

15 YEARS IN OPERATIONS



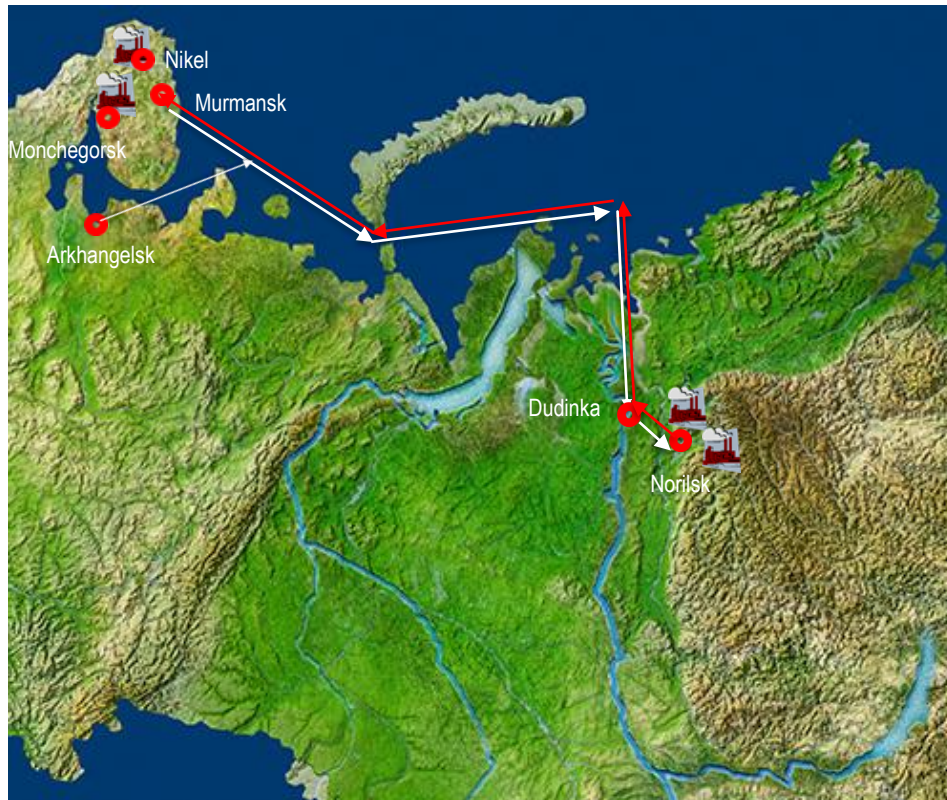
"Arctic Passion Seminar", Helsinki, Finland 05th March, 2020

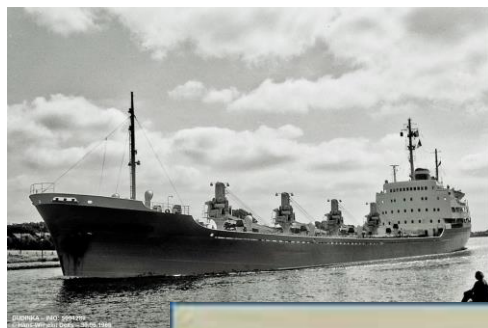
Capt. Viacheslav Konoplev, Project manager,
Murmansk transport branch of the PJSC MMC "Norilsk Nickel"

MMC Norilsk Nickel is the world's largest producer of Nickel and palladium, and a leading producer of platinum, cobalt, copper, and other platinum group metals

The production units of «NORILSK NICKEL» Group are located at the Norilsk Industrial District, on the Kola Peninsula and Chita region in Russia as well as in Finland and South Africa.

The unique geography of production units relative to the main supply bases and production support, and markets for finished products determines the special importance of transport infrastructure and cargo logistics for Norilsk Nickel.





For a long time since the beginning of the development of the Norilsk industrial district, cargo supplies for factories were delivered by sea vessels through the ports of Arkhangelsk and Murmansk and by river vessels through Krasnoyarsk.



Navigation was possible only in the summer, and since 1979, with the commissioning of powerful icebreakers and new types of vessels of the reinforced ice class, navigation on the sea section has become year-round.



