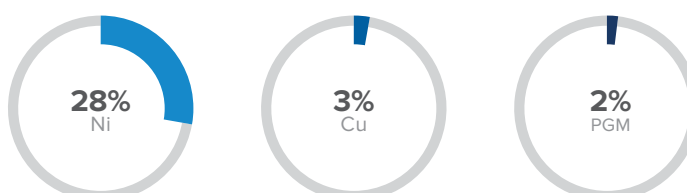
Norilsk Nickel Harjavalta has a total nickel processing capacity of 66 ktpa.

The facility uses sulphuric acid leaching, the world best-in-industry solution with the metal recovery rates of above 98%.

Founded in 1960, Harjavalta is the only nickel refinery in Finland and one of the largest similar facilities in Europe.



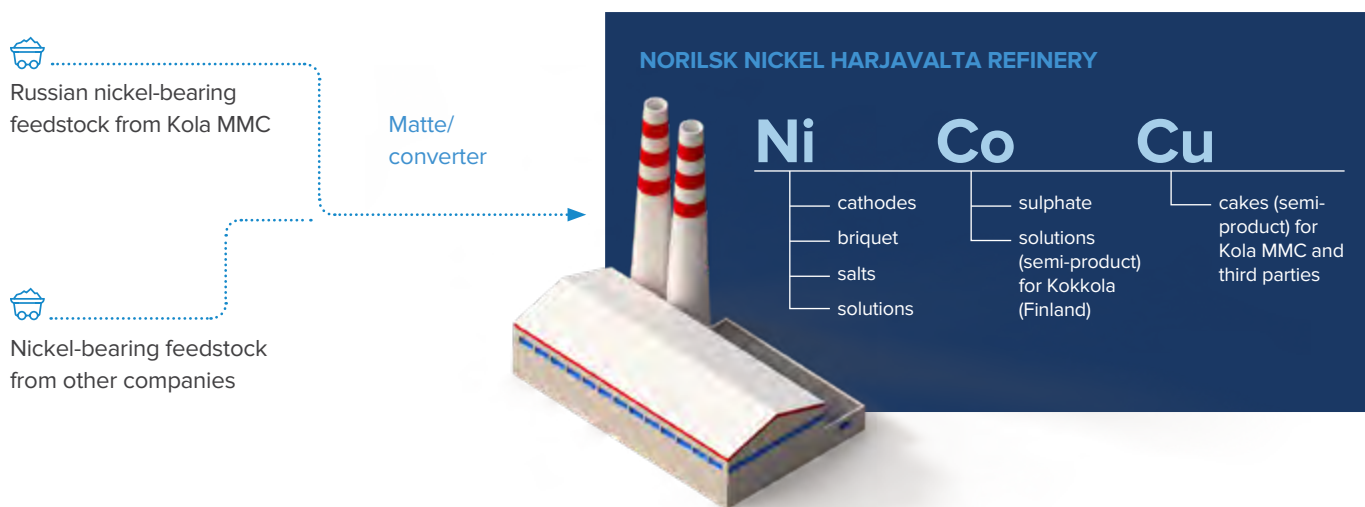
In 2017 Harjavalta accounted for<sup>1</sup>



<sup>1</sup> % from the overall Group production.



## Process flowsheet of Norilsk Nickel Harjavalta



In Q2 2017, the refining facilities in Monchegorsk (Russia) started to gradually increase their nickel feedstock supplies to Harjavalta in line with the nickel production reconfiguration strategy. Third-party feedstock supplies included matte and converter matte from Boliden Harjavalta (Finland) (sourced in Q1 only) and nickel salts from other companies (sourced throughout 2017).

Nickel and copper recovery rates improved on the back of a drop in losses of nickel and copper with ferrous cakes.

In 2017, Norilsk Nickel Harjavalta produced 59.7 kt of saleable nickel, up 11% y-o-y. The growth was driven by the reconfiguration of refining facilities and increased nickel feedstock supplies from Kola MMC.

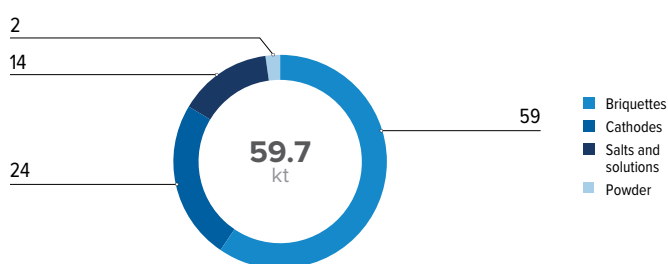
The third party sales of copper in copper cake totalled 13.4 kt, up 40% y-o-y. This was mainly due to the increased processing of Russian feedstock under the production reconfiguration programme.

The production of saleable palladium and platinum in copper cake dropped by 34% and 55% y-o-y, respectively, after imported feedstock had been replaced with Russian raw materials with a lower content of precious metals.

### Utilisation of refining capacities // % of max



### Breakdown of saleable nickel produced at Harjavalta // %



## Process flowsheet of Norilsk Nickel Harjavalta

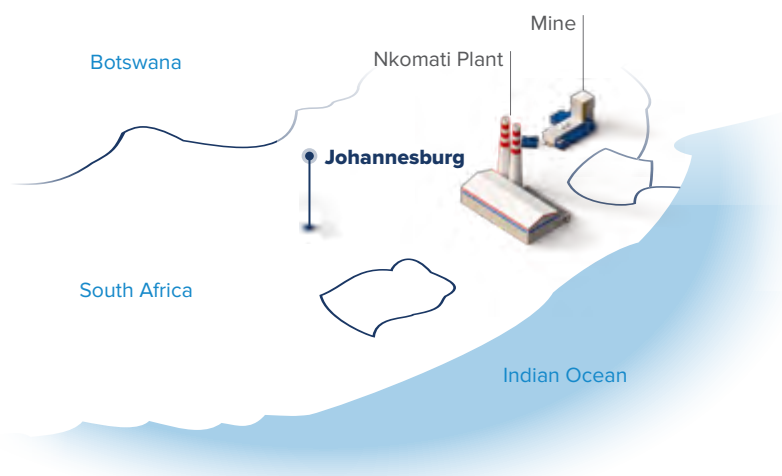
Metal	2015	2016	2017
Saleable nickel, t	43,479	53,654	59,716
including from the Company's Russian feedstock	424	19,012	55,021
Copper in copper cake, t	13,048	9,598	13,441
including from the Company's Russian feedstock	0	593	12,329
Palladium in copper cake, koz	78	64	42
including from the Company's Russian feedstock	0	8	35
Platinum in copper cake, koz	33	22	10
including from the Company's Russian feedstock	0	2	6

## South Africa (Nkomati)

Nkomati is a 50/50 joint venture of the Norilsk Nickel Group and African Rainbow Minerals. Nkomati's performance is reflected in financial results using proportional consolidation according to our stake and not reflected in other totals.

Nkomati is located 300 km east of Johannesburg, Mpumalanga Province, South Africa.

It is the only South African company to produce nickel concentrate, which also contains copper, cobalt, chrome and PGM.



### Mining

Nkomati has a substantial resource base represented by disseminated copper-nickel sulphide ores with several major ore bodies. The Main Mineral Zone (MMZ) is comprised of a solid sulphide ore body with a relatively high nickel content. The field also contains a Peridotite Chromite Mineralization Zone with a lower metal content vs MMZ and a relatively high chromium content.

The feedstock produced by open-pit and underground mining operations is processed at concentrators using sulphide flotation. The produced concentrates are then further processed at Kola MMC and third-party companies.

In 2017, total ore mined by Nkomati reached 3.5 mt (attributable to the Group's 50% shareholding) with an average nickel content of 0.31%.



### Concentration

#### Concentration facilities

- MMZ Concentrator with installed capacity of 375 ktpm.
- PCMZ Concentrator with installed capacity of 250 ktpm.

The Norilsk Nickel Group accounted for 8.0 kt of nickel concentrate produced, which is lower than a year ago owing to reduced mining volumes and nickel content in ore processed.

#### Output at Nkomati<sup>1</sup>

Metal	2015	2016	2017
Nickel, t	11,350	8,486	8,006
Copper, t	5,301	4,007	4,504
Palladium, koz	53	40	46
Platinum, koz	20	15	20

<sup>1</sup> Metal in concentrate for sale assuming 50% ownership

## Key investment projects



### CAPACITY UPGRADE AND RAMP-UP AT TALNAKH CONCENTRATOR



Norilsk Industrial District, Krasnoyarsk Territory  
(Polar Division)



In April 2014, massive reconstruction of Talnakh Concentrator entered its main stage. In January 2015, Stage 1 was commissioned, followed by the launch of Stage 2 in May 2016. Decision on launching Stage 3 will be made in 1H 2018.

#### Highlights

Stage 1	Stage 2	Stage 3
<ul style="list-style-type: none"> <li>– Maintaining existing capacity at 7.5 mtpa;</li> <li>– Reconstructing existing flotation capacities and replacing flotation machines that are beyond their useful lives and building a new tailings pit (first phase)</li> </ul>	<ul style="list-style-type: none"> <li>– Ramping up capacity from 7.5 mtpa to 10.2 mtpa</li> <li>– Upgrading equipment;</li> <li>– Increasing nickel content in nickel-pyrrhotite concentrate from 5.8% to 9.5%;</li> <li>– Total CAPEX of ca. RUB 33.7 bn (USD 671 mln)</li> </ul>	<ul style="list-style-type: none"> <li>– Ramping up capacity from 10.2 mtpa to 18 mtpa;</li> <li>– Building the second phase of the tailings pit.</li> <li>– Investment decision on launching Stage 3 expected in 1H 2018.</li> </ul>

#### PROJECT SCHEDULE

##### 2015

Launch and commissioning of Stage 1

##### 2016

- Launch of Stage 2
- Pilot-launched of new tailings pit

##### 2017

- Full commissioning of Stage 2
- 2017 CAPEX of total project of ca. RUB 5.2 bn (USD 89 mln)

##### 2018

- Decision on commissioning Stage 3
- Output of key assets of new tailings pit (first phase)



## MINING PROJECTS

## Skalistaya mine

 Norilsk Industrial District, Krasnoyarsk Territory  
(Polar Division)

Increasing ore production from 1.8 mtpa to 2.2 mtpa in 2018 and to 2.4 mtpa by 2024 by stripping and extracting rich cupriferous ore reserves of the Talnakhskoye and Oktyabrskoye Fields.

## Highlights

Ore reserves 65.9 mt

2017 CAPEX of ca. RUB 13 bn  
(USD 216 mln)

2018–2024 CAPEX of ca. RUB 65 bn  
(USD 1.1 bn)

## Average metal content

 **2.7%**     **3.1%**     **8.0 g/t**

## PROJECT SCHEDULE

## 2017

- Production ramp-up to 1.75 mt
- 152 m sinking of ventilation shaft–10 (total of 1.9 km out of 2.1 km)
- 322 m sinking of skip-cage shaft–1 (total of 1.7 km out of 2.1 km)
- Drifting of 4,519 m

## 2018

- 500 kt capacity commissioning
- Completion of ventilation shaft

## 2019

Completion of skip-cage shaft–1 construction

## 2020

Completion of infrastructure construction

## 2024

Production ramp-up to 2.4 mt

## Taimyrsky mine

 Norilsk Industrial District, Krasnoyarsk Territory  
(Polar Division)

Increasing ore production from 3.6 mtpa to 3.8 mtpa by 2020 by stripping rich copper-nickel ores at the Oktyabrskoye Field.


## Highlights

Ore reserves of 63.0 mt

2017 CAPEX of ca. RUB 5.4 bn  
(ca. USD 93 mln)

2018–2023 CAPEX of over RUB 22 bn  
(ca. USD 371 mln)

## Average metal content

 **2,3%**     **3,5%**     **7.3 g/t**

## PROJECT SCHEDULE

## 2016

300 kt capacity commissioning

## 2017

1.8 km of underground workings completed and 100 kt of new capacity completed

## 2018

- Capacity commissioning (500 kt of rich ore)
- Upgrading the hoist system at skip shaft No. 3

## 2019

Capacity commissioning (200 kt of rich ore)

## 2020

Capacity ramp-up to 3.8 mt

## 2021

Capacity commissioning (400 kt of rich ore)



**Oktyabrsky mine**

Norilsk Industrial District, Krasnoyarsk Territory  
(Polar Division)

Increasing ore production to 5.2 mtpa by 2023 by stripping high-grade, disseminated and cupriferous ores at the Oktyabrskoye Field.

**Highlights**

Ore reserves of 96 mt

2017 CAPEX of ca. RUB 4 bn  
ca. USD 69 mln

2018–2025 CAPEX of ca. RUB 6.0 bn  
(ca. USD 95 mln)

**Average metal content**

1,0%



3,1%



7,6 g/t

**Komsomolsky mine<sup>1</sup>**

Norilsk Industrial District, Krasnoyarsk Territory  
(Polar Division)

Increasing ore production to 3.8–4.0 mtpa before 2020.

<sup>1</sup> excluding Skalistaya mine.

**Highlights**

Ore reserves of 22.9 mt

2017 CAPEX of ca. RUB 1.2 bn  
(ca. USD 18 mln)

2018–2022 CAPEX of over RUB 14 bn  
(ca. USD 234 mln)

**Average metal content**

1,5%



1,8%



5,5 g/t

**PROJECT SCHEDULE**

- **2017**
  - 7 km of underground workings completed,
  - Capacity ramped up by 250 kt of disseminated ore and 100 kt of rich ore
- **2019**
  - Capacity commissioning (150 kt of rich ore and 700 kt of cupriferous disseminated ore)
- **2020–2025**
  - Capacity commissioning (300 kt of cupriferous ore)

**PROJECT SCHEDULE**

- **2017**
  - Power supply system completed at the southern ventilation shaft
  - Ca. 3 km of underground workings completed
  - 100 kt of rich ore capacity commissioned
- **2018**
  - Completion of the western backfilling shaft reconstruction
  - capacity commissioning (200 kt of cupriferous ore)
- **2019**
  - Capacity commissioning (175 kt of rich ore)
- **2020**
  - Capacity commissioning (225 kt of rich ore and 200 kt of disseminated ore)

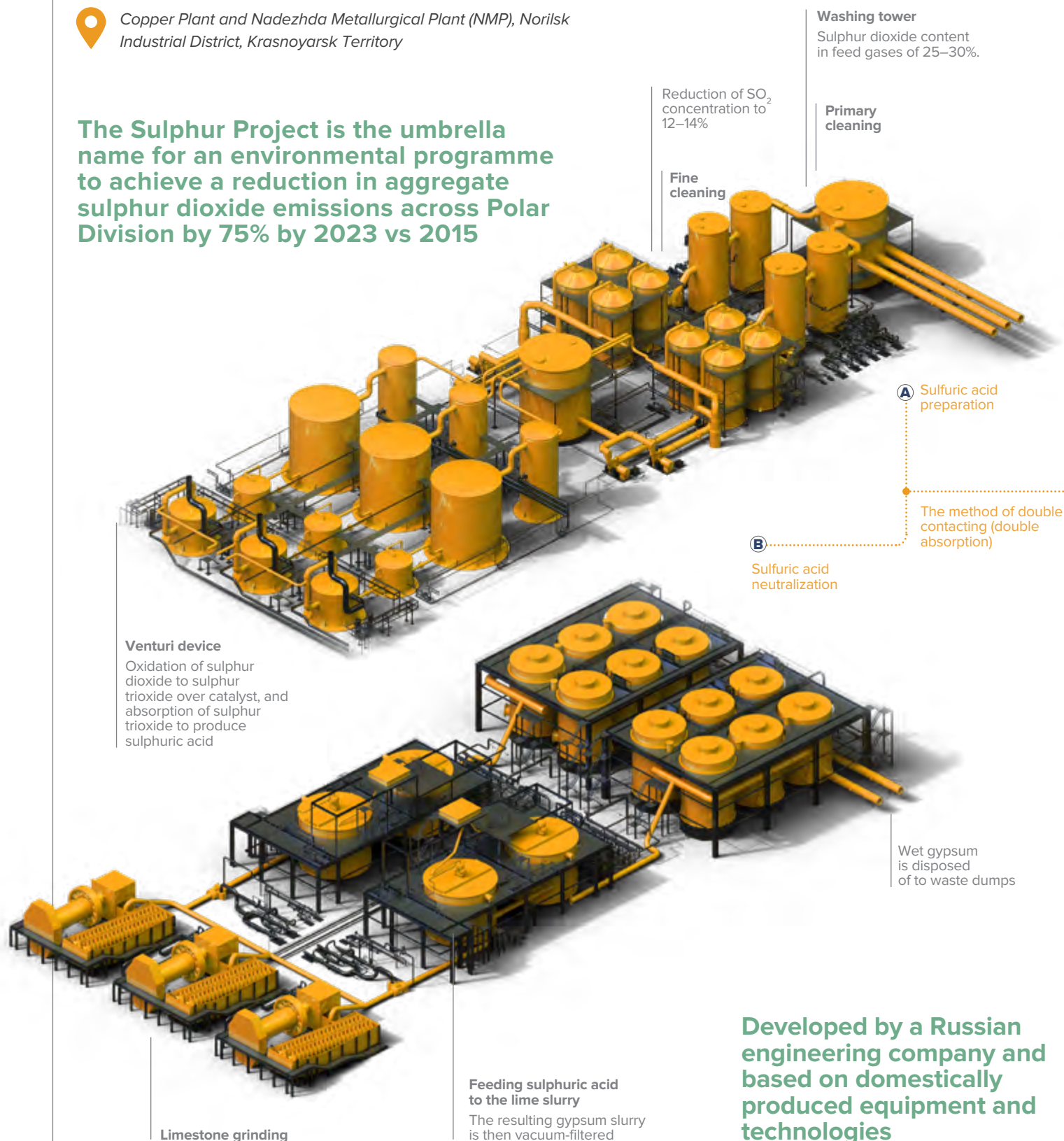


## SULPHUR PROJECT



Copper Plant and Nadezhda Metallurgical Plant (NMP), Norilsk Industrial District, Krasnoyarsk Territory

**The Sulphur Project is the umbrella name for an environmental programme to achieve a reduction in aggregate sulphur dioxide emissions across Polar Division by 75% by 2023 vs 2015**



**Developed by a Russian engineering company and based on domestically produced equipment and technologies**

1

## Nadezhda Metallurgical Plant

Nadezhda Metallurgical Plant will have new facilities capturing sulphur-rich gases, while sulphur acid will be neutralised with natural limestone, with waste gypsum produced as a result. In addition, a revolutionary continuous copper matte converting unit will be built. Its emissions will also be used to produce sulphur acid.

2

## Copper Plant

Meanwhile, Copper Plant will see its elemental sulphur production capacities ramped up and the entire converter section shut down.

### Highlights

2017 CAPEX of ca.	RUB 2.2 bn (ca. USD 37 mln)
Less sulphur dioxide emissions	75% by 2023
Estimated project costs of ca. (according to the feasibility study)	USD 2.6 bn
Completion scheduled for	2022



Video about the Sulphur Project

### PROJECT STATUS

#### 2016–2017

##### Nadezhda Metallurgical Plant:

- design specifications developed and approved, feasibility study prepared and approved;
- first long lead equipment arrangements made;
- design documents developed under a contract with Kazgiprotsvetmet

##### Copper Plant:

- design specifications developed, feasibility study prepared;
- engineering surveys required to develop key technical solutions to bring project up to date completed.

**New volume of the Maximum Permissible Emission Rates for the period until 2023 approved. Project approved and presented at Strategy Day in November 2017.**

#### 2018 targets:

##### Nadezhda Metallurgical Plant:

- launching the Implementation stage to prepare engineering documents;
- obtaining the State Expert Review Board's approval for the project;
- start tender procedures for long lead equipment and select an EPC contractor for the project.

##### Copper Plant:

- Gipronickel Institute preparing engineering documents for non-standardised equipment;
- launching the Implementation stage to prepare engineering documents;
- arranging a tender to select a contractor for further implementation of the project, with on-site preparations.

##### Continuous copper converting facility:

- Obtaining the State Expert Review Board's approval for the NMP project; launching the Implementation stage to prepare engineering documents, start tender procedures for long lead equipment and select an EPC contractor for the NMP project.



## TANK-HOUSE REFURBISHMENT



Severonickel Plant, Monchegorsk, Murmansk Region  
(Kola MMC)



Tank-House 1 saw refurbishment of buildings, equipment, and utility and ventilation systems. The project was completed in 2016. Tank-House 2 is to be transformed into an advanced, cost-efficient cathode nickel electrowinning from chlorine dissolved tube furnace nickel powder.

### Highlights

#### Tank-House 1

Capacity commissioning of	45 ktpa
CAPEX of ca.	RUB 0.8 bn
Project completed in 2016.	

#### Tank-House 2

Increasing the capacity from	120 ktpa to 145 ktpa of nickel
Increasing the nickel recovery rate for converter matte by	more than 1%
2017 CAPEX of ca.	RUB 7 bn (ca. USD 120 mln)
CAPEX outstanding of ca.	RUB 14 bn (ca. USD 236 mln)
Progress:	~40%

### PROJECT SCHEDULE

#### 2017

42 electrolysis cells upgraded at Tank-House 2 to support chlorine leaching

#### 2018

Gradual capacity commissioning

#### 2019

Reaching the design capacity and performance targets



## CONSTRUCTION OF A COPPER-NICKEL ORE CONCENTRATE SHIPMENT FACILITY



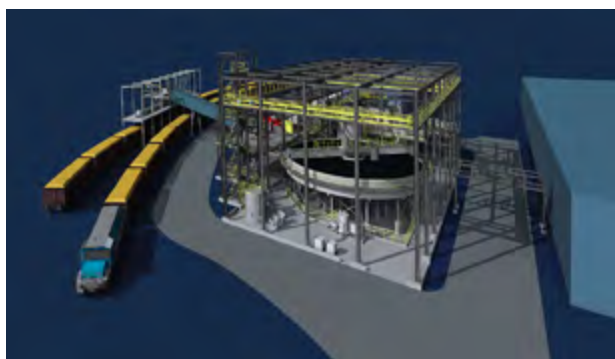
Zapolyarny, Murmansk Region  
(Kola MMC)

The new facility will enable the Company to split its copper-nickel concentrate into low-grade and high-grade.

No low-grade concentrate processing will lead to significant cuts in sulphur dioxide emissions in Nickel. By re-arranging shipments of low-grade concentrate from Kola MMC to a third-party processor, the Company will be able to decommission ore-thermal furnace No 3 in the smelting shop and cut the operating costs.

### Highlights

Dried high-grade concentrate unit with a capacity	of 150 ktpa
2017 CAPEX of	RUB 0.8 bn (ca. USD 14 mln)
Outstanding CAPEX of	RUB 4 bn (ca. USD 71 mln)



### PROJECT STATUS

#### September 2017

- Contract for engineering and equipment supplies signed with Outotec;
- Check-ups and surveys completed, preparation for utility systems dismantling and relocation in progress.

#### Q4 2018

Construction works of the project to be completed

#### Q2 2019

Output of key equipment





## BYSTRINSKY GOK (CHITA PROJECT)



Gazimuro-Zavodsky District, Zabaykalsky Krai  
(GRK Bystrinskoye).



### PROJECT SCHEDULE

#### 2017

- Naryn-1 (Borzya) – Gazimursky Zavod railway commissioned
- 220 kV power lines commissioned
- Mining and processing plant pilot-launched
- Camp for 1,047 people built

#### 2021

Plant reaching the design capacity

Constructing an open pit and a mining and processing plant to utilise untapped reserves, constructing a railway and power lines, building a camp.

### Average metal content



### Highlights

Output of	10 mtpa
Ore reserves of	333 mt
2017 CAPEX of over	RUB 26 bn (ca. USD 449 mln)
Project CAPEX of over	RUB 89 bn (USD 1.6 bn)
New jobs for	3 thousand employees

### Annual production volumes at design capacity (2021+)

Cu (concentrate)	~65 kt
Fe (magnetite concentrate)	2.1 mt (Fe — 66%)
Au (concentrate)	220 koz

# Gas and energy assets



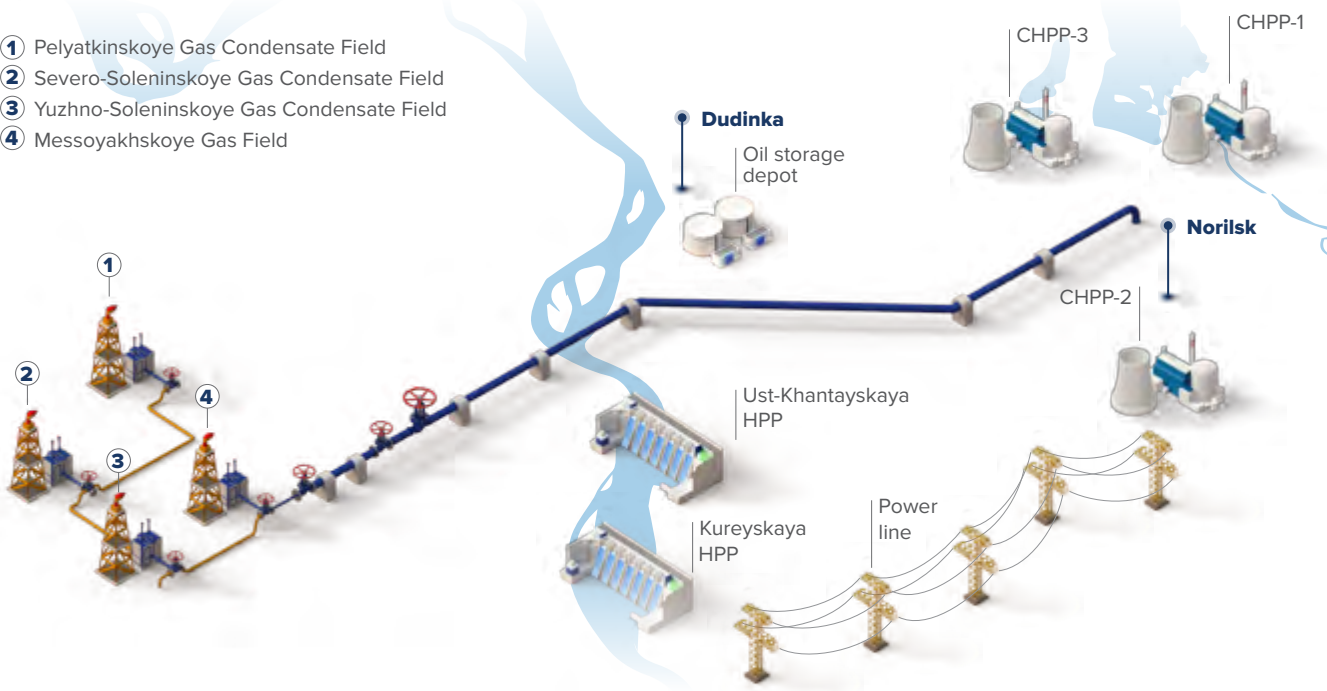
## 2017 MILESTONES

Norilskgazprom and Taimyrgaz (Nornickel's gas producers) completed an investment project to build 12 production wells at the Pelyatkinskoye Gas Condensate Field. When commissioned, the wells will fully cover the peak demand for natural gas from the Norilsk Industrial District in winter.

At Ust-Khantayskaya hydropower plant (HPP), a new hydroelectric unit was put in operation as part of the third phase of an extensive programme to replace hydroelectric equipment. In 2012, Nornickel made a decision to replace seven adjustable blade hydroelectric units that had been operating for over 40 years. Improved reliability and service life of at least 50 years are among the key advantages of the new machinery. The first phase of the replacement programme was completed in November 2015, followed by the second phase in January 2016 and the third phase in August 2017, a month ahead of schedule.

## Gas assets

- ① Pelyatkinskoye Gas Condensate Field
- ② Severo-Soleninskoye Gas Condensate Field
- ③ Yuzhno-Soleninskoye Gas Condensate Field
- ④ Messoyakhskoye Gas Field



The Company's gas assets operate as a stand-alone business unit focusing on sustainable development of the entire Norilsk Industrial District.

## Taimyrgaz

Taimyrgaz operates the Pelyatkinskoye Field, which has Taimyr's largest hydrocarbon reserves. Currently, it is a primary source of natural gas fully covering the needs of the Norilsk Industrial District.

In 2017, Taimyrgaz worked on expanding its gas and gas condensate production and treatment capacity while improving the reliability of its core equipment:

- drilling of sidetracks No. 410, 411 and 846 completed;
- wells and a gas gathering system constructed and put in operation at well pad No. 4 followed by an increase in gas output by 1.2 mcm per day;
- well pads No. 5 and 6 installation completed and automatic controls introduced at wells No. 100 and 102 of the Pelyatkinskoye Field to remotely monitor their performance; additional equipment went online to protect the system against pressure drops;
- fire alarm and protection system designed for the Pelyatkinskoye Gas Condensate Field.

## Norilskgazprom

Norilskgazprom operates the Messoyakhskoye Gas Field and Yuzhno-Soleninskoye and Severo-Soleninskoye Gas Condensate Fields.

In 2017, the company focused on expanding its gas and gas condensate production and treatment capacity while improving the reliability of its core equipment:

- construction of a gas distribution compressor station completed in Tukhard; the facility will be later handed over to Norilsktransgaz;
- condensate and methanol storage tanks and bunding around them repaired at the Messoyakhskoye Gas Field and Severo-Soleninskoye Gas Condensate Field;
- technical inspections and industrial safety assessments performed, with over 150 machinery units, buildings and structures certified as safe.

## Norilsktransgaz

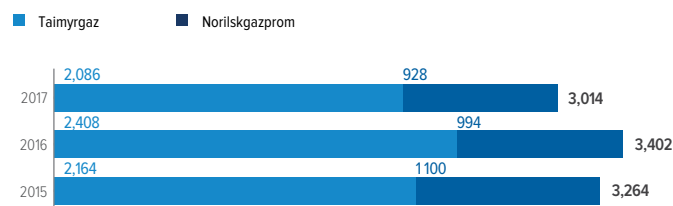
Norilsktransgaz transports natural gas and condensate to consumers in the Norilsk Industrial District.

The company was established as a result of Norilskgazprom's reorganisation in 2016 through the spin-off of the gas transportation system. In 2017, Taimyrtransgaz was liquidated, with its gas transportation assets and personnel transferred to Norilsktransgaz.

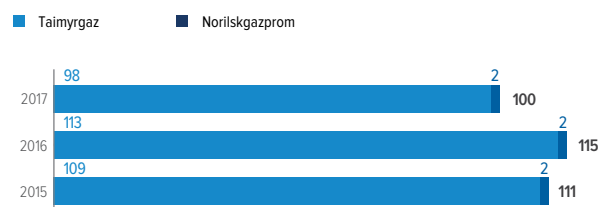
### Natural gas and gas condensate reserves as at 31 December 2017

Field	Residual hydrocarbon reserves at licence blocks (A+B categories)	
	Free gas, bcm	Recoverable condensate, mln t
<b>Norilskgazprom</b>		
Messoyakhskoye Gas Field	6.807	–
Yuzhno-Soleninskoye Gas Condensate Field	52.8	0.5
Severo-Soleninskoye Gas Condensate Field	44.0	0.5
<b>Taimyrgaz</b>		
Pelyatkinskoye Gas Condensate Field	185.7	6.8
<b>Total residual reserves</b>	<b>289.3</b>	<b>7.9</b>

### Natural gas production // mcm



### Gas condensate production // kt



## Energy assets

### NTEK (Norilsk-Taimyr Energy Company)

NTEK engages in power and heat generation, transmission and distribution using the facilities of Norilskenergo (MMC Norilsk Nickel's branch) and Taimyrenergo. The energy sources include renewables (hydropower) and gaseous hydrocarbons (natural gas).

NTEK supplies electric power, heat and water to Norilsk and all facilities in the Norilsk Industrial District. By its location and operational mode, the local power grid is isolated from the national grid (Unified Energy System of Russia), which means stricter reliability requirements. The company operates five generating facilities: three thermal power plants (TPP-1, TPP-2 and TPP-3) and two hydropower plants. Installed electricity generation capacity of the thermal power plants is 1,205 MW, while the total installed capacity of all the plants is 2,246 MW.

In 2017, thermal power plants generated 4,360 million kWh of power; hydropower plants produced 3,069 million kWh, up 139.5 million kWh against 2016. NTEK managed to bring headwater levels in the water storage reservoirs of its hydropower plants to their multi-year average to match the peak loads during the 2017–2018 heating season.

Ust-Khantayskaya and Kureyskaya HPPs (441 MW and 600 MW of installed capacity, respectively) are the two renewable power generation facilities operated by NTEK.

In 2017, renewables accounted for 38% of total power consumed by the Norilsk Nickel Group and 44% of power consumption in the Norilsk Industrial District.

The investment programme of the Norilsk Nickel Group includes several large-scale priority projects to fully unlock the potential of renewable power sources:

- replacement of obsolete hydroelectric units at Ust-Khantayskaya HPP to make better use of water resources, increase total power output, and improve the reliability of energy supplies to the Norilsk Industrial District;
- retrofitting at TPP-2 units 1 and 2;
- replacement of wooden poles with steel poles (a 5 km section at the plant's phase 1);
- introduction of an automated dispatch system at Ust-Khantayskaya HPP;
- construction of a hydrogen generation unit at TPP-2.

In 2017, extensive efforts were invested in improving energy efficiency. As a result, NTEK achieved savings of 100,116 tonnes of reference fuel (units), 44.9 million kWh of electricity and 177,732 Gcal of heat against plan. With 49 initiatives introduced to save on fuel and energy, fuel consumption at the thermal power plants decreased to 281.4 g/kWh in 2017, down by 13.9 g/kWh against plan and 27.7 g/kWh year-on-year.

### Bystrinsk Electric Grid Company

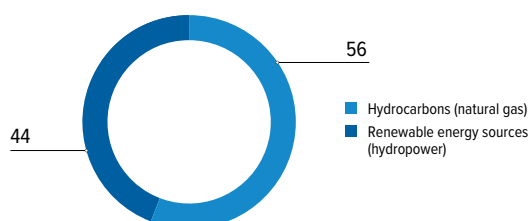
Bystrinsk Electric Grid Company was established in 2015 as a construction management business to carry out the investment project of building overhead Kharanorskaya GRES – Bugdainskaya – Bystrinskaya 220 kV power line from the 220 kV Bystrinskaya substation.

In 2017, the company:

- completed construction and installation activities;
- performed individual and integrated systems tests;
- obtained commissioning certificates;
- registered title to the facilities.

In late 2017, the overhead line and substation were formally transferred to FGC UES in accordance with the contract for the sale of power grid facilities.

### Power generation in the Norilsk Industrial District in 2017 // %





# Transportation assets



## 2017 MILESTONES

Nornickel Group increased its stake in Krasnoyarsk River Port to 88.77% of the company's shares. The transactions were part of the strategy of Nornickel's transportation and logistics function, which focuses on boosting the efficiency and streamlining the management of the Group's transportation assets.

In March 2017, the second berth was put in operation at the transfer terminal in Murmansk, taking its container handling capacity to 1.5 mtpa. According to Marina Kovtun, Governor of the Murmansk Region, "one and a half million tonnes is a large transshipment volume that contributes to new jobs and the overall development of Murmansk Sea Port, helping to attract investors to the region and enhancing Murmansk's position as a key port in the Arctic Zone".

In late 2017, MMC Norilsk Nickel's Board of Directors decided to establish Bystrinsky Transport Division to deliver products from, and supplies to, Bystrinsky GOK. The new unit will be operating a 227 km private railway line, which was built under a public private partnership to connect Naryn (Borzya) and Gazimursky Zavod.

## Transportation and logistics assets



Given the exceptional location of our production facilities in relation to key supply bases and distribution markets, transport infrastructure and freight logistics are a primary focus for Nornickel.

Capitalising on their reliability and sophistication, the Company is well-positioned to address the most difficult tasks in freight deliveries and to ensure uninterrupted operations across its facilities.

Nornickel's transportation and logistics assets use various means of transportation and freight forwarding services, responding to freight logistics challenges faced by the Company and its customers.

The Company has a unique Arctic fleet comprising five Norilsk Nickel container vessels and one Yenisei heavy-duty ice-class tanker (ARC 7 under the PMPC classification). The vessels are able to break through 1.5 m thick Arctic ice without icebreaker support.

The **Yenisey tanker** is used to transport gas condensate from the Pelyatkinskoye Gas Condensate Field to European ports and other destinations. The Company's dry cargo fleet provides year-round freight shipping services between Dudinka, Murmansk, Arkhangelsk, Rotterdam, and Hamburg sea ports while also covering other destinations. In 2017, 66 voyages were made from Dudinka (vs 69 voyages in 2016), including 12 direct voyages to European ports (vs 11 voyages in 2016).

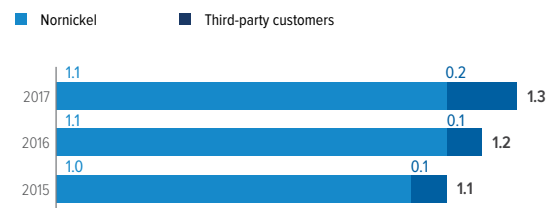
**Norilsk Avia** responds to industrial and social needs of the Norilsk Industrial District and the Dolgano-Nenets Municipal District of the Taimyr Peninsula. The company provides air transportation services related to operations of the Norilsk Nickel Group, emergency air medical services, search-and-rescue operations, and local passenger traffic..

**NordStar Airlines** is a rapidly developing aviation project launched on 17 December 2008, when the Board of Directors of Taimyr Air Company (a wholly owned subsidiary of MMC Norilsk Nickel) resolved to establish Moscow Branch of Taimyr Air Company along with the NordStar Airlines brand.

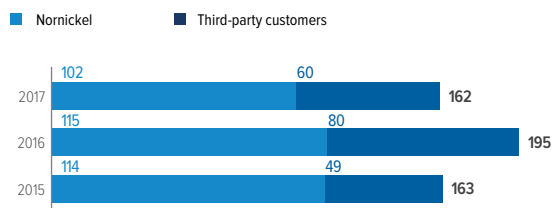
The company's fleet comprises 15 aircraft: nine Boeings 737-800, one Boeing 737-300 and five ATRs 42-500. With passenger traffic in excess of 1 million people per year, NordStar Airlines annually reaffirms its status of a major air carrier in the Siberian Federal District and nationwide. The air company's current route network covers over 30 cities in Russia and the CIS. Each year, NordStar operates seasonal charter flights from Moscow, St Petersburg and other cities.

## Cargo transportation in 2017

### Dry cargo transportation by the Company's fleet // mtpa



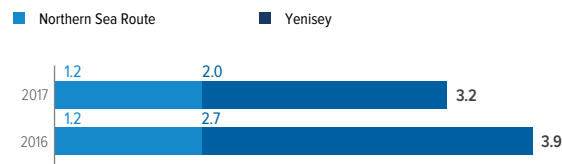
### Transportation by Yenisey tanker // ktpa



### Waterway cargo traffic at Murmansk terminal // mtpa



### Waterway cargo traffic at Dudinka port // mtpa



In the reporting year, waterway cargo traffic at the Dudinka port saw a decline, mainly on the back of lower river sand shipments. In 2018, cargo volumes are expected to remain flat at the 2017 level.

Waterway cargo traffic at the Company's transfer terminal in Murmansk (Murmansk Transport Division) was 1.1 mt (vs 0.9 mt in 2016), with 162 vessels handled (vs 139 vessels in 2016), including 113 vessels on coastal voyages (vs 91 vessels in 2016) and 49 vessels on export and import voyages (vs 48 vessels in 2016). The increase in cargo traffic at the transfer terminal is driven by the changes in transshipment volumes of raw materials and end products after Polar Division's Nickel Plant was shut down. In 2018, the upward trend is expected to persist.

In 2017, the Company's own rail car and locomotive fleet carried 526.2 kt of cargo (vs 456.7 kt in 2016). In the reporting period, the terminal handled 14.3 thousand rail cars (vs 12.8 thousand in 2016) and 10.7 thousand road vehicles (vs 10.9 thousand in 2016). The increase in freight transportation by the Company's own rail car and locomotive fleet was due to the growing volumes of converter matte and, consequently, return traffic of empty cars.

During the upgrade of the Norilsk Airport in the summer of 2017, NordStar Airlines managed to ensure uninterrupted air services to passengers in the Norilsk Industrial District. Thanks to a professional and structured approach to the airport modernisation, the air carrier:

- organised transfer of passengers and their baggage;
- introduced a ticketing scheme to minimise anti-trust, transportation and social risks;
- developed a pricing methodology to make multi-flight air transportation with light aircraft more affordable to passengers.

# +15%

traffic growth of the Company's own rail car and locomotive fleet in 2017

The cost growth in 2017 was driven by investments in the modernisation of the Norilsk Airport as part of a nationwide target programme, acquisition of a portal crane for Polar Transport Division and machinery for the modernised terminal in Murmansk, along with scheduled repairs of sea vessels in Murmansk Transport Division and helicopters operated by Norilsk Avia.

## Investments in transportation and logistics assets

The cost growth in 2017 was driven by investments in the modernisation of the Norilsk Airport as part of a nationwide target programme, acquisition of a portal crane for Polar Transport Division and machinery for the modernised terminal in Murmansk, along with scheduled repairs of sea vessels in Murmansk Transport Division and helicopters operated by Norilsk Avia.

In 2017, Murmansk Transport Division completed the reconstruction of its transfer terminal. The programme provided for capital repairs of Berth No. 1, which are to be completed in 2018. Its scope also covers construction and fit-out of safety facilities to be continued in 2018. The Company purchased new cargo handling equipment and hoisting gear and also retrofitted some of its vessels. Solvo.TOS, a new process control system, was commissioned to optimise container handling procedures at the terminal. An information system for automation was also introduced to manage repairs of port machinery and equipment. Murmansk Transport Division plans to continue its IT improvement programme in 2018.

### Investments in transportation and logistics assets

Cost item	2016		2017	
	USD mln	RUB bn	USD mln	RUB bn
<b>Investments in transportation and logistics assets, including:</b>	<b>34.3</b>	<b>2.3</b>	<b>46.2</b>	<b>2.7</b>
Capital construction	17.9	1.2	22.2	1.3
New equipment	10.4	0.7	15.4	0.9
Other costs	6.0	0.4	8.6	0.5

At Polar Transport Division (Dudinka port), the Company completed the first phase of repairs at Berths No. 4 and 5 and engineering surveys for the repair of Berth No. 3 in 2017. The repair programme to prevent the moorage wall destruction is scheduled to be completed in 2018. The Company modernised a fire water line at the log yard and introduced an integrated safeguarding system at port facilities. Additionally, two Liebherr mobile cranes and a mobile crane boom were repaired, two Liebherr crane booms were purchased for replacement in 2018, and a hangar was acquired to repair mobile cranes. The Company also purchased 10 units of road vehicles and cargo handling equipment.

In 2017, Yenisey River Shipping Company continued working on shipbuilding at Krasnoyarsk Ship Repair Yard and engineering design of new shipbuilding facilities. The project was launched in 2017 to provide the Company with its own river vessels to replace

retiring ships. The USD 3.4–5.1 mln (RUB 0.2–0.3 bn) project is expected to be completed in 2019. An automatic fire extinguishing sprinkler system was installed in the administrative building. The work is ongoing to improve onshore infrastructural facilities and increase the level of traffic safety by installing CCTV and fuel monitoring systems on vessels.

In 2017, the Company continued improving logistics processes in its transportation facilities and units. For Krasnoyarsk River Port and Lesosibirsk Port, it was the first navigation period to use the Automated Cargo Logistics Management System (ACLMS) as a master management system. Despite certain challenges, the introduction of ACLMS improved coordination between transshipment ports, carriers and end customers and provided a single reporting platform for freight transportation by river. These efforts will continue.

## Production and sales

In 2017, Nornickel maintained its reputation as a reliable supplier of high quality products. The integrated index of customer satisfaction with the Company's products and services matched the criterion for positive performance.

### Product range

One of the Company's objectives is to make sure its product range is in line with the current and prospective metals demand.

Over the last three years, Nornickel increased nickel supplies to segments other than stainless steel production by 32% (the 2017 supplies exceeded 100 kt of nickel), which was achieved by leveraging a focus strategy to boost sales to Chinese and Russian alloy and special steels makers, as well as by strengthening positions on China's electroplating market through the product range optimisation and extensive customer training. The Company also fostered cooperation with world-leading companies in the batteries segment.

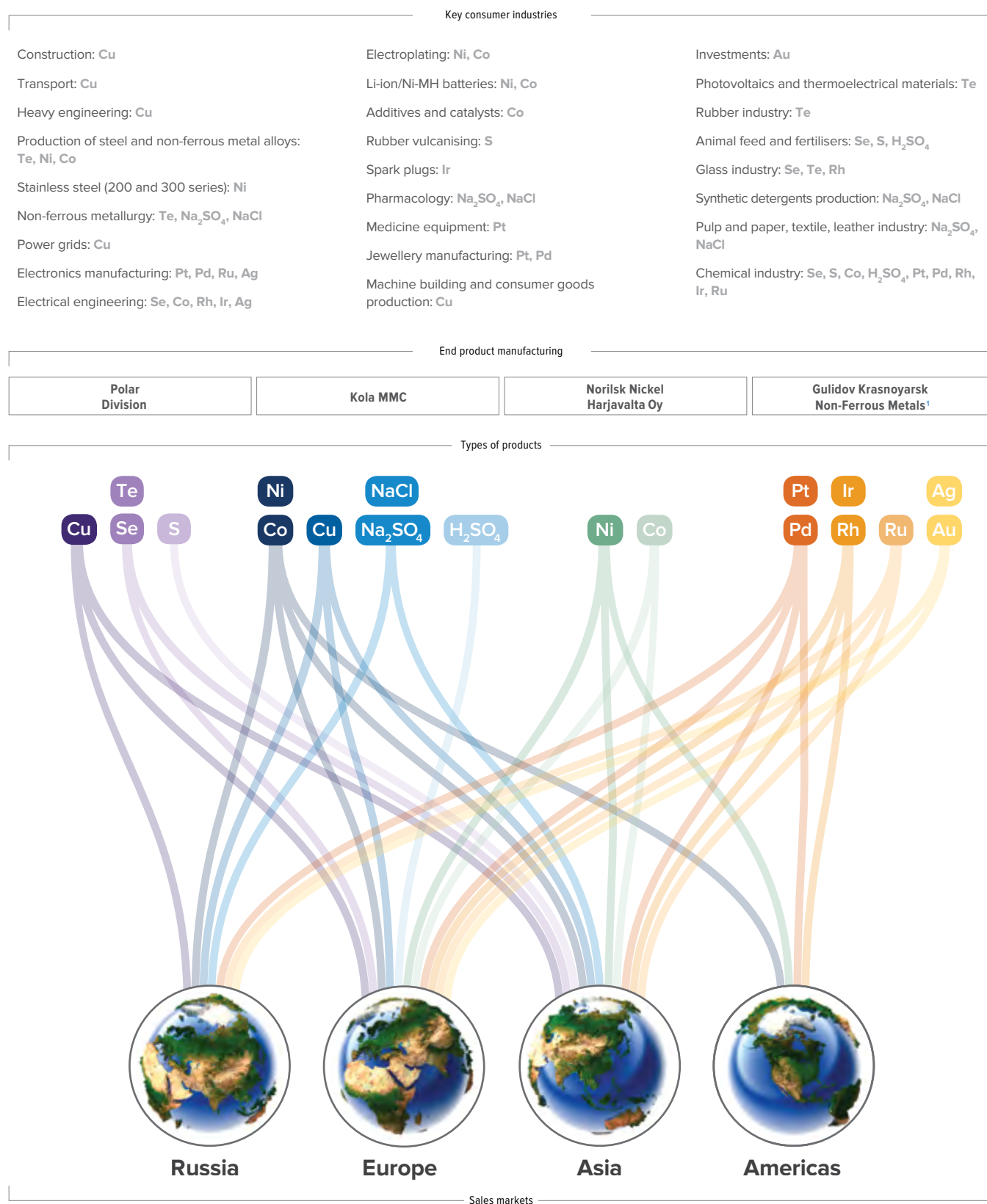
Norilsk Nickel Harjavalta is considered one of world's foremost producers of nickel used to make precursors (semi-products essential for manufacturing the cathode material that forms part of batteries). Norilsk Nickel Harjavalta is uniquely flexible when it comes to manufacturing, which enables it to factor in consumer preferences in developing its product portfolio.

Norilsk Nickel Harjavalta's nickel sulphate is rightly considered the industry benchmark and is widely used in battery manufacturing. The Company plans to proactively market briquettes, which are traditionally supplied to stainless steel manufacturers, among battery and precursor producers.

In response to strong growth of demand by battery manufacturers, the Company is upgrading its nickel powder packaging capacities in order to broaden the range of packages and create individual solutions based on consumer preferences.

The Company considers joint ventures to produce nickel- and cobalt-bearing value-added products for the battery segment to be a promising direction for expanding the product range and increasing production volumes.





<sup>1</sup> Refining of precious metals manufactured from Polar Division's and Kola MMC's feedstock under a tolling agreement

## Sales strategy

Sales, along with production, have traditionally been a key value adding line of Norinickel's business.

When it comes to nickel products, the sales strategy focuses on achieving a balance between supplies to stainless steel manufacturers and to other industries.

As the world's largest producer of palladium, the Company continues to implement the strategy of entering into direct long-term contracts with end consumers to ensure sustainable and strong demand for platinum group metals.

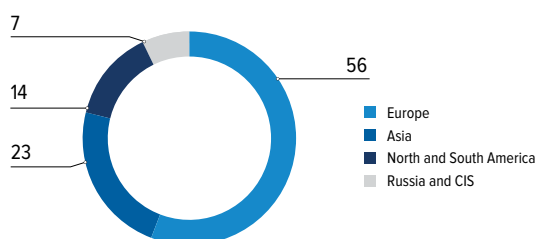
One of Norinickel's priorities is stable supply amid the growing demand for PGM:

- The Company refused to launch a marketing programme aimed at promotion of palladium in jewellery manufacturing in order to make it clear to the market that it intends to focus on supplying palladium for the automotive industry;
- In 2016, the Company established the Global Palladium Fund (GPF). In 2017, the GPF built Pd reserves of around 0.55 mln oz to safeguard supplies for the increasing demand from key consumers that are the Company's customers in 2018 and onwards (mostly from the automotive industry). The reserves were formed from purchases

of metal from third parties and the Company itself in accordance with consumer requirements to the product range.

To boost sales premiums and liquidity, Norilsk Nickel registers its products on the world's major exchanges, including the London Metal Exchange and Shanghai Futures Exchange.

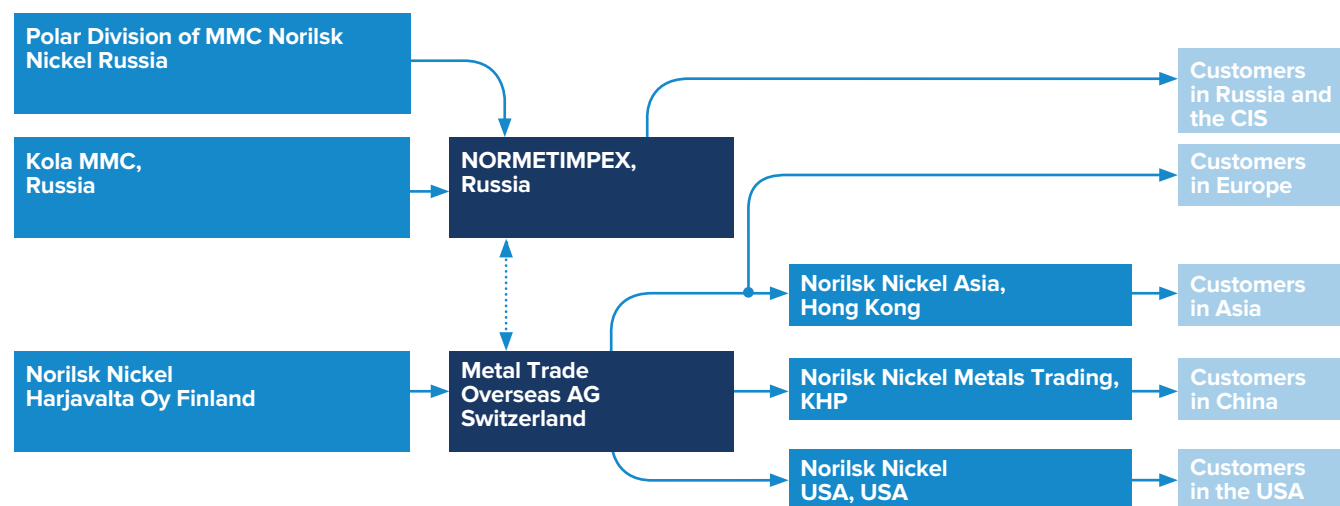
Sales by region // %



The Company supplies its products to

**34** countries

## Company Sales



# Research and development



## 2017 MILESTONE

Nornickel is one of the smartest companies in Russia. It ranked first among the Top 15 Russian companies by value of intellectual capital (USD 22.4 bn), according to the Baker Tilly accounting and consulting firm.

The Group's main R&D facility is Gipronickel Institute, one of Russia's largest research and engineering hubs for mining, metallurgy, concentration and processing of minerals that develops a wide range of research and technology products.

In 2017, in addition to Gipronickel Institute, the Company used over 35 domestic and foreign research and engineering companies and also Russian universities, including: IPKON (Moscow), Siberian Federal University (Krasnoyarsk), VNIMI (St Petersburg), Outotec (St Petersburg), Norilsk State Industrial Institute (Norilsk), Mekhanobr Engineering (St Petersburg), NPO Atmosfera (Perm), VNIIR (Kazan), MIPT (Moscow), Institute of Chemistry and Technology of Rare Elements and Mineral Raw Materials (Apatity), SPb-Giproshakht (St Petersburg), St Petersburg Mining University (St Petersburg), Uralsmekhanobr (Yekaterinburg), RZD Logistics (St Petersburg), etc.

Nornickel's R&D activities mainly focused on research, technological development, and feasibility studies under the Company's updated strategic development plan.

The Company also carried out its operating efficiency programme for 2015–2017 aimed at finding unique solutions to streamline the mining planning process, increase overall recovery rates for nickel, copper, cobalt and PGM, re-process secondary resources (tailings, copper slags, and nickel bearing pyrrhotite with a low nickel content), and optimise the work-in-progress inventory levels. Other programmes included upgrade of nickel and cobalt production technologies at Kola MMC, improvement of product quality and optimisation of production costs.



## R&D and feasibility studies financing // USD mln



## Results in key R&D areas in 2017

### Company Development Strategy

- feasibility study to choose the optimal design for the Company's copper refining facilities (stage 2);
- operating procedures for a feasibility study on refining non-ferrous and precious metals.

### Production

#### Mining:

- adjusted design documents at the mines;
- feasibility study on building an underground crushing section at Skalistaya mine;
- audit of mechanical earth models of Polar Division mines (stage 1);
- feasibility study on using tailings for backfilling on Talnakh mines and on providing Polar Division with limestone and cement.

#### Concentration:

- project on producing high-grade and low-grade concentrate at Kola MMC's concentrator and organising shipments of the high-grade concentrate to be accepted and processed at Nadezhda Metallurgical Plant of the Company's Polar Division;
- adjusted operating procedures for ore enrichment at the Bystrinskoye Field;
- adjusted operating procedures for simultaneous processing of disseminated and cuprous ore mixture at Stage 3 of the Talnakh Concentrator.

#### Smelting:

- adjusted operating procedures to design nickel production facilities at Kola MMC based on the chlorine leaching technology, which will improve the tank-house-2 capacity to 145 ktpa of cathode nickel;
- adjusted operating procedures to design continuous converting facilities at Nadezhda Metallurgical Plant;
- development of operating procedures to design the upgrade of copper production based on the new roast-leach-electrowin technology at Kola MMC;
- development of operating procedures and feasibility study for the process to neutralise sulphuric acid with natural limestone.

### Environmental protection

- development of operating procedures and feasibility study to produce elemental sulphur;
- inventory of air emissions and development of draft limits for maximum permissible emission at Polar Division's core production facilities;
- comparison of the technology for producing sulphuric acid and neutralising it with natural limestone vs elemental sulphur production technology used at Nadezhda Metallurgical Plant.



# Supply management



## KEY DEVELOPMENTS IN 2017

In 2017, Nornickel became Company of the Year in competitive procurement and won the Grand Prix at the Procurement Leaders Awards, with its project for an end-to-end transformation of the procurement function receiving the highest commendation from the expert community. Supply management is going to play the key role as the Company's 2020 Programme for Improving Performance and Reducing Per Unit Costs unfolds.

The Company's supply management units are tasked with ensuring timely, adequate and comprehensive supplies as required for uninterrupted operations, which means procurement on the best possible terms.

With its diverse businesses (from construction of Bystrinsky GOK to reconstruction of Norilsk Airport in the Far North) and geography of operations, the Company faces many challenges it has to address in terms of procurement.

The procurement plan covers 48 aggregated categories – from construction and installation services and equipment to food supplies. For purchases of general-purpose industrial machinery and equipment only, the Group has set up some 200 sub-categories.

The supplies are shipped along the Yenisey River and the Northern Sea Route using the Company's own fleet during the navigation season, as well as by air. There is no railway or motorway connection between the Taimyr Peninsula and mainland Russia, which makes delivery by land to the Norilsk Industrial District impossible.

Supply management operations include:

- requirements planning and supply management;
- procurement.

## Requirements planning and supply management

Accurate planning and availability of stock are key to uninterrupted operations at Nornickel. At the same time, the Company needs to focus on optimising inventory, to minimise its working capital. Idle inventory, if any, is assessed based on production needs. Depending on the results, the Company decides whether it is going to be:

- used in production as and when needed;
- sold;
- written off and disposed of.

Overall, 2017 saw the Company implement a set of optimisation measures with respect to requirements planning and meeting the needs of its key productions sites. Changes in the structure of production assets had an impact on the volume and composition of the Company's inventory. At the same time, Polar Division and Kola MMC, the Company's major productions sites, decreased their inventory for core operations by 3.06% to an absolute level of USD 380 mln (RUB 22.2 bn), while also fully meeting the needs of their production, repair and other units.

**The Company needs to focus on optimising inventory, to minimise its working capital. Idle inventory.**

Despite an increase in production assets, the Group's inventory as per the RAS statements also dropped by 3.5% y-o-y to USD 701 mln (RUB 42.5 bn).

At the planning stage, the Company defines health, safety and environment, as well as other mandatory and optional product requirements, including availability of certificates, permits, and licenses. Further on, when procurement procedures are under way, suppliers' proposals are checked for compliance with the Company's requirements.

## Procurement

All procurement activities in the Company rely on the regulated procedures and policies and are in full compliance with Federal Law No. 223-FZ On Procurement of Goods, Work and Services By Certain Types of Legal Entities dated 18 July 2011, as well as Business Ethics Code, Anti-Corruption Policy, Regulation on the Product Procurement Procedure, as amended in 2016, and other regulatory documents of the Company.

The Company develops procurement policies for select materials and supplies that establish binding principles and approaches to procurement in specific product groups. In 2017, the Company purchased ca. 33% of supplies for core operations based on category procurement policies (24% in 2016, 17% in 2015).

Procurement activities can be either centralised or organised independently by the Head Office, branches or Group enterprises. Depending on the expected purchase price, procurement can be organised either as a bidding procedure (tender), simple procurement, or simplified procurement.

Procurement procedures may involve collective procurement bodies, such as the tender committee, tender commissions of the Head Office, procurement and tender commissions of the branches and Group companies. In 2017, the tender committee and tender commissions of the Head Office that are in charge of the most expensive procurement items, full-cycle projects and IT products, carried out procurement for over USD 325 mln (RUB 19 bn). The Company's tender committee focuses on improving procedures for identifying reliable suppliers of quality products at a fair market value.

Nornickel provides support to tenders run by the Company's Russian subsidiaries and branches. In 2017, the Company oversaw tender procedures to purchase services for over USD 343 mln (RUB 20 bn).

In 2017, the Company signed over 4,000 contracts for centralised procurement of materials and equipment worth around USD 1.6 bn, with a total price decrease of 5%, which is below the levels recorded by the Federal State Statistics Service.

At Nornickel, the procurement process is certified for compliance with ISO 9001 and ISO 14001.

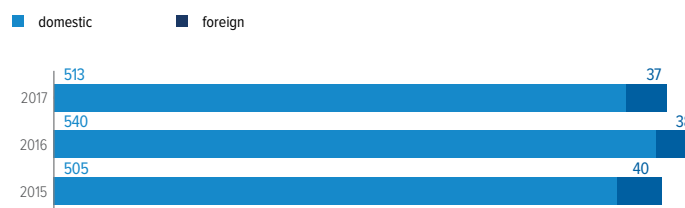
In the reporting year efforts focused on developing and implementing procurement guidelines, and harmonising the regulatory procurement framework across Russian subsidiaries and branches, including services procurement, were continued.

**701**  
USD mln

the Group's inventory in 2017

–3.5%

### Number of the Company's suppliers and contractors



## Procurement automation and stronger competition

Nornickel has put in place SAP SRM, an automated solution for supplier relationship management. The Company also widely uses independent bidding platforms, such as Fabrikant.Ru or B2B-Centre. These solutions help improve the supplier selection transparency and competitive environment when procurement procedures are under way.

Nornickel pays close attention to fostering ties with reliable domestic suppliers and contractors. Foreign suppliers are mainly engaged for delivering unique equipment or systems that do not have Russian alternatives.

As at the end of 2017, domestic suppliers outnumbered foreign ones by 14 to 1.

- business or technical and business proposals of qualified suppliers are compared based on objective and measurable criteria approved prior to the request of proposals stage;
- the results of the qualification-based selection and the winner are approved by the collective procurement body comprising representatives from various functional units of the Company.

The purchases made by certain subsidiaries of Nornickel are subject to Federal Law No. 223-FZ On Procurement of Goods, Work and Services By Certain Types of Legal Entities dated 18 July 2011. As part of anti-corruption efforts undertaken by the Company, these subsidiaries must disclose additional details in the unified information system, including:

- annual volume the customer is required to procure from small and medium businesses; and
- the number and total price of contracts awarded to small and medium businesses.

## Preventing corruption and other misconduct

Nornickel's Corporate Security Unit evaluates the business reputation, reliability and solvency of potential counterparties to mitigate risks.

To prevent potential procurement misconduct and secure maximum benefit through unbiased selection of the best proposal, Nornickel adheres to the following rules:

- procurement relies on the role allocation principle (procurement owner, customer and secretary of a collective procurement body);

**–5%**

total price decrease in the procurement of materials and equipment

# Corporate responsibility

## HR and social policy



### 2017 MILESTONE

In its rating HeadHunter recognised Nornickel as Russia's top employer in the metals and mining industry. This high ranking came as a result of the Company's efforts to build a strong team of professionals.

On top of that, MMC Norilsk Nickel was named the fourth most popular employer with job seekers.

### Strategic focus

One of the Company's focus areas is to nurture corporate culture aimed at boosting employee performance and commitment to delivering against targets.

We view our people as the Company's key asset and keep investing in their professional and personal development to make sure we are on track with the accomplishment of our mission.

To further increase the efficiency of the corporate culture development programme, we integrated our values into the key HR management processes:

- recruitment (we used values to set targets and train the managers and HR staff in job interviewing);
- assessment (we launched a 360-degree review for top executives involved in value-based management);
- development (we developed an Our values training module, Program of the Workshop on the Application of the White Paper<sup>1</sup> and conducted a number of value assignment business games and a hands-on training session in Value-Based Management);
- succession planning (we aligned the training programme with our values).



Our key value is reliability. Throughout the Company's history, we have delivered on our commitments in production and social areas. Today, Nornickel is working hard to develop social infrastructure and digital economy, provide support to indigenous peoples and national minorities of the North, and markedly improve the environment across its footprint – from Taimyr to the Kola Peninsula and Zabaykalsky Krai. We joined forces with local authorities and communities to support the volunteer movement, provide grants to socially important projects, and aide charitable foundations, sports organisations and artistic associations. Over the last years, the unique expertise and know-how we have acquired have gained wide recognition from the Russian expert community. I hope that this annual report will help us share this experience with the industry and contribute to the enhancement of best domestic practices in corporate social responsibility<sup>1</sup>.

#### Larisa Zelkova

Senior Vice President for HR, Social Policy and Public Relations

<sup>1</sup> The White Paper is a corporate publication that tells us what kind of culture we are building; what our common values are and what do they mean; how we achieve our goals. It is a desk assistant to the Company's management, a basic guide to corporate culture, a collection of techniques and practices, motivating examples.



