

# **Rail Baltica Global Project Cost-Benefit Analysis**

24 April 2017



# AGENDA

1.

What answers does the CBA provide and how they were prepared?

2.

What is Rail Baltica?

3.

What benefits will Rail Baltica bring?

4.

Rail Baltica – more than rail infrastructure

5.

Conclusive remarks

**What answers does the CBA provide and how they were prepared?**



# To what questions the CBA does and does not provide answers?

Goal of the CBA (ToR):

Analyse the economic basis for the Project

**THEREFORE**

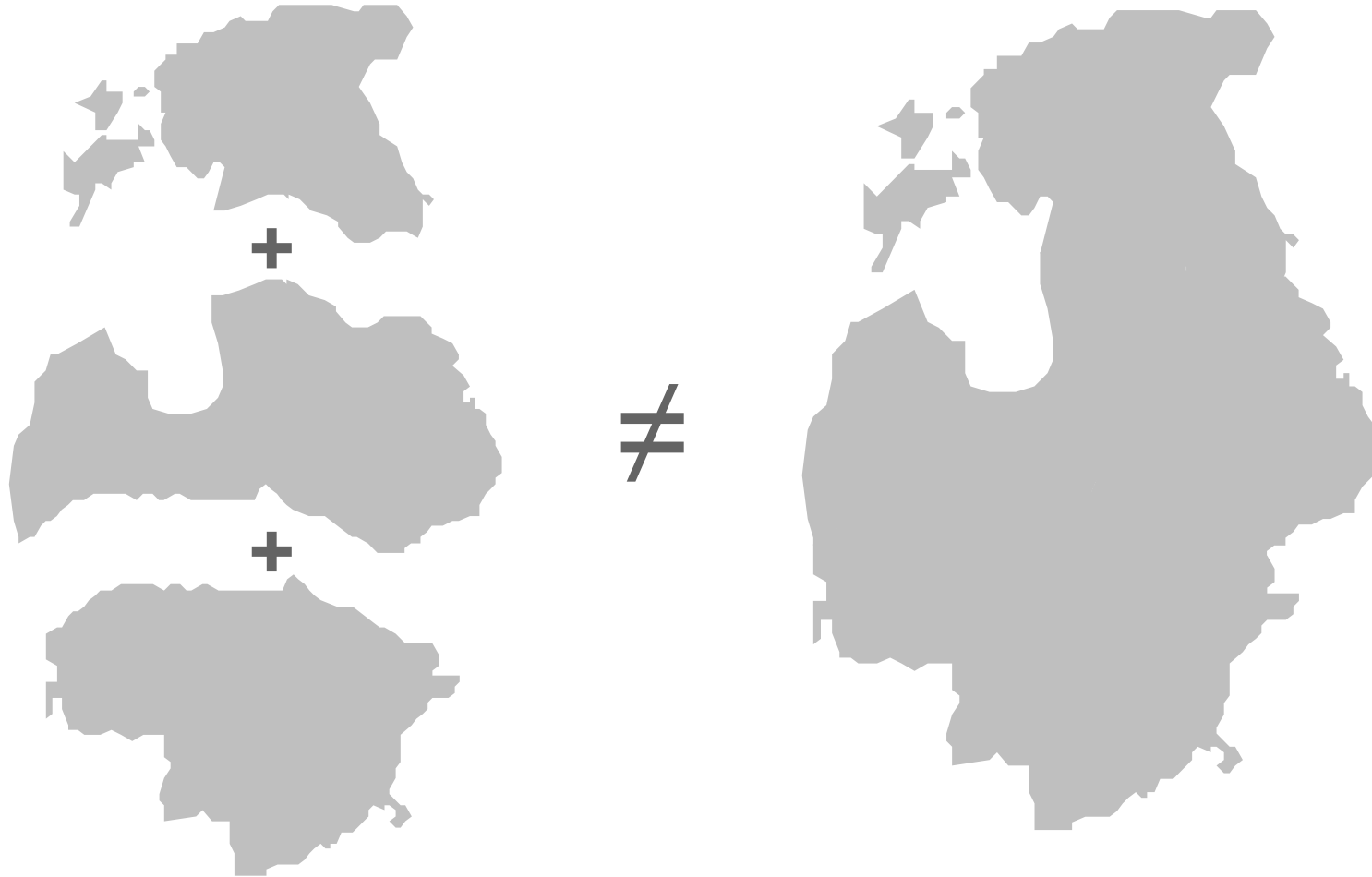
## ANSWERS

- ▶ Is the project viable
  - ▶ Financially
  - ▶ Economically
- ▶ Is the EU funding required?
  - ▶ what is the amount of the EU funding?
- ▶ Is the infrastructure manager financially sustainable?
- ▶ What are the socio-economic benefits?