The most important link in solving these issues was the construction of our own vessels that can provide regular year-round delivery of cargo by sea with minimal icebreaking support.



FLEET

On February 28, 2006, the construction of the first Arctic container ship, named "Norilsk Nickel", capable of year-round autonomous navigation of cargo transportation in the Western Arctic region was completed.



The results of the ice tests were as follows

	Contract performance requirements	Actual performance results
AZIPOD max. rating	13 MW	13 MW
Ice thickness	1,5 m	1, 525 m
Bow-first	1 knot	2,3 – 2,4 knots
Stern-first	2 knots	3,1 – 3,3 knots

In July 2006, based on the results of ice tests and the first operational voyage of the ship, the Company signed a contract with the German shipyard "Aker MTW Werft GmbH" for the construction of 4 similar vessels with the delivery of 3 vessels in 2008 and 1 vessel in 2009.



m/v "MONCHEGORSK"



m/v "ZAPOLYARNYY"



m/v "TALNAKH"



m/v "NADEZHDA"

In order to carry out port operations during winter navigation, the icebreaker "APU" was purchased in Finland in 2006, which was then renamed the "DUDINKA" icebreaker.



On January 28, 2009, with the commissioning of the last vessel, the m/v Nadezhda, Russia's largest investment project was completed.

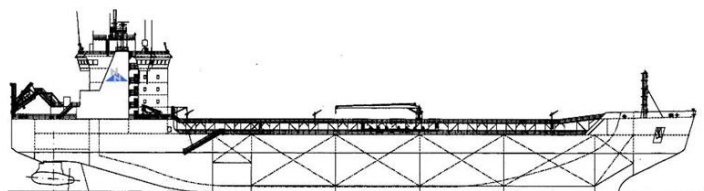


The commissioning of all vessels made it possible to completely switch to the transportation of the entire volume of cargo by their own vessels in the Dudinsky direction. The volume of cargo transportation by own vessels in 2009 reached 972 thousand tons compared to 262 thousand tons in 2007.



For year-round delivery of oil products to Dudinka and export of gas condensate from the Pelyatkinskoye field, a contract for the construction of a tanker was signed with the company "Nordic Yards Wismar GmbH" in December 2009, and in September 2011 the tanker was put into operation.

