Lapland – Arctic node of transport and logistics in Europe

Lapland accessibility coordination project in brief
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Jarkko Rantala & Tommi Mäkelä
Regional Council of Lapland, Finland
Accessibility, including good transport connections, is a prerequisite for the favourable development of businesses, people and services. Promoting accessibility requires systems thinking and development. One of the most important tasks of the Lapland accessibility coordination project is to describe the underlying system around accessibility and to increase understanding thereof.

In order to appreciate the significance of transport infrastructure investments for Lapland’s accessibility, one must examine the underlying system and answer the following questions:

• What system-level problem will be solved with this investment?
• What opportunities does this investment entail for businesses, residents and tourists?
• What will be achieved with this investment in the large scale?

Transport infrastructure in general is a platform that enables a variety of service and business models and their development. Digitalization is an important perspective to keep in mind in building future service models. Opening data interfaces, utilizing and sharing them in different value chains opens unprecedented opportunities for the development of the transport system.

However, both aspects are necessary: the development of both physical and digital infrastructure and systems. If this is done paired with systems thinking and development, the outcome may be truly significant.

On the EU level, the development of multimodal transport solutions is emphasized as the solution to the biggest problems in transport: congestion, emissions and safety. The same thinking can be applied to Lapland, even though the infrastructure is not very congested except for some individual sections. With all modes of transport available, efficient and sustainable transport chains can be built, utilizing the best features of every transport mode. Cost and energy efficiency go hand in hand in this development.

Furthermore, true customer orientation in developing transport chains, building services based on individual needs, the customer-driven development, will bring us to the core of future competitive factors in terms of accessibility.

Do we want to continue on the current path, reacting to needs as they arise, or do we want to raise the standards? We need to have a common intent and message to promote. This requires us to compile our infrastructure needs into a big package to support system-level development.

In the EU, the TEN-T transport network and investments therein are regarded as investments in growth and economic structures. They may be seen as catalysts of development and the backbone of the evolution of economic structures.

At the same time, there is an emphasis in the EU on connecting to different markets in all directions and linking peripheral regions to the core EU market.

There is great interest in the potential of the Arctic region, and tapping into this potential requires improved accessibility. The Lapland accessibility coordination project outlines these system-level development needs and opportunities from different perspectives.

Consider it done!
Starting points and themes

Lapland accessibility coordination project

Development as today
- according to economic situation
- reacting to needs as they appear

What does it demand? How does it affect?

Development leap
- strategies
- foresight
- vision of long-term development
- clear ambition
- logistics as a backbone in the development

Open Arctic and the position of Finnish Lapland as a neighbour of Norway, Sweden and Russia
Cross-border transport system and development of transport infrastructure as a network
Connecting the Arctic to European market with TEN-T corridors
Connecting to growing and potential transport flows and systems: Northern Sea Route, New Silk Road, North Atlantic, Rail Baltic

Key messages
1. Global/regional/local markets
2. Geopolitics
3. Cross-border cooperation
4. Responsibility
5. Sustainability
6. Utilization of resources
7. Climate and environment
8. Technological development
9. Intelligent solutions and operating models
10. Accessibility of markets and regions
11. Connections between logistics infrastructure and economic structure
12. Investment potential
13. Sustainable industrial future
14. Strengthening the role of Lapland

Growth of business and competitiveness in the Arctic
- ensuring the success factors of existing businesses
- attracting new businesses
- investment potential
- strengthening the role of Lapland
- significance of logistics

Operational environment: markets, politics, trends
- global/regional/local markets
- geopolitics
- cross-border cooperation
- responsibility
- sustainability
- utilization of resources
- climate and environment
- technological development

Economic structure, business activities

Traffic, transportation and logistics as a system

Transport flows

Future development, development paths

Operational environment: markets, politics, trends
**Key messages**

**Lapland – Arctic node of transport and logistics in Europe**

1. Developments in infrastructure cannot be half-baked
2. TEN-T is at the core of development
3. Lapland is actively building cross-border value-added and service chains
4. Logistics and transport system is a catalyst and booster of development
5. Cross-border systems thinking of transport networks enable large-scale development
6. Industries and tourism support each other in Lapland
7. Promoting Lapland’s interests is guided by common intent