## NO ANSWERS

- ▶ Should Rail Baltica be constructed?
- ▶ Is this the optimal route?
- ▶ Are lower speeds feasible option?
- ▶ Is this the most profitable investment for the national budgets?
- ▶ Will there be discounts for frequent travellers?

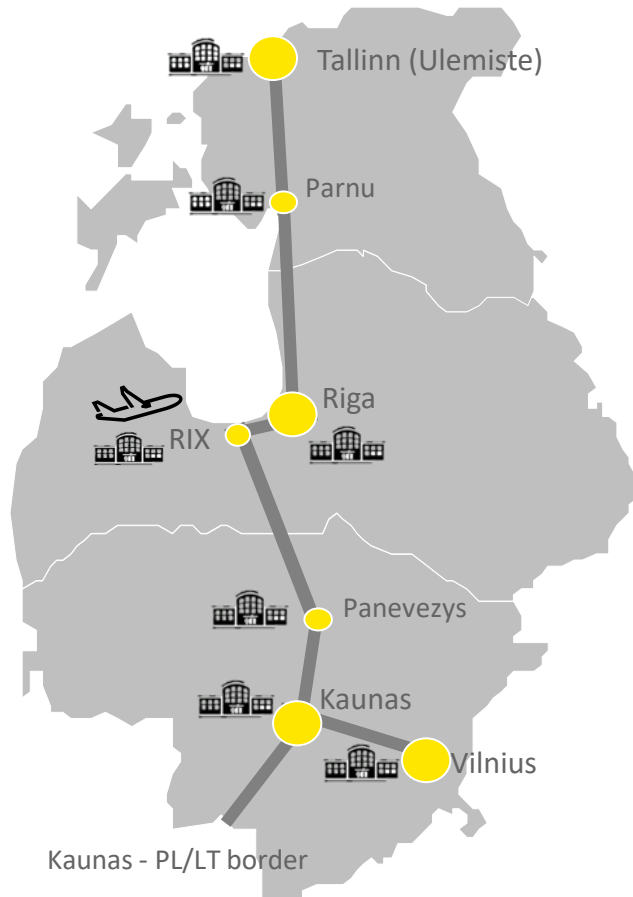
# One common Global Project approach







An aerial photograph of a city, likely Copenhagen, showing a dense urban area with multi-story buildings and a railway line running through it. A large yellow rectangular overlay covers the left side of the image, containing the text 'What is Rail Baltica?'. The railway tracks are visible, and a train is seen on one of the tracks. The city buildings are mostly light-colored with dark roofs, and there are some green spaces and trees scattered throughout.

What is Rail Baltica?

