



Rail Baltica Muuga Multimodal Terminal Study:
preview of the results
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What was done?

Desk research

More than 40 reports and research papers analyzed

Quantitative data

AECOM Rail Baltica study, EY study, national statistics databases, ETISplus database, OECD database etc.

Qualitative data

107 interviews conducted

Modelling of trade flows

In-depth quantitative modeling based on cost of travel, value of time and travel constraints

Technical analysis and CBA

Site selection, capacity calculations, technical analysis, environmental analysis, CBA, drawings for the two selected alternatives

Companies are interested in alternative connections to their clients.



The competitiveness of the rail sector will increase gradually. Railway potential increases with time and further away from major Baltic Sea ports.

- Current situation: Rail transportation is significantly slower (1:0,5 or more) and more costly than road and maritime transportation (1:0,6). Current situation is as „grounding an airplane on each state border“.
- 2025-2035 rail vs road: rail transport is faster (approx. 1:2), rail transport is less costly (approx. 0.9:1). Rail approx 2x faster. Assuming 4th railway package is in full effect.
- 2025-2035 rail vs sea: rail transport faster (approx. 1:2.7), rail transport is more costly (approx. 1:0.8). Rail approx 2x faster. Assuming 4th railway package is in full effect.
- 2035-2055 rail vs road cost equal. Rail beats road 1:1,4). Sea is cheaper (1:0,8) but rail is faster (1:1,8).



COMPETITION BORDER: SEA VS RAIL

map by Global Research

TRENDS TO OBSERVE: Rapid rise of intermodality, containerization and trailerization

- **Trailerization** - this phenomenon entails the increase of semi-trailer trucks on rail for longer distances due to environmental and policy regulations. In addition to the existing share RB will capture additional FIN-GER traffic.

2017 RoRo North-South:

1. Helsinki-Estonia 330 000

2. Helsinki-Germany 165 000

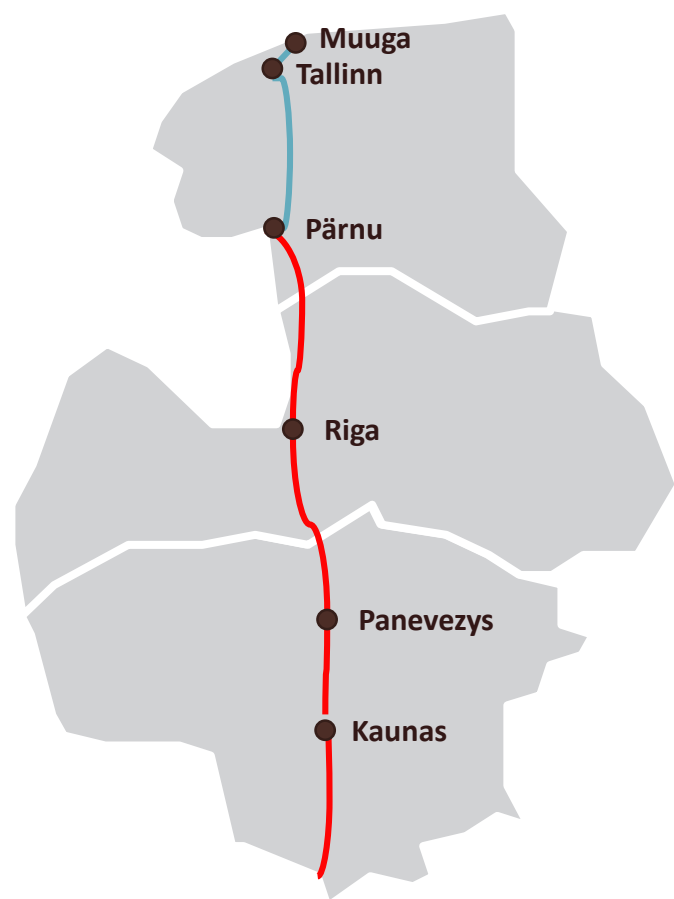
3. Hanko-Germany 100 000

4. Hanko-Poland 25 000

----- RO RO Helsinki-Germany+Helsinki-Poland 290 000 -----

- **Containerization** - we anticipate an increased use of containers at the expense of other freight types. In particular, dry bulk volume is estimated to decrease annually by 1% in 2025-2040 and 3% in 2040-2055, while the volume of break bulk is expected to drop by 2% for the whole forecast period. This subtracted cargo would then be carried using containers.