**Passenger mobility and accessibility needs in Lapland**

1. True customer-orientation is needed – in all transport needs and customer segments
2. Personalized transport services can be produced utilizing data and scalable high-volume solutions
3. Fluent trip chains and synchronizing transport as a whole in Lapland require cooperation and resources
4. Branding mobility in Lapland will improve quality, customer experience and attractiveness
5. The location and strategies of Lapland require international connectivity in different directions and linking up with transport systems in neighbouring countries
6. Lapland is actively promoting Trans-European objectives: transport system is emission-free, safe and smoothly connects regions
**10+ perspectives to the accessibility of Lapland**

**Lapland offers diversity and many opportunities**

"How can Lapland of Adventures and Industrial Lapland be reconciled?"

**Gateways and windows into Open and Arctic Lapland**

"Are the gateways to Lapland also attractive windows into Lapland?"

**Lapland is located close to major volumes of freight**

"Lapland is connected to the global logistics network."

**Travelling to Lapland by road, rail and air**

"Air travel during winter season."

**Corridors support business development**

"Corridors can facilitate cross-border cooperation and logistics chains."

**Arctic strategies call for the expansion of the TEN-T network**

"The expansion of the TEN-T network will support the development of the new European Arctic ecosystem and EU growth strategies."

**Sea Lapland – the industrial centre of Finnish Lapland**

"From a logistical standpoint, Sea Lapland is truly a kernel of opportunity."

**Arctic railway – a railway of opportunities**

"The Arctic railway is not merely a railway or transport project."

**Customer, service and accessibility – Synchronising mobility as a whole in Lapland requires cooperation**

"Good accessibility is a strategic choice for Lapland."

**Future scenario of freight transport flows 2040: Finland and Lapland are connected to development.**

"Infrastructure and transport system boosts development."
Lapland offers diversity and many opportunities

As an Arctic region with high biodiversity, two future development paths can be identified for Lapland: Lapland of Adventures and Industrial Lapland.

How can Lapland of Adventures and Industrial Lapland be reconciled? This is a relevant question, especially since both entail major business and development opportunities. On the other hand, nowadays sustainable development and corporate responsibility may be seen as an integral part of all business. However, conflicts of interest are unavoidable, if mining operations, for example, are set up close to a significant tourist destination.

Delicate Arctic nature, developing tourism, a good living environment, cultural factors and industrial development must all be seamlessly reconciled in order to utilize the full development potential of the region in developing the economy and attracting new businesses. In this landscape, Lapland of Adventures and Industrial Lapland would support each other.

Clear development areas can be identified in economic structures across borders. It is important to recognize the development potential in cross-border value-added chains. These chains can also serve, from logistics viewpoint, to identify the most essential transport corridors.

This can also be examined from another angle: could the development of transport corridors and significant investments in infrastructure make up the backbone of business development?

There is a clear connection between logistics infrastructure and the development of economic structures. As a major energy and raw materials producer of the future, the Barents region has excellent opportunities to build new, cross-border value-added chains and thereby increase the value added in the region. Without logistics and infrastructure, however, this will not happen.
Gateways and windows into Open and Arctic Lapland

1 245 000
Flights and airports are a gateway into Lapland. 1.2 million people per year (2017, Finavia) fly in and out of Finnish Lapland. Flight connections and international tourism go hand in hand.

700 000
Train journeys and railway stations are a gateway into Lapland. Almost 700 000 people per year (2017, VR Group) take a train in and out of Finnish Lapland.

500 000 + 12 000 000
Car journeys and roads are a gateway into Lapland. 500 000 people take a bus and 12 million people take a passenger car in and out of Finnish Lapland per year (2017 estimate, not including intra-regional trips, Finnish Transport Agency and accessibility project). An average of 60 buses and 16 000 passenger cars cross the national border in Lapland every day, and 60 buses and 9 000 passenger cars cross the border between Lapland and Northern Ostrobothnia (2017, Finnish Transport Agency).

Hundreds of people walk, cycle or drive between Sweden and Finnish Lapland every day – and drive between Norway and Finnish Lapland as well. The borderless border is always open for commuting, shopping, business and leisure travelling.

5 059 000
Shipping and ports are a gateway into Lapland. 5 million tonnes of goods per year (2017, Finnish Transport Agency) pass through the ports of Kemi and Tornio. In addition, ports outside the region provide transport services for Lapland.