# Rail Baltica – game changer for intra-Baltic passenger travel



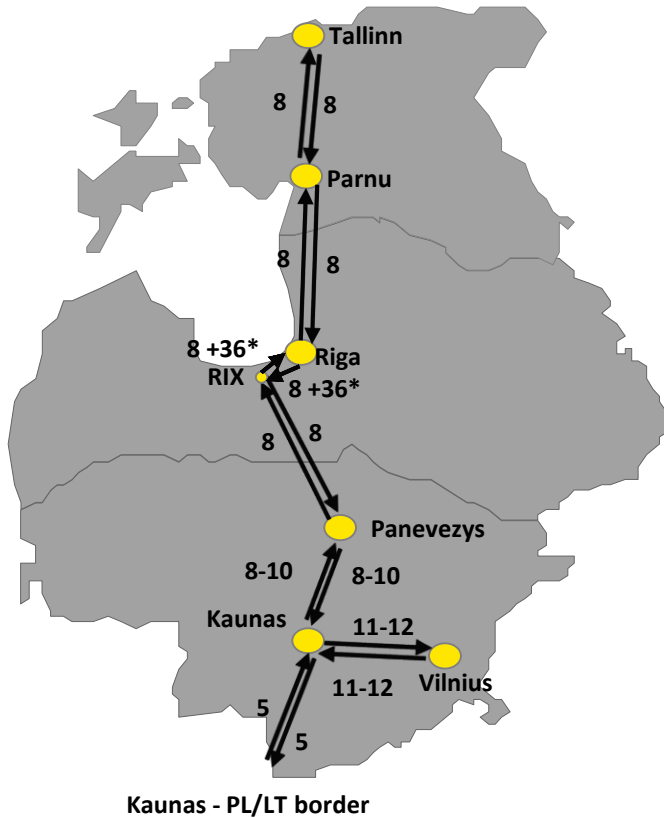
	Travel time (h) / travel costs (€)			
		 **		 *
Tallinn – Parnu	0:43 / 14 €	1:39 / 19 €	1:50 / 7 €	- / - €
Parnu – Riga	1:12 / 24 €	2:26 / 28 €	2:30 / 10 €	- / - €
<b>Tallinn – Riga</b>	<b>1:55 / 38 €</b>	<b>4:05 / 47 €</b>	<b>4:20 / 17 €</b>	<b>1:50 / 125 €</b>
Riga – Panevezys	0:57 / 15 €	1:54 / 23 €	2:40 / 10 €	- / - €
Panevezys – Kaunas	0:38 / 12 €	1:25 / 17 €	2:10 / 9 €	- / - €
<b>Tallinn – Kaunas</b>	<b>3:29 / 65 €</b>	<b>7:24 / 87 €</b>	<b>8:40 / 36 €</b>	<b>- / - €</b>
<b>Riga – Kaunas</b>	<b>1:35 / 27 €</b>	<b>3:19 / 40 €</b>	<b>3:50 / 19 €</b>	<b>- / - €</b>
Kaunas – Vilnius	0:36 / 11 €	1:20 / 20 €	1:35 / 6 €	- / - €
<b>Tallinn – Vilnius</b>	<b>4:05 / 76 €</b>	<b>7:00 / 91 €</b>	<b>8:50 / 42 €</b>	<b>2:10 / 101 €</b>
<b>Riga – Vilnius</b>	<b>2:01 / 38 €</b>	<b>3:30 / 45 €</b>	<b>4:00 / 25 €</b>	<b>1:50 / 125 €</b>

\* 1 h is added to reflect the additional time spent on arriving earlier to an airport to have a sufficient time for security check and boarding. In addition, 1 h also includes airplane's waiting time before take-off and after landing of personal car (fuel, depreciation, repairs, etc.) with average 1.45 people per car

\*\* Includes the whole costs

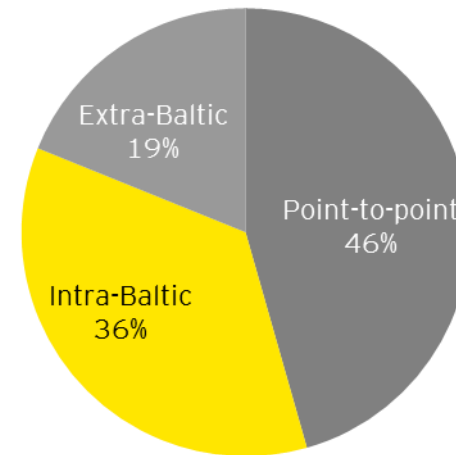
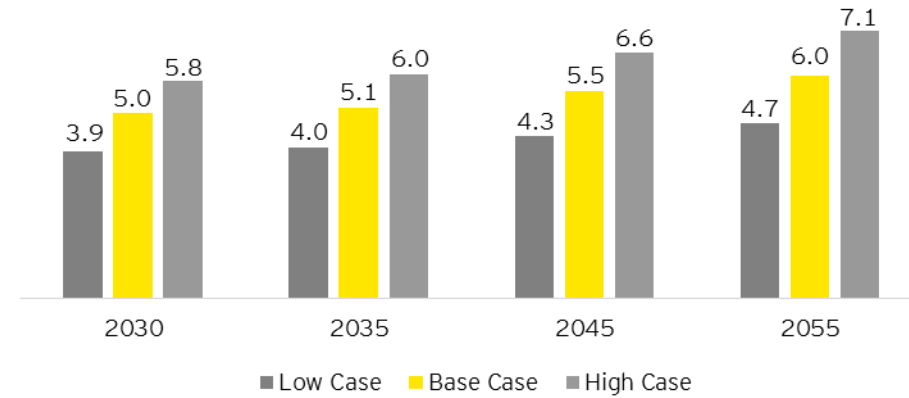
# Point-to-point and intra-Baltic passenger travel are the main users of Rail Baltica

