

FINLAND (NN Harjavalta)

Norilsk Nickel Harjavalta became part of the Group in 2007. The Harjavalta facility processes the Company's Russian feedstock and nickel-bearing raw materials sourced from third-party suppliers.

Founded in 1960, Norilsk Nickel Harjavalta is the only nickel refinery in Finland and one of the largest such facilities in Europe. It has a total capacity to produce 66 ktpa of nickel products.

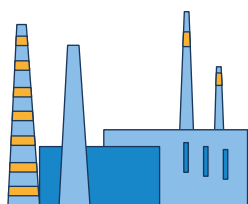
The facility uses sulphuric acid leaching, the best-in-industry global solution with the metal recovery rates of above 98%.

2018 milestone



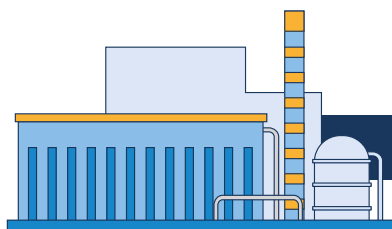
In 2018, Norilsk Nickel Harjavalta accounted for 28%, 4% and 2% of the Group's total nickel, copper and PGM end products, respectively.

Norilsk Nickel Harjavalta Plant

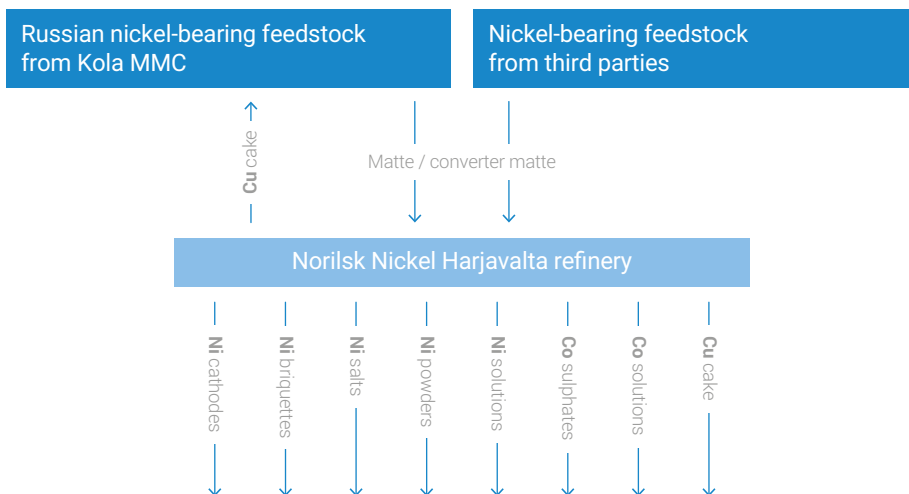


60.8 kt
Harjavalta Plant's total output of saleable nickel in 2018

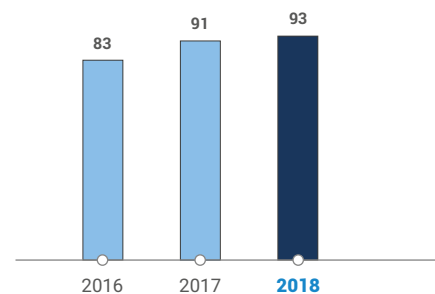




SMELTING (NN Harjavalta)



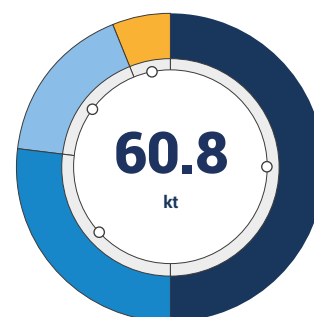
Refining capacity utilisation (%)



In 2018, the refining facilities in Monchegorsk were gradually increasing their nickel feedstock supplies to Norilsk Nickel Harjavalta in line with the Group's downstream facilities reconfiguration strategy. One-off and insignificant supplies of third-party feedstock, namely converter matte from Boliden Harjavalta (Finland), were sourced in Q2 and Q3 only, while nickel salts from other companies were sourced throughout 2018. Platinum and palladium recovery rates improved on the back of a drop in losses with ferrous cakes.

of copper in copper cake totalled 18.0 kt, up 34% y-o-y. This growth was due to increased processing of Russian feedstock as part of the production reconfiguration exercise and using-up of the work-in-progress inventories. The production of saleable palladium and platinum in copper cake increased by 38% and 10% y-o-y, respectively. This was due to higher processing volumes of Russian feedstock and using-up of the work-in-progress inventories.

Saleable nickel output by product in 2018 (%)



Briquettes	50
Cathodes	27
Chemicals and solutions	17
Powders	6

In 2018, Norilsk Nickel Harjavalta produced 60.8 kt of saleable nickel (up 2% y-o-y), hitting its all-time high. The growth was driven by the reconfiguration of refining facilities and increased nickel feedstock supplies from Kola MMC. The production

Metals output

Metal	2016	2017	2018
Saleable nickel, kt	53.65	59.72	60.77
from own Russian feed	19.01	55.02	59.34
Copper in copper cake, kt	9.60	13.44	18.04
from own Russian feed	0.59	12.33	17.98
Palladium in copper cake, koz	64	42	58
from own Russian feed	8	35	58
Platinum in copper cake, koz	22	10	11
from own Russian feed	2	6	11

Product offering:

- nickel cathodes and briquettes;
- nickel salts, powders and solutions
- cobalt sulphate;
- cobalt solutions;
- PGM-bearing copper cake.