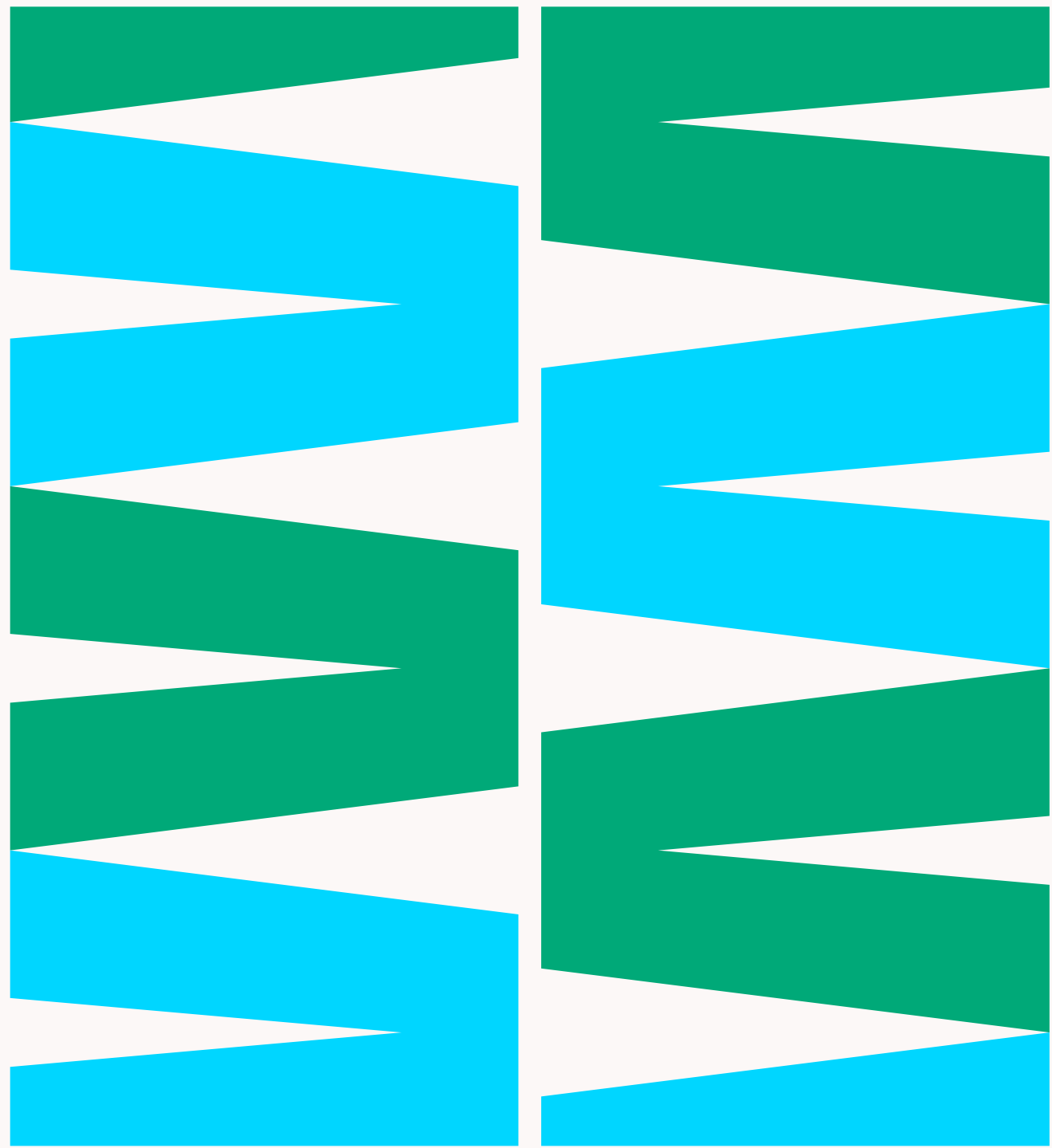




Railway freight transport on East Railway and Rail Baltica

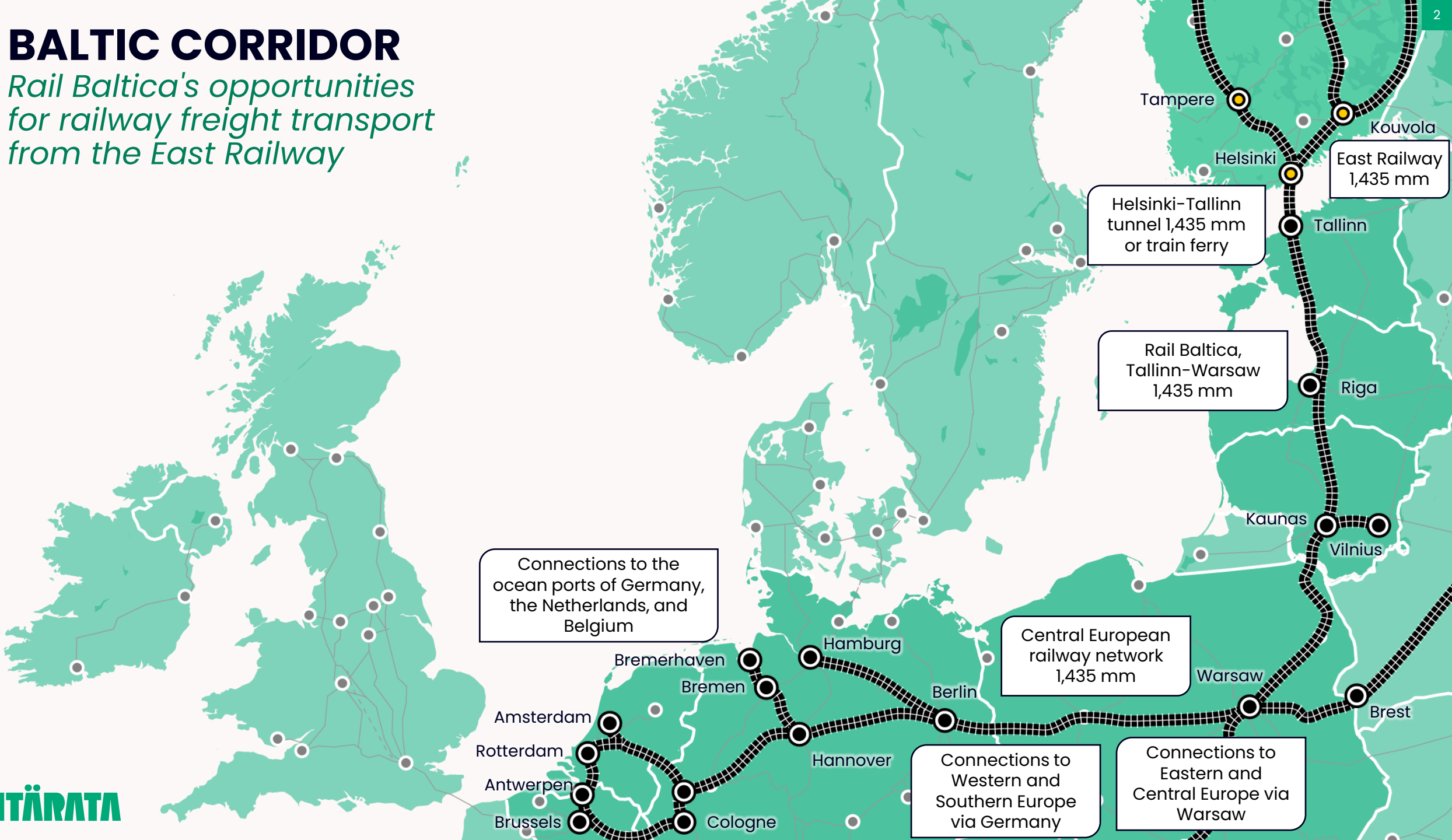
Possibilities and prerequisites

English summary, March 2025



BALTIC CORRIDOR

Rail Baltica's opportunities for railway freight transport from the East Railway



About the study

Itärata Oy

Itärata Oy (East Railway) is responsible for the design of a railway enabling fast passenger train