



ARCTIC
RAILWAY
ROVANIEMI-KIRKENES



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COMPETITIVENESS FOR INVESTORS AND COMPANIES

The Arctic Railway will improve the business possibilities for companies and investors in the Arctic Region. Some examples of new possibilities for business operations include:

- infrastructure projects
- increased tourism
- new housing projects
- renovation construction
- shipbuilding
- Arctic shipping
- offshore maintenance and service
- servicing and maintenance of production facilities
- sites for redevelopment
- environment
- ICT
- engineering industry



The Arctic Railway will be efficiently connected to other transit corridors.



An estimated 20–30% of the world's untapped gas reserves and 5–13% of oil reserves are located in Arctic regions. (Finland's Strategy for the Arctic Region, 2010)



ARCTIC RAILWAY

CONNECTS THE BALTIC SEA REGION TO THE ARCTIC

In recent years, interest in the Arctic has grown significantly. Economic potential and the opening of new transport routes highlight the strategic importance of the region. In the future, the Arctic Region may become a major energy reserve and transport channel for global trade.



GROWING DEMAND

The EU and Finland are currently reliant on road connections in order to reach the mining areas of central Lapland, the oil and gas fields of Norway and Russia and the western end of the Northern Sea Route.

The goal of the Arctic Railway is to develop alternative routes from Asia to the Baltic Sea Region for the goods flows of the future and to improve the competitiveness of mining and other industry by creating new, cost-effective transport possibilities.

“The business opportunities provided by the Arctic Region attract both domestic and foreign investments.”

Investointeja Suomeen (Investing in Finland), Ministry of Employment and the Economy, 9/2012



FOREST INDUSTRY

- The railway transport potential for the forest industry in central Lapland is around 500,000 tonnes/year.
- The Rovaniemi heating plant and the biofuel plant which may be built in Kemi will significantly increase the transport of wood-based raw materials.
- The overall annual growth of Lapland's forests is around 6 million m³ greater than the removal.

TOURISM

- The railway offers an alternative mode of transport for travellers to Saariselkä, Luosto or the Arctic ocean, for example.
- The railway will increase the number of travellers, the investment needs of companies and the tourism industry workforce.
- Transfer connections will create business opportunities for bus travel operators and taxi companies.

LNG ON THE RAILWAYS

- A quantity of liquefied natural gas equivalent to 350,000 kWh of energy can be transported in one 40-foot container.
- 40–60 of such containers can fit on one train.
- Container transports are more flexible than pipe transports.
- Around 2.2 million tonnes of natural gas is used in Finland each year.
- Switching from oil to natural gas brings a reduction of around 20% in carbon dioxide emissions, and up to 50% less nitrogen oxide and sulphur dioxide emissions.



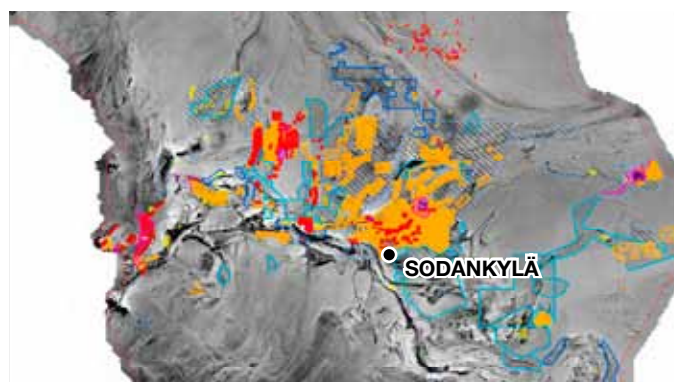
SHIPMENTS FROM KIRKENES

	Via the Suez Canal		Via the Northern Sea Route		+ / - days
China	12050 NM	37 days	6500 NM	21 days	-16
Korea	12400 NM	38 days	6050 NM	19,5 days	-18,5
Japan	12730 NM	39 days	5750 NM	18,5 days	-20,5

MINING POTENTIAL IN LAPLAND CREATES MAJOR TRANSPORT NEEDS

Transport to and from the Kevitsa and Sakatti mines forms the basis for the Transport potential of the Arctic Railway. The Arctic Railway also creates an alternative transport route to the Sokli mine. Central Lapland has significant potential for ore mining, which can likely be exploited for hundreds of years. For this reason, it is important to consider the long-term development of the whole transport system when building new railway transport routes.

MAP OF THE CLAIM AND RESERVE SITUATION IN LAPLAND



ARCTIC RAILWAY OPENS CONNECTIONS TO GLOBAL TRANSPORT ROUTES

- The Arctic Railway connects the economic region of the Baltic Sea to the deep water ports on the Arctic Ocean.
- Transport journeys to Asia along the Northern Sea Route are around one third shorter than the traditional routes.
- In addition to Asia, connections from the sulphur directive-exempt deep water ports at Kirkenes to Central Europe and the Americas are already possible.
- Kirkenes is the same distance from Rotterdam as the Kemi harbour.