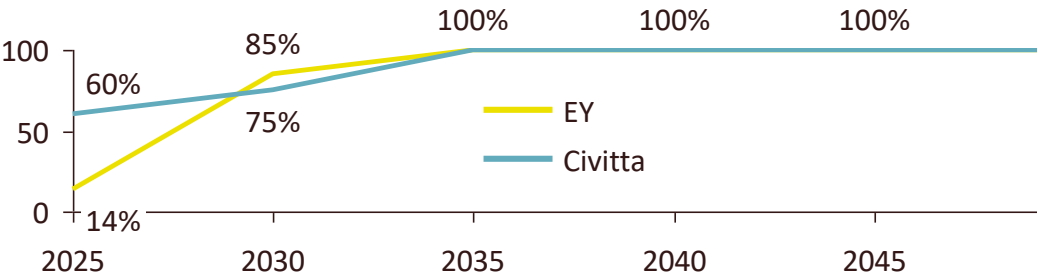
We are slightly more optimistic when it comes to the Finnish share on Rail Baltica



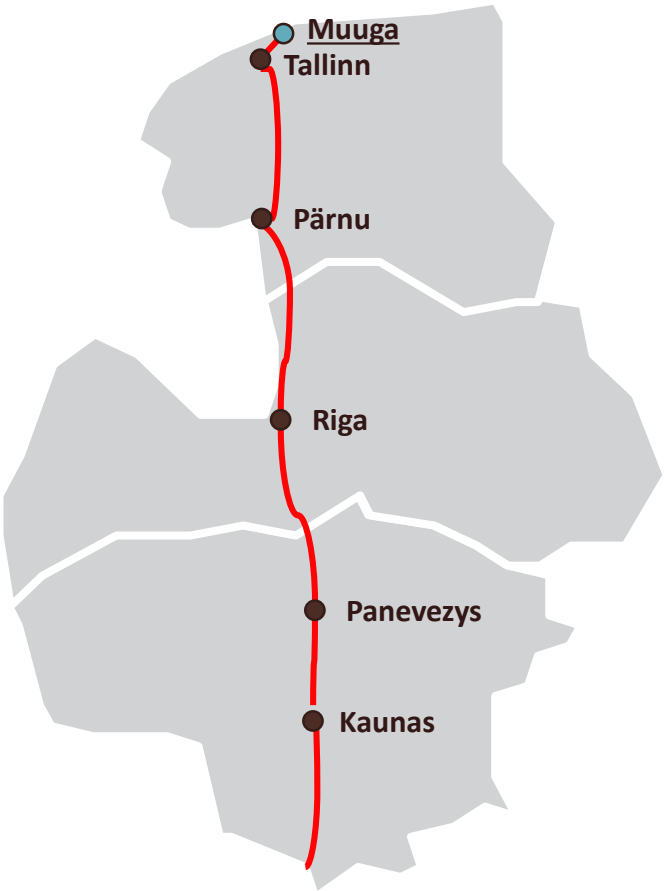
Total freight flows along the RB 1435 mm Estonian railway sections, gross metric t (mil), both directions, realistic scenario

Pärnu – Tallinn (Lagedi)					
	2025	2030	2035	2040	2045
	4.6	6.1	8.7	8.9	9.2
EY study* (as reported)	0.7	4.7	5.8	n/a	6.5
EY study* (with uptake assumption)	3.0	4.1	5.8	n/a	6.5