traffic between Helsinki, Porvoo and Kouvola, from the preliminary planning phase to construction readiness.

Background

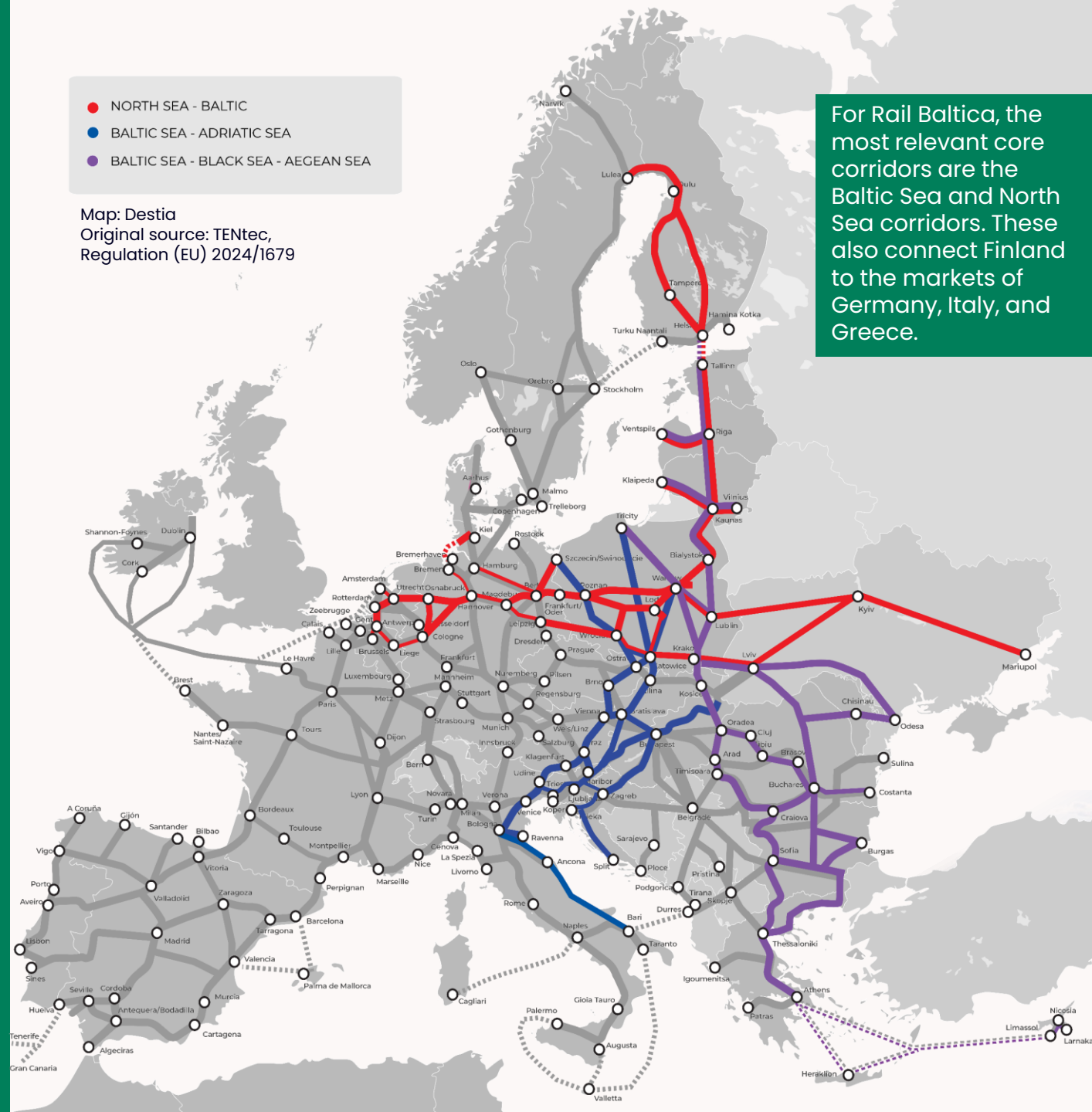
Rail Baltica, a connection between Tallinn and Warsaw, will be completed on the other side of the Gulf of Finland at the turn of the decade. In Finland, an active discussion has arisen about the development of international railway transport and the related fixed connections.