Daily train traffic



\* - Riga – RIX shuttle

Rail Baltica passenger flow potential (mln. passengers)

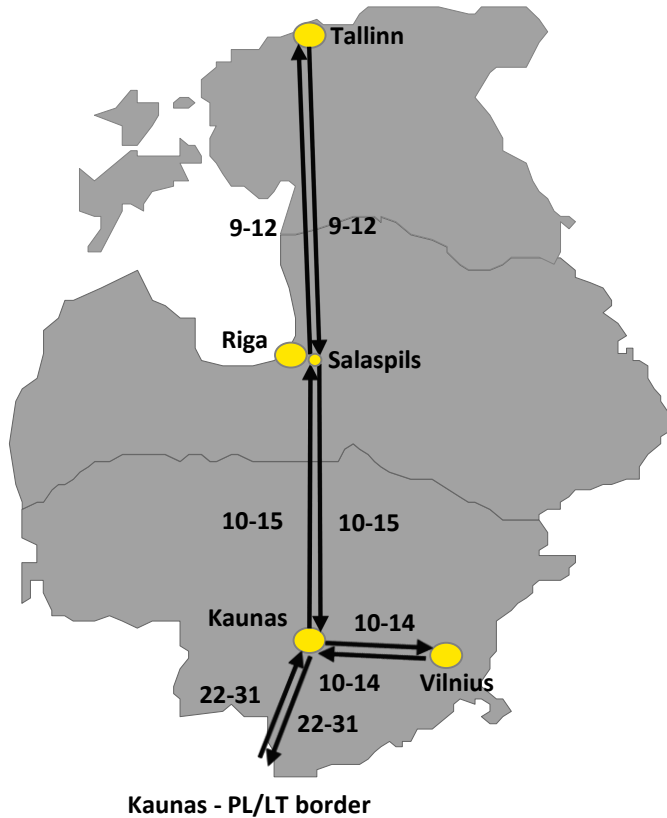


- ▶ Point-to-point: exactly between two stations
- ▶ Intra-Baltic: between EE/LV/LT
- ▶ Extra-Baltic: to/from outside the Baltics

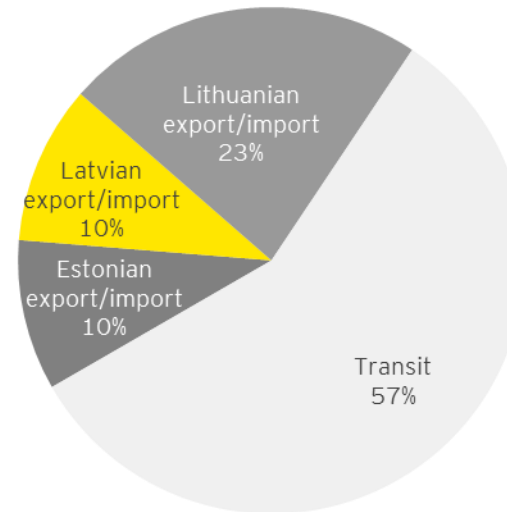
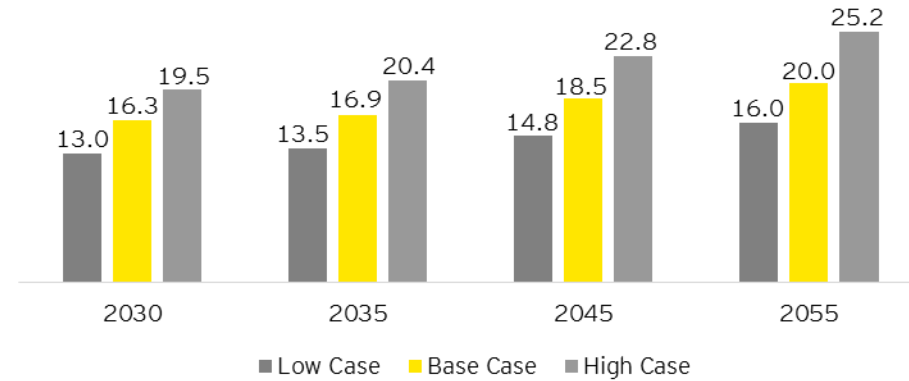