Comparison of market uptake assumptions, percentage

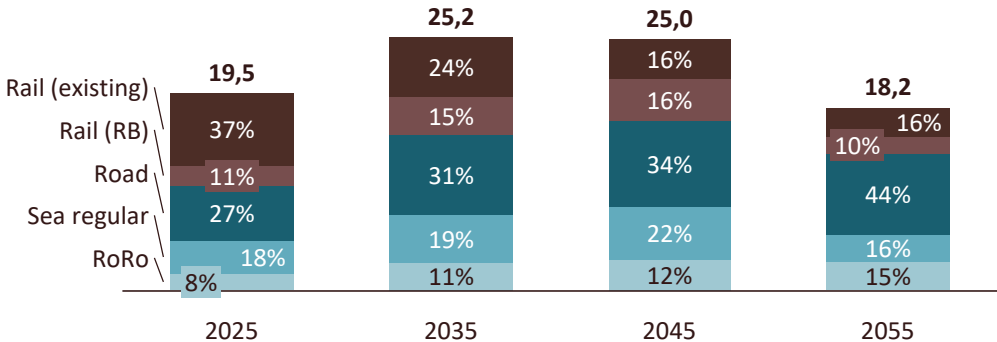


Muuga Harbour as a whole will benefit from Rail Baltica. Additional benefits also occur with E-W-E and Far-East cargo

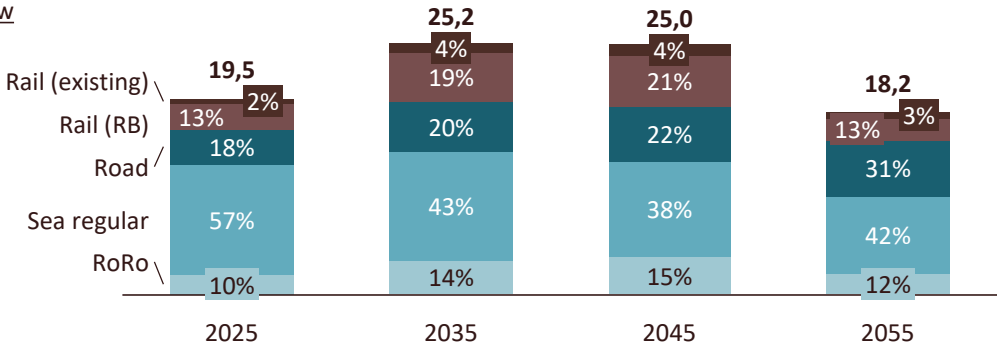


Total freight flows passing through Muuga Harbour, million tons, realistic scenario, different transport modes, inbound/outbound specific with tunnel influence

Inbound flow



Outbound flow



New corridor means new business (N-S-N)

