Rail Baltica

Design Phase of Rail Baltica

Kaido Zimmerman

Head of Planning and Design Department

Rail Baltica Global Forum, April 11, 2018, Tallinn

Co-financed by the European Union
Connecting Europe Facility

WHO IS RESPONSIBLE FOR DESIGN?

DESIGN OF TRACK AND STRUCTURES

DETAILED TECHNICAL DESIGN: **RB RAIL AS**

CONSOLIDATED PRELIMINARY DESIGN: **RB RAIL AS**

PRELIMINARY DESIGN: **IMPLEMENTING BODIES**

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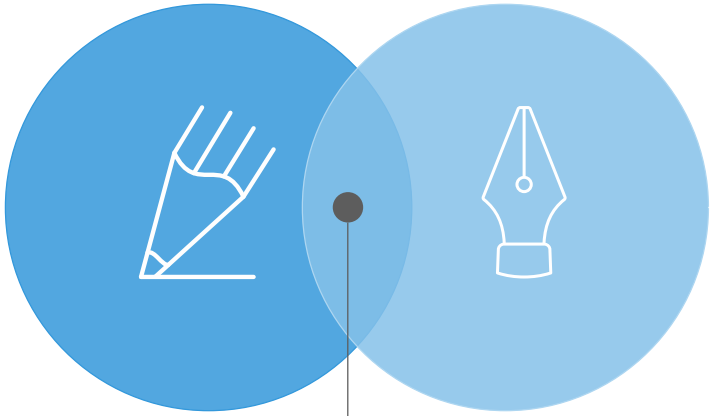
RB RAIL AS RESPONSIBILITY

CONSOLIDATED PRELIMINARY DESIGN



DETAILED TECHNICAL DESIGN:

- Master Design
- Detailed Design

TO ENSURE INTEROPERABILITY

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DESIGN PROCESS ORGANISATION

PRELIMINARY DESIGN

- 2018
- 2016
- 2017/ 2021

CONSOLIDATED DESIGN

- 2018
- 2018
- 2018/ 2021

DETAILED TECHNICAL DESIGN:

- MASTER DESIGN
- DETAILED DESIGN

- 2020
- 2020/ 2021
- 2020/ 2023

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An infrastructure designed for optimized railway operation and for business need satisfaction

Jean-Marc Bedmar

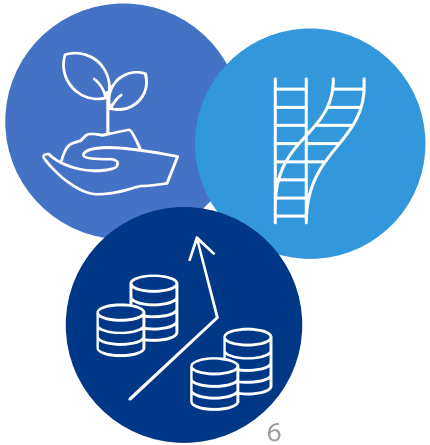
Head of Systems and Operation department

April 11, 2018, Tallinn

Co-financed by the European Union
Connecting Europe Facility

Rail Baltica design conceptual targets

- To build a 100% interoperable infrastructure
- To maximise the rail market shares
- To deliver infrastructure tailored to the traffic, on the entire Rail Baltica corridor Warsaw - Helsinki
- To anticipate the possible traffic development
- To maximise positive impact on the environment
- To focus on the Life-cycle cost and benefits
- To create accurate models for decision making



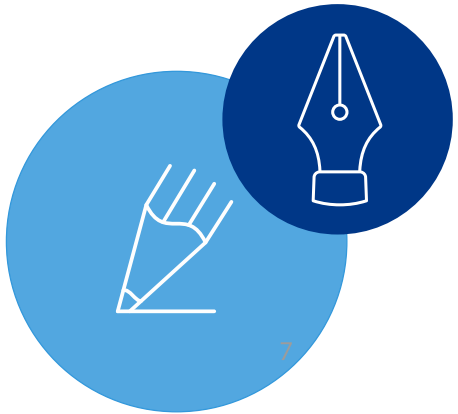
Business and Operation plan - relation with design