2 850 000
Rail freight transport and railway network are a gateway into Lapland. 1.6 million tonnes of goods per year are transported by train between Finnish Lapland and the rest of the country. 1.2 million tonnes of goods, mainly round timber, are transported within Finnish Lapland. A few dozens of thousands of tonnes cross the border in Tornio. (2016 estimate, Finnish Transport Agency and accessibility project)

13 300 000
Road freight transport and roads are a gateway into Lapland. An average of 900 lorries cross the national border in Lapland every day, and 1 200 lorries cross the border between Lapland and Northern Ostrobothnia. 2.9 million tonnes of goods per year are transported between Finnish Lapland and the rest of the country by lorries. 10.4 million tonnes of goods, most soil materials, are transported within Finnish Lapland. (2017, Finnish Transport Agency and Statistics Finland)

249
Air freight and airports are a gateway into Lapland. 248 tonnes of cargo and mail per year are transported by air between Finnish Lapland and the rest of the country. Only 1 tonne of direct international freight is carried per year. (2017, Finavia)

Are the gateways to Lapland also attractive windows into Lapland?

0
Combined transport – transport chains of vehicles and containers, combining road and rail transport – is currently unavailable in Lapland.

Smoothness, reliability and cost efficiency determine how well the entire trip chain or logistics chain serves customer needs.

Good accessibility and service ability enable competitiveness and welfare in Lapland.
Lapland is located close to major volumes of freight

To which transport flows, corridors and industrial ecosystems is Lapland connected? Where should it reach out in the future?

Road 4/E75: Kevitsa concentrate transport

Road 21/E8: Norwegian fish transport

Ports in the Barents region are mainly specialized in mass shipping for local industries.
Travelling to Lapland by road, rail and air

Driving by passenger car is the most popular option. Trains and flights serve long-distance travellers. Buses are used for both short and long-distance journeys through scheduled and charter services.

An estimated 4 million overnight visitors arrive in Finnish Lapland each year, staying an estimated 10 million nights. For comparison: locals in Lapland stay at home an estimated 60 million nights per year.

Air travel in Northern Finland has increased in recent years. 2017 was a year of growth in train travel.

Winter months are the peak season for air travel into Finnish Lapland.
Corridors support business development

Logistics is one of the most significant factors determining where businesses are located – in addition to labour. Therefore, accessibility, further development of transport infrastructure and securing the availability of versatile transport services play a significant part in bringing businesses into the region.

Infrastructure is developed on several levels: the local, regional, national and corridor level, connecting regions in a larger scale through core network corridors.

The development of corridors must be seen as a consolidating effort, with complementary infrastructures coming together to support business and industrial development. Corridors also facilitate cross-border cooperation and trip and value-added chains.

Even though most EU investments in transport infrastructure are targeted at core network corridors and railway infrastructure therein, the development of corridors is much more than simply building railways.

Corridors can include roads, railways, waterways, ports, airport network, data transfer and the development of intelligent transport systems. It is essential to keep accessibility and connections as the starting point for planning and driver for development.

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Corridors also facilitate cross-border cooperation and trip and value-added chains.
Arctic strategies call for the expansion of the TEN-T network

The EU Trans-European transport network (TEN-T) consists of nine core network corridors, the core network and comprehensive network. Since approximately 90 percent of funding is targeted at core network corridors, incorporating significant Arctic transport corridors into strategic EU transport infrastructure is essential.

At the moment, two core network corridors extend to Finland: the North Sea–Baltic and the Scandinavian–Mediterranean corridor. Both come to an end on the southern coast of Finland.

Meanwhile, the Joint Communication on the EU Arctic Policy (2016) emphasizes the importance and potential of Arctic regions, especially as a source of raw materials, as a form of resource bank for the EU. There is only one way to interpret this – either there is no intention of implementing EU Arctic strategies in practice or significant pieces of transport infrastructure are missing from the TEN-T network.

Approximately 90 percent of funding is targeted at core network corridors.

In order to improve the accessibility of the Arctic region and utilize its future potential – in support of the development of the EU Arctic ecosystem and growth strategies – the TEN-T network must be expanded into the Arctic and linked up to the most essential logistics connections through the road, railway and sea transport networks as well as the airport network, to service tourism.