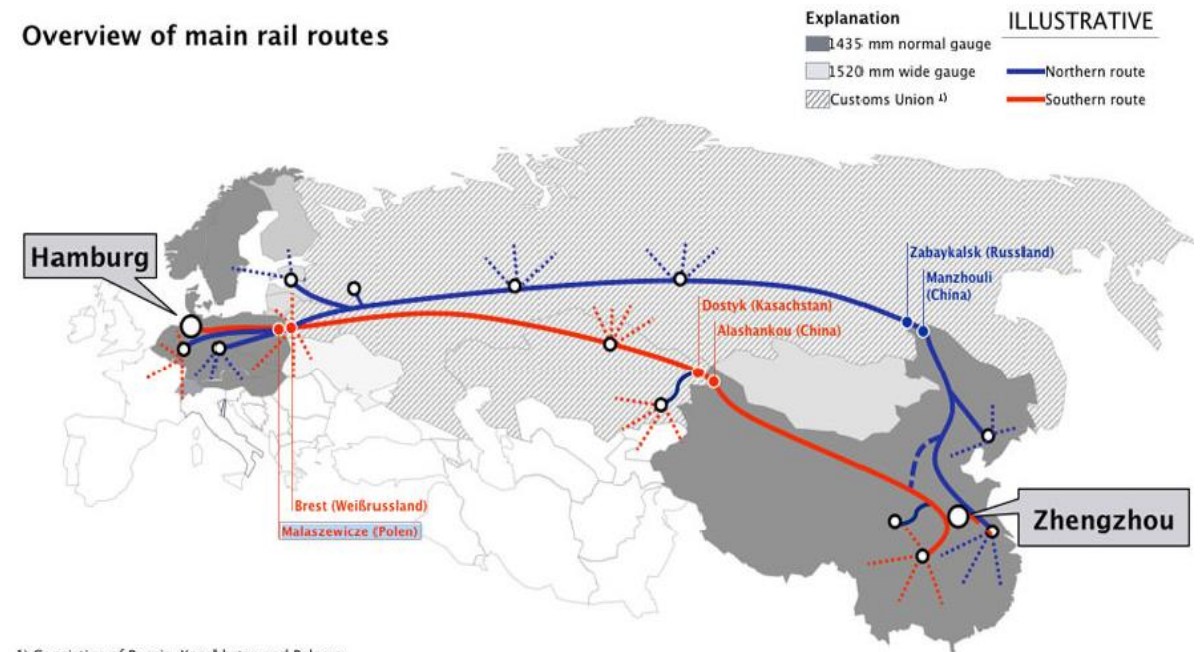
- RB will benefit from **Adriatic Corridor**: Port of Trieste and port of Koper shorten significantly travel time from Turkey, Middle-East and even from India and China. Today: Koper-Wroclav (PL) 2 trains per week, Koper – Czech Republic 4 trains per week, Koper-Germany 5 trains per week etc. Successful pilot of a Fresh Food Corridor reduced fresh food transportation to Scandinavia up to 5-6 days.
- RB's N-S-N potential lies in connecting **inland industrial areas of Europe**. Southern Poland, Czech Republic (Peugeot, Jaguar...) DAIMLER Uusikaupunki already now 500 units per week between EST-FIN
- **Rapid increase of intermodal Turkish cargo towards Finland** through Trieste and Ostrava. Add cargo on the way (Austria, Poland etc).
- **N-S-N traffic on RB for Southern Germany locations**. Less competition with the ports. Considerable trading partners located in Southern Germany.
- N-S-N traffic for greater St Petersburg area. Great N-S-N potential there as well.



Far East Cargo – Are you kidding me?

- Majority of current rail cargo between China and Europe is routed via Brest /Malaszewicze (Poland). Inter Europe freight trains travel at an average speed of just 350-400 km per day. Brest to London takes 5-7 days via existing rail corridors (due to traffic, country authority change)
- Connection via Muuga Port, Estonia for Nordic & UK/Ireland destinations 14-34 percent reduction on transport time, helps to avoid feeder bottlenecks
- Connection via Estonia will make more use of the Trans-Siberia corridor, which at 1,200 km per day is faster than the 800 km per day routing via Kazakhstan (saving an average of 1 day per trip)
- No rail gauge change at the Russian-Estonian border saving transport time and cost compared with routing via Brest (note: Gdansk extension 1520 coming soon)
- Fast growing rail freight volume for East-West transport to and from the Baltic countries, Scandinavia and UK/Ireland targeted for transit via Estonia (*research on medium-high value goods, source: China Customs Authority*)

Overview of main rail routes



Our estimate (TEU):

2020	na
2025	50 000
2030	100 000

Private entities benchmark(TEU):

50 000
100 000
230 000



Profiling the technical solution for the Muuga Multimodal Terminal

- Minimization of transportation costs (transshipment costs reduce competitiveness): dryport vs in port solution. Our analysis result: go to the port. Dryport option still open for hinterland cargo where no synergies with the port occur + the tunnel scenario (no point bringing this cargo to the port).
- Spatial and environmental constraints. In total 6 sites were analyzed. No critical issues with the two selected sites. Others had issues.
- Integrity analysis of the existing 1520 mm rail network. Our recommendation was “harm as little as possible“. Need to find synergies and new business options.
- Business plan. Continue with the landlord type of business model.
- Build the connecting infrastructure and connect as many stakeholders as possible. The market will do the rest.
- CBA. Cheaper investment cost vs cheaper operational cost.
- Phasing the investment into 3 phases depending on the cargo flow.



Competition for the RB cargo has already started !