In 2017, more than 3,500 managers, specialists and workers from the Group's 60 facilities took part in the corporate culture development training sessions and forums designed and organised by the Social Policy Department. The Company established working groups to develop and roll out business initiatives on improving systems and processes. In 2018, the programmes are set to have a wider coverage.

In the reporting year, the Company launched a series of personnel engagement management initiatives, which included:

- providing employees with an opportunity to maintain an ongoing dialogue with the management;
- assessing the staff motivation to achieve targets and approving changes in the business processes and working conditions based on objective data;
- identifying tools to enhance the competitive edge in human resources and boost the Company's appeal as an employer.

Over 73,000 employees from the Company's 32 facilities and Russian subsidiaries took part in the personnel engagement survey.

Our social and HR policy prioritises social stability of the workforce deployed across the Group's companies and geography.

## Staff composition

In 2017, the Norilsk Nickel Group's average headcount totalled 78,000 people in Russia and 1,000 people abroad.

Most of the Russia-based employees (69%) work in Norilsk and the Taimyrsky Dolgano-Nenetsky Municipal District. Another 17% of the Group's Russian headcount work on the Kola Peninsula.

### Evolution of the Norilsk Nickel Group's average headcount

Region/country of operation	2015	2016	2017
Russia	81,637	81,081	77,991
Africa	1 650	586	605
Europe	307	311	326
Asia	14	13	13
North America	10	10	10
Australia	6	5	5
<b>Total</b>	<b>83,624</b>	<b>82,006</b>	<b>78,950</b>

A decrease in the average headcount in 2017 was due to the disposal of non-core assets and implementation of a programme to improve labour productivity and reduce costs.

# 73

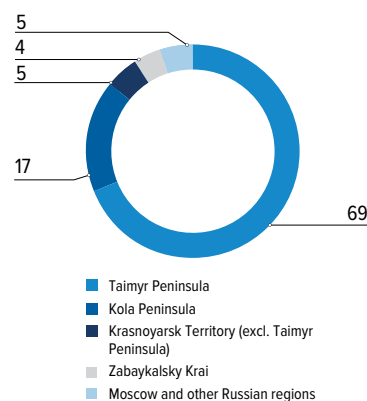
## thousand of employees

from the Company's 32 facilities and Russian subsidiaries took part in the personnel engagement survey

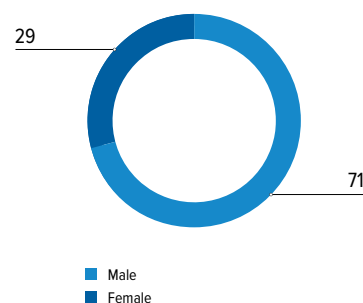


Manifesto of our values

### Headcount breakdown by Russian operations // %



### Gender breakdown across Russian operations // %



## Recruitment

In 2017, the Company focused mainly on increasing its visibility as an employer and staffing GRK Bystrinskoye.

GRK Bystrinskoye, Russia's largest mining and processing facility, successfully completed its ambitious recruitment exercise.

As part of the large-scale recruiting campaign, we informed over 9 million people from 26 Russian regions about the launch of GRK Bystrinskoye providing advice on the working conditions and available jobs. To stay in touch with the job seekers, the Company set up a dedicated toll-free hotline. In nine months, we hired 1,900 highly qualified workers, engineering service officers (ESOs) and managers.

### Partnerships with universities

To make jobs in the metals and mining industry more attractive for young people and help develop skills in personnel, Nor Nickel pays special attention to collaboration with Russia universities. In 2017, the Company invited 400 students from dedicated universities to take part in its Career Start-Up programme. Nor Nickel was the first company in the Russian mining industry to engage students and graduates in solving real business tasks.

The students obtained practical skills as part of their apprenticeship at the Company's major facilities along, while also gaining unique knowledge by taking part in the Conquerors of the North business game. In the span of two summer months, the programme participants were offered to take a hands-on training experience and compete in a multi-stage business game with a focus on team work to try and tackle some of the Company's real tasks. The Company engaged 20 of its top experts to provide mentorship support to the participants.

Nor Nickel places a strong emphasis on engineering education in Russia and partakes in the promotion of relevant professions among school graduates and university students. In 2017, we supported Cup MISIS Case and Cup Technical, case-solving championships among students of Russian technical universities. During the contest, students dealt with cases related to Nor Nickel's operations gaining insights into the Company's business processes.

### Assistance programme

Due to the remote location of MMC Norilsk Nickel's industrial sites, the Company is actively engaging employees from other Russian regions. To help them settle in faster, we launched a programme called Assistance to New Employees in Adapting to the New Place of Residence in Norilsk and the Taimyrsky Dolgano-Nenetsky Municipal District. The programme does not only target highly qualified specialists and managers, but also focuses on attracting young talents and skilled workers to fill positions on the skills shortage list. Today, the programme covers 1,715 of the Company's employees, including 267 new participants who joined in 2017. With this programme the Company seeks to provide comfortable living conditions for the invited employees and reimburse their relocation and resettlement costs.

In order to identify and recruit the best candidates to fill open vacancies and reduce staff turnover, in 2017, the Company started using the latest methods of employee evaluation and capacity assessment. Those help measure abilities and risk appetite of each individual, which are important in recruiting candidates to positions with a high level of exposure to occupational hazards. They are also helpful in obtaining information about each employee's motivating and demotivating factors. The project was first piloted at GRK Bystrinskoye where 100% of new employees (all the way up from workers to managers) were recruited following successful assessment. The Company selected candidates based on their learning curve, teamwork skills and low risk appetite, which are essential for all staff categories, from top management to workers. Experience shows that this method helps reduce onboarding time for employees and minimise occupational safety risks.

### Financing under the Assistance programme // USD mln



## Personnel development

Respect for employees and their rights lies at the heart of Nornickel's business. The protection of human rights is reflected in a number of the Company's documents, including Business Ethics Code, Personal Data Policy, Anti-Embezzlement Regulation and Human Rights Policy.

### Talent pool

In 2017, the Company continued rolling out its talent pool management system to include the process of recruiting lower and middle line managers. The relevant approaches are set out in the Talent Pool Regulation of MMC Norilsk Nickel. In 2017, the Company primarily focused on designing and implementing training and development programme for the talent pool and their mentors, with 99 mentors fully trained during the year. Also, the Company set up a new programme for the talent pool. The comprehensive training system offers a combination of classroom and online sessions to enable transition from easy-to-follow on-the-job programmes to a free choice of resources for professional development.

In 2017, the Company started assessing the capacity, current performance and development prospects of its middle and top managers, with 81 managers from Kola MMC, Pechengastroy, Norilsknickelremont and Norilsk Support Complex listed as those with a high career growth potential in 2017.

To define priority development areas for its management, at the end of 2017, the Company ran a 360-degree competency review using an updated competency model built around values and management competencies. Based on the review results and relevant feedback, each participant could choose the right path for development and select required tools and methods using a dedicated roadmap for development activities. In 2018, the training programme for the Head Office's managers will be based on their individual development plans.

In 2017, we proceeded with our project to automate talent pool management using SAP HCM. The new system will help standardise talent pool management methods across the Company's operations, consolidate relevant data into a shared database, boost efficiency and streamline approaches to talent pool building. Its other advantages include:

- reduced labour input required to collect and consolidate data and control talent pool building across our key production assets;
- reduced labour input required to timely identify and recruit candidates to fill positions with the highest priority in succession planning;
- standardised talent pool building process at Russian subsidiaries, an option to transfer the process to the shared service centre, procedure compliance control within the system;
- full and reliable information available at every stage of the talent pool building cycle;
- engagement of mentors and unit heads, streamlined talent pool assessment and data collection procedure;
- shared information environment for all stakeholders, additional feedback opportunities for employees;
- timely planning of talent pool development, increased hiring from the talent pool.

The reporting year saw the Company complete its project to assess professional competencies of managers in the Power and Mechanics functional units. As part of the assessment, 250 managers took specially designed tests that helped identify areas for their professional development.

In 2018, Nornickel will partner with Russia's leading universities and institutions to organise training for all unit managers giving them an opportunity to learn more about the cutting-edge technologies and best practices. The training programmes will enable managers to enhance their managerial and professional competencies at the leading business schools.

## The operating efficiency training

In September 2017, 55 managers embarked on the operating efficiency training at Moscow's Skolkovo School of Management. The project seeks to develop key management competencies with a focus on operating efficiency, a new approach to production management, better understanding of business and business environment, wider planning horizon, enhanced vision of the Company's prospects, analysis of the latest technologies, approaches and best practices in production management, and also their possible use and roll-out across the Group. At the end of the session, the trainees will have to come up with target strategic projects to boost operating efficiency of the Company's facilities.

## Enhancing professional excellence

With our reconfigured production cycle, modernised operations, new technologies and approaches, and a rapidly changing operational environment, we need to make sure our employees meet the new expertise, skill and competency requirements. The corporate training framework must provide employees with a quick and easy access to new knowledge, helping them master new professional skills and receive training and development support for horizontal and vertical job rotation.

In 2017, we proceeded with the diagnostics and management of professional skill development across our mining facilities, building a professional competency model for lower and middle line mine managers, defining knowledge and skills requirements for each position, and developing a set of test questions to assess professional competencies of line managers at mining facilities. This year, we will carry on with this work.

In 2017, we completed a large-scale programme to retrain over 94,600 employees of the Group, including more than 24,000 people aged below 30. Over 52,000 employees were trained in corporate training centres.

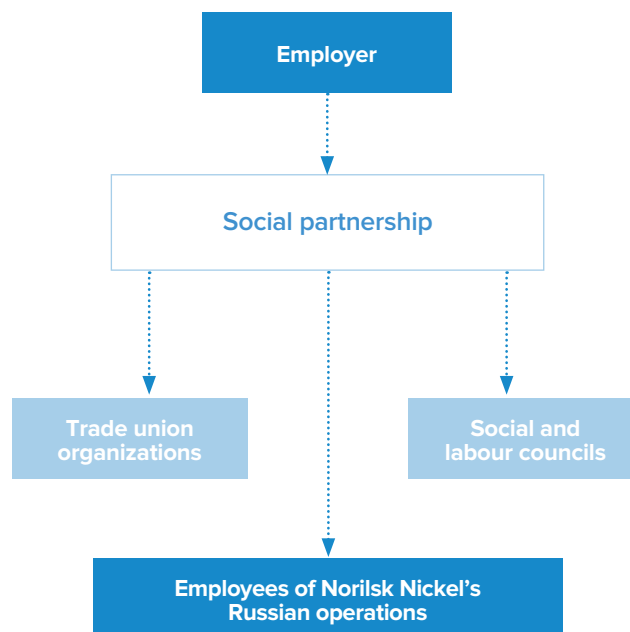
An area of special attention is the introduction of modern technologies to assist in the training of various personnel categories. In 2017, we developed interactive training in occupational safety.

## Social partnership

Russian operations of Norilsk Nickel have established a social partnership framework aimed at reconciling the interests of employees and employers on matters pertaining to the regulation of social and labour relations.

The Company meets all obligations under the Labour Code of the Russian Federation, collective bargaining agreements and joint resolutions.

### Social partnership framework



In regulating labour relations, employee interests are represented by trade unions and social and labour councils.



## Trade union organizations

Trade unions of the companies located in Norilsk and on the Taimyr Peninsula form a single Trade Union Organisation of PJSC MMC Norilsk Nickel, its Subsidiaries and Affiliates. Trade unions of the companies operating in the Murmansk Region are joined under two umbrella trade union organisations – Regional Trade Union Organisation of Kola MMC Employees and Primary Trade Union Organisation of Kola Mining and Metallurgical Company.

As at the end of 2017, 10.9% of employees engaged in Norilsk Nickel's Russian operations were members of trade union organisations.

Trade union organisations of Nor Nickel and its subsidiaries, Kola MMC and its subsidiaries, GRK Bystrinskoye, NordStar Airlines and Zapolyarye Health Resort are all members of the Trade Union of MMC Norilsk Nickel Employees, an interregional trade union organisation. In the reporting year, the relationship between the employer and the Trade Union was governed by the Social Partnership Agreement signed in 2014 to formalise implementation procedures for joint initiatives ensuring sustainable performance, operating and financial excellence, employee welfare, health and safety, and enhancement of social benefits.

### Membership in trade unions // %

Company	Employees enrolled in trade unions
Gipronickel Institute	15
Group's operations in the Norilsk Industrial District	8
GRK Bystrinskoye	15
Kola MMC and subsidiaries	15
NordStar Airlines	17
Zapolyarye Health Resort	30
Lesosibirsk Port	38
Yenisey River Shipping Company	55
Krasnoyarsk River Port	62

## Social and labour councils

The Group's companies located in the Norilsk Industrial District, Taimyrsky Dolgano-Nenetsky Municipal District and Murmansk Region established social and labour councils back in 2006 to represent the interests of employees who are not members of trade unions. Chairs of the local councils make up the Social and Labour Council of MMC Norilsk Nickel and the Social and Labour Council of Kola MMC. To ensure regulation of social and labour relations, negotiation, drafting and signing of collective bargaining agreements, holding of bilateral consultations, respect of the employees' labour rights and participation of employee and employer representatives in out-of-court settlements, the Russian companies of Nor Nickel set up the following collective decision-making bodies: collective bargaining commissions, labour dispute commissions, social benefits commissions/committees, social insurance commissions, health and safety commissions/committees, social and labour relations committees, etc.

In 2017, the share of employees represented by social and labour councils across the Norilsk Nickel Group stood at 82%.

### Collective bargaining agreements

The collective bargaining agreements of Nor Nickel's Russian companies comply with the applicable laws and meet the majority of employee expectations.

# 82%

of employees represented by social and labour councils across the Norilsk Nickel Group

# 11%

of employees engaged in Norilsk Nickel's Russian operations were members of trade union organisations at the end of 2017

In 2017, many of the Group's Russian companies entered into new collective bargaining agreements or extended the expired ones. Collective bargaining commissions also amended some of the agreements during the reporting year. The need to make those amendments was mostly related to adjustments in wage rates arising from legislative changes, organisational structure transformation and introduction of a new automated HR management system. One of the key changes was the review of the payroll system, which led to an increase in the fixed (guaranteed) part of the salary. The payroll adjustments were made in strict compliance with the applicable laws subject to the consent of every given employee. As a result, the Collective Bargaining Commission of MMC Norilsk Nickel reviewed old wage rates and salaries and approved the new ones which came into effect on 1 April 2017.

There were no social or labour disputes during the reporting period.

In 2017, the share of employees covered by collective bargaining agreements stood at 80%.<sup>1</sup>

## Incentive programmes

### Remuneration system

Nornickel's remuneration policy aims to:

- attract and retain employees;
- promote higher labour productivity;
- ensure administrative efficiency and streamlining;
- enforce compliance with legal requirements.

The remuneration package consists of the fixed and variable components (70% and 30%, respectively) paid based on the Company's operating performance and achievement of relevant KPIs.

The underlying principles of the remuneration policy include:

- internal equity – remuneration management based on HAY Group job description and evaluation methodology;
- external competitiveness – remuneration level determined based on the labour market data, with adjustments made for the company's focus area, business location and job grades;
- performance-based incentives – changes in the pay level subject to the annual performance assessment outcome;
- simplicity of the remuneration system – pay level calculation and review procedures are clear for every employee.

In addition to salaries, the Company's employees enjoy a variety of benefits. Reimbursements of vacation travel expenses (round trip travel expenses and baggage fees) for employees living in the Far North and their families, and provision of discounted tours for health resort treatment account for 69% of total employee benefits.

### Average monthly salary across the Group's Russian operations

Currency	2015	2016	2017
USD <sup>2</sup>	1,393	1,405	1,784
RUB '000	84.9	94.2	104.1

### Company's expenses on employee benefits across the Group's Russian operations // USD '000

Indicators	2015	2016	2017
Total expenses on employee benefits across the Group's Russian operations	102,000	103,000	122,539
including the amount spent per employee	1,300	1,300	1,571

# 80%

the share of employees covered by collective bargaining agreements

<sup>1</sup> Including entities that have no collective bargaining agreements in place but have approved local regulations that make MMC Norilsk Nickel's Collective Bargaining Agreement effective at these entities, including foreign assets.

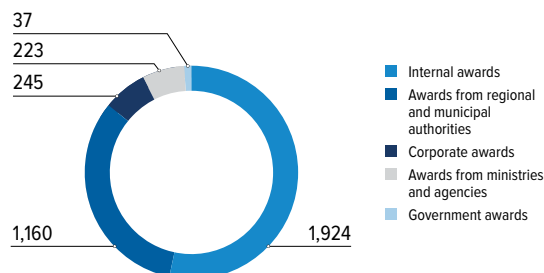
<sup>2</sup> based on the average annual USD/RUB exchange rates of 58.3529 in 2017, 67.0349 in 2016 and 60.9579 in 2015.

## Efficiency improvement programmes

The Company implemented its employee performance management system back in 2014, with assessment relying on a variety of key performance indicators (KPIs), including occupational safety, operating efficiency and capital management. In 2017, some 4,326 people (employees of the Company's Head Office, branches and subsidiaries) took part in the KPI-based assessment. The new system helped develop uniform criteria for the evaluation of employee performance enabling the management and employees to align the current year's priorities with performance indicators of the Company/branches/subsidiaries and join their forces to find a path for delivering on the tasks in hand. Moreover, this system makes it possible to link an employee's performance to his/her pay level.

In 2018, we will continue the roll-out with a focus on SAP HCM-based performance assessment automation across the Company's operations. In 2017, the automated SAP Human Capital Management system was implemented at Medvezhy Ruchey, Nor Nickel – Shared Services Centre, NORMETIMPEX and Bystrinsky Transport Division of MMC Norilsk Nickel. On top of that, 2017 saw the roll-out of the Talent Pool and Performance Assessment automated management subsystems at Polar Division, Kola MMC, Pechengastroy and GRK Bystrinskoye. The performance assessment results are also used to nominate employees for awards.

## Awards for outstanding operational achievements, long track record and work commitment



## Social programmes for employees

### Health improvement programmes for employees

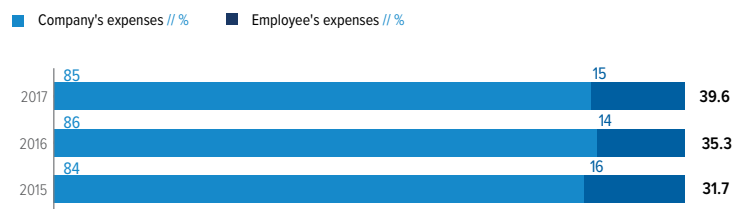
The harsh climate of the Far North and the heavy working conditions of the mining facilities require that the Company make an extra effort to protect its employees' health. Hence, health improvement and health resort treatment programmes for employees and their families are a key priority of the Company's social policy.

In 2017, more than 9,200 employees and their families received recreational treatment in Zapolyarye Health Resort (Sochi) owned by the Company. Some 15,500 people spent their vacations in other health resorts, including approximately 5,000 employees who travelled to Bulgarian resorts and over 2,000 staff members who went to Hainan (China).

The health resort treatment programme is designed to prevent the development of chronic diseases among the employees' children and give them an opportunity to take full advantage of their summer vacations. As part of this programme, some 1,500 children spent their holidays in Anapa and Loutraki (Greece).

**Health improvement and health resort treatment programmes for employees and their families are a key priority of the Company's social policy.**

## Financing of health resort treatment and vacation programmes for employees and their families // USD mln



## Sports programmes

Sports programmes aim to promote a healthy lifestyle, foster corporate solidarity, and develop corporate culture.

The Company pays special attention to corporate competitions, including in such popular sports as futsal, volleyball, basketball, alpine skiing, snowboarding and swimming. Family sports contests are yet another focus area. In 2017, hockey became the latest addition to that long list.

To ensure further development of amateur hockey across the Company's footprint, the region of Norilsk was included in Conference North of the Night Hockey League in December 2017.

In July 2017, Nor Nickel staged its first corporate team competition under the Hero Race franchise. Some 4,000 people (76 teams), including residents of the Norilsk Industrial District and Murmansk Region, took part in the race.

Events for local communities include annual Spartakiads. In Norilsk, there are 14 sports on Nor Nickel's Spartakiad list, with some 4,800 people participating in the competition. In the Murmansk Region, the Spartakiad of Kola MMC includes 16 sports ensuring participation of approximately 3,300 people.

One of Nor Nickel's social policy highlights is the support of amateur sports. In 2017, over 25,000 employees and local residents took part in Nor Nickel's corporate mass sports events.

## Housing programmes

In 2017, the Company adopted a Housing Programme Policy putting in place a single pool of principles and approaches to developing, approving and implementing housing programmes for employees with the highest qualifications and most relevant expertise as a way to boost long-term staff retention across the Group's operations.

In the reporting period, the Company continued implementing its Our Home and My Home corporate social programmes launched back in 2010 and 2011, respectively.

Our Home programme is intended for the employees of Polar Division, Polar Transport Division and Kola MMC. My Home programme covers 14 subsidiary-owned facilities operating in Norilsk, the Taimyrsky Dolgano-Nenetsky Municipal District and Murmansk Region. Since the start of the programme, 3,397 apartments have been granted to the Company's employees. In total, the Company has purchased 3,826 ready-for-living housing units, including 422 apartments in 2017.

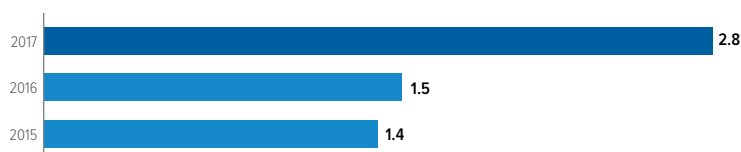
As part of the programmes, the Company purchases ready-for-living apartments in various Russian regions at its own expense, and provides them to eligible employees under co-financing agreements. The Company pays up to half the cost of the apartment (but in any case no more than USD 35,000), with the rest paid by the employee within a certain period of employment with the Norilsk Nickel Group (from five to ten years). The cost of housing remains unchanged for the entire period of the employee's participation in the programmes. Ownership rights are registered at the end of the programmes, but the employee may move in immediately after receiving the apartment.

+87%

**2.8**  
USD mln

financing of sports programmes in 2017

### Financing of sports programmes // USD mln





In 2014–2017, the apartments were purchased in the Moscow and Tver Regions, as well as the Krasnodar Territory, with the Company seeking to buy properties located in close proximity to enhance the employees' living standards by developing additional infrastructure and optimising the scope of maintenance tasks assigned to the property management company.

To boost the appeal of housing programmes for employees and, consequently, increase the Group's retention rate, Nor Nickel launched a new housing programme based on mortgage subsidies – Temporary Assistance Programme for Employees of Polar Division and Kola MMC in Acquiring Residential Property, in 2016–2017. The programme is designed to provide a wider choice of residential locations, with employees entitled to an interest-free loan to make a down payment and partial reimbursement of the mortgage interest. The programme has proved efficient in retaining highly qualified specialists. Some 200 employees have already taken part in the pilot, with over 110 people tapping into the allocated funds. Hence, a decision was taken to roll out the programme on an ongoing basis and transform it into Corporate Social Subsidised Loan Programme for Employees of Nor Nickel and its Russian Subsidiaries. The launch of the programme is scheduled for Q1 2018.

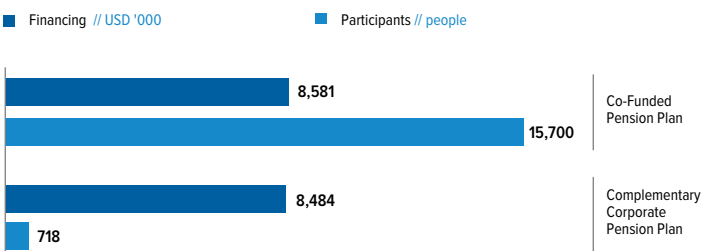
### Pension plans

Nor Nickel offers its employees non-governmental pension plans.

Under the Co-Funded Pension Plan, the Company and its employees make equal contributions to the plan.

The Complementary Corporate Pension Plan provides incentives for pre-retirement employees with considerable job achievements and an extensive employment record.

### Pension plans in 2017



### Financing of Co-Funded Pension Plan // USD mln



**200**  
employees

have already taken part in the pilot housing programme

In total **3,826** apartments  
have been purchased under the housing programme  
since 2010

## Social investments



### 2017 MILESTONES

In September 2017, Norinickel built a 40 Gbps broadband internet network in Norilsk, with the project costs amounting to USD 43 mln (RUB 2.5 bn). The network is strong enough to support operations of the Norilsk Nickel Group, as well as local mobile operators, government bodies and municipal authorities.

For more details, please see [Infrastructure development](#)

[p. 119](#)

Nornickel and Zabaykalsky Krai government entered into a cooperation agreement providing for the local government support of Nornickel's investment projects, including Bystrinsky GOK. On its part, Nornickel undertakes to allocate at least RUB 3.29 bn by 1 January 2027 to finance social projects of Zabaykalsky Krai's government and municipalities.

Development of social entrepreneurship is among the focus areas of Nornickel's World of New Opportunities charitable programme. In 2017 alone, the Company allocated some RUB 11.5 mln for five business projects focusing on the regional social issues. The funds were provided in the form of interest-free loans for a period of two years.

For more details, please see [World of New Opportunities](#)

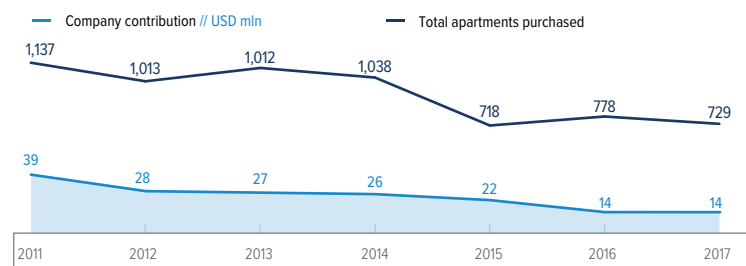
[p. 120](#)

## Relocation programme

In 2017, the Company and the Government continued joint implementation of a long-term target programme to relocate people living in Norilsk and Dudinka (Krasnoyarsk Territory) to Russian regions with more favourable climatic conditions. Introduced in 2011, this ten-year programme provides for 11,265 families residing in Norilsk and Dudinka to be relocated from these municipalities as entitled to housing subsidies under Federal Law No. 125-FZ On Housing Subsidies for Citizens Migrating from the Far North Regions and Equated Territories dated 25 October 2002. The Company acts as a programme sponsor.

In 2017, the programme budget totalled RUB 8.3 bn. Since the programme launch, the Company has transferred to the local budget a total of USD 169 mln (RUB 6.2 bn), including USD 14.2 mln (RUB 830 mln) in 2017. In 2011–2017, 6,515 families purchased new homes on the “mainland” and moved there, including 5,458 families from Norilsk and 1,057 families from Dudinka.

### Relocation programme results



**6,515**  
families

purchased new homes  
on the “mainland” and  
moved there in 2011–2017

**169**  
USD mln

the Company's contribution  
to the relocation programme  
since 2011

In 2017 alone, Krasnoyarsk Territory's Ministry of Construction, Housing and Utilities issued 685 home purchase certificates under the applicable housing quota.

### Local development

The Company makes a significant contribution to the development of local communities by implementing a series of social programmes targeting current and potential issues in its key regions of operation, including the Krasnoyarsk Territory, Kola Peninsula and Zabaykalsky Krai.

**Support of indigenous peoples.** Nornickel recognises the right of indigenous peoples to preserve their traditional way of life, stick to the age-old environmental management practices and have decent living conditions. The Company adopted the Indigenous Rights Policy that defines Nornickel's key commitments towards the rights of indigenous peoples. In 2017, there was no record of the Company violating the rights of indigenous minorities.

For several years now, the Company has been supporting initiatives to improve living standards of the Taimyr Peninsula's indigenous people.

One of such initiatives is the Comfortable Taimyr project launched in 2017. Under this ambitious programme, the Company will invest USD 1.5 mln to construct 2,500 sq m of housing in the Tukhard settlement, where indigenous people live. A trilateral agreement to this effect was signed between the Company, Taimyr Administration and Yenisey United Bank in April 2017 during the Krasnoyarsk Economic Forum.

In an attempt to preserve national traditions and culture of indigenous Northern minorities, the Company participates in staging annual professional festivals for tundra inhabitants on the occasion of the Reindeer Herder's Day and the Fisherman's Day and provides presents and prizes for the winners

in various competitions. To that end, the Company purchases items that enjoy the greatest popularity among locals, including tents, gasoline power generators, household equipment, outboard motors, inflatable boats, GPS navigators, sleeping bags, binoculars, etc. The Company also offers regular financial help to public Taimyr-based organisations.

To ensure the sustainable development of the Taimyr region, the Company provides assistance to indigenous peoples of the North, including by helping to organise air transportation and supplying construction materials and diesel fuel.

Children of reindeer herders in the Tukhard tundra are provided with comprehensive meals as part of the Food Programme carried out in association with the Dudinka Department of Education. In line with the effective agreements, foods for the local hospital and primary school are supplied by Norilskgazprom's Procurement Unit at below-market prices.

**Infrastructure development.** Nornickel is actively involved in the development and renovation of social infrastructure across its footprint, looking to create accessible and comfortable environments for work and life.

In September 2017, the Company completed the construction of a fibre optic communication line running through a permafrost zone between Novy Urengoy and Norilsk to secure internet connection for local businesses, institutions and individuals. The line is 960 km long, with its most technically challenging section laid under the Yenisey River bed. Along with the Norilsk residents, people living in Dudinka also got access to the broadband internet service. The communication line will run in a pilot mode until Q2 2018 when all the tests are completed and the line is put into commercial operation.

# 1.5 USD mln

will be invested to construct 2,500 sq m of housing in the Tukhard settlement

As part of a public-private partnership, the Company continues its work to upgrade the civil section of Norilsk Airport in accordance with the memorandum of intent signed by MMC Norilsk Nickel and the Federal Air Transport Agency under the Russian Transport Development Federal Programme for 2014–2018. The Company will allocate over USD 50 mln (RUB 3 bn) to finance the project. The works are spread out over three construction seasons to avoid airport closure. In 2016–2017, the focus was on the runway upgrade, which is expected to be completed in 2018. In the same year, we will achieve significant progress in repairs of the apron for civil aircraft. The works will be completed in 2019 and will not affect the flight schedule.

Our support for sports is becoming more consistent. It is not limited to the financing of occasional sports events, as Nor Nickel strives to develop a more comprehensive approach by investing in sports facilities, new schools, sports grounds and mass events promoting sports and healthy lifestyles.

In 2017, the Company allocated USD 343,000 (RUB 20 mln) to finance the construction of a sports facility in Monchegorsk (a prefab structure with a football pitch). Its commissioning is scheduled for March 2018.

Another project of Nor Nickel, which is supported by the Krasnoyarsk Territory Government, is to build a unique golf field in the northern city of Krasnoyarsk to drum up people's interest in the game of golf.

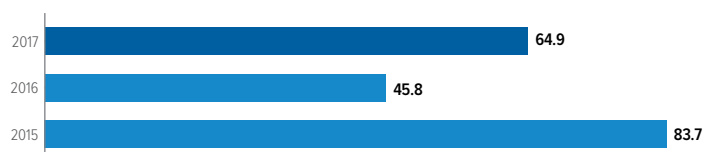
## The Norilsk residents and people living in Dudinka got access to the broadband internet service.

Nornickel is also helping Krasnoyarsk authorities to put in place new smart bus stops. They are planned to be installed in 2018 and will be fitted out with safety and surveillance systems, mobile chargers, wi-fi hotspots and other options. The Company allocated some USD 120,000 (RUB 7 mln) to finance the project.

**World of New Opportunities.** The Company launched its World of New Opportunities charity programme to encourage and promote sustainable development of local communities, with the programme primarily aiming to develop soft skills in local communities, demonstrate and introduce new social technologies, support and promote public initiatives, and encourage cross-sector partnerships. In 2017, after the commissioning of Bystrinsky GOK in Zabaykalsky Krai, the World of New Opportunities footprint expanded to cover local municipalities. In Chita, the Company launched its Socially Responsible Initiatives Competition, Arctic.PRO R&D marathon, and School of Urban Competencies.

The World of New Opportunities programme has three focus areas – Partnership, Innovations and Development.

## Financing of Development and Renovation of Social Infrastructure // USD mln

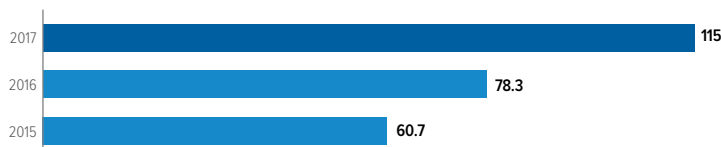


>50 USD mln

allocated to reconstruct the civilian part of Norilsk Airport



## Financing of Charity Programmes // USD mln



the Company completed the construction of

**960** km long

a fibre optic communication line running through a permafrost zone between Novy Urengoy and Norilsk. The project investments amounting to USD 43 mln.



## PARTNERSHIP

This area focuses on supporting volunteer initiatives of local activists, fostering new skills and developing local expertise.

## Key Partnership initiatives comprise:

- Academy for Social Partnership and Development (a series of workshops on social project development, expertise building, assessment of projects/programmes and monetisation of social projects);
- Socially Responsible Initiatives Competition;
- Social Technologies Forum;
- Social Engineering Workshop;
- We Are the City! PicNick.

In spring 2017, the Company initiated the We Are the City! social technologies forum in Norilsk (Krasnoyarsk Territory) and Zapolyarny (Murmansk Region) to bring together local communities and tell them about new trends and best practices in charity and volunteering, and also share successes in solving social issues. In the lead-up to the forum, locals got a chance to meet a wide range of experts who shared their ideas on upbringing children, finding a way in life, personal development, etc. The forum venues were attended by a total of 1,910 people.

The Company seeks to broaden local knowledge and skills contributing to the build-up of regional expertise. For the third year running, Nor Nickel organised a three-day 'social engineering' workshop for local activists that combined theoretical and practical aspects of generating and implementing ideas. In three days, 138 participants from Norilsk, Dudinka, Monchegorsk and Zapolyarny developed and staged 12 city events reaching out to over 2,500 local residents.

On the Company Day, Nor Nickel traditionally stages the We Are the City! PicNick event in Norilsk, Monchegorsk and Zapolyarny. PicNick is a festival "for a good cause" organised by local activists and participants of the World of New Opportunities programme (winners of the Socially Responsible Initiatives Competition and socially minded entrepreneurs) and Plant of Goodness corporate volunteer programme. In 2017, it was staged as a street festival with a projects fair, workshops, training sessions, etc.

All events organised by the Company served to raise charity awareness in local communities and encourage public-private partnerships. In 2017, the Socially Responsible Initiatives Competition, which aims to support public initiatives, received 489 project bids, 116 of which were approved for funding. Grant funding amounted to over USD 2 mln (RUB 125 mln).

**>2** USD mln

allocated as grant funding of the Socially Responsible Initiatives Competition

**489** bids

submitted, 116 projects approved for funding



## INNOVATIONS

This area focuses on facilitating the implementation of advanced technologies, fostering R&D potential and encouraging innovation in engineering. Its target audience are schoolchildren, university students and adult activists interested in science and frontier technologies.



In autumn 2017, the Company staged Arctic Wave R&D festivals in Norilsk and Monchegorsk to promote research and development among the youth, support creative engineering and innovative thinking among schoolchildren, and demonstrate the latest scientific achievements. Interactive sessions, contests and scientific experiments of the largest R&D event in the Polar Region were held under the motto "Augment Reality". The festivals were attended by 4,500 children and adults.

For the fourth year in a row, the Company organised the Arctic.PRO R&D marathon aiming to encourage R&D creativity, innovations in engineering and thirst for knowledge among children and young people. 1,300 students aged 12 to 15 took part in the marathon. 20 more children attended the Winter R&D School in Kazan.

For the third year running, the Company was a general partner of the All-Russian Science Festival held by Lomonosov Moscow State University. In Krasnoyarsk, the festival took place in December 2017. It was the first festival to feature the City of Discoveries. City of Professions programme giving Krasnoyarsk high school students an opportunity to take a career guidance test, have their interests and skills analysed, and receive career recommendations.

### Key Innovations initiatives comprise:

- Arctic.PRO R&D marathon;
- Arctic Wave festival of R&D discoveries;
- FabLab R&D creativity laboratory;
- School of Urban Competencies.

The career guidance programme was built around several areas of interest, including Biological Engineering, Medicine and Healthcare, Taiga, Digitalisation in Humanities, IT, Communications and Aerospace Engineering, and Energy, Engineering and Architecture, each featuring interactive presentations made by local universities and businesses and dedicated lectures enabling students to tap into real-life experience, learn more from professionals, and choose a personal development path for the next 5–10 years. About 15,000 students attended the two-day festival.

In 2017, Nornickel's School of Urban Competencies won the first prize as the Best Charity Promotion Programme (Project) at the 2017 Leaders of Corporate Charity contest held by the Association of Sponsoring Organisations. The School of Urban Competencies aims to develop key social competencies in schoolchildren, including in the realms of housing, finance and career. Each year, at least 500 children living in the Polar regions take part in the School's workshops and events.

1<sup>st</sup> prize

as the Best Charity Promotion Programme (Project)



## DEVELOPMENT

This area focuses on engaging active citizens and SMEs to address social issues of local communities using available business technologies.



One of the Company's initiatives was to provide training in Social Entrepreneurship. With assistance and guidance from experienced coaches (active businessmen), trainees are expected to develop business plans and present them at the Investment Session.

In 2017, Norilsk hosted the first Convention of Social Entrepreneurs from the North, which provided a platform to discuss trends, prospects and measures to support social entrepreneurship in the Polar regions and analyse relevant national and international best practices. In the lead-up to the Convention, experts and participants from other regions had an opportunity to take part in the Entrepreneurial Norilsk quest to learn more about social entrepreneurship in Norilsk.

**RUB 11.5 mln**

allocated in 2017 for social business projects

## Government relations

The Company interacts with federal legislative and executive authorities, and civil society institutions. The Company is represented and expresses its interests in 26 committees, councils, commissions, expert teams, and working groups established by government bodies in association with the business community, thus supporting socially important projects. Currently, the Company mainly cooperates with the working groups and councils of the State Commission for Arctic Development and the Government Commission on the Use of Natural Resources and Environmental Protection. The Company also actively participates in the activities of regional authorities' expert boards across its geographies, including the Governor's Council for Strategic Development and Priority Projects of the Krasnoyarsk Territory.

Representatives of the Company take part in parliamentary sessions and round table discussions organised by the Federation Council and State Duma of the Federal Assembly of the Russian Federation, Government of the Russian Federation, Russian Union of Industrialists and Entrepreneurs, Chamber of Commerce and Industry of the Russian Federation, Association of Managers (an interregional public organisation), etc.

The Company's experts participate in draft regulation discussions held by the Open Government and by community councils of the federal executive bodies, as well as in anti-corruption due diligence and regulatory impact assessments. All of that helps maintain a constructive dialogue with the government, cut administrative red tape and improve the nation's business climate.

## Sponsorship

### Financing of Sporting Projects // USD mln



### Rosa Khutor Ski Resort



In 2016–2019, Nornickel is going to invest USD 250.5 mln in the development of Rosa Khutor ski resort as part of Russia's Mass Sports Support Programme. These funds will be used to transform Olympic facilities into a year-round tourist attraction,

develop new ski pistes and lifts and build new recreational and sports facilities. By way of consideration, Nornickel was granted a minority stake in the Rosa Khutor project.

### Russian Olympic Committee



As a Partner of the Russian Olympic Committee and the Russian Olympic team, Nornickel allocated over RUB 1 bn to support youth and high performance sports, including the implementation of Olympic educational programmes developed by the Russian International Olympic University.

Another area of cooperation between the Company and the Russian Olympic Committee is the inclusion of Nornickel's regions of operation in the pan-Russian Olympic Patrol project. In 2017, the Olympic Patrol visited Krasnoyarsk and Norilsk, giving local children a chance to meet renowned athletes who shared their personal Olympic experiences, took part in autograph and photo sessions, and held workshops and fitness tests.

### Football Union of Russia and Russia's national football team



In line with the sponsorship agreement, Nornickel remains an official partner of the Football Union of Russia and Russia's national football team.

The Company is also an exclusive partner of Russia's Football Union in the metals sector.

### CSKA professional basketball club



Nornickel continues to provide support to Russia's most successful and well-known basketball club.

In 2017, CSKA came out as a winner in the VTB United League and took part in the EuroLeague's Final Four.



## International University Sports Federation

The Company will remain a Partner of the International University Sports Federation (FISU) until May 2019 and will continue to support the development of international university sports movement. The first-ever international forum of the Federation – FISU Volunteer Leaders Academy – was organised in July 2017 with the backing from Nor Nickel and was attended by leaders of

volunteering associations from over 90 FISU member states, as well as university sports delegations and officials. The forum was held in the run-up to the 2019 Winter Universiade to facilitate communication between volunteers and national university sports federations, and share knowledge and experience in organising large international sports events.



## XXIX International Winter Universiade in Krasnoyarsk

As a General Partner of the 2019 International Winter Universiade in Krasnoyarsk, the Company keeps on track with preparations for this upcoming international sports event in accordance with the agreement signed in 2015.

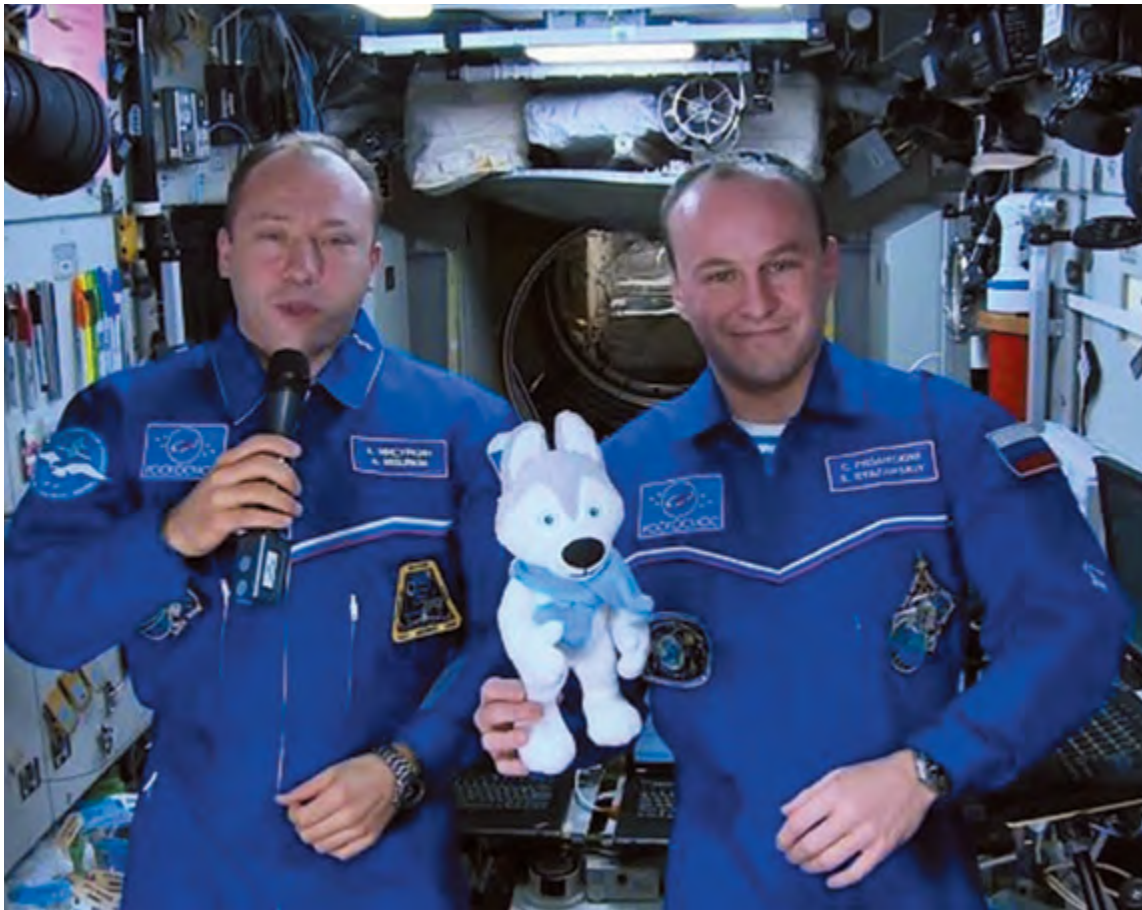
Promotion of the XXIX Winter Universiade will bring about improvements in the local sports infrastructure and the international image of the Krasnoyarsk Territory and its capital, increase popularity of

healthy lifestyles and mass sports, and enhance living standards in the region.

According to current estimates, the Company will spend nearly RUB 2 bn on the preparation and holding of the 2019 Winter Universiade.

One of the major commitments made by the Company for the Universiade was to prepare the Bobrov Log Fun Park for alpine competitions.





In 2017, Nornickel proceeded with the construction of a new athletic training facility equipped with a broadcasting system, expansion of the ski pistes, development of an integrated security system, upgrade of the artificial snow machinery, and preparation of an ambulance helicopter pad.

In addition to the Bobrov Log Fun Park, the Company plans to establish a park along the Bazaikha River with sports and playgrounds, walkways, bike lanes, recreation areas, and a foot and bike bridge across the Bazaikha to make the park accessible for people with limited mobility. An agreement to this effect was signed between the Company and Krasnoyarsk municipal authorities.

With the backing from Nornickel, the Russian International Olympic University and the Siberian Federal University organised training for mid-level and top-level managers and leaders of volunteer teams involved in the Winter Universiade.

On top of that, a volunteer team was formed by employees of the Company and members of their families. A dedicated training programme developed by the Siberian Federal University was completed by 95 volunteers who will seek to maximise popular engagement in the run-up to the event.

As a General Partner of the 2019 Winter Universiade, Nornickel strives to ensure extensive promotion to inform the public about the event.

In 2017, three NordStar aircraft were redesigned to feature the symbols of the Universiade. They made nearly 2,000 flights during the year and carried over 265,000 passengers who learnt about the upcoming event while on board. Information about the Universiade is also available in the NordStar inflight magazine.

Branded pavilions of the Company were constructed in Moscow parks, with over 15,000 visitors receiving

information about the Universiade, Bobrov Log Fun Park and other sports-related projects through games and interactive presentations. The pavilions also served as a platform for cultural, educational and sports events involving famous athletes, sports workshops, flash mobs, and prize-winning competitions for park visitors.

The Company also sponsored the 500 Days until Universiade event that linked two cities – Krasnoyarsk (Bobrov Log Fun Park) and Moscow (Lomonosov Moscow State University) – via a teleconference.

U-Laika, the mascot of the upcoming university games, travelled with the Russian cosmonauts to the international space station and addressed the audience of the Universiade from the orbit.

### Norilsk Nickel Futsal Club

In 2016, the team and administrative personnel of Norilsk Nickel Futsal Club moved to Norilsk. The team takes part in the Russian Super League Championship and Russian Futsal Cup. Relocation of the club gave a powerful boost to the development of futsal in the local community. The Russian Futsal Association

and MMC Norilsk Nickel work closely to ensure the success of the Futsal to Polar Region Schools project. As part of this nationwide initiative, the Club's futsal players hold master classes for schoolchildren and special workshops for trainers.



### All Russian Federation of DanceSport and Acrobatic Rock'n'Roll

In 2017, Norilsk Nickel and the All Russian Federation of DanceSport and Acrobatic Rock'n'Roll started cooperation to support and promote these sports.

One of the partnership's objectives is to establish a corporate acrobatic rock'n'roll club in Norilsk.



### XIX World Festival of Youth and Students

Large international events should be viewed as important milestones in the Russian tradition of sponsorship and public-private partnerships. As part of the 2017 World Festival of Youth and Students (attended by nearly 25,000 people from 188 countries), the Company set up an Athletic Norilsk

venue which turned into a major point of attraction during the Festival. The venue was divided into two zones, the 2019 Winter Universiade General Partner Pavilion and the CSKA streetball ground. The Company's contribution to the Festival was highly appreciated by the Russian President Vladimir Putin.



# Occupational safety



## 2017 MILESTONE

Bystrinsky GOK implemented an advanced system for monitoring mining machinery and personnel positioning designed to improve mining operations safety, ensure better coordination of rescue teams in emergencies, and enhance production process management. Occupational safety is one of the core aspects of the Company's corporate social responsibility, with Nor Nickel seeking to ensure zero workplace fatalities and reduce its lost time injury frequency rate.

The Company's Occupational Health and Safety Policy gives precedence to the life and health of employees over operational performance while also demonstrating the management's commitment to creating a safe and healthy environment and fostering sustainable employee motivation for safe workplace behaviour.



In 2017, Nor Nickel's Board of Directors approved the Working Conditions Policy available on the Company's corporate website





The Board's Audit and Sustainable Development Committee oversees occupational health and safety matters, reviewing relevant reports by the management on a quarterly basis. First Vice-President – Chief Operating Officer is responsible for the development of an action plan and enforcement of compliance with the applicable occupational safety requirements.

He also chairs the Company's Health, Safety and Environment Committee (HSE Committee) charged with:

- improving health and safety performance at the Company and its subsidiaries in Russia;
- toughening responsibility of Nornickel's executives for ensuring operational health and safety.

In 2017, the committee was engaged in considering improvements to the existing health and safety management system, as well as monitoring the implementation of the scheduled activities aimed at reducing injury rates and enhancing the system's effectiveness. To that end, a series of video conferences and meetings were held with representatives of the Company's branches and Russian subsidiaries.

All the production facilities have job- and operation-specific regulations and guidelines containing dedicated health and safety sections. Moreover, Nornickel's collective bargaining agreements also have occupational health and safety provisions. The Company and most of its subsidiaries have joint health and safety committees made up of management, employee and trade union representatives.

As all maintenance and construction operations at the existing production facilities are classified as high-hazard, the contractors' workers are required to attend induction and target briefings on health and safety prior to the commencement of works. Work permits also contain information on occupational safety requirements to be followed during the performance of works or in the immediate run-up to them.

## Corporate standards

The Company keeps improving its occupational health and safety management system, including by developing and implementing corporate standards.

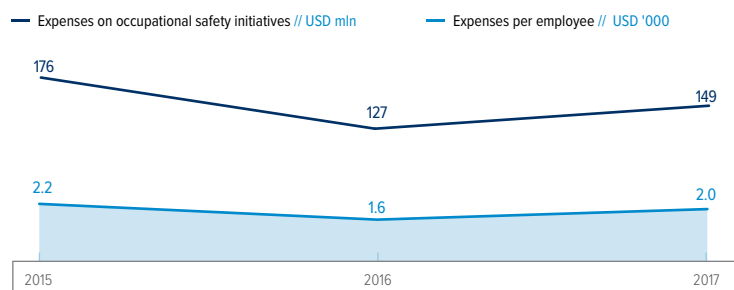
The HSE Department monitors the implementation of the standards across Nornickel's branches and Russian subsidiaries, including through second-party audits. In 2017, a total of 38 audits were held in accordance with the approved schedule.

As part of the Risk Control project (launched in 2016 to implement the STO KISM 121-211-2014 occupational health and safety management standard), 2017 saw further adjustments to the risk registers to be piloted directly at the production sites, risk register-based employee briefings, and drafting of data sheets for high and material risks.

### HSE certifications

- ☐ Kola MMC and Norilsk Nickel Harjavalta – OHSAS 18001 (international certificate)
- ☐ Polar Division and Pechengastroy – GOST R 54934-2012 (Russian standard identical to OHSAS 18001)
- ☐ Norilsknickelremont – GOST 12.0.230-2007 (interstate standard identical to ILO-OSH 2001)

### Expenses on occupational safety initiatives



Following the certification of 484 conveyors at Polar Division, work is underway to improve occupational safety at the production facilities: fencing and drive and tension stations were repaired, including the installation of new blocking devices, replacement of wiring and painting of equipment (in 2017, a total of 309 conveyors were fully repaired).

In 2017, the Technological and Organisational Change Management project was launched, resulting in:

- development and approval of a standard for the Management of Technical, Technological, Organisational and HR Changes;
- training sessions for process owners and change leaders;
- implementation of a change management process at pilot units;
- building of a team for the standard to be rolled out.

Special-purpose underground machinery across Norilsk Nickel's mines was equipped with protective covers (a total of 83 units of machinery).

In 2017, radio communications and positioning systems were installed and commissioned at Komsomolsky, Taimyrsky, Zapolyarny and Kayerkansky mines of Polar Division and Severny mine of Kola MMC.

The Company's branches and Russian subsidiaries have health and safety monitoring systems in place with the following prevention and control functions:

- safety behaviour audits;
  - multi-stage health and safety control;
  - ad hoc health and safety inspections;
  - on-the-spot health and safety inspections;
  - comprehensive health and safety inspections.
- In addition, 2017 saw the launch of regular Risk Hunting sessions which use visual reports for information purposes.

In 2017, pilot testing (assessment of knowledge and skills) of managers in charge of mines and mining facilities at Polar Division and Kola MMC was held as part of a project to develop and roll out a model of professional competencies for line managers of mining facilities. Testing was used to assess the competency model.

To benefit from the opportunities offered by interactive safety briefings, comprehensive programmes were put in place, enabling remote briefings for employees and testing capabilities for the key mining jobs.

## External health and safety audit

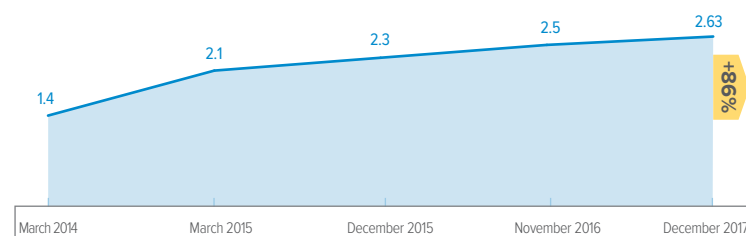
In order to define priority paths for further improvement of the corporate health and safety management system and mitigate injury and accident risks at Norilsk Nickel's key assets, DuPont Science and Technologies has been assessing the level of the Company's industrial safety culture every year since 2014.

Improvements in the safety culture metrics came on the back of greater personnel involvement in occupational health and safety, a sharper focus on HSE on the part of the production facilities' management (management training completed, a team of in-house experts built) and enhancement of risk assessment and management expertise.



**Report of corporate social responsibility for 2017**

### Safety culture as per the Bradley curve



## Health and safety performance indicators

In 2017, the Company failed to improve its LTIFR<sup>1</sup> due to a group accident at Zapolyarny mine in July 2017, when a methane explosion in the mine opening claimed the lives of four people. An ad-hoc investigation followed to enforce compliance with the safety rules set out in the Special Requirements for Mining Operations in Hazardous Gas Conditions. The investigation gave the Company an opportunity to take a series of organisational, technical and disciplinary actions to prevent similar accidents going forward.

Investigation of production accidents and occupational diseases is carried out in accordance with the Labour Code of the Russian Federation, industry regulations, and

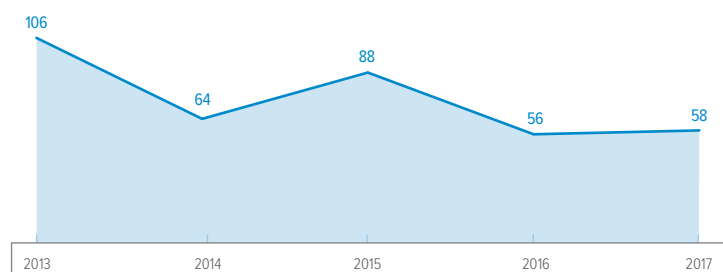
the Accident Investigation corporate standard. All fatal accidents were reported on to the Board of Directors and thoroughly investigated to avoid them in the future. Nornickel's management views occupational safety and zero workplace fatalities as its key strategic objective and keeps running dedicated programmes to prevent workplace accidents and injuries.

In 2017, the implementation of core occupational safety standards, rollout of video information systems and launch of the Risk Control project (development of risk mitigation initiatives) resulted in a 46% decrease in the number of fatal accidents.

## Safety performance indicators

Indicators	2015	2016	2017
FIFR <sup>2</sup>	0.12	0.11	0.06
LTIFR	0.62	0.35	0.43
Production-related accidents, including:	88	56	58
fatalities	14	13	7
lost-time injuries	74	43	51
Minor injuries	411	719	719
Accidents among the contractors' employees, including:	19	18	15
fatalities	5	8	1

## Total number of accidents // people



<sup>1</sup> LTIFR stands for Lost Time Injury Frequency Rate (LTIFR = non-fatal LTIs / total number of hours worked \* 1,000,000).

<sup>2</sup> FIFR stands for Fatal Injury Frequency Rate (FIFR = FIs / total number of hours worked \* 1,000,000).

# Environment



In 2017, the Company completed the first stage of its environmental programme, with Talnakh Concentrator reaching the design processing capacity and recovery rates. According to our estimates, in 2017, given the Nickel Plant shutdown in 2016, the total sulphur dioxide emissions reduced by 5% across Polar Division and by 30–35% within the city of Norilsk. Last year we announced the launch of the second stage of our environmental programme, which includes the Sulphur Project in Norilsk and optimisation of the smelting capacity at Kola MMC. As a result, we plan to cut the sulphur dioxide emissions by 75% in Norilsk by 2023 and by 50% at Kola MMC as soon as in 2019”.

## Sergey Dyachenko

First Vice President and Chief Operating Officer of Nornickel



## 2017 MILESTONES

Nornickel successfully passed an independent recertification audit of its Corporate Integrated Quality and Environmental Management System (CIMS). The auditors of Bureau Veritas Certification confirmed CISM compliance with the ISO 14001:2015 and ISO 9001:2015 requirements and praised its strengths.

Kola MMC completed a project designed to dispose of saline effluent from nickel refining operations in Monchegorsk preventing liquid nickel production waste from polluting the environment.

As 2017 marked the Year of Environment in Russia and 100th Anniversary of the Russian Nature Reserves, Nornickel launched Let's Do It, an environmental marathon organised across the Company's footprint as a corporate volunteering project.

At the end of 2017, Nornickel's Polar Division completed a project to redirect emissions from slag and matte mixers and other aspiration gases from low-height sources to Copper Plant's flue-gas stack DT-1. This created better conditions for the dispersion of emissions and reduced ground-level concentrations of pollutants in the residential area of Norilsk.

Nornickel's management team considers environmental protection an integral part of the production process. The Company complies with the applicable laws and international agreements and is committed to reducing emissions, on a phased basis, and sustainable use of natural resources.



Nornickel's environmental policy focuses on the following priorities:

- phased reduction of pollutant air emissions, primarily sulphur dioxide and solids;
- consistent reduction of wastewater discharges into water bodies;
- development of waste disposal sites to reduce human impact on the environment;
- zero pollution in maritime cargo transportation and vessel operation;
- sustainable use of natural resources and introduction of eco-friendly technologies;
- involvement with environmental public-private partnership projects;
- conserving biodiversity across geographies of our production operations.

## Environmental Management System

In 2017, the environmental management system (EMS) continued to operate as part of the Corporate Integrated Quality and Environmental Management System (CIMS). This enabled the Company to harmonise environmental and quality management initiatives with the operations of other functions (such as production management, finance, health and safety). With this approach, the Company is better fit to streamline its environmental efforts and enhance overall performance.

With the EMS, Nornickel benefits from:

- secured priority funding for environmental initiatives;
- higher environmental awareness among employees;
- better public perception;
- stronger competitive edge in the domestic and international markets;
- demonstrating a global standard of environmental compliance to customers and other stakeholders, and winning the trust of customers who require the supplier to have an effective EMS;
- additional opportunities for recognition in the international context and in global markets;
- improved investment case.

Nornickel's management team considers environmental protection an integral part of the production process.

–30%

reduction of sulfur dioxide emissions within the city of Norilsk in 2017

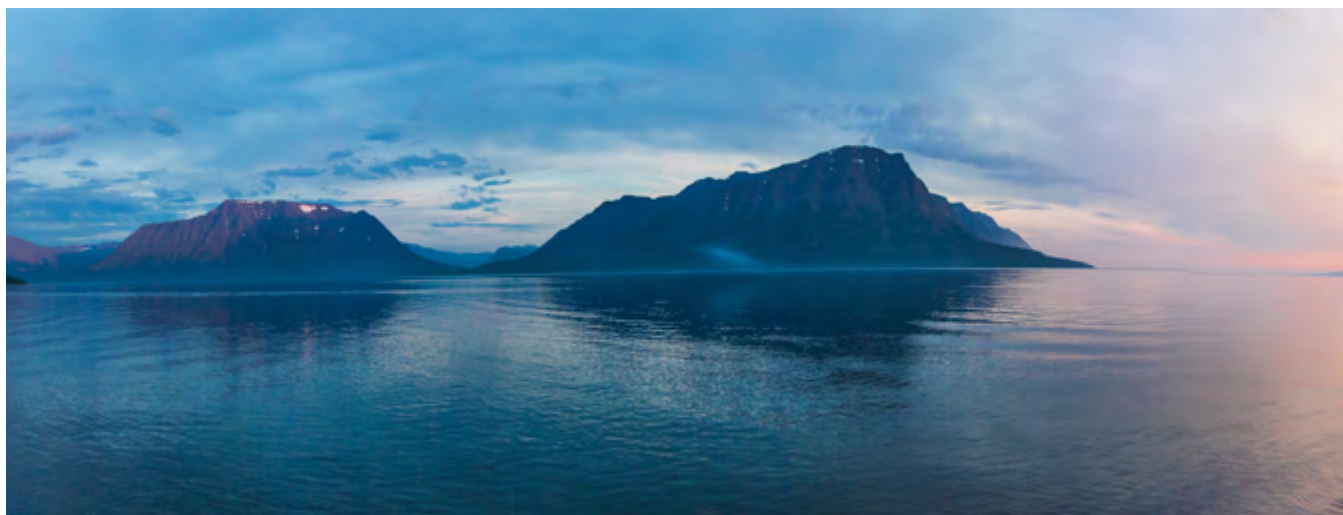
Throughout 2017, the Company carried out internal audits as part of the CIMS. In line with international standards and Norilsk Nickel's by-laws, internal audits were conducted by specially trained and competent personnel:

- 18 EMS internal audits were held at the Company's Head Office (as part of the CIMS internal audits);
- 66 internal audits were held at Polar Division, Polar Transport Division and Murmansk Transport Division (17, 25 and 24 audits, respectively);
- 40 EMS internal audits were held at Kola MMC (as part of the CIMS internal audits).

To confirm compliance of the EMS with ISO 14001, the Company engages Bureau Veritas Certification (BVC) to conduct surveillance audits once a year and recertification audits once every three years. In November 2017, an EMS recertification audit was held as part of the CIMS at the Company's Head Office in Moscow, Polar Division's production sites in Norilsk, Polar Transport Division (Dudinka) and Murmansk Transport Divisions (Murmansk).

18 EMS internal audits

were held at the Company's Head Office in 2017



The audit confirmed that MMC Norilsk Nickel's EMS complies with ISO14001:2015 (Compliance Certificate No. RU228136 QE-U of 4 December 2017). Based on the audit findings, BVC issued recommendations on potential improvement areas and highlighted the overall strengths of the Company's EMS.

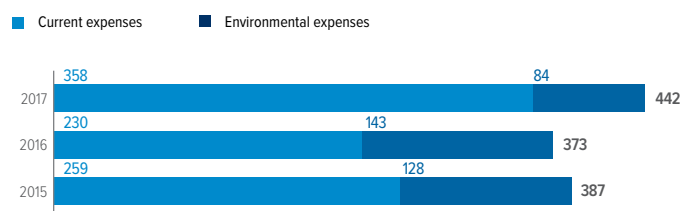
In 2017, the EMS operated in accordance with the new version of ISO 14001:2015. To comply with this international standard, among other things, the Company revised its Environmental Policy approved by MMC Norilsk Nickel's Board of Directors (resolution No. GMK/33-pr-sd of 5 October 2017).

In line with ISO 14001 and principles of environmental openness and transparency, the Company cooperates with the legislative and executive authorities, control and supervision agencies, international and public organisations, mass media, shareholders, investors, local communities and other stakeholders.

## Nornickel's environmental projects

High sulphur dioxide emissions resulting from sulphide ore smelting is one of the Company's key environmental issues. Nornickel's strategic plan is to transform the Company into a cleaner and environmentally safe enterprise. To this end, the Company is gradually upgrading its production capacities.

### Expenses // USD mln



# -5%

reduction of sulphur dioxide emissions across Polar Division in 2017

# -75%

reduction of sulphur dioxide emissions in the Polar Division as a result of the Sulphur project by 2023

## Key environmental projects:

- Nickel Plant shutdown (completed in 2016);
- Sulphur Project (to be completed by 2023);
- transition to a concentrate briquetting technology (completed in 2017) and retrofit of the Zapolyarny Concentrator (to be completed by 2019).

