Design Phase of Rail Baltica

Kaido Zimmerman
Head of Planning and Design Department

Rail Baltica Global Forum, April 11, 2018, Tallinn
WHO IS RESPONSIBLE FOR DESIGN?

CONSOLIDATED PRELIMINARY DESIGN: RB RAIL AS

PRELIMINARY DESIGN: IMPLEMENTING BODIES

DETAILED TECHNICAL DESIGN: RB RAIL AS

DESIGN OF TRACK AND STRUCTURES
RB RAIL AS RESPONSIBILITY

CONSOLIDATED PRELIMINARY DESIGN

DETAILED TECHNICAL DESIGN:
- Master Design
- Detailed Design

TO ENSURE INTEROPERABILITY
DETAILED TECHNICAL DESIGN:
• MASTER DESIGN
• DETAILED DESIGN

PRELIMINARY DESIGN
2018
2016
2017/2021

CONSOLIDATED DESIGN
2018
2018
2018/2021

DETAILED TECHNICAL DESIGN:
2020
2020/2021
2020/2023

Rail Baltica
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
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…)

Rail Baltica
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
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”
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…)

Rail Baltica
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

RailBalticaGlobalProject
Info@railbaltica.org
railbaltica.org
K. Valdemara iela 8, 4th floor,
Riga, Latvia
+ 371 66 967 171
linkedin.com/company/rb-rail
@RailBaltica