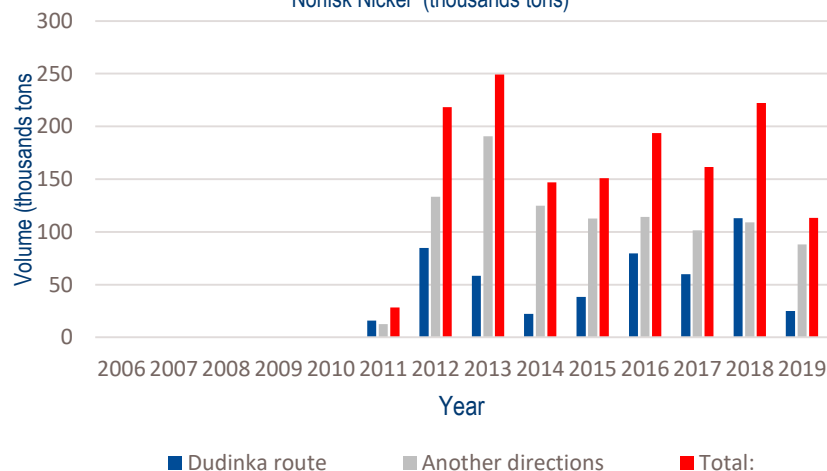
T221 Arctic Oil Product Tanker OPT19



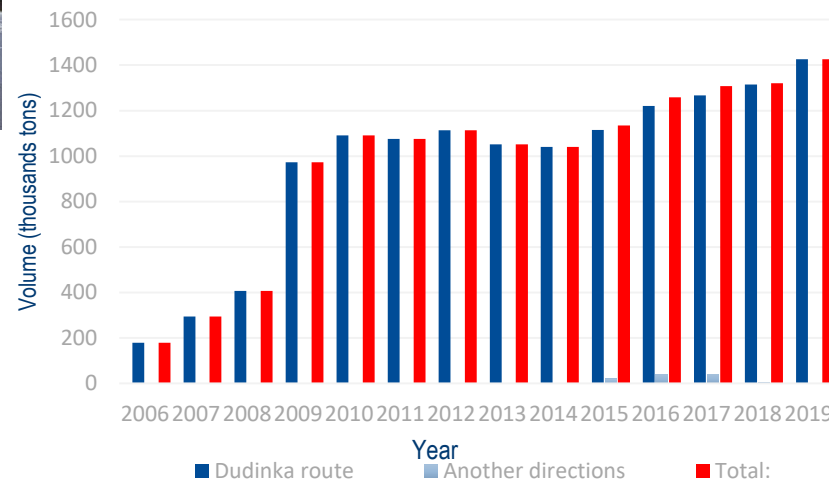
In 2010, the Murmansk transport branch developed a program to modernize the company's vessels, which included improving the commercial attractiveness of vessels, improving their habitability, and meeting the requirements of international conventions to which the Russian Federation is a party. In 2016, the upgrade was completed. The total investment amounted to 566 million rubles.



Volumes of liquid cargo transportation by the own fleet of PJSC MMC "Norilsk Nickel" (thousands tons)



Volumes of general cargo & containers transportation by the own fleet of PJSC MMC "Norilsk Nickel" (thousands tons)



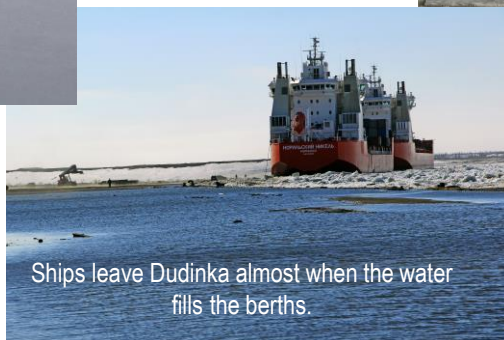
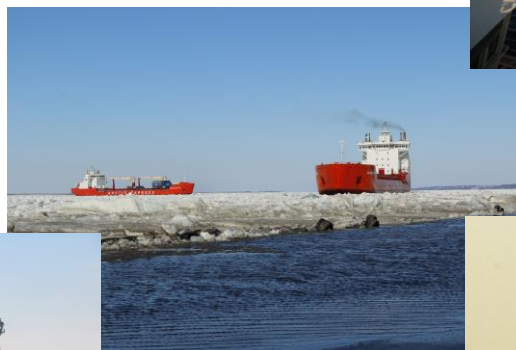
Currently, the company's own transport fleet transports 1.4 million tons of various cargo, of which the company's own cargo and corporate structure organizations account for 1.2 million tons.

The fleet begins navigation to Dudinka, usually in the first decade of June. 2-3 vessels equipped with cargo cranes arrive at the mouth of the Yenisei river and wait several days for the passage of the "tail" of the ice drift.



The first loading of products from Norilsk plants is carried out on the inner road of the port of Dudinka because the berths are under water

Navigation ends in the third decade of may.



Ships leave Dudinka almost when the water fills the berths.



Ice on the docks of the port of Dudinka

The analysis of the navigation of our vessels over the past years shows that the most difficult is the navigation in the fast ice of the Yenisei river and the Yenisei Bay.



PORT

In 2005, it was decided to build a transshipment terminal with a turnover of 1.5 million tons per year.

For this purpose, real estate objects were purchased located on two separate sites with a total area of 10 hectares, which included berths with a length of 157 and 311 meters



In 2013, the terminal construction program was divided into two stages; the first stage involved the construction and reconstruction of both cargo platforms with a connecting railway track, the saturation of the corresponding reloading equipment and the commissioning of a new administrative and office building, and the second stage was the reconstruction of berth No. 2 with dredging and reloading equipment.