Finland must present its own view to the EU on the types of transport corridors and concepts that can strengthen Finland's international competitiveness. Before this, a comprehensive analysis on transport potential is required.

Objective of the study

The goal is to identify the logistical opportunities Rail Baltica offers to Finland and the Eastern Railway. This study examines various transport chains, Rail Baltica's market area, Finnish transport demand, bottlenecks in the transport corridor, and logistical service models.

The outcomes of the study serve the design process of East Railway and provide facts for political discussion about the potential of the Baltic corridor for Finland.



For Rail Baltica, the most relevant core corridors are the Baltic Sea and North Sea corridors. These also connect Finland to the markets of Germany, Italy, and Greece.

Theoretical example, travel times for a freight train between Kouvola and Berlin

Estimated transportation times via different fixed connections

Route	Travel time by freight train
The Northern route Kouvola-Tornio-Narvik-Hamburg-Berlin	approx. 72 hours – incl. shipping (Narvik-Hamburg)
The Kvarken route Kouvola-Vaasa-Umeå-Malmö-Berlin	approx. 36 hours
The Stockholm route Kouvola-Turku-Stockholm-Berlin	approx. 27 hours
The Baltic route Kouvola-Helsinki-Tallinn-Berlin	approx. 26 hours

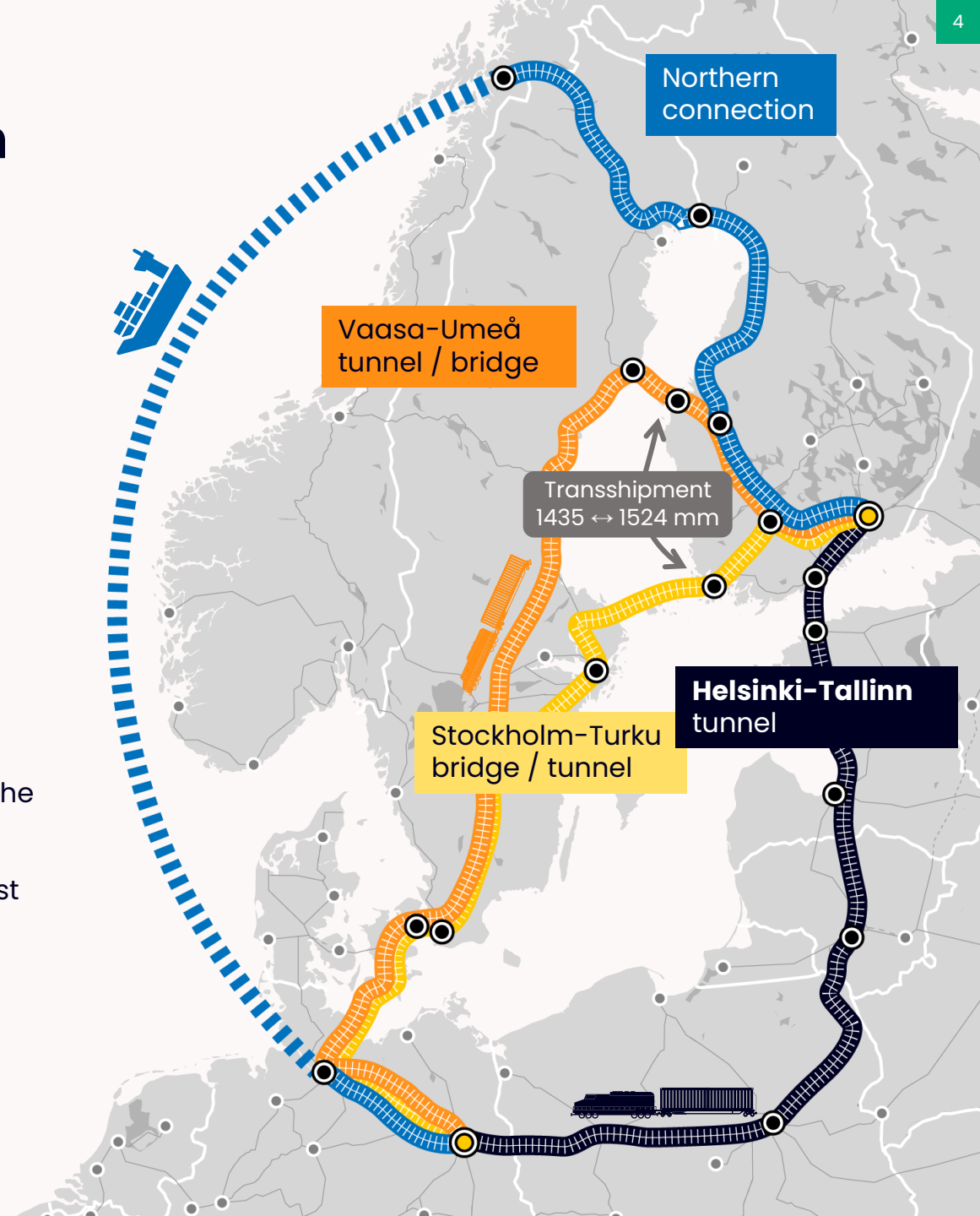
Assumption: the travel speed is a consistent 70 kph for a freight train and 35 kph for a cargo ship. Transshipment on the Kvarken and Stockholm routes (Vaasa / Turku) is assumed to take 2 hours.