### Nickel Plant shutdown: what does it mean for the environment?

The shutdown of Nickel Plant and transfer of all nickel smelting operations to Nadezhda Metallurgical Plant helped to upgrade the production chain and improve environmental situation in the city as a result of:

- discontinued emissions of air pollutants (approximately 370 ktpa);
- eliminating 600 sources of air pollution, of which 458 had no purification facilities;
- closure of two wastewater discharge points previously discharging approximately 37 kt of pollutants per annum;
- discontinued generation of ca. 1,400 kt of production waste, including coal processing products, metallurgical slag, and ferrous cake;
- transfer of smelting emissions from Nickel Plant to Nadezhda Metallurgical Plant, that is 7 km farther away from the residential area;
- 30% less exposure time as compared to how long the air of Norilsk was exposed to Nickel Plant emissions (approximately 265 hours in the course of 73 days (based on 2015 data)).

### Sulphur Project

Sulphur project is an umbrella term of the second stage of Nor Nickel's environmental programme designed to reduce the total volume of sulphur dioxide emissions at Polar Division by 75% down to

337 ktpa by 2023. This will guarantee that Norilsk air meets the air quality requirements regardless of wind speed or direction.

As part of this project, Nadezhda Metallurgical Plant is going to see construction of installations for capturing sulphur-rich gases and production of sulphuric acid (with subsequent neutralisation with natural limestone and production of gypsum), as well as principally new continuous copper matte converting facilities built, whose emissions will also be used for sulphuric acid production.

At Copper Plant, additional capacities for elemental sulphur production are expected to be commissioned, while converting operations are going to be completely discontinued, which will eliminate low-height emissions of low grade converter gases that have a pronounced effect on ground level concentrations of sulphur dioxide during unfavourable weather conditions. The total capacity for recovering sulphur from gases at Copper Plant is expected to reach ca. 280 ktpa of sulphur by 2022. The total CAPEX for the Sulphur Project is estimated in the range of USD 2.5 bn.

### Kola MMC

At Kola MMC, a separate action plan has been developed and partially implemented to reduce sulphur dioxide emissions from smelting operations at the Nickel site by upgrading the equipment (reconstruction of feeding and sealing systems of ore-thermal furnaces, gas duct replacement, preparation of furnace charge for smelting, etc.) and lowering smelting shop utilisation while selling part of the concentrate to third parties. This project is expected to reduce sulphur dioxide emissions down to 40 ktpa by 2019.

–9%

reduction of sulphur dioxide emissions across Kola MMC in 2017

–40 ktpa

reduction of sulphur dioxide emissions in the Kola MMC by 2019

## Environmental impact across Norilsk Nickel's Russian operations



Air

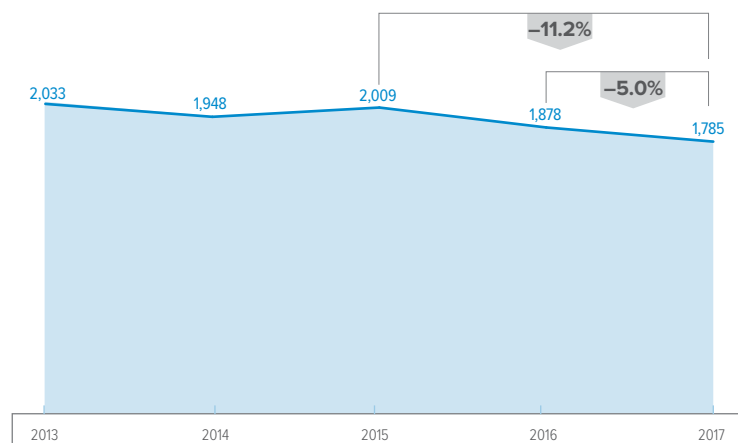
### Air pollutant emissions across the Group // kt

Item	2015	2016	2017
<b>Amount of pollutants, across the Group, including:</b>	<b>2,063.5</b>	<b>1,936.4</b>	<b>1,846.8</b>
Sulphur dioxide (SO <sub>2</sub> )	2,009.1	1,878.0	1,785.0
Nitrogen oxide (NO <sub>x</sub> )	9.8	10.1	11.5
Solids	20.7	14.3	14.0
Other	23.9	34.1	36.3
<b>Amount of pollutants, total for Polar Division, including:</b>	<b>1,883.2</b>	<b>1,787.6</b>	<b>1,705.0</b>
Sulphur dioxide (SO <sub>2</sub> )	1,853.9	1,758.2	1,675.9
Nitrogen oxide (NO <sub>x</sub> )	1.6	1.5	1.6
Solids	9.0	6.2	6.1
Other	18.7	21.7	21.5
<b>Amount of pollutants, total for Kola MMC, including:</b>	<b>169.8</b>	<b>132.9</b>	<b>121.9</b>
Sulphur dioxide (SO <sub>2</sub> )	155.1	119.7	109.1
Nitrogen oxide (NO <sub>x</sub> )	1.2	1.1	1.2
Solids	10.6	7.4	6.9
Other	2.9	4.7	4.7
<b>Amount of pollutants, total for other branches and subsidiaries, including:</b>	<b>10.5</b>	<b>16.0</b>	<b>19.9</b>
Sulphur dioxide (SO <sub>2</sub> )	0.1	0.1	0.1
Nitrogen oxide (NO <sub>x</sub> )	7.0	7.5	8.7
Solids	1.1	0.7	1.1
Other	2.2	7.7	10.0

In 2017, gross emissions of Norilsk Nickel's Russian operations exceeded 1,847 kt, which is 90 kt lower than in 2016 (−4.6% y-o-y). The reduction was due to lower sulphur dioxide emissions (down 5.0%) primarily resulting from the liquidated emission sources at Nickel Plant and discontinued pellet production at the pelletisation and roasting section of Kola MMC's Zapolyarny site and other initiatives.

With the launch of a unit to produce sulphite/bisulphite reagents in 2017, the Company is now able to produce this reagent at a new facility using state-of-the-art technologies. Besides, recycling of off-gases helped to reduce sulphur dioxide emissions by another 11.5 ktpa.

### Sulphur dioxide emissions // kt



In 2017, gross emissions of harmful pollutants in general across Polar Division have dropped by 82.6 kt (down 4.6% y-o-y) mostly as a result of a reduction in sulphur dioxide emissions by 82.3 kt (down 4.7%). Lower sulphur dioxide emissions are attributable to the shutdown of Nickel Plant and migration of smelting operations to modern technologies of Nadezhda Metallurgical Plant.

Analysis of actual emissions for 2017 demonstrated that pollutant emissions at Polar Division as a whole are 160,998 kt (down 8.6%) below the permitted level (with NO rebased to NO<sub>2</sub>), including sulphur dioxide emissions that are below the statutory maximum as temporarily approved at 149 kt (down 8.2%).

In 2017, further steps were taken to reduce air emissions with a view to gradually achieving maximum permissible emission rates. The sulphur projects rolled out at Copper Plant and Nadezhda Metallurgical Plant are at different completion stages.

For more details, please see [Key investment projects](#).

[p. 90](#)

At Kola MMC's Zapolyarny site, a cold briquetting technology was introduced in recent years instead of pellet roasting. Two new briquetting lines are now in operation, and the briquetting technology is being fine-tuned to meet the required quality standards. Sulphur dioxide emissions generated by the production processes reduced from 4.8 kt in 2016 to 1.6 kt in 2017.

In Monchegorsk, we are implementing the project – Electrowinning of Chlorine Dissolved Tube Furnace Nickel Powder for the Production Volume of 145 ktpa of Electrolytic Nickel. The project includes reconstruction of cathode nickel facilities in the tank-house to replace the existing electrorefining technology (using soluble anodes) with electrowinning of nickel from chlorine solutions. The new technology will help to reduce air emissions thanks to elimination of anode smelting.

Nornickel has completed its project to produce 3,000 t of electrolytic cobalt fully replacing flame-synthesised cobalt production at the shut down Nickel Plant in Norilsk.

In 2017, gross pollutant emissions from Kola MMC amounted to 121.9 kt, which is 11 kt lower than in 2016 (down 8.3% y-o-y). Sulphur dioxide emissions also reduced by almost 11 kt (down 8.9%), as well

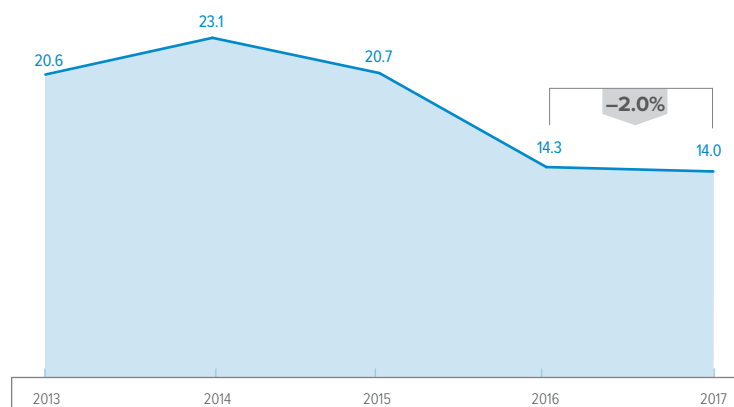
as solid (dust) emissions dropping by 480 t (down 6.5%). Lower pollutant emissions as compared to 2016 are attributable mainly to the discontinued pellet production at the Zapolyarny site, along with increased production of sulphuric acid and decreased content of sulphur in the products used for smelting purposes.

Nornickel controls emissions during unfavourable weather conditions to lower concentration of pollutants in residential areas based on timely weather forecasts. In the reporting period, a total of 182 emission control cases were held at Polar Division's metallurgical operations. To inform the local community of the environmental impact of its metallurgical operations on the quality of air in Norilsk, the Company maintains an automatic toll-free enquiry service line offering environmental forecasts for the city area to anyone dialling 007 or 420 007.

At the moment, Russian legislators are working to introduce statutory requirements for greenhouse gas (GHG) emissions reporting. The Company is monitoring all legislative developments on this front to ensure compliance with the regulations.

In accordance with the applicable guidelines and regulations, Nornickel has assessed its GHG emissions. Based on the current estimates, the Company emits around 10 mtpa of GHG<sup>1</sup> (10,031 kt in 2016). In addition, in 2017, the Company reported, on a voluntary basis, its GHG emissions to the Russian Ministry of Natural Resources and Environment.

#### Solid emissions // kt





## Water

Nornickel uses a closed water circuit at its mining and metals operations. In general, 85% of all water used by the Company is recycled and reused.

All sources of water used by the Company are subject to government-approved surveillance programmes for water and water protection zones.

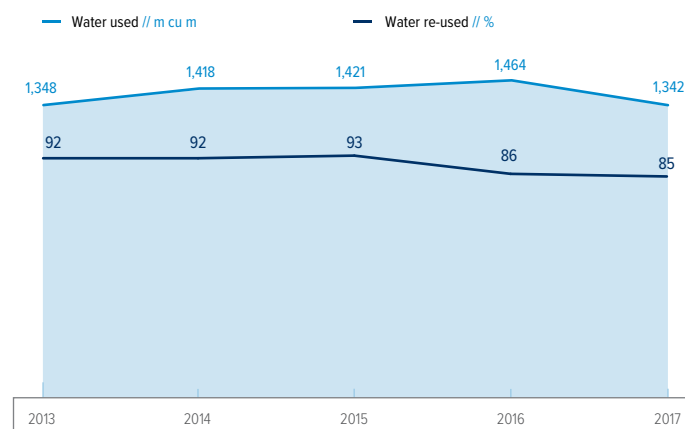
Pollutants discharged in wastewater amounted to 217 kt, which is 24 kt more than in 2016 (up 12%). The increase was caused by a natural inflow of snow melt and rain water, large-scale processing of metal-containing feedstock and ramping up of pyrometallurgical capacities at Nadezhda Metallurgical Plant after the shutdown of Nickel Plant.

In 2017, the Company continued to work on reducing discharges by gradually achieving the approved limits on the back of:

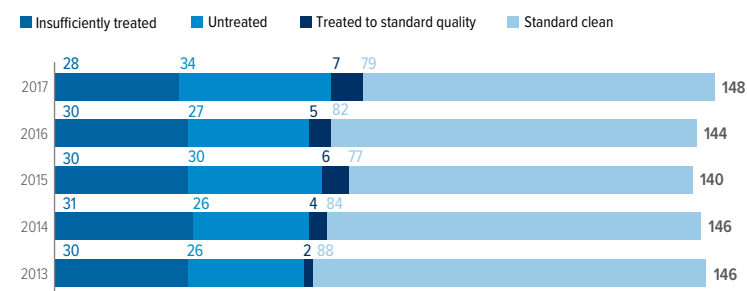
- optimised water cycle at Polar Division's concentration facilities;
- efforts made to purify production wastewater in the combined storm water collector and utility tunnel of Nadezhda Metallurgical Plant, as well as production wastewater from Lebyazhye tailings pit at Norilsk Concentrator;
- technologies developed to treat mine water at some mines;
- completion of pre-commissioning stage at the cement plant to implement a closed water circuit and local treatment facilities.

Monchegorsk site received a treatment facility for saline effluent from nickel refining operations for a more integrated treatment of industrial effluents. This technology is unique for Russia, as chemical agents, specifically boric acid, flow back to the production circuit. So the Company produces sodium sulphate and chloride instead of harmful waste. The resulting steam and condensate are then reused in the nickel tank-house to heat solutions, operate heat exchangers. At Zapolyarny site, work is in progress to design a mining water treatment plant for Severny-Globaly Mine.

### Water consumption



### Wastewater discharges // mln cubic meters



<sup>1</sup> The Group's direct GHG emissions were stated based on the earlier estimates (ca. 10 mt of CO<sub>2</sub> equivalent) made as part of a project to pilot the Guidelines and Instructions approved by Order of the Russian Ministry of Natural Resources No. 300 dated 30 June 2016. The quantitative estimates include carbon dioxide (CO<sub>2</sub>) and methane (CH<sub>4</sub>) emissions only. Pursuant to the above guidelines and instructions, reporting of other types of GHG emitted by the Company's facilities is not required. Indirect energy-related GHG emissions were not assessed by the Company. There are currently no binding legal requirements in place on reporting GHG emissions, including the indirect energy-related ones.

**In 2017, Kola MMC received a treatment facility for saline effluent.**



**For more details on the modernization of the Kola MMC**



**For more details in an interview with the General Director of Kola MMC**



Company overview

Strategy overview

Market overview

Business overview

Corporate governance

Information for shareholders

Appendices



## Production waste

Norilsk Nickel's waste management efforts seek to ensure the repeated use of waste in its production cycle along with meeting statutory waste disposal limits. In 2017, the Company generated approximately 32 mt of production and consumption waste, and around 96% of such waste is deemed virtually non-hazardous for the environment and classified as hazard class 5 waste. This is mostly waste from the mining and smelting operations (rock and overburden, tailings, and metallurgical slags). Nearly 65% of all waste generated across the Company's operations in 2017 was reused, with the rest of waste disposed of at special facilities.

For safe waste disposal, the Company completed the construction of a new tailings pit for Talnakh Concentrator, 6 km farther to the north-west of the Talnakh District. The facility was built using the most advanced technologies to reduce environmental impact.

Nornickel has designed a new waste dump for industrial waste generated by Polar Division that leverages environmentally safe technologies to

dispose of waste of hazard classes 3–5. The site selected for the waste dump is located 2 km south of Nadezhda Metallurgical Plant site, at a significant distance from the residential areas of Norilsk.

The Company continues reusing waste for preparation of compounds to fill mined-out spaces (granulated slag from melting of non-ferrous metals, overburden and hard rocks, mill tailings) and as flux for melting of metal in smelting furnaces.

In 2017, the Company's waste disposal did not exceed the limits. Waste is mostly reused in the processes related to the extraction of ore mineral resources, including crushing, backfilling of mined-out areas and pits, and construction and strengthening of tailings pits.

The Company's waste management efforts are focused on the following:

- development of waste disposal sites to reduce human impact on the environment;
- waste reuse maximisation;
- reclamation of disturbed areas;
- landscaping and improvement projects.

### Waste generation by hazard class // kt

Hazard class	2016	2017
Hazard class 5	32,118.4	30,721.8
Hazard class 4	1,113.5	1,189.9
Hazard class 3	29.9	12.7
Hazard class 2	5.8	2.4
Hazard class 1	0.07	0.06
<b>Total</b>	<b>33,267.7</b>	<b>31,926.9</b>

## Environmental impact across Norilsk Nickel's foreign operations

### Norilsk Nickel Harjavalta

Norilsk Nickel Harjavalta has all the necessary environmental permits and operates a certified integrated management system that meets the requirements of ISO 9001, ISO 14001 and OHSAS 18001.

Norilsk Nickel Harjavalta's main environmental impact consists in the emissions of ammonia (NH<sub>3</sub>) and nickel (Ni), and discharges of nickel, sulphates (SO<sub>4</sub><sup>2-</sup>) and ammonia ions (NH<sub>4</sub><sup>+</sup>). In 2017, Norilsk Nickel Harjavalta met all permit requirements for emissions, discharges and waste disposal volumes. Lower (by 1.5 kt) waste volumes are a result of switching to the Company's feedstock that is less contaminated with impurities as compared to third party materials.

### Environmental impact metrics of Norilsk Nickel Harjavalta

Item	2015	2016	2017
Industrial wastewater, '000 cu m	728	771	899
<b>Pollutants in industrial wastewater, t</b>			
Ni	0.4	0.4	0.5
SO <sub>4</sub> <sup>2-</sup>	20,051	22,457	25,853
NH <sub>4</sub> <sup>+</sup> (rebased to nitrogen)	36.0	49.5	60.3
Total water consumption, mln cubic meters	10.4	10	11.1
<b>Total air pollutant emissions, t</b>			
Ni	1.7	1.6	1.7
NH <sub>3</sub>	70	70	69
Waste generation, kt	16.5	7.0	5.5
Waste disposal, kt	15.7	0.8	0.8

### Norilsk Nickel Nkomati

The company is required to comply with both national environmental regulations and Norilsk Nickel Group's corporate standards. Norilsk Nickel Nkomati pays close attention to environmental safety, is certified and regularly audited for compliance with ISO 14001.

The main reasons behind significantly lower consumption of fresh water in 2017 was the use of collected rain water. Waste generation reduced due to the disposal of industrial rubber items and scrap metals.

### Environmental impact metrics of Norilsk Nickel Nkomati

Item	2015	2016	2017
Total water consumption, mln cubic meters	0.088	0.3327	0.0636
Waste generation, t	1,386	921	431
Waste disposal, t	634	1,611	845
Environmental expenditures, USD mln	0.57	0.42	0.27

## Biodiversity conservation



### 2017 MILESTONES

Nornickel acquired 235,000 salmon fingerlings and released them into the Umba River together with the Basin Authority for Fisheries and Conservation of Aquatic Biological Resources (Glavrybvod). By helping to recover the population of the Atlantic salmon, the Company makes up for its environmental impact. In addition to that, Nornickel provided assistance in releasing 316,000 sturgeon fingerlings into the Yenisei River. This was the largest project on releasing valuable fish species in the Company's history.

As part of the Year of the Environment, Nornickel has signed the Cooperation Agreement with the Murmansk Region to support a number of projects in the nature park of the Rybachy and Sredny Peninsulas. The Company will allocate over RUB 7.5 mln to create nature trails and buy security equipment.

Zabaykalsky Krai Government and Nornickel signed the Cooperation Agreement to develop the Relict Oaks State Reserve located in the region. The amount of funding for the project stands at RUB 10 mln.



### Cooperation with nature reserves

For over a decade now, Nornickel annually provided hundreds of millions of roubles to the nature reserves adjacent to the Company's production facilities on the Taimyr and Kola Peninsulas for the purpose of preserving the unique Arctic environment.

This is in line with Nornickel's strategy set to embrace green technologies in the next five years through a new investment cycle to secure sustainable development.

Kola MMC's sites are only 10–15 km away from the Pasvik and the Lapland Nature Reserves (Murmansk Region). The Company's Polar Division is located some 80–100 km away from the buffer zone of the Putoransky Reserve (Krasnoyarsk Territory).

Experts keep monitoring the environmental impact of Nornickel's production sites on the nature reserves' ecosystems. Long-term observation results show that environmental conditions are improving each year. "Scientists report growing populations of plants and animals along with the emergence of new species," said Alexander Tyukin, head of Kola MMC's R&D and Environmental Safety Department. – We have just discovered a rare plant species, a northern orchid that has not been seen since 2005. It speaks for itself."



**Nornickel annually provided hundreds of millions of roubles to the nature reserves.**



In 2017, the Putoransky State Nature Reserve kept implementing projects selected under Nor Nickel's World of New Opportunities charitable programme.

### Save the Bighorn Together

An ambitious programme to protect the endangered species of the bighorn found in the Putorana Plateau only and listed on Russia's Red Data Book. The Company provides funding for volunteer training at the Surveillance School, ground research to collect data on the bighorn population, and Putorany. Bighorn. People festival of friends. The project's funding totals some USD 86,000 (RUB 4.99 mln).

### Norilsk Lakes to Norilsk People

Norilsk Lakes to Norilsk People project implemented since 2013 seeks to preserve the Big Norilsk Lakes, a unique ecosystem of subarctic mountains. During that time, Nor Nickel provided funding for the recreational fisheries in the upper part of the Pyasina River basin, tourist and trekking infrastructure, construction of a camping station at Lama Lake and a base station at Sobachye Lake. In 2017, as part of the project, the Company allocated over USD 17,000 (around RUB 1 mln) to finance an environmental and educational summer camp at Lake Lama for students of the volunteer school.





The Pasvik Nature Reserve is home to rare species listed on the international and Russia's Red Data Books. Since 2006, as part of the contract signed with Kola MMC, the Pasvik Nature Reserve has been carrying out an ecological assessment of the natural environment in the area of Pechenganickel Plant (Zapolyarny, Nickel and their suburbs, including the Pasvik State Nature Reserve), and developing a long-term environmental monitoring programme.

Nornickel supports scientific research carried out by the nature reserve, its efforts to protect natural and cultural heritage, promote tourism and environmental education. The Company helps establish an international natural historical open-air museum on the Varlam island. Nornickel sponsored the book called The Varlam Island – the Pearl of Pasvik.

### Key projects of the Paskvik Nature Reserve supported by Nornickel

#### Visitor centre for tourists and researchers

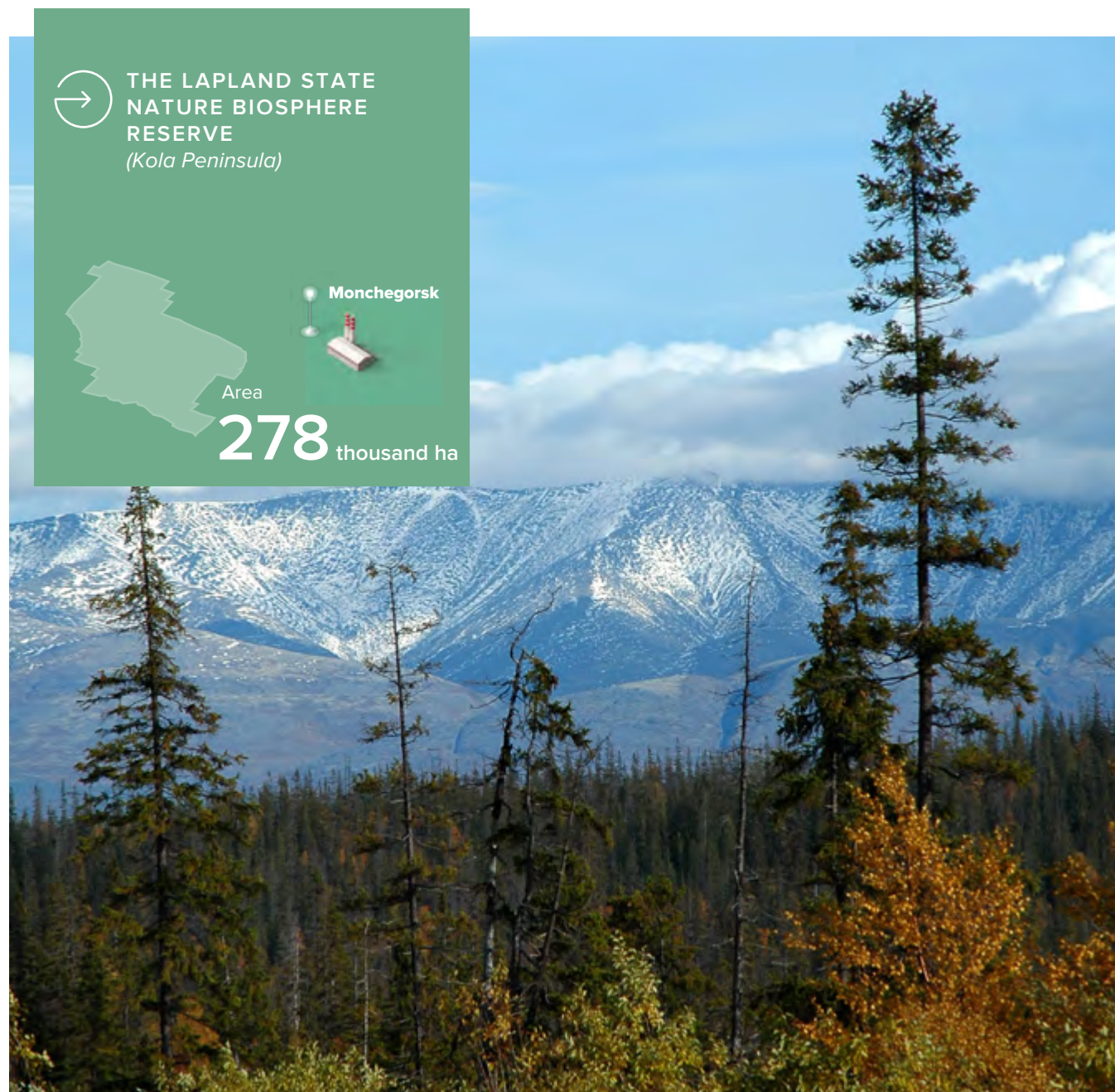
The visitor centre of the Pasvik Reserve featuring a permanent environmental exposition was officially opened in January 2017 in the settlement of Nickel, Pechengsky District. The visitor centre hosts ecological seminars and conferences, serving as a modern platform for discussing international cooperation issues. In 2011–2016, the Company allocated over USD 1.3 mln (RUB 77 mln) to the project. The visitor centre currently hosts ecological lessons for schoolchildren, exhibitions, lectures, discussions, and forums of various international organisations.

#### Young scientist training course

Over the last ten years, the reserve serves as a base for a summer camp for schoolchildren involved in various research projects (study of soil and water composition, bird ringing, etc.). The project's annual funding is over USD 17,000 (some RUB 1 mln).

[For more details on other projects of World of New Opportunities programme](#)

[p. 120](#)



The Lapland State Nature Biosphere Reserve is one of the largest protected areas in Europe covering 278,000 ha. Established to save the wild reindeer from extinction, it now boasts over 1,000 reindeer, the largest reindeer herd in the Northern Europe. The European beaver population has also been successfully restored. Since 2002, the Lapland Biosphere Reserve has entered into contracts to reclaim disturbed natural environment in the areas affected by multi-year emissions from Severonickel Plant, and monitor areas adjacent to Monchegorsk

site and the Lapland Biosphere Reserve. The data obtained during a scientific research provided a basis for the subsequent contractual work to reclaim disturbed lands, and bring about sanitary and fire protection improvements in the forest areas. The Company also provided financial aid for the Lapland Biosphere Reserve to make a new nature trail and publish books about Oleg Semyonov-Tyan-Shansky and Herman Kreps, the reserve founders. In 2017, the total funding of the nature reserve projects exceeded USD 195,000 (RUB 11.4 mln).



## Environmental recovery programmes

### Aquatic bioresources

In 2017, to compensate for the damage done to water bodies of the Yenisey River during the implementation of the Talnakh Concentrator upgrade and retrofit project and sand production at the Seredysh Island deposit, the Company grew and released over 316,000 Siberian sturgeon fingerlings into the Yenisey River. To compensate for damage to water bodies during the construction of a transfer terminal in Murmansk, in 2017, Nor Nickel released over 235,000 salmon fingerlings into the Northern Fishery Basin.

### Landscaping

In 2017, Nor Nickel launched a pilot project utilising new landscaping technologies to establish sustainable grass cover in the disturbed areas. Perennial grasses and mixed grass crops were planted on the experimental 1 ha land plot close to Nadezhda Metallurgical Plant using a hydroseeding technology and complex additives adapted to northern conditions. The project's financing amounted to some USD 43,000 (RUB 2.5 mln).

Hydroseeding has a number of advantages over traditional planting method, namely quick landscaping and the possibility to cover remote locations, which is especially useful for slopes and hard-to-reach areas. Grass can be sown on virtually any surface featuring a difficult terrain. Experiments proved successful even for such technogenic surfaces as slag and concrete.

The Company regularly allocates funds for landscaping in the regions of operation. Since 2003, Kola MMC, upon recommendation from the nature reserves, has rehabilitated 100 ha of area in Monchegorsk, Zapolyarny towns and Nickel settlement. Kola MMC has had approximately one million trees and bushes planted, including

a pilot project to restore damaged land adjacent to the Company's site together with the Kola Science Centre of the Russian Academy of Sciences. In 2017, the value of the contract signed with the Lapland Biosphere Reserve was some USD 60,000 (RUB 3.5 mln).

In summer 2017, the Company joined in the Norilsk municipal authorities' effort to revamp the city's public spaces doing some urban greening and sanitary improvements. The Company also contributed to the roadside clean-up, water body protection, waterfront landscaping and facelift of several camping sites.

### Sanitary clean-up

In 2017, Nor Nickel carried out a clean-up, land improvement, revamp of warehouses, and improvement of territories assigned to the Company by the order of the Dudinka Administration. Nor Nickel also carried out post-flooding recovery to clean the coasts and water protection zones along the water bodies.

### Environmental education

Other environmental developments in 2016 included the Ecological Marathon launched by the Company in Norilsk as part of its Plant of Goodness corporate volunteer programme.

In 2017, Norilsk Nickel's total expenditure in this area exceeded USD 7,000. The Company's volunteer teams polled over 900 respondents about their ecological habits, produced about 50 items from recycled materials, designed 26 environmental education posters, implemented clean-up initiatives in the tundra and Dolgoye Lake, and ran a campaign to care about trees planted in 2016 at the Zapolyarnik stadium. Twelve nest boxes were put up on trees during the trip to Lake Lama.

### Intermediate energy consumption by the Group

Indicator	2015	2015, %	2016	2016, %	2017	2017, %
Electric power, TJ, including:	42,943	56	32,530	50	32,355	52
<i>Electric power generated by the Company's enterprises from renewable energy sources (HPPs), TJ</i>	<i>17,027</i>	<i>40</i>	<i>11,856</i>	<i>36</i>	<i>12,175</i>	<i>38</i>
Heating and cooling energy, TJ	25,721	33	29,888	46	24,101	39
Steam, low-grade heat, TJ	8,692	11	2,803	4	5,507	9
<b>Total</b>	<b>77,356</b>	<b>100</b>	<b>65,221</b>	<b>100</b>	<b>61,963</b>	<b>100</b>

In October 2017, Nor Nickel initiated a seminar for citizens on environmental volunteering under the Plant of Goodness programme. The seminar provided valuable ideas on how to plan an environmental campaign, gain investor support and join volunteering events.

## Energy efficiency

Nor Nickel's major production assets are located beyond the Arctic Circle where the winter lasts eight months a year. It is therefore critical for the Group to ensure reliable and high-quality power supply to its enterprises and population in the regions where it operates.

In 2017, the Company implemented a number of organisational arrangements and upgrades of its key power equipment as part of the Energy Saving and Energy Efficiency Programme.

These initiatives helped achieve savings of 100,116 tonnes of reference fuel (units) for CHPPs, 44.867 mln kWh of electricity for internal needs and 177,732 Gcal of heat against the targets.

In 2017, per unit fuel consumption at CHPPs decreased to 281.4 g/kWh, down by 13.9 g/kWh against the annual budget targets, 27.7 g/kWh vs 2016 and 9.7 g/kWh vs 2015.

Gas producers saved 17.574 mln cubic meters of natural gas in 2017 by cutting gas consumption for own technological needs and reducing technological losses during transportation.

The Company also generates electric power from renewable energy sources at NTEK's Ust-Khantayskaya and Kureyskaya HPPs (installed capacity of 441 MW and 600 MW, respectively).

In 2017, the share of renewable energy stood at 38% for Nor Nickel and 44% for its Polar Division.

In 2018–2020, the Company will continue to renovate and upgrade the main power equipment and transmission devices along with waste water treatment systems.

# 38%

the share of renewable energy  
in 2017

### Energy consumption by Norilsk Nickel<sup>1</sup>

Type of energy resource	2016		2017	
	Consumption in volume terms	Consumption, RUB '000	Consumption in volume terms	Consumption, RUB '000
Heat power, Gcal	5,587,849	4,702,584	4,737,249	4,393,019
Electric power, thousand kWh	5,158,974	5,272,779	4,489,188	4,854,566
Motor fuel, t	344	17,797	268	15,348
Diesel fuel, t	58,671	2,657,599	52,684	2,730,795
Heating oil, t	40,479	582,489	40,360	566,985
Natural gas, thousand cubic meters	545,712	1,363,718	497,141	1,458,756
Coal, t	49,760	20,612	17,359	4,204
Kerosene and aviation fuel, t	115	5,008	124	6,122

<sup>1</sup> No other types of energy resources were used besides those specified in the table

# Financial overview (MD&A)



”

In 2017, Nornickel delivered excellent financial results, with revenue increasing by 11% to USD 9 bn and EBITDA margin holding at 44%, one of the best results among global mining peers. On top of that, we succeeded in significantly improving the Company's debt profile and raising debt financing at record low interest rates, which will help us save over USD 150 mln per annum in interest expenses.

In 2017, we launched highly ambitious programmes to improve labour productivity. Furthermore, automation of our IT and production processes continues at a fast pace, while all the support functions are currently being transferred to and consolidated under the Shared Services Centre in Saratov. Also, we commissioned a fibre optic communication line in Norilsk, which will enable us to smoothly implement SAP ERP systems, while also providing the city's residents with access to high-speed internet.

In 2018, we plan to release over USD 1 bn of our working capital and reduce our leverage (net debt to EBITDA ratio) to below 1.5x by the year-end. We also confirm our CAPEX guidance at ca. RUB 2 bn, including USD 200 mln of investments to complete the construction of Bystrinsky GOK.”

## Sergey Malyshev

The Company's Senior Vice President and Chief Financial Officer



## 2017 Highlights

- **Consolidated revenue** increased 11% y-o-y to USD 9.1 billion on the back of higher realized metal prices;
- **EBITDA** was up 2% y-o-y to a robust USD 4 billion owing to higher metal revenue that was partly negatively offset by RUB appreciation against USD, one-off increase in social-related expenses and accumulation of palladium stock to deliver under the 2018 contracts;
- **EBITDA margin** amounted to an industry-leading level of 44%;
- **CAPEX** increased by 17% y-o-y to USD 2 billion as Bystrinsky copper project (Chita) was in its final construction stage and the Bystrinsky concentrator was launched into hot commissioning at the end of 2017, while the upgrade of nickel refining facilities at Kola entered into active construction;
- Reported **net debt/EBITDA ratio** increased to 2.1x as of the end of 2017 driven mostly by the payment of dividend for 2016 and interim dividend for 2017 and one-off increase of working capital;
- **Net debt/EBITDA ratio** for the purposes of calculating final dividend for 2017 amounted to 1.88x;
- **Major refinancing activities** were completed in 2017, with new funding raised at record low interest rates, enabling a reduction of interest cost by over USD 150 million;
- In October 2017, **the Company paid interim dividend** for 1H2017 in the amount of RUB 224.2 per ordinary share (approximately USD 3.8 per ADR);
- In December 2017, **Nornickel signed a 5-year USD 2.5 billion syndicated facility agreement** with a group of international banks at Libor +1.5%.



## Recent Developments

On January 30, 2018 Moody's rating agency has raised Nornickel credit rating to the investment grade level “Baa3” and changed the outlook from “Stable” to “Positive”. Therefore, Nornickel currently has investment grade credit ratings from all three international rating agencies Fitch, Moody's and S&P Global.



## Key Corporate Highlights

	2017	2016	Change, %
Cash operating costs			
Revenue	9,146	8,259	11%
EBITDA <sup>1</sup>	3,995	3,899	2%
EBITDA margin	44%	47%	(3 p.p.)
Net profit	2,123	2,531	(16%)
Capital expenditures	2,002	1,714	17%
Free cash flow <sup>2</sup>	(173)	1,591	(111%)
Net working capital <sup>2</sup>	2,149	455	5x
Net debt <sup>2</sup>	8,201	4530	81%
Net debt, normalized for the purpose of dividend calculation <sup>3</sup>	7,495	n.a.	n.a.
Net debt/12M EBITDA	2.1x	1.2x	0.9x
Net debt/12M EBITDA for dividends calculation	1.88x	n.a.	n.a.
Dividends paid per share (USD) <sup>4</sup>	18.8	7.8	141%

Key Segmental Highlights<sup>5</sup>

USD million (unless stated otherwise)	2017	2016	Change, %
<b>Revenue</b>	<b>9,146</b>	<b>8,259</b>	<b>11%</b>
Group GMK	7,671	6,194	24%
Group KGMK	888	664	34%
NN Harjavalta	840	727	16%
Other metallurgical	141	84	68%
Other non-metallurgical	1,266	1,699	(25%)
Eliminations	(1,660)	(1,109)	50%
<b>Consolidated EBITDA</b>	<b>3,995</b>	<b>3,899</b>	<b>2%</b>
Group GMK	4,701	3,883	21%
Group KGMK	169	117	44%
NN Harjavalta	84	45	87%
Other metallurgical	(53)	(11)	5x
Other non-metallurgical	114	119	(4%)
Eliminations	(377)	112	n.a.
Unallocated	(643)	(366)	76%
<b>EBITDA margin</b>	<b>44%</b>	<b>47%</b>	<b>(3 p.p.)</b>
Group GMK	61%	63%	(2 p.p.)
Group KGMK	19%	18%	1 p.p.
NN Harjavalta	10%	6%	4 p.p.
Other metallurgical	(38%)	(13%)	(25 p.p.)
Other non-metallurgical	9%	7%	2 p.p.

<sup>1</sup> A non-IFRS measure, for the calculation see the notes below.

<sup>2</sup> A non-IFRS measure, for the calculation see an analytical review document ("Data book") available in conjunction with Consolidated IFRS Financial Results on the Company's web site.

<sup>3</sup> Normalized on interim dividends and deposits with maturity of more than 90 days.

<sup>4</sup> Paid during the current period.

<sup>5</sup> Segments are defined in the consolidated financial statements.

# Revenue

In 2017, revenue of Group GMK segment increased by 24% to USD 7,671 million. This was primarily driven by higher realized metal prices and transition of NN Harjavalta to the Company's own Russian feed. This positive effect was partly compensated by lower sales volume in 2017 owing to accumulation of palladium in 2017 and release of stock in 2016.

The revenue of Group KGMK segment increased by 34% to USD 888 million mainly due to the increase in revenue from processing of the feed coming from Polar division.

Revenue of NN Harjavalta increased by 16% to USD 840 million. This was primarily driven by higher realized metal prices and increased metal production from the Company's own Russian feed.

Revenue of Other metallurgical segment increased by 68% to USD 141 million. This was primarily driven by higher realized metal prices.

Revenue of Other non-metallurgical segment decreased by 25% to USD 1,266 million. This was driven primarily by changes of inter-segment revenue streams driven by transition to Group's own Russian feed and accumulation of metal stock in 2017.

In 2017, EBITDA of Group GMK segment increased by 21% to USD 4,701 million owing primarily to higher realized metal prices partly offset by lower sales volume in 2017 owing to accumulation of stock in 2017 due to Palladium fund activities and higher base effect of release of stock in 2016 as well as increased cash costs on the back of the Russian rouble appreciation against US Dollar.

EBITDA of Group KGMK segment increased by 44% to USD 169 million primarily owing to the increased sales volume and higher margin of tolling operations.

EBITDA of NN Harjavalta increased by 87% to USD 84 million primarily due to higher revenue and processing the Company's own Russian feed instead of low-margin third parties feed.

EBITDA of Other metallurgical segment decreased five times to negative USD 53 million primarily due to one-off expenses.

EBITDA of Other non-metallurgical segment decreased by USD 5 million to USD 114 million.

EBITDA of Unallocated segment decreased by 76% to negative USD 643 million primarily due to increased social expenses of the Group.

## Cash Operating Costs

	2017	2016	Change, %
<b>METAL SALES</b>			
<b>Group</b>			
Nickel, thousand tons <sup>1</sup>	215	271	(21%)
from own Russian feed	206	229	(10%)
from 3d parties feed	9	42	(79%)
Copper, thousand tons <sup>1</sup>	368	374	(2%)
from own Russian feed	365	369	(1%)
from 3d parties feed	3	5	(40%)
Palladium, koz <sup>1</sup>	2,405	2,779	(13%)
from own Russian feed	2,353	2,758	(15%)
from 3d parties feed	52	21	148%
Platinum, koz <sup>1</sup>	657	669	(2%)
from own Russian feed	639	661	(3%)
from 3d parties feed	18	8	125%

	2017	2016	Change, %
Gold, koz <sup>1</sup>	141	155	(9%)
Rhodium, koz <sup>1</sup>	68	85	(20%)
Cobalt, thousand tons <sup>1</sup>	3	5	(40%)
Silver, koz <sup>1</sup>	2,469	2,565	(4%)
Semi-products, nickel, thousand tons <sup>2</sup>	17	13	31%
Semi-products, copper, thousand tons <sup>2</sup>	28	15	87%
Semi-products, palladium, koz <sup>2</sup>	138	115	20%
Semi-products, platinum, koz <sup>2</sup>	48	43	12%
Semi-products, gold, koz <sup>2</sup>	8	9	(11%)
Semi-products, silver, koz <sup>2</sup>	528	148	4x
<b>AVERAGE REALIZED PRICES OF METALS PRODUCED BY NORILSK NICKEL</b>			
Nickel (USD per tonne)	10,704	9,701	10%
Copper (USD per tonne)	6,202	4,911	26%
Palladium (USD per oz)	858	614	40%
Platinum (USD per oz)	949	977	(3%)
Cobalt (USD per tonne)	41,977	22,962	83%
Gold (USD per oz)	1,259	1,254	0%
Rhodium (USD per oz)	1,085	668	62%
<b>Revenue, USD million</b>			
Nickel	2,304	2,625	(12%)
Copper	2,281	1,839	24%
Palladium	2,346	1,888	24%
Platinum	623	654	(5%)
Semi-products	424	216	96%
Other metals	437	424	3%
Revenue from metal sales	8,415	7,646	10%
Revenue from other sales	731	613	19%
<b>Total revenue</b>	<b>9,146</b>	<b>8,259</b>	<b>11%</b>

<sup>1</sup> All information is reported on the 100% basis, excluding sales of metals purchased from third parties.

<sup>2</sup> Metal volumes represent metals contained in semi-products.

## Revenue from metals



Nickel sales accounted for 27% of the Group's total metal revenue in 2017 down from 34% in 2016. The decrease by 7 p.p. was driven by the reduction of sales volumes following a decrease of metal production from third party feed and stronger performance of palladium and copper relative to nickel price.

In 2017, nickel revenue decreased by 12% (or USD 321 million) to USD 2,304 million primarily due to lower sales volumes (USD 593 million) owing to decrease of Nickel production from third parties feed and the higher base effect as temporary metal stock was sold in 2016, which was partly offset positively by higher nickel price (USD 267 million).

Additional USD 5 million to nickel revenue in 2017 was contributed by the re-sale of purchased metal to fulfil the Company's contractual obligations.

The average realized nickel price increased 10% to USD 10,704 per tonne in 2017 from USD 9,701 per tonne in 2016.

Sales volume of nickel produced by the Company from its own Russian feed decreased by 10% (or 23 thousand tons) to 206 thousand tons. The decrease was primarily driven by the sale of metal from a temporary stock in 2016.

Sales volume of nickel produced from third parties feed decreased by 79% in 2017 to 9 thousand tons as Harjavalta started the processing of the Company's own Russian feed.



In 2017, copper sales accounted for 27% of the Group's total metal sales, increasing 24% (or USD 442 million) to USD 2,281 million primarily owing to higher realized copper price (USD 483 million) that was partly negatively offset by the decrease in sales volume (USD 41 million).

The average realized copper price increased 26% from USD 4,911 in 2016 to USD 6,202 per tonne in 2017.

Physical volume of copper sales from the Company's own Russian feed decreased by 1% (or 4 thousand tons) to 365 thousand tons. The decrease owing to the higher base effect as copper from temporary metal stock was sold in 2016 was partly positively offset by the copper sales, produced from concentrate purchased from Rostec.

The volume of copper sales from purchased semi-products decreased by 2 thousand tons to 3 thousand tons in 2017.



In 2017, palladium became the largest contributor to the Group's revenue, accounting for 28% of the Group's total metal revenue, up by 3 p.p. The palladium revenue increased 24% (or USD 458 million) to USD 2,346 million. The positive impact of higher realized price (USD 681 million) was partly negatively offset by the reduction of sales volume (USD 324 million) mainly owing to the higher base effect as temporary metal stock was sold in 2016 and stock accumulation in 2017 in Palladium fund.

Additional USD 285 million to palladium revenue in 2017 was contributed by the re-sale of purchased metal to fulfil the Company's contractual obligations (vs USD 184 million in 2016).



In 2017, platinum sales accounted for 7% of the Group's total metal revenue and decreased by 5% (or USD 31 million) to USD 623 million due to lower volumes of platinum sales owing to the higher base effect as metal stock was sold in 2016 (USD 11 million) and lower realized platinum price (USD 20 million) down 3% from USD 977 per oz in 2016 to USD 949 per oz in 2017.

### Other metals

In 2017, revenue from other metals increasing 3% (or USD 13 million) to USD 437 million owing to the increase in rhodium (up 30%) and cobalt (up 8%) sales which was partly negatively offset by lower gold (down 9%) and silver (down 5%) revenue.

## Semi-products

In 2017, semi-products revenue (primarily copper cake and nickel concentrate) increased by USD 208 million (or 96%) to USD 424 million, and accounted for 5% of the Group's total metal revenue. This increase was mainly driven by higher physical sales to third parties instead of processing these semis at the Company's own refineries.

## Other sales

In 2017, other sales were up by 19% or USD 731 million primarily owing to the Russian rouble appreciation (USD 80 million) and revenue increase in real terms driven by the increase of prices for services provided to third parties (USD 13 million), and higher revenue from transport and consumer services subsidiaries of the Group, which was partly offset negatively by the divestiture of non-core assets.

# Cost of Metal Sales

## Cost of metals sales

In 2017, the cost of metal sales increased by 9% (or USD 335 million) to USD 3,968 million owing to:

- Increase in cash operating costs by 33% (USD 965 million);
- Increase in depreciation charges by 38% (USD 174 million);
- Change in metal inventories y-o-y (cost of metal sales decrease by USD 804 million).

The negative effect of currencies appreciation (RUB and ZAR) amounted to USD 312 million.

The inflationary growth of cash operating costs by USD 115 million was exacerbated by an increase in metal purchase costs (USD 346 million) and increase of the mineral extraction tax (USD 83 million) resulting from the change in legislation in 2017. Mineral extraction tax increased following the cancellation of PGM export duties in September, 2016.

## Cash operating costs

In 2017, total cash operating costs increased by 33% (or USD 965 million) to USD 3,852 million.

Cash operating costs structure in 2017 and 2016 was affected by consolidation of 50% of Nkomati joint operation.

## Cash operating costs

USD million	2017	2016	Change, %
Labour	1,377	1,145	20%
Purchases of metals for resale	530	184	188%
Purchases of raw materials and semi-products	297	292	2%
Materials and supplies	703	520	35%
Mineral extraction tax and other levies	221	122	81%
Third-party services	204	170	20%
Electricity and heat energy	132	101	31%
Fuel	81	60	35%
Production costs related to joint operation	93	79	18%
Transportation expenses	64	71	(10%)
Sundry costs	150	143	5%
<b>Total cash operating costs</b>	<b>3,852</b>	<b>2,887</b>	<b>33%</b>
Depreciation and amortisation	630	456	38%
(Increase)/decrease of metal inventories	(514)	290	n.a.
<b>Total cost of metal sales</b>	<b>3,968</b>	<b>3,633</b>	<b>9%</b>



## Labour

In 2017, labour costs increased by 20% (or USD 231 million) to USD 1,377 million amounting to 36% of the Group's total cash operating costs driven by the following:

- USD 162 million – cost increase owing to the Russian rouble appreciation against US Dollar;
- USD 50 million – cost decrease following the decrease of production staff headcount owing primarily to the Nickel plant closure and ongoing downstream reconfiguration program.
- USD 119 million – other increase in real terms primarily driven by the indexation of RUB-denominated salaries and wages.

## Purchases of metals for resale

In 2017, expenses on the purchase of metals for resale increased 3 times (or by USD 346 million) to USD 530 million. Metal purchase increase is primarily due to piling up metal stocks to meet additional demand of the Company's key clients, primarily palladium.

## Purchases of raw materials and semi-products

In 2017, expenses on the purchase of raw materials and semi-products increased by 2% (or by USD 5 million) to USD 297 million driven by the following:

- USD 58 million – cost increase owing to higher semi-products prices;
- USD 140 million – cost increase owing to the processing of copper concentrate purchased from Rostec;
- USD 82 million – cost increase owing to purchase of semi-products from Nkomati for further resale to third parties;
- USD 275 million – cost reduction resulting from the decrease of purchased semi-products from third parties for processing at NN Harjavalta as part of ongoing downstream reconfiguration program.

## Materials and supplies

In 2017, materials and supplies expenses increased by 35% (or USD 183 million) to USD 703 million driven by the following:

- USD 62 million – negative effect of the Russian rouble appreciation;
- USD 11 million – inflationary growth in materials and supplies;
- USD 110 million – cost increase in line with the ongoing downstream reconfiguration program.

## Third-party services

In 2017, cost of third party services increased by 20% (or USD 34 million) to USD 204 million.

The negative effect of the Russian rouble appreciation amounted to USD 18 million.

The cost increase owing to higher volumes of repairs, tolling services, and other production services (USD 37 million) was mostly offset by cost decrease due to the termination of Nkomati concentrate processing (USD 21 million).

## Mineral extraction tax and other levies

In 2017, mineral extraction tax and other levies increased by 81% (or USD 99 million) to USD 221 million.

The negative effect of the Russian rouble appreciation amounted to USD 18 million.

Cash cost increase in real terms by USD 81 million was primarily driven by the higher mineral extraction tax resulting from the change in legislation (USD 83 million), resulting from cancellation of PGM export duties in 2016 for metals, produced by the Company.

Change in mineral extraction tax rate in January 2017 was mostly compensated by cancellation of PGM export duties in September 2016.

## Electricity and heat energy

In 2017, electricity and heat energy expenses increased by 31% (or USD 31 million) to USD 132 million driven by the following:

- USD 10 million – negative effect of the Russian rouble appreciation;
- USD 22 million – increase in expenses owing to higher consumption of energy due to the ongoing downstream reconfiguration program (Polar division feed processing at Kola MMC, which purchases electricity from third parties) and energy tariffs inflationary growth.

## Fuel

In 2017, fuel expenses increased by 35% (or USD 21 million) to USD 81 million driven by the following:

- USD 8 million – negative effect of the Russian rouble appreciation;
- USD 15 million – higher fuel oil and other oil products prices.

## Transportation expenses

In 2017, transportation expenses decreased by 10% (or USD 7 million) to USD 64 million driven by the following:

- USD 7 million – negative effect of the Russian rouble appreciation;
- USD 14 million – costs decrease driven by transportation of Nkomati concentrate to third parties instead of NN Harjavalta production facilities.

## Sundry costs

In 2017, sundry costs increased by 5% (or USD 7 million) to USD 150 million, driven by the following:

- USD 19 million – negative effect of the Russian rouble appreciation;
- USD 12 million – decrease in insurance expenses owing to the renegotiation of property insurance agreements on the same insurance cover terms.

## Production costs related to joint operation

In 2017, production costs related to joint operation increased by 18% (or USD 14 million) to USD 93 million, driven by the following:

- USD 8 million – negative effect of the South African rand appreciation;
- USD 6 million – increase in expenses owing to the higher sales volume of Nkomati concentrates..

## Depreciation and amortisation

In 2017, depreciation and amortisation increased by 38% (or USD 174 million) to USD 630 million.

Russian rouble appreciation amounted to depreciation and amortisation increase by USD 62 million.

Depreciation charges increased in real terms by USD 112 million mainly due to additions to production assets at the Company's operating subsidiaries in Russia in 2H2016 and in 2017.

## (Increase)/decrease of metal inventories

In 2017, comparative effect of change in metal inventory amounted to USD 804 million resulting in a decrease in cost of metal sales, driven by the following:

- USD 729 million – sale of metal from temporary stock in 2016 as part of reconfiguration programme, as well as a built-up of palladium stock and accumulation of metal stock in 2017 to meet additional demand of the Company's key customers.
- USD 75 million – comparative effect of change in work-in-progress, primarily due to higher accumulation of work-in-progress at Russian subsidiaries of the Group in 2017 as part of ongoing downstream reconfiguration program and due to start of Rostec copper concentrate processing in 2017.

## Cost of Other Sales

In 2017, cost of other sales increased by 24% (or USD 124 million) to USD 632 million.

Russian rouble appreciation amounted to cost of other sales increase by USD 72 million.

Cost of other sales increased in real terms by USD 52 million comprised of USD 96 million increase in expenses resulting from higher transportation services, indexation of RUB-denominated salaries and wages and growth of other services, which were partly offset positively by the sale of non-core assets resulting in a cost reduction of USD 44 million.

## Selling and Distribution Expenses

Selling and distribution expenses decreased 32% (or USD 36 million) to USD 75 million due to the cancellation of PGM export duties in September 2016 as part of Russian Federation's WTO membership terms (USD 60 million cost reduction), which was partly negatively offset by increase of transportation expenses primarily due to increase of semi-product sales.

USD million	2017	2016	Change, %
Transportation expenses	38	23	65%
Staff costs	13	13	0%
Marketing expenses	14	7	100%
Export duties	1	61	(98%)
Other	9	7	29%
<b>Total</b>	<b>75</b>	<b>111</b>	<b>(32%)</b>

## General and Administrative Expenses

USD million	2017	2016	Change, %
Staff costs	478	376	27%
Taxes other than mineral extraction tax and income tax	79	58	36%
Third party services	72	55	31%
Depreciation and amortisation	32	20	60%
Rent expenses	25	19	32%
Transportation expenses	8	6	33%
Other	65	47	38%
<b>Total</b>	<b>759</b>	<b>581</b>	<b>31%</b>

In 2017, general and administrative expenses increased by 31% (or USD 178 million) to USD 759 million. Rouble appreciation contributed to USD 71 million cost increase. General and administrative expenses increased in real terms due to the following:

- USD 38 million – increase in staff costs mainly due to salaries indexation;
- USD 30 million – increase of costs, resulting from the automatization of production processes and roll out of new IT systems, including USD 17 million of staff costs;
- USD 20 million – higher property tax and amortisation charges.

## Other Net Operating Expenses

USD million	2017	2016	Change, %
Social expenses	303	111	173%
Change in allowance for doubtful debts	19	14	36%
Change in allowance for obsolete and slow-moving inventory	11	(2)	n.a.
Change in provision for reconfiguration of production facilities	(4)	(33)	(88%)
Other	33	(6)	n.a.
<b>Total</b>	<b>362</b>	<b>84</b>	<b>4x</b>

In 2017, other net operating expenses increased by USD 278 million to USD 362 million owing to one-off social expenses including an estimated provisional cost of long-term social agreement with the government of Zabaikalsky Krai and expenses attributed to the development of skiing resort in Sochi.

Other increase of other net operating expenses was primarily driven by change in allowances for doubtful debts, obsolete and slow-moving inventory and other current assets in line with annual stock counts as well as reversal of provision for reconfiguration of production facilities in 2016.

## Finance Costs

USD million	2017	2016	Change, %
Interest expense on borrowings net of amounts capitalized	386	403	(4%)
Unwinding of discount on provisions and payables	133	46	189%
Other	16	4	4x
<b>Total</b>	<b>535</b>	<b>453</b>	<b>18%</b>

Increase in finance costs by 18% y-o-y to USD 535 million was mainly driven by increase of Unwinding of discount on provisions and payables.

In 2017, the Company reduced the average cost of debt to the level of 4.6% as of year-end 2017 from 5.1% as of year-end 2016 due to the consistent implementation of financial policy targets that enabled to partially offset the multiple increase of base rates (Libor) in the current period.

Major factors of the decrease of the average cost of debt:

- Reduction of funding cost of more expensive Rouble denominated debt in credit portfolio by its substitution by Dollar denominated debt in 1H2017, together with the reduction of interest rate of the bilateral Rouble denominated credit line in the amount of RUB 60 billion in October 2017.
- Partial refinancing of more expensive bilateral credit lines by proceeds of 5-year syndicated facility in the amount of USD 2.5 billion under which Nornickel has achieved one of the lowest interest rates of Libor 1M+1.50% per annum available for Russian corporates on international syndicated market since 2008 for the transactions of such size and term. In addition, Nornickel managed to reduce interest rates under the rest Dollar denominated bilateral credit lines within the Group's portfolio.
- In July 2017, the Company reached an agreement with PJSC Sberbank to reduce interest rate under GRK Bystrinskoye LLC project financing by issuing guarantee on behalf of PJSC MMC Norilsk Nickel to secure performance obligations of GRK Bystrinskoye LLC.

## Income Tax Expense

In 2017 income tax expense decreased by 3% to USD 719 million driven mostly by the decrease of taxable profit, partly offset by Russian rouble appreciation against US Dollar in 2017.

The effective income tax rate in 2017 of 25.3% was above the Russian statutory tax rate of 20%, which was primarily driven by non-deductible social expenses, as well as an increase in provisions for impairment of property, plant and equipment.

### Income Tax Expense

USD million	2017	2016	Change, %
Current income tax expense	686	686	0%
Deferred tax expense	35	59	(41%)
<b>Total</b>	<b>721</b>	<b>745</b>	<b>(3%)</b>

### The breakdown of the current income tax expense by tax jurisdictions

USD million	2017	2016	Change, %
Russian Federation	672	679	(1%)
Finland	8	5	60%
Rest of the world	6	2	3x
<b>Total</b>	<b>686</b>	<b>686</b>	<b>0%</b>

# EBITDA

In 2017, EBITDA increased by 2% (or USD 96 million) to USD 3,995 million with the EBITDA margin amounting to 44% (down from 47% in 2016). Increase in metal prices was almost offset by lower sales volume in 2017 owing to accumulation of stock in 2017 and release of temporary metal stock in 2016 as well as increased cash costs on the back of the Russian rouble appreciation against US Dollar and one-off increase in social expenses.

USD million	2017	2016	Change, %
Operating profit	3,123	3,281	(5%)
Depreciation and amortisation	645	557	16%
Impairment of non-financial assets	227	61	4x
<b>EBITDA</b>	<b>3,995</b>	<b>3,899</b>	<b>2%</b>
<b>EBITDA margin</b>	<b>44%</b>	<b>47%</b>	<b>(3 p.p.)</b>

# Net Profit

## Before Non-Cash Write-Offs and Foreign Exchange Differences

USD million	2017	2016	Change, %
Net profit	2,123	2,531	(16%)
Impairment of non-financial assets	227	214	6%
Foreign exchange gain	(159)	(491)	(68%)
(Gain)/loss from disposal of subsidiaries and assets classified as held for sale	(20)	4	n.a.
<b>Net profit before non-cash write-offs and foreign exchange differences</b>	<b>2,171</b>	<b>2,258</b>	<b>(4%)</b>

# Statement of Cash Flows

USD million	2017	2016	Change, %
Cash generated from operations before changes in working capital and income tax	4,103	3,958	4%
Movements in working capital	(1,670)	83	n.a.
Income tax paid	(670)	(530)	26%
<b>Net cash generated from operating activities</b>	<b>1,763</b>	<b>3,511</b>	<b>(50%)</b>
Capital expenditure	(2,002)	(1,714)	17%
Other investing activities	66	(206)	(132%)
<b>Net cash used in investing activities</b>	<b>(1,936)</b>	<b>(1,920)</b>	<b>1%</b>
<b>Net cash used in financing activities</b>	<b>(2,237)</b>	<b>(2,399)</b>	<b>(7%)</b>
Effects of foreign exchange differences on balances of cash and cash equivalents	(63)	35	n.a.
<b>Net decrease in cash and cash equivalents</b>	<b>(2,473)</b>	<b>(773)</b>	<b>3x</b>

In 2017, net cash generated from operating activities decreased by 50% y-o-y to USD 1.8 billion primarily driven by the increase in working capital in 2017 following the optimisation of trade financing terms, partial payment of payables due to Rostec and increase of metal stock.

Reconciliation of the net working capital changes between the balance sheet and cash flow statement is presented below.



**Change of the net working capital**

USD million	2017	2016
<b>Change of the net working capital in the balance sheet</b>	<b>(1,694)</b>	<b>575</b>
Foreign exchange differences	115	38
Change in income tax payable	(7)	(161)
Other changes, including reserves	(84)	(369) <sup>1</sup>
<b>Change of working capital per cash flow</b>	<b>(1,670)</b>	<b>83</b>

**Capital investments breakdown by projects**

USD million	2017	2016	Change, %
Polar Division, including:	860	884	(3%)
Skalistsy mine	216	153	41%
Taymirsky mine	93	68	37%
Komsomolsky mine	18	40	(55%)
Oktyabrsky mine	69	59	17%
Talnakh Concentrator	89	253	(65%)
Reconstruction/modernisation of production facilities related to closing of Nickel plant	11	24	(54%)
Kola MMC	228	89	156%
Chita (Bystrinsky) project	449	269	67%
Other production projects	391	421	(7%)
Other non-production assets	12	4	3x
Intangible assets	62	47	32%
<b>Total</b>	<b>2,002</b>	<b>1,714</b>	<b>17%</b>

In 2017, CAPEX increased by 17% to USD 2.0 billion. The growth was mainly due to the completion of construction and start of hot commissioning of Bystrinsky mining and concentration complex

(Bystrinsky project) in Zabaykalsky region, as well as to the ramp-up of projects related to the modernisation of nickel refining facilities at Kola MMC in line with the Company's reconfiguration program.

## Debt and Liquidity Management

USD million	As of 31 December 2017	As of 31 December 2016	Change, USD million	Change, %
Long-term	8,236	7,276	960	13%
Short-term	817	579	238	41%
<b>Total debt</b>	<b>9,053</b>	<b>7,855</b>	<b>1,198</b>	<b>15%</b>
Cash and cash equivalents	852	3,325	(2,473)	(74%)
<b>Net debt</b>	<b>8,201</b>	<b>4,530</b>	<b>3,671</b>	<b>81%</b>
Net debt /12M EBITDA	2.1x	1.2x	0.9x	—
Net debt /12M EBITDA for dividend payments	1.88x	n.a.	n.a.	—

<sup>1</sup> Includes one-off effect of copper concentrate purchase from Rostec.

As of December 31, 2017, the Company's total debt amounted to USD 9,053 million which represents 15% increase (USD 1,198 million) compared to year-end 2016. The Company's debt portfolio remains predominantly long-term. As of December 31, 2017, the share of long-term debt in the total debt portfolio amounted to 91% (or USD 8,236 million) as compared to 93% (or USD 7,276 million) as of the year-end 2016.

Net debt/EBITDA ratio increased to 2.1x as of the year-end 2017 from 1.2x as of year-end 2016. Such increase was caused by the growth of Net debt by 81% to USD 8,201 million as a result of 74% decrease in Cash and cash equivalents to USD 852 million. Substantial decrease of Cash and cash equivalents was mainly caused by the increase of working capital, in particular due to the early repayment of advances from off-takers in the amount of USD 650 million, as the margin under these advances at the end of the year was twice as higher than the one under the bank loans available for the Company. By the beginning of 2018 the Company reached agreements with a number of its off-takers on new terms of the advances. In February 2018, Nornickel entered into a new advance transaction for the amount of USD 300 million with one of its counterparties. The Company also continues to balance its liquidity cushion with more flexible and cost efficient financial instruments such as committed reserved credit lines. As of December 31, 2017, the Group maintained additional liquidity sources in form of committed reserved credit lines in the total amount of more than USD 3 billion.