Business plan and other **commercialization studies** provide:

- An accurate assessment of passenger needs, for different types of services and origin/destinations
- A detailed analysis and breakdown of cargo flow demand and rail freight business perspective

Operation plan provides transport plan, offer to fulfill transport demand, including:

- List of train services
- Timetable of train services
- Estimate of type and quantity of rolling stock
- Definition of infrastructure parameters (capacity, facility locations, track layouts…)



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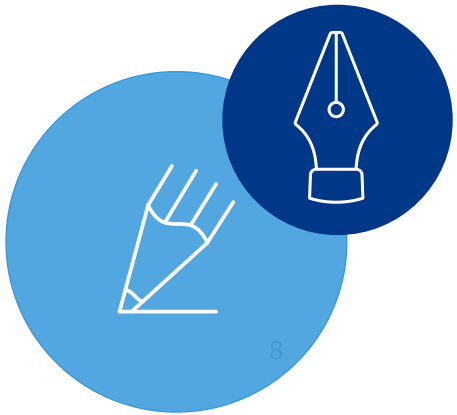
Operation plan and relation with design

Operation plan shall provide inputs for coordination of **Detailed Technical Design** services and to improve Rail Baltica global performance:

- Initial track layouts,
- Requirements for line capacity

Designing a railway infrastructure is an iterative process!

- A system approach is needed, the weakest element makes the global performance
- To track and eliminate speed reductions and bottlenecks, as far as possible
- Flexibility and reserve to allow adaptation to future traffic conditions
- To create an **agile infrastructure**, which could be adapted to traffic evolution in medium and long term



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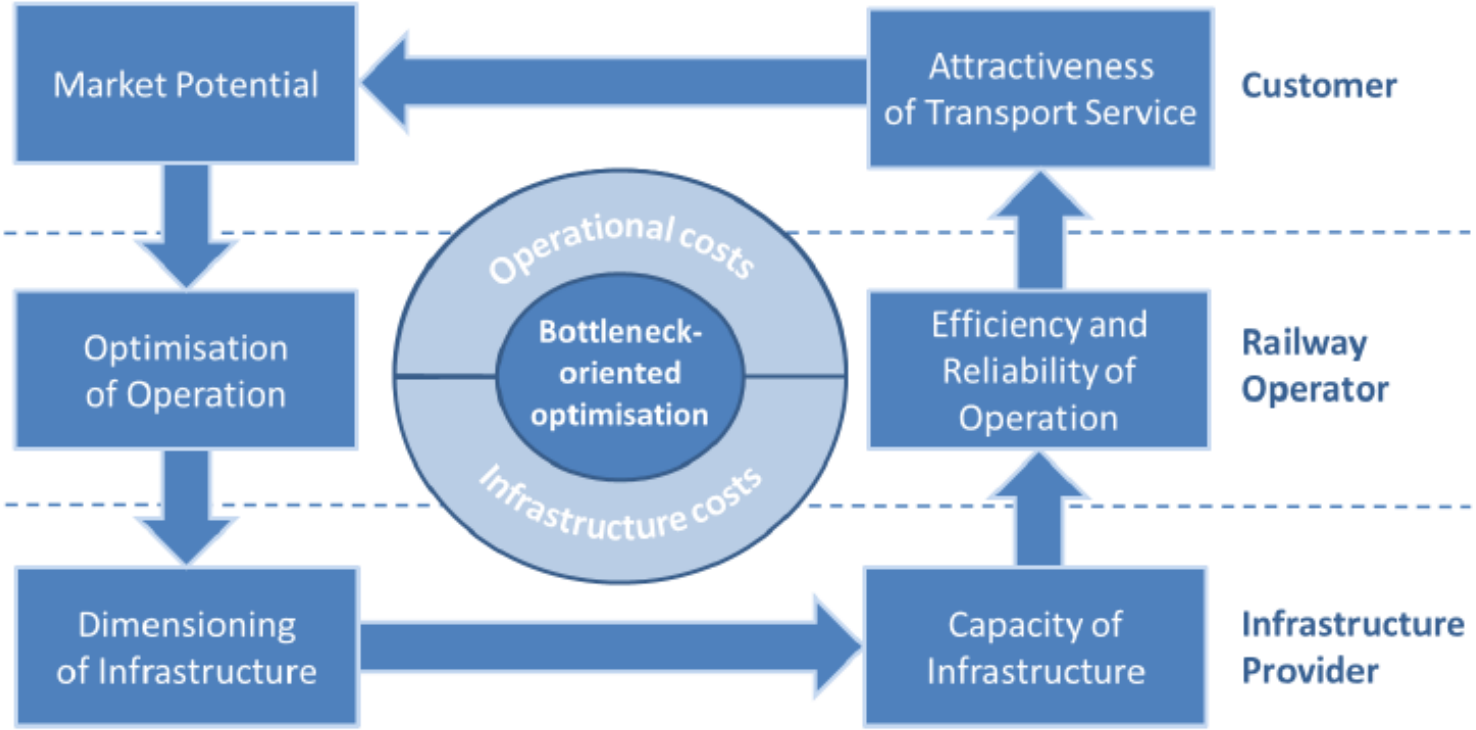
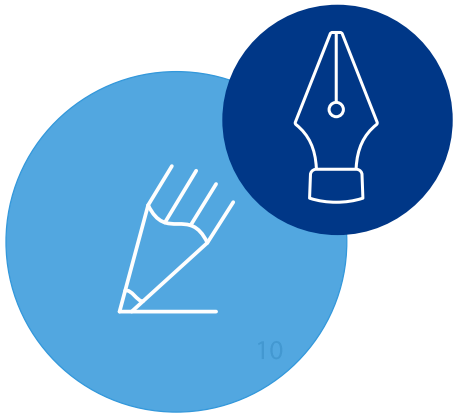