# Freight service has a potential to serve the direct trade, north-south and east-west flows

## Daily train traffic



## Rail Baltica freight flow potential (mln. tonnes)



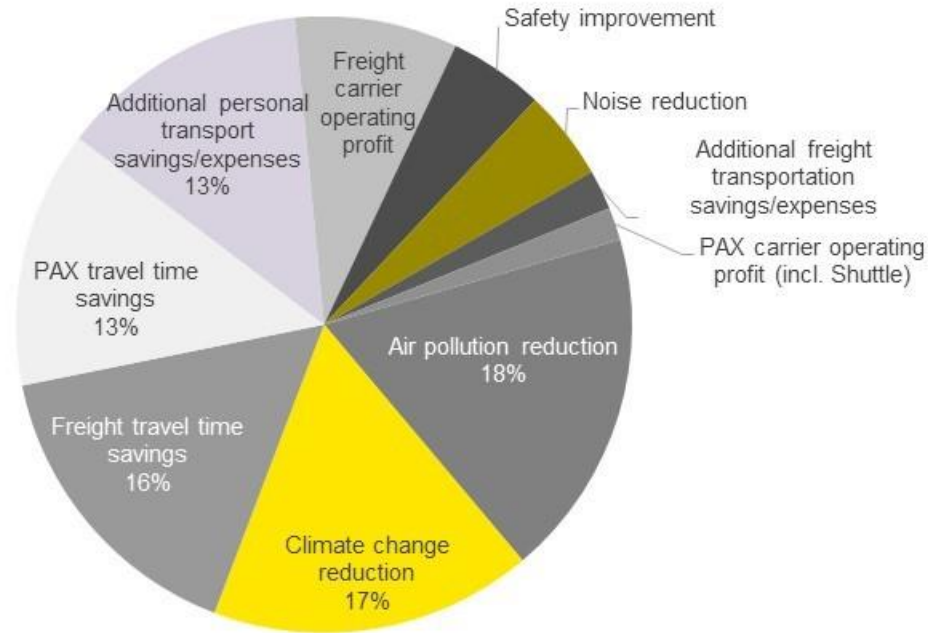
## Transit flows

- ▶ Finland's trade with the rest of the EU
- ▶ Transshipments between the rest of EU and the CIS

A photograph of railway tracks curving into the distance under an overcast sky. The tracks are made of steel rails on wooden sleepers with gravel ballast. In the background, there are several overhead power lines supported by poles, and a few blurred trains are visible on different tracks. A large yellow rectangular box is overlaid on the left side of the image, containing text.

