



## About the assets

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Kola Mining and Metallurgical Company (Kola MMC) is Nornickel's 100% subsidiary. Located on the Kola Peninsula, it is the Company's nickel refining hub and a leading industrial facility in the Murmansk Region.

### MINERAL RESOURCE BASE

Measured and indicated mineral resources

**327.3**  
mt of ore

**2.3**  
mt  
Ni

**1.1**  
mt  
Cu

## 2018 highlights

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Kola MMC accounted for 72%, 18% and 61% of the Group's total nickel, copper and PGM end products, respectively.

Kola MMC's total ore output amounted to 7.9 mt.

## Investment projects

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- [Nickel Tankhouse 2 upgrade in Monchegorsk](#)
- [Construction of a concentrate shipment facility and separating section in Zapolyarny](#)

## Geological exploration

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No geological exploration was carried out on the Kola Peninsula in 2018.



## Mining assets

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Kola MMC produces copper-nickel sulphide disseminated ores containing nickel, copper and other commercial components.

Kola MMC develops the Zhdanovskoye, Zapolyarnoye, Bystrinskoye, Tundrovoye, Sputnik and Verkhneye Deposits (Eastern Ore Cluster), as well as the Kotselvaara-Kammikivi and Semiletka Deposits (Western Ore Cluster). The Zhdanovskoye and Zapolyarnoye Deposits are developed by Severny Mine, while the Kotselvaara and Semiletka Deposits are managed through Kaula-Kotselvaara mine.



## Concentration facilities

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The Concentrator is located in Zapolyarny. It produces briquetted copper-nickel concentrate, which is then delivered to the smelting shop in Nickel to churn out converter matte.



## Smelting facilities

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Monchegorsk is home to Metallurgical and Refining Shops, and Nickel Tankhouses 1 and 2. Kola MMC's production facilities in Monchegorsk process converter matte from Nickel's Smelting Shop and Polar Division. Kola MMC's end products include copper and nickel cathodes, carbonyl nickel, electrolytic cobalt and cobalt concentrate. The Company also manufactures precious metal concentrates, crushed converter matte for NN Harjavalta, sulphuric acid, and copper and nickel concentrates for sale.

The Company is upgrading Nickel Tankhouse 2 to boost its capacity from 120 ktpa to 145 ktpa. Tankhouse 2 is introducing the technology of nickel electrowinning from chlorine dissolved tube furnace nickel powder, which will help achieve the highest purity of metal.

By 2020, Kola MMC is expected to ramp up its nickel processing capacity from 165 ktpa to 190 ktpa. Precious metals produced by both Kola MMC and Polar Division are refined at Gulidov Krasnoyarsk Non-Ferrous Metals Plant under a tolling agreement.