Market Potential
Attractiveness of Transport Service
Customer
Operational costs
Bottleneck-oriented optimisation
Infrastructure costs
Optimisation of Operation
Efficiency and Reliability of Operation
Railway Operator
Dimensioning of Infrastructure
Capacity of Infrastructure
Infrastructure Provider

Operation plan and relation with design

- Optimization of infrastructure design to fit with operation shall be done for the entire Rail Baltica corridor
- Future maintenance needs of infrastructure shall be assessed

Key of long term performant infrastructure:
"Design iterative optimization process, in collaborative manner "



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Value engineering in design process

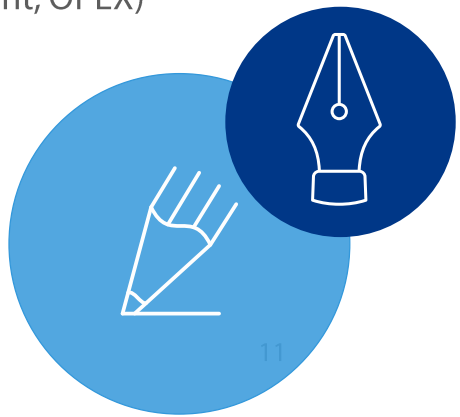
During Master design phase, a Value Engineering method shall be applied to select the optimum solution

Top-down criteria:

1. Safety and Security
2. User's perspective (passengers, freight owners)
3. Train operator's perspective (capacity, rolling stock, energy costs, OPEX, revenues)
4. Infrastructure management (traffic management, maintenance management, OPEX)
5. Technical and project delivery (CAPEX, third parties, schedule, procedures)

Cross-cutting criteria:

Externalities (human health and society, environment impact, network effect…)



Contact us

RB Rail AS is a multi-national joint venture of the Republics of Estonia, Latvia and Lithuania, which has been established to implement Rail Baltica

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