Kirkenes deep-water port is a very competitive alternative to transports

NORTHERN SEA ROUTE

The Northern Sea Route is around one third shorter than other sea routes, which saves time and expenses.





THE ARCTIC RAILWAY – TWO PHASES OF CONSTRUCTION

The first phase of the Arctic Railway, Rovaniemi–Sodankylä, is being constructed to meet the needs of the mining and forest industries in central Lapland. Planning for the route will begin in 2012–2013. The goal is for the track to be finished by 2020.

The demand for transports in the direction of the Arctic Ocean is expected to grow to fulfil the financial preconditions to begin construction on the second phase, Sodankylä–Kirkenes, by 2030.

PHASE 1: ROVANIEMI–SODANKYLÄ

- The length of the Rovaniemi–Sodankylä track is around 145km.
- The track will reach the Sodankylä mining areas, around 40km to the north of the population centre.
- The estimated cost of construction is at least EUR 365 million.
- A minimum transport amount of around 1.5 million tonnes per year is needed to support the execution of the phase.

PHASE 2: SODANKYLÄ–KIRKENES

- The length of the Sodankylä–Kirkenes track is around 350 km.
- The total cost of construction is around EUR 2.1 billion, of which Norway will provide about 40%.
- A minimum transport amount of around 3 - 5 million tonnes per year is needed to support the execution of the phase.
- The Sodankylä–Kirkenes track shall be included in the TEN-T transport network supported by the European Union.

MAIN LINE OPTION FOR THE ARCTIC RAILWAY AND ALTERNATIVE LINES



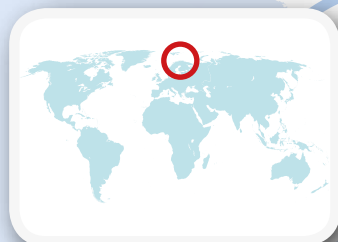
ARCTIC CORRIDOR

THE ARCTIC CIRCLE

THE ARCTIC CORRIDOR

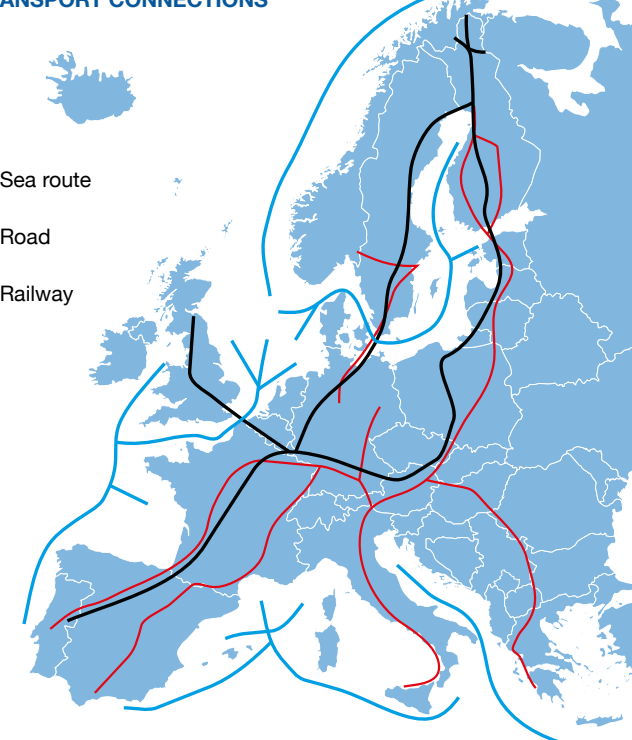
The Arctic Corridor is a new, global economic region and a corridor for transport and development. It provides companies and investors with the opportunity to participate in the billion-euro projects in Arctic Europe. The Arctic Corridor connects the Baltic Sea region to the deep-sea harbours, oil and gas projects of the Arctic Ocean as well as to the western end of the Northern Sea Route.

In addition to the Arctic Railway, the main projects of the Arctic Corridor include the expansion of Finnish national road 4, the extension of the Ivalo airport terminal, an investigation of business possibilities in the Arctic and marketing of the route and region. The development of the corridor is supported by the EU.



MAIN TRANSPORT CONNECTIONS

- Sea route
- Road
- Railway



TRANSPORT POTENTIAL FOR THE ARCTIC RAILWAY, 2020–2030

- Oil and gas industry (Barents Sea, northwestern Siberia, Norwegian coastal areas)
- Mining industry (Russia, Norway and increasingly also Finland)
- Forest industry (northern Finland, northwestern Russia)
- Fishing industry (northern Norway, Murmansk)
- Tourism (Saariselkä, Pyhä-Luosto, Levi, Ylläs)



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Please have a look at Arctic Railway video!