In 2017, Nornickel continued to optimize its debt portfolio in order to improve its profile, further reduce average cost of debt and maintain its average maturity profile in line with the year-end 2016.

In 2017 Nornickel reduced the share of more expensive Rouble denominated debt in its portfolio from 29% as of the year-end 2016 to 15% as of

December 31, 2017, by prepayment of Rouble denominated credit facilities in the amount of RUB 60 billion and successful placement of two Eurobond issues totaling USD 1.5 billion. In April 2017, Nornickel issued USD 1 billion Eurobond maturing in 2023 with an annual coupon rate of 4.10% that was inside the Company's outstanding Eurobonds' curve. In June 2017, the Group closed a USD 500 million Eurobond offering maturing in 2022 with an annual coupon rate of 3.849%. The coupon was fixed at the lowest level ever for the Company's issuances on international debt capital markets.

In December 2017, the Company signed a 5-year syndicated facility in the amount of USD 2.5 billion with 15 international banks from America, Europe and Asia. The funds were used to partially refinance the existing bilateral credit lines and provide for liquidity reserve to address the Company's funding needs in 1H2018, in particular for repayment of Eurobond issue maturing in April 2018. Such strategy enabled the Company to eliminate refinancing risks for the next two years in 2018-2019.

In 2017, the Company's credit ratings assigned by S&P Global and Fitch remained at investment grade level of "BBB-" with "Stable" outlooks. As of the year-end 2017, the Company's credit rating assigned by Moody's remained at the level of "Ba1" with "Stable" outlook capped by Russia's sovereign country ceiling. On January 29, 2018, Moody's rating agency raised Nornickel credit rating to the investment grade level "Baa3" with "Positive" outlook following the change of Russia's country ceiling for foreign currency debt to "Baa3" and the outlook on sovereign rating to "Positive" from "Stable". Therefore, currently Nornickel has investment grade credit ratings from all three international rating agencies Fitch, Moody's and S&P Global.

# CORPORATE GOVERNANCE

The background is a solid blue color. In the upper right, there is a stack of three rectangular blocks, each a different shade of blue, creating a sense of depth. In the lower right, there are several overlapping, curved, semi-transparent blue planes that sweep across the frame, adding a dynamic, architectural feel to the composition.



<b>162</b>	Deputy Chairman's letter
<b>165</b>	Corporate governance framework
<b>170</b>	Board of Directors
<b>185</b>	President and Management Board
<b>193</b>	Remuneration
<b>195</b>	Risk management and internal controls
<b>203</b>	Independent audit



# Deputy Chairman's letter

Corporate governance is key to the success of MMC Norilsk Nickel as a public company. The Corporate Governance, Nomination and Remuneration Committee works hard alongside the Board of Directors to implement best corporate governance practices and procedures across the Company.

This goes beyond the pragmatics of investor appeal and shareholder confidence, and becomes an essential tool to improve the efficiency of our operations and maintain our competitive edge. In 2017, we approved the new version of the Company's Charter while also introducing a number of by-laws (regulations and policies) to make sure we are aligned with global best practices and retain our leadership in the global market to enhance trust with our shareholders and investors.

The Corporate Governance Excellence Programme launched by the Corporate Governance, Nomination and Remuneration Committee has been in place since 2014. In line with that programme, in 2014–2017, the Board of Directors approved several by-laws designed to improve

our corporate governance. Those included: Code of Conduct and Ethics for Members of Board of Directors, Professional Development Policy for Members of Board of Directors, Performance Evaluation Policy for Board of Directors, Policy on Development and Approval of Vote Recommendations on Candidates Nominated to Board of Directors, Dividend Policy, and new versions of regulations on the Board committees.

In 2017, the Company continued to enhance its corporate governance framework following the standards set out in the Corporate Governance Code, which was endorsed by the Bank of Russia. Special focus was given to planning and implementing sustainable development and corporate social responsibility initiatives, greater efficiency of the Board of Directors and





its committees, strengthening of the internal audit function, enhanced transparency and disclosure levels.

Throughout 2017, the Audit and Sustainable Development Committee reviewed reports on key strategic and operational risks and also the current status of the Company's risk management framework. As part of its assessment of internal controls, the committee engaged in regular analysis of reports prepared by the Internal Control Department. Health, safety, and environment remained a priority for us. On a quarterly basis, the Audit and Sustainable Development Committee reviewed reports on the Company's progress in pursuing its health and safety strategy, along with environmental projects and initiatives.

Environmental matters (primarily the Sulphur Project aiming to cut sulphur dioxide emissions in Polar Division) were at the centre of attention for the Board's Strategy Committee. The committee was heavily involved in developing recommendations for directors when drafting the Company's updated strategy (showcased at the Strategy Day in November 2017) and a number of functional strategies (on project management, construction, repairs, long-term production planning, exploration and prospecting, sales, marketing and IT). Another focus area were the matters directly linked to our operations. Those included progress of major investment projects, production reconfiguration, Technology Breakthrough initiative, and programme on efficiency improvement and cost reduction.

In 2018, the Audit and Sustainable Development Committee will continue its hard work to promote independence and avoid bias in the Company's internal and external audits while also fostering the reliability and enhancing performance of the corporate risk management universe. The committee will also go on with the programme to instil a culture of occupational safety and prevent irresponsible work practices that can potentially lead to accidents.

In 2017, the Corporate Governance, Nomination and Remuneration Committee prioritised matters related to long-term projects under the programme to enhance corporate governance. The committee reviewed progress of initiatives that are part of the Human Capital Development Programme, along with the Company's mid-term Charity Policy. On top of that, the Board of Directors approved a number of by-laws covering corporate and social matters, including Human Rights Policy, Freedom of Association Policy, Equal Opportunities Programme, Working Conditions Policy, Local Community Relations Policy, Environmental Policy, Quality Policy, and Renewable Energy Sources Policy. Also, as a way to strengthen corporate efforts aimed at fighting corruption and ensuring compliance with antitrust regulations, in 2017, the Board of Directors approved the Anti-Corruption Policy and Antitrust Compliance Policy.

The Company's improvements in environmental protection, social responsibility and governance (ESG) were recognised by independent agencies, with MSCI ESG upgrading Nor Nickel's rating from CCC to B and the score by Sustainalytics going up from 49 to 58 (compared to 46 in 2015).

In its relations with shareholders and investors, we seek to ensure compliance with applicable laws and principles of openness and transparency. With a view to improving its transparency and enhancing information security and confidentiality, the Company approved the amended version of the Information Policy Regulations of PJSC MMC Norilsk Nickel. The new Regulations expand the Company's disclosure commitments and provide further guidance on the mandatory disclosure required by regulators.

We will remain committed to continuous improvement of our corporate governance practices in 2018. The Board of Directors and its committees and the management are well aware of the areas where we can excel further, and recognise the importance of these efforts.



**Andrey Bougrov**

Senior Vice-President,  
Deputy Chairman of the Board of Directors,  
MMC Norilsk Nickel

# Corporate governance framework

## Letter from the Board of Directors

In line with best practices, the Board of Directors of MMC Norilsk Nickel reaffirms the Company's commitment to the highest corporate governance standards, and confirms its compliance with key material principles of the Corporate Governance Code as recommended by the Bank of Russia.

The Board of Directors views compliance with key principles and recommendations of the Corporate Governance Code as an efficient tool to improve corporate governance and ensure long-term sustainable growth.

## Principles

Nornickel's corporate governance framework is designed to take into account and balance the interests of shareholders, the Board of Directors, managers and employees, as well as other stakeholders.

Nornickel is guided by the applicable laws of the Russian Federation and principles set forth in the Corporate Governance Code that has become a key source of information for the development of the Company's internal regulations and a guidance to nurture best corporate governance practices.

Nornickel's corporate governance framework relies on the following principles:

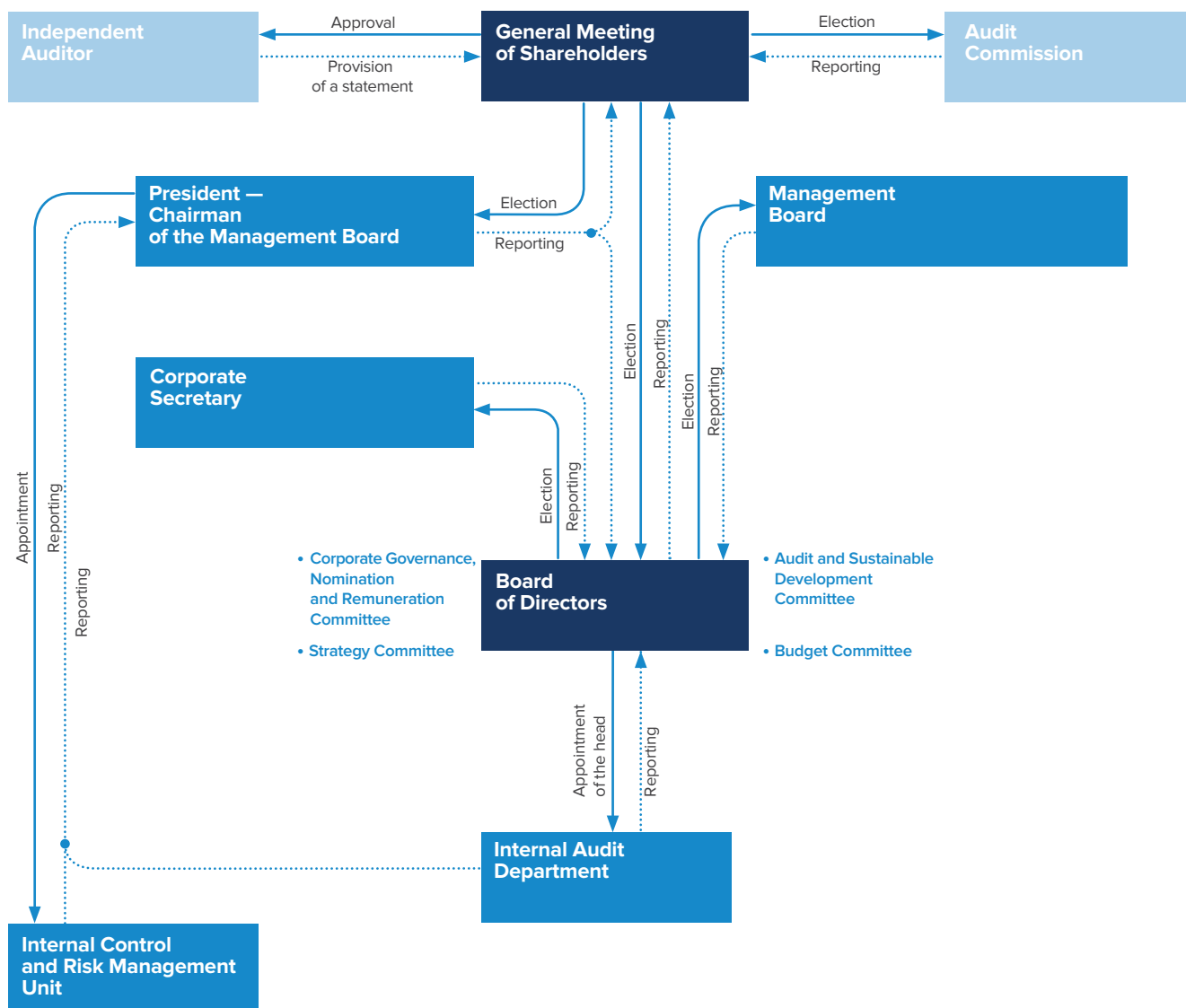
- equitable and fair treatment of every shareholder;
- professionalism and leadership of the Board of Directors;
- accountability of the Board of Directors and executive bodies;
- corporate social responsibility;
- transparent and timely disclosure;
- anti-corruption measures.

These principles are reflected in Nornickel's official documents available on its website. Those include the Charter, Regulations on the Board of Directors, Information Policy Regulations, and Anti-Corruption Policy.



[Internal Documents and Policies](#)

# Governance structure



## General Meeting of Shareholders

This is the supreme corporate body of the Company.

Its authority includes:

- amending and restating the Charter;
- approving the revised Charter;
- restructuring and liquidating the Company;
- increasing and/or decreasing the authorised capital;
- splitting and/or consolidating the Company's shares;
- electing the Company's President and members of the Board of Directors and Audit Commission;
- approving the Company's auditor;
- approving annual reports, accounting/financial statements, and by-laws on the Company's corporate bodies;
- distributing annual profit;
- paying dividends.

The General Meeting of Shareholders is convened on an annual basis. It takes place no sooner than three and no later than six months following the end of the preceding financial year.

Extraordinary General Meetings of Shareholders may be convened by the Board of Directors or at the request of the Audit Commission, the Company's auditor or shareholders owning at least 10% of the Company's voting shares.

Except for the cumulative voting to elect members of the Board of Directors, each voting share is counted as one vote at the General Meeting of Shareholders.

## Board of Directors

This is a collegial governance body in charge of strategic management of the Company and oversight of its executive bodies' activities.

Pursuant to the Charter, the Board consists of 13 directors.

Members of the Board are elected at the Annual General Meeting of Shareholders for a period extending until the next Annual General Meeting of Shareholders.

[For more details on members of the Board of Directors.](#)

 p. 175

## Chairman of the Board of Directors

The Chairman is responsible for day-to-day operation of the Board of Directors, convening and chairing its meetings, making arrangements for minute-taking, and chairing the General Meetings of Shareholders.

For the last four years, the Board has been chaired by Gareth Peter Penny, an independent director.

[For more details on members of the Chairman of the Board of Directors.](#)

 p. 170

## Independent directors

Independent directors are directors having sufficient professional skills, experience and independence to act on their own and make impartial and reasonable decisions that are not influenced by the Company's executive bodies, particular groups of shareholders or other stakeholders.

The Company adheres to international standards and recommendations set out in the Corporate Governance Code of the Bank of Russia relating to the required number of independent directors. As at 31 December 2017, four of the Company's Board members (i.e. 30.8%) met the director's independence criteria as defined by the Moscow Exchange.

[For more details on members of the Independent directors.](#)

 p. 171

## Committees of the Board of Directors

Committees are ancillary bodies set up by the Board of Directors. Their function is to provide preliminary review of critical matters and advise the Board on relevant decisions.

The Board of Directors has set up four committees:

- Audit and Sustainable Development Committee;
- Strategy Committee;
- Budget Committee;
- Corporate Governance, Nomination and Remuneration Committee.

[For more details on members of the Committees](#)

 p. 181

## President

The President is the sole executive body in charge of the day-to-day operations of the Company. The President is elected at a General Meeting of Shareholders for an indefinite period and acts as the Chairman of the Management Board.

The President reports to the Board of Directors and the General Meeting of Shareholders.

Since 2015, this position has been held by Vladimir Potanin (CEO of the Company in 2012–2015).

[For more details on members of the President.](#)

 p. 185



## Management Board

This is a collegial executive body in charge of the day-to-day management of the Company within its scope of authority as set out in the Charter and the implementation of resolutions approved by the General Meeting of Shareholders and the Board of Directors.

Members of the Management Board are elected by the Board of Directors for an indefinite period. As at 31 December 2017, the Management Board consisted of 13 members.

[For more details on members of the Management Board](#)

 p. 185

## Corporate Secretary

This is a corporate officer whose duties include managing shareholder relations, making the necessary arrangements to protect their rights and interests, and providing efficient operating support to the Board of Directors. The Corporate Secretary reports to the Board of Directors.

Pursuant to the Charter, the Corporate Secretary is appointed by the Board of Directors for a three-year term.

Since 2011, this position has been held by Pavel Platov.

[For more details on members of the Corporate Secretary](#)

 p. 184

## Audit Commission

The Audit Commission controls the Company's financial and business transactions.

It performs annual internal audits of the Company's financial and business operations, as well as other internal audits as it may see fit or as requested by the General Meeting of Shareholders, the Board of Directors or any shareholders owning at least 10% of the Company's stock.

Members of the Audit Commission are elected at an Annual General Meeting of Shareholders for a period extending until the next Annual General Meeting of Shareholders. Members of the Audit Commission shall

not simultaneously serve on the Company's Board of Directors or hold other positions in the Company's corporate bodies.

[For more details on members of the Audit Commission.](#)

 p. 200

## Independent Auditor

This is an audit firm commissioned to audit accounting/ financial statements of the Company and provide an independent opinion regarding their accuracy.

The auditor is approved by the Annual General Meeting of Shareholders.

In 2017, the Annual General Meeting of Shareholders approved JSC KPMG as the Company's auditor for both IFRS and Russian accounting standards.

[For more details on members of the Independent Auditor.](#)

 p. 203

## Internal Control and Risk Management Unit

This unit is in charge of improving the risk management and internal control framework, detecting and preventing any waste, misuse or misappropriation of funds or assets of the Company and its subsidiaries, as well as any other wrongdoings and theft, ensuring accuracy of metrics and measurement standards and combating illegal activities, such as money laundering and terrorism financing.

[For more details on members of the Internal Control and Risk Management Unit.](#)

 p. 195

## Internal Audit Department

This department is in charge of independent audits, including assessment of the risk management and internal control framework of the Company and its subsidiaries.

[For more details on members of the Internal Audit Department](#)

 p. 195

# Achieving excellence in corporate governance

## Corporate governance assessment

Nornickel introduced annual performance assessments of the Board of Directors in 2014 in order to improve its corporate governance framework. All directors must fill out an online questionnaire following a schedule approved by the Board of Directors. The questionnaire contains 76 questions, divided into three parts and 15 sections. All questions are graded on a scale from 1 to 10. For each question there is a text field where directors may enter additional comments. Answering all questions is mandatory.

Such evaluation of the Board of Directors helps us identify gaps, their root causes and opportunities for improvement.

## Corporate governance improvements

Nornickel continuously improves its corporate governance framework to enhance efficiency and ensure compliance with global best practices. The Company adheres to recommendations set out in the Corporate Governance Code of the Bank of Russia.

Our Corporate Governance Framework Improvement Programme was approved and adopted by the Corporate Governance, Nomination and Remuneration Committee back in December 2013. In 2017, the Programme was enhanced with a set of initiatives aimed at improving performance of the Board and its committees. Some of the key corporate governance improvement initiatives in 2017 included:

- approving the revised Charter;
- approving the revised Regulation on Audit and Sustainable Development Committee of the Board of Directors;
- approving the revised Information Policy Regulations;
- approving the revised Anti-Corruption Policy.

The ESG analysts welcomed our new/updated environmental and social responsibility policies, boosting the Company's position in the rankings provided by the leading global agencies.

MSCI ESG upgraded our rating from CCC to B, while Sustainalytics raised our score from 49 to 58 (industry average).

In 2018, the Company plans to gradually implement the principles and procedures set out in the approved regulations in order to improve the performance of the Company's Board of Directors and its committees.

[For more details on compliance with the Corporate Governance Code of the Bank of Russia](#)

 [p. 272](#)

# Board of Directors

## Functions of the Board of Directors

Meetings of the Board of Directors (in person or in absentia) are held as and when required, but at least once every six weeks. The procedure for convening and holding meetings of the Board of Directors is specified in the Company's Regulation on the Board of Directors.

The Board of Directors sets the fundamental principles of business conduct and is responsible for nurturing our business and social culture.

The scope of powers of the Board of Directors includes:

- setting priority goals and defining Company's development strategy;
- approving the Company's Dividend Policy and providing recommendations on dividend per share;
- approving the internal control system and procedures, identifying key risks associated with the Company's operation, and implementing risk management initiatives and procedures;
- approving, electing and terminating powers of members of the Management Board, setting remuneration payable to the Company's President, members of the Management Board, Corporate Secretary, and Head of Internal Audit;
- acting on other matters as provided for by the Federal Law No. 208-FZ On Joint Stock Companies dated 26 December 1995, and the Company's Charter.

## Chairman of the Board of Directors

The Chairman of the Board of Directors is elected among the members of the Board of Directors by themselves by a majority vote from the total number of members of the Company's Board of Directors. The Board of Directors is entitled to elect a new Chairman of the Board of Directors at any time. When the Chairman of the Board of Directors is unavailable, the respective responsibilities are assumed by a member of the Board of Directors appointed by the Board of Directors.

The key goal of the Chairman of the Board of Directors is to ensure high levels of trust at Board meeting and constructive cooperation between the members of the Board and corporate management.

Pursuant to the Regulation on the Board of Directors approved by the Annual General Meeting of Shareholders of MMC Norilsk Nickel held on 30 June 2009, the key responsibilities of the Chairman of the Board of Directors are as follows:

- ensuring high efficiency of the Board of Directors and its committees;
- convening the Board of Directors meetings and preparing their agendas;
- chairing the Board of Directors meetings or organising absentee voting;
- making arrangements for minutes to be taken at meetings of the Board of Directors and signing the same;
- preparing reports of the Board of Directors for the year to be included in the Company's Annual Report.

Since March 2013, the Board of Directors has been chaired by independent non-executive director Gareth Peter Penny. The Company believes that to fully meet the best global practices. The independent Chairman of the Board of Directors of the Company ensures the most efficient interaction between the Board of Directors, shareholders and other stakeholders. During the year the Board, under his leadership, approved several crucial resolutions dealing with the Company's growth strategy, long-term production planning, marketing and sales strategy, strategic health and safety issues, environmental projects and human capital development, and took steps to preserve the Company's competitive edge. Simultaneous participation of the Chairman of the Board of Directors in other companies' boards of directors did not affect his performance in respect of the Board of Directors of MMC Norilsk Nickel.

## Independent directors

In accordance with global corporate governance practices and recommendations of the Bank of Russia's Corporate Governance Code, no less than one third of the Board of Directors should consist of independent directors. Moreover, the Company believes that independent directors are key to efficient operation of the Board of Directors and thoughtful decision-making.

All independent directors meet the independence criteria recommended by the Corporate Governance Code and requirements established by the current version of the Listing Rules of the Moscow Exchange, which state that an independent director is one who is not related to:

- the Company;
- any of the substantial shareholders of the Company;
- any of the substantial counterparties of the Company;
- any competitor of the Company;
- federal (Russian Federation or its constituent entities) and regional governments or municipal entities.

The Company sees independent directors as very valuable contributors to the efficiency of the Board, in particular, in terms of ensuring that the matters on the agenda of the Board are treated fairly, and reinforcing shareholders' and investors' confidence in actions taken by the Board of Directors.

In the lead-up to the Annual General Meeting of Shareholders in April 2017, the Corporate Governance, Nomination and Remuneration Committee of MMC Norilsk Nickel's Board of Directors reviewed the compliance of nominees to the Board of Directors with independence criteria. The current directors on the Board were elected in the annual general meeting on 9 June 2017. As at the end of 2017, four (30.8%) out of 13 directors were recognised as independent.

# 30.8%

Share of Independent directors  
in the Board of Directors

## Directors' liability insurance

Since 2003, the Company has had its directors' liability insured. The insurance aims to cover potential damages arising from unintended erroneous actions of the Company's directors in their management activities.

The terms and conditions of the agreement, as well as the amount of insurance coverage, are consistent with the world's best practices for such risks.

# Performance of the Board of Directors

For MMC Norilsk Nickel, 2017 was the year of sustainable and rapid growth that helped us deliver strong results and reinforce our leadership both domestically and globally. Tight cooperation between the Board of Directors and the Company's management enabled us to achieve target KPIs.

To support shareholder value and ensure comprehensive protection of shareholder rights and interests in the reporting period, the Company kept working on the strategy and priority areas of business, improving corporate governance and boosting social responsibility.

In 2017, we approved the new version of the Company's Charter while also introducing a number of by-laws (regulations and policies) to make sure we are aligned with global best practices and retain our leadership in the global market to enhance trust with our shareholders and investors.

In the reporting period, the Company also focused on driving innovations and the use of new technology to achieve operating excellence. As part of the dedicated programme, we took steps to improve production

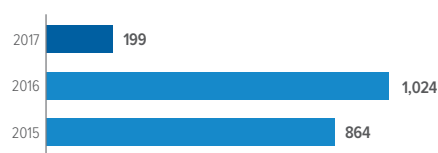
efficiency and cut operating costs, and implemented a number of security and health and safety initiatives across our footprint. An effective strategy and an in-depth market analysis helped us achieve an entirely new level of efficiency and confirm our status as a company with one of the most compelling investment cases in Russia.

Over the last three years, the Company has been conducting an internal assessment of the Board of Directors' performance, with the methodology developed with assistance of an independent consultant and the best global practices. An external assessment is planned to be organised following 2018.

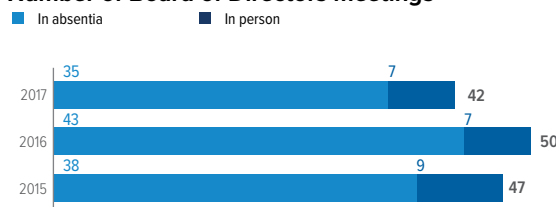
In 2017, the Board of Directors held 42 meetings, including 7 in person, and considered a total of 199 matters.

A reduction in the number of matters considered by the Board of Directors is due to the amendments to the Federal Law On Joint-Stock Companies effective from 1 January 2017 and pertaining to the regulation of major and related-party transactions

## Number of matters considered



## Number of Board of Directors meetings





## Directors' participation in meetings of the Board of Directors and its committees

Full name	Title	Meetings of the Board of Directors	Strategy Committee	Budget Committee	Audit and Sustainable Development Committee	Corporate Governance, Nomination and Remuneration Committee
		Participation / number of meetings				
<b>Gareth Peter Penny</b>	Independent director / Chairman	42/42	8/10	–	–	–
<b>Gerhardus Prinsloo</b>	Independent director / Chairman of the Audit and Sustainable Development Committee	42/42	10/10	5/5	10/10	15/15
<b>Robert Edwards</b>	Independent director	42/42	–	–	10/10	15/15
• • • • • • • •	Independent director / Chairman of the Corporate Governance, Nomination and Remuneration Committee	42/42	10/10	5/5	10/10	15/15
<b>Sergey Skvortsov</b>	Non-executive director	24/42	–	–	–	–
<b>Andrey Bougrov</b>	Executive director	42/42	–	–	–	–
<b>Marianna Zakharova</b>	Executive director	42/42	–	–	–	–
<b>Sergey Barbashev</b>	Non-executive director	42/42	–	5/5	–	15/15
<b>Alexey Bashkirov</b>	Non-executive director / Chairman of the Budget Committee	42/42	9/10	5/5	10/10	–
<b>Maxim Sokov</b>	Non-executive director / Chairman of the Strategy Committee	42/42	10/10	–	–	–
<b>Vladislav Soloviev</b>	Non-executive director	42/42	–	–	–	–
<b>Stalbek Mishakov</b>	Non-executive director	42/42	–	5/5	–	15/15
<b>Rushan Bogaudinov</b>	Non-executive director	42/42	–	–	10/10	–

&gt;90%

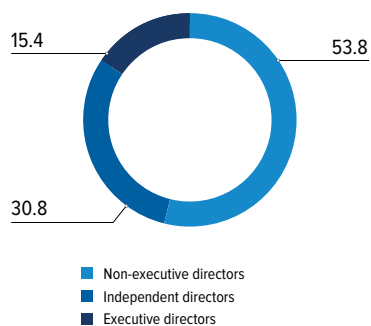
of meetings of the Committee of the BoD were held with 100% turnout

96.7%

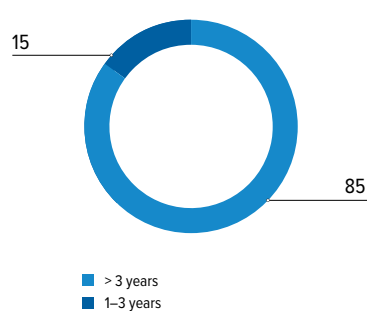
attendance of Board meetings

# Composition of the Board of Directors

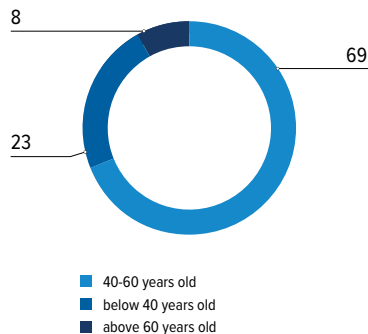
**Composition of the Board of Directors // %**



**Breakdown by years served on the Board of Directors // %**



**Breakdown by age // %**



As at 31 of December 2017 the Board of Directors was made up of 13 members, including four independent, seven non-executive and two executive directors. Following the Annual General Meeting of

Shareholders held on 9 June 2017, Sergey Skvortsov was elected to the Board of Directors, replacing Andrey Korobov.

## Key competencies of the Board of Directors

Name	Years on the Board of Directors	Track record as a member of the Board of Directors	Strategy	Law and corporate governance	Finance and audit	Mining and engineering	International economic relations
<b>Gareth Peter Penny</b>	4 years	Since 2013	+			+	+
<b>Gerhardus Prinsloo</b>	5 years	Since 2012	+	+	+	+	
<b>Robert Edwards</b>	4 years	Since 2013		+	+	+	
<b>.....</b>	4 years	Since 2013	+	+	+	+	
<b>Sergey Skvortsov</b>	2 years	2014–2015 Since 2017			+		+
<b>Andrey Bougrov</b>	15 years	Since 2002		+		+	+
<b>Marianna Zakharova</b>	7 years	Since 2010		+		+	
<b>Sergey Barbashev</b>	6 years	Since 2011		+			
<b>Alexey Bashkirov</b>	4 years	Since 2013	+		+		+
<b>Maxim Sokov</b>	9 years	Since 2008	+	+		+	+
<b>Vladislav Soloviev</b>	7 years	2008–2011 Since 2013		+		+	
<b>Stalbek Mishakov</b>	5 years	Since 2012		+		+	+
<b>Rushan Bogaudinov</b>	2 years	Since 2015			+	+	
<b>Total</b>			<b>6</b>	<b>9</b>	<b>6</b>	<b>10</b>	<b>6</b>

## Biographies of members of the Board of Directors



### PENNY Gareth Peter

**Born in:** 1962

**Nationality:** UK

**Chairman of the Board of Directors** since 2013

**Independent director**

**Member of the Strategy Committee**

**Share in the Company's authorised capital:** 0%

**Share in the common stock:** 0%

#### Education:

Bishops Diocesan College, Cape Town

Eton College, UK

Oxford, Rhodes Scholar, UK

Master of Arts in Philosophy, Politics and Economics

#### Track record:

2007–present: Non-Executive Director at Julius Bär Holding Ltd

2012–2016: Executive Chairman at New World Resources plc, Executive Director at New World Resources NV

2012–2016: member of the Board of Directors at OKD

2016–present: Non-Executive Chairman of the Board of Directors at Pangolin Diamonds Corp.

2017–present: Non-Executive Chairman of the Board of Directors at Edcon Holdings Limited

2017–present: Director at Amulet Diamond Corporation



### BOUGROV Andrey

**Born in:** 1952

**Nationality:** Russia

**Deputy Chairman of the Board of Directors** since 2013

**Executive director (2002-2013 member of the Board of Directors)**

**Member of the Management Board** since 2002

**Share in the Company's authorised capital:** 0%

**Share in the common stock:** 0%

#### Education:

Moscow State Institute of International Relations (MGIMO), degree in International Economic Relations PhD in Economics

#### Track record:

2002–present: member of the non-governmental Council on Foreign and Defence Policy

2006–present: member of the Management Board of the Russian Union of Industrialists and Entrepreneurs

2010–2013: member of the Management Board and Deputy CEO at Interros Holding Company

2011–2013: Chairman of the Board of Directors at MMC Norilsk Nickel

2013–2014: member of the Board of Directors of the Federal Hydro-Generating Company RusHydro

2013–present: Vice President at Interros Holding Company LLC (Interros Holding Company CJSC until 2015)

2013–2015: member of the Management Board, Deputy Chairman of the Board of Directors, Deputy CEO at MMC Norilsk Nickel

2013–present: Vice President of the Russian Union of Industrialists and Entrepreneurs

2014–present: member of the Board of Directors at Inter RAO UES PJSC (Inter RAO UES OJSC until 2015)

2014–present: member of the Expert Committee of the Russian President's Anticorruption Office

2015–present: member of the Management Board, Deputy Chairman of the Board of Directors at MMC Norilsk Nickel

2015–2016: member of the Investment Committee at the Federal Hydro-Generating Company RusHydro

2015–present: Senior Vice President at MMC Norilsk Nickel (formerly Vice President until 2016)

2016–present: member of the Expert Council on Corporate Governance at the Bank of Russia

2016–present: Chairman of the Issuer Committee at the Moscow Exchange

2018 – present: Chairman of the Board of non-financial reporting at RUIE, vice-present and member of the Management Board at RUIE



## BARBASHEV Sergey

**Born in:** 1962

**Nationality:** Russia

**Member of the Board of Directors** since 2011

**Non-executive director**

**Member of the Corporate Governance, Nomination and Remuneration Committee**

**Share in the Company's authorised capital:** 0.0%<sup>1</sup>

**Share in the common stock:** 0.0%<sup>1</sup>

### Education:

Moscow Higher School of Militia of the Ministry of Internal Affairs of the USSR, degree in Law

### Track record:

2008–present: CEO and Chairman of the Management Board at Interros Holding Company LLC (Interros Holding Company CJSC until 2015)

2008–present: member of the Board at the Vladimir Potanin Charitable Foundation

2011–present: Chairman of the Board of Directors of Rosa Khutor Ski Resort Development Company

2015–present: Branch Director at Olderfrey Holdings Ltd.

2016–present: member of the Board of Endowment for Education, Science and Culture

2016–present: Director at Olderfrey Holdings Ltd.



## BASHKIROV Alexey

**Born in:** 1977

**Nationality:** Russia

**Member of the Board of Directors** since 2013

**Non-executive director**

**Chairman of the Budget Committee, member of the Audit and Sustainable Development Committee and the Strategy Committee**

**Share in the Company's authorised capital:** 0%

**Share in the common stock:** 0%

### Education:

Moscow State Institute of International Relations (MGIMO), degree in International Economic Relations

### Track record:

2009–2015: Executive Director, Head of the Investment Department, Deputy CEO for Investments at Interros Holding Company

2009–2013: member of the Board of Directors at Rosa Khutor Ski Resort Development Company

2009–2014: member of the Board of Directors at Prof-Media Management

2011–2015: member of the Management Board at Interros Holding Company

2012–2014: member of the Board of Directors at SP Holding, Cinema Park

2014–present: member of the Board of Directors at Petrovax Pharm and Zaodno

2015–present: member of the Management Board, Deputy CEO for Investments at Interros Holding Company

2016–present: trustee of the Night Time Hockey League, a non-profit amateur hockey foundation

2016–present: member of the Board of Directors at iGlass Technology Inc.

2016–present: Managing Director at Winter Capital Advisors

2016–present: CEO at Translaininvest

<sup>1</sup> On 10 April 2017, Mr Sokov's share in the Company's authorised capital changed from 0.000088% to 0% following the gift of his stake.



**BOGAUDINOV  
Rushan**

**Born in:** 1977

**Nationality:** Russia

**Member of the Board of Directors** since 2015

**Non-executive director**

**Member of the Audit and Sustainable Development  
Committee**

**Share in the Company's authorised capital:** 0%

**Share in the common stock:** 0%

**Education:**

Moscow State Technological University "Stankin", degree  
in Engineering

**Track record:**

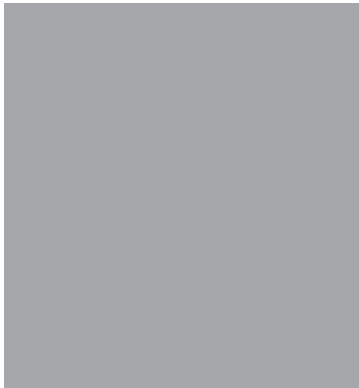
2010–present: member of the Institute of Internal Auditors (IIA)

2012–2015: Head of the Control and Audit Department at RUSAL  
Global Management B. V.

2012–2016: member of the Board of Directors at Aughinish Alumina Ltd

2012–2016: member of the Board of Directors at Limerick Alumina  
Refining Ltd

2015–present: Function Head at RUSAL Global Management B. V.







**ZAKHAROVA**  
**Marianna**

**Born in:** 1976

**Nationality:** Russia

**Member of the Board of Directors** since 2010

**Executive director**

**Member of the Management Board** since 2016

**Share in the Company's authorised capital:** 0%

**Share in the common stock:** 0%

**Education:**

Peoples' Friendship University of Russia (RUDN), Master's degree in Law

**Track record:**

2010–2015: member of the Management Board, Deputy CEO for Legal Affairs at Interros Holding Company (Interros Holding Company CJSC until 2015)

2010–2015: member of the Board of Directors at ProfEstate

2015–present: First Vice President for Corporate Governance, Asset Management and Legal Affairs at MMC Norilsk Nickel



**MISHAKOV**  
**Stalbek**

**Born in:** 1970

**Nationality:** Russia

**Member of the Board of Directors** since 2012

**Non-executive director**

**Member of the Corporate Governance, Nomination and Remuneration Committee and the Budget Committee**

**Share in the Company's authorised capital:** 0%

**Share in the common stock:** 0%

**Education:**

Moscow State Institute of International Relations (MGIMO), degree in International Law; University of Notre Dame (USA), Master's degree; Diplomatic Academy of the Russian Foreign Ministry, PhD in Economics

**Track record:**

2010–present: advisor to the CEO at RUSAL Global Management B. V.

2013–2016: member of the Board of Directors at United Company RUSAL Plc

2013–present: deputy CEO at EN+ Management



## PRINSLOO Gerhardus

**Born in:** 1965

**Nationality:** Germany

**Member of the Board of Directors** since 2012

**Independent director**

**Chairman of the Audit and Sustainable Development Committee, member of the Strategy Committee, Budget Committee, and the Corporate Governance, Nomination and Remuneration Committee**

**Share in the Company's authorised capital:** 0%

**Share in the common stock:** 0%

### Education:

University of Pretoria (South Africa), Bachelor of Commerce

### Track record:

2012–present: CEO of Natural Resource Partnership



## SOKOV Maxim

**Born in:** 1979

**Nationality:** Russia

**Member of the Board of Directors** since 2008

**Non-executive director**

**Chairman of the Strategy Committee**

**Share in the Company's authorised capital:** 0.0011%

**Share in the common stock:** 0.0011%

### Education:

Russian State Tax Academy under the Russian Ministry of Taxes, degree in Law; New York University, Master's degree in Law, lawyer (USA)

### Track record:

2008–2013: CEO of OK RUSAL – Investment Management

2012–present: member of the Board of Directors at United Company RUSAL Plc

2012–2013: Director of Strategic Investment Management at RUSAL Global Management B. V.

2013–2014: Advisor on Strategic Investment Management at RUSAL

Global Management B. V. and First Deputy CEO at En+ Group Ltd

2013–present: CEO at En+ Management

2013–2017: member of the Board of Directors at En+ Group Limited and Eurosib Energo Plc

2014–2017: CEO at En+ Group Limited

2017–present: CEO and member of the Board of Directors at En+ Group Plc

2017–present: member of the Board of Directors at FESCO

2017–2018: CEO at En+ Group Plc

2018–present: president at En+ Group Plc



**SKVORTSOV**  
**Sergey**

**Born in:** 1964

**Nationality:** Russia

**Member of the Board of Directors in 2014–2015 and since 2017**

**Non-Executive director**

**Share in the Company's authorised capital:** 0%

**Share in the common stock:** 0%

**Education:**

Moscow State Institute of International Relations (MGIMO), degree in International Economic Relations, PhD in Economics

**Track record:**

2006–present: member of the Board of Directors at KAMAZ

2008–2016: member of the Board of Directors at AVTOVAZ

2009–2013: Managing Director at CJSC CIB Financial Broker

2013–2014: Managing Director for Investments at Rostec State Corporation

2014–2016: Deputy CEO at Rostec State Corporation

2014–2017: member of the Board of Directors at OPK Oboronprom

2014–present: member of the Board of Directors at Russian Helicopters

2014–2015: member of the Board of Directors at OJSC MMC Norilsk Nickel

2014–present: Non-Executive Chairman of the Board of Directors at RT-Invest JSC (formerly, until 2017, RT-Invest LLC)

2016–2017: Adviser to CEO at Rostec State Corporation

2016–present: member of the Association of Russian Automakers, non-profit partnership

2016–present: Chairman of the Board of Directors at PJSC AVTOVAZ

2016–present: member of the Board of Directors

at Alliance Rostec Auto B.V.



**SOLOVIEV**  
**Vladislav**

**Born in:** 1973

**Nationality:** Russia

**Member of the Board of Directors in 2008–2011 and since 2013**

**Non-executive director**

**Share in the Company's authorised capital:** 0%

**Share in the common stock:** 0%

**Education:**

Graduate School of Management of the State Academy of Management; Moscow State Technological University "Stankin"; University MBA

**Track record:**

2007–present: member of the Board of Directors at United Company RUSAL Plc

2008–2015: member of the Board of Directors at En+ Group Limited

2010–2014: First Deputy Director at CJSC RUSAL

Global Management B. V.

2014–2018: CEO of CJSC RUSAL Global Management B. V. and United Company RUSAL Plc

2018–present: member of the Board of Directors and CEO at En+ Group

2018–present: president at United Company RUSAL Plc and CJSC

RUSAL Global Management B. V.



## EDWARDS Robert

**Born in:** 1966

**Nationality:** UK

**Member of the Board of Directors** since 2013

**Independent director**

**Member of the Corporate Governance, Nomination and Remuneration Committee, and the Audit and Sustainable Development Committee**

**Share in the Company's authorised capital:** 0%

**Share in the common stock:** 0%

### Education:

Camborne School of Mines, degree in Mining Engineering

### Track record:

2013–2014: Senior Advisor at Royal Bank of Canada (Europe) Capital Markets

2013–present: CEO at Highcross Resources Ltd

2014–2018: Non-Executive Director at GB Minerals Ltd

2016–2016: Non-Executive Chairman at Sierra Rutile Limited (SRX)

# Committees of the Board of Directors

Committees established by the Board of Directors are in charge of review of the most important matters and preparation of recommendations to the Board of Directors.

To ensure efficiency and proper fulfilment of their functions, the committees may discuss matters with the Company's management bodies and seek opinions of external consultants. The Company set up four committees of the Board of Directors, each made up of five persons:

- Audit and Sustainable Development Committee,
- Strategy Committee,
- Budget Committee,
- Corporate Governance, Nomination and Remuneration Committee.

## Audit and Sustainable Development Committee

As per the resolution of the Board of Directors dated 16 October 2017 (Minutes No. GMK/34-pr-sd), the Board of Directors' Audit Committee is renamed as the Audit and Sustainable Development Committee. The Board of Directors also approved the new version of the Regulation on Audit and Sustainable Development Committee of the Board of Directors.

The Audit and Sustainable Development Committee deals with matters related to financial statements, risk management and internal controls, internal and external audits, prevention of wrongdoings by employees and third parties, as well as matters related to the environment and health and safety.

In the reporting year, the committee held ten meetings, including eight in person and two joint meetings (joint meetings of the Audit and Sustainable Development Committee and the Budget Committee on 14 March 2017 and 14 August 2017).

The committee is made up of five directors, three of which are independent, including its Chairman. No executive directors are members of the Audit and Sustainable Development Committee. On average, members of the Audit and Sustainable Development Committee of the Company's Board of Directors have more than 10 years of experience in finance.

#### Members of the Audit and Sustainable Development Committee in 2017<sup>1</sup>

---

Gerhardus Prinsloo (Chairman, independent director)

---

Robert Edwards (independent director)

---

Alexey Bashkirov

---

Rushan Bogaudinov

---

■■■■■■■ (independent director)

---

The Audit and Sustainable Development Committee plays an important role when it comes to controls and accountability and has become an effective interface between the Board of Directors, the Audit Commission, independent auditor, the Internal Audit Department and management of the Company.

During the reporting year, the committee has developed for the Board of Directors a number of recommendations dealing with the accuracy, completeness and validity of the Company's financials, health, safety and environment, improvement of accounting for metal bearing products, and approval of the Company's auditors. The Audit and Sustainable Development Committee also considered and took note of the results achieved in identifying, assessing and managing technical and production risks across the Norilsk Nickel Group's operations and assets, and results of audits conducted by the Internal Audit Department.

## Strategy Committee

The Strategy Committee was established to support the Board of Directors by conducting preliminary reviews of the matters pertaining to sustainable business development, investment planning, business restructuring, and interaction with capital markets and government authorities.

In the reporting year, the committee held ten meetings, including six in person, one in absentia, two joint meetings (one with the Corporate Governance, Nomination and Remuneration Committee on 17 May 2017, and the other with the Budget Committee on 6 December 2017), and one conference call.

The Strategy Committee is made up of five directors, including three independent directors. All directors are recognised as non-executive.

#### Members of the Strategy Committee in 2017<sup>2</sup>

---

Maxim Sokov (Chairman)

---

Gerhardus Prinsloo (independent director)

---

Alexey Bashkirov

---

Gareth Peter Penny (independent director)

---

■■■■■■■ (independent director)

---

The Strategy Committee's focus is on supporting the Board of Directors in developing, implementing and revising the corporate strategy and preparing recommended updates thereto. During the year, the Strategy Committee issued recommendations to the Board of Directors to facilitate decision-making on updating the Company's development strategy, along with fuel and energy and sales strategies. The committee reviewed the updates on the progress and status of major investment projects, prepared a progress report on production reconfiguration, and noted the relevant management efforts in implementing the Technology Breakthrough initiative. For strategic planning purposes, the Committee reviewed production reports and results of the programme designed to improve production efficiency and reduce operating costs.

<sup>1</sup> In 2017, there were no changes to the committee's composition.

<sup>2</sup> In 2017, there were no changes to the committee's composition.



## Budget Committee

The Budget Committee is in charge of preliminary review and issue of recommendations pertaining to finance, budgeting, business plans and monitoring of their implementation.

In the reporting year, the committee held five meetings, including two in absentia and three joint meetings (two with the Audit and Sustainable Development Committee on 14 March 2017 and 14 August 2017, and one with the Strategy Committee on 6 December 2017).

The Budget Committee is made up of five directors, including two independent director. All directors are recognised as non-executive.

### Members of the Budget Committee in 2017<sup>1</sup>

---

Alexey Bashkirov (Chairman)

---

Sergey Barbashev

---

■■■■■■■ (independent director)

---

Gerhardus Prinsloo (independent director)

---

Stalbek Mishakov

The key role of the Budget Committee throughout the year was to issue recommendations to the Board of Directors in order to facilitate decision-making on the amount of dividends and the record date to be suggested by the Board of Directors. The Budget Committee also prepared information on cobalt sales policy and, following the discussion with the management, issued recommendations to further develop the same. The committee approved the Company's 2018 budget and recommended the continuation of the capital expenditure reduction initiatives.

## Corporate Governance, Nomination and Remuneration Committee

The Corporate Governance, Nomination and Remuneration Committee supports the Board of Directors by way of:

- assessing, controlling and improving the Company's corporate governance framework;
- ensuring succession planning for the Board of Directors and the Management Board of the Company;
- providing incentives, assessing the performance of the Company's Board of Directors, Management Board, President and Corporate Secretary, and setting applicable remuneration policies;
- supervising the development and implementation of the Company's information policy.

In the reporting year, the committee held 15 meetings, including 14 meetings in absentia and one joint meeting (on 17 May 2017, with the Strategy Committee).

The committee is made up of five directors, including three independent directors, one of whom chairs the committee. All directors are recognised as non-executive.

### Members of the Corporate Governance, Nomination and Remuneration Committee in 2017<sup>2</sup>

---

■■■■■■■ (Chairman, independent director)

---

Sergey Barbashev

---

Stalbek Mishakov

---

Robert Edwards (independent director)

---

Gerhardus Prinsloo (independent director)

The committee issued recommendations to the Board of Directors in order to facilitate decision-making on the convocation, preparation and running of annual and extraordinary general meetings of shareholders, and on the matters reserved to the General Meeting of Shareholders (remuneration and reimbursement of expenses of the members of the Board of Directors and the Audit Commission, liability insurance and indemnification of the members of the Board of Directors and the Management Board).

<sup>1</sup> In 2017, there were no changes to the committee's composition.

<sup>2</sup> In 2017, there were no changes to the committee's composition.

Additionally, the Corporate Governance, Nomination and Remuneration Committee approved the revised Regulation on Audit and Sustainable Development Committee of the Board of Directors and advised the Board of Directors on approval of the Company's policies and regulations, and evaluation of directors' performance in 2017. The committee reviewed

management updates on implementation of the Our Home and My Home programmes, corporate social subsidised loan programme, and the charitable policy of the Company, and noted the management's achievements in implementing the Human Capital Development Programme.

## Corporate Secretary



### PLATOV Pavel

**Born in:** 1975

**Nationality:** Russia

**Corporate Secretary** since 2011

**Share in the Company's authorised capital:** 0%

**Share in the common stock:** 0%

#### Education:

Dobrolyubov Linguistics University of Nizhny Novgorod, Russian Presidential Academy of National Economy and Public Administration

#### Track record:

2011–present: Corporate Secretary at MMC Norilsk Nickel (formerly, until 2015, JSC Norilsk Nickel)

In the reporting year, the Company Secretary was renamed Corporate Secretary as per the new version of the Charter approved by the Annual General Meeting of Shareholders (Minutes No. 1 of 9 June 2017) and the resolution of the Board of Directors (Minutes No. GMK/24-pr-sd of 14 July 2017).

The mission of the Corporate Secretary is to ensure compliance with the procedures for the protection of shareholders' rights and legitimate interests, as prescribed by the applicable laws and the Company's by-laws, and to monitor such compliance.

Pursuant to the Charter, the Corporate Secretary is appointed by the Board of Directors for a three-year term. The Board of Directors may terminate the powers of the Corporate Secretary prior to their expiration.

The Corporate Secretary is responsible for:

- preparation and running of the General Meeting of Shareholders as provided for by the applicable Russian laws, the Company's Charter and by-laws,

- making arrangements for and running meetings of the Board of Directors and its committees as provided for by the applicable Russian laws, Company's Charter and by-laws;
- providing ongoing support and assistance to the Board of Directors, its committees and members;
- contributing to the improvement of the Company's corporate governance framework and practices;
- managing the operations of the Secretariat;
- other functions as per the Company's by-laws.

In accordance with the Regulation on the Corporate Secretary of MMC Norilsk Nickel approved by the Board of Directors on 20 April 2015 (Minutes No. GMK/14-pr-sd), the Company's Corporate Secretary has an administrative reporting line to the President and is accountable to the Board of Directors.

At this time, the Corporate Secretary is Mr. Pavel Platonov.

# President and Management Board

The President and the Management Board are executive bodies in charge of day-to-day operations. The President serves as the Chairman of the Management Board.

The executive bodies are a key element in the Company's management system ensuring enactment of resolutions adopted by the Board of Directors and the General Meetings of Shareholders and implementation of Nor Nickel's core corporate plans and programmes, and maintaining the efficiency of risk management and internal control functions.

The President and members of the Management Board are elected for an indefinite period. The Board of Directors may at any time dismiss any member of the Management Board. Since 1 July 2016, the General Meeting of Shareholders has the authority to elect and dismiss the President.

## Responsibilities of the President:

- acting on behalf of the Company without the power of attorney, including by:
  - representing the Company's interests;
  - executing transactions;
  - approving staff profiles;
  - issuing orders and instructions that are binding on all of the Company's employees;
  - approving the Company's by-laws on production, technology, finance, accounting, business, HR, social support, health, safety and document management;
  - resolving on any other operational matters which, pursuant to the Company's Charter, are not reserved to the remit of the General Meeting of Shareholders, Board of Directors or Management Board.

## Responsibilities of the Management Board:

- conducting a preliminary review of materials prepared for the meetings of the Board of Directors focusing on definition of the Company's business priorities, determination of its development concept and strategy, and approval of plans and budgets;
- drafting proposals on amendments to the Company's Charter;
- drafting proposals on transactions that require approval by the General Meeting of Shareholders or the Board of Directors;
- analysing and assessing the Company's financial and business performance;
- drafting proposals on the Company's reserve fund;
- resolving on other matters as stipulated by the Company's Charter.

## Management Board in 2017

In 2017, the Management Board held 35 meetings in absentia and one joint meeting.

## Participation in Management Board meetings in 2017

Vladimir Potanin	36
Elena Bezdenezhnykh	34
Sergey Batekhin	36
Larisa Zelkova	36
Nina Platinina	36
Alexander Ryumin	35
Sergey Malyshev	33
Onik Aznauryan	35
Andrey Bougrov	36
Sergey Dyachenko	36
Vladislav Gasumyanov	36
Elena Kondratova	36
Marianna Zakharova	36

## Composition of the Management Board

In 2017, the composition of the Company's Management Board remained unchanged. The last change in the membership was approved by the Board of Directors on 27 April 2016.

On 12 February 2018, the Board of Directors resolved (Minutes No. GMK/5-pr-sd) to dismiss Alexander Ryumin, member of the Management Board, and terminate his employment contract, while also approving the new Management Board made up of 12 members starting from 13 February 2018.

## Biographies of the Management Board members



### POTANIN Vladimir

**Born in:** 1961

**Nationality:** Russia

**The Company's President since 2015 (the Company's CEO in 2012– 2015)**

**Chairman of the Management Board** since 2012

**Share in the Company's authorised capital:** 0%

**Share in the common stock:** 0%

#### Education:

Moscow State Institute of International Relations (MGIMO), degree in International Economics

#### Track record

1995–present: member of the Presidium of the International Foundation for the Unity of Orthodox Christian Nations

2000–present: member of the Bureau and Management Board of the Russian Union of Industrialists and Entrepreneurs

2001–present: member of the Board of Trustees of the Solomon R. Guggenheim Foundation (New York)

2003–present: Chairman of the Board of Trustees of the State Hermitage Museum

2004–present: Chairman and member of the Presidium of the National Council on Corporate Governance

2005–present: member of the Council of Trustees and the Board of the Russian Olympians Foundation

2006–present: Deputy Chairman of the Board of Trustees of the Moscow State Institute of International Relations (MGIMO), member of the Board of Trustees of the Graduate School of Management (St Petersburg University), and member of the Bureau of the All-Russian Association of Employers (Russian Union of Industrialists and Entrepreneurs)

2007–present: member of the Board of Trustees of St Petersburg State University and Deputy Chairman of the Board of Trustees of the MGIMO Endowment Fund

2007–2014: member of the Supervisory Board of the Sochi 2014 Steering Committee

2008–present: member of the Board of Vladimir Potanin Charitable Foundation

2009–2016: Chairman of the Supervisory Board of the Russian International Olympic University

2009–present: Deputy Chairman of the Board of Trustees of the Russian International Olympic University

2010–present: member of the Board of Trustees of the Russian Geographical Society

2011–present: member of the Board of Trustees of the State Hermitage Museum Endowment Fund and the Moscow Church Construction Foundation

2012–2015: CEO and Chairman of the Management Board of OJSC MMC Norilsk Nickel

2013–2014: member of the Board of Directors of OJSC Inter RAO UES

2013–2015: President of CJSC Interros Holding Company

2014–present: Chairman of the Board of Trustees of the ROZA Club for Sport Development and Support

2015–present: President of LLC Interros Holding Company

2016–present: member of the Board of the Endowment Fund for Education, Science and Culture, and Chairman of the Board of Trustees of the Night Hockey Foundation for the Development of Amateur Hockey

2017–present: Chairman of the Supervisory Board of the Norilsk Development Agency



## DYACHENKO

**Sergey**

**Born in: 1962**

**Nationality:** Russia

**Member of the Management Board** since 2013

**Share in the Company's authorised capital:** 0%

**Share in the common stock:** 0%

### Education:

Plekhanov Leningrad Mining Institute, degree in Mining Engineering;  
University of Pretoria (South Africa), master's degree

### Track record

2010–2013: COO at Kazakhmys Group

2013–2014: Deputy CEO and Head of Operations  
at OJSC MMC Norilsk Nickel

2014–2015: First Deputy CEO and COO at OJSC MMC Norilsk Nickel

2015–present: First Vice President and COO at PJSC MMC  
Norilsk Nickel

2016–present: member of the Board of the Non-Profit Russian Mining  
Council Partnership

2017–present: member of the Board of Directors at MPI Nickel Pty  
Ltd, Norilsk Nickel Cawse Pty Ltd, Norilsk Nickel Avalon Pty Ltd,  
Norilsk Nickel Wildara Pty Ltd, Norilsk Nickel Harjavalta Oy, Norilsk  
Nickel Africa (Pty) Ltd, Norilsk Nickel Mauritius, and also member  
of the Executive Committee at Nkomati



## ZAKHAROVA

**Marianna**

**Born in: 1976**

**Nationality:** Russia

**Member of the Management Board** since 2016

**Member of the Board of Directors** since 2010

**Executive Director**

**Share in the Company's authorised capital:** 0%

**Share in the common stock:** 0%

### Education:

Peoples' Friendship University of Russia (RUDN), master's  
degree in Law

### Track record

2010–2015: member of the Management Board and Deputy CEO for  
Legal Affairs at LLC Interros Holding Company (CJSC Interros Holding  
Company until 2015)

2010–2015: member of the Board of Directors at ProfEstate

2015–present: First Vice President for Corporate Governance,  
Shareholdings and Legal Affairs at PJSC MMC Norilsk Nickel





**AZNAURYAN  
Onik**

**Born in:** 1970

**Nationality:** Russia

**Member of the Management Board** since 2013

**Share in the Company's authorised capital:** 0%

**Share in the common stock:** 0%

**Education:**

Yerevan State Polytechnic University;  
University of Pittsburgh (USA), Master of Business Administration

**Track record**

2013–2013: member of the Board of Directors at OJSC Norilskgazprom

2013–2016: Chairman of the Board of Directors at OJSC  
Norilskgazprom

2013–2015: Deputy CEO for Non-Industrial Assets and Energy  
at OJSC MMC Norilsk Nickel and Head (on a part-time basis)

of Norilskenergo, branch of OJSC MMC Norilsk Nickel

2015–present: Senior Vice President, Head of Non-Industrial Assets  
and Energy at PJSC MMC Norilsk Nickel (Vice President until 2016),  
and Head (on a part-time basis) of Norilskenergo, branch of  
PJSC MMC Norilsk Nickel



**BATEKHIN  
Sergey**

**Born in:** 1965

**Nationality:** Russia

**Member of the Management Board** since 2013

**Share in the Company's authorised capital:** 0%

**Share in the common stock:** 0%

**Education:**

Krasnoznamenny Military Institute of the USSR Ministry of Defence,  
degree in Foreign Languages; Plekhanov Russian Academy of  
Economics, degree in Finance and Credit; Moscow International Higher  
Business School (MIRBIS), Master of Business Administration

**Track record**

2009–2015: member of the Board of Directors of the Continental  
Hockey League

2010–2013: Vice President of CJSC Interros Holding Company

2012–2015: Chairman of the Board of Directors at Interport  
Management Company

2013–2015: member of the Management Board, Deputy CEO, Head of  
Sales, Commerce and Logistics at MMC Norilsk Nickel, and member of  
the Board of Directors at Metal Trade Overseas Sa and Norilsk Nickel  
Marketing (Shanghai) Co., Ltd

2013–2014: member of the Board of Directors, Chairman of the Board  
of Directors at Yenisey River Shipping Company and member of the  
Board of Directors at Norilsk Nickel (Asia) Ltd

2015–present: Senior Vice President, Head of Sales, Commerce and  
Logistics at MMC Norilsk Nickel (Vice President until 2016)



## BOUGROV Andrey

**Born in:** 1952

**Nationality:** Russia

**Member of the Management Board** since 2002

**Deputy Chairman of the Board of Directors** since 2013

**Executive Director**

**Share in the Company's authorised capital:** 0%

**Share in the common stock:** 0%

### Education:

Moscow State Institute of International Relations (MGIMO), PhD in Economics

### Track record

2002–present: member of the Public Council on Foreign and Defence Policy

2006–present: member of the Management Board of the Russian Union of Industrialists and Entrepreneurs

2010–2013: member of the Management Board and Deputy CEO of CJSC Interros Holding Company

2011–2013: Chairman of the Board of Directors of OJSC MMC Norilsk Nickel

2013–2014: member of the Board of Directors of RusHydro Federal Hydroelectric Generating Company

2013–present: Vice President at LLC Interros Holding Company (CJSC Interros Holding Company until 2015)

2013–2015: member of the Management Board, Deputy Chairman of the Board of Directors, and Deputy CEO at OJSC MMC Norilsk Nickel

2013–present: Vice President of the Russian Union of Industrialists and Entrepreneurs

2014–present: member of the Board of Directors at PJSC Inter RAO UES (OJSC Inter RAO UES until 2015)

2014–present: member of the Expert Committee of the Russian President's Anticorruption Office

2015–present: member of the Management Board and Deputy Chairman of the Board of Directors at PJSC MMC Norilsk Nickel

2015–2016: member of the Investment Committee at RusHydro Federal Hydroelectric Generating Company

2015–present: Senior Vice President at PJSC MMC Norilsk Nickel (Vice President until 2016)

2016–present: member of the Board of Experts on Corporate Governance at the Bank of Russia

2016–present: Chairman of the Issuer Committee at the PJSC Moscow Exchange

2018–present: Chairman of the Board of non-financial reporting at RUIE, vice-present and member of the Management Board at RUIE



## RYUMIN Alexander<sup>1</sup>

**Born in:** 1956

**Nationality:** Russia

**Member of the Management Board** from 2013 to February 2018

**Share in the Company's authorised capital:** 0.003%

**Share in the common stock:** 0.003%

### Education:

Kirov Urals Polytechnic Institute, degree in Metallurgical Engineering

### Track record

2008–2012: Director of Production Management Department at MMC Norilsk Nickel

2012–2015: CEO of Polar Division at MMC Norilsk Nickel

2015–2018: Vice President, CEO of Polar Division at MMC Norilsk Nickel

2017–present: member of the Supervisory Board of the Norilsk Development Agency

<sup>1</sup> On 12 February 2018, the Board of Directors resolved to terminate his employment contract



## ZELKOVA Larisa

**Born in:** 1969

**Nationality:** Russia

**Member of the Management Board** since 2013

**Share in the Company's authorised capital:** 0%

**Share in the common stock:** 0%

### Education:

Moscow State University, degree in Journalism

### Track record

1998–2013: Deputy CEO and PR Director at CJSC Interros Holding Company

1999–2014: CEO of Vladimir Potanin Charitable Foundation

2007–present: member of the Presidium of the MGIMO Endowment Fund

2009–present: member of the Board of Trustees at Pavlovsk Gymnasium Private Non-Profit School

2010–2013: member of the Management Board at CJSC Interros Holding Company

2011–2013: Chair of the Board of Directors at Prof-Media Management, member of the Board of Directors at OJSC MMC Norilsk Nickel

2011–present: member of the Board of Directors at LLC Rosa Khutor Ski Resort Development Company, Chair of the Management Board at the State Hermitage Museum Endowment Fund

2011–2016: member of the Supervisory Board at the Russian International Olympic University

2012–present: member of the Russian Presidential Council for Culture and Art

2013–2014: member of the Board of Directors at Prof-Media Management LLC

2013–2015: member of the Management Board and Deputy CEO for Social Policy and Public Relations at OJSC MMC Norilsk Nickel

2014–present: President, Chair of the Board at Vladimir Potanin Charitable Foundation

2015–present: member of the Board of Trustees at the Hermitage Foundation UK and member of the Board of Trustees at the Russian Federal Public Academy of Education

2015–present: Senior Vice President for HR, Social Policy and Public Relations at PJSC MMC Norilsk Nickel (Vice President until 2016)

2016–present: member of the Board of Trustees at the Endowment Fund for Education, Science and Culture

2017–present: member of the Supervisory and Management Boards of the Norilsk Development Agency



## MALYSHEV Sergey

**Born in:** 1969

**Nationality:** Russia

**Member of the Management Board** since 2013

**Share in the Company's authorised capital:** 0%

**Share in the common stock:** 0%

### Education:

Finance Academy under the Government of the Russian Federation, degree in Finance and Credit; Russian Presidential Academy of National Economy and Public Administration, degree in Public and Municipal Administration;

A.N. Kosygin Russian State University, degree in Mechanical Engineering

### Track record

1998–2009: Deputy CEO for Economics and Finance at CJSC LUKOIL-Neftekhim, managing company for domestic and international petrochemical assets of OJSC LUKOIL

2009–2013: Deputy CEO for Economics and Finance, First Deputy CEO at OJSC Energostroyinvest-Holding

2013–2015: Deputy CEO, Head of Economics and Finance at OJSC MMC Norilsk Nickel.