The Confederation of Finnish Industries emphasizes in its [report on international transport connections](#) that Finland should consider new fixed connections across the Baltic Sea because of changes in geoeconomics.

This report focuses on assessing the potential of Rail Baltica for Finland and the East Railway.

Assumptions used in the calculations

- Fehmarn Belt tunnel has been completed
- East Railway and all the fixed connections have been built to 1,435 mm gauge
- All other tracks in Finland still have the current 1,524 mm gauge



Why should Finland connect to the Baltic rail corridor?

Freight traffic

- The Baltic corridor is one of the most important and fastest-growing transport routes for Finland's foreign trade.
 - A quarter of Finland's truck and trailer transport uses the Baltic corridor
 - A total of 11.4 million tons of goods in 2023
 - Trucks and semi-trailers **approx. 5.5 million tons**
 - 5.9 million tons** of other cargo, mainly dry bulk
 - During the 2000s, the transport volume between Finland and Estonia has increased 2.5-fold, and the amount of goods transported by trucks has increased as much as 7-fold.
- Certain transport flows from the Baltic Sea basin could also be transferred to rail through the Baltics.

The magnitude of Finland's transport corridors

NORTHERN

14 % of T&T's
0 % of containers
0 % of bulk

Finland's foreign trade

85.2 mil. t

BOTHNIAN ARC

10 % of T&T's
0,3 % of containers
6 % of bulk

KVARKEN

1 % of T&T's
0 % of containers
2 % of bulk

SOUTHERN SWEDEN

15 % of T&T's
0 % of containers
4 % of bulk

ATLANTIC / WEST

7 % of T&T's
90 % of containers
71 % of bulk

UNDER REVIEW

BALTIC SEA BASIN

25 % of T&T's
7 % of containers
7 % of bulk

BALTIC (11.4 Mt)

24 % of T&T's
2 % of containers
10 % of bulk

*T&T's = trucks and trailers

Sources: Eurostat, Customs

Southern transport corridors of Sweden

The network of inland terminals connected to the port of Gothenburg

- Over 20 intermodal terminals as well as container and trailer train connections to Gothenburg

Gothenburg's maritime connections

- 75 international destinations without transshipment
- Feeder traffic to Germany, the Netherlands, and Belgium

Direct railway connection to Europe via Denmark

- 10-20 daily freight train connections to Europe
- ~5 % of Sweden's foreign trade by train through the southern corridor

Train ferry connection Trelleborg-Rostock

- Capacity 100 000 wagons per year
– utilization rate ~20 %

The Fehmarn Belt Tunnel, which will be completed in 2029, will open a new direct railway connection