**What benefits will Rail Baltica bring?**

# The sum of the net socio-economic benefits exceeds 16 bln €



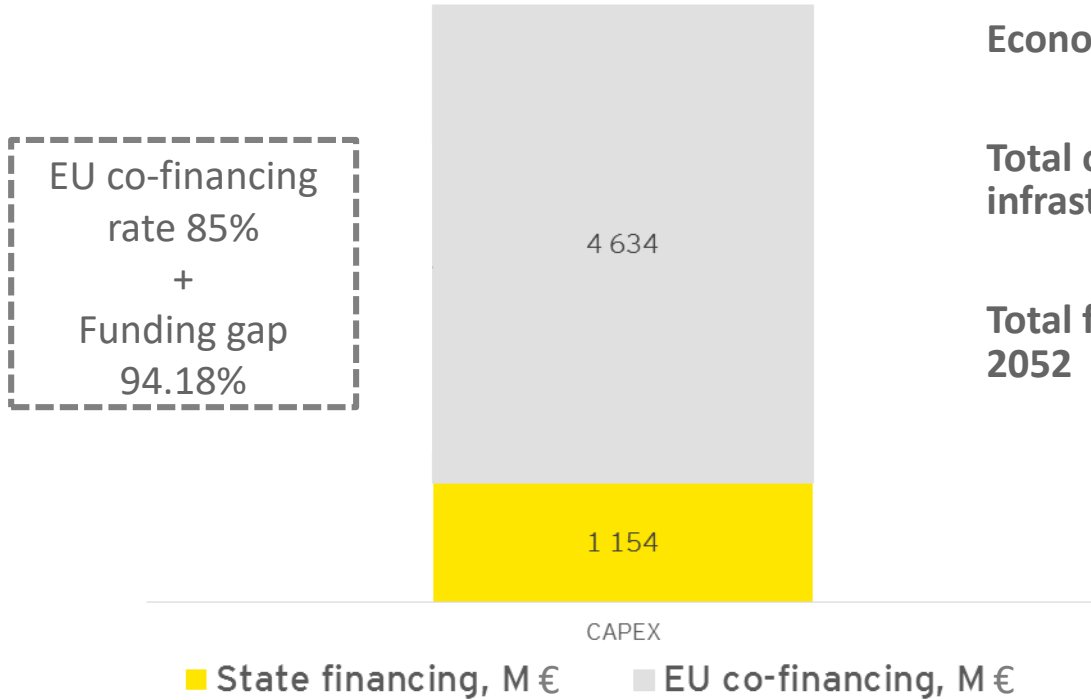
- ▶ Benefits cover all of the key stakeholder groups
  - ▶ Travellers (travel time and cost savings)
  - ▶ Freight shippers (travel time and cost savings)
  - ▶ Railway undertakings (operating profit)
  - ▶ Inhabitants around the roads, airports (local noise, air pollution)
  - ▶ General public (climate change)
- ▶ The CBA considers also the socio-economic costs of the project

	Undiscounted	Discounted
Socio-economic benefits	17 860 M €	5 019 M €
Socio-economic costs	-1 634 M €	- 438 M €
<b>Net socio-economic benefits</b>	<b>16 226 M €</b>	<b>4 581 M €</b>
Net financial costs*	-4 048 M €	-3 702 M €
<b>Total net socio-economic cash flows</b>	<b>12 178 M €</b>	<b>879 M €</b>