2015–2016: Senior Vice President, Head of Economics and Finance at PJSC MMC Norilsk Nickel (Vice President until 2016)

2016–present: Senior Vice President and CFO at PJSC MMC Norilsk Nickel



## BEZDENEZHNYKH Elena

**Born in:** 1973

**Nationality:** Russia

**Member of the Management Board** since 2012

**Share in the Company's authorised capital:** 0.0011%<sup>1</sup>

**Share in the common stock:** 0.0011%<sup>1</sup>

### Education:

Krasnoyarsk State University, degree in Law

### Track record

2011–2013: member of the Board of Directors at the Sport Projects Management Company, LLC

2012–2013: Chair of the Board at Norilsk Nickel Non-State Pension Fund and Chair of the Board of Directors at OJSC RAO Norilsk Nickel

2012–2015: Deputy CEO and Head of Corporate Governance, Asset Management and Legal Affairs at OJSC MMC Norilsk Nickel

2015: Vice President for Corporate Governance, Asset Management and Legal Affairs at PJSC MMC Norilsk Nickel

2015–present: Vice President / State Secretary, Head of Government Relations at PJSC MMC Norilsk Nickel

2016–present: member of the Supervisory Board at the Siberian Federal University (independent public college)

2017–present: member of the Board of Trustees of the Charitable Foundation for Support of Indigenous Peoples of the North, Siberia and Far East



## GASUMYANOV Vladislav

**Born in:** 1959

**Nationality:** Russia

**Member of the Management Board** since 2014

**Share in the Company's authorised capital:** 0%

**Share in the common stock:** 0%

### Education:

Kiev Civil Aviation Engineering Institute; North-West Academy of Public Administration

### Track record

2012–2015: Director of Corporate Security and Head of Security at OJSC MMC Norilsk Nickel

2014–2015: member of the Management Board at OJSC MMC Norilsk Nickel

2014–2016: member of the Board of Directors at OJSC Yenisey River Shipping Company

2015–2015: Vice President, Director of Corporate Security and Head of Security at PJSC MMC Norilsk Nickel

2015–present: Vice President, Head of Corporate Security at PJSC MMC Norilsk Nickel

2017–present: member of the Board of Directors of Dynamo Moscow Football Club

2017–present: Head of the Department of Corporate Security at MGIMO's International Institute of Energy Policy and Diplomacy (MIEP MGIMO)

2017–present: member of the Board of Directors at Norilsk Nickel Africa (Pty) Ltd and Norilsk Nickel Mauritius, and member of the Executive Committee at Nkomati

<sup>1</sup> On 4 December 2017, Ms Bezdenezhnykh increased her share in MMC Norilsk Nickel's authorised capital from 0.0010% to 0.0011% after coming into possession of an inheritance



**KONDRATOVA**  
**Elena**

**Born in:** 1972

**Nationality:** Russia

**Member of the Management Board** since 2014

**Share in the Company's authorised capital:** 0%

**Share in the common stock:** 0%

**Education:**

Moscow Pedagogical State University, degree in Psychology

**Track record**

2009–2013: Head of the President's Office at CJSC Interros Holding Company

2013–2015: Chief of Staff at OJSC MMC Norilsk Nickel, Advisor to the President of CJSC Interros Holding Company (on a part-time basis)

2014–2015: member of the Management Board at OJSC MMC Norilsk Nickel

2015–2015: Chief of Staff at PJSC MMC Norilsk Nickel

2015–present: Vice President and Chief of Staff at PJSC MMC Norilsk Nickel, Advisor to the President of LLC Interros Holding Company (on a part-time basis)



**PLASTININA**  
**Nina**

**Born in:** 1961

**Nationality:** Russia

**Member of the Management Board** since 2013

**Share in the Company's authorised capital:** 0%

**Share in the common stock:** 0%

**Education:**

Moscow Chemical Machinery Construction Institute, degree in Mechanical Engineering;

Bauman Moscow Technical Institute, degree in Economics and Production Management

**Track record**

2008–2013: Director of Financial Department at CJSC Interros Holding Company

2013–2015: Director of Internal Control Department at OJSC MMC Norilsk Nickel

2015–2016: Vice President for Internal Audit at PJSC MMC Norilsk Nickel

2016–present: Vice President for Internal Controls and Risk Management at PJSC MMC Norilsk Nickel



# Remuneration

## Key performance indicators

The key performance indicators adopted by Nornickel serve to build a transparent incentive and performance assessment system. The Company believes that the remuneration framework put in place has proved its efficiency. KPIs are linked to performance metrics approved for different types of jobs, with employees consistently exceeding the targets. **The Company's KPIs embrace achievements in social responsibility, occupational safety, operating efficiency and capital management.**

The Company's President approved an Implementation Plan for the Employee Performance Management System at Nornickel providing for:

- review and approval of documents governing employee performance assessment procedures;
- approval of individual KPIs;
- preparation of individual development plans;
- assessment of performance by team and individual KPIs.

To improve performance at the Head Office, the CEO issued an order approving the Procedure for Assessing Head Office Employee Performance and the Regulation on Annual Performance Bonuses for Head Office Employees.

The Procedure primarily seeks to align the results of performance assessment with remuneration, development, and promotion of employees, whereas the Regulation on Annual Performance Bonuses for Head Office Employees is used to assess employee performance in the reporting period based on team and individual KPIs.

To boost employee performance across its Russian subsidiaries, the Company has developed the Procedure for Assessing Performance of the Group's Management. The Procedure prescribes that management performance be managed by establishing KPIs and assessing achievement thereof.

## Remuneration of governance bodies

Principles and mechanics of remunerations (reimbursements) due to executives are set out in the Charter, Regulations on the Management Board, and other by-laws of the Company. The system of remunerations applicable in the Company is continuously and directly monitored by the Board of Directors. Responsibilities of the Corporate Governance, Nomination and Remuneration Committee include development, supervision over adoption, implementation and regular revision of the Remuneration Policy for the Company's Board of Directors, Management Board and the Company's President.



**In 2014, the Remuneration Policy for Members of the Board of Directors was approved by the General Meeting of Shareholders and published on the Company's website**

The Remuneration Policy for Members of the Board of Directors sets forth the following annual remuneration for non-executive directors:

- base remuneration of USD 120,000 for the Board membership;
- additional remuneration of USD 50,000 for membership in a committee of the Board of Directors;
- additional remuneration of USD 150,000 for chairing a committee of the Board of Directors;
- reimbursement of expenses incurred by directors while discharging their duties.

The base remuneration for the Chairman of the Board of Directors is USD 1 mln. Subject to a special resolution adopted by the General Meeting of Shareholders, the Chairman of the Board of Directors may be entitled to additional remuneration and benefits.

To clearly differentiate the principles and structure of remuneration payable to non-executive and executive directors, the following items are excluded from the remuneration payable to non-executive directors:

- bonuses linked to the Company's operating results;
- stock options;
- additional benefits, including all forms of insurance other than directors' liability insurance;
- severance pay and any payments related to the change of ownership;
- pension plans and schemes.

As an additional benefit, directors are entitled to certain insurance protections, such as:

- liability insurance;
- reimbursement of losses incurred due to the election to the Board of Directors.

As per the Company's Charter, decisions on remuneration and reimbursement payable to the Company's President and members of the Management Board are reserved to the Board of Directors. The total remuneration of the President and members of the Management Board consists of the base salary and bonuses (a variable part of the remuneration). Bonuses are linked to the Company's performance, including both financial metrics (EBITDA, free cash flow) and non-financial indicators (lower workplace injury rates, stakeholder involvement, etc.).

The variable part of the remuneration payable to the members of the Management Board is based on key performance indicators updated and approved annually by the Corporate Governance, Nomination and Remuneration Committee of the Board of Directors. The dismissal policy for top executives does not differ from that for other employees.

The remuneration paid to the members of governance bodies in 2017 including salaries, bonuses, commissions, benefits and reimbursement of expenses totalled USD 90.1 mln (RUB 5.3 bn)<sup>1</sup>.

#### Board of Directors remuneration in 2017

Remuneration types	RUB mln	USD mln
Remuneration for membership in a governance body	228.1	3.9
Salary	0	0
Bonus	0	0
Commissions	0	0
Benefits	0	0
Reimbursement	0.3	0.004
Other types of remuneration	0	0
<b>Total</b>	<b>228.3</b>	<b>3.9</b>

#### Management Board remuneration in 2017

Remuneration types	RUB mln	USD mln
Remuneration for membership in a governance body	2.3	0.04
Salary	2,444.7	41.9
Bonus	2,583.8	44.3
Commissions	0	0
Benefits	0	0
Reimbursement	0	0
Other types of remuneration	0	0
<b>Total</b>	<b>5,030.9</b>	<b>86.2</b>

<sup>1</sup> The amount of remuneration is different from that specified in the 2017 consolidated IFRS financial statements as it excludes non-cash remuneration (insurance and VHI payments, and annual remuneration liabilities as at 31 December 2017). The remuneration accrued to the members of governance bodies in 2017 under IFRS totalled USD 103 mln (RUB 6.039 bn).

# Risk management and internal controls

## Risk management framework

The Company continuously manages risks that affect its strategic and operational goals. These efforts include identification and assessment of external and internal risks in terms of their impact on key financial and non-financial metrics, along with the development and implementation of response and minimisation measures.

The Company has developed and adopted all relevant risk management documents, including:

- Corporate Risk Management Policy,
- Corporate Risk Management Framework Regulations,
- Risk Management Regulations,
- Investment Project Risk Management Regulations,
- risk management regulations for specific processes (management of tax, health and safety and market risks).

Risk management embraces all business areas and governance levels:

- strategic risks are managed by the Board of Directors and the Company's senior management;
- key operational risks are managed by the Company's senior management;
- other material operational risks are managed by heads of business units and subunits.

The Corporate Risk Management Policy sets out the following key risk management objectives:

- increase the likelihood of achieving the Company's goals;
- improve the resource allocation efficiency; and
- boost the Company's investment case and shareholder value.

The risk management framework relies on the principles and requirements of Russian and international laws, and professional standards, including the Corporate Governance Code recommended by the Bank of Russia, ISO 31000 (Risk Management) and COSO ERM (Enterprise Risk Management – Integrated Framework).

To manage catastrophic production risks, the Company develops and approves business continuity plans that in case of emergency set out:

- interaction procedure for business units;
- operations support or resumption plan;
- rehabilitation or reconstruction plan for affected assets.

The corporate risk management framework (CRMF) implementation and improvement initiatives are spearheaded by the Company's Vice President and Head of Internal Controls and Risk Management and its Risk Management Service.

In 2018, key initiatives aimed at improving the CRMF will include:

- continued integration of risk management practices into strategic, budget and investment planning, setting KPIs for the management and assessing their achievement;
- deployment of risk management automation tools;
- improvement of technical and production risk management, broadening of the analysis perimeter, evaluation of technical and production risk impact on human health and safety, and environment;
- introduction of quantitative assessment methods and modelling to analyse technical and production risks and risks associated with investment projects.

## Insurance

Insurance is one of the most important tools for managing risks and finances and protecting the assets of the Company and its shareholders against any unforeseen losses related to our operations, including due to external hazards.

Nornickel has centralised its insurance function to consistently implement uniform policies and standards supporting a comprehensive approach to managing insurance policies and fully covering every risk at all times. The Company annually approves a comprehensive insurance programme that defines key parameters by insurance type and key project.

As part of our risk mitigation initiatives, we have implemented a corporate insurance programme that covers assets, equipment failures and business interruptions across the Group. Our corporate insurance policies are issued by major Russian insurers in cooperation with an international broker. This helps the Company make sure that its risks are underwritten by highly reputable international re-insurers.

The same principles of centralisation apply to our freight, construction and installation, aircraft and ship insurance arrangements. The Group, as well as its directors and officers, carry business and third-party liability insurance.

To optimise terms of coverage and better manage covered risks, we follow the best mining industry practices.

## Key risks, risk factors and mitigants

Risk type	Mitigants
<b>WORKPLACE INJURY RISK</b>	
<p>Failure to comply with the Group's health and safety rules may result in threats to the employee's health and life, temporary suspension of operations, and property damage.</p> <p><b>Key risk factors</b></p> <ul style="list-style-type: none"> <li>• Unsatisfactory organisation and control of work safety</li> </ul>	<p>Pursuant to the Occupational Health and Safety Policy approved by the Company's Board of Directors, the Company undertakes to:</p> <ul style="list-style-type: none"> <li>• ensure continued control over compliance with the health and safety requirements;</li> <li>• improve the working conditions for employees of the Company and its contractors deployed at the Company's production facilities, including by implementing new technologies and labour saving solutions, and enhancing industrial safety at production facilities;</li> <li>• provide staff with certified state-of-the-art personal protective equipment;</li> <li>• carry out preventive and therapeutic interventions to reduce the potential impact of hazardous and dangerous production factors;</li> <li>• regularly train and instruct employees and assess their health and safety performance, and conduct corporate workshops, including by deploying special simulator units;</li> <li>• enhance methodological support for health and safety functions, including through the development and implementation of corporate health and safety standards;</li> <li>• improve the risk assessment and management framework at the Group's companies and production facilities as part of the Risk Control project;</li> <li>• analyse the competencies of line managers at the Company's production facilities, develop health and safety training programmes and arrange relevant training sessions;</li> <li>• provide training for managers under the programme to determine root causes of accidents using the best international practices ("Tree of Causes and Hazards", 5-why, etc.);</li> <li>• provide information about the circumstances and causes of an accident to all employees of the Company, conduct ad hoc instruction sessions.</li> <li>• introduce a framework to manage technical, technological, organisational and HR changes.</li> </ul>
<b>INFORMATION SECURITY RISKS</b>	
<p>Potential cyber crimes may result in an unauthorised transfer, modification or destruction of information assets, disruption or lower efficiency of IT services, business, technological and production processes of the Company.</p> <p><b>Key risk factors</b></p> <ul style="list-style-type: none"> <li>• Growing external threats;</li> <li>• unfair competition;</li> <li>• rapid development and automation of IT infrastructure, technological and business processes;</li> <li>• employee and third party wrongdoing.</li> </ul>	<p>To manage this risk, the Company undertakes to:</p> <ul style="list-style-type: none"> <li>• develop the Information Security Strategy and Programme, define roles and responsibilities in information security at a corporate level;</li> <li>• draft information security rules and regulations;</li> <li>• comply with Russian laws and regulations with respect to personal data and trade secret protection, insider information, and critical information infrastructure;</li> <li>• categorise information assets and assess information security risks;</li> <li>• raise awareness in information security;</li> <li>• use technical means to ensure information security of assets;</li> <li>• manage access to information assets and information security incidents;</li> <li>• ensure information security of the process control system;</li> <li>• monitor threats to information security and use technical protection means, including vulnerability analysis, penetration testing, cryptographic protection of communication channels, controlled access to removable media, protection from confidential data leakages, mobile device management;</li> <li>• set up and certify the Information Security Management System.</li> </ul>

Risk type	Mitigants
<b>PRICE RISK</b>  Potential decrease in revenues due to lower prices for metals (nickel, copper, platinum, palladium, etc.) subject to the actual or potential changes in demand and supply on certain metal markets, global macroeconomic trends, and the financial community's interest in speculative/ investment transactions in the commodity markets.  <b>Key risk factors</b> <ul style="list-style-type: none"> <li>• Lower demand;</li> <li>• inventory liquidation by market participants;</li> <li>• speculative price decrease.</li> </ul>	To manage this risk, the Company is continuously monitoring metal price (market) forecasts. Should the risk materialise, the Company will consider cutting capital expenditures (revising the investment programme for projects that do not have a material impact on the Company's development strategy) as part of the budget process.
<b>FX RISK</b>  USD depreciation against RUB, including due to changes in the Russian economy and the policy of the Bank of Russia, may adversely affect the Company's financial performance, as most of its revenues are denominated in USD, while most of its expenses are denominated in RUB.  <b>Key risk factors</b> <ul style="list-style-type: none"> <li>• Increase in Russia's balance of payments, higher oil exchange prices and lower imports;</li> <li>• improved country macroeconomics;</li> <li>• change in ratings;</li> <li>• lower volatility in financial markets of Russia and other developing countries.</li> </ul>	To manage this risk, the Company undertakes to: <ul style="list-style-type: none"> <li>• maintain a balanced debt portfolio where USD-denominated borrowings prevail to ensure a natural hedge;</li> <li>• implement regulations that limit fixing of prices in foreign currencies in expenditure contracts.</li> </ul>
<b>TECHNICAL AND PRODUCTION RISK</b>  Technical, production, or natural phenomena, which, once materialised, could have a negative impact on the implementation of the production programme and cause technical incidents or reimbursable damage to third parties and the environment.  <b>Key risk factors</b> <ul style="list-style-type: none"> <li>• Harsh weather and climatic conditions, including low temperatures, storm winds, snow load;</li> <li>• unscheduled stoppages of key equipment;</li> <li>• release of explosive gases and flooding of mines;</li> <li>• collapse of buildings and structures;</li> <li>• infrastructure breakdowns.</li> </ul>	To manage this risk, the Company undertakes to: <ul style="list-style-type: none"> <li>• properly and safely operate its assets in line with the requirements of the technical documentation, technical rules and regulations as prescribed by the local laws across the Company's footprint;</li> <li>• introduce ranking criteria and determine the criticality of key industrial assets;</li> <li>• timely replace its fixed assets to achieve production safety targets;</li> <li>• implement automated systems to control equipment's process flows;</li> <li>• improve the maintenance and repair system;</li> <li>• train and educate its employees both locally, on site, and centrally, through its corporate training centres;</li> <li>• systematically identify and assess technical and production risks. The Company has developed and is implementing a programme of organisational and technical actions aimed at reducing these risks;</li> <li>• develop the technical and production risk management system, including by engaging independent experts to assess the system efficiency and completeness of data;</li> <li>• engage, on an annual basis, independent surveyors to analyse the Company's exposure to disruptions in the production and logistics chain and assess related risks. In 2017, key technical and production risks were insured as part of the property and business interruption (downtime) insurance programme, with emphasis laid on best risk management practices in the mining and metals industry. The programme aims to protect the assets of the Company and its shareholders against any catastrophic risks. In addition, the Company insured production assets at its facilities that make up the key production chain.</li> </ul>
<b>COMPLIANCE RISK</b>  The risk of legal liability and/or legal sanctions, significant financial losses, suspension of production, revocation or suspension of a licence, loss of reputation, or other adverse effects arising from the Company's non-compliance with the applicable regulations, instructions, rules, standards or codes of conduct.  <b>Key risk factors</b> <ul style="list-style-type: none"> <li>• Changes in legislation and law enforcement practices;</li> <li>• discrepancies in rules and regulations;</li> <li>• considerable powers and a high degree of discretion exercised by regulatory authorities;</li> <li>• potential violation of legal requirements by the Company's business units and Russian subsidiaries.</li> </ul>	To manage this risk, the Company undertakes to: <ul style="list-style-type: none"> <li>• make sure that the Company complies with the applicable laws;</li> <li>• defend the Company's interests during surveillance inspections or in administrative offence cases;</li> <li>• use pre-trial and trial remedies to defend the Company's interests;</li> <li>• include conditions defending the Company's interests in the contracts signed by the Company;</li> <li>• implement anti-corruption, anti-money laundering and counter-terrorist financing initiatives;</li> <li>• take actions to prevent unauthorised use of insider information and market manipulation;</li> <li>• ensure timely and reliable information disclosures as required by the applicable Russian and international laws.</li> </ul> In addition to ongoing measures, the following documents were developed and approved in 2017: the Norilsk Nickel Group's Legal Support Policy, Antitrust Compliance Policy (formalising interactions to ensure legal protection of the Norilsk Nickel Group's interests), Regulations on Interaction of MMC Norilsk Nickel's Business Units and Officers to Prevent Unlawful Use of Insider Information in Compliance with the Market Abuse Regulation of the European Parliament and of the Council No. 596/2014, amended version of MMC Norilsk Nickel's Information Policy Regulations (alignment with the applicable Russian and international information disclosure laws).



Risk type	Mitigants
<b>RISKS RELATED TO CHANGES IN LEGISLATION AND LAW ENFORCEMENT PRACTICES</b>	
<p>Adverse consequences arising from the Company's non-compliance with the applicable regulations, instructions, rules, standards or codes of conduct.</p> <p><b>Key risk factors</b></p> <ul style="list-style-type: none"> <li>• Unstable legal environment;</li> <li>• complicated geopolitical situation;</li> <li>• significant budget deficit (government agencies and authorities seeking to boost revenues).</li> </ul>	<p>To manage this risk, the Company undertakes to:</p> <ul style="list-style-type: none"> <li>• continuously monitor changes in legislation and law enforcement practices in all business areas;</li> <li>• perform legal due diligence of draft regulations and amendments;</li> <li>• participate in discussions of draft regulations, both publicly and as part of the expert groups;</li> <li>• engage its employees in relevant professional and specialist training programmes, corporate workshops, and conferences;</li> <li>• cooperate with government agencies to ensure that new laws and regulations take into account the Company's interests.</li> </ul>
<b>POWER BLACKOUTS AT PRODUCTION AND SOCIAL FACILITIES IN THE NORILSK INDUSTRIAL DISTRICT (NID)</b>	
<p>The failure of key equipment at the generating facilities of fuel and energy companies and transmission networks may result in power, heat and water shortage at key production facilities of the Company's Polar Division / Russian subsidiaries and social facilities in the NID.</p> <p><b>Key risk factors</b></p> <ul style="list-style-type: none"> <li>• The isolation of the NID's power system from the national grid (Unified Energy System of Russia);</li> <li>• harsh weather and climatic conditions, including low temperatures, storm winds, snow load;</li> <li>• length of power, heat and gas transmission lines;</li> <li>• wear and tear of key production equipment and infrastructure.</li> </ul>	<p>To manage this risk, the Company undertakes to:</p> <ul style="list-style-type: none"> <li>• operate and maintain generating and mining assets as required by the technical documentation, industry rules, regulations, and laws;</li> <li>• timely construct and launch transformer facilities;</li> <li>• timely upgrade (replace) TPP and HPP power units' equipment;</li> <li>• timely replace transmission towers;</li> <li>• timely upgrade and renovate trunk gas and condensate pipelines and gas distribution networks.</li> </ul>
<b>SOCIAL RISKS</b>	
<p>Escalating tensions among the workforce due to the deterioration of social and economic conditions in the Company's regions of operation.</p> <p><b>Key risk factors</b></p> <ul style="list-style-type: none"> <li>• Headcount optimisation;</li> <li>• rejection of the Company's values by some employees and third parties;</li> <li>• limited ability to perform annual wage indexation;</li> <li>• dissemination of false and inaccurate information about the Company's plans and operations among the Group's employees;</li> <li>• lower spending on social programmes and charity.</li> </ul>	<p>To manage this risk, the Company undertakes to:</p> <ul style="list-style-type: none"> <li>• strictly abide by the collective bargaining agreements made between the Group's companies and employees;</li> <li>• actively interact with regional and local authorities, and civil society institutions;</li> <li>• fulfil its social obligations under public-private partnership agreements;</li> <li>• implement the World of New Opportunities charity programme aimed at supporting and promoting regional public initiatives;</li> <li>• implement the Norilsk Upgrade project to introduce innovative solutions for sustainable social and economic development of the region;</li> <li>• implement monitoring across the Group's operations;</li> <li>• conduct opinion polls among Norilsk's communities to learn more about their living standards, employment, migration trends and general social sentiment, and identify major challenges;</li> <li>• implement social projects and programmes aimed at supporting employees and their families, as well as the Company's former employees;</li> <li>• coordinate, over the year, the joint efforts of various participants and promptly address any issues arising during the reconstruction of Norilsk Airport's runway, at the meetings of the task force involving the representatives of the Norilsk Administration, regional and federal authorities, Norilsk Airport and NordStar Airlines;</li> <li>• provide treatment at Chinese health resorts during winter (programme geography expansion) to compensate for fewer summer packages due to runway reconstruction at Norilsk Airport;</li> <li>• engage in dialogues with stakeholders and conduct opinion polls while preparing public CSR reports.</li> </ul>

# Internal control framework

The Company has an internal control system in place intended to promote the achievement of the Company's goals and enhance investor confidence in its business and corporate bodies. The internal control system is aimed at improving the effectiveness and efficiency of activities, keeping reliable and accurate financial and management accounts, ensuring compliance with the requirements of applicable Russian laws and the Company's by-laws.

The Company has the Internal Control Policy in place adopted by resolution of the Board of Directors in 2016. In addition, internal control requirements, procedures, and processes are covered by the procedure for "Internal Control Processes at MMC Norilsk Nickel", as well as by business unit regulations and other internal guidelines.

All internal control processes, principles, mechanisms, means, and procedures make up a system of elements:

- control environment;
- assessment of risks to business processes;
- control procedures;
- information and communications;
- monitoring of the internal control system.

Entities that form the internal control system are structured on a number of levels, which comprise the Company's and subsidiaries' corporate bodies, business units and employees as well as dedicated control bodies:

- Internal Control and Risk Management Unit, including the Internal Control Department, Risk Management Service, and Financial Control Service,
- Internal Audit Department,
- Audit and Sustainable Development Committee,
- Audit Commission.

## Internal Control Department

The Internal Control Department aims to create an efficient internal control framework that represents a combination of organisational processes, policies and guidelines, control procedures, corporate culture

principles and actions that the internal control entities perform to provide reasonable assurance that the Company will achieve its targets. The department's functions include:

- developing and boosting efficiency of the internal control framework;
- ensuring a consistent approach to the design, operation and development of the internal control framework;
- detecting and preventing any waste, misuse or misappropriation of funds or assets of the Company and its subsidiaries, wrongdoings and theft;
- ensuring accuracy of metrics and measurement standards for the control and accounting of metal bearing products;
- arranging and implementing internal controls so as to combat illegal activities, such as money laundering and terrorism financing;
- managing the Corporate Trust Service operations.

Also, the Company has set up the Financial Control Service that audits the financial and business operations of the Company and its subsidiaries to report and issue recommendations to the President and directors of the Company. The head of the Financial Control Service is appointed by a resolution adopted by the Company's Board of Directors.

## Corporate Trust Service

In February 2010, the Company launched its Corporate Trust Service, which helps the Company's management to promptly respond to reports of abuses, embezzlement and other violations. Employees, shareholders and other stakeholders have an opportunity to report any actions that will or might result in financial damages or be detrimental to the business reputation of the Company. The key principles underlying the Corporate Trust Service include guaranteed confidentiality for whistleblowers, timely and unbiased consideration of all reports. In no circumstances does the Company impose sanctions (including dismissal, demotion, deprivation of a bonus) against the employee who submitted a report to the Corporate Trust Service.

To make a report, anyone is invited to call a toll-free 24/7 hotline: +7 800 700-1941, +7 800 700-1945, or e-mail to [skd@nornik.ru](mailto:skd@nornik.ru).

Information on received and processed reports is disclosed annually by the Company as part of its CSR report.

## Internal Audit Department

The Internal Audit Department is responsible for the Company's internal audit. It was established to assist the Board of Directors and executive bodies in enhancing the Company's management efficiency and improving its financial and economic operations through a systematic and consistent approach to the analysis and evaluation of risk management and internal controls as tools to provide reasonable assurance that the Company will achieve its goals.

The Internal Audit Department conducts unbiased and independent audits, assessing how effective the internal controls and the risk management system are. Based on the audits, the department prepares reports and proposals for the management on how to improve internal controls, and monitors the development of action plans to eliminate violations.

In order to ensure independence and objectivity, the Internal Audit Department functionally reports to the Board of Directors through the Audit and Sustainable Development Committee and has an administrative reporting line to the Company's President. It continuously monitors the implementation of activities developed by the management. The Board of Directors' Audit and Sustainable Development Committee regularly reviews the department's work plan, audit reports, and monitoring analytics.

In 2017, the Department conducted the following audits:

- planning and control of process equipment repairs;
- operation of motor vehicles;
- IT;

- compliance with health and safety requirements;
- technical and production risk management;
- compliance with corporate standards and policies.

Based on these audits, the management developed action plans which provide for a range of activities aimed at improving internal control procedures and mitigating risks.

In 2018, the Internal Audit Department plans to conduct a comprehensive assessment of the risk management and internal control system and its performance, and submit the results to the Audit and Sustainable Development Committee for review.

## Audit Commission

The Audit Commission is a corporate body which monitors the financial and business operations of the Company. The commission audits the Company's financial and business operations on an annual basis and at any time as decided by the commission, resolutions of the General Meeting of Shareholders and the Board of Directors or as requested by shareholders who hold collectively at least 10% of the Company's voting shares. Following the review of financial and business results, the Audit Commission issues an opinion. Business operations were last audited in April–May 2017.

The Audit Commission works in the shareholders' interests and reports to the General Meeting of Shareholders, which elects members of the Audit Commission until the next Annual General Meeting of Shareholders. The Audit Commission is independent from the officers of the Company's governance bodies, and its members do not hold positions in the Company's governance bodies.

In the reporting year, the Audit Commission consisted of five people as prescribed by the resolution of the Annual General Meeting of Shareholders dated 9 June 2017.

No.	Name	Primary employment and position
1.	Vladimir Shilkov	Chief Investment Officer at CIS Investment Advisers, Deputy Project Manager of the Financial Control Service at MMC Norilsk Nickel
2.	Anna Masalova	Chief Financial Officer, Moscow–McDonalds CJSC
3.	Georgy Svanidze	Head of Financial Department, member of the Management Board at Interros Holding Company
4.	Elena Yanevitch	Chief Executive Officer, Interpromleasing
5.	Artur Arustamov	Director of Price Control and Commercial Operations Department, En+ Management

Remuneration payable to the members of the Audit Commission was approved by the Annual General Meeting of Shareholders on 9 June 2017. Members of the Audit Commission employed by the Company are remunerated throughout the year as per their job description and employment terms.

## Corruption control

The Company complies with Russian and international anti-corruption laws. In its interaction with government officials, the Company, as well as its employees and corporate bodies, comply with the applicable laws (including anti-corruption laws), thus boosting the Company's reputation and building up trust towards the Company from its shareholders, investors, business partners and other stakeholders.

As part of its effective anti-corruption combat, the Company has developed and approved the following anti-corruption regulations:

- Business Ethics Code;
- Code of Conduct and Ethics for Members of the Board of Directors;
- Anti-Corruption Policy;
- Regulation on the Product Procurement Procedure for MMC Norilsk Nickel's Enterprises;
- standard anti-corruption agreement – appendix to the employment contract;
- Regulation on Information Security;
- Regulation on the Prevention and Management of Conflicts of Interest;
- Regulation on Business Gifts;
- Procedure for Anti-Corruption Due Diligence on Internal Documents at the Head Office of MMC Norilsk Nickel;
- Regulation on the Conflict of Interest Commission;
- Information Policy.

Having joined the Anti-Corruption Charter of the Russian Business, the Company implements dedicated anti-corruption measures based on the Charter and set forth in the Company's Anti-Corruption Policy.

In January 2018, the Company confirmed compliance with the Charter and secured its position on the Charter's Register.

In November 2016, the Company joined the United Nations Global Compact, which aims to promote recognition and practical application of ten basic principles of human rights, labour, environment and anti-corruption by businesses worldwide.

The Company's personnel receive ongoing training on anti-corruption matters. In December 2017, all new employees at the Head Office completed online

## Remuneration of the Audit Commission members in 2017

Remuneration types	thousand RUB	thousand USD
Remuneration for the membership in a control body	7,200	123
Salary	4,620	79
Bonus	11,620	199
Commissions	0	0
Benefits	0	0
Compensation	0	0
Other types of remuneration	0	0
<b>Total</b>	<b>23,440</b>	<b>402</b>

anti-corruption training and testing. An important element of the Company's undertakings are corruption prevention measures aimed at making employees clearly aware of the possible consequences and the "inevitability of penalty" not only for those who engage in corruption, but also for those who become aware of corruption and do not report it. Starting in 2015, all of the Company employees sign an agreement setting out their obligations in the anti-corruption area. All of the Company's employees are familiarised with the corporate Anti-Corruption Policy and related regulations. The Company ensures functioning of the Preventing and Fighting Corruption page on the corporate website containing information on anti-corruption regulations adopted, measures taken, preventive procedures introduced, legal training sessions organised and law-abidance promotion efforts taken.

## Regulating the conflict of interest

One of the key anti-corruption measures is timely prevention and management of conflicts of interest. Procedures for assessing and settling conflicts of interest are set forth in the Regulation on the Prevention and Management of Conflicts of Interest at MMC Norilsk Nickel. As part of the regulation, the Company has approved the standard declaration form for reporting conflicts of interest, to be filled in by candidates applying for vacant positions or by the Company's employees whenever required.

On top of that, the Company has undertaken measures aimed at preventing potential conflict of interest involving governance bodies and key employees. From December 2016, members of the Company's governance bodies are required to annually submit information on relatives and family as per the approved form.

Alongside with these measures, the Regulation on the Prevention and Management of Conflicts of Interest at MMC Norilsk Nickel extends to all employees of the Company. It sets forth key principles that include obligation of each employee to disclose a conflict of interest, as well as non-retaliation for reporting the conflict of interest.

The Company takes measures aimed at identifying related-party transactions. All measures combined, undertaken in order to identify and prevent conflicts of interest, minimise the probability of negative consequences for the Company.

## Insider information

The Company implements initiatives to prevent unauthorised use of insider information. In accordance with Federal Law No. 224-FZ of 27 July 2010 On Prevention of Unlawful Use of Inside Information and Market Manipulation and on Amendments to Certain Legislative Acts of the Russian Federation, as well as the Market Abuse Regulation of the European Parliament and of the Council No. 596/2014 of 16 April 2014, the Company keeps a list of insiders, reviews by-laws and corporate events, to control implementation of measures as provided for in the Russian and international legislation, which includes disclosure of insider information. The Company also undertakes other measures aimed at preventing unlawful use of insider information.

## Comprehensive security framework

In 2017, MMC Norilsk Nickel's corporate security operations focused on regular updates and the implementation of a comprehensive security system, which drew heavily on the ongoing analysis of the full range of the Company's modern-day challenges and threats in a rapidly changing operating environment. The ongoing implementation of the MBO (Management by Objectives) principles in the economic, corporate, information and physical security systems has enabled the Company to promptly and adequately respond to key risks, clamp down on embezzlement, implement initiatives to counter illicit trafficking of precious metals and metal bearing materials, and efficiently prevent in-house corruption.

The methodology boasts recognition from the international forensic community and is widely used not only for the Company's purposes, but also in examinations as requested by law enforcement authorities, to combat illicit trafficking of precious and non-ferrous metals.

### Office for Chemical Forensic Analysis

A powerful tool to combat embezzlement and illicit trafficking of products containing precious metals is our Office for Chemical Forensic Analysis unprecedented among metals and mining and other industrial companies.

Its experts have developed an innovative comprehensive methodology for products containing precious metals, which can reliably trace their origin to the manufacturer, production shop and even section.

In an effort to take public-private partnership in the field of security to a new level of quality, cooperation was established with government law-enforcement authorities, also in the Company's regions of operations. This approach enables a balanced planning of corporate security measures set to be an integral part of the national economic security system. MMC Norilsk Nickel pays special attention to complying with anti-terrorism requirements and enhancing security of the Company's strategic power and transportation facilities. In 2017, the close cooperation with law enforcement authorities helped the Company protect these facilities from any potential unlawful intrusion.

The Company ensures 100% safety and confidentiality of the employee and counterparty personal data, taking steps to integrate information security processes with other group-wide business processes and novel IT solutions. It is also continuously upgrading its comprehensive security system aimed at preventing external cyber interference with production processes. This made it possible for the Company, among other things, to effectively neutralise WannaCry and Petya virus attacks.

On top of that, Nornickel initiated the adoption of the Information Security Charter for Critical Industrial Facilities which defines corporate principles and standards of safe cyber behaviour. Measures undertaken in 2017 ensure a reliable protection of the Company's IT infrastructure.

The Company has further fostered its international activity in the field of industry-specific business security. The Security Committee of the International Platinum Group Metals Association is chaired by the Company's representative who works together with the United Nations Interregional Crime and Justice Research Institute (UNICRI) to prepare and implement practical recommendations in order to strengthen



public-private partnerships aimed at fighting illicit transnational trafficking of precious metals. These initiatives received the support of world's major metal producers.

The Institute for Modern Security Challenges, the Company's subsidiary, has been developing new corporate methods to protect the Company's legitimate interests focusing on the analysis of best international practices, introduction of acknowledged standards and practices of secure development of mining companies, expert reviews and preparation of analytical materials. Their practical implementation is aimed at optimising the Company's security costs and more efficient process management.

## Awards

MMC Norilsk Nickel received an outstanding award at InfoSecurity Russia 2017: Global Initiatives in Industrial IT Security



# Independent audit

The Company has approved the Procedure to Select an Auditor for MMC Norilsk Nickel's RAS and IFRS Financial Statements, which requires first to establish a tender commission to produce a list of auditors who perform best in the Russian market of audit services. The auditor whose conditions are recognised to be the best following the procedure, is recommended to the Audit and Sustainable Development Committee which, in its turn, assesses the candidate for an independent auditor and provides recommendations to the Board of Directors. Under applicable laws and Clause 7.1.9 of the Company's Charter, the auditor shall be approved by an Annual General Meeting of Shareholders.

In June 2017, the General Meeting of Shareholders, following the recommendation of the Board of Directors, approved JSC KPMG as the Company's auditor for RAS and IFRS 2017 accounts, as well as IFRS accounts for 1H 2018.

The auditor receives a fixed fee as determined in the technical and business proposal that sets out the audit procedure for all material audited facilities and calculates the labour input and travel expenses required to conduct the audit, based on the qualifications and hourly rates of experts engaged. In 2017, the auditor's fee amounted to USD 4.2 mln, including overhead charges and VAT. The share of non-audit services rendered to the Company stood at 24% of the total fee.

## The auditor receives in 2017

Type of services	mln RUB	mln USD
Audit of consolidated IFRS financial statements for 2017	104.4	1.8
Audit of RAS financial statements for 2017	17.7	0.3
Review of interim IFRS financial statements for 6M 2017	26.6	0.5
Audit-Related Services	39.2	0.7
Non-audit services	58.8	1.0
<b>Total</b>	<b>246.7</b>	<b>4.2</b>

# INFORMATION FOR SHAREHOLDERS

The background is a solid blue color. A large, light blue circle is positioned on the right side, partially cut off by the edge. Inside this circle, there is a dark blue, lens-like shape that resembles a camera lens or a stylized eye. The shape has a central dark blue area and a lighter blue ring around it.



<b>206</b>	Authorised capital
<b>206</b>	Securities
<b>210</b>	Dividends
<b>213</b>	Shareholder rights
<b>214</b>	Transparency

# Authorised capital

As at 31 December 2017, the authorised capital of MMC Norilsk Nickel comprised 158,245,476 ordinary shares with a par value of RUB 1 each.

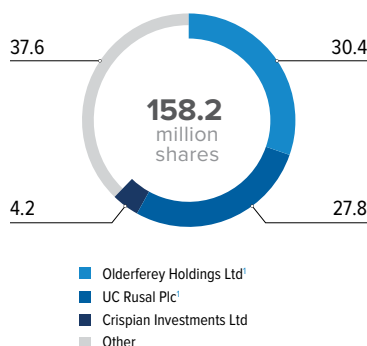
The Company placed no preferred shares.

As at 31 December 2017, there were registered in the shareholder register:

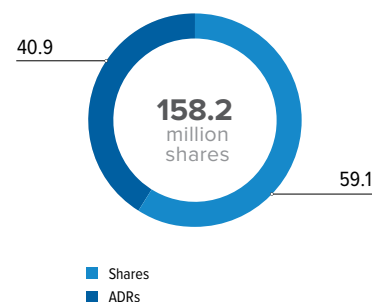
## 39 473 persons

39,445 individuals  
28 legal entities  
3 nominal holders

### Share capital structure, 31 December 2017 // %



### Share and ADR split, 31 December 2017 // %



## Holders of MMC Norilsk Nickel's shares and American depositary receipts (ADRs)

Holders	Share in the authorised capital, %		
	31 December 2015	31 December 2016	31 December 2017
Olderferey Holdings Ltd <sup>1</sup>	30.4	30.4	30.4
UC Rusal Plc <sup>1</sup>	27.8	27.8	27.8
Crispian Investments Ltd	5.5	4.2	4.2
Other	36.3	37.6	37.6

<sup>1</sup> Indirect control via controlled entities.

# Securities

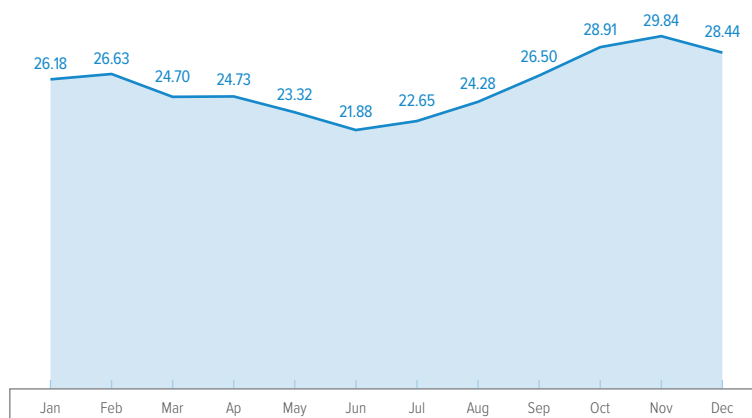
Stock exchanges trade in MMC Norilsk Nickel's shares and ADRs.

As at 31 December 2017, the Company's capitalisation stood at USD 29.7 bn, up 12% y-o-y.

**+12%**

**USD 29.7 bn**  
Nornickel's capitalisation

### Average monthly capitalisation in 2017 // USD bn



Source: Bloomberg



# Ordinary shares

The Company's ordinary shares have been trading on the Russian market since 2001.

They are included in the Moscow Exchange's Blue Chip Index (ticker symbol: GMKN) and rank among liquid instruments in the Russian securities market.

MMC Norilsk Nickel's registrar is Independent Registrar Company. The registrar provides a full scope of services to the Company's shareholders. Shareholders (individuals and legal entities) listed in the Company's shareholder register have access to the Shareholder's Personal Account, where they can:

- view the number and price of their shares,
- check dividends accrued and paid,
- see the date of the upcoming General Meeting of Shareholders,
- participate in General Meetings of Shareholders through e-voting.

Access to the personal account can be obtained at a branch of Independent Registrar Company.

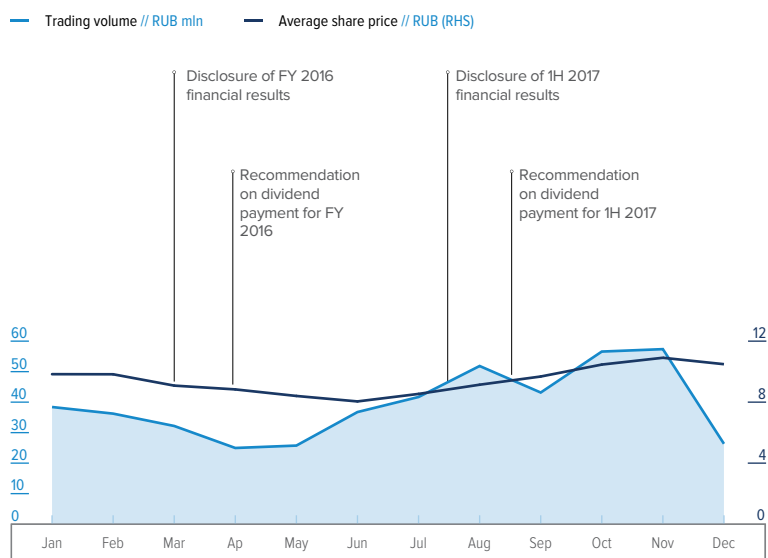
For more details on the registrar, please see the [Contacts](#) section.

[p. 295](#)



**The Shareholder's  
Personal Account**

## Share price and trading volume on the Moscow Exchange in 2017



## Share price and MOEX Index in 2017 // %



Source: Bloomberg

## Share price and trading volume on the Moscow Exchange

Date	Share price, RUB			Volume, shares	Market cap at end of period, RUB bn
	Min	Max	End of period		
2013	4,105	6,101	5,399	72,088,571	854
2014	5,150	10,805	8,080	75,215,906	1,279
2015	8,590	12,106	9,150	58,018,280	1,448
2016	8,050	11,070	10,122	48,275,360	1,602
<b>2017, incl.</b>	<b>7,791</b>	<b>11,610</b>	<b>10,850</b>	<b>49,456,624</b>	<b>1,717</b>
Q1	8,807	10,439	8,929	11,081,179	1,413
Q2	7,791	9,186	8,068	10,419,785	1,277
Q3	8,197	9,920	9,920	14,867,898	1,570
Q4	9,876	11,610	10,850	13,087,762	1,717

Source: Moscow Exchange



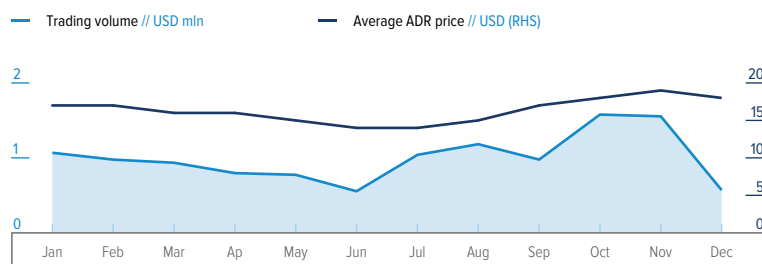
# ADRs

In 2001, MMC Norilsk Nickel issued ADRs for its shares. Currently, shares are convertible into ADRs at a ratio of 1:10. Depositary services for ADR transactions are provided by the Bank of New York Mellon, and custody services are provided by VTB Bank.

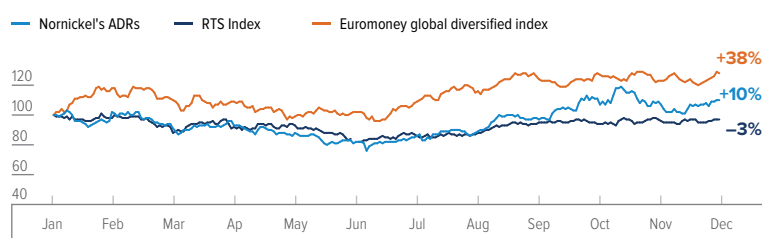
ADRs are traded in the electronic trading system of OTC markets of the London Stock Exchange (ticker symbol: MNOD), on the US OTC market (ticker symbol: NILSY), and on many other exchanges.

As at 31 December 2017, the total number of ADRs issued against MMC Norilsk Nickel's shares was 647,562,500, or 40.9% of the authorised capital. The number of ADRs traded on stock exchanges is not constant, and depositary receipt holders may convert their securities into shares and vice versa.

## ADR price and trading volume on the London Stock Exchange in 2017



## ADR price and global indices // %



Source: Bloomberg

## ADR price and trading volume on the OTC market of the London Stock Exchange

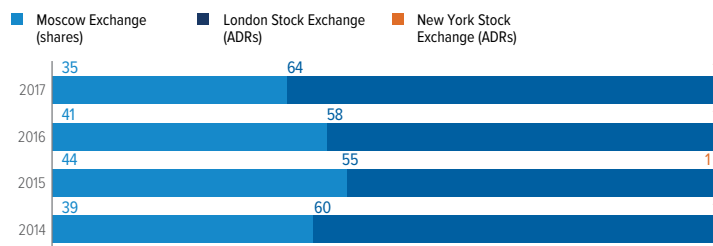
Date	ADR price, USD			Volume, shares	Market cap at end of period, USD mln
	Min	Max	End of period		
2013	12.4	20.3	16.6	1,021,589,603	26,300
2014	14.2	21.5	14.2	1,162,822,466	22,503
2015	12.4	21.6	12.7	724,594,769	20,042
2016	10.4	18.2	16.8	647,017,484	26,569
<b>2017, incl.</b>	<b>13.0</b>	<b>20.2</b>	<b>18.7</b>	<b>737,658,803</b>	<b>29,655</b>
Q1	14.8	17.6	15.7	182,345,505	24,876
Q2	13.0	16.3	13.8	144,255,268	21,838
Q3	13.9	17.2	17.2	211,593,420	27,242
Q4	17.2	20.2	18.7	199,464,610	29,655

Source: Bloomberg



For more details on trading in the Company's shares and ADRs, please see our website

## Share and ADR trading volume by exchanges // %



# Bonds

In 2017, the Company successfully placed two Eurobond issues for a total of USD 1.5 bn against a favourable market backdrop: April saw us close the offering of USD 1.0 bn Eurobonds due in 2023 with a coupon rate of 4.10% that was inside the Company's outstanding Eurobond curve, followed by a second USD 500 mln issue due in 2022 with a coupon rate of 3.849% (the lowest among the Company's outstanding bonds) placed in June.

In 2017, the Company had five Eurobond issues outstanding for a total amount of USD 4,250 mln with maturities in 2018, 2020, 2022 and 2023, and one issue of rouble exchange-traded bonds for RUB 15 bn due in 2026.

As at the end of 2017, the Company boasted credit ratings from three leading international rating agencies:

Fitch Ratings: **BBB– / Stable**  
Standard & Poor's: **BBB– / Stable**  
Moody's: **Ba1 / Stable**

On 30 January 2018, Moody's upgraded Nor Nickel's credit rating to Baa3 (investment grade) and raised its outlook from stable to positive following an increase in Russia's country ceilings for foreign currency debt to the same Baa3 level and a change in the outlook on Russia's rating from stable to positive. The Company's credit ratings from all the three rating agencies (Fitch, Moody's and S&P Global) currently qualify as investment grade.

## Eurobonds

Instrument	Eurobonds 2018 (LPN)	Eurobonds 2020 (LPN)	Eurobonds 2022 (LPN)	Eurobonds 2022 (LPN)	Eurobonds 2023 (LPN)
<b>Issuer</b>	MMC Finance D.A.C.	MMC Finance D.A.C.	MMC Finance D.A.C.	MMC Finance D.A.C.	MMC Finance D.A.C.
<b>Issue size</b>	USD 750 mln	USD 1,000 mln	USD 500 mln	USD 1,000 mln	USD 1,000 mln
<b>Coupon rate</b>	4.375%	5.55%	3.849%	6.625%	4.10%
<b>Offering date</b>	30 April 2013	28 October 2013	8 June 2017	14 October 2015	11 April 2017
<b>Maturity date</b>	30 April 2018	28 October 2020	8 April 2022	14 October 2022	11 April 2023
<b>Coupon dates</b>	30 October / 30 April	28 October / 28 April	8 October / 8 April	14 October / 14 April	11 October / 11 April
<b>Issue rating</b>	BBB-/Baa3/BBB-	BBB-/Baa3/BBB-	BBB-/ – /BBB-	BBB-/Baa3/BBB-	BBB-/ – /BBB-

## Rouble bonds

<b>Instrument</b>	Exchange-traded bonds, BO-05
<b>Issuer</b>	MMC Norilsk Nickel
<b>ISIN</b>	RU000A0JW5C7
<b>Offering date</b>	19 February 2016
<b>Maturity date</b>	6 February 2026
<b>Issue size</b>	RUB 15 bn
<b>Coupon rate</b>	11.60%
<b>Coupon dates</b>	Each 182 days starting from the offering date

# Dividends

## Dividend policy

MMC Norilsk Nickel's Dividend Policy aims to balance the interests of the Company and its shareholders, enhance the Company's investment case and market capitalisation, and ensure respect of shareholder rights.

The Company has put in place the Regulations on the Dividend Policy to ensure transparency on how dividends are calculated and paid out.

Under the Company's dividend policy, in determining the recommended dividend amount, the Board of Directors seeks to make sure that annual dividends on the Company's shares make up at least 30% of the Group's consolidated EBITDA.

### Key principles of Nornickel's dividend policy:

- **Legality:** compliance with the Russian law, the Company's Charter and by-laws;
- **Transparency:** transparency on how dividends are calculated and paid out;
- **Balance:** dividend payouts to shareholders along with long-term business development and capitalisation growth for the Company;
- When calculating dividends, MMC Norilsk Nickel accounts for the cyclical nature of the metals market and for the need to maintain a high level of creditworthiness. As a result, the amount of dividends may change depending on the Company's operating profit and leverage.

The decision to pay dividends is made by the General Meeting of Shareholders based on recommendations of the Board of Directors. The General Meeting of Shareholders also takes into account the Board's recommendations to determine the dividend amount and record date, which shall be set not earlier than 10 days before and not later than 20 days after the General Meeting of Shareholders.

Dividends to a nominee shareholder listed on the shareholder register shall be paid within 10 business days, while dividends to other persons listed on the shareholder register shall be paid within 25 business days after the record date.

## Dividend report

Dividends are paid to individuals/entities whose rights to shares are recorded in the shareholder register by Independent Registrar Company, MMC Norilsk Nickel's registrar

Individuals/entities whose rights to shares are recorded by a nominee shareholder are paid dividends via their nominee shareholder.

In accordance with Clause 9 of Article 42 of Federal Law No. 208-FZ On Joint-Stock Companies dated 26 December 1995, any person who has not received the declared dividends due to the fact that their accurate address or banking details were not available to the company or the registrar as required, or due to any other delays on the part of the creditor, may request payment of such dividends (unpaid dividends) during the period of three years from the date of the resolution to pay the same.

On 24 May 2018 the Company's Board of Directors recommended that the General Meeting of Shareholders approve final dividends for FY 2017 in the amount of

**RUB 607.98 per share**

(~USD 9.87 at the RUB/USD exchange rate the Russian Central Bank as of May 24, 2018)

per share totalling

**RUB 96.2 mln**

(~USD 1,562 at the RUB/USD exchange rate the Russian Central Bank as of May 24, 2018)

### Dividends paid<sup>3</sup>

Period	RUB mln	USD mln
<b>2017</b>	<b>176,246</b>	<b>2,971</b>
2016	86,712	1,232
2015	154,227	2,859
2014	159,914	3,281

### Dividend history<sup>4</sup>

Period	Declared dividends <sup>5</sup>		Dividend per share/ADR	
	RUB mln	USD mln	RUB	USD
<b>Total for 2017</b>	<b>131,689</b>	<b>2,162</b>	<b>832</b>	<b>13.66</b>
FY2017 <sup>6</sup>	96,210	1,562	608	9.87
6M 2017	35,479	600	224	3.79
<b>Total for 2016</b>	<b>140,894</b>	<b>2,339</b>	<b>890</b>	<b>14.78</b>
FY2016	70,593	1,239	446	7.83
9M 2016	70,301	1,100	444	6.95
<b>Total for 2015</b>	<b>135,642</b>	<b>2,148</b>	<b>857</b>	<b>13.57</b>
FY2015	36,419	548	230	3.46
9M 2015	50,947	800	322	5.06
6M 2015	48,276	800	305	5.06
<b>Total for 2014</b>	<b>226,668</b>	<b>4,798</b>	<b>1,432</b>	<b>30.32</b>
FY2014	106,031	2,018	670	12.75
9M 2014	120,637	2,780	762	17.57

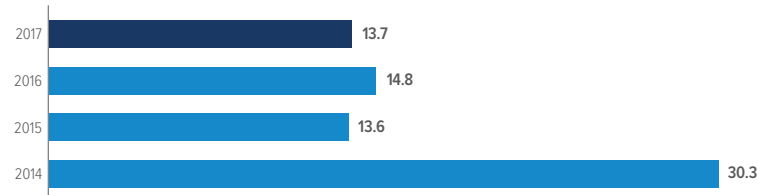
<sup>3</sup> Dividend paid during the above periods, excluding treasury shares.

<sup>4</sup> For dividend history covering earlier periods, please see our website.

<sup>5</sup> Calculated at the Bank of Russia's exchange rate as at the date of the Board of Directors' meeting.

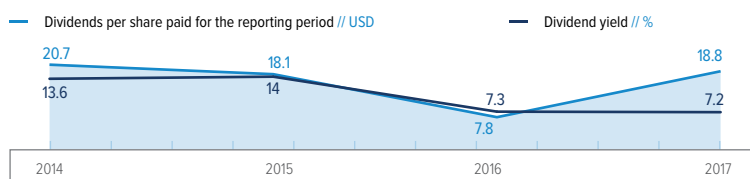
<sup>6</sup> On 24 May 2018, the Company's Board of Directors recommended that the General Meeting of Shareholders approve final dividends for 2017.

### Declared dividends per share<sup>1</sup> // USD



<sup>1</sup> Based on the total amount of dividends for 2017 recommended by the Board of Directors for approval by the General Meeting of Shareholders. Declared dividends based on the Bank of Russia's exchange rate as at the date of the Board of Directors' meeting.

### Dividend yield<sup>2</sup>



<sup>2</sup> Dividend yield for the periods calculated based on the amount of dividends for the calendar year recommended by the Board of Directors and on the average ADR price by Bloomberg.

Committed to developing Tier-1 assets, Nornickel has been able to provide a consistently high dividend yield to its shareholders over the last five years. We expect the trend to continue.

# Taxation

Income from securities is taxable pursuant to the applicable tax laws of the Russian Federation<sup>1</sup>.

Reduced tax rates or exemptions may apply to individuals and foreign entities who are not tax residents of Russia pursuant to international double tax treaties.

Starting from 1 January 2017, in order to apply for tax benefits under international double tax treaties, foreign organisations must confirm their permanent residence in a state which has a double tax treaty signed with Russia, and also provide the income paying tax agent with a document confirming the right of the organisation to receive such income (Clause 1, Article 312 of the Russian Tax Code).

Should the organisation fail to provide such confirmation by the date of the payout, the Russian tax agent shall withhold the tax at the standard rates stipulated by Clauses 2 and 3, Article 284 of the Russian Tax Code.

## Dividend tax formula<sup>2</sup>

$$AT = P \times TR \times (D_1 - D_2)$$

**AT** — amount of tax to be withheld from the income of the recipient of dividends;

**P** — proportion of the dividend amount payable to one recipient to the total dividend amount to be distributed;

**TR** — tax rate for Russian entities (0% or 13%);

**D<sub>1</sub>** — dividend amount to be distributed among all recipients;

**D<sub>2</sub>** — dividend amount<sup>3</sup>, received by the entity paying dividends, provided that previously these amounts were not included in the taxable income.

## Tax treatment of income from securities // %

Item	Income from securities transactions	Interest income on securities	Dividend income on securities
<b>Individuals</b>			
Residents	13	13	13
Non-residents	30 <sup>4</sup>	30	15
<b>Legal entities</b>			
Russian companies	20 <sup>5</sup>	20	13 <sup>6</sup>
Non-resident companies	20	20	15

<sup>1</sup> Chapter 23 (Personal Income Tax) and Chapter 25 (Corporate Income Tax) of the Russian Tax Code.

<sup>2</sup> The formula is not applicable to dividends paid to foreign entities and/or individuals who are not tax residents of Russia.

<sup>3</sup> Excluding the dividend amount eligible for a zero tax rate pursuant to Subclause 1, Clause 3, Article 284 of the Russian Tax Code.

<sup>4</sup> If shares or other securities are sold in Russia.

<sup>5</sup> Or 0%, if shares (interests) of Russian entities acquired on or after 1 January 2011 are sold, provided that as at the date of their sale the shares (interests) have been owned for over five years and subject to one of the conditions stipulated by Clause 2, Article 284.2 of the Russian Tax Code.

<sup>6</sup> Or 0%, if as at the date of the dividend payout resolution a Russian entity has been owning an interest of 50% (and more) in the authorised capital of the entity paying dividends, for 365 days (and more).



# Shareholder rights

All shareholders, including minority and institutional shareholders, enjoy equal rights and treatment in their relations with the Company, in particular the rights to:

- participate in General Meetings of Shareholders and vote on all items within its competence;
- receive dividends should the General Meeting of Shareholders pass the relevant resolution;
- receive part of the Company's property in case of its liquidation;
- have access to information about the Company's operations.

The Company has the Regulations on the General Meeting of Shareholders in place that set forth procedures to convene, prepare and conduct its general meetings.

For more details on the registrator, please see the [Contacts](#) section.

 p. 295

The Annual General Meeting of Shareholders is held on an annual basis not earlier than three months before and not later than six months after the end of the financial year. General meetings other than Annual General Meetings of Shareholders are defined as Extraordinary General Meetings of Shareholders and are held as per resolution of the Board of Directors at their discretion or at the request of the Audit Commission, the Company's auditor, or shareholders who own at least 10% of the Company's voting shares as at the date of the request.

The notice of a General Meeting of Shareholders is published in the Rossiyskaya Gazeta newspaper and the Taimyr newspaper and posted on the Company's website not later than 30 days prior to the date of the general meeting. If a general meeting is conducted in the form of absentee voting (by ballot), the notice is given in the above mentioned newspapers at least 30 days prior to the deadline set for the collection of ballot sheets.

Holders of MMC Norilsk Nickel's shares who are registered in the shareholder register receive a ballot from the Company and are entitled to exercise their voting right by sending the ballot sheet to the Company or by attending the General Meeting of Shareholders (in person or by proxy).

Holders of MMC Norilsk Nickel's shares who are clients of nominal holders can also participate in the General Meeting of Shareholders by instructing the nominal holders in accordance with the Russian securities law.

Holders of MMC Norilsk Nickel's shares (individuals and legal entities registered in the shareholder register and clients of nominal holders) can participate in the General Meeting of Shareholders through e-voting using the Shareholder's Personal Account should such option be provided for by the Board of Directors in the process of general meeting preparation. Access to the personal account can be obtained at a branch of Independent Registrar Company.

ADR holders do not receive ballot sheets directly from the Company. According to the depository agreement, the Company notifies the depository, which as soon as possible, and provided it is not prohibited by the Russian law, notifies ADR holders about the general meeting and encloses voting materials and a document describing the voting procedure for ADR holders. To exercise their voting rights, ADR holders instruct the depository accordingly.



**For more details on the Regulations on the General Meeting of Shareholders, please see the Investor Relations section on the Company's corporate website**

A General Meeting of Shareholders shall be considered properly convened (having a quorum) if the shareholders who own in aggregate more than 50% of the votes granted by the voting shares of the Company are present at the meeting.

Shareholders owning at least 2% of the Company's voting shares may propose items to be included in the agenda of Annual General Meetings of Shareholders and may put forward candidates for election to the Board of Directors and Audit

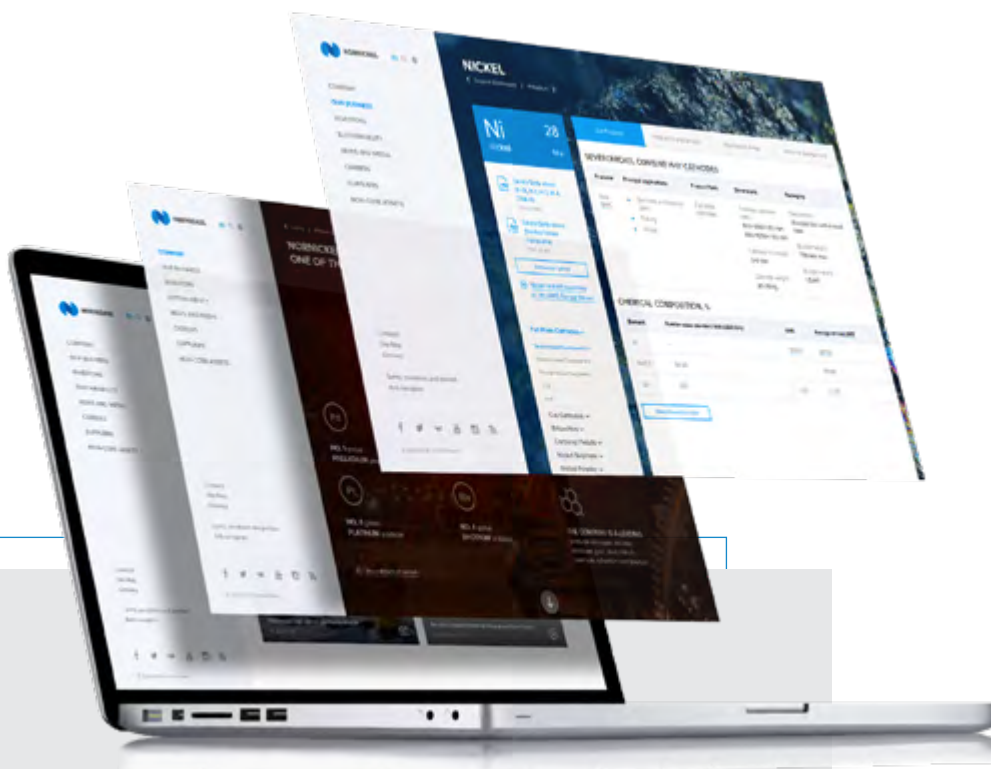
Commission of the Company as and when prescribed by the Federal Law and the Company's Charter.