- Reduces the transport time of freight trains by two hours

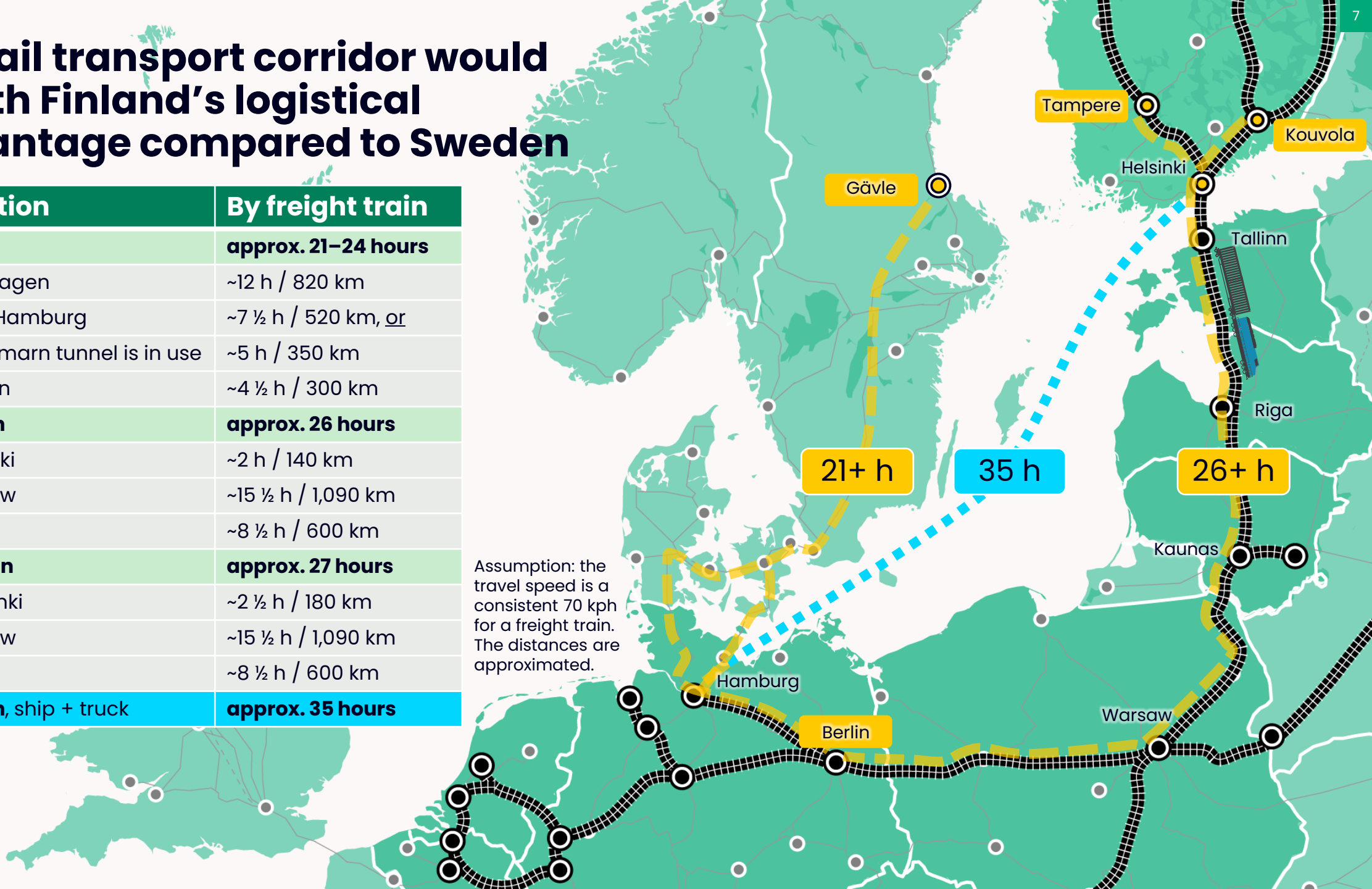
In Sweden about **5 % of all foreign freight traffic** is transported by train through the Öresund connection between Sweden and Denmark



A new rail transport corridor would help with Finland's logistical disadvantage compared to Sweden

Route / section	By freight train
Gävle–Berlin	approx. 21–24 hours
Gävle–Copenhagen	~12 h / 820 km
Copenhagen–Hamburg	~7 ½ h / 520 km, <u>or</u>
... when the Fehmarn tunnel is in use	~5 h / 350 km
Hamburg–Berlin	~4 ½ h / 300 km
Kouvola–Berlin	approx. 26 hours
Kouvola–Helsinki	~2 h / 140 km
Helsinki–Warsaw	~15 ½ h / 1,090 km
Warsaw–Berlin	~8 ½ h / 600 km
Tampere–Berlin	approx. 27 hours
Tampere–Helsinki	~2 ½ h / 180 km
Helsinki–Warsaw	~15 ½ h / 1,090 km
Warsaw–Berlin	~8 ½ h / 600 km
Kouvola–Berlin, ship + truck	approx. 35 hours

Assumption: the travel speed is a consistent 70 kph for a freight train. The distances are approximated.