In practice, this will be realized by extending the aforementioned TEN-T core network corridors with the Bothnian Corridor, which is already part of the TEN-T core network, but not the core network corridors, and by expanding it further in terms of the most essential transport connections.

The expansion of the TEN-T network will support the development of the new European Arctic ecosystem and EU growth strategies.
Sea Lapland – the industrial centre of Finnish Lapland

The location of Sea Lapland along the Swedish border, as an industrial hub, presents a unique opportunity for development into a logistics node on both regional and international level. All modes of transport are available in Sea Lapland.

Reasonable investments in infrastructure would open new opportunities to utilize railways, in particular. Developing ports and deepening waterways are also important efforts for northern industries and future investments, as they contribute to a cost and energy efficient transport system.

Sea Lapland is also a logistics node from the perspective of developing the transport system as a whole. If the Arctic railway is built, it will run through Sea Lapland, the Swedish railway network will be accessed through this area, Sea Lapland can serve as a significant logistics node for New Silk Road connections into Asia, and European markets will also be accessible through all modes of transport.

The industrial structure of Sea Lapland sets a solid foundation for the development of an industrial ecosystem. Industries need efficient logistics services and accessibility. Different levels and timelines of development needs can be distinguished in improving accessibility. Ensuring the viability of existing industries requires constant improvements in logistics.

In the longer term, logistics and significant improvements to transport infrastructure may serve as the backbone and driver for the development of industrial corridors. Developments in logistics enhance existing strengths and pave the way for new success factors.

Sea Lapland is accessible to people by all modes of transport. As regards mobility, one must consider the transport needs of locals and commuters as well as accessibility for tourists and business travellers.

Even though the focus is on services within the region itself, one should also look beyond regional and national borders. At a radius of 150 kilometres from Sea Lapland, there are several airports to support accessibility and all its opportunities. Other cross-border public transport service concepts are also worth considering in developing the accessibility of Sea Lapland.

From a logistical standpoint, Sea Lapland is truly a land of opportunity.
Arctic railway – a railway of opportunities

The Arctic railway is an international cooperation and network project, grasping future opportunities and taking Finland and Lapland to a new level in terms of attractiveness and accessibility.

The Arctic railway is not merely a railway or transport project.

It is a railway of opportunities, whose potential realization hinges on the combined effect of several elements. This wide perspective is necessary in order to tap into its benefits – while also ensuring sustainability and profitability.

The feasibility and profitability of the Arctic railway are primarily based on business needs and freight transport prospects. However, it also opens new opportunities for passenger transport and increasing tourism in Lapland and Arctic Europe.

Theses for the realization of the Arctic railway

The Arctic railway is
1. a geopolitical and geologistics project for Finland
2. a project that responds to both business needs and people’s accessibility needs
3. a project that will produce a service platform and boost economic activity
4. an Arctic economy project, implementing the Arctic policy of the EU
5. an international transport network project
6. a European TEN-T project, an Arctic link to the core network
7. a regional structure and land use development project
8. a project that will change and strengthen the transport system and railways
9. a sustainable, responsible and acceptable cooperation project
10. a project for the future, whose time is now
Customer, service and accessibility – Synchronizing mobility as a whole in Lapland requires cooperation

✓ Check these!

Synchronizing the system as a whole

✓ What kind of mobility services do locals and tourists want in Lapland? What are they prepared to pay for?

✓ What should be included in the service? Which destinations and services could or should be combined?

✓ How should different stages of the journey be chained and synchronized from the customer’s perspective? What does this mean physically, functionally and in terms of data?

✓ Where can a customer find information on connections and accessibility? Where can they make reservations or buy services?

✓ What works in-season? What works off-season?

Compiled, up-to-date information on existing and upcoming services

✓ Easily readable timetables, clear information on transit connections and trip chains

✓ Information on how to book and pay for services – and instructions in case the service must be pre-booked

✓ Real-time journey planners for public transport and, if necessary, for other services

✓ Information that is easy to find, understand and take in without much local knowledge

✓ All information and services available in at least Finnish (in Finnish Lapland) and English

✓ Information that is available and connectable to various operators, marketing and supply channels and systems

Synchronizing timetables

✓ Customer needs and well-functioning connections as the starting point

✓ Which nodes and what kind of demand do they serve? Flights, trains, buses, feeder traffic, other services

✓ What defines, what adapts?