Voting at the General Meeting of Shareholders is conducted in accordance with the "one share, one vote" rule, unless otherwise provided for in the Federal Law. Members of the Company's Board of Directors are elected through cumulative voting, i.e. the number of votes held by each shareholder is multiplied by the number of persons to be elected to the Board of Directors.

# Transparency



Nornickel corporate website



## 2017 MILESTONE

In September 2017, Nornickel launched a new corporate website, now operating on two domains – [www.nornickel.ru](http://www.nornickel.ru) and [www.nornickel.com](http://www.nornickel.com) for Russian and English speakers, respectively. The new website will help streamline interaction with stakeholders, tackle existing and potential business challenges and provide updates on key developments within the Company. Among other things, the website includes the new ESG Strategy subsection. To create the website, the Company leveraged best-in-class web technologies.

In 2017, the Company held

**>350**  
meetings

with institutional investors



For more details on the events, please see  
the IR Calendar on the Company's website

Company overview

Strategy overview

Market overview

Business overview

Corporate governance

Information for shareholders

Appendix

In 2017, the Company's Board of Directors approved the amended version of MMC Norilsk Nickel's Information Policy Regulation s, which primarily seeks to provide stakeholders with full and reliable information on the Company's operations and collect feedback.

In line with its key disclosure principles, the Company strives to provide any information on a regular and timely basis and make it available to stakeholders on the basis of equal rights and opportunities. We also work to ensure that the information is reliable and complete while maintaining a reasonable balance between transparent operations and business considerations. The Company provides updates in the media and on its corporate website at <https://www.nornickel.ru/>.

The Company's disclosure procedures comply with the Russian law, the rules of the Moscow Exchanges and international regulations.

MMC Norilsk Nickel also seeks to improve transparency by releasing additional information in excess of that required by the law. The Company discloses information to shareholders and investors through the following channels: press releases, presentations, annual reports, CSR reports,

statements on material facts, disclosure feeds, and RNS. The Company makes a point of parallel disclosure in domestic and foreign markets.

The Company's quarterly disclosures include operating indicators, the issuer's quarterly reports, RAS financial (accounting) statements, and affiliates lists. IFRS statements are disclosed on a semi-annual basis. The IFRS disclosures are followed by conference calls and webcasts of the Company's senior management with analysts and investors for the purpose of providing the market with the required information and comments. In addition, to enhance transparency, the Company makes extensive use of all communication tools available, including participation of senior managers in conferences, speeches, presentations, investor days, and production site visits for investors

The Company engages in an ongoing dialogue with both existing shareholders and potential investors. During the past year, the Company maintained close interaction with the investor community and shareholders, organising over 350 meetings with institutional investors and an Investor Day in London followed by a road show in Europe and the US.

# ESG: environmental protection, social responsibility and corporate governance

In recent years, the sustainable development agenda has been gaining ground, with an increasing number of investors and asset managers opting for responsible investment.

In 2017, the Company held around 20 target meetings with investors centred around environmental protection, social responsibility and corporate governance (ESG).

To improve interaction with investors and agencies engaged in assessing the Company against ESG criteria, Nornickel set up a dedicated section on its website that features all the required information: <https://www.nornickel.com/investors/esg/>

Also, it developed an ESG databook providing information on ESG indicators starting from 2010.

## Our key ESG achievements :

- In 2017, Nornickel earned a top position in the World Wildlife Fund's Environmental Responsibility Rating of Metals and Mining Companies in Russia;
- In 2017, the Company moved up from the last year's 56th to the 35th position in Sustainalytics's ESG rating, with a score of 58 against 49 in 2016;
- In January 2018, MSCI ESG Research upgraded Nornickel's rating to a B level following a reduction in sulphur dioxide emissions by 6% compared to 2015, and strong anti-corruption commitment;
- In December 2016, Nornickel was included in the FTSE4Good Emerging Index, a leading CSR index;
- In November 2016, the Company joined the United Nations Global Compact, also becoming member of the Association "National Global Compact Network" in June 2017.



**ESG Strategy**  
is available on website



**Internal documents  
and policies are available  
on website**



In 2017, the Company's Board of Directors approved a number of social and environmental policies available on the Company's website, including:

- ☐ Human rights policy
- ☐ Freedom of association policy
- ☐ Indigenous rights policy
- ☐ Local community relations policy
- ☐ Equal opportunities programme
- ☐ Working conditions policy
- ☐ Environmental policy (amended and supplemented)
- ☐ Biodiversity policy
- ☐ Environmental impact assessment policy
- ☐ Renewable energy sources policy
- ☐ Anti-corruption policy (amended and supplemented)

In 2017, the Company held around

**20**  
target meetings with ESG  
investors

# Stakeholder engagement

STAKEHOLDERS	KEY INTERESTS OF STAKEHOLDERS	INTERACTION MECHANISMS	KEY INTERACTION EVENTS IN 2017
Shareholders and investors	<ul style="list-style-type: none"> <li>• Capitalisation growth</li> <li>• Dividend payments</li> <li>• Transparency of information</li> </ul>	<ul style="list-style-type: none"> <li>• One-on-one meetings</li> <li>• Conference calls</li> <li>• Phone calls</li> <li>• Emails</li> <li>• Site visits</li> </ul>	<ul style="list-style-type: none"> <li>• Investor Day in London</li> <li>• Conference calls and a road show following the disclosure of IFRS financial statements</li> </ul>
Investment banks (brokers)	<ul style="list-style-type: none"> <li>• Transparency of information</li> <li>• Stability</li> </ul>	<ul style="list-style-type: none"> <li>• Meetings</li> <li>• Conference calls</li> <li>• Phone calls</li> <li>• Emails</li> </ul>	<ul style="list-style-type: none"> <li>• Investor Day in London</li> <li>• Conference calls and a road show following the disclosure of IFRS financial statements</li> </ul>

The Company's 2016 Annual Report won 10 awards and diplomas at prestigious Russian and foreign contests, including those hosted by the, Expert RA, Vision Awards LACP, ARC and Moscow Exchange. The report boasts eight LACP awards, including top platinum in the printed version and silver in the online annual reports in the mining category.

The Company's 2016 Corporate Social Responsibility Report won four awards in the LACP's Vision Awards competition while also ranking among Top 40 non-financial reports globally and topping among CSR reports of Russian metals and mining companies. CSR report also received a special award at the Moscow Exchange.

Nornickel's website won the Moscow Exchange's award for the best design, navigation and disclosure, and ARFI's IR-cases contest.





# APPENDIXES





<b>220</b>	Consolidated financial statements
<b>267</b>	The Group structure
<b>268</b>	History of production indicators
<b>270</b>	Minerals resources and reserves
<b>272</b>	Report on compliance with principles and recommendations set forth in the Corporate Governance Code
<b>292</b>	Glossary
<b>294</b>	Metric conversion table and currency exchange rates
<b>295</b>	Contacts

# Consolidated financial statements

## INDEX

<b>221</b>	<b>Statement of management's responsibilities for the preparation and approval of the consolidated financial statements for the year ended 31 December 2017</b>
<b>222</b>	<b>Independent Auditors' report</b>
<b>225</b>	<b>Consolidated financial statements for the year ended 31 December 2017</b>
225	— Consolidated income statement
226	— Consolidated statement of comprehensive income
227	— Consolidated statement of financial position
229	— Consolidated statement of cash flows
231	— Consolidated statement of changes in equity
232	— Notes to the consolidated financial statements



# Statement of management's responsibilities for the preparation and approval of the consolidated financial statements for the year ended 31 December 2017

The following statement, which should be read in conjunction with the auditors' responsibilities stated in the auditors' report set out on pages 222–224, is made with a view to distinguishing the respective responsibilities of management and those of the auditors in relation to the consolidated financial statements of Public Joint Stock Company "Mining and Metallurgical Company Norilsk Nickel" and its subsidiaries (the "Group").

Management is responsible for the preparation of the consolidated financial statements that present fairly in all material aspects the consolidated financial position of the Group as at 31 December 2017 and consolidated statements of income, comprehensive income, cash flows and changes in equity for the year then ended, in accordance with International Financial Reporting Standards ("IFRS").

In preparing the consolidated financial statements, management is responsible for:

- selecting suitable accounting principles and applying them consistently;
- making judgements and estimates that are reasonable and prudent;
- stating whether IFRS have been followed, subject to any material departures disclosed and explained in the consolidated financial statements; and
- preparing the consolidated financial statements on a going concern basis, unless it is inappropriate to presume that the Group will continue in business for the foreseeable future.

Management, within its competencies, is also responsible for:

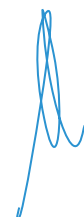
- designing, implementing and maintaining an effective system of internal controls throughout the Group;
- maintaining statutory accounting records in compliance with local legislation and accounting standards in the respective jurisdictions in which the Group operates;
- taking steps to safeguard the assets of the Group; and
- detecting and preventing fraud and other irregularities.

The consolidated financial statements for the year ended 31 December 2017 were approved by:

President  
**V.O. Potanin**



Senior Vice President –  
Chief Financial Officer  
**S.G. Malyshev**



Moscow, Russia  
6 March 2018



# Independent Auditors' Report

## To the Shareholders and Board of directors of PJSC "Mining and Metallurgical Company Norilsk Nickel"

### Opinion

We have audited the consolidated financial statements of PJSC "Mining and Metallurgical Company Norilsk Nickel" (the "Company") and its subsidiaries (the "Group"), which comprise the consolidated statement of financial position as at 31 December 2017, the consolidated income statement, the consolidated statements of comprehensive income, changes in equity and cash flows for the year then ended, and notes, comprising significant accounting policies and other explanatory information.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as at 31 December 2017, and its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with International Financial Reporting Standards (IFRS).

### Basis for Opinion

We conducted our audit in accordance with International Standards on Auditing (ISAs). Our responsibilities under those standards are further described in the *Auditors' Responsibilities for the Audit of the Consolidated Financial Statements* section of our report. We are independent of the Group in accordance with the independence requirements that are relevant to our audit of the consolidated financial statements in the Russian Federation and with the International Ethics Standards Board for Accountants' *Code of Ethics for Professional Accountants* (IESBA Code), and we have fulfilled our other ethical responsibilities in accordance with the requirements in the Russian Federation and the IESBA Code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

### Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Audited entity: PJSC "Mining and Metallurgical Company Norilsk Nickel"  
Registration No. in the Unified State Register of Legal Entities 1028400000298  
Dudinka, Krasnoyarsk Region, Russian Federation

Independent auditor: JSC "KPMG", a company incorporated under the Laws of the Russian Federation, a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity.  
Registration No. in the Unified State Register of Legal Entities 1027700125628.  
Member of the Self-Regulated organization of auditors "Russian Union of auditors" (Association). The Principal Registration Number of the Entry in the Register of Auditors and Audit Organisations: No. 11603053203.



**Nkomati Nickel Mine Measurement (losses from impairment of assets of Nkomati Nickel Mine)**

Please refer to the Note 14 in the financial statements.

The Key Audit Matter	How the matter was addressed in our audit
<p>As at 31 December 2017 the Group has a 50% interest in the joint operation Nkomati Nickel Mine (hereinafter “Nkomati”).</p> <p>As at 31 December 2017 the Group performed an impairment test of Nkomati property, plant and equipment and recognized an impairment loss for the excess of their carrying value over value in use.</p> <p>Given the value of property, plant and equipment and the significant judgment involved in preparation of discounted cash flows model of Nkomati, we consider the determination of recoverable amount to be a key audit matter.</p>	<p>Our audit procedures included testing significant assumptions (metal prices and forecasts of exchange rate of South African rand to US dollar, as well as discount rate) and evaluating methodology used by the Group. We involved KPMG valuation specialists to assist us in evaluating the methodology used by the Group and analysis of key assumptions in terms of their reasonableness and relevance, taking into consideration current macroeconomic conditions, historic performance results and future plans. We compared:</p> <ul style="list-style-type: none"> <li>• forecast metal prices, inflation rates in South Africa and the USA with publicly available market information;</li> <li>• discount rate calculation to our own assessment of key components of discount rate calculation.</li> </ul> <p>In addition, we analyzed forecast cash flows, by comparing production volumes to reserves estimates and historical operating performance of Nkomati.</p> <p>We also assessed appropriateness and completeness of the disclosures in the financial statements in relation to significant assumptions used in determination of recoverable amount.</p>

**Other Information**

Management is responsible for the other information. The other information comprises the Financial Overview (MD&A), but does not include the consolidated financial statements and our auditors' report thereon, which we obtained prior to the date of this auditors' report, and the information included in other sections of Annual report for 2017, which is expected to be made available to us after that date.

Our opinion on the consolidated financial statements does not cover the other information and we do not and will not express any form of assurance conclusion thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information identified above and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated.

If, based on the work we have performed on the other information that we have obtained prior to the date of this auditors' report, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

**Responsibilities of Management and Those Charged with Governance for the Consolidated**

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with IFRS, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Group's financial reporting process.

## Auditors' Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with ISAs, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditors' report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditors' report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditors' report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

The engagement partner on the audit resulting in this independent auditors' report is:

**Andrey Kim**  
JSC "KPMG"  
Moscow, Russia  
6 March, 2018



# Consolidated income statement for the year ended 31 December 2017

## Consolidated income statement for the year ended 31 December 2017

US Dollars million

	Notes	For the year ended 31 December 2017	For the year ended 31 December 2016
<b>Revenue</b>			
Metal sales	6	8,415	7,646
Other sales		731	613
<b>Total revenue</b>		<b>9,146</b>	<b>8,259</b>
Cost of metal sales	7	(3,968)	(3,633)
Cost of other sales		(632)	(508)
<b>Gross profit</b>		<b>4,546</b>	<b>4,118</b>
General and administrative expenses	8	(759)	(581)
Selling and distribution expenses	9	(75)	(111)
Impairment of non-financial assets	14	(227)	(61)
Other net operating expenses	10	(362)	(84)
<b>Operating profit</b>		<b>3,123</b>	<b>3,281</b>
Foreign exchange gain, net		159	491
Finance costs	11	(535)	(453)
Impairment of available-for-sale investments	15	–	(153)
Gain/(loss) from disposal of subsidiaries and assets classified as held for sale	20	20	(4)
Income from investments, net	12	77	114
<b>Profit before tax</b>		<b>2,844</b>	<b>3,276</b>
Income tax expense	13	(721)	(745)
<b>Profit for the year</b>		<b>2,123</b>	<b>2,531</b>
Attributable to:			
Shareholders of the parent company		2,129	2,536
Non-controlling interests		(6)	(5)
		<b>2,123</b>	<b>2,531</b>
<b>EARNINGS PER SHARE</b>			
Basic and diluted earnings per share attributable to shareholders of the parent company (US Dollars per share)	21	13.5	16.1

The accompanying notes on pages 232–266 form an integral part of the consolidated financial statements

## Consolidated statement of comprehensive income for the year ended 31 December 2017

US Dollars million

	For the year ended 31 December 2017	For the year ended 31 December 2016
<b>Profit for the year</b>	<b>2,123</b>	<b>2,531</b>
<b>Other comprehensive income</b>		
<b>Items to be reclassified to profit or loss in subsequent periods:</b>		
Effect of translation of foreign operations	15	13
<b>Other comprehensive income to be reclassified to profit or loss in subsequent periods, net</b>	<b>15</b>	<b>13</b>
<b>Items not to be reclassified to profit or loss in subsequent periods:</b>		
Effect of translation to presentation currency	277	561
<b>Other comprehensive income not to be reclassified to profit or loss in subsequent periods, net</b>	<b>277</b>	<b>561</b>
<b>Other comprehensive income for the year, net of tax</b>	<b>292</b>	<b>574</b>
<b>Total comprehensive income for the year, net of tax</b>	<b>2,415</b>	<b>3,105</b>
<b>Attributable to:</b>		
Shareholders of the parent company	2,417	3,106
Non-controlling interests	(2)	(1)
	<b>2,415</b>	<b>3,105</b>

The accompanying notes on pages 232–266 form an integral part of the consolidated financial statements

## Consolidated statement of financial position at 31 December 2017

US Dollars million

	Notes	At 31 December 2017	At 31 December 2016
<b>ASSETS</b>			
<b>Non-current assets</b>			
Property, plant and equipment	14	10,960	9,306
Intangible assets		148	94
Other financial assets	15	192	190
Other taxes receivable	16	1	2
Deferred tax assets	13	77	72
Other non-current assets	17	731	1,013
		<b>12,109</b>	<b>10,677</b>
<b>Current assets</b>			
Inventories	17	2,689	1,912
Trade and other receivables	18	327	173
Advances paid and prepaid expenses		71	66
Other financial assets	15	99	8
Income tax receivable		82	82
Other taxes receivable	16	296	277
Cash and cash equivalents	19	852	3,325
Other current assets		110	3
		<b>4,526</b>	<b>5,846</b>
<b>TOTAL ASSETS</b>		<b>16,635</b>	<b>16,523</b>
<b>EQUITY AND LIABILITIES</b>			
<b>Capital and reserves</b>			

The accompanying notes on pages 232–266 form an integral part of the consolidated financial statements



	Notes	At 31 December 2017	At 31 December 2016
Share capital	21	6	6
Share premium		1,254	1,254
Translation reserve		(4,490)	(4,778)
Retained earnings	27	7,557	7,340
<b>Equity attributable to shareholders of the parent company</b>		<b>4,327</b>	<b>3,822</b>
Non-controlling interests	22	331	74
		<b>4,658</b>	<b>3,896</b>
<b>Non-current liabilities</b>			
Loans and borrowings	23	8,236	7,276
Provisions	25	464	441
Trade and other long-term payables		402	523
Deferred tax liabilities	13	407	355
Other long-term liabilities		116	50
		<b>9,625</b>	<b>8,645</b>
<b>Current liabilities</b>			
Loans and borrowings	23	817	579
Trade and other payables	26	783	1,613
Dividends payable	27	6	1,164
Employee benefit obligations	24	377	301
Provisions	25	189	183
Derivative financial instruments		24	1
Income tax payable		9	2
Other taxes payable	16	147	139
		<b>2,352</b>	<b>3,982</b>
<b>TOTAL LIABILITIES</b>		<b>11,977</b>	<b>12,627</b>
<b>TOTAL EQUITY AND LIABILITIES</b>		<b>16,635</b>	<b>16,523</b>

The accompanying notes on pages 232–266 form an integral part of the consolidated financial statements

# Consolidated statement of cash flows for the year ended 31 December 2017

US Dollars million

	For the year ended 31 December 2017	For the year ended 31 December 2016
<b>OPERATING ACTIVITIES</b>		
<b>Profit before tax</b>	<b>2,844</b>	<b>3,276</b>
Adjustments for:		
Depreciation and amortisation	645	557
Impairment of non-financial assets	227	61
Impairment of available for sale investments	–	153
Loss on disposal of property, plant and equipment	9	16
(Gain)/loss from disposal of subsidiaries and assets classified as held for sale	(20)	4
Change in provisions and allowances	41	13
Finance costs and income from investments, net	458	360
Foreign exchange gain, net	(159)	(491)
Other	58	9
	<b>4,103</b>	<b>3,958</b>
Movements in working capital:		
Inventories	(346)	(751)
Trade and other receivables	(174)	(3)
Advances paid and prepaid expenses	10	13
Other taxes receivable	(5)	(36)
Employee benefit obligations	9	44
Trade and other payables	(1,118)	835
Provisions	(48)	(45)
Other taxes payable	2	26
<b>Cash generated from operations</b>	<b>2,433</b>	<b>4,041</b>
Income tax paid	(670)	(530)
<b>Net cash generated from operating activities</b>	<b>1,763</b>	<b>3,511</b>
<b>INVESTING ACTIVITIES</b>		

The accompanying notes on pages 232–266 form an integral part of the consolidated financial statements

	For the year ended 31 December 2017	For the year ended 31 December 2016
Purchase of property, plant and equipment	(1,940)	(1,667)
Purchase of other financial assets	–	(150)
Purchase of intangible assets	(62)	(47)
Purchase of other non-current assets	(88)	(31)
Loans issued	(18)	(103)
Proceeds from repayment of loans issued	48	–
Net change in deposits placed	(80)	(10)
Proceeds from sale of other financial assets	25	10
Proceeds from disposal of property, plant and equipment	29	1
Proceeds from disposal of subsidiaries and assets classified as held for sale	99	3
Interest received	51	74
<b>Net cash used in investing activities</b>	<b>(1,936)</b>	<b>(1,920)</b>
<b>FINANCING ACTIVITIES</b>		
Proceeds from loans and borrowings	4,233	936
Repayments of loans and borrowings	(3,140)	(1,741)
Financial lease payments	(10)	(5)
Dividends paid	(2,971)	(1,232)
Dividends paid to non-controlling interest	(1)	–
Interest paid	(642)	(591)
Proceeds from sale of a non-controlling interest in a subsidiary	294	80
Sale of own shares from treasury stock	–	154
<b>Net cash used in financing activities</b>	<b>(2,237)</b>	<b>(2,399)</b>
<b>Net decrease in cash and cash equivalents</b>	<b>(2,410)</b>	<b>(808)</b>
<b>Cash and cash equivalents at the beginning of the year</b>	<b>3,325</b>	<b>4,098</b>
Effects of foreign exchange differences on balances of cash and cash equivalents	(63)	35
<b>Cash and cash equivalents at the end of the year</b>	<b>852</b>	<b>3,325</b>

The accompanying notes on pages 232–266 form an integral part of the consolidated financial statements

## Consolidated statement of changes in equity for the year ended 31 December 2017

US Dollars million

	Notes	Equity attributable to shareholders of the parent company						Non-controlling interests	Total
		Share capital	Share premium	Treasury shares	Translation reserve	Retained earnings	Total		
<b>Balance at 1 January 2016</b>		<b>6</b>	<b>1,254</b>	<b>(196)</b>	<b>(5,348)</b>	<b>6,523</b>	<b>2,239</b>	<b>22</b>	<b>2,261</b>
Profit/(loss) for the year		–	–	–	–	2,536	2,536	(5)	2,531
Other comprehensive income		–	–	–	570	–	570	4	574
<b>Total comprehensive income/(loss) for the year</b>		<b>–</b>	<b>–</b>	<b>–</b>	<b>570</b>	<b>2,536</b>	<b>3,106</b>	<b>(1)</b>	<b>3,105</b>
Dividends	27	–	–	–	–	(1,708)	(1,708)	–	(1,708)
Increase in non-controlling interest due to decrease in ownership of a subsidiary	22	–	–	–	–	25	25	55	80
Sale of own shares from treasury stock		–	–	196	–	(38)	158	–	158
Decrease in non-controlling interest due to increase in ownership of a subsidiary		–	–	–	–	2	2	(2)	–
<b>Balance at 31 December 2016</b>		<b>6</b>	<b>1,254</b>	<b>–</b>	<b>(4,778)</b>	<b>7,340</b>	<b>3,822</b>	<b>74</b>	<b>3,896</b>
Profit/(loss) for the year		–	–	–	–	2,129	2,129	(6)	2,123
Other comprehensive income		–	–	–	288	–	288	4	292
<b>Total comprehensive income/(loss) for the year</b>		<b>–</b>	<b>–</b>	<b>–</b>	<b>288</b>	<b>2,129</b>	<b>2,417</b>	<b>(2)</b>	<b>2,415</b>
Dividends	27	–	–	–	–	(1,846)	(1,846)	(1)	(1,847)
Increase in non-controlling interest due to decrease in ownership of a subsidiary	22	–	–	–	–	35	35	259	294
Other effects related to transactions with non-controlling interest owners		–	–	–	–	(100)	(100)	–	(100)
Decrease in non-controlling interest due to increase in ownership of a subsidiary		–	–	–	–	(1)	(1)	1	–
<b>Balance at 31 December 2017</b>		<b>6</b>	<b>1,254</b>	<b>–</b>	<b>(4,490)</b>	<b>7,557</b>	<b>4,327</b>	<b>331</b>	<b>4,658</b>

The accompanying notes on pages 232–266 form an integral part of the consolidated financial statements

# Notes to the consolidated financial statements for the year ended 31 December 2017

US Dollars million

## 1. General information

### Organisation and principal business activities

Public Joint-Stock Company "Mining and Metallurgical Company Norilsk Nickel" (the "Company" or "MMC Norilsk Nickel") was incorporated in the Russian Federation on 4 July 1997. The principal activities of the Company and its subsidiaries (the "Group") are exploration, extraction, refining of ore and nonmetallic minerals and sale of base and precious metals produced from ore. Further details regarding the nature of the business and structure of the Group are presented in note 33.

Major production facilities of the Group are located in Taimyr and Kola Peninsulas of the Russian Federation, and in Finland.

### BASIS OF PREPARATION

#### Statement of compliance

The consolidated financial statements of the Group have been prepared in accordance with International Financial Reporting Standards ("IFRS").

The entities of the Group maintain their accounting records in accordance with the laws, accounting and reporting regulations of the jurisdictions in which they are incorporated and registered. Accounting principles in certain jurisdictions may differ from those generally accepted under IFRS. Financial statements of such entities have been adjusted to ensure that the consolidated financial statements are presented in accordance with IFRS.

The Group issues a separate set of IFRS consolidated financial statements to comply with the requirements of Russian Federal Law No. 208 On consolidated financial statements ("208-FZ") dated 27 July 2010.

#### Basis of measurement

The consolidated financial statements of the Group are prepared on the historical cost basis, except for:

- mark-to-market valuation of by-products, in accordance with IAS 2 Inventories;
- mark-to-market valuation of certain classes of financial instruments, in accordance with IAS 39 Financial Instruments: Recognition and Measurement.

## 2. Changes in accounting policies

### Reclassification

Information for the year ended 31 December 2016 was recasted in accordance with requirement of IFRS 5 Non-current Assets Held for Sale and Discontinued Operations since the criteria for classification of Nkomati as assets held for sale were no longer met as at 31 December 2017 (refer to note 20).

At 31 December 2017 management reassessed classification of some expenses of cost of metal sales and selling and distribution expenses in order to better align cost of sales structure with management accounts and reporting (refer to notes 7 and 9). Information for the year ended 31 December 2016 has been reclassified to conform with the current period presentation.

### Standards and interpretations effective in the current year

In the preparation of these consolidated financial statements the Group has adopted all new and revised International Financial Reporting Standards and Interpretations issued by International Financial Reporting Interpretations Committee ("IFRIC") that are mandatory for adoption in annual periods beginning on 1 January 2017.

Adoption of amendments to the existing Standards detailed below did not have significant impact on the accounting policies, financial position or performance of the Group:

- IFRS 12 Disclosure of Interests in Other Entities (amended);
- IAS 7 Statement of Cash Flows (amended);
- IAS 12 Income Taxes (amended).



### Standards and interpretations in issue but not yet effective

At the date of authorisation of these consolidated financial statements, the following Standards and Interpretations or amendments to them were in issue but not yet effective and not early adopted:

Standards and Interpretations	Effective for annual periods beginning on or after
IFRS 1 First-time Adoption of International Financial Reporting Standards (amended)	1 January 2018
IFRS 2 Share-based Payment (amended)	1 January 2018
IFRS 4 Insurance Contracts (amended)	1 January 2018
IFRS 9 Financial Instruments (amended)	1 January 2018
IFRS 15 Revenue from Contracts with Customers	1 January 2018
IAS 28 Investments in Associates and Joint Ventures (amended)	1 January 2018
IAS 40 Investment Property (amended)	1 January 2018
IFRIC 22 Foreign Currency Transactions and Advance Consideration	1 January 2018
IFRS 16 Leases	1 January 2019
IFRIC 23 Uncertainty over Income Tax Treatments	1 January 2019
IFRS 17 Insurance Contracts	1 January 2021

Management of the Group plans to adopt all of the above standards and interpretations in the Group's consolidated financial statements for the respective periods.

IFRS 9 Financial Instruments (effective for annual periods beginning on or after 1 January 2018, early adoption is permitted) replaces IAS 39 Financial Instruments: Recognition and Measurement and introduces new classification and measurement, 'expected losses' impairment model for financial assets and new rules for hedge accounting. The standard will not materially affect the consolidated financial statements of the Group.

IFRS 15 Revenue from Contracts with Customers (effective for annual periods beginning on or after 1 January 2018, early adoption is permitted) establishes a comprehensive framework for accounting of revenue from customers. It replaces existing revenue recognition guidance, including IAS 18 Revenue, IAS 11 Construction Contracts and certain interpretations. The standard introduces 5-step model for revenue from contracts with customers. According to IFRS 15, revenue is measured in the amount of consideration to which an entity expects to be entitled in exchange for transferring promised goods or services to a customer. Based on the performed assessment, the new standard is not expected to affect significantly the Group's consolidated financial statements.

## 3. Significant accounting policies

### Basis of consolidation

#### Subsidiaries

The consolidated financial statements incorporate financial statements of the Company and its subsidiaries, from the date that control effectively commenced until the date that control effectively ceased. Control is achieved where the Company is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity.

Non-controlling interests in the net assets (excluding goodwill) of consolidated subsidiaries are identified separately from the Group's equity therein. Non-controlling interests include interests at the date of the original business combination and non-controlling share of changes in net assets since the date of the combination. Total comprehensive income must be attributed to the interest of the Group and to the non-controlling interests even if this results in the non-controlling interests having a deficit balance.

Non-controlling interests may be initially measured either at fair value or at the non-controlling interests' proportionate share of the recognised amounts of the acquiree's identifiable net assets. The choice of measurement basis is made on a transaction-by-transaction basis.

All intra-group balances, transactions and any unrealised profits or losses arising from intragroup transactions are eliminated in full on consolidation.

Changes in the Group's ownership interest in a subsidiary that do not result in the Group losing control are accounted for within the equity.

When the Group loses control of a subsidiary it derecognises the assets and liabilities and related equity components of the former subsidiary. Any gain or loss is recognised in the consolidated income statement. Any investment retained in the former subsidiary is measured at its fair value at the date when control is lost.

**Joint arrangements**

Investments in joint arrangements are classified as either joint operations or joint ventures. The classification depends on the contractual rights and obligations of each investor. The Group applies the following accounting to joint operations and joint ventures. The Group recognises in relation to its interest in a joint operation: its assets, including its share of any assets held jointly; its liabilities, including its share of any liabilities incurred jointly; its revenue from the sale of its share of the output arising from the joint operation; its share of the revenue from the sale of the output by the joint operation; and its expenses, including its share of any expenses incurred jointly. The Group accounts for joint ventures using the equity method.

**Business combinations**

Acquisitions of businesses are accounted for using the acquisition method. The consideration transferred in a business combination is measured at fair value, which is calculated as the sum of fair values of the assets transferred by the Group, liabilities incurred by the Group to the former owners of the acquiree and the equity interests issued by the Group at the date of acquisition in exchange for control of the acquiree.

Where an investment in a subsidiary or an associate is made, any excess of the sum of the consideration transferred, the amount of any non-controlling interests in the acquiree, and the fair value of the acquirer's previously held equity interest in the acquiree (if any) over the fair value of the identifiable assets acquired and the liabilities assumed at the acquisition date is recognised as goodwill. Goodwill in respect of subsidiaries is disclosed separately and goodwill relating to associates is included in the carrying value of the investment in associates. Goodwill is reviewed for impairment at least annually. If impairment has occurred, it is recognised in the consolidated income statement during the period in which the circumstances are identified and is not subsequently reversed.

If, after reassessment, the net amounts of the identifiable assets acquired and liabilities assumed at the acquisition date exceeds the sum of the consideration transferred, the amount of any non-controlling interests in the acquiree and the fair value of the acquirer's previously held interest in the acquiree (if any), the excess is recognised in the consolidated income statement immediately as a bargain purchase gain.

Acquisition-related costs are recognised in the consolidated income statement as incurred.

If the initial accounting for a business combination is incomplete by the end of the reporting period in which the combination occurs, the Group reports provisional amounts for the items for which the accounting is incomplete. Those provisional amounts are retrospectively adjusted during the measurement period (a maximum of twelve months from the date of acquisition), or additional assets or liabilities are recognised, to reflect new information obtained about facts and circumstances that existed at the acquisition date that, if known, would have affected the amounts recognised at that date.

**Assets classified as held for sale**

Non-current assets and disposal groups are classified as held for sale if their carrying amount will be recovered primarily through a sale transaction rather than through continuing use. This condition is ordinarily regarded as met when sale is highly probable within one year from the date of classification and the asset or disposal group is available for immediate sale in its present condition and management has committed to the sale.

Non-current assets and disposal groups classified as held for sale are measured at the lower of their previous carrying amount and fair value less costs to sell.

Assets held for sale and related liabilities are presented in the consolidated statement of financial position separately from other assets and liabilities. Comparative information related to assets held for sale is not amended in the consolidated statement of financial position for the prior period.

If criteria of classification as held for sale are no longer met, the Group ceases to classify non-current assets and disposal groups as held for sale. Such non-current assets and disposal groups is measured at the lower of its carrying amount before the classification as held for sale, adjusted for any depreciation, amortisation or revaluations that would have been recognised had the non-current assets and disposal groups not been classified as held for sale, and its recoverable amount at the date of the subsequent decision not to sell. Financial statements for the periods since classification as held for sale shall be amended accordingly if the disposal group or non-current asset that ceases to be classified as held for sale is a subsidiary, joint operation, joint venture, associate, or a portion of an interest in a joint venture or an associate.

**Functional and presentation currency**

The individual financial statements of each Group entity are presented in its functional currency.

The Russian Rouble ("RUB") is the functional currency of the Company, all of its subsidiaries located in the Russian Federation and all foreign subsidiaries of the Group, except for the following subsidiaries operating with a significant degree of autonomy. The functional currency of Norilsk Nickel Harjavalta Oy is US Dollar, and the functional currency of Norilsk Nickel Africa Proprietary Limited is South African Rand.

The presentation currency of the consolidated financial statements of the Group is US Dollar ("USD"). Using USD as a presentation currency is common practice for global mining companies. In addition, USD is a more relevant presentation currency for international users of the consolidated financial statements of the Group. The Group also issues consolidated financial statements to comply with 208-FZ, which use the Russian Rouble as the presentation currency (refer to note 1).

The translation of components of the consolidated statement of financial position, consolidated income statement, consolidated statement of cash flows into presentation currency is made as follows:

- all assets and liabilities, both monetary and non-monetary, in the consolidated statement of financial position are translated at the closing exchange rates at the end of the respective reporting period;
- income and expense are translated at the average exchange rates for each quarter (unless this average rate is not a reasonable approximation of the cumulative effect of the rates prevailing on the transaction dates, in these cases income and expenses are translated at the dates of the transaction);
- all equity items are translated at the historical exchange rates;
- all resulting exchange differences are recognised as a separate component in other comprehensive income; and
- in the consolidated statement of cash flows, cash balances at beginning and end of each period presented are translated at exchange rates at the respective dates;
- all cash flows are translated at the average exchange rates for each quarter with the exception of borrowings, dividends and advances received, gains and losses from disposal of subsidiaries, which are translated using the prevailing exchange rates at the dates of the transactions;
- resulting exchange differences are presented in the consolidated statement of cash flows as effects of foreign exchange differences on balances of cash and cash equivalents.

### Foreign currency transactions

Transactions in currencies other than the entity's functional currency (foreign currencies) are recorded at the exchange rates prevailing at the date of transactions. All monetary assets and liabilities denominated in foreign currencies are translated at the exchange rates prevailing at each reporting date. Non-monetary items carried at historical cost are translated at the exchange rates prevailing at the date of transactions. Non-monetary items carried at fair value are translated at the exchange rate prevailing at the date on which the most recent fair value was determined. Exchange differences arising from changes in exchange rates are recognised in the consolidated income statement.

Exchange rates used in the preparation of the consolidated financial statements were as follows:

	At 31 December 2017	At 31 December 2016
<b>Russian Rouble/US Dollar</b>		
31 December	57.60	60.66
Average for the year ended 31 December	58.35	67.03
<b>South African Rand/US Dollar</b>		
31 December	12.36	13.78
Average for the year ended 31 December	13.30	14.68
<b>Australian Dollar/US Dollar</b>		
31 December	1.28	1.39
Average for the period ended	1.30	1.34
<b>Hong Kong Dollar/US Dollar</b>		
31 December	7.81	7.75
Average for the year ended 31 December	7.79	7.76

### Revenue recognition

#### Metal sales revenue

Revenue from metal sales is recognised when the significant risks and rewards of ownership are transferred to the buyer and represents invoiced value of all metal products shipped to customers, net of value added tax.

Revenue from contracts that are entered into and continue to meet the Group's expected sale requirements designated for that purpose at their inception, and are expected to be settled by physical delivery, are recognised in the consolidated financial statements as and when they are delivered.

Certain contracts are provisionally priced so that price is not settled until a predetermined future date based on the market price at that time. Revenue from these transactions is initially recognised at the current market price. Provisionally priced metal sales are marked-to-market at each reporting date using the forward price for the period equivalent to that outlined in the contract. This mark-to-market adjustment is recorded in revenue.

### **Other revenue**

Revenue from sale of goods, other than metals, is recognised when significant risks and rewards of ownership are transferred to the buyer in accordance with the shipping terms specified in the sales agreements.

Revenue from service contracts is recognised when the services are rendered and the outcome can be reliably measured.

### **Dividends and interest income**

Dividends from investments are recognised when the Group's right to receive payment has been established. Interest income is accrued based on effective interest method.

### **Leases**

Leases under which the Group assumes substantially all the risks and rewards of ownership are classified as finance leases. Assets subject to finance leases are capitalised as property, plant and equipment at the lower of fair value or present value of future minimum lease payments at the date of acquisition. Simultaneously, related lease obligation is recognised at the same value. Assets held under finance leases are depreciated over their estimated economic useful lives or over the term of the lease, if shorter. If there is reasonable certainty that the lessee will obtain ownership at the end of the lease term, the period of expected use is the useful life of the asset.

Finance lease payments are allocated using the effective interest rate method, between the lease finance cost, which is included in finance costs, and the capital repayment, which reduces the related lease obligation to the lessor.

Leases where the lessor retains substantially all the risks and benefits of ownership of the asset are classified as operating leases. Operating lease payments are recognised as an expense in the consolidated income statement on a straight-line basis over the lease term, except where another systematic basis is more representative of the time pattern in which economic benefits from the leased asset are consumed. Contingent rentals arising under operating and finance leases are expensed in the period in which they are incurred.

### **Finance costs**

Finance costs mostly comprise interest expense on borrowings and unwinding of discount on decommissioning obligations.

Finance costs directly attributable to the acquisition, construction or production of qualifying assets, which are assets that necessarily take a substantial period of time to get ready for their intended use or sale, are added to the cost of those assets, until such time when the assets are substantially ready for their intended use or sale.

Investment income earned on the temporary investment of specific borrowings pending their expenditure on qualifying assets is deducted from the borrowing costs eligible for capitalisation.

### **Government grants**

Government grants are recognised when there is reasonable assurance that the grant will be received and all conditions and requirements attaching to the grant will be met. Government grants related to assets are deducted from the cost of these assets in arriving at their carrying value.

### **Employee benefits**

Remuneration to employees in respect of services rendered during a reporting period is recognised as an expense in that period. Long term employee benefits obligations are discounted to net present value.

### **Defined contribution plans**

The Group contributes to the following major defined contribution plans:

- Pension Fund of the Russian Federation;
- Mutual accumulated pension plan.

The only obligation of the Group with respect to these and other defined contribution plans is to make specified contributions in the period in which they arise. These contributions are recognised in the consolidated income statement when employees have rendered services entitling them to the contribution.

### **Income tax expense**

Income tax expense represents the sum of the tax currently payable and deferred tax.

Income tax is recognised as an expense or income in the consolidated income statement, except when it relates to other items recognised directly in other comprehensive income, in which case the tax is also recognised directly in other comprehensive income. Where current or deferred tax arises from the initial accounting for a business combination, the tax effect is included in the accounting for the business combination.

**Current tax**

Current tax is based on taxable profit for the year. Taxable profit differs from profit for the year as reported in the consolidated income statement because it excludes items of income or expense that are taxable or deductible in other years and it further excludes items that are never taxable or deductible.

**Deferred tax**

Deferred tax is recognised on temporary differences between the carrying amounts of assets and liabilities in the financial statements and the corresponding tax bases used in computation of taxable profit. Deferred tax liabilities are recognised for all taxable temporary differences, and deferred tax assets are recognised for all deductible temporary differences to the extent that it is probable that taxable profits will be available against which those deductible temporary differences can be utilised. Such assets and liabilities are not recognised if a temporary difference arises from goodwill or from the initial recognition (other than in a business combination) of other assets and liabilities in a transaction that affects neither taxable profit nor accounting profit.

Deferred tax liabilities are recognised for taxable temporary differences associated with investments in subsidiaries, joint ventures and associates, except where the Group is able to control the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future. Deferred tax assets arising from deductible temporary differences associated with such investments and interests are only recognised to the extent that it is probable that there will be sufficient taxable profits against which to utilise the benefits of the temporary differences and they are expected to reverse in the foreseeable future.

The carrying amount of deferred tax assets is reviewed at each statement of financial position date and adjusted to the extent that it is probable that sufficient taxable profits will be available to allow all or part of the asset to be recovered.

The measurement of deferred tax liabilities and assets reflects the tax consequences of the manner in which the Group expects at the reporting date to recover or settle the carrying amount of its assets and liabilities. Deferred tax assets and liabilities are offset when there is a legally enforceable right to set off current tax assets against current tax liabilities and when they relate to income taxes levied by the same taxation authority. The Group offsets deferred tax assets and liabilities for the subsidiaries which entered into the tax consolidation group.

**Property, plant and equipment and mine development costs****Mining assets**

Mine development costs are capitalised and comprise expenditures directly related to:

- acquiring mining and exploration licences;
- developing new mining operations;
- estimating revised content of minerals in the existing ore bodies; and
- expanding capacity of a mine.

Mine development costs include interest capitalised during the construction period, when financed by borrowings.

Mine development costs are transferred to mining assets and start to be depreciated when a new mine reaches commercial production quantities.

Mining assets are recorded at cost less accumulated amortisation and impairment losses. Mining assets include cost of acquiring and developing mining properties, pre-production expenditure, mine infrastructure, plant and equipment that process extracted ore, mining and exploration licenses and present value of future decommissioning costs.

Depreciation of mining assets is charged from the date on which a new mine reaches commercial production quantities and is included in the cost of production. Carrying value of mining assets is depreciated on a straight-line basis over the lesser of their remaining economic useful lives or remaining life of mine that they relate to, calculated on the basis of the amount of commercial ore reserves. When determining the life of mine, assumptions valid at the time of estimation may change in case new information becomes available. Useful lives are in average varying from 2 to 45 years.

**Non-mining assets**

Non-mining assets include metallurgical processing plants, buildings, infrastructure, machinery and equipment and other non-mining assets. Non-mining assets are stated at cost less accumulated depreciation and impairment losses.

Non-mining assets are depreciated on a straight-line basis over their economic useful lives.

Depreciation is calculated over the following economic useful lives:

- buildings, structures and utilities 5–50 years
- machinery, equipment and transport 3–30 years
- other non-mining assets 2–20 years



### **Capital construction-in-progress**

Capital construction-in-progress comprises costs directly related to construction of buildings, processing plant, infrastructure, machinery and equipment, including:

- advances given for purchases of property, plant and equipment and materials acquired for construction of buildings, processing plant, infrastructure, machinery and equipment;
- irrevocable letters of credit opened for future fixed assets deliveries and secured with deposits placed in banks;
- finance charges capitalised during construction period where such costs are financed by borrowings.

Depreciation of these assets commences when the assets are put into production.

### **Research and exploration expenditure**

Research and exploration expenditure, including geophysical, topographical, geological and similar types of expenditure, is capitalised, if it is deemed that such expenditure will lead to an economically viable capital project, and begins to be amortised over the life of mine, when commercial viability of the project is proved. Otherwise it is expensed in the period in which it is incurred.

Research and exploration expenditure written-off before development and construction starts is not subsequently capitalised, even if a commercial discovery subsequently occurs.

### **Intangible assets, excluding goodwill**

Intangible assets are recorded at cost less accumulated amortisation and impairment losses. Intangible assets mainly include patents, licences, software and rights to use software and other intangible assets.

Amortisation of patents, licenses and software is charged on a straight-line basis over 1–10 years.

### **Impairment of tangible and intangible assets, excluding goodwill**

At each reporting date, the Group analyses the triggers of impairment of its tangible and intangible assets to determine whether there is any indication that those assets have suffered an impairment loss. If any such indication exists, the recoverable amount of the asset is estimated in order to determine the extent of the impairment loss (if any). Where it is not practical to estimate the recoverable amount of an individual asset, the Group estimates the recoverable amount of the cash-generating unit to which the asset belongs.

Recoverable amount is the higher of fair value less cost to sell and value-in-use. In assessing value-in-use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset or cash-generating unit. If the recoverable amount of an asset (or cash-generating unit) is estimated to be less than its carrying amount, the carrying amount of the asset (or cash-generating unit) is reduced to its recoverable amount. An impairment loss is recognised in the consolidated income statement immediately.

Where an impairment loss subsequently reversed, the carrying amount of the asset (or cash-generating unit) is increased to the revised estimate of its recoverable amount, but only to the extent that the increased carrying amount does not exceed the original carrying amount that would have been determined had no impairment loss been recognised in prior periods. A reversal of an impairment loss is recognised in the consolidated income statement.

### **Inventories**

#### **Refined metals**

Main produced metals include nickel, copper, palladium, platinum; by-products include gold, rhodium, silver and other minor metals. Main products are measured at the lower of net cost of production or net realisable value. The net cost of production of main products is determined as total production cost, allocated to each joint product by reference to their relative sales value. By-products are measured at net realisable value, through a mark-to-market valuation.

#### **Work-in-process**

Work-in-process includes all costs incurred in the normal course of business including direct material and direct labour costs and allocation of production overheads, depreciation and amortisation and other costs, incurred for producing each product, given its stage of completion.

#### **Materials and supplies**

Materials and supplies are valued at the weighted average cost less provision for obsolete and slow-moving items.

### **Financial assets**

Financial assets are recognised when the Group has become a party to the contractual arrangement of the instrument and are initially measured at fair value, plus transaction costs, except for those financial assets classified as at fair value through profit or loss, which are initially measured at fair value.

Financial assets are classified into the following specified categories:

- financial assets at fair value through profit or loss
- held-to-maturity investments;
- available-for-sale financial assets; and
- loans and receivables.

The classification depends on the nature and purpose of the financial assets and is determined at the time of initial recognition.

#### **Effective interest method**

The effective interest method is a method of calculating the amortised cost of a financial asset and of allocating interest income over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash receipts (including transaction costs and other premiums or discounts) through the expected life of the financial asset, or, where appropriate, a shorter period.

Income is recognised on an effective interest basis for debt securities other than those financial assets designated as at fair value through profit or loss.

#### **Financial assets at fair value through profit or loss**

Financial assets are classified as at fair value through profit or loss where the financial asset is either held for trading or it is designated as at fair value through profit or loss.

A financial asset is classified as held for trading if:

- it has been acquired principally for the purpose of selling in the near future; or
- it is a part of an identified portfolio of financial instruments that the Group manages together and has a recent actual pattern of short-term profit-taking; or
- it is a derivative.

Financial assets at fair value through profit or loss are stated at fair value, with any resultant gain or loss recognised in the consolidated income statement. The net gain or loss recognised in the consolidated income statement incorporates any dividend or interest earned on the financial asset.

#### **Loans and receivables**

Trade receivables, loans, and other receivables that have fixed or determinable payments which are not quoted in an active market are classified as loans and receivables. Loans and receivables are measured at amortised cost using the effective interest method, less any impairment. Interest income is recognised by applying the effective interest rate, except for short-term receivables when the recognition of interest would be immaterial.

#### **Available-for-sale financial assets**

Available-for-sale financial assets may include investments in listed and unlisted equity securities, that are not classified in other categories.

Listed equity securities held by the Group that are traded in an active market are measured at their market value. Gains and losses arising from changes in fair value are recognised in other comprehensive income in the investments revaluation reserve with the exception of impairment losses, interest calculated using the effective interest method and foreign exchange gains and losses on monetary assets, which are recognised directly in the consolidated income statement. Where an investment is disposed of or is determined to be impaired, the cumulative gain or loss previously recognised in the investment revaluation reserve is included in the consolidated income statement for the period.

Investments in unlisted equity securities that do not have a quoted market price in an active market are recorded at management's estimate of fair value.

#### **Impairment of financial assets**

Financial assets, other than those at fair value through profit or loss, are assessed for indicators of impairment at each statement of financial position date. Financial assets are impaired where there is objective evidence that, as a result of one or more events that occurred after the initial recognition of the financial asset, the estimated future cash flows of the investment have been negatively impacted.

The Group has fully provided for all trade and other receivables which were due in excess of 365 days. Trade and other receivables that are past due for less than 365 days are provided according to expected probability of repayment and the length of the overdue period.

Objective evidence of impairment for accounts receivable could include the Group's past experience of collecting payments, an increase in the number of delayed payments as well as observable changes in economic conditions that correlate with defaults on receivables.

For financial assets carried at amortised cost, the amount of the impairment is the difference between the asset's carrying amount and the present value of estimated future cash flows, discounted at the financial asset's original effective interest rate.

The carrying amount of the financial asset is reduced by the impairment loss directly for all financial assets with the exception of trade and other receivables, where the carrying amount is reduced through the use of a provision for doubtful debts. When trade and other receivables are considered uncollectible, it is written off against the provision. Subsequent recoveries of amounts previously written off are credited against the provision. Changes in the provision are recognised in the consolidated income statement.

With the exception of available-for-sale debt and equity instruments, if, in a subsequent period, the amount of the impairment loss decreases and the decrease can be related objectively to an event occurring after the impairment was recognised, the previously recognised impairment loss is reversed through the consolidated income statement to the extent that the carrying amount of the investment at the date the impairment is reversed does not exceed what the amortised cost would have been had the impairment not been recognised.

When a decline in fair value of an available-for-sale investment has been recognised in other comprehensive income and there is objective evidence that investment is impaired, the cumulative loss that had been recognised in other comprehensive income is reclassified from other comprehensive income and recognised in the consolidated income statement even though the investment has not been derecognised. Impairment losses previously recognised through consolidated income statement are not reversed. Any increase in fair value subsequent to an impairment loss is recognised in other comprehensive income.

#### ***Derecognition of financial assets***

The Group derecognises a financial asset only when the contractual rights to the cash flows from the asset expire; or it transfers the financial asset and substantially all the risks and rewards of ownership of the asset to another entity. If the Group neither transfers nor retains substantially all the risks and rewards of ownership and continues to control the transferred asset, the Group recognises its retained interest in the asset and an associated liability for amounts it may have to pay. If the Group retains substantially all the risks and rewards of ownership of a transferred financial asset, the Group continues to recognise the financial asset and also recognises a collateralised borrowing for the proceeds received.

#### **Financial liabilities**

The Group classifies financial liabilities into loans and borrowings, trade and other payables. Such financial liabilities are recognised initially at fair value less any directly attributable transaction costs. Subsequent to initial recognition, these financial liabilities are measured at amortised cost using the effective interest method.

#### ***Effective interest method***

The effective interest method is a method of calculating the amortised cost of a financial liability and of allocating interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash payments through the expected life of the financial liability, or where appropriate, a shorter period.

#### ***Derecognition of financial liabilities***

The Group derecognises financial liabilities when, and only when, the Group's obligations are discharged, cancelled or they expire.

#### **Cash and cash equivalents**

Cash and cash equivalents comprise cash balances, cash deposits in banks, brokers and other financial institutions and highly liquid investments with original maturities of three months or less and on demand deposits, which are readily convertible to known amounts of cash and are subject to an insignificant risk of changes in value.

#### **Provisions**

Provisions are recognised when the Group has a legal or constructive obligation as a result of past events for which it is probable that an outflow of economic benefits will be required to settle the obligation, and the amount of the obligation can be reliably estimated.

The amount recognised as a provision is the best estimate of the consideration required to settle the present obligation at the reporting date, taking into account the risks and uncertainties surrounding the obligation. Where a provision is measured using the cash flows estimated to settle the present obligation, its carrying amount is the present value of those cash flows.

#### **Decommissioning obligations**

Decommissioning obligations include direct asset decommissioning costs as well as related land restoration costs.

Future decommissioning and other related obligations, discounted to net present value, are recognised at the moment when the legal or constructive obligation in relation to such costs arises (generally when the related asset is put into operation) and the future cost can be reliably estimated. This cost is capitalised as part of the initial cost of the related asset (i.e. a mine) and is depreciated over the useful life of the asset. The unwinding of the discount on decommissioning obligations is included in the consolidated income statement as finance costs. Decommissioning obligations are periodically reviewed in light of current laws and regulations, and adjustments are made as necessary.

#### 4. Critical accounting judgements and key sources of estimation uncertainty

Preparation of the consolidated financial statements in accordance with IFRS requires the Group's management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements, and the reported amounts of revenues and expenses during the reporting period. The determination of estimates requires judgements which are based on historical experience, current and expected economic conditions, and all other available information. Actual results could differ from these estimates.

The most significant areas requiring the use of management estimates and assumptions relate to:

- useful economic lives of property, plant and equipment;
- impairment of assets, including fair value of assets held for sale;
- provisions;
- decommissioning obligations;
- income taxes; and
- contingencies.

##### Useful economic lives of property, plant and equipment

Carrying value of the Group's mining assets, classified within property, plant and equipment, is amortised on a straight-line basis over the lesser of their remaining economic useful lives or remaining life of mine. When determining the life of a mine, valid assumptions at the time of estimation may change in case of new information becomes available.

The factors that could affect the estimation of the life of mine include the following:

- changes in proved and probable ore reserves;
- the grade of mineral reserves varying significantly from time to time;
- differences between actual commodity prices and commodity price assumptions used in the estimation and classification of ore reserves;
- unforeseen operational issues at mine sites; and
- changes in capital, operating, mining, processing and decommissioning costs, discount rates and foreign exchange rates could possibly adversely affect the economic viability of ore reserves.

Any of these changes could affect prospective amortisation of mining assets. Useful economic lives of non-mining property, plant and equipment are reviewed by management periodically. The review is based on the current condition of the assets and the estimated period during which they will continue to bring economic benefit to the Group.

##### Impairment of assets

The Group reviews the carrying amounts of its tangible and intangible assets to determine whether there is any indication that those assets are impaired or indication of reversal of impairment. In making the assessment for impairment, assets that do not generate independent cash flows are allocated to an appropriate cash-generating unit. Management necessarily applies its judgement in allocating assets that do not generate independent cash flows to appropriate cash-generating units, and also in estimating the timing and value of the underlying cash flows within the value-in-use calculation. Subsequent changes to the cash-generating unit allocation or to the timing of cash flows could impact the carrying value of the respective assets.

##### Provisions

The Group creates provision for doubtful debts to account for estimated losses resulting from the inability of customers to make the required payments. When evaluating the adequacy of a provision for doubtful debts, management bases its estimate on current overall economic conditions, ageing of the accounts receivable balances, historical write-off experience, customer creditworthiness and changes in payment terms. Changes in the economy, industry or specific customer conditions may require adjustments to the provision for doubtful debts recorded in the consolidated financial statements.

The Group also creates a provision for obsolete and slow-moving inventories. In addition, certain finished goods of the Group are carried at net realisable value. Estimates of net realisable value of inventories are based on the most reliable evidence available at the time the estimates are made. These estimates take into consideration fluctuations of price or cost directly relating to events occurring subsequent to the statement of financial position date to the extent that such events confirm conditions existing at the end of the period.

The Group creates a provision for social commitments. The provision represents present value of the best estimate of the future outflow of economic benefits to settle these obligations.

### Decommissioning obligations

The Group's mining and exploration activities are subject to various environmental laws and regulations. The Group estimates decommissioning obligations based on management's understanding of the current legal requirements in the various jurisdictions in which it operates, terms of the license agreements and internally generated engineering estimates. Provision is made, based on net present values, for decommissioning and land restoration costs as soon as the obligation arises. Actual costs incurred in future periods could differ materially from the amounts provided. Additionally, future changes to environmental laws and regulations, life of mine estimates and discount rates could affect the carrying amount of this provision.

### Income taxes

The Group is subject to income taxes in numerous jurisdictions. Significant judgement is required in determining provision for income taxes due to the complexity of legislation in some jurisdictions. There are many transactions and calculations for which the ultimate tax determination is uncertain. The Group recognises provisions for anticipated tax audit issues based on estimates of whether additional taxes will be due. Where the final tax outcome of these matters is different from the amounts that were initially recorded, such differences will impact the income tax and deferred tax provisions in the period in which such determination is made.

Deferred tax assets are reviewed at each statement of financial position date and adjusted to the extent that it is probable that sufficient taxable income will be available to allow all or part of the deferred tax asset to be utilised. The estimation of that probability includes judgements based on the expected performance.

Various factors are considered to assess the probability of the future utilisation of deferred tax assets, including past operating results, operational plans, expiration of tax losses carried forward, and tax planning strategies. If actual results differ from these estimates or if these estimates must be adjusted in future periods, the financial position, results of operations and cash flows may be affected.

### Contingencies

By their nature, contingencies will only be resolved when one or more future events occur or fail to occur. The assessment of such contingencies inherently involves the exercise of significant judgement and estimates of the outcome of future events.

## 5. Segmental information

Operating segments are identified on the basis of internal reports on components of the Group that are regularly reviewed by the Management Board.

Management has determined the following operating segments:

- "GMK Group" segment, which includes mining and metallurgy operations, transport services, energy, repair and maintenance services located at Taimyr Peninsula;
- "KGMK Group" segment, which includes mining and metallurgy operations, energy, exploration activities located at Kola Peninsula;
- "NN Harjavalta" segment, which includes refinery operations located in Finland;
- "Other metallurgical" segment, which includes operations of Bystrinskoye project, other metallurgy operations and exploration activities located in Russia and abroad;
- "Other non-metallurgical" segment, which includes metal and other trading, supply chain management, transport services, energy and utility, research and other activities located in Russia and abroad.

Corporate activities of the Group do not represent an operating segment, include primarily headquarters' general and administrative expenses and treasury operations of the Group and are presented as "Unallocated".

The amounts in respect of reportable segments in the disclosure below are stated before intersegment eliminations, excluding:

- balances of intercompany loans and borrowings and interest accruals;
- intercompany investments;
- accrual of intercompany dividends;
- intercompany refined metal sales.

Amounts are measured on the same basis as those in the consolidated financial statements. Information for the year ended 31 December 2016 has been presented to conform with the current period presentation.



The following tables present revenue, measure of segment profit or loss (EBITDA) and other segmental information from continuing operations regarding the Group's reportable segments for the year ended 31 December 2017 and 31 December 2016, respectively.

For the year ended 31 December 2017	GMK Group	KGMK Group	NN Harjavalta	Other metallurgical	Other non-metallurgical	Eliminations	Total
Revenue from external customers	7,064	357	840	34	851	–	9,146
Inter-segment revenue	607	531	–	107	415	(1,660)	–
<b>Total revenue</b>	<b>7,671</b>	<b>888</b>	<b>840</b>	<b>141</b>	<b>1,266</b>	<b>(1,660)</b>	<b>9,146</b>
Segment EBITDA	4,701	169	84	(53)	114	(377)	4,638
Unallocated							(643)
<b>Consolidated EBITDA</b>							<b>3,995</b>
Depreciation and amortisation							(645)
Impairment of non-financial assets							(227)
Finance costs							(535)
Foreign exchange gain, net							159
Other income and expenses, net							97
<b>Profit before tax</b>							<b>2,844</b>
<b>Other segmental information</b>							
Purchase of property, plant and equipment and intangible assets	1,225	228	16	469	64	–	2,002
Depreciation and amortisation	508	63	25	73	23	(47)	645
Impairment of non-financial assets	101	3	–	122	1	–	227

For the year ended 31 December 2016	GMK Group	KGMK Group	NN Harjavalta	Other metallurgical	Other non-metallurgical	Eliminations	Total
Revenue from external customers	5,981	465	727	7	1,079	–	8,259
Inter-segment revenue	213	199	–	77	620	(1,109)	–
<b>Total revenue</b>	<b>6,194</b>	<b>664</b>	<b>727</b>	<b>84</b>	<b>1,699</b>	<b>(1,109)</b>	<b>8,259</b>
Segment EBITDA	3,883	117	45	(11)	119	112	4,265
Unallocated							(366)
<b>Consolidated EBITDA</b>							<b>3,899</b>
Depreciation and amortisation							(557)
Impairment of non-financial assets							(61)
Finance costs							(453)
Foreign exchange gain, net							491
Other income and expenses, net							(43)
<b>Profit before tax</b>							<b>3,276</b>
<b>Other segmental information</b>							
Purchase of property, plant and equipment and intangible assets	1,284	93	16	288	33	–	1,714
Depreciation and amortisation	435	41	28	–	23	30	557
Impairment of non-financial assets	50	2	–	–	9	–	61

The following tables present assets and liabilities of the Group's reportable segments at 31 December 2017 and 31 December 2016, respectively.

At 31 December 2017	GMK Group	KGMK Group	NN Harjavalta	Other metallurgical	Other non-metallurgical	Eliminations	Total
Inter-segment assets	346	207	172	11	54	(790)	–
Segment assets	11,424	963	384	1,500	1,584	(425)	15,430
<b>Total segment assets</b>	<b>11,770</b>	<b>1,170</b>	<b>556</b>	<b>1,511</b>	<b>1,638</b>	<b>(1,215)</b>	<b>15,430</b>
Unallocated							1,205
<b>Total assets</b>							<b>16,635</b>
Inter-segment liabilities	89	135	124	43	399	(790)	–
Segment liabilities	2,228	157	73	121	171	–	2,750
<b>Total segment liabilities</b>	<b>2,317</b>	<b>292</b>	<b>197</b>	<b>164</b>	<b>570</b>	<b>(790)</b>	<b>2,750</b>
Unallocated							9,227
<b>Total liabilities</b>							<b>11,977</b>

At 31 December 2016	GMK Group	KGMK Group	NN Harjavalta	Other metallurgical	Other non-metallurgical	Eliminations	Total
Inter-segment assets	296	79	160	35	49	(619)	–
Segment assets	9,922	768	383	868	793	(111)	12,623
<b>Total segment assets</b>	<b>10,218</b>	<b>847</b>	<b>543</b>	<b>903</b>	<b>842</b>	<b>(730)</b>	<b>12,623</b>
Unallocated							3,900
<b>Total assets</b>							<b>16,523</b>
Inter-segment liabilities	113	87	77	27	315	(619)	–
Segment liabilities	2,241	113	102	266	862	–	3,584
<b>Total segment liabilities</b>	<b>2,354</b>	<b>200</b>	<b>179</b>	<b>293</b>	<b>1,177</b>	<b>(619)</b>	<b>3,584</b>
Unallocated							9,043
<b>Total liabilities</b>							<b>12,627</b>

The Group's non-current assets are primarily located in the Russian Federation and Finland.