\* - including adjusted CAPEX, revenues and residual value

# CBA results summary

Total CAPEX = 5 788 M €

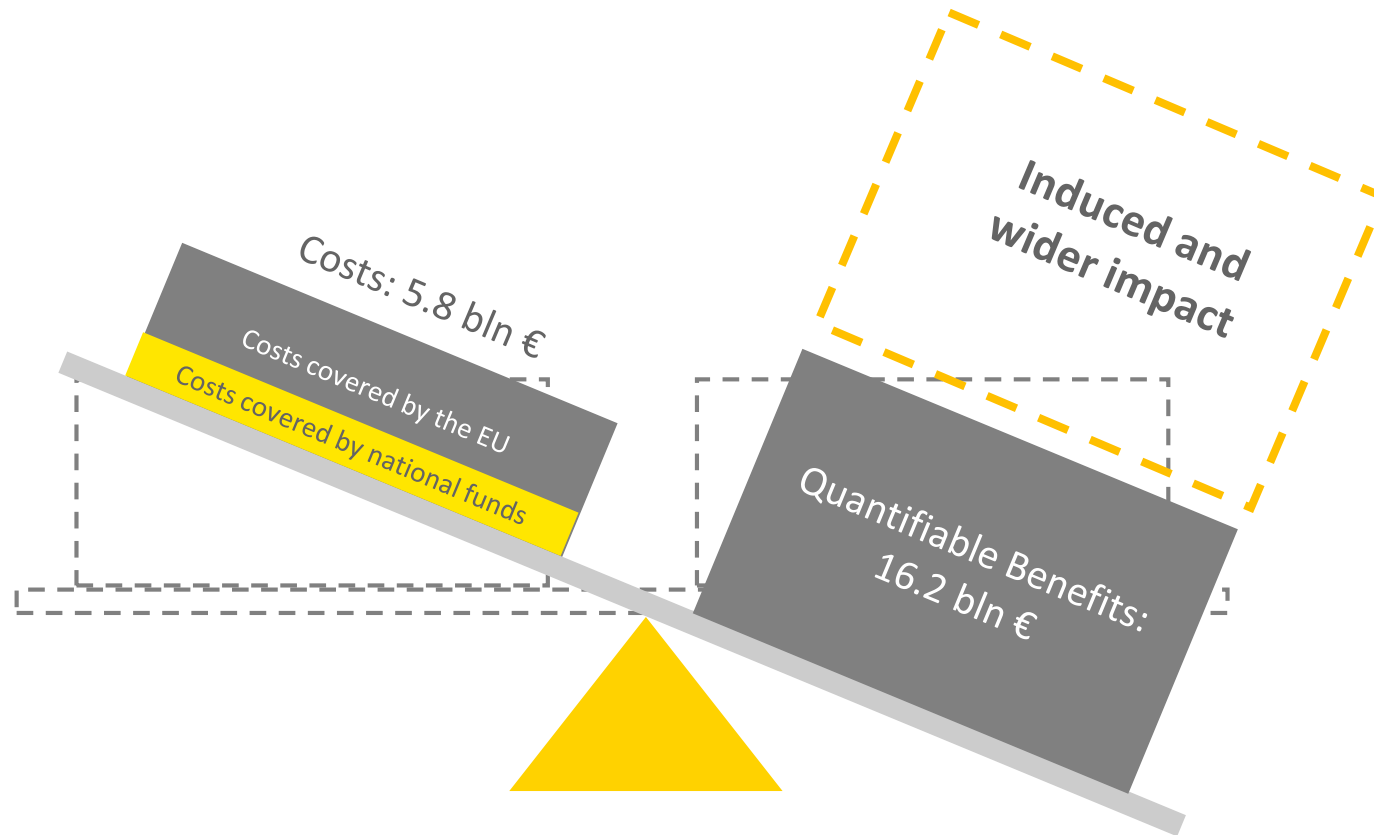


Economic rate of return (ERR)	6.32 %
Total operating support until the break even for the infrastructure manager	28.6 M €
Total financing needed for renewal investments in 2048-2052	534.1 M €

## Key risks



# Benefits outweigh the costs even not considering the wider benefits



## Key ratios

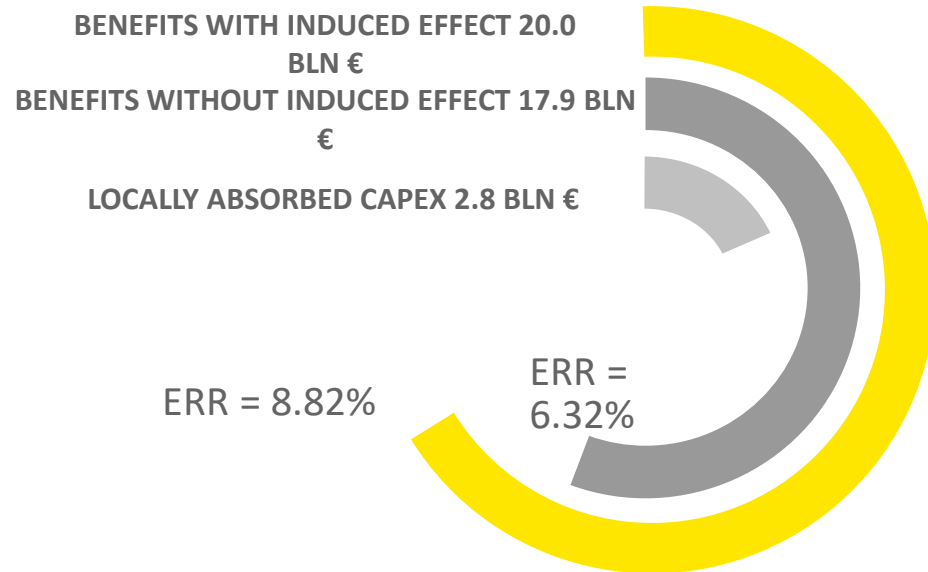
<b>Undiscounted B/C</b>	<b>2.8</b>
<b>Discounted B/C</b>	<b>1.1</b>
<b>Discounted Benefits/ Discounted national capital invested</b>	<b>5.9</b>