✓ How to proceed when timetables change? How to proceed when a flight, train or bus is delayed?

Functionality of infrastructure and arrangements in transport nodes

✓ Smooth, safe and easily identifiable access, connections, layout and infrastructure

✓ Connections between airport, town centre and tourist destinations

✓ Easily noticeable and understandable signposts and guides

✓ A manned Information desk, where a customer is taken care of

1. Ease and reliability from the customer’s perspective

2. Lowering and eliminating boundaries between services

3. Supply increases demand

4. Utilizing opportunities
Future scenario of freight transport flows 2040: Finland and Lapland are connected to development

Starting point
1. Industrial structures in Lapland are developing and strengthening.
2. Lapland is connected to several major development trends, such as transport through the Northern Sea Route, the development of the New Silk Road and business growth in Northwest Russia.
3. Finnish Lapland is an active player at the centre of the Barents and Arctic region.

Cornerstones of development
1. The industrial ecosystem of Kemi-Tornio region is still developing and expanding into a distinct industrial growth corridor towards Rovaniemi, Kemijärvi and Sodankylä, on the one hand, and Torne Valley, on the other.
2. Cross-border growth corridors will arise through the development of transport infrastructure and industrial structures.
3. The European TEN-T network of core network corridors has expanded to the Arctic through the Bothnian Corridor, and it has been extended further northward.

Road transport will continue to be the most important mode of transport for businesses in Finnish Lapland. The main road network has been developed into intelligent corridors, which enable increased efficiency in road transport. HCT trucks operate in Lapland, and chains of trucks can be utilized. Road transport corridors serve across borders in all directions.

The ports of Kemi and Tornio form a twin port with TEN-T status. Port of Kemi waterway has been deepened to at least 12.5 metres to serve the transport needs of industries in Lapland.

In addition to physical mobility, telecommunications connect Lapland to the rest of the world comprehensively and constantly. The Arctic data cable that runs through Finnish Lapland links the region to the centre of the world of data.

By rail, there are smooth connections and markets from Finnish Lapland through Sweden and the Baltics to Central Europe. There is a railway connection to the Kirkenes Arctic sea transport hub. The Vartius border crossing point provides a connection to Northwest Russia towards Arkhangelsk and onwards along the Silk Road to China and the Asian market.

The railway connection between Finland and Sweden with all the necessary logistics services works well, and it is actively used by industries.

Lapland is located at the centre of a growing business region and future markets, accessible from different regions and well-connected with markets and supply areas.
**Systems approach to logistics and transport system boosts development**

The development of the transport system and infrastructure must serve the accessibility of Lapland.

Logistics is a key factor for businesses deciding on location. Lapland, the northern logistics centre of the EU, should be accessible through different modes of transport. In addition, cross-border value-added and service chains must function efficiently.

The development of accessibility, the logistics system and the transport system calls for a holistic approach, systems approach, identifying existing operating principles while also looking into the future.

This requires broader insight and planning development measures accordingly, with the national vision of utilizing potential in the region and supporting future developments in mind.

Developments in infrastructure cannot be half-baked, with investments that are not seen through to a functioning system. Good connections would enable the development of the region and its businesses.

Developments in infrastructure and location, neighbouring Sweden, Norway and Russia. Each of these neighbours has great investment plans and some development processes already underway in order to tap into the opportunities of the Arctic and develop their community structure. Lapland is located at the heart of this developing Arctic region, generating interest in many different industries.

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Good accessibility is one of the four strategic choices of the Finnish Lapland regional strategic programme. In order to promote thinking of ’Lapland at the centre of the world’, it is essential to connect to various developing global transport and logistics systems.

For Finnish Lapland, accessibility within Finland, from the southern coast, is not enough. Cross-border connections and coordinating the infrastructure and system-level development with neighbouring countries are particularly important. At its best, the development of accessibility may contribute to the creation and expansion of cross-border development zones and corridors.

**Good accessibility is a strategic choice for Lapland.**

Lapland’s location in the middle of the Barents region enables and, in fact, requires us to identify the most important development trends in surrounding areas. We have to choose the developments we want to participate in, and decide to what extent to get involved.