## 6. Metal sales

The Group's metal sales to external customers are detailed below (based on external customers' locations):

	Total	Nickel	Copper	Palladium	Platinum	Semi-products	Other metals
<b>For the year ended 31 December 2017</b>							
Europe	4,753	1,067	2,098	736	441	85	326
Asia	1,939	709	6	762	97	331	34
North and South America	1,166	313	–	807	–	–	46
Russian Federation and CIS	557	215	177	41	85	8	31
	<b>8,415</b>	<b>2,304</b>	<b>2,281</b>	<b>2,346</b>	<b>623</b>	<b>424</b>	<b>437</b>
<b>For the year ended 31 December 2016</b>							
Europe	4,394	1,143	1,544	821	420	123	343
Asia	1,723	1,104	1	478	26	92	22
North and South America	737	222	–	488	–	1	26
Russian Federation and CIS	792	156	294	101	208	–	33
	<b>7,646</b>	<b>2,625</b>	<b>1,839</b>	<b>1,888</b>	<b>654</b>	<b>216</b>	<b>424</b>

## 7. Cost of metal sales

	For the year ended 31 December 2017	For the year ended 31 December 2016
<b>Cash operating costs</b>		
Labour	1,377	1,145
Materials and supplies	703	520
Purchases of metals for resale	530	184
Purchases of raw materials and semi-products	297	292
Mineral extraction tax and other levies	221	122
Third party services	204	170
Electricity and heat energy	132	101
Production costs related to the joint operation	93	79
Fuel	81	60
Transportation expenses	64	71
Sundry costs	150	143
<b>Total cash operating costs</b>	<b>3,852</b>	<b>2,887</b>
Depreciation and amortisation	630	456
(Increase)/decrease in metal inventories	(514)	290
<b>Total</b>	<b>3,968</b>	<b>3,633</b>

## 8. General and administrative expenses

	For the year ended 31 December 2017	For the year ended 31 December 2016
Staff costs	478	376
Taxes other than mineral extraction tax and income tax	79	58
Third party services	72	55
Depreciation and amortisation	32	20
Rent expenses	25	19
Transportation expenses	8	6
Other	65	47
<b>Total</b>	<b>759</b>	<b>581</b>

## 9. Selling and distribution expenses

	For the year ended 31 December 2017	For the year ended 31 December 2016
Transportation expenses	38	23
Marketing expenses	14	7
Staff costs	13	13
Export duties	1	61
Other	9	7
<b>Total</b>	<b>75</b>	<b>111</b>

**10. Other net operating expenses**

	For the year ended 31 December 2017	For the year ended 31 December 2016
Social expenses	303	111
Change in allowance for doubtful debts	19	14
Change in allowance for obsolete and slow-moving inventory	11	(2)
Change in provision for reconfiguration of production facilities	(4)	(33)
Other	33	(6)
<b>Total</b>	<b>362</b>	<b>84</b>

**11. Finance costs**

	For the year ended 31 December 2017	For the year ended 31 December 2016
Interest expense on borrowings net of amounts capitalised	386	403
Unwinding of discount on provisions and payables	133	46
Other	16	4
<b>Total</b>	<b>535</b>	<b>453</b>

**12. Income from investments, net**

	For the year ended 31 December 2017	For the year ended 31 December 2016
Interest income on bank deposits	39	78
Realised gain on disposal of investments	1	4
Other	37	32
<b>Total</b>	<b>77</b>	<b>114</b>

**13. Income tax expense**

	For the year ended 31 December 2017	For the year ended 31 December 2016
Current income tax expense	686	686
Deferred tax expense	35	59
<b>Total</b>	<b>721</b>	<b>745</b>

A reconciliation of theoretic income tax, calculated at the statutory rate in the Russian Federation, the location of major production assets of the Group, to the amount of actual income tax expense recorded in the consolidated income statement is as follows:

	For the year ended 31 December 2017	For the year ended 31 December 2016
<b>Profit before tax</b>	<b>2,844</b>	<b>3,276</b>
Income tax at statutory rate of 20%	569	655
Allowance for deferred tax assets	38	18
Non-deductible impairment of financial and non-financial assets	7	41
Non-deductible social expenses	73	31
Effect of different tax rates of subsidiaries operating in other jurisdictions	8	(27)
Tax effect of other permanent differences	26	27
<b>Total</b>	<b>721</b>	<b>745</b>

The corporate income tax rates in other countries where the Group has a taxable presence vary from 0% to 39%.

**Deferred tax balances**

	At 31 December 2016	Recognised in income statement	Disposed on disposal of subsidiaries	Effect of translation to presentation currency	At 31 December 2017
Property, plant and equipment	350	2	(4)	20	368
Inventories	102	16	–	6	124
Trade and other receivables	(12)	9	–	–	(3)
Decommissioning obligations	(79)	16	–	(6)	(69)
Loans and borrowings, trade and other payables	(33)	(35)	–	(1)	(69)
Other assets	(10)	57	–	(1)	46
Other liabilities	6	2	–	–	8
Tax loss carried forward	(41)	(32)	–	(2)	(75)
<b>Net deferred tax liabilities</b>	<b>283</b>	<b>35</b>	<b>(4)</b>	<b>16</b>	<b>330</b>

	At 31 December 2015	Recognised in income statement	Disposed on disposal of subsidiaries	Effect of translation to presentation currency	At 31 December 2016
Property, plant and equipment	251	58	–	41	350
Inventories	91	(6)	–	17	102
Trade and other receivables	(6)	(2)	–	(4)	(12)
Decommissioning obligations	(62)	(4)	–	(13)	(79)
Loans and borrowings, trade and other payables	(16)	(9)	–	(8)	(33)
Other assets	(10)	(2)	–	2	(10)
Other liabilities	4	–	–	2	6
Tax loss carried forward	(53)	24	–	(12)	(41)
<b>Net deferred tax liabilities</b>	<b>199</b>	<b>59</b>	<b>–</b>	<b>25</b>	<b>283</b>

Certain deferred tax assets and liabilities have been offset to the extent they relate to taxes levied on the Group's entities which entered into the tax consolidation group. Deferred tax balances (after offset) presented in the consolidated statement of financial position were as follows:

	At 31 December 2017	At 31 December 2016
Deferred tax liability	407	355
Deferred tax asset	(77)	(72)
<b>Net deferred tax liabilities</b>	<b>330</b>	<b>283</b>

**Unrecognised deferred tax assets**

Deferred tax assets have not been recognised as follows:

	At 31 December 2017	At 31 December 2016
Deductible temporary differences	104	90
Tax loss carry-forwards	219	214
<b>Total</b>	<b>323</b>	<b>304</b>

Deferred tax assets have not been recognised in respect of these items because it is not probable that future taxable profit will be available against which the Group can utilise the benefits therefrom.



At 31 December 2017 deferred tax asset in amount of USD 175 million related to tax loss arising on disposal of OJSC “Third Generation Company of the Wholesale Electricity Market” (“OGK-3 (at 31 December 2016: USD 166 million) was not recognised as it was incurred by the Company prior to setting up of the tax consolidation group. This deferred tax asset can be utilised only if the Company exits the tax consolidation group without expiry.

Unrecognised deferred tax assets in the amount of USD 44 million related to other tax losses will not expire and can be utilised according to specific rules stated by art. 283 of the Tax code of the Russian Federation (31 December 2016: USD 48 million).

At 31 December 2017, the Group did not recognise a deferred tax liability in respect of taxable temporary differences of USD 1,459 million (31 December 2016: USD 1,104 million) associated with investments in subsidiaries, because management believes that it is in a position to control the timing of reversal of such differences and does not expect its reversal in foreseeable future.

#### 14. Property, plant and equipment

	Mining assets and mine development cost	Non-mining assets				Total
		Buildings, structures and utilities	Machinery, equipment and transport	Other	Capital construction-in-progress	
Cost						
Balance at 1 January 2016	5,101	2,002	2,319	106	1,308	10,836
Additions	1,232	–	–	–	674	1,906
Transfers	–	450	363	59	(872)	–
Change in decommissioning provision	(18)	5	–	–	–	(13)
Disposals	(59)	(11)	(100)	(7)	(31)	(208)
Other	(49)	7	(37)	26	53	–
Effect of translation to presentation currency	1,107	402	431	31	255	2,226
Balance at 31 December 2016	7,314	2,855	2,976	215	1,387	14,747
Additions	1,429	–	–	–	840	2,269
Transfers	–	247	477	84	(808)	–
Change in decommissioning provision	(7)	(13)	–	–	–	(20)
Disposals	(124)	(150)	(90)	(23)	(12)	(399)
Other	(40)	42	(6)	2	2	–
Effect of translation to presentation currency	422	153	150	11	75	811
Balance at 31 December 2017	8,994	3,134	3,507	289	1,484	17,408
Accumulated depreciation and impairment						
Balance at 1 January 2016	(1,588)	(1,040)	(1,277)	(46)	(244)	(4,195)
Charge for the year	(213)	(97)	(201)	(14)	–	(525)
Disposals	47	7	90	3	19	166
Impairment loss	(7)	(70)	(2)	–	18	(61)
Other	(11)	2	14	(5)	–	–
Effect of translation to presentation currency	(318)	(215)	(242)	(10)	(41)	(826)

	Mining assets and mine development cost	Non-mining assets				Total
		Buildings, structures and utilities	Machinery, equipment and transport	Other	Capital construction-in-progress	
<b>Balance at 31 December 2016</b>	<b>(2,090)</b>	<b>(1,413)</b>	<b>(1,618)</b>	<b>(72)</b>	<b>(248)</b>	<b>(5,441)</b>
Charge for the year	(347)	(97)	(264)	(24)	–	(732)
Disposals	107	56	79	5	4	251
Impairment loss	(154)	(87)	(7)	–	21	(227)
Other	4	(18)	16	(1)	(1)	–
Effect of translation to presentation currency	(120)	(78)	(82)	(4)	(15)	(299)
<b>Balance at 31 December 2017</b>	<b>(2,600)</b>	<b>(1,637)</b>	<b>(1,876)</b>	<b>(96)</b>	<b>(239)</b>	<b>(6,448)</b>
<b>Carrying value</b>						
<b>At 31 December 2016</b>	<b>5,224</b>	<b>1,442</b>	<b>1,358</b>	<b>143</b>	<b>1,139</b>	<b>9,306</b>
<b>At 31 December 2017</b>	<b>6,394</b>	<b>1,497</b>	<b>1,631</b>	<b>193</b>	<b>1,245</b>	<b>10,960</b>

At 31 December 2017 capital construction-in-progress included USD 225 million of irrevocable letters of credit opened for fixed assets purchases (31 December 2016: USD 87 million), representing security deposits placed in banks. For the year ended 31 December 2017 purchases of property, plant and equipment in the consolidated statement of cash flows include USD 210 million related to these irrevocable letters of credit (for the year ended 31 December 2016: USD 78 million).

Capitalised borrowing costs for the year ended 31 December 2017 amounted to USD 263 million (for the year ended 31 December 2016: USD 202 million). Capitalisation rate used to determine the amount of borrowing costs equals to 6.28% per annum (31 December 2016: 6.59%). At 31 December 2017 mining assets and mine development cost included USD 3,728 million of mining assets under development (31 December 2016: USD 2,994 million).

At 31 December 2017 non-mining assets included USD 55 million of investment property (31 December 2016: USD 136 million).

### Impairment

At 31 December 2017 the Group reclassified Nkomati Nickel Mine from assets classified as held for sale and tested the assets for impairment. The value in use of USD 49 million was determined by the Group using a discounted cash flow model approach. The most significant estimates and assumptions used in determination of value in use are as follows:

- Future cash flows were projected based on budgeted amounts, taking into account actual results for the previous years. Forecasts were assessed up to 2027. Measurements were performed based on discounted cash flows expected to be generated by production assets.
- Management estimates metal concentrates market prices based on adjusted commodity price forecast for metals. Commodities price forecast was based on consensus forecast.
- Production forecasts were primarily based on internal production reports available at the date of impairment test and management's assumptions regarding future production levels.
- Inflation forecasts were sourced from Economist Intelligence Unit report. Inflation used was projected within 2–5%. Forecast for exchange rates was made based on expected ZAR and USD inflation indices.
- A pre-tax nominal ZAR discount rate of 21.6% was estimated by the reference to the weighted average cost of capital for the Group and reflects management's estimates of the risks specific to production units.

As a result, impairment loss in the amount of USD 129 million was recognised in impairment of non-financial assets in the consolidated income statement for the year ended 31 December 2017.

During the year ended 31 December 2015 the Group revised its intention on the further use of the gas extraction assets. As a result, these assets were assessed as a separate cash generating unit. The Group recognised impairment loss related to the gas extraction assets in the amount of USD 50 million in impairment of non-financial assets in the consolidated income statement for the year ended 31 December 2016.

At 31 December 2017 indicators of additional impairment of gas production assets have been identified. The most significant estimates and assumptions used in determination of value in use are as follows:

- Future cash flows were projected based on budgeted amounts, taking into account actual results for the previous years. Forecasts were assessed up to 2030. Measurements were performed based on discounted cash flows expected to be generated by gas production assets.
- Management estimates prices for natural gas and gas concentrate based on commodities price forecasts. Commodities price forecast was based on consensus forecast.
- Production forecasts were primarily based on internal production reports available at the date of impairment test and management's assumptions regarding future production levels.
- The amounts and timing of capital investments were based on management's forecast.
- Inflation indices and foreign currency rate forecasts were sourced from Economist Intelligence Unit report. Inflation used was projected within 4–7%. Forecast for exchange rates was made based on expected RUR and USD inflation indices.
- A pre-tax nominal RUR discount rate of 15.8% was estimated by the reference to the weighted average cost of capital for the Group and reflects management's estimates of the risks specific to production units.

As a result, gas extraction assets were fully impaired. Impairment loss in the amount of USD 43 million was recognised in impairment of non-financial assets in the consolidated income statement for the year ended 31 December 2017.

During the year ended 31 December 2017 additional impairment losses in the amount of USD 55 million were recognised in respect of specific individual assets, primarily mining assets (for the year ended 31 December 2016: USD 11 million in respect of specific individual assets, primarily non-mining assets).

## 15. Other financial assets

	At 31 December 2017	At 31 December 2016
<b>Non-current</b>		
Loans issued and other receivables	190	176
Bank deposits	2	10
Available-for-sale investments	–	4
<b>Total non-current</b>	<b>192</b>	<b>190</b>
<b>Current</b>		
Loans issued and other receivables	1	6
Bank deposits	94	–
Derivative financial instruments	4	2
<b>Total current</b>	<b>99</b>	<b>8</b>

### Available-for-sale investments in securities

During the year ended 31 December 2016, the Group fully impaired an interest in a related party which owns various real estate properties. Impairment loss was recognised in the consolidated income statement for the year ended 31 December 2016.

### Bank deposits

Interest rate on long-term RUB-denominated deposits held in banks was 5.10% (31 December 2016: 5.10%) per annum.

Interest rate on long-term EUR-denominated deposits held in banks was 0.30% (31 December 2016: no EUR-denominated deposits held in banks) per annum.

Interest rate on current ZAR-denominated deposits held in banks was in the range from 6.68% to 7.42% (31 December 2016: from 6.80% to 7.45%) per annum.

**16. Other taxes**

	At 31 December 2017	At 31 December 2016
<b>Taxes receivable</b>		
Value added tax recoverable	258	244
Other taxes	40	35
	<b>298</b>	<b>279</b>
Less: Allowance for value added tax recoverable	(1)	–
<b>Total</b>	<b>297</b>	<b>279</b>
Less: Non-current portion of other taxes receivable	(1)	(2)
<b>Other taxes receivable</b>	<b>296</b>	<b>277</b>
<b>Taxes payable</b>		
Value added tax	66	70
Social security contributions	26	27
Property tax	22	18
Mineral extraction tax	17	11
Other	16	13
<b>Other taxes payable</b>	<b>147</b>	<b>139</b>

**17. Inventories**

	At 31 December 2017	At 31 December 2016
Refined metals	655	310
Work-in-process and semi-products	1,333	901
Less: Allowance for work-in-process	(4)	–
<b>Total metal inventories</b>	<b>1,984</b>	<b>1,211</b>
Materials and supplies	739	728
Less: Allowance for obsolete and slow-moving items	(34)	(27)
<b>Materials and supplies, net</b>	<b>705</b>	<b>701</b>
<b>Inventories</b>	<b>2,689</b>	<b>1,912</b>

At 31 December 2017 part of metal semi-products stock in the amount of USD 453 million (31 December 2016: USD 830 million) was presented in other non-current assets according to Group's production plans.

**18. Trade and other receivables**

	At 31 December 2017	At 31 December 2016
Trade receivables from metal sales	251	95
Other receivables	168	159
	<b>419</b>	<b>254</b>
Less: Allowance for doubtful debts	(92)	(81)
<b>Trade and other receivables, net</b>	<b>327</b>	<b>173</b>

In 2017 and 2016, the average credit period on metal sales varied from 0 to 30 days. Trade receivables are generally non-interest bearing.

At 31 December 2017 and 2016, there were no material trade accounts receivable which were overdue or individually determined to be impaired.

The average credit period on sales of other products and services for the year ended 31 December 2017 was 33 days (2016: 32 days). No interest was charged on these receivables.

Included in the Group's other receivables at 31 December 2017 were debtors with a carrying value of USD 34 million (31 December 2016: USD 45 million) that were past due but not impaired. Management of the Group believes that these amounts are recoverable in full.

The Group did not hold any collateral for accounts receivable balances.

Ageing of other receivables past due but not impaired was as follows:

	At 31 December 2017	At 31 December 2016
Less than 180 days	25	41
180–365 days	9	4
	<b>34</b>	<b>45</b>

Movement in the allowance for doubtful debts was as follows:

	At 31 December 2017	At 31 December 2016
<b>Balance at beginning of the year</b>	<b>81</b>	<b>54</b>
Change in allowance	16	14
Accounts receivable written-off	(9)	(2)
Effect of translation to presentation currency	4	15
<b>Balance at end of the year</b>	<b>92</b>	<b>81</b>

## 19. Cash and cash equivalents

	At 31 December 2017	At 31 December 2016
Current accounts		
• foreign currencies	358	389
• RUB	76	58
Bank deposits		
• foreign currencies	412	1,739
• RUB	–	1,119
Restricted cash and cash equivalents	2	8
Other cash and cash equivalents	4	12
<b>Total</b>	<b>852</b>	<b>3,325</b>

## 20. Assets classified as held for sale and disposal of subsidiaries

On 17 October 2014, the Group entered into binding agreements to sell its assets in South Africa, comprising its 50% participation interest in Nkomati Nickel Mine ("Nkomati") and its 85% stake in Tati Nickel Mining Company (together "African assets") to BCL Investments ("BCL"). The total consideration for the assets amounted to USD 337 million subject to certain adjustments under agreement. Under the terms of the agreements, the buyer assumed all attributable decommissioning rehabilitation obligations related to the assets. On 2 April 2015, the Group sold its 85% stake in Tati Nickel Mining Company.

Finalisation of sale of Nkomati was subject to completion of conditions precedent, which was achieved in September 2016. However, BCL failed to meet its obligations according to the agreement and was put into a voluntary liquidation. The Group has filed legal claims against BCL in Botswana and LCIA to enforce sale of Nkomati.

Management believes that the criteria for held for sale are no longer met for Nkomati as at 31 December 2017. At 31 December 2017 Nkomati is presented as a joint operation and the Group recognises its share in assets, liabilities, income and expenses of Nkomati. Financial statements for the periods since classification of Nkomati as held for sale have been amended accordingly. After reclassification Nkomati assets were tested for impairment (refer to note 14).



Information for the year ended 31 December 2016 has been reclassified to conform with the current period presentation:

Adjustments to the consolidated statement of financial position	At 31 December 2016		
	As previously reported	Reclassification	Reclassified
Property, plant and equipment	9,099	207	9,306
Other non-current financial assets	187	3	190
Deferred tax assets	56	16	72
Inventories	1,895	17	1,912
Trade and other receivables	170	3	173
Advances paid and prepaid expenses	65	1	66
Other taxes receivable	276	1	277
Cash and cash equivalents	3,301	24	3,325
Assets classified as held for sale	206	(206)	–
		<b>66</b>	
Non-current loans and borrowings	7,274	2	7,276
Non-current provisions	435	6	441
Deferred tax liabilities	303	52	355
Current loans and borrowings	578	1	579
Trade and other payables	1,609	4	1,613
Employee benefit obligations	299	2	301
Other taxes payable	138	1	139
Liabilities associated with assets classified as held for sale	2	(2)	–
		<b>66</b>	

Adjustments to the consolidated income statement	For the year ended 31 December 2016		
	As previously reported	Reclassification	Reclassified
Foreign exchange gain, net	485	6	491
Share of profits of associates	6	(6)	–
		<b>–</b>	

Adjustments to the consolidated statement of cash flows	For the year ended 31 December 2016		
	As previously reported	Reclassification	Reclassified
<b>OPERATING ACTIVITIES</b>			
Adjustments to profit before tax for:			
Foreign exchange gain, net	(485)	(6)	(491)
Share of profits of associates	(6)	6	–
		<b>–</b>	
Movements in working capital:			
Trade and other payables	816	19	835
		<b>19</b>	
<b>INVESTING ACTIVITIES</b>			
Purchase of property, plant and equipment	(1,648)	(19)	(1,667)
		<b>(19)</b>	

On 6 April 2017, the Group sold its interest in a subsidiary which owns real estate for a consideration of USD 113 million. Proceeds from disposal of the subsidiary in the amount of USD 95 million were recognised in the consolidated statement of cash flows, net of disposed cash and cash equivalents of USD 16 million and transaction costs of USD 2 million. Gain on disposal in the amount of USD 16 million was recognised in the consolidated income statement.

On 29 November 2016, the Group sold its 74.8% share in OJSC “Arkhangelsk Sea Commercial Port”, a subsidiary of the Group located in the Russian Federation, for a consideration of USD 7 million. The carrying value of net assets at the date of disposal amounted to USD 8 million. Loss on disposal in the amount of USD 1 million was recognised in the consolidated income statement.

On 15 April 2016, the Group sold its aircompany assets comprising 96.8% share in CJSC “Nordavia – Regional Airlines” (“Nordavia”), a subsidiary of the Group located in the Russian Federation and related to Nordavia aircrafts and infrastructure, for a consideration of USD 10 million. The carrying value of net assets at the date of disposal amounted to USD 14 million. Loss on disposal in the amount of USD 4 million was recognised in the consolidated income statement.

## 21. Share capital

### Authorised and issued ordinary shares

	2017	2016
At 1 January	158,245,476	156,995,401
Sale of own shares from treasury stock	–	1,250,075
At 31 December	158,245,476	158,245,476

During the year ended 31 December 2016, the Group sold 1,250,075 treasury shares for a cash consideration in the amount of USD 158 million.

### Earnings per share

	For the year ended 31 December 2017	For the year ended 31 December 2016
Basic earnings per share (US Dollars per share):	13.5	16.1

The earnings and weighted average number of shares used in the calculation of earnings per share are as follows:

	For the year ended 31 December 2017	For the year ended 31 December 2016
Profit for the year attributable to shareholders of the parent company	2,129	2,536
Weighted average number of shares on issue	158,245,476	156,995,401
Effect of sale of own shares from treasury stock	–	54,648
Weighted average number of issued common shares outstanding	158,245,476	157,050,049

As at 31 December 2017 and 31 December 2016, the Group had no securities, which would have a dilutive effect on earnings per share of ordinary stock.

## 22. Non-controlling interest

In July 2016 the Group sold a 10.67% share in Bystrinskoye project for USD 80 million to a Chinese investor Highland Fund. In May 2017 the Group sold a 2.66% share in Bystrinskoye project for USD 21 million to Highland Fund. In October 2017 the Group sold a 36.66% share in Bystrinskoye project for USD 275 million to a related party.

At 31 December 2017 and 31 December 2016 aggregate financial information relating to the subsidiary that has material non-controlling interest, before any intra-group eliminations, is presented below:

	At 31 December 2017	At 31 December 2016
Non-current assets	1,281	741
Current assets	117	114
Non-current liabilities	(593)	(174)
Current liabilities	(156)	(105)
<b>Net assets</b>	<b>649</b>	<b>576</b>
Net assets attributable to non-controlling interest	325	61

	For the year ended 31 December 2017	For the year ended 31 December 2016
Loss for the year	(32)	(5)
Other comprehensive income/(loss) for the year	31	82
<b>Total comprehensive loss for the year</b>	<b>(1)</b>	<b>77</b>
Loss attributable to non-controlling interest	(6)	(1)
Other comprehensive income attributable to non-controlling interest	5	9

	For the year ended 31 December 2017	For the year ended 31 December 2016
Cash flows used in operating activities	(42)	(63)
Cash flows used in investing activities	(422)	(163)
Cash flows from financing activities	459	239
<b>Net (decrease)/increase in cash and cash equivalents</b>	<b>(7)</b>	<b>13</b>

## 23. Loans and borrowings

	Currency	Fixed or floating interest rate	Average nominal rate during the year ended 31 December 2017, %	Maturity	At 31 December 2017	At 31 December 2016
Unsecured loans	USD	floating	3.38%	2017–2023	2,898	2,707
	RUB	fixed	11.90%	2021	1,042	1,990
	EUR	floating	0.85%	2019–2028	4	–
Secured loans	USD	floating	6.72%	2019–2024	582	165
	RUB	fixed	8.38%	2017–2022	34	–
<b>Total loans</b>					<b>4,560</b>	<b>4,862</b>
Corporate bonds	USD	fixed	5.05%	2018–2023	4,206	2,715
	RUB	fixed	11.60%	2026	259	247
					4,465	2,962
Finance leasing	EUR	fixed	7.10%	2026	23	24
	USD	fixed	4.20%	2019	4	7
	ZAR	floating	12.19%	2017–2019	1	–
					<b>28</b>	<b>31</b>
<b>Total</b>					<b>9,053</b>	<b>7,855</b>
<b>Less: current portion due within twelve months and presented as short-term loans and borrowings</b>					<b>(817)</b>	<b>(579)</b>
<b>Long-term loans and borrowings</b>					<b>8,236</b>	<b>7,276</b>

The Group is obliged to comply with a number of restrictive financial and other covenants, including maintaining certain financial ratios and restrictions on pledging and disposal of certain assets.

Changes in loans and borrowings, including interest, for the year ended 31 December 2017 consist of changes from financing cash flows in the amount of USD 441 million, effect of changes in foreign exchange rates of USD 103 million and other non-cash changes of USD 667 million (for the year ended 31 December 2016: changes from financing cash flows in the amount of USD (1,401) million, effect of changes in foreign exchange rates of USD 346 million and other non-cash changes of USD 697 million).

At 31 December 2017 loans were secured by property, plant and equipment with a carrying amount of USD 15 million (31 December 2016: USD 752 million). At 31 December 2017 and 31 December 2016 100% shares of the Group's subsidiary LLC "GRK "Bystrinskoye" were under pledge.

## 24. Employee benefit obligations

	At 31 December 2017	At 31 December 2016
Accrual for annual leave	203	179
Wages and salaries	168	148
Other	22	22
<b>Total obligations</b>	<b>393</b>	<b>349</b>
Less: non-current obligations	(16)	(48)
<b>Current obligations</b>	<b>377</b>	<b>301</b>

### Defined contribution plans

Amounts recognised within continuing operations in the consolidated income statement in respect of defined contribution plans were as follows:

	For the year ended 31 December 2017	For the year ended 31 December 2016
Pension Fund of the Russian Federation	311	273
Mutual accumulated pension plan	8	7
Other	5	5
<b>Total</b>	<b>324</b>	<b>285</b>

## 25. Provisions

	At 31 December 2017	At 31 December 2016
<b>Current provisions</b>		
Tax provision	134	124
Provision for social commitments	28	19
Decommissioning obligations	26	–
Other provisions	1	40
<b>Total current provisions</b>	<b>189</b>	<b>183</b>
<b>Non-current provisions</b>		
Decommissioning obligations	396	397
Provision for social commitments	68	43
Other long-term provisions	–	1
<b>Total non-current provisions</b>	<b>464</b>	<b>441</b>
<b>Total</b>	<b>653</b>	<b>624</b>

	Decommissioning	Social commitments	Tax	Other	Total
<b>Balance at 1 January 2016</b>	<b>314</b>	<b>50</b>	<b>127</b>	<b>77</b>	<b>568</b>
Provision accrued	–	12	3	4	19
Settlements during the year	–	(16)	(5)	(30)	(51)
Change in estimates	(13)	(1)	–	(27)	(41)
Unwinding of discount	32	6	–	5	43
Effect of translation to presentation currency	64	11	(1)	12	86
<b>Balance at 31 December 2016</b>	<b>397</b>	<b>62</b>	<b>124</b>	<b>41</b>	<b>624</b>
Provision accrued	6	42	2	2	52
Settlements during the year	–	(21)	(2)	(41)	(64)
Change in estimate	(38)	4	–	–	(34)
Unwinding of discount	35	6	–	–	41
Effect of translation to presentation currency	22	3	10	(1)	34
<b>Balance at 31 December 2017</b>	<b>422</b>	<b>96</b>	<b>134</b>	<b>1</b>	<b>653</b>

### Decommissioning obligations

Key assumptions used in estimation of decommissioning obligations were as follows:

	At 31 December 2017	At 31 December 2016
Discount rates Russian entities	6.9%9.1%	8.5%8.6%
Discount rates non-Russian entities	3%5%	3%5%
Expected closure date of mines	up to 2071	up to 2059
Expected inflation over the period from 2018 to 2037	3.0%4.9%	3.1%4.7%
Expected inflation over the period from 2038 onwards	2.9%	2.9%

Present value of expected cost to be incurred for settlement of decommissioning obligations was as follows:

	At 31 December 2017	At 31 December 2016
Due from second to fifth year	202	265
Due from sixth to tenth year	23	44
Due from eleventh to fifteenth year	39	10
Due from sixteenth to twentieth year	77	26
Due thereafter	55	52
<b>Total</b>	<b>396</b>	<b>397</b>

In 2015 the Group approved a programme for reconfiguration of production facilities located in the Taimyr Peninsula. The programme started in 2016 and also included activities related to closure of the Nickel plant. In 2016 changes in the provision estimates for the reconfiguration of production facilities were recognised in Other net operating expenses in the consolidated income statement.

### Social commitments

In 2010 the Group entered into several multilateral agreements with the Government of the Russian Federation, the Krasnoyarsk and the Trans-Baikal Regional Governments for construction of pre-schools and other items of social infrastructure in Norilsk, Dudinka and Chita, and resettlement of families currently residing in these cities to other Russian regions with more favorable living conditions during 2015–2020. The provision represents present value of the best estimate of the future outflow of economic benefits to settle these obligations.



## 26. Trade and other payables

	At 31 December 2017	At 31 December 2016
<b>Financial liabilities</b>		
Trade payables	426	602
Payables for acquisition of property, plant and equipment	186	146
Other creditors	140	147
<b>Total financial liabilities</b>	<b>752</b>	<b>895</b>
<b>Non-financial liabilities</b>		
Advances received	31	718
<b>Total non-financial liabilities</b>	<b>31</b>	<b>718</b>
<b>Total</b>	<b>783</b>	<b>1,613</b>

The maturity profile of the Group's financial liabilities was as follows:

	At 31 December 2017	At 31 December 2016
Due within one month	194	189
Due from one to three months	244	209
Due from three to twelve months	314	497
<b>Total</b>	<b>752</b>	<b>895</b>

## 27. Dividends

On 29 September 2017, the Extraordinary General shareholders' meeting declared interim dividends in respect of the 6 months ended 30 June 2017 in the amount of RUB 224.20 (USD 3.84) per share with the total amount of USD 607 million. The dividends were paid to the shareholders in October 2017 in the amount of USD 610 million recognised in the consolidated statement of cash flows, using prevailing RUB/USD rates on the payment dates.

On 9 June 2017, the Annual General shareholders' meeting declared dividends for the year ended 31 December 2016 in the amount of RUB 446.10 (USD 7.83) per share with the total amount of USD 1,239 million. The dividends were paid to the shareholders in July 2017 in the amount of USD 1,189 million recognised in the consolidated statement of cash flows, using prevailing RUB/USD rates on the payment dates.

On 16 December 2016, the Extraordinary General shareholders' meeting declared interim dividends in respect of the 9 months ended 30 September 2016 in the amount of RUB 444.25 (USD 7.21) per share with the total amount of USD 1,141 million. The dividends were paid to the shareholders in January 2017 in the amount of USD 1,172 million recognised in the consolidated statement of cash flows, using prevailing RUB/USD rates on the payment dates.

On 10 June 2016, the Annual General shareholders' meeting declared dividends for the year ended 31 December 2015 in the amount of RUB 230.14 (USD 3.61) per share with the total amount of USD 571 million (including USD 4 million in respect of Treasury shares). The dividends were paid to the shareholders in July 2016 in the amount of USD 567 million recognised in the consolidated statement of cash flows, using prevailing RUB/USD rates on the payment dates.

On 19 December 2015, the Extraordinary General shareholders' meeting declared interim dividends in respect of the 9 months ended 30 September 2015 in the amount of RUB 321.95 (USD 4.51) per share with the total amount of USD 714 million (including USD 6 million in respect of Treasury shares). The dividends were paid to the shareholders in January 2016 in the amount of USD 665 million recognised in the consolidated statement of cash flows, using prevailing RUB/USD rates on the payment dates.

## 28. Related parties transactions and outstanding balances

Related parties include major shareholders, associates and entities under common ownership and control of the Group's major shareholders and key management personnel. The Group defines major shareholders as shareholders, which have significant influence over the Group activities. The Company and its subsidiaries, in the ordinary course of their business, enter into various sale, purchase and service transactions with related parties. Transactions between the Company and its subsidiaries, which are related parties of the Company, have been eliminated on consolidation and are not disclosed in this note. Details of transactions between the Group and other related parties are disclosed below.

Transactions with related parties	Sale of goods and services and participating shares		Purchase of assets and services and other operating expenses	
	For the year ended 31 December 2017	For the year ended 31 December 2016	For the year ended 1 December 2017	For the year ended 31 December 2016
Entities under ownership and control of the Group's major shareholders	279	13	115	177
Joint operation of the Group	1	2	107	169
<b>Total</b>	<b>280</b>	<b>15</b>	<b>222</b>	<b>346</b>

Outstanding balances with related parties	Accounts receivable		Accounts payable, loans and borrowings received	
	At 31 December 2017	At 31 December 2016	At 31 December 2017	At 31 December 2016
Entities under ownership and control of the Group's major shareholders	–	–	2	2
Joint operation of the Group	–	1	9	20
<b>Total</b>	<b>–</b>	<b>1</b>	<b>11</b>	<b>22</b>

### Terms and conditions of transactions with related parties

Sales to and purchases from related parties of electricity, heat energy and natural gas supply were made at prices established by the Federal Tariff Service, government regulator responsible for establishing and monitoring prices on the utility and telecommunication markets in the Russian Federation.

### Compensation of key management personnel

Key management personnel of the Group consists of members of the Management Board and the Board of Directors. For the year ended 31 December 2017 remuneration of key management personnel of the Group included salary and performance bonuses amounted to USD 103 million (for the year ended 31 December 2016: USD 62 million).

## 29. Commitments

### Capital commitments

At 31 December 2017, contractual capital commitments amounted to USD 801 million (31 December 2016: USD 1,138 million).

### Operating leases

The land plots in the Russian Federation where the Group's production facilities are located are owned by the state. The Group leases land through operating lease agreements, which expire in various years through 2066. According to the terms of lease agreements the rent rate is revised annually subject to the decision of the relevant local authorities. The Group entities have a renewal option at the end of the lease period and an option to buy land at any time, at a price established by the local authorities.

Future minimum lease payments due under non-cancellable operating lease agreements for land and buildings were as follows:

	At 31 December 2017	At 31 December 2016
Due within one year	36	29
From one to five years	103	78
Thereafter	138	109
<b>Total</b>	<b>277</b>	<b>216</b>

At 31 December 2017, ten aircraft lease agreements (31 December 2016: ten) were in effect. The lease agreements have an average life of seven (31 December 2016: five) years with a renewal option at the end of the term and place no restrictions upon lessees by entering into these agreements.

Future minimum lease payments due under non-cancellable operating lease agreements for aircrafts were as follows:

	At 31 December 2017	At 31 December 2016
Due within one year	38	43
From one to five years	97	70
Thereafter	18	–
<b>Total</b>	<b>153</b>	<b>113</b>

### Social commitments

The Group contributes to mandatory and voluntary social programs and maintains social assets in the locations where it has its main operating facilities. The Group's social assets as well as local social programs benefit the community at large and are not normally restricted to the Group's employees. The Group's commitments are funded from its own cash resources.

## 30. Contingencies

### Litigation

At 31 December 2017 the Group is involved in other legal disputes in the ordinary course of its operations, with the probability of their unfavorable resolution being assessed as possible. At 31 December 2017, total claims under unresolved litigation amounted to approximately USD 25 million (31 December 2016: USD 25 million).

### Taxation contingencies in the Russian Federation

The Russian Federation currently has a number of laws related to various taxes imposed by both federal and regional governmental authorities. Applicable taxes include value-added (VAT), corporate income tax, mandatory social security contributions, together with others. Tax returns, together with other legal compliance areas (for example, customs and currency control matters), are subject to review and investigation by government authorities, which are authorised by law to impose severe fines, penalties and interest charges. Generally, tax returns remain open and subject to inspection for a period of three years following the fiscal year.

While management of the Group believes that in the financial statements of the Group it has provided adequate reserves for tax liabilities based on its interpretation of current and previous legislation, the risk remains that tax authorities in the Russian Federation could take differing positions with regard to interpretive issues. This uncertainty may expose the Group to additional taxation, fines and penalties.

Transfer pricing legislation enacted in the Russian Federation starting from 1 January 2012 provides for major modifications making local transfer pricing rules closer to OECD guidelines, but creating additional uncertainty in practical application of tax legislation in certain circumstances.

These transfer pricing rules provide for an obligation for the taxpayers to prepare transfer pricing documentation with respect to controlled transactions and prescribe the basis and mechanisms for accruing additional taxes and interest in case prices in the controlled transactions differ from the market level.

Currently there is lack of practice of applying the transfer pricing rules by the tax authorities and courts, however, it is anticipated that transfer pricing arrangements will be subject to very close scrutiny potentially having effect on the financial results and the financial position of the Group.

In 2017 the Russian tax authorities completed a transfer pricing audit of the Group's metal export sales for the year ended 31 December 2013, which did not result in significant additional tax charges.

### Environmental matters

The Group is subject to extensive federal, state and local environmental controls and regulations in the countries in which it operates. The Group's operations involve pollutant emissions to air and water objects as well as formation and disposal of production wastes.

Management of the Group believes that the Group is in compliance with all current existing environmental legislation in the countries in which it operates. However, environmental laws and regulations continue to evolve. The Group is unable to predict the timing or extent to which those laws and regulations may change. Such change, if it occurs, may require that the Group modernise technology to meet more stringent standards.

### Russian Federation risk

As an emerging market, the Russian Federation does not possess a fully developed business and regulatory infrastructure including stable banking and judicial systems which would generally exist in a more mature market economy. The economy of the Russian Federation is characterised by a currency that is not freely convertible outside of the country, currency controls, low liquidity levels for debt and equity markets, and continuing inflation. As a result, operations in the Russian Federation involve risks that are not typically associated with those in more developed markets. Stability and success of Russian economy and the Group's business mainly depends on the effectiveness of economic measures undertaken by the government as well as the development of legal system.

## 31. Financial risk management

### Capital risk management

The Group manages its capital structure in order to safeguard the Group's ability to continue as a going concern and to maximise the return to shareholders through the optimisation of debt and equity balance.

The capital structure of the Group consists of debt, which includes long and short-term borrowings, equity attributable to shareholders of the parent company, comprising share capital, other reserves and retained earnings.

Management of the Group regularly reviews its level of leverage, calculated as the proportion of Net Debt to EBITDA, to ensure that it is in line with the Group's financial policy aimed at preserving investment grade credit ratings.

The Company maintains BBB- investment grade ratings, assigned by rating agencies Fitch and S&P's. On 29 January 2018 Moody's rating agency raised the Company's rating from Ba1 to the investment grade level Baa3 and changed the outlook from stable to positive.

### Financial risk factors and risk management structure

In the normal course of its operations, the Group is exposed to a variety of financial risks: market risk (including interest rate and currency risk), credit risk and liquidity risk. The Group has an explicit risk management structure aligned with internal control procedures that enable it to assess, evaluate and monitor the Group's exposure to such risks.

Risk management is carried out by financial risk management. The Group has adopted and documented policies covering specific areas, such as market risk management system, credit risk management system, liquidity risk management system and use of derivative financial instruments.

### Interest rate risk

Interest rate risk is the risk that changes in interest rates will adversely impact the financial results of the Group. The Group's interest rate risk arises from long- and short-term borrowings at floating rates.

The Group performs thorough analysis of its interest rate risk exposure regularly. Various scenarios are simulated. The table below details the Group's sensitivity to a 2 percentage points increase in those borrowings subject to a floating rate. The sensitivity analysis is prepared assuming that the amount of liabilities at floating rates outstanding at the reporting date was outstanding for the whole year.

	2% LIBOR increase impact	
	For the year ended 31 December 2017	For the year ended 31 December 2016
Loss	70	57

Management believes that the Group's exposure to interest rate risk fluctuations does not require additional hedging activities.

**Currency risk**

Currency risk is the risk that the fair value or future cash flows of a financial instrument denominated in foreign currency will fluctuate because of changes in exchange rates.

The major part of the Group's revenue and related trade accounts receivable are denominated in US dollars and therefore the Group is exposed primarily to USD currency risk. Foreign exchange risk arising from other currencies is assessed by management of the Group as immaterial.

The carrying amounts of monetary assets and liabilities denominated in foreign currencies other than functional currencies of the individual Group entities at 31 December 2017 and 31 December 2016 were as follows:

	At 31 December 2017			At 31 December 2016		
	USD	HKD	Other currencies	USD	HKD	Other currencies
Cash and cash equivalents	609	100	49	1,053	1,014	57
Trade and other receivables	384	–	8	163	–	7
Other assets	141	–	312	140	–	101
<b>Total assets</b>	<b>1,134</b>	<b>100</b>	<b>369</b>	<b>1,356</b>	<b>1,014</b>	<b>165</b>
Trade and other payables	290	–	94	263	–	74
Loans and borrowings	7,684	–	5	5,584	–	–
Other liabilities	36	–	23	15	–	24
<b>Total liabilities</b>	<b>8,010</b>	<b>–</b>	<b>122</b>	<b>5,862</b>	<b>–</b>	<b>98</b>

Currency risk is monitored on a monthly basis utilising sensitivity analysis to assess if a risk for a potential loss is at an acceptable level. The Group calculates the financial impact of exchange rate fluctuations on USD-denominated monetary assets and liabilities in respect of the Group entities where functional currency is the Russian Rouble. The following table presents the decrease of the Group's profit and equity before tax due to a 20% weakening of the Russian Rouble against USD.

	US Dollar 20% strengthening	
	For the year ended 31 December 2017	For the year ended 31 December 2016
Loss	1,375	901

Given that the Group's exposure to currency risk for the monetary assets and liabilities is offset by the revenue denominated in USD, management believes that the Group's exposure to currency risk is acceptable. The Group does not apply hedge instruments.

**Credit risk**

Credit risk refers to the risk that a counterparty will default on its contractual obligations resulting in a financial loss to the Group. Credit risk arises from cash and cash equivalents, bank deposits as well as credit exposures to customers, including outstanding uncollateralised trade and other receivables. The Group's exposure to credit risk is continuously monitored and controlled.

Before dealing with a new counterparty, management assesses the creditworthiness of a potential customer or a financial institution. If the counterparty is rated by major independent credit-rating agencies, this rating is used to evaluate creditworthiness; otherwise it is evaluated using an analysis of the latest available financial statements of the counterparty and other publicly available information.

The balances of ten major counterparties are presented below. The banks have a minimum of BB+ credit rating.

	Outstanding balance	
	At 31 December 2017	At 31 December 2016
<b>Cash and cash equivalents and bank deposits</b>		
Bank A	224	1,014
Bank B	143	653
Bank C	125	521
Bank D	102	381
Bank E	80	226
<b>Total</b>	<b>674</b>	<b>2,795</b>

	Outstanding balance	
	At 31 December 2017	At 31 December 2016
<b>Trade receivables</b>		
Company A	66	11
Company B	41	9
Company C	23	7
Company D	18	7
Company E	16	6
<b>Total</b>	<b>164</b>	<b>40</b>

The Group is not economically dependent on a limited number of customers because the majority of its products are highly liquid and traded on the world commodity markets. Metal and other sales to the Group's customers are presented below:

	For the year ended 31 December 2017				For the year ended 31 December 2016			
	Number of customers	Turnover USD million	%		Number of customers	Turnover USD million	%	
Largest customer	1	1,319	14	1	973	12		
Next 9 largest customers	9	2,936	32	9	2,587	31		
<b>Total</b>	<b>10</b>	<b>4,255</b>	<b>46</b>	<b>10</b>	<b>3,560</b>	<b>43</b>		
Next 10 largest customers	10	1,494	16	10	1,154	14		
<b>Total</b>	<b>20</b>	<b>5,749</b>	<b>62</b>	<b>20</b>	<b>4,714</b>	<b>57</b>		
Remaining customers		3,397	38		3,545	43		
<b>Total</b>		<b>9,146</b>	<b>100</b>		<b>8,259</b>	<b>100</b>		

Management of the Group believes that with the exception of the bank balances indicated above there is no significant concentration of credit risk.

The following table provides information about the exposure to credit risk for cash and cash equivalents, loans, irrevocable letters of credit, bank deposits and trade and other receivables:

	At 31 December 2017	At 31 December 2016
Cash and cash equivalents	852	3,325
Loans, trade and other receivables	518	355
Irrevocable letters of credit	248	101
Bank deposits	96	10

### Liquidity risk

Liquidity risk is the risk that the Group will not be able to settle all liabilities as they fall due.

The Group has a well-developed liquidity risk management system to exercise control over its short-, medium- and long-term funding. The Group manages liquidity risk by maintaining adequate reserves, committed and uncommitted banking facilities and reserve borrowing facilities. Management continuously monitors rolling cash flow forecasts and performs analysis of maturity profiles of financial assets and liabilities, and undertakes detailed annual and quarterly budgeting procedures.



The following table contains the maturity profile of the Group's borrowings (maturity profiles for other liabilities are presented in note 26) based on contractual undiscounted payments, including interest:

At 31 December 2017	Total	Due within one month	Due from one to three months	Due from three to twelve months	Due in the second year	Due in the third year	Due in the fourth year	Due in the fifth year	Due there-after
<b>Fixed rate bank loans and borrowings</b>									
Principal	5,586	1	1	766	6	988	1,049	1,506	1,269
Interest	1,189	–	36	239	258	257	188	106	105
	<b>6,775</b>	<b>1</b>	<b>37</b>	<b>1,005</b>	<b>264</b>	<b>1,245</b>	<b>1,237</b>	<b>1,612</b>	<b>1,374</b>
<b>Floating rate bank loans and borrowings</b>									
Principal	3,510	9	–	29	236	996	1,028	808	405
Interest	246	5	8	51	65	52	33	20	10
	<b>3,756</b>	<b>14</b>	<b>8</b>	<b>80</b>	<b>302</b>	<b>1,048</b>	<b>1,061</b>	<b>828</b>	<b>415</b>
<b>Total</b>	<b>10,531</b>	<b>15</b>	<b>45</b>	<b>1,085</b>	<b>566</b>	<b>2,293</b>	<b>2,298</b>	<b>2,440</b>	<b>1,789</b>
At 31 December 2016	Total	Due within one month	Due from one to three months	Due from three to twelve months	Due in the second year	Due in the third year	Due in the fourth year	Due in the fifth year	Due there-after
<b>Fixed rate bank loans and borrowings</b>									
Principal	4,996	–	–	5	741	668	1,348	976	1,258
Interest	1,882	–	76	357	417	394	306	137	195
	<b>6,878</b>	<b>–</b>	<b>76</b>	<b>362</b>	<b>1,158</b>	<b>1,062</b>	<b>1,654</b>	<b>1,113</b>	<b>1,453</b>
<b>Floating rate bank loans and borrowings</b>									
Principal	2,902	11	134	431	445	556	222	609	494
Interest	419	4	18	71	83	73	63	43	64
	<b>3,321</b>	<b>15</b>	<b>152</b>	<b>502</b>	<b>528</b>	<b>629</b>	<b>285</b>	<b>652</b>	<b>558</b>
<b>Total</b>	<b>10,199</b>	<b>15</b>	<b>228</b>	<b>864</b>	<b>1,686</b>	<b>1,691</b>	<b>1,939</b>	<b>1,765</b>	<b>2,011</b>

At 31 December 2017 the Group had available financing facilities for the management of its day to day liquidity requirements of USD 3,554 million (31 December 2016: USD 2,622 million).

## 32. Fair value of financial instruments

Management believes that the carrying value of financial instruments such as cash and cash equivalents (refer to note 19), short-term accounts receivable and payable approximates to their fair value.

Certain financial instruments such as other financial assets and finance leases obligations, were excluded from fair value analysis either due to their insignificance or due to the fact that assets were acquired or liabilities were assumed close to the reporting dates and management believes that their carrying value either approximates to their fair value or may not significantly differ from each other.

Financial instruments that are measured subsequent to initial recognition at fair value, grouped into Levels 1 to 3 based on the degree to which the fair value is observable as follows:

- Level 1 fair value measurements are those derived from quoted prices (unadjusted) in active markets for identical assets or liabilities;
  - Level 2 fair value measurements are those derived from inputs other than quoted prices included within Level 1 that are observable for the assets or liability, either directly or indirectly; and
  - Level 3 fair value measurements are those derived from valuation techniques that include inputs for the asset or liability that are not based on observable market data.
- The information presented below is about loans and borrowings, trade and other long-term payables, whose carrying values differ from their fair values.

	At 31 December 2017		At 31 December 2016	
	Carrying value	Fair value Level 1	Carrying value	Fair value Level 1
Fixed rate corporate bonds	4,465	4,685	2,962	3,171
<b>Total</b>	<b>4,465</b>	<b>4,685</b>	<b>2,962</b>	<b>3,171</b>
	Carrying value	Fair value Level 2	Carrying value	Fair value Level 2
Loans and borrowings, including:				
Floating rate loans and borrowings	3,484	3,439	2,872	2,734
Fixed rate loans and borrowings	1,076	1,055	1,990	2,121
<b>Total</b>	<b>4,560</b>	<b>4,494</b>	<b>4,862</b>	<b>4,855</b>
	Carrying value	Fair value Level 2	Carrying value	Fair value Level 2
Trade and other long-term payables	402	440	523	523
<b>Total</b>	<b>402</b>	<b>440</b>	<b>523</b>	<b>523</b>

The fair value of financial liabilities presented in table above is determined as follows:

- the fair value of corporate bonds was determined based on market quotations existing at the reporting dates;
- the fair value of floating rate and fixed rate loans and borrowings at 31 December 2017 was calculated based on the present value of future cash flows (principal and interest), discounted at the best management estimation of market rates, taking into consideration currency of the loan, expected maturity and risks attributable to the Group existing at the reporting date;
- the fair value of trade and other long-term payables at 31 December 2017 was calculated based on the present value of future cash flows, discounted at the best management estimation of market rates.

### 33. Investments in significant subsidiaries and associates

Subsidiaries by business segments	Country	Nature of business	Effective % held	
			At 31 December 2017	At 31 December 2016
Group GMK				
JSC “Norilsky Kombinat”	Russian Federation	Rental of equipment	100	100
JSC “Taimyrgaz”	Russian Federation	Gas extraction	100	100
JSC “Norilskgazprom”	Russian Federation	Gas extraction	100	100
JSC “Taimyrenergo”	Russian Federation	Rental of equipment	100	100
JSC “NTEK”	Russian Federation	Electricity production and distribution	100	100
LLC “ZSC”	Russian Federation	Construction	100	100
LLC “Norilsknickelremont”	Russian Federation	Repairs	100	100
LLC “Norilskgeologiya”	Russian Federation	Geological works	100	100
LLC “Norilskiy obespechivaushyi complex”	Russian Federation	Production of spare parts	100	100
Group KGMK				
JSC “Kolskaya GMK”	Russian Federation	Mining and Metallurgy	100	100
LLC “Pechengastroy”	Russian Federation	Repairs	100	100
Norilsk Nickel Harjavalta				
Norilsk Nickel Harjavalta OY	Finland	Metallurgy	100	100
Other metallurgical				
LLC “GRK “Bystrinskoye”	Russian Federation	Mining	50.01	89.33

Subsidiaries by business segments	Country	Nature of business	Effective % held	
			At 31 December 2017	At 31 December 2016
Other non-metallurgical				
Metal Trade Overseas A.G.	Switzerland	Distribution	100	100
LLC “Institut Gypronickel”	Russian Federation	Research	100	100
JSC “TTK”	Russian Federation	Supplier of fuel	100	100
JSC “Enisey River Shipping Company”	Russian Federation	River shipping operations	100	100
LLC “Aeroport Norilsk”	Russian Federation	Airport	100	100
JSC “AK “NordStar”	Russian Federation	Aircompany	100	100

Joint operations by business segments	Country	Nature of business	Effective % held	
			At 31 December 2017	At 31 December 2016
Other metallurgical				
Nkomati Nickel Mine	Republic of South Africa	Mining	50	50

## 34. Events subsequent to the reporting date

In January 2018 the Company borrowed the second tranche in the amount of USD 1,100 million under the USD 2,500 million syndicated loan, signed in December 2017 with the syndicate of international financial institutions. The existing facility has been fully drawn down.

In January 2018 the Company made an early repayment of USD 120 million under the bilateral credit facility with JSC "Nordea Bank" with the total credit limit of USD 220 million.

In February 2018 the Group signed metal sales agreement with Societe Generale under terms of USD 300 million prepayment.

During January and February 2018 the Company signed two confirmed credit lines with PJSC VTB Bank and JSC Gasprombank in the amount of RUB 30 billion and RUB 20 billion accordingly and an unconfirmed credit line facility with JSC Gasprombank in the amount of RUB 20 billion. At the publication date there was no draw-down under these facilities.

# The Group Structure: main assets<sup>1</sup>

Mining and Metallurgical assets	Geological exploration assets	Energy assets	Transport assets	Research assets	Supporting business	Sales and distribution assets
Polar Division	Norilskgeologiya (100% stake)	Norilskenergo Division	PolarTransport Division	Institut Gypronickel (100% stake)	Norilskiy obespechivaushiy complex (100% stake)	NORMETIMPEX (100% stake)
Medvezhy Ruchey (100% stake)	Vostokgeologiya (100% stake)	Taimyrenergo (100% stake)	Murmansk Transport Division		ZSC (100% stake)	Metal Trade Overseas A. G. (Switzerland, 100% stake)
Kola MMC (100% stake)		NTEK (100% stake)	Arkhangelsk Transport Division		Norilsknickelremont (100% stake)	Norilsk Nickel Europe Limited (UK, 100% stake)
GRK "Bystrinskoye (50.01% stake)		Norilskgazprom (100% stake)	Krasnoyarsk Transport Division		Pechengastroy (100% stake)	Norilsk Nickel Asia (Hong Kong, 100% stake)
Norilsk Nickel Harjavalta (Finland, 100% stake)		Taimyrgaz (100% stake)	Bystrinsky Transport Division		Nornickel — Shared Services Centre (100% stake)	Norilsk Nickel USA Inc. (USA, 100% stake)
Nkomati Nickel Mine (SA, 50% stake)		TTK (100% stake)	Yenisey River Shipping Company (81,99% stake)			Norilsk Nickel Marketing (China, 100% stake)
		Norilsktransgaz (100% stake)	Krasnoyarsk River Port (88,77% stake)			
		Arctic-Energo (100% stake)	Lesosibirsk Port (51% stake)			
			Norilsk Airport (100% stake)			
			NordStar Airlines (100% stake)			
			Norilsk Avia (100% stake)			

Company overview

Strategy overview

Market overview

Business overview

Corporate governance

Information for shareholders

Appendices

<sup>1</sup> Ownership in subsidiaries are indicated from the authorized capital

# History of production indicators

Norilsk nickel Group saleable metals production	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>TOTAL METAL PRODUCTION</b>										
Nickel, t,	297,943	279,889	295,840	295,098	300,340	285,292	274,248	266,406	235,749	217,112
thereof from own Russian feed	230,550	232,813	235,518	234,906	223,153	219,273	223,224	220,675	196,809	210,131
thereof from 3d parties feed	67,393	47,076	60,322	60,192	77,187	66,019	51,024	45,731	38,940	6,981
Copper, t,	417,861	400,778	388,027	377,944	363,764	371,063	368,008	369,426	360,217	401,081
thereof from own Russian feed	400,344	382,443	365,698	362,854	344,226	345,737	345,897	352,766	344,482	397,774
thereof from 3d parties feed	17,517	18,335	22,329	15,090	19,538	25,326	22,111	16,660	15,735	3,307
Palladium, koz	2,807	2,794	2,855	2,806	2,732	2,662	2,752	2,689	2,618	2,780
thereof from own Russian feed	2,701	2,676	2,723	2,704	2,624	2,529	2,582	2,575	2,526	2,728
thereof from 3d parties feed	106	118	132	102	108	133	170	114	92	52
Platinum, koz	656	658	692	696	683	650	662	656	644	670
thereof from own Russian feed	632	636	663	672	658	604	595	610	610	650
thereof from 3d parties feed	24	22	29	24	25	46	67	46	34	20
<b>Polar division and Kola MMC (Russia)</b>										
Nickel, t	232,302	232,813	235,518	237,227	233,632	231,798	228,438	222,016	182,095	157,396
Polar division	122,000	124,250	124,200	124,000	124,000	122,700	122,390	96,916	50,860	0
Kola MMC	110,302	108,563	111,318	113,227	109,632	109,098	106,048	125,100	131,235	157,396
thereof from own Russian feed	108,550	108,563	111,318	110,906	99,153	96,573	100,834	123,335	126,937	155,110
thereof from 3d parties feed	1,752	0	0	2,321	10,479	12,525	5,214	1,765	4,298	2 286
Copper, t	400,344	382,443	365,698	363,460	352,466	359,102	354,943	355,707	350,619	387,640
Polar division	338,511	323,705	309,320	303,940	295,610	296,760	297,552	292,632	280,347	306,859
Kola MMC	61,833	58,738	56,378	59,520	56,856	62,342	57,391	63,075	70,272	80,781
thereof from own Russian feed	61,833	58,738	56,378	58,914	48,616	48,977	48,345	60,134	63,542	78,586
thereof from 3d parties feed	0	0	0	606	8,240	13,365	9,046	2,941	6,730	2,195
Palladium, koz	2,701	2,676	2,723	2,704	2,628	2,580	2,660	2,606	2,554	2,738
Polar division	2,054	2,010	2,053	2,038	1,989	2,006	2,065	1,935	1,703	956
Kola MMC	647	666	670	666	639	574	595	671	851	1,782
thereof from own Russian feed	647	666	670	666	635	523	517	640	815	1,731
thereof from 3d parties feed	0	0	0	0	4	51	78	31	36	45

Norilsk nickel Group saleable metals production	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Platinum, koz	632	636	663	672	660	627	627	622	622	660
Polar division	509	505	529	536	529	504	500	488	449	259
Kola MMC	123	131	134	136	131	123	127	134	173	401
thereof from own Russian feed	123	131	134	136	129	100	95	122	159	385
thereof from 3d parties feed	0	0	0	0	2	23	32	12	14	16
<b>Norilsk Nickel Harjavalta (Finland)</b>										
Nickel, t	29,344	28,452	49,159	48,525	45,518	44,252	42,603	43,479	53,654	59,716
thereof from own Russian feed	0	0	0	0	0	0	0	424	19,012	55,021
Copper, t	4,220	4,983	11,279	5,681	1,006	6,549	10,629	13,048	9,598	13,441
thereof from own Russian feed	0	0	0	0	0	0	0	0	593	12,329
Palladium, koz	11	18	48	34	21	39	74	78	64	42
thereof from own Russian feed	0	0	0	0	0	0	0	0	8	35
Platinum, koz	5	5	15	12	9	16	31	33	22	10
thereof from own Russian feed	0	0	0	0	0	0	0	0	2	6
<b>Norilsk Nickel Australia (Australia)</b>										
Nickel, t	15,528	1,223	0	0	8,975	2,826	0	0	0	0
<b>Norilsk Nickel Tati (Botswana) <sup>1</sup></b>										
Nickel, t	20,769	17,401	11,163	9,346	12,215	6,416	3,207	911	0	0
Copper, t	13,297	13,352	11,050	8,803	10,292	5,412	2,436	671	0	0
Palladium, koz	95	100	84	68	83	43	18	5	0	0
Platinum, koz	19	17	14	12	14	7	4	1	0	0
<b>Norilsk Nickel Nkomati (South Africa) <sup>2</sup></b>										
Nickel, t	2,642	3,005	5,528	5,815	9,624	11,920	11,359	11,350	8,486	8,006
Copper, t	1,347	1,436	3,082	2,927	4,594	5,034	4,938	5,301	4,007	4,504
Palladium, koz	13	11	23	24	32	46	48	53	40	46
Platinum, koz	5	3	7	9	12	20	19	20	15	20

<sup>1</sup> The sale of the asset was closed on April 2, 2015.

<sup>2</sup> Metal in concentrate for sale assuming 50% ownership. Nkomati's performance is reflected in financial results using proportional consolidation according to our stake and not reflected in other totals.



# Minerals reserves and resources

Region, deposit, ore type	Ore kt	Metal grade						Contained metal					
		Ni %	Cu %	Pd g/t	Pt g/t	Au g/t	6 PGM g/t	Ni kt	Cu kt	Pd koz	Pt koz	Au koz	6 PGM koz
TAIMYR PENINSULA													
Proven and probable reserves	689,980	0.92	1.75	4.25	1.13	0.24	5.54	6,375	12,074	94,260	24,956	5,432	124,810
Proven reserves													
Talnakh ore field, including:	331,796	0.78	1.56	3.91	1.04	0.22	5.15	2,573	5,162	41,751	11,095	2,319	54,951
Rich	48,376	2.53	3.14	6.57	1.26	0.20	8.15	1,225	1,517	10,221	1,962	309	12,675
Cuprous	22,584	0.98	3.98	9.52	2.30	0.51	11.95	,221	899	6,912	1,667	369	8,675
Disseminated	260,836	0.43	1.05	2.94	0.89	0.20	4.01	1,127	2,746	24,618	7,466	1,641	33,601
Norilsk-1 deposit (disseminated ore)	22,353	0.35	0.51	3.97	1.60	0.17	5.91	78	113	2,856	1,149	126	4,215
Probable reserves													
Talnakh ore field	313,942	1.17	2.14	4.62	1.14	0.28	6.06	3,662	6,719	46,628	11,493	2,852	61,173
Rich	84,821	2.88	3.90	6.88	1.42	0.28	8.87	2,439	3,307	18,764	3,865	761	24,175
Cuprous	58,188	0.76	3.28	7.25	1.88	0.58	9.33	441	1,910	13,562	3,519	1,094	17,460
Disseminated	170,933	0.46	0.88	2.60	0.75	0.18	3.56	782	1,502	14,302	4,109	997	19,538
Norilsk-1 deposit (disseminated ore)	21,889	0.28	0.37	4.30	1.73	0.19	6.35	62	80	3,025	1,219	135	4,471
Measured and indicated resources													
Talnakh ore field	1,566,469	0.74	1.41	3.56	0.97	0.22	4.73	11,545	22,096	179,339	48,652	10,942	238,382
Rich	115,466	3.23	3.90	7.96	1.60	0.29	10.12	3,733	4,917	29,537	5,939	1,092	37,550
Cuprous	68,345	1.00	4.24	9.61	2.43	0.69	12.27	685	2,898	21,116	5,349	1,510	26,957
Disseminated	1,382,658	0.52	1.03	2.89	0.84	0.19	3.91	7,127	14,281	128,686	37,364	8,340	173,875
Norilsk-1 deposit (disseminated ore)	147,912	0.30	0.38	3.70	1.44	0.15	5.44	440	564	17,580	6,855	731	25,852
Inferred resources	445,642	0.86	1.75	4.24	1.10	0.25	5.57	3,852	7,786	60,658	15,642	3,580	79,553
Talnakh ore field	444,574	0.87	1.75	4.24	1.09	0.25	5.57	3,850	7,783	60,531	15,592	3,576	79,286
Norilsk-1 deposit	1,068	0.23	0.32	3.69	1.46	0.13	7.78	2	3	127	50	4	267
KOLA PENINSULA (DISSEMINATED ORE)													
Proven and probable reserves	125,253	0.58	0.29	0.02	0.03	0.01	0.05	730	359	123	88	42	219
Proven reserves	50,127	0.57	0.24	0.02	0.03	0.01	0.05	285	122	46	34	14	81
Probable reserves	75,126	0.59	0.32	0.02	0.03	0.01	0.06	445	237	77	54	28	138
Measured and indicated resources	332,923	0.69	0.33	0.03	0.05	0.02	0.08	2,286	1,106	497	322	180	879
Inferred resources	137,502	0.63	0.31	0.03	0.04	0.01	0.07	873	431	178	119	57	312

Region, deposit, ore type	Ore kt	Metal grade						Contained metal					
		Ni %	Cu %	Pd g/t	Pt g/t	Au g/t	6 PGM g/t	Ni kt	Cu kt	Pd koz	Pt koz	Au koz	6 PGM koz
TOTAL RUSSIAN ASSETS AS AT 31.12.2017													
Total proven and probable reserves	815,233	0.87	1.53	3.60	0.96	0.21	4.77	7,105	12,433	94,383	25,044	5,474	125,029
Total measured and indicated resources	2,047,304	0.70	1.16	3.00	0.85	0.18	4.03	14,271	23,766	197,416	55,829	11,853	265,113
Total inferred resources	583,144	0.81	1.41	3.25	0.84	0.19	4.27	4,725	8,217	60,836	15,761	3,637	79,865
AUSTRALIA (NORILSK NICKEL CAWSE)													
Honeymoon Well (nickel sulfide ores)													
Measured and indicated resources	173,300	0.68	0	0	0	0	0	1,180	0	0	0	0	0
Inferred resources	11,900	0.68	0	0	0	0	0	81	0	0	0	0	0
Honeymoon Well (nickel laterite ores)													
Inferred resources	339,000	0.81	0	0	0	0	0	2,746	0	0	0	0	0
TOTAL RUSSIAN AND FOREIGN ASSETS AS AT 31.12.2017													
Total proven and probable reserves	815,233	–	–	–	–	–	–	7,105	12,433	94,383	25,044	5,474	125,029
Total measured and indicated resources	2,220,604	–	–	–	–	–	–	15,451	23,766	197,416	55,829	11,853	265,113
Total inferred resources	934,044	–	–	–	–	–	–	7,552	8,217	60,836	15,761	3,637	79,865

Region, ore type	Ore kt	Metal grade				Contained metal				
		Ni %	Cu %	Co %	4 PGM g/t	Ni kt	Cu kt	Co kt	4 PGM koz	
SOUTH AFRICA (NORILSK NICKEL NKOMATI) AS AT 30.06.2017										
Proven and probable reserves	88,640	0.31	0.11	0.02	0.88	275	97	24	2,509	
Measured and indicated resources	182,410	0.35	0.14	0.02	0.95	641	251	36	5,566	
Inferred resources	46,350	0.40	0.13	0.00	0.97	185	61	0	1,446	

## Notes:

1. Data regarding the mineral resources and ore reserves of the deposits of the Taimyr and Kola peninsulas were classified according to the Australasian Code for Reporting of Mineral Resources and Ore Reserves (JORC code), created by the Australasian Institute of Mining and Metallurgy, the Australian Institute of Geoscientists, and the Minerals Council of Australia, subject to the terminology recommended by the Russian Code for Public Reporting of Exploration Results, Mineral Resources, Mineral Reserves (NAEN Code).
2. Data regarding the reserves and resources is based on the balance-sheet reserves of A, B, C<sub>1</sub> and C<sub>2</sub>, categories (according to the terminology of the State Committee for Mineral Reserves) as of the end of the given calendar year.
3. Figures given as "Total" may differ from the sum of individual numbers due to rounding. Certain values may in some instances vary slightly from previously published values.
4. The six platinum group metals (PGMs) are platinum, palladium, rhodium, ruthenium, osmium, and iridium. The 4PGMs are rhodium, ruthenium, osmium, and iridium. Hereafter in the annual report, troy ounces are used as a weight measure for PGMS and gold.
5. Proven and probable ore reserves are included in mineral resources.
6. Ore losses applied ranged from 1.6 % to 26% and dilution from 6% to 31.9%.
7. Excluding fields in Zabaykalsky Krai.
8. The Company owns 50% of Nkomati, a nickel mine developed jointly with African Rainbow Minerals. Nkomati's performance is reflected in financial results using proportional consolidation according to our stake and not reflected in other totals.