**Rail Baltica – more than rail  
infrastructure**



# Rail Baltica's impact goes beyond direct economic benefits

## Construction phase (2015-2025)



- ▶ 13 000 FTE construction jobs over construction phase
- ▶ Over 24 000 FTE indirect and induced jobs over construction phase

## Operating phase (2026-2055)

Rail Baltica acts as backbone to wider transportation and logistics industry

### 400 lives saved

- ▶ Valued at 892 M €
- ▶ Equivalent to average annual benefit of 30 M €

### Mitigated climate change

- ▶ 30-40% of truck traffic shifted to railway
- ▶ CO2 emission reduction benefits: 3.0 billion €
- ▶ Air pollution reduction benefits: 3.3 billion €

### Time saving benefits

- ▶ Passengers save approx. 5.3 M hours each year, the equivalent of 605 years

# There is significant amount of socio-economic benefits that were not quantified



**Ability to perform services on regional level.** Expansion of markets increases export opportunities and drives economic growth simultaneously.



**Increased reliability of passenger and freight transport.** Highly reliable freight transport creates a productive supply chain.



**Increased export.** Transport infrastructure breaks down the barriers for export and higher export further demands more transport infrastructure.



**Better access to study/work place.** Better access to study/work places leads to expansion of job market and wider variety of education opportunities.



**Indirect productivity effects on other business sectors.** New transport junctions increase mobility and connectivity thus creating more productive and competitive business environment



**Better tourism opportunities.** Creation of Rail Baltica will increase mobility thus increase the attractiveness of new tourism destinations.



Higher accessibility leads to a **more efficient allocation of resources**, which triggers productivity gains and stimulates growth.



**Increased opportunities for culture, entertainment, shopping on pan-Baltic level.** Increased connectivity via Rail Baltica will diversify culture, entertainment, and shopping habits and markets, increasing economic activity.



**Better access to healthcare institutions** not only makes the healthcare institutions more competitive by increasing catchment area, but also gives opportunity for people to choose the best available healthcare in larger perimeter.



**Increased transport capacity.** Ability to transport large amounts of goods gives competitive advantage due to capitalization on the economies of scale.



**Induced impact of intermodal terminal infrastructure.** Due to modal shift from road and sea to Rail Baltica, the turnover of intermodal terminals is expected to increase thus creating spill over effects to local economy and companies operating in the intermodal terminal area.



**Catalytic effect on businesses located nearby rail stations.** Increased connectivity Increased passenger flows in rail station areas will drive the growth of businesses located nearby.



**Better access to resource/labour market.** Rail Baltica will create a new network between the region countries thus improving access to labour markets in other region countries and to resources like raw materials, parts or products



Conclusive remarks



## Is Rail Baltica profitable?



Profitability is different concept for railway undertakings, infrastructure manager, national government, society

CBA indicates that the project provides positive outcomes for each party



Railway undertakings are profitable



Infrastructure manager is financially sustainable in the long term



National government has positive socio-economic return on the national co-investment



Society's benefits outweigh the costs

## Conclusive remarks (cont.)

CBA assumes that all necessary actions to ensure the capture of market potential are made

Without EU and national public co-financing RB is not financially viable

Biggest potential for passengers is intra-Baltic travel and direct trade with the EU for freight

Operating financial sustainability depends on Rail Baltica's ability to reach market potential

# Rail Baltica's success depends on a set of crucial actions in the implementation phase

## Critical success factors to ensure/facilitate:

- ▶ Project commercialization is the key question to be solved **before** the launch of the operations
- ▶ Intermodal terminals have sufficient capacity and service level that corresponds to the freight market requirements
- ▶ Public transport infrastructure and schedule in the urban nodes is aligned with Rail Baltica service
- ▶ **Proper project management and governance structures that would facilitate successful implementation and capture of the potential benefits while keeping costs at the expected levels**

## Things to keep doing:



Periodic surveying of mobility patterns



Periodic review of the business case

Thank you for your attention!