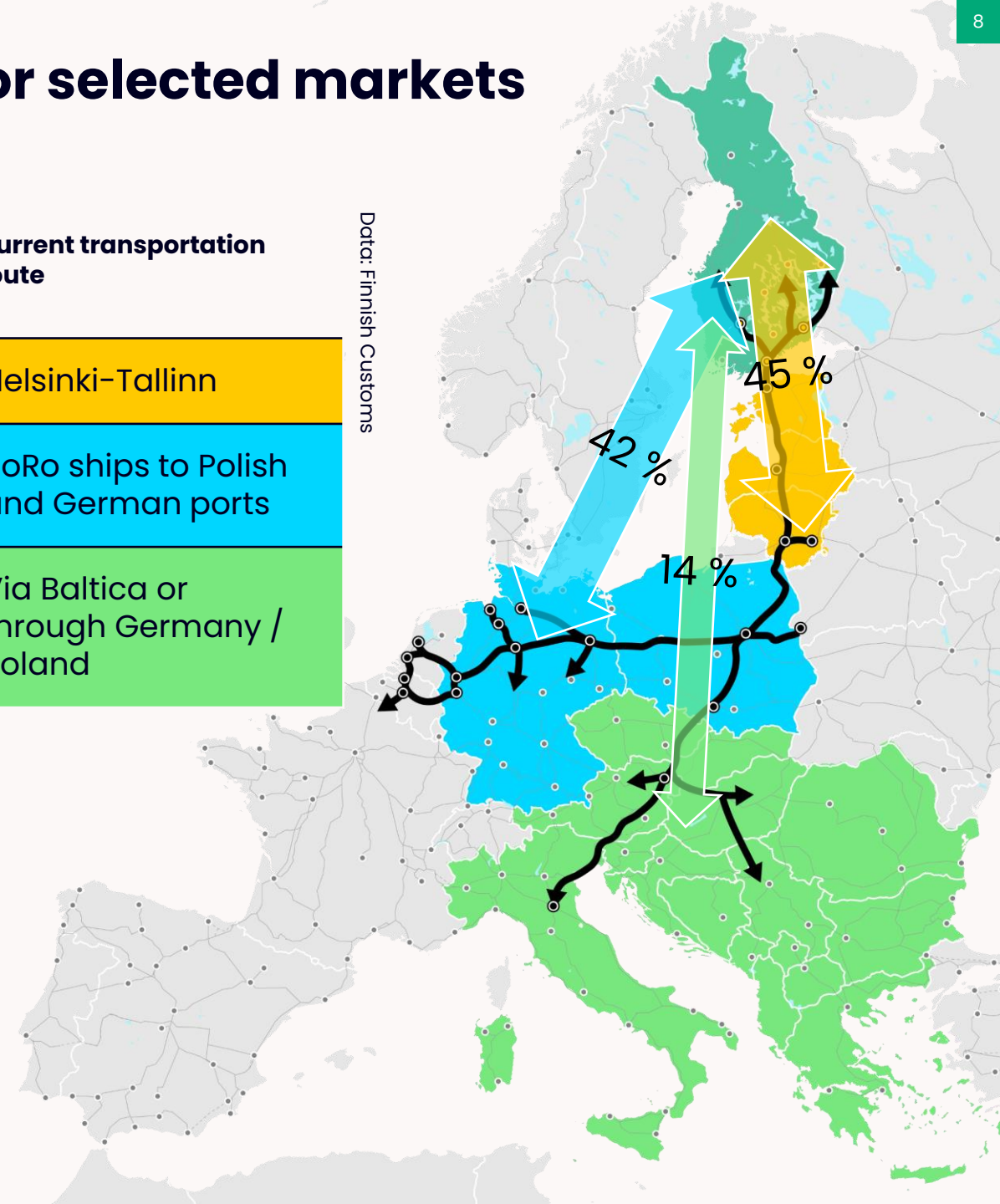


Finland's current directions of freight for selected markets

Baltics, Poland, Germany, and Southeastern Europe

Market area	Share (%) 2023 import + export relative to the total of these three areas	Tons 2023 import + export	Suitable for train transport, %	Current transportation route
Baltics	45 %	9,422,000	max. 90 %	Helsinki-Tallinn
Poland and Germany	42 %	8,812,000	max. 80 %	RoRo ships to Polish and German ports
Southeast Europe	14 %	2,935,000	max. 80 %	Via Baltica or through Germany / Poland

Data: Finnish Customs



Improving transportation connections would promote trade between Finland and Southeast Europe

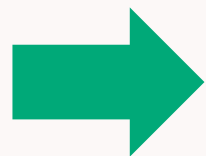
- The goods transported to the presented market areas are mostly suitable for rail transport.
- The large number of goods suitable for rail transport means that even a small modal shift can mean a large tonnage for the railways.

Examples of industries and product groups

- Heavy industry: forest, metal, and construction industries with covered and open wagons → moderate potential
- Unit transport: trailers and containers on flat wagons → shift from RoRo traffic
- In the future, e.g., hydrogen derivatives

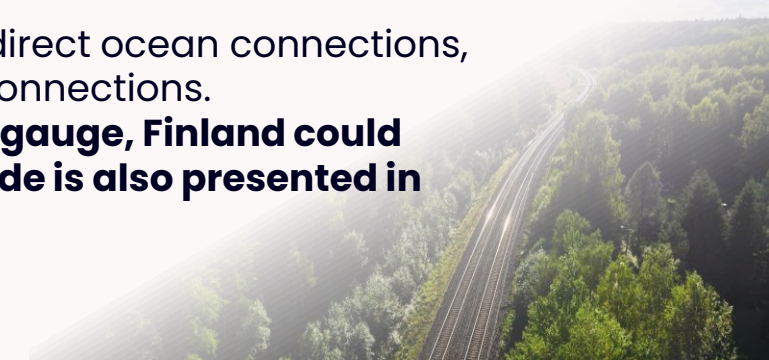
Summary of Rail Baltica's transport demand estimates from and to Finland

	Rail Baltica report (NB! Without the Helsinki-Tallinn tunnel)	FinEst Link report	Comparison of Sweden's international train transport to Finland (5 % of foreign freight traffic)
Total volume Helsinki-Tallinn in both directions	0.375 million tonnes / year	4.2 million tonnes / year	4.3 million tonnes / year
Number of trains (20 wagons per train) across/under the Gulf of Finland in both directions	1 train every other day	14 trains a day	14 trains a day
Percentage of transports to/from the East Railway	25 %	25 %	25 %
Freight trains on the East Railway per day, total in both directions	2 trains a week	3-4 trains a day	3-4 trains a day



Sweden is a good reference country for Finland, as Sweden already has direct ocean connections, RoRo connections, fixed rail and road connections, as well as train ferry connections.

If Finland were to have a direct rail connection to Europe with European gauge, Finland could realistically transport 5 % of its foreign trade by rail. The same magnitude is also presented in the FinEst Link report.