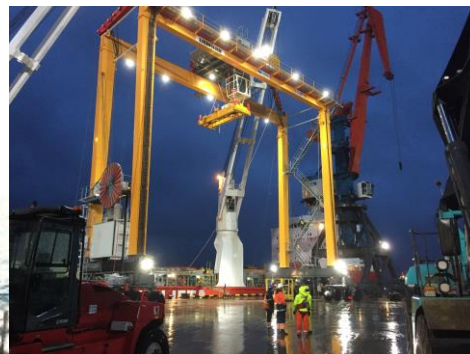
Parallel to the construction of the first vessel were design study of construction of own transshipment terminal in Murmansk, development of project documentation, obtaining of expert opinions on the draft and building permits, clearing of land for construction.



Since April 2014, the processing of all cargo of PJSC MMC Norilsk Nickel in the city of Murmansk has started at its own transshipment terminal, and by the end of the year, the first stage of construction was completely finished.



In the autumn of 2015, the active reconstruction of berth No. 2 and its saturation with reloading equipment began.

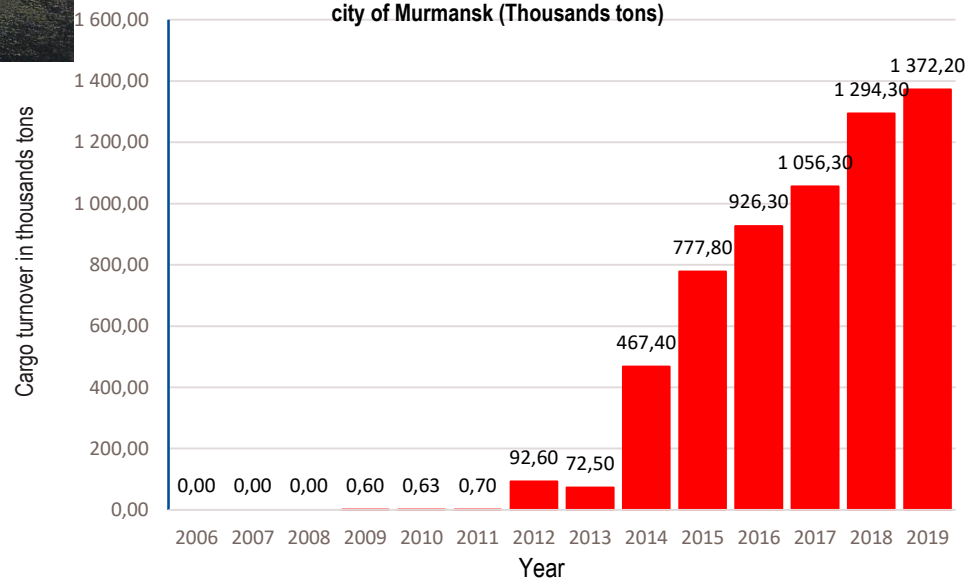


In March 2017, an investment project to create its own transshipment terminal in the city of Murmansk was fully completed.



Currently, it is a modern logistics complex with an annual turnover of 1.3 million tons. The terminal's storage areas allow you to store up to 3 thousand units of various types of containers and up to 8 thousand tons of other various cargoes at a time. Two deep-water berths allow you to handle two vessels at the same time with high productivity.

Cargo turnover of the Transshipment terminal of PJSC MMC Norilsk Nickel in the city of Murmansk (Thousands tons)



FUTURE PLAN

In 2016, changes began in the company's production area. The old Nickel production facilities in Norilsk were closed. His production moved to Monchegorsk and Harjavalta (Finland), where is a more modern and efficient production capacity.



In this regard, cargo flows were also quantitatively redistributed the volume of goods transported from Dudinka to Murmansk and Feinstein increased, and the volume of supplies and construction materials from Arkhangelsk to Dudinka increased.



The company owns two port icebreakers. This is the icebreaker "Dudinka", which is already 50 years old, and the icebreaker "Avraamiy Zavenyagin", which is 36 years old. It's time to replace the icebreakers.



In 2021, the first ship of the company – m/v "Norilsk Nickel" will be 15 years old. It's time to think about how to replace them in the future?





**Thank you for your
attention!**