# Report on compliance with the principles and recommendations set forth in the corporate governance code

This report on compliance with the principles and recommendations set forth in the Corporate Governance Code was reviewed by the Board of Directors of MMC Norilsk Nickel at the meeting held on May 24, 2018 Minutes No. GMK/18-pr-bd.

The Board of Directors confirms that information in this report is a true and accurate reflection of the Company's compliance with the principles and recommendations set forth in the Corporate Governance Code in 2017<sup>1</sup>.

N°	Corporate governance principles	Compliance assessment criteria	Compliance status <sup>2</sup>	Explanation of non-compliance <sup>3</sup>
<b>1.1 The company shall ensure equitable and fair treatment of every shareholder exercising their rights of participation in managing the company.</b>				
1.1.1	The company provides its shareholders with maximum opportunities to participate in the general meeting, make grounded decisions, coordinate activities, and express opinions regarding items on the agenda of the general meeting.	<ol style="list-style-type: none"> <li>Everyone has free access to an internal document that was approved by the general meeting of shareholders and sets out the procedure for holding such meetings.</li> <li>The company provides its shareholders with multiple communication channels, including hotline, email and online forum, to express opinions and make questions about the agenda during the preparation for the general meeting. These channels were established in the lead-up to each general meeting held in the reporting period.</li> </ol>	Compliant	
1.1.2	The procedure for notifying shareholders of, and providing them with materials for, the general meeting enables shareholders to duly prepare for the same.	<ol style="list-style-type: none"> <li>The notice of the general meeting of shareholders is published on the corporate website at least 30 days prior to the date of the meeting.</li> <li>The notice of the general meeting of shareholders specifies the place of the meeting and documents required for access to the venue.</li> <li>Shareholders are given access to the information about those who proposed the agenda and those who nominated candidates to the company's board of directors and audit commission.</li> </ol>	Compliant	

N°	Corporate governance principles	Compliance assessment criteria	Compliance status <sup>2</sup>	Explanation of non-compliance <sup>3</sup>	
1.1.3	In the lead-up to, and during, the general meeting, shareholders had timely and unrestricted access to the information about, and materials for, the meeting and had an opportunity to put questions to the company's executive bodies and directors and communicate with each other.	<ol style="list-style-type: none"> <li>1. In the reporting period, shareholders had an opportunity to put questions to the company's executive bodies and directors before and during the annual general meeting.</li> <li>2. The directors' opinion (including dissenting opinions incorporated in the minutes) on each item on the agenda of the general meetings held in the reporting period was included in the materials for the respective general meeting.</li> <li>3. The company provided the entitled shareholders with access to the list of persons who have the right to participate in the general meeting, starting from the date when such list was received by the company, for each general meeting held in the reporting period.</li> </ol>	Compliant		Company overview
1.1.4	No unnecessary difficulties prevented shareholders from exercising their rights to convene a general meeting, nominate candidates to executive bodies and propose items for the agenda of the general meeting.	<ol style="list-style-type: none"> <li>1. In the reporting period, shareholders were able to propose items for the agenda of the annual general meeting during at least 60 days after the end of the relevant calendar year.</li> <li>2. In the reporting period, the company did not decline proposals for the agenda or nominations for executive bodies for the reason of misprints or other minor faults in the shareholder's proposal.</li> </ol>	Compliant		
1.1.5	Each shareholder had an unrestricted opportunity to exercise their voting right in the simplest and most convenient manner.	<ol style="list-style-type: none"> <li>1. An internal document (corporate policy) of the company contains provisions enabling each shareholder present at the general meeting to request, before the end of such meeting, a copy of their voting ballot certified by the counting board.</li> </ol>	Compliant		
1.1.6	The procedure established by the company gives every shareholder present at the general meeting equal opportunities to express their opinions and ask questions.	<ol style="list-style-type: none"> <li>1. When general meetings of shareholders in the reporting period were held as physical meetings (requiring joint attendance of shareholders), sufficient time was provided to report on, and discuss, items on the agenda.</li> <li>2. Nominees to the company's executive and control bodies were available for shareholders' questions at the same general meeting at which such nominees were put to vote.</li> <li>3. When deciding on the format of, and procedures for, the general meetings of shareholders, the board of directors considered the use of telecommunication channels to enable shareholders to remotely participate in general meetings held in the reporting period.</li> </ol>	Partly compliant	The Company is partly compliant with Criterion 2. In accordance with the Regulations on the General Meeting of Shareholders of MMC Norilsk Nickel approved by the General Meeting of Shareholders (Minutes No. 1 of 6 June 2014), nominees to the Board of Directors and the Audit Commission are invited to the meeting. Most nominees are present at the meeting. Questions are made in writing, and answers are sent to shareholders.	Business overview
<b>1.2 Shareholders are given an equal and fair opportunity to have a share in the company's profits by receiving dividends.</b>					
1.2.1	The company developed and introduced a transparent and clear procedure to determine the amount of, and pay out, dividends.	<ol style="list-style-type: none"> <li>1. The company has developed and disclosed its dividend policy approved by the board of directors.</li> <li>2. If the dividend policy provides for the company's performance indicators to be used in the calculation of dividends, relevant provisions of the dividend policy require the use of consolidated financial statements.</li> </ol>	Compliant		Corporate governance

N°	Corporate governance principles	Compliance assessment criteria	Compliance status <sup>2</sup>	Explanation of non-compliance <sup>3</sup>
1.2.2	The company does not decide to pay dividends if, meeting formal requirements set out in the applicable laws, such decision is not economically feasible and can be misleading about the company's financial performance.	1. The dividend policy of the company sets out clear instructions as to financial/economic circumstances when dividends should not be paid.	Compliant	
1.2.3	The company ensures no deterioration of the dividend rights of its existing shareholders.	1. In the reporting period, the company made no steps that could result in any deterioration of the dividend rights of its existing shareholders.	Compliant	
1.2.4	The company strives to rule out the possibility of shareholders receiving any income (profit) from the company other than dividends and liquidation value.	1. In order to rule out the possibility of shareholders receiving any income (profit) from the company other than dividends and liquidation value, internal documents introduce controls enabling the company to timely identify and properly approve transactions with persons affiliated with (related to) substantial shareholders (persons authorised to exercise voting rights granted by voting shares) when such transactions are not formally recognised as related-party transactions by the applicable law.	Compliant	
<b>1.3 Principles and practices of corporate governance in the company provide for equal conditions for all holders of the same category (type) of shares, including minority shareholders and foreign shareholders, and their equal treatment by the company.</b>				
1.3.1	The company has arranged for fair treatment of each shareholder by its executive and control bodies, including zero tolerance for abuse of rights by majority shareholders against minority shareholders.	1. In the reporting period, procedures to resolve potential conflicts of interest between substantial shareholders were effective, and the board of directors paid due attention to shareholder conflicts, if any.	Compliant	
1.3.2	The company refrains from any actions that will or may result in artificial redistribution of corporate control.	1. Quasi-treasury shares did not exist or did not take part in voting procedures in the reporting period.	Compliant	
<b>1.4 Shareholders have reliable and effective ways to register their rights to shares and an opportunity to dispose of such shares freely and easily.</b>				
1.4.1	Shareholders have reliable and effective ways to register their rights to shares and an opportunity to dispose of such shares freely and easily.	1. The company and its shareholders are satisfied with the efficiency and reliability of securities register keeping activities of the company's registrar.	Compliant	

N°	Corporate governance principles	Compliance assessment criteria	Compliance status <sup>2</sup>	Explanation of non-compliance <sup>3</sup>
<b>2.1</b>	<b>The board of directors is responsible for strategic management, defines key principles of, and approaches to, risk management and internal controls, exercises control over the company's executive bodies, and performs other key functions.</b>			
2.1.1	The board of directors is responsible for making decisions on the appointment and dismissal of the company's executives, including appointments and dismissals on the grounds of misconduct. The board of directors also supervises activities of executive bodies and ensures that they are compliant with the approved development strategy across core business lines of the company.	<ol style="list-style-type: none"> <li>1. Powers that the board of directors has in respect of appointment and dismissal of, and terms of labour contracts with, the company's executives are clearly defined in the charter.</li> <li>2. The board of directors considered a report (reports) by the company's sole executive body and collegial executive body on progress in the company's strategy.</li> </ol>	Partly compliant	<p>The Company is partly compliant with Criterion 1. According to the Company's Charter, appointment of the President and termination of their powers require approval of the General Meeting of Shareholders</p> <p>The Company is partly compliant with Criterion 2. In the reporting period, the Board of Directors regularly considered reports of the Management Board on the Company's most important lines of operations. In the lead-up to the Annual General Meeting of Shareholders, the Board of Directors also pre-approved a report (as part of the Annual Report) made by the President and Chairman of the Management Board on the Company's performance.</p>
2.1.2	The board of directors sets key long-term objectives, estimates and approves key performance indicators and business goals, assesses and approves the strategy and business plans for the company's key lines of business.	<ol style="list-style-type: none"> <li>1. In the reporting period, the board of directors reviewed matters related to implementing and updating the strategy, approving the financial plan (budget), and analysing performance criteria and indicators (including interim indicators) for the strategy and business plans of the company.</li> </ol>	Compliant	
2.1.3	The board of directors determines risk management and internal control principles and approaches of the company.	<ol style="list-style-type: none"> <li>1. The board of directors defined principles of, and approaches to, the risk management and internal control framework in the company.</li> <li>2. The board of directors assessed the risk management and internal control framework of the company during the reporting period.</li> </ol>	Partly compliant	<p>The Company is partly compliant with Criterion 2. In the reporting period, the Audit Committee reviewed results of internal control tests carried out by an external auditor (KPMG). Results are presented in the Annual Report. In 2018, the Internal Audit Department plans to conduct a comprehensive assessment of the risk management and internal control framework and its performance, and submit the results to the Audit and Sustainable Development Committee for review.</p>

Company overview

Strategy overview

Market overview

Business overview

Corporate governance

Information for shareholders

Appendix



N°	Corporate governance principles	Compliance assessment criteria	Compliance status <sup>2</sup>	Explanation of non-compliance <sup>3</sup>
2.1.4	The board of directors defines a policy on remuneration and/or reimbursements (compensations) due to directors, executives, and other key managers of the company.	<ol style="list-style-type: none"> <li>1. The board of directors approved and put into action a policy (policies) on remuneration and reimbursements (compensations) due to directors, executives, and other key managers of the company.</li> <li>2. In the reporting period, the board of directors considered matters related to the above policy (policies) in its meetings.</li> </ol>	Partly compliant	<p>The Company is partly compliant with Criterion 1. The Board of Directors approved and put into action the Remuneration Policy for Members of Board of Directors of MMC Norilsk Nickel. Principles and mechanics of remunerations (reimbursements) due to executives are set out in the Charter, Regulations on the Management Board, and other internal documents of the Company.</p> <p>The system (policy) of remunerations applicable in the Company is continuously and directly monitored by the Board of Directors. Responsibilities of the Corporate Governance, Nomination and Remuneration Committee include development, supervision over adoption, implementation and regular revision of the remuneration policy for the Company's Board of Directors and Management Board and the Company's President.</p> <p>The Company is partly compliant with Criterion 2. In the reporting period, the Board of Directors regularly reviewed matters related to the remuneration policy for the top management, including its updates, improvement, control over implementation and performance assessment.</p>
2.1.5	The board of directors plays a key role in preventing, identifying and settling internal conflicts among the company's bodies, shareholders and employees.	<ol style="list-style-type: none"> <li>1. The board of directors plays a key role in preventing, identifying and settling internal conflicts.</li> <li>2. The company introduced procedures to identify, and measures to settle, conflicts of interest.</li> </ol>	Compliant	
2.1.6	The board of directors plays a key role in ensuring transparency of the company's operations, timely and accurate disclosures, and free access to the company's documents by shareholders.	<ol style="list-style-type: none"> <li>1. The board of directors approved an information policy regulation.</li> <li>2. The company appointed persons responsible for putting the information policy into action.</li> </ol>	Compliant	
2.1.7	The board of directors supervises corporate governance practices and plays a key role in material corporate events.	<ol style="list-style-type: none"> <li>1. In the reporting period, the board of directors considered the matter of corporate governance at the company.</li> </ol>	Compliant	
<b>2.2 The board of directors is accountable to the company's shareholders.</b>				
2.2.1	Information about the activities of the board of directors is disclosed to shareholders.	<ol style="list-style-type: none"> <li>1. The company's annual report includes information about attendance at the meetings of the board of directors and its committees in the reporting period.</li> <li>2. The annual report contains information about key results of the board of directors' assessment in the reporting period.</li> </ol>	Compliant	
2.2.2	The chairman of the board of directors is available to the company's shareholders	<ol style="list-style-type: none"> <li>1. The company established a transparent procedure for shareholders to contact the chairman of the board of directors with questions and to express their opinions.</li> </ol>	Compliant	

N°	Corporate governance principles	Compliance assessment criteria	Compliance status <sup>2</sup>	Explanation of non-compliance <sup>3</sup>
<b>2.3 The board of directors is an efficient and competent management body capable of making fair and independent judgements and decisions in line with the interests of the company and its shareholders.</b>				
2.3.1	The board of directors is composed solely of persons with an impeccable business and personal track record; directors have sufficient skills, expertise and experience to make decisions falling within the board's remit and perform their responsibilities efficiently.	<ol style="list-style-type: none"> <li>The procedure used in the company to assess performance of the board of directors includes assessment of professional qualifications of individual directors.</li> <li>In the reporting period, the board of directors (or its nomination committee) assessed the board of directors' nominees for the necessary experience, knowledge, business reputation, potential conflicts of interests, etc.</li> </ol>	Compliant	
2.3.2	Directors are elected in a transparent manner that provides shareholders with sufficient information on nominees to get a clear idea of their personal and professional skills.	<ol style="list-style-type: none"> <li>At each general meeting of shareholders held in the reporting period and voting on nominees for the board of directors, the company provided shareholders with biographies of all nominees to the board of directors, results of their assessment performed by the board of directors (or its nomination committee), and information about the nominees' compliance with independence criteria in accordance with Recommendations 102–107 of the Code, and written consents of the nominees to be elected to the board of directors.</li> </ol>	Compliant	
2.3.3	The board of directors is well balanced in terms of qualifications, experience, knowledge and business skills of its members, and is trusted by the company's shareholders.	<ol style="list-style-type: none"> <li>As part of the performance assessment of the board of directors in the reporting period, the board of directors analysed its needs for professional and business skills and experience.</li> </ol>	Compliant	
2.3.4	The number of directors on the board of directors makes it possible to organise its activities in the most efficient manner and form committees, and enables substantial minority shareholders to elect a director for whom they vote.	<ol style="list-style-type: none"> <li>As part of the performance assessment of the board of directors in the reporting period, the board of directors analysed whether the number of directors is sufficient to meet the company's goals and objectives and interests of the shareholders.</li> </ol>	Compliant	
<b>2.4 The board of directors has a sufficient number of independent directors.</b>				
2.4.1	An independent director is a person with professional expertise, experience and independence sufficient to have their own opinions and make fair and unbiased judgements that are not influenced by the company's executive bodies, shareholder groups, or other stakeholders. Nominees (elected director) related to the company, any of its substantial shareholders, counterparties or competitors or the government are not normally considered an independent director.	<ol style="list-style-type: none"> <li>In the reporting period, all independent directors met all independence criteria specified in Recommendations 102–107 of the Code and were recognised as independent by the board of directors.</li> </ol>	Compliant	

N°	Corporate governance principles	Compliance assessment criteria	Compliance status <sup>2</sup>	Explanation of non-compliance <sup>3</sup>
2.4.2	Nominees for the board of directors are assessed for compliance with independence criteria; compliance of the current independent directors is reviewed on a regular basis. Substance of such assessment should prevail over form.	<ol style="list-style-type: none"> <li>1. In the reporting period, the board of directors (or its nomination committee) formed an opinion about the independence of each nominee to the board of directors and presented it to the company's shareholders.</li> <li>2. At least once in the reporting period, the board of directors (or its nomination committee) assessed independence of the current directors who were identified as independent in the annual report.</li> <li>3. The company developed measures to be taken by directors who cease to be independent, including obligations to timely inform the board of directors of such change in their status.</li> </ol>	Partly compliant	The Company is partly compliant with Criterion 2. In the lead-up to the Annual General Meeting of Shareholders in April 2017, the Corporate Governance, Nomination and Remuneration Committee of MMC Norilsk Nickel's Board of Directors reviewed the compliance of nominees to the Board of Directors with independence criteria. The current directors on the Board were elected during the Annual General Meeting on 9 June 2017. According to the Charter of the Company, "if after the election of an Independent Director to the Board of Directors such director ceases to be an independent director due to any changes or new circumstances, such director shall promptly notify the Board of Directors thereof (through the Corporate Secretary) in writing and give a detailed account of all such changes and new circumstances".
2.4.3	Independent directors make up at least one third of the elected board members.	1. Independent directors make up at least one third of the board members.	Compliant	
2.4.4	Independent directors play a key role in preventing internal conflicts and making material corporate actions by the company.	2. Independent directors (those who have no conflicts of interest) pre-estimate material corporate actions related to potential conflicts of interest, with the estimates then presented to the board of directors.	Compliant	
<b>2.5 The chairman of the board of directors arranges for its functions to be performed in the most efficient manner.</b>				
2.5.1	The elected chairman of the board of directors is an independent director, or independent directors have appointed a senior independent director who coordinates the work of independent directors and interacts with the chairman of the board of directors.	<ol style="list-style-type: none"> <li>1. The chairman of the board of directors is an independent director, or independent directors have appointed a senior independent director<sup>4</sup>.</li> <li>2. Functions, rights and responsibilities of the chairman of the board of directors (or the senior independent director, when applicable) are properly defined in internal documents of the company.</li> </ol>	Compliant	The Chairman of the Board of Directors is an independent director; the Company believes that to fully meet best global practices. The independent Chairman of the Board of Directors of the Company ensures the most efficient interaction between the Board of Directors, shareholders and other stakeholders.
2.5.2	The chairman of the board of directors ensures constructive debate at its meetings and free discussion of items on the agenda and supervises how decisions made by the board are put into action.	1. Performance of the chairman of the board of directors was assessed as part of the board of directors' performance assessment in the reporting period.	Compliant	
2.5.3	The chairman of the board of directors takes necessary measures to timely provide other directors with information required to make decisions on the agenda.	1. The responsibility of the chairman of the board of directors to timely provide other directors with information about the agenda items is set out in internal documents of the company.	Compliant	

N°	Corporate governance principles	Compliance assessment criteria	Compliance status <sup>2</sup>	Explanation of non-compliance <sup>3</sup>
<b>2.6 Directors are sufficiently informed and act reasonably and in good faith in the interests of the company and its shareholders, prudently and with due care.</b>				
2.6.1	Directors of the company make decisions on the basis of all available information, subject to no conflict of interest, equal treatment of shareholders and usual business risk.	<ol style="list-style-type: none"> <li>1. Internal documents of the company require that any director informs the board of directors if a conflict of interest arises with regard to any item on the agenda of the board of directors or its committee before discussion of such item begins.</li> <li>2. Internal documents of the company require that a director who has a conflict of interest refrains from voting on the respective item.</li> <li>3. The company has an established procedure for the board of directors to seek professional advice on the matters within its remit at the company's expense.</li> </ol>	Compliant	
2.6.2	Rights and obligations of the directors are clearly set out in internal documents of the company.	<ol style="list-style-type: none"> <li>1. The company approved and published an internal document clearly defining the directors' rights and obligations.</li> </ol>	Compliant	
2.6.3	Directors are given sufficient time to perform their duties.	<ol style="list-style-type: none"> <li>1. Individual attendance at the meeting of the board of directors and committees and time spent to prepare for such meetings were taken into account in the board of directors' performance assessment during the reporting period.</li> <li>2. In accordance with internal documents of the company, directors must inform the board of directors of their decision to be appointed to management bodies of other organisations (except for subsidiaries and affiliates of the company) and of such appointments.</li> </ol>	Compliant	
2.6.4	All directors have equal access to the documents and data of the company. Newly elected directors are provided with sufficient information about the company and activities of the board of directors within the shortest time possible.	<ol style="list-style-type: none"> <li>1. In accordance with internal documents of the company, directors have the right to access documents and make request regarding the company and its subsidiaries, and executive bodies of the company must provide such information and documents.</li> <li>2. The company has an established induction procedure for newly elected directors.</li> </ol>	Compliant	
<b>2.7 Preparations for, and attendance at, the meetings of the board of directors ensure efficient operations of the board of directors.</b>				
2.7.1	Meetings of the board of directors are held when necessary, subject to the scale of operations and goals of the company in a certain period of time.	<ol style="list-style-type: none"> <li>1. The board of directors held at least six meetings during the reporting period.</li> </ol>	Compliant	

N°	Corporate governance principles	Compliance assessment criteria	Compliance status <sup>2</sup>	Explanation of non-compliance <sup>3</sup>
2.7.2	The company's internal documents stipulate the procedure to prepare for and hold meetings of the board of directors so that directors have an opportunity to make proper preparations.	1. The company approved an internal document setting out a procedure to prepare for and hold meetings of the board of directors, particularly a rule to notify directors, usually at least 5 days prior to the meeting.	Compliant	
2.7.3	The format of each meeting depends on the importance of items on the agenda. The most important matters are discussed at meetings held in person.	1. The charter or another internal document of the company requires the most important matters (listed in Recommendation 168 of the Code) to be discussed at meetings of the board of directors held in person.	Partly compliant	The Company is partly compliant with Criterion 1. The Regulations on the Board of Directors of MMC Norilsk Nickel contain the list of matters that should be discussed at board meetings held in person only. This list is substantially in line with the list given in Recommendation 168 of the Code and accounts for specific aspects of corporate governance in the Company.
2.7.4	Decisions on the most important matters of the company's operations are made at the meetings of the board of directors either by qualified majority or by majority of all elected directors.	1. The charter of the company requires that decisions on the most important matters listed in Recommendation 170 of the Code are made at a meeting of the board of directors by qualified majority (at least three fourths of votes) or by majority of all elected directors.	Partly compliant	The Company is partly compliant with Criterion 1. The Charter of the Company requires that decisions to increase the Company's authorised capital by issuing new stock be made by the Board of Directors unanimously. Decisions on certain material matters are made by positive vote of at least ten (10) directors (which is equal to at least 3/4 of all directors' votes). Such matters include proposals for the General Meeting of Shareholders to vote on amendments and addenda to the Charter, reduction of the authorised capital, approval of internal documents regulating activities of the Company's bodies, approval of, and amendments to, the dividend policy, approval of the Company's internal documents, except for internal documents referred by the federal law to the competence of the General Meeting of Shareholders, approval of, and amendments to, the sales strategy of the Company, approval of certain transactions, and other matters. No amendments are planned to be made to the Charter's provisions that regulate decision-making at meetings of the Board of Directors.
<b>2.8 The board of directors sets up committees for preliminary consideration of the most important matters of the company's operations.</b>				
2.8.1	An audit committee made up of independent directors is set up for preliminary consideration of any matters related to the supervision of the company's financial and business operations.	1. The board of directors set up the audit committee made up of independent directors only. 2. Internal documents of the company set out responsibilities of the audit committee, including the responsibilities described in Recommendation 172 of the Code. 3. At least one member of the audit committee who is an independent director has knowledge and experience in making, analysing, assessing and auditing accounting (financial) statements. 4. Meetings of the audit committee were held at least once every quarter during the reporting period.	Partly compliant	The Company is partly compliant with Criterion 1. The Company set up the Audit and Sustainable Development Committee. It is made up of three independent directors and two non-executive directors who are neither a sole executive body nor members of the collegial executive body of the Company. The Committee is chaired by an independent director. Board of Directors includes four independent directors. In accordance with internal documents, the Company set up four committees of the Board of Directors, each made up of five persons. According to the regulations on the committees, each committee should include independent directors. Therefore, if each committee is made up of independent directors only, their workload will be excessive.

N°	Corporate governance principles	Compliance assessment criteria	Compliance status <sup>2</sup>	Explanation of non-compliance <sup>3</sup>
2.8.2	A remuneration committee made up of independent directors and chaired by an independent director who is not chairman of the board of directors is set up for preliminary consideration of matters related to efficient and transparent remuneration practices.	<ol style="list-style-type: none"> <li>1. The board of directors set up the remuneration committee made up of independent directors only.</li> <li>2. The remuneration committee is chaired by an independent director who is not chairman of the board of directors.</li> <li>3. Internal documents of the company define responsibilities of the remuneration committee, including the responsibilities described in Recommendation 180 of the Code.</li> </ol>	Partly compliant	<p>The Company is partly compliant with Criterion 1. The functions of the remuneration committee and nominations committee are performed by the Board of Directors' Corporate Governance, Nomination and Remuneration Committee. It is made up of three independent directors and two non-executive directors who are neither a sole executive body nor members of the collegial executive body of the Company. The Committee is chaired by an independent director. Board of Directors includes four independent directors. In accordance with internal documents, the Company set up four committees of the Board of Directors, each made up of five persons. According to the regulations on the committees, each committee should include independent directors. Therefore, if each committee is made up of independent directors only, their workload will be excessive. The Company is partly compliant with Criterion 3. The Regulations on the Corporate Governance, Nomination and Remuneration Committee of the Board of Directors of MMC Norilsk Nickel define the same responsibilities of the committee as listed in Recommendation 180 of the Code, except for Item 7 (preparing a report on the implementation of executive remuneration principles for inclusion in the Annual Report and other internal documents of the Company). In the reporting period, the Board of Directors regularly reviewed reports of the Corporate Governance, Nomination and Remuneration Committee on the remuneration policy for the top management, including its updates, improvement, control over implementation and performance assessment.</p>

Company overview

Strategy overview

Market overview

Business overview

Corporate governance

Information for shareholders

Appendix



N°	Corporate governance principles	Compliance assessment criteria	Compliance status <sup>2</sup>	Explanation of non-compliance <sup>3</sup>
2.8.3	A nomination (appointment, HR) committee whose members are mostly independent directors is set up for preliminary consideration of any matters related to HR planning (succession planning), expertise and performance of the board of directors.	<p>1. The board of directors set up a nomination committee (or its responsibilities specified in Recommendation 186 of the Code are performed by another committee*(5)), and most of its members are independent directors.</p> <p>2. Internal documents of the company define responsibilities of the nomination committee (or another committee performing its functions), including the responsibilities described in Recommendation 186 of the Code.</p>	Partly compliant	<p>The Company is partly compliant with Criterion 2. The Regulations on the Corporate Governance, Nomination and Remuneration Committee of the Board of Directors of MMC Norilsk Nickel defines the same responsibilities as listed in Recommendation 186 of the Code, except for Item 2 (relations with shareholders should not be restricted to major shareholders only in nominating candidates to the Board of Directors; such contacts should be aimed at forming a board that will most fully meet the goals and objectives of the Company) and Item 4 (definitions of individual responsibilities of the directors and Chairman of the Board of Directors, including time to be spent on operating matters both at and outside board meetings during scheduled and unscheduled activities; such definitions (separate for the directors and Chairman of the Board of Directors) should be approved by the Board of Directors and given for guidance to each new director and Chairman after their election).</p> <p>Key responsibilities of the directors (including Chairman of the Board of Directors) are defined in the Regulations on the Board of Directors; The composition of the Board of Directors is relatively stable, with each director having an established list of individual responsibilities; an introductory course was developed for newly elected directors, particularly to brief them on working procedures in the Board of Directors. Any additional definitions of directors' responsibilities by the Committee would be excessively formal. The Company does not plan to include this task in the Committee's responsibilities.</p>

N°	Corporate governance principles	Compliance assessment criteria	Compliance status <sup>2</sup>	Explanation of non-compliance <sup>3</sup>
2.8.4	Subject to the scale of operations and risk level, the board of directors made sure that its composition fully meets the goals and objectives of the company. Additional committees were either formed or recognised as unnecessary (strategy committee, corporate governance committee, ethics committee, risk management committee, budget committee, HSE committee, etc.).	1. In the reporting period, the board of directors analysed its composition to make sure that it fully meets the goals and objectives of the company. Additional committees were either formed or recognised as unnecessary.	Compliant	The Company set up four committees of the Board of Directors <sup>6</sup> : <ul style="list-style-type: none"> <li>• Audit and Sustainable Development Committee;</li> <li>• Corporate Governance, Nomination and Remuneration Committee</li> <li>• Budget Committee;</li> <li>• Strategy Committee.</li> </ul>
2.8.5	The committees are made up so as to enable thorough discussion of the matters considered and take different opinions into account.	1. Committees of the board of directors are chaired by independent directors. 2. According to internal documents (policies) of the company, non-members may attend meetings of the audit committee, nomination committee and remuneration committee at the invitation of committee chairmen only.	Partly compliant	The Company is partly compliant with Criterion 1. The Board of Directors of the Company includes four independent directors. The Company set up four committees of the Board of Directors, each made up of five persons. According to the regulations on the committees, each committee should include independent directors. If independent directors are elected Chairmen of all the committees, their workload will be excessive. For this reason, the Budget Committee and the Strategy Committee are chaired by non-executive directors. The Committees are made up of two independent directors and three non-executive directors.
2.8.6	Committee chairmen regularly inform the board of directors and its chairman of committee activities.	1. Committee chairmen provided the board of directors with regular reports on committee activities in the reporting period.	Compliant	
<b>2.9 The board of directors provides for assessing its own performance and the performance of its committees and individual members.</b>				
2.9.1	Assessment of the board of directors' performance aims to estimate how effective the board of directors, its committees and individual directors are and whether their activities meet corporate goals; it is also designed to stimulate the work of the board of directors and identify areas of potential improvement.	1. Self-assessment and external assessment of the board of directors' performance in the reporting period included performance assessment of board committees, individual directors and the board of directors in general. 2. Results of the self-assessment and external assessment of the board of directors' performance in the reporting period were considered at the board meeting held in person.	Partly compliant	The Company is partly compliant with Criterion 1. Performance of the Company's Board of Directors was assessed in accordance the Performance Evaluation Policy for Board of Directors of MMC Norilsk Nickel (the policy was developed with assistance of an external consultant). In the reporting period, self-assessment of the Board of Directors, Committees and Chairman of the Board of Directors was performed by questionnaire. The Company does not believe it to be reasonable for the time being to assess the performance of individual directors.

Company overview

Strategy overview

Market overview

Business overview

Corporate governance

Information for shareholders

Appendix

N°	Corporate governance principles	Compliance assessment criteria	Compliance status <sup>2</sup>	Explanation of non-compliance <sup>3</sup>
2.9.2	Performance of the board of directors, committees and individual directors is assessed regularly, at least once a year. An external organisation (consultant) is engaged at least once every three years to assess the board's performance on an independent basis.	1. An external organisation (consultant) was engaged at least once over the last three reporting periods to assess the board's performance on an independent basis.	Not compliant	The Company is not compliant with Criterion 1. Over the last three years, the Board of Directors' performance has been assessed internally. The internal assessment procedure for the Board of Directors was developed with assistance of an independent consultant and best global practices. An external assessment is planned to be organised following 2018.
<b>3.1 The corporate secretary is a corporate officer whose duties include managing shareholder relations, making necessary arrangements to protect their rights and interests, and providing efficient operating support to the board of directors.</b>				
3.1.1	The corporate secretary has skills, expertise and qualifications to perform their duties, has impeccable reputation, and is trusted by shareholders.	1. The company adopted and disclosed a corporate regulation on the corporate secretary. 2. The corporate website and annual report contain the corporate secretary's biography as detailed as those of directors and corporate executives.	Compliant	
3.1.2	The corporate secretary is sufficiently independent of the company's executive bodies and has powers and resources necessary to perform their duties.	1. The board of directors approves the appointment and dismissal of, and additional remuneration for, the corporate secretary.	Compliant	
<b>4.1 Remuneration paid by the company is sufficient to recruit, motivate and retain employees with required competencies and qualifications. Remuneration to directors, executives and other key managers of the company is paid in accordance with the remuneration policy adopted by the company.</b>				
4.1.1	Remuneration paid by the company to its directors, executives and other key managers provides sufficient motivation for efficient performance, enabling the company to recruit and retain competent and skilled professionals. The company avoids higher-than-necessary remunerations and unreasonable gaps between remunerations of such corporate officers and rank-and-file employees of the company.	1. The company adopted an internal document (documents) – remuneration policy (policies) for directors, executives and other key managers – that clearly set out approaches to remuneration of such persons.	Partly compliant	The Company is partly compliant with Criterion 1. The Board of Directors approved and put into action the Remuneration Policy for Members of Board of Directors of MMC Norilsk Nickel. Principles and mechanics of remunerations (reimbursements) due to executives are set out in the Charter, Regulations on the Management Board, and other internal documents of the Company. The system (policy) of remunerations applicable in the Company is continuously and directly monitored by the Board of Directors. Responsibilities of the Corporate Governance, Nomination and Remuneration Committee include development, supervision over adoption, implementation and regular revision of the remuneration policy for the Company's Board of Directors and Management Board and the Company's President.

N°	Corporate governance principles	Compliance assessment criteria	Compliance status <sup>2</sup>	Explanation of non-compliance <sup>3</sup>
4.1.2	The company's remuneration policy was developed by the remuneration committee and approved by the board of directors of the company. The board of directors and its remuneration committee ensures that the remuneration policy is duly adopted and implemented in the company, as well as reviews and amends it where necessary.	1. In the reporting period, the remuneration committee reviewed the remuneration policy (policies) and its (their) implementation practices and, where necessary, recommended that the board of directors make amendments.	Partly compliant	The Company is partly compliant with Criterion 1. The Corporate Governance, Nomination and Remuneration Committee of the Board of Directors monitored implementation of the remuneration policy (system) to make performance improvement proposals.
4.1.3	The company's remuneration policy sets out transparent procedures to determine the amount of remuneration payable to directors, executives and other key managers of the company, and governs all types of payments, benefits and privileges available to the above persons.	1. The company's remuneration policy (policies) sets (set) out transparent procedures to determine the amount of remuneration payable to directors, executives and other key managers of the company, and governs (govern) all types of payments, benefits and privileges available to the above persons.	Partly compliant	The Company is partly compliant with Criterion 1. The remuneration system existing in the Company provides for the procedure to determine (calculate) the amount of remuneration payable to the directors and executives. The remuneration system in the Company meets general transparency criteria. The procedure to determine directors' remuneration is set out in the Remuneration Policy for Members of Board of Directors of MMC Norilsk Nickel and is also approved by the General Meeting of Shareholders. The total remuneration of the President and members of the Management Board consists of the base salary and bonuses (a variable part of the remuneration). The variable part of the remuneration depends on the Company's financial and operating performance. The variable part of the remuneration payable to the members of the Management Board is based on key performance indicators. Key performance indicators are updated and approved annually by the Corporate Governance, Nomination and Remuneration Committee of the Board of Directors.
4.1.4	The company has devised a reimbursement (compensation) policy specifying the list of reimbursable expenses and level of service available to the company's directors, executives and other key managers. Such policy may be part of the company's remuneration policy.	1. The remuneration policy (policies) or other internal documents of the company define rules of reimbursement for expenses incurred by directors, executives and other key managers of the company.	Partly compliant	The Company is partly compliant with Criterion 1. The Remuneration Policy for Members of Board of Directors of MMC Norilsk Nickel contains rules of reimbursement for expenses incurred by the Company's directors. Expenses of the Company's executives are reimbursed in the same manner as established in internal documents of the Company and applicable law.

Company overview

Strategy overview

Market overview

Business overview

Corporate governance

Information for shareholders

Appendices

N°	Corporate governance principles	Compliance assessment criteria	Compliance status <sup>2</sup>	Explanation of non-compliance <sup>3</sup>
<b>4.2 Remuneration payable to directors of the company aligns their financial interests with long-term financial interests of shareholders.</b>				
4.2.1	<p>The company pays a fixed annual remuneration to its directors.</p> <p>The company does not remunerate directors for attending certain meetings of the board of directors or its committees.</p> <p>The company does not employ any means of short-term motivation or additional incentives to stimulate its directors.</p>	1. The fixed annual remuneration was the only monetary remuneration paid to directors for sitting on the board in the reporting period.	Compliant	
4.2.2	<p>Long-term ownership of the company's shares is the best tool to align financial interests of directors with long-term interests of shareholders. At the same time, the right to sell shares is not conditional on achieving certain performance indicators, and directors do not participate in stock option plans.</p>	1. If an internal document (documents) – a remuneration policy (policies) – provides for the company's shares to be granted to directors, clear rules should be established and disclosed as to how directors may hold shares and how to incentivise long-term ownership of such shares.	Compliant	
4.2.3	<p>The company offers no additional remunerations or reimbursements if directors' powers are terminated early after the change of control over the company or for any other reason.</p>	1. The company offers no additional remunerations or reimbursements if directors' powers are terminated early after the change of control over the company or for any other reason.	Partly compliant	<p>The Company is partly compliant with Criterion 1. The remuneration policy (system) existing in the Company does not provide for any additional remunerations or reimbursements in case directors' powers are terminated early after the change of control over the Company or for any other reason.</p> <p>The only exception is made for the current Chairman of the Board of Directors. The General Meeting of Shareholders decided to pay extra remuneration to the current Chairman of the Board of Directors if the above circumstances arise. This privilege is explained by exceptional business skills and professionalism of the current Chairman, who is one of the most experienced and highly qualified world class managers with an extensive expertise in the mining industry.</p>

N°	Corporate governance principles	Compliance assessment criteria	Compliance status <sup>2</sup>	Explanation of non-compliance <sup>3</sup>
<b>4.3 Remuneration of executives and other key managers is linked to the company's performance and their personal contribution thereto.</b>				
4.3.1	Remuneration paid to executives and other key managers of the company consists of two reasonably balanced parts: a fixed part and variable part, which depends on the company's performance and the employee's personal (individual) contribution thereto.	<ol style="list-style-type: none"> <li>1. Performance indicators approved by the board of directors were used in the reporting period to calculate the variable part of remuneration paid to executives and other key managers of the company.</li> <li>2. During the last assessment of remuneration payable to executives and other key managers of the company, the board of directors (remuneration committee) made sure that fixed and variable parts of remuneration were effectively balanced.</li> <li>3. The company established a procedure to claim bonuses wrongfully received by executives and other key managers of the company.</li> </ol>	Partly compliant	<p>The Company is partly compliant with Criterion 1. Annual key performance indicators were used to calculate the variable part of remuneration paid to executives. These final (annual) indicators were preliminarily analysed, revised and approved by the Corporate Governance, Nomination and Remuneration Committee of the Board of Directors.</p> <p>The Company is partly compliant with Criterion 2. The Corporate Governance, Nomination and Remuneration Committee of the Board of Directors revises remuneration of the Company's executives on an annual basis. Following the last revision, it was concluded that fixed and variable parts of remuneration payable in the Company were effectively balanced.</p> <p>The Company is partly compliant with Criterion 3. Applicable laws enable the Company to claim bonuses wrongfully received by employees (including executives) of the Company. This legal mechanism is effective enough and can be used regardless of whether it is included (by reference or otherwise) into internal documents of the Company.</p>
4.3.2	The company adopted a long-term share-based incentive plan for its executives and other key managers (an option plan or another derivative plan with the company's shares as an underlying asset).	<ol style="list-style-type: none"> <li>1. The company adopted a long-term share-based incentive plan for its executives and other key managers (an incentive plan with the company's shares as an underlying asset).</li> <li>2. According to the long-term incentive plan for the company's executives and other key managers, the right to sell shares or other derivatives used in this plan arises not earlier than in three years after such right is granted. The right to sell is also conditional on certain performance indicators.</li> </ol>	Not compliant	<p>The Company is not compliant with Criterion 1. The Company considers the possibility of introducing an option plan as a long-term incentive for its executives.</p> <p>However, the possibility is restricted by the absence of specific provisions on corporate option plans and relevant matters in the Russian civil and corporate law.</p>
4.3.3	Compensations (golden parachutes) paid by the company to its executives and other key managers in case of early termination of their powers at the company's initiative (provided there was no fraud on their part) do not exceed two fixed parts of their annual remuneration.	<ol style="list-style-type: none"> <li>1. Compensations (golden parachutes) paid by the company to its executives and other key managers in case of early termination of their powers at the company's initiative (provided there was no fraud on their part) did not exceed two fixed parts of their annual remuneration in the reporting period.</li> </ol>	Not applicable	No such compensations were paid in the reporting period.
<b>5.1 The company has an efficient risk management and internal control system in place to provide reasonable assurance that it will achieve the goals set by the management.</b>				
5.1.1	The board of directors defined principles of, and approaches to, the risk management and internal control system in the company.	<ol style="list-style-type: none"> <li>1. Risk management and internal control functions of management bodies and corporate divisions are clearly set out in internal documents / relevant policies approved by the board of directors.</li> </ol>	Compliant	



N°	Corporate governance principles	Compliance assessment criteria	Compliance status <sup>2</sup>	Explanation of non-compliance <sup>3</sup>
5.1.2	Executive bodies of the company establish and maintain an efficient risk management and internal control system in the company.	1. Executive bodies of the company arranged for proper distribution of risk management and internal control functions and powers between employees and managers of business units / divisions.	Compliant	
5.1.3	The risk management and internal control system gives accurate, fair and clear representation of the company's current affairs and prospects, ensures integrity and transparency of financial statements, as well as rationality and acceptability of the company's risk appetite. <sup>1</sup>	1. The company adopted an anti-corruption policy. 2. The company established an easily accessible channel to inform the board of directors or its audit committee about breaches of the law, internal procedures and ethics code of the company.	Compliant	
5.1.4	The board of directors takes the steps required to make sure that the risk management and internal control system existing in the company meets principles and approaches approved by the board of directors and functions effectively.	1. In the reporting period, the board of directors or its audit committee assessed performance of the risk management and internal control system. Key results of this assessment are included in the annual report of the company.	Partly compliant	The Company is partly compliant with Criterion 1. In the reporting period, the Audit Committee reviewed results of internal control tests carried out by an external auditor (KPMG). Results are presented in the Annual Report. In 2018, the Internal Audit Department plans to conduct a comprehensive assessment of the risk management and internal control framework and its performance, and submit the results to the Audit and Sustainable Development Committee for review.
<b>5.2 An internal audit is performed regularly to conduct a comprehensive assessment of reliability and efficiency of the risk management and internal control system and corporate management practices.</b>				
5.2.1	A separate division is established in the company or an independent external organisation is hired to perform an internal audit. Functional and administrative accountabilities of the internal audit division are separated. The internal audit division is functionally accountable to the board of directors.	1. A separate division, which is functionally accountable to the board of directors or its audit committee, is established in the company or an independent external organisation with the same accountability is hired to perform an internal audit.	Compliant	

N°	Corporate governance principles	Compliance assessment criteria	Compliance status <sup>2</sup>	Explanation of non-compliance <sup>3</sup>
5.2.2	The internal audit division assesses the efficiency of the internal control, risk management and corporate governance systems. The company applies generally accepted internal audit standards.	<ol style="list-style-type: none"> <li>1. Efficiency of the internal control and risk management system was assessed in the reporting period as part of internal audit.</li> <li>2. The company uses generally accepted approaches to internal control and risk management.</li> </ol>	Partly compliant	The Company is partly compliant with Criterion 1. The Internal Audit Department is guided by international professional standards of internal audit. In the reporting period, the Internal Audit Department assessed the efficiency of the internal control and risk management systems in certain processes and subsidiaries of the Company as part of the audit engagement. In 2018, the Internal Audit Department plans to conduct a comprehensive assessment of the risk management and internal control framework and its performance.
<b>6.1 The company and its operations are transparent for shareholders, investors, and other stakeholders.</b>				
6.1.1	The company developed and adopted an information policy that ensures effective exchange of information between the company, its shareholders, investors, and other stakeholders.	<ol style="list-style-type: none"> <li>1. The board of directors approved an information policy developed in accordance with recommendations of the Code.</li> <li>2. The board of directors (or any of its committees) reviewed matters related to the company's compliance with its information policy at least once in the reporting period.</li> </ol>	Compliant	
6.1.2	The company discloses information on its corporate governance, including details on its compliance with the principles and recommendations set out in the Code.	<ol style="list-style-type: none"> <li>1. The company discloses information on its corporate governance practices and general principles of corporate governance, including by way of publications on the company's website.</li> <li>2. The company discloses information on its executive bodies, board of directors, directors' independence, and membership in board committees (in accordance with the definitions contained in the Code).</li> <li>3. If there is a person controlling the company, the company publishes a controlling person statement on the plans of such person regarding corporate governance in the company.</li> </ol>	Compliant	
<b>6.2 The company timely discloses full, accurate and up-to-date information on the company to enable shareholders and investors to make grounded decisions.</b>				
6.2.1	The company discloses information in accordance with the principles of regularity, consistency, timeliness, accessibility, reliability, completeness and comparability of disclosed data.	<ol style="list-style-type: none"> <li>1. The company's information policy defines approaches to, and criteria of, identifying information that may have a material influence on the value of the company and its securities, as well as procedures ensuring timely disclosure of such information.</li> <li>2. If the company's securities are traded on foreign organised markets, disclosures of material information in Russia and such markets are made simultaneously and to the same extent.</li> <li>3. If foreign shareholders hold a material share in the company, disclosures in the reporting period were made in Russian and also in one of the most widely used languages.</li> </ol>	Compliant	
6.2.2	The company avoids a formal approach to disclosures and discloses information about its operations even if such information is not required to be disclosed by law.	<ol style="list-style-type: none"> <li>1. The company disclosed its annual and semi-annual IFRS financial statements in the reporting period. The annual report of the company incorporates annual IFRS financial statements and an audit opinion.</li> <li>2. In accordance with Recommendation 290 of the Code, the company discloses full information about its capital structure in the annual report and on the company's website.</li> </ol>	Compliant	

N°	Corporate governance principles	Compliance assessment criteria	Compliance status <sup>2</sup>	Explanation of non-compliance <sup>3</sup>
6.2.3	As one of the most important information channels for shareholders and other stakeholders, the annual report contains information enabling them to assess annual performance of the company.	<ol style="list-style-type: none"> <li>1. The annual report contains information about key operations and financial performance of the company.</li> <li>2. The annual report contains information about environmental and social aspects of the company's operations.</li> </ol>	Compliant	
<b>6.3 The company provides information and documents requested by its shareholders in accordance with the principle of equal and unhindered accessibility.</b>				
6.3.1	Access to information and documents requested by the company's shareholders is provided in accordance with the principle of equal and unhindered accessibility.	<ol style="list-style-type: none"> <li>1. The information policy of the company defines an unhindered procedure of accessing information by shareholders, including information about the company's subsidiaries at the request of shareholders.</li> </ol>	Compliant	
6.3.2	When providing shareholders with information, the company maintains a reasonable balance between the interests of individual shareholders and the interests of the company as the latter strives to keep confidential any sensitive commercial information that may have a material influence on the company's competitive position.	<ol style="list-style-type: none"> <li>1. The company did not refuse to provide information request by shareholders in the reporting period, or such refusals were justified.</li> <li>2. In certain situation defined in the company's information policy, shareholders are properly informed that information is confidential and undertake to keep it confidential.</li> </ol>	Compliant	
<b>7.1 Any actions that have or might have a significant influence on the shareholding structure and financial standing of the company and, consequently, on the position of shareholders (material corporate actions) are taken under fair conditions that ensure rights and interests of shareholders and other stakeholders.</b>				
7.1.1	Material corporate actions include reorganisation of the company, acquisition of at least 30% of the company's voting shares (takeover), material transactions entered into by the company, increase or reduction in the company's authorised capital, listing and delisting of the company's shares, and other actions which may result in material changes in the rights of shareholders or be against their interests. The company's charter includes the list (criteria) of transactions or other actions deemed to be material corporate actions and refer them to the remit of the board of directors.	<ol style="list-style-type: none"> <li>1. The company's charter includes the list of transactions or other actions deemed to be material corporate actions, and criteria of their identification. Decisions on material corporate actions are referred to the remit of the board of directors. If the law expressly refers such corporate actions to the remit of the general meeting of shareholders, the board of directors provides relevant guidelines to the shareholders.</li> <li>2. Material corporate actions identified as such in the company's charter include at least the following: reorganisation of the company, acquisition of at least 30% of the company's voting shares (takeover), material transactions entered into by the company, increase or reduction in the company's authorised capital, and listing or delisting of the company's shares.</li> </ol>	Partly compliant	The Company is partly compliant with Criteria 1 and 2. The decision-making procedure recommended in the Code (decision-making by the Board of Directors or the General Meeting of Shareholders when required by the Charter or law) is followed in most material corporate actions identified as such in the Code.

N°	Corporate governance principles	Compliance assessment criteria	Compliance status <sup>2</sup>	Explanation of non-compliance <sup>3</sup>
7.1.2	The board of directors plays a key role in making decisions or recommendations regarding material corporate actions, and relies on the opinion of independent directors.	1. The company established a procedure for independent directors to express their opinion on material corporate actions prior to approval.	Compliant	
7.1.3	When taking material corporate actions affecting the rights and legal interests of shareholders, the company ensures equal conditions for all shareholders of the company and, when legal mechanisms protecting shareholders' rights are insufficient, arranges for additional protection of rights and legal interests of shareholders. In doing so, the company is guided by both formal legal requirements and corporate governance principles specified in the Code.	1. Subject to specific operations of the company, its charter provides for more stringent criteria of identifying transactions as material corporate events than required by law. 2. All material corporate actions in the reporting period were approved before taken.	Compliant	
<b>7.2 The company arranges for material corporate actions to be taken in such a way that shareholders have access to full information about these actions, have an opportunity to influence these actions, and are guaranteed exercise and protection of their rights when these actions are taken.</b>				
7.2.1	Disclosed information about material corporate actions explains reasons, terms and conditions, and consequences of such actions.	1. In the reporting period, the company disclosed information about material corporate actions timely and accurately, including grounds for, and time frames of, such actions.	Compliant	
7.2.2	Rules of, and procedures for, material corporate actions are set out in internal documents of the company.	1. Internal documents of the company provide for a procedure to hire an independent appraiser to estimate the value of property sold or acquired in a major transaction or related-party transaction. 2. Internal documents of the company provide for a procedure to hire an independent appraiser to estimate the value of the company's shares to be acquired or bought back. 3. Internal documents of the company provide for an extended list of criteria for directors and other persons specified in the law to be recognised as interested in the company's transactions.	Partly compliant	The Company is partly compliant with Criteria 1 and 2. The Company hires an independent appraiser in each case provided for in the law. An independent appraiser may also be hired at the initiative of directors. The Company is not compliant with Criterion 3. Applicable laws provide for a sufficient list of criteria for directors and other persons specified in the law to be recognised as interested in the company's transactions.

<sup>1</sup> Please indicate the reporting year or, if the report on compliance with the principles and recommendations set forth in the Corporate Governance Code contains information for the period from the end of the reporting year until the date of this report, specify the date of this report.

<sup>2</sup> The "compliant" status is indicated only if the company meets all compliance criteria for the relevant corporate governance principle. Otherwise a "partly compliant" or "non-compliant" status is indicated.

<sup>3</sup> Explanations are provided for each corporate governance compliance criterion if the company is only compliant with some of the criteria or is not compliant with any of them. If the company indicates the "compliant" status, no explanation is needed.

<sup>4</sup> Please specify which out of two options provided for in the principle is adopted in the company and explain reasons for selecting such option.

<sup>5</sup> If functions of the nomination committee are performed by another committee, indicate the name of the committee.

<sup>6</sup> Please specify the list of additional committees established.

# Glossary

**Acid leaching.** Leaching with (solutions of) acids as reagents.

**Agglomerate.** Sintered ore produced as a result of the agglomeration process.

**Agglomeration.** A method for forming relatively large porous blocks (agglomerates) by sintering (roasting) fine or powder ore, where solid particles are joined together by solidifying fusible compounds.

**Anode.** Crude metal (nickel or copper) obtained from anode smelting and fed for electrolytic refining (electrolysis) whereby it is dissolved.

**Cake.** Solid residue from filtering pulp during leaching of ores, concentrates or metallurgical intermediates, and purification of processing solutions.

**Cathode.** Pure metal (nickel or copper) obtained as a result of electrolytic refining of anodes.

**Concentrate.** A product of ore concentration with a high grade of the extracted mineral, which gives its name to the concentrate (copper, nickel, etc.).

**Concentration.** Artificial improvement of metallurgical feedstock mineral grades by removal of a major portion of waste rock not containing any valuable minerals.

**Conversion.** An autogenous pyrometallurgical process where ferrous and other detrimental impurities are oxidised and removed as slag to produce blister copper (in copper concentrate smelting) or converter matte (in copper-nickel concentrate smelting).

**Converter matte.** A metallurgical intermediate produced as a result of matte conversion. Depending on the chemical composition, the following types of converter matte are distinguished: copper, nickel and copper-nickel.

**Cuprous ores.** Ores containing 20% to 70% sulphides, with the following metal grades: 0.2–2.5% for nickel, 1.0–15.0% for copper, 5–50 g/t for platinum group metals.

**Disseminated ores.** Ores containing 5% to 30% sulphides, with the following metal grades: 0.2–1.5% for nickel, 0.3–2% for copper, and 2–10 g/t for platinum group metals.

**Drying.** Removal of moisture from concentrates performed in designated drying furnaces (to a moisture level below 9%).

**Electrolysis.** A series of electrochemical reduction-oxidation reactions at electrodes immersed in an electrolyte as a result of passing of an electric current from an external source.

**Filtration.** The process of reducing the moisture level of the pulp by forcing it through a porous medium.

**Flash smelter.** An autogenous smelter for processing dry concentrates, where the smelted substance is finely ground feedstock mixed with a gaseous oxidiser (air, oxygen), which holds melted metal particles suspended. The heat from oxidation reactions is actively used in the process.

**Flotation.** A concentration process where specific mineral particles suspended within the pulp attach to air bubbles. Poorly wettable mineral particles attach to the air bubbles and rise through the suspension to the top of the pulp, producing foam, while well wettable mineral particles do not attach to the bubbles and remain in the pulp. This is how the minerals are separated.

**Leaching.** Selective dissolution of one or several components of the processed solid material in organic solvents or water solutions of inorganic substances.

**Matte.** Intermediate product in the form of an alloy of sulphides of iron and non-ferrous metals with a varying chemical composition. Matte is the main product accumulating precious metals and metal impurities the feedstock contains.

**Metal extraction.** The ratio between the quantity of a component extracted from the source material and its quantity in the source material (as a percentage or a fraction).

**Metal grade.** The ratio between the weight of metal in the dry material and the total dry weight of the material expressed as a percentage or grammes per tonne (g/t).

**Mine.** A mining location for extraction of ores.

**Mineral deposit.** A mass of naturally occurring mineral material (near to the surface or deeper underground) which is economically valuable in terms of quantity, quality and conditions.

**Ore mixture.** A mixture of materials in certain proportions needed to achieve the required chemical composition of the end product. The ore mixture for metallurgical production may include ores, ore concentrates and agglomerates, return slag, dust from dust collectors, and metals (mostly in the form of scrap).

**Ore.** Natural minerals containing metals or their compounds in economically valuable amounts and forms.

**Oxide.** A compound of a chemical element with oxygen.

**Proven ore reserves.** Estimated based on the economically mineable part of measured mineral resources, including possible dilution and losses during mining operations.

**Probable ore reserves.** Estimated based on the economically mineable part of indicated and, in some circumstances, measured mineral resources, including possible dilution and losses during mining operations.

**Pulp.** A mixture of finely ground rock with water or a water solution.

**Pyrometallurgical processes.** Metallurgical processes performed at high temperatures, including roasting, smelting and conversion, which are distinguished depending on their technological characteristics.

**Refinement.** The process of extracting high purity precious metals through their separation and removal of impurities.

**Rich ores.** Ores with high sulphide content (over 70%) and the following metal grades: 2–5% for nickel, 2–25% for copper, and 5–100 g/t for platinum group metals.

**Roasting.** The process of removing volatile components from and changing the chemical composition of materials (ores, concentrates, etc.) performed at elevated temperatures enabling various gas-solid reactions but insufficient to cause melting of the material's solid compounds.

**Shop area.** A part of a (metallurgical) shop.

**Slag.** Melted or solid substance with a varying composition that covers the surface of a liquid product during metallurgical processes (resulting from ore mixture melting, melted intermediate processing and metal refining) and includes waste rock, fluxes, fuel ash, metal sulphides and oxides, and products of interaction between the processed materials and lining of melting units.

**Sludge.** Powder product containing precious metals settling during electrolysis of copper and other metals.

**Smelting.** A pyrometallurgical process performed at high temperatures enabling the complete melting of the processed material.

**Sulphides.** Compounds of metals and sulphur.

**Tailings pit.** A complex of hydraulic structures used to receive and store mineral waste / tailings.

**Tailings.** Waste materials left over after concentration processes and containing mostly waste rock with a minor amount of valuable minerals.

**Thickening.** Separation of liquid (water) and solid particles in dispersion systems (pulp, suspension, colloid) based on natural gravity settling of solid particles in settlers and thickeners, or centrifugal settling of solid particles in hydrocyclones.

**Underground (subsurface) mining.** A set of stripping, preparatory and stoping operations.

**Vanyukov furnace.** An autogenous smelter for processing concentrates, where smelting is performed in a bath of slag and matte, with intensive injection of air-oxygen mixture. The heat from oxidation reactions is actively used in the process.



# Metric conversion table and currency exchange rates

## Metric conversion table

Length		Area		Weight	
1 km	0.6214 mi	1 sq m	10.7639 sq ft	1 kg	2.2046 lb
1 m	3.2808 ft	1 sq km	0.3861 sq mi	1 metric tonne	1,000 kg
1 cm	0.3937 in	1 ha	2.4710 acres	1 short tonne	907.18 kg
1 mi	1.609344 km	1 sq ft	0.09290304 sq m	1 troy ounce	31.1035 g
1 foot	0.3048 m	1 sq m	2.589988 sq km	1 lb	0.4535924 kg
1 in	2.54 cm	1 acre	0.4046873 ha	1 g	0.03215075 oz t

## Currency exchange in 2013–2017

This appendix provides currency exchange rates used to convert expenses denominated in RUB to USD.

Russian Rouble / US Dollar	2013	2014	2015	2016	2017
Average rate for the year ended 31 December	31.85	38.42	60.96	67.03	58.35

# Contacts

## Vladimir Zhukov

*Vice President of the Investor  
Relations Department*  
E-mail: [ir@nornik.ru](mailto:ir@nornik.ru)

## Mikhail Borovikov

*Head of the Investor Relations Department*  
E-mail: [borovikovMA@nornik.ru](mailto:borovikovMA@nornik.ru)  
Phone: +7 (495) 786-83-20  
Fax: +7 (495) 797-86-13

## Marina Raichenko

*Head of Share Capital Division*  
Phone: +7 (495) 797-82-44  
E-mail: [raychenkoma@nornik.ru](mailto:raychenkoma@nornik.ru)

## Andrey Kirpichnikov

*Head of PR Department*  
Phone: +7 (495) 785-58-00  
Fax: +7 (495) 785-58-08  
E-mail: [pr@nornik.ru](mailto:pr@nornik.ru)  
Address: 123100 Moscow,  
1iy Krasnogvardeyskiy proezd, 15

## Registrar

*JSC "Computershare Registrar"*  
Russian Federal Securities Commission license  
number 045-13954-000001, dated September 6,  
2002, valid indefinitely  
Web-site: [www.nrcreg.ru](http://www.nrcreg.ru)

## Head office:

Address: 18 Stromunka Street, building 5B, Moscow,  
107076, Russia,  
Tel.: +7 (495) 989-76-50  
Fax: +7 (495) 989-76-82  
E-mail: [info@nrcreg.ru](mailto:info@nrcreg.ru)

## Norilsk Branch

Address: 8 Bordan Khmelnytskui,  
Norilsk, Krasnoyarsky Krai, 663305, Russia  
Tel.: +7 (3919) 46-28-17  
Helpdesk operating hours:  
Monday – Friday from 10:00 to 14:00

## Krasnoyarsk branch

Address: office center "Voskresensky", office 314, 94  
Prospekt Mira, Krasnoyarsk, 660017 Russia  
Tel.: +7 (391) 216-51-01  
Fax: +7 (391) 216-57-27  
Helpdesk operating hours:  
Monday – Friday from 9:00 to 13:00

## ADR depositary

*The Bank of New York Mellon*  
*Depositary Receipts Division*  
Address: 101 Barclay Street,  
22 nd Floor West, New York,  
NY 10286  
Tel.: +1 (212) 815-22-93  
Fax: +1 (212) 571-30-50  
Web-site: [www.bnymellon.com](http://www.bnymellon.com)

## Auditor

*JSC "KPMG"*  
Address: 3035, 18/1 Olympiysky prospekt,  
Moscow, 129110 Russia  
Post address: Naberezhnaya Tower Complex,  
Block C, 31st Floor, Presnenskaya Naberezhnaya  
Tel.: +7 (495) 937-44-77  
Fax: +7 (495) 937-44-99  
E-mail: [moscow@kpmg.ru](mailto:moscow@kpmg.ru)  
Web-site: [www.kpmg.com](http://www.kpmg.com)

---

#### Disclaimer

This annual report (Annual Report) has been prepared based on the information available to MMC Norilsk Nickel and its subsidiaries as at the issue date. The Company believes that the information provided in this Annual Report is complete and accurate as at the Annual Report publication date. However, the Company does not assert that this information will not be updated or corrected in the future.

This Annual Report may include certain forward-looking statements with respect to the Group's operations, economic indicators, financial position, results of operating and production activities, its plans, projects and expected results, as well as trends related to commodity prices, production and consumption volumes, costs, estimated expenses, development prospects, useful lives of assets, reserve estimates and other similar factors and economic projections with respect to the industry and markets, start and completion dates of certain geological exploration and production projects, and liquidation or disposal of certain entities.

The Company neither confirms nor guarantees that the results indicated in the forward-looking statements will be achieved.

The Company accepts no responsibility for any losses that may be incurred by any individual or legal entity acting in reliance on the forward-looking statements.