Traffic options for the Baltic corridor from the East Railway

Option 0+: Current sea transport across the Gulf of Finland



Option 1: Train ferry connection

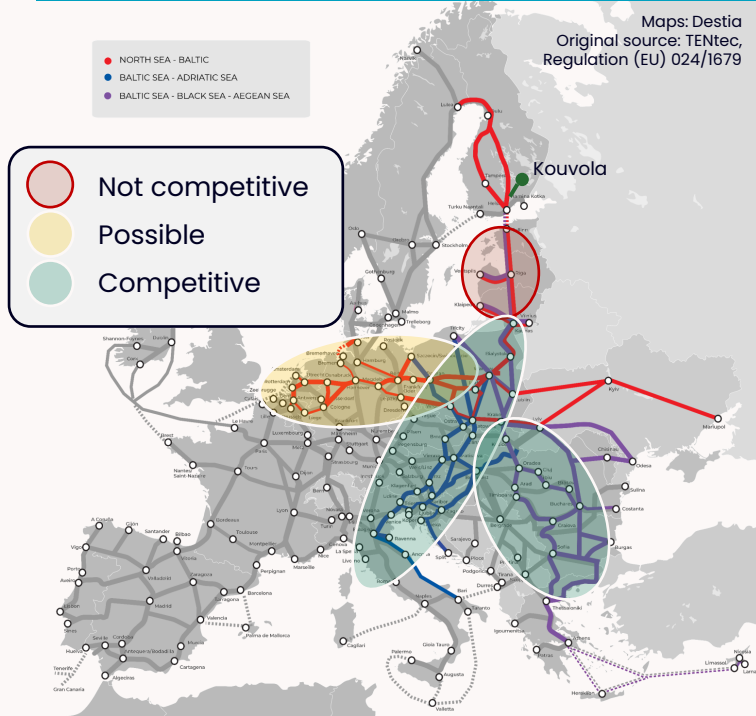


Option 2: Direct tunnel connection



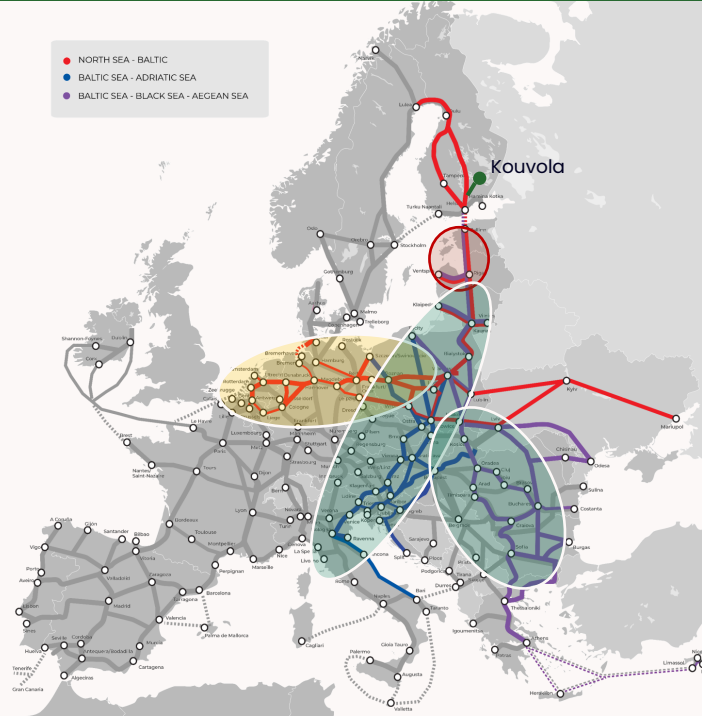
The potential of railway transport corridors in the options

Option 0+: Current sea transport across the Gulf of Finland



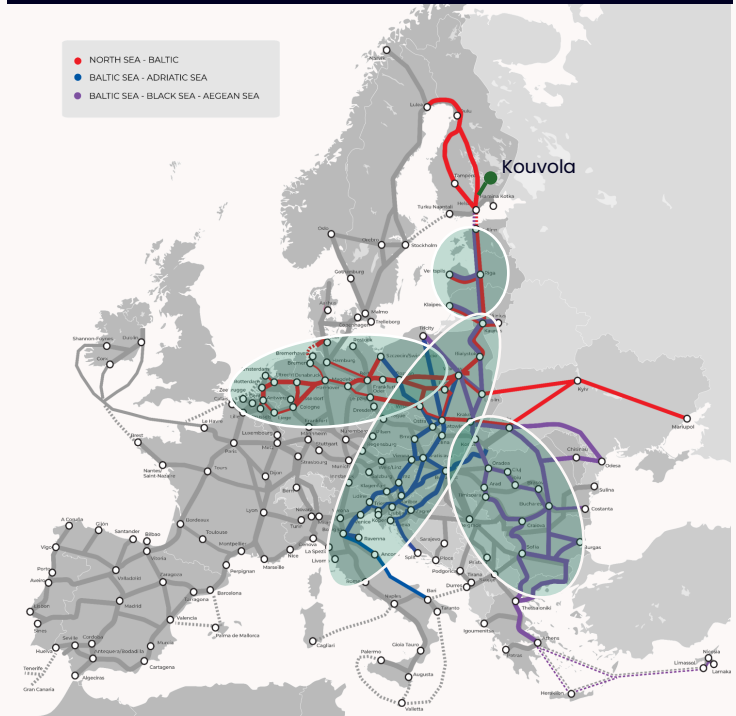
- Estonia and Latvia are too close to Muuga for railway transport
- South of Latvia, the competitiveness of rail transport is good (over 300 km from the port)
- Maritime connections between Finland, Northern Germany and Poland have such a high service level that rail transport can't compete in most cases
- Routes towards Italy and Greece are the most competitive because alternative routes to Mediterranean are long or complex

Option 1: Train ferry connection across the Gulf of Finland



- The Kouvola RR terminal serves as a starting point, improving the competitiveness of rail transport slightly
- A train ferry is still more expensive to operate than a RoRo vessel
- Starting from the Latvian market, the train ferry connection can be economically competitive
- The directions of the Adriatic Sea and the Black Sea remain the most competitive

Option 2: Direct tunnel connection

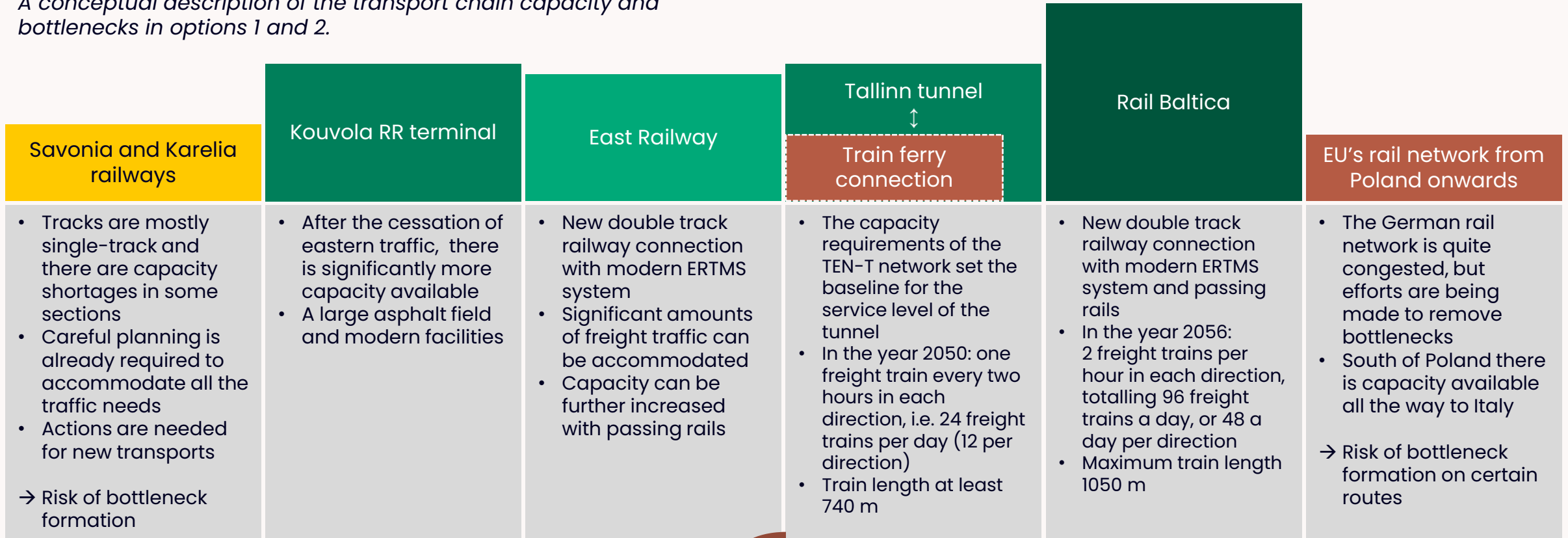


- A direct tunnel connection is competitive already when entering the Estonian market
- Such a connection could also compete with maritime transport in the Baltic Sea region
- Best railway freight transport possibilities of the options



Rail corridor capacity and bottlenecks

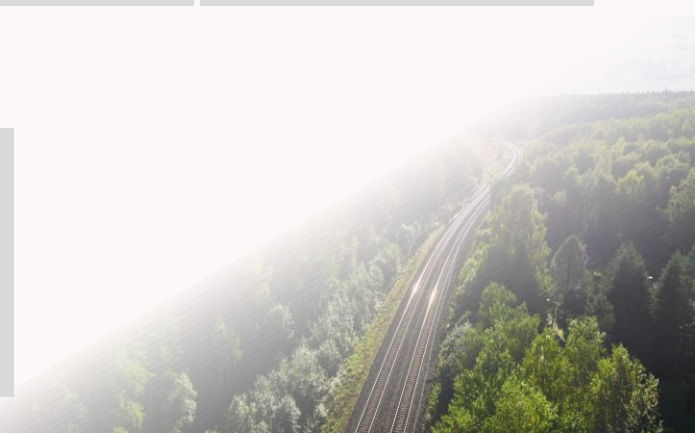
A conceptual description of the transport chain capacity and bottlenecks in options 1 and 2.



The most likely bottlenecks are the current Savonia and Karelia railways in Finland, as well as connections from Poland further into Europe.
The train ferry connection can be a bottleneck if there is a high demand for traffic.

Option 1: Train ferry connection

- The capacity of one train ferry is 2,000–2,500 rail meters per day in one direction, or the equivalent of 3–4 freight trains
 - Bottlenecks also include the loading and unloading capacity of the ports
- Clear bottleneck risk



STRATEGIC MESSAGES

Rail Baltica will be completed in 2030, connecting the Baltic countries to the European rail network (1,435 mm)

- Single track in 2030
 - Double track in 2036
 - Full capacity in 2056
 - The railway will be built mainly with EU funding
- **A new railway connection is being built near Finland's southern border. A tunnel or train ferry connection would link Finland directly to the European railway transport markets.**

The EU wants to connect European capitals to each other with high-speed trains

- Funding is available for 1,435 mm railway connections
 - The Helsinki-Tallinn tunnel would help to reach this goal
- **Now is the right time to give a clear message on how Finland wants to connect to the EU rail network and thus secure significant EU funding for infrastructure projects for Finland.**

The Baltic corridor is very important for Finland's foreign trade

- Total volume 11.4 million tons (2023)
 - A quarter of Finland's truck and trailer transport uses the Baltic corridor
 - The amount of goods transported by trucks between Finland and Estonia has increased sevenfold in the 2000s
- **For Finland, it is a connection that brings economic benefits, which could be further improved by direct railway connections.**

Economic competitiveness of Eastern Finland can be improved by creating a connection to Rail Baltica via the East Railway

- A train ferry would streamline the transport chain and improve its profitability towards Eastern and Southern Europe, and the Helsinki-Tallinn tunnel would more broadly serve the Baltic and German markets.
 - The potential for international freight transport on the Eastern Railway is 3-4 freight trains per day.
- **The inland "spurs" of European gauge increase the benefits Finland receives from Rail Baltica.**