

# Historical railway electrification procurement launched for the Rail Baltica high-speed railway

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Industry news

Rail Baltica



On 1 June 2022, the Rail Baltica joint venture RB Rail AS announced a public procurement for the Rail Baltica energy subsystem design and construction for the entire Rail Baltica line, covering more than 870 double track line - km in Estonia, Latvia, and Lithuania. Deployment of the energy subsystem in a consolidated way - from Tallinn to the Lithuania-Poland border and from Kaunas to Vilnius - makes the Rail Baltica electrification the largest railway electrification project in Europe implemented as a single project. It will allow full compliance with safety and interoperability requirements, to benefit of economies of scale, as well as maximise the benefits for environment.

The procurement will be organized in two stages and is planned to be concluded by the end of 2023. Energy subsystem scope covers the following key components: high voltage connection points for connection of traction power substations to the public high voltage electrical grids, traction power substations, railway overhead contact system, railway energy control command system, and other components directly linked to energy subsystem.

“We consider this a truly historical achievement for the Rail Baltica Global Project and strong evidence of the determination of the Baltic States to implement this project in united way. This is the first time when procurement of such scope and scale is organised across three countries in Europe with a goal to provide single electrification system with the same operational and maintenance rules and interoperability requirements across several countries,” said Jean-Marc Bedmar, Head of Systems and Operation department at RB Rail AS.

In practice the chosen approach also means the need to address an extra level of complexity stemming from border effects and different legislations - in Rail Baltica, the missing link on the EU's North Sea – Baltic core network corridor, there are three border sections between Estonia, Latvia, Lithuania, and Poland. The size of the project itself is impressive - overall 870 km length of double track leads to the need of more than 2 000 km of catenary system, around 4 350 tonnes of copper materials and 50 000 of masts to be installed. Electricity consumed by Rail Baltica will represent 900 GW.h / year, leading to an estimated ~3% increase

of the national consumptions in every Baltic State.

“Proceeding with a major cross-border railway electrification project across Estonia, Latvia, Lithuania and interconnected with Poland, requires establishing a tight cooperation between governmental authorities, strong involvement of electricity transmission systems operators (TSO) and electricity suppliers – allowing to ultimately maximise the Rail Baltica contribution to EU energy and transport policies, the Green Deal as well as national decarbonization plans,” continued Jean-Marc Bedmar.

For a few years now and even before the European Green Deal, the Rail Baltica project implementers have been analysing the environmental impact of the line, regarding the energy used for the train traction. “Strong conditions regarding minimization of environmental impact are integral part of Rail Baltica electrification. For example, energy efficiency of overall traction chain will be more than 85%, and lifetime of components will be 50 years or more,” Bedmar added.

The proposed new electrification architecture Static Frequency Converters (SFC) on a project of such scale is also one of a kind providing flexible and efficient integration between countries.

“In the present geopolitical situation, joining forces is more important than ever. And this procurement is a proof of building maturity of both the Rail Baltica project, but also the EU policies for cross-border strategic project delivery,” said Marc-Philippe El Beze, Chief Technical Officer and Member of the Management Board at RB Rail AS. “By taking these decisive steps towards delivery of the Rail Baltica energy subsystem, the Rail Baltica Global Project and our energy sector partners are getting closer to delivery of an infrastructure fully fitted with state-of-art electric traction technology, highly efficient and with minimised environmental impact – paving the way to large scale electrical transport operation by the end of the decade. We are truly proud of this achievement and looking forward to a successful procurement process and next steps.”

In the beginning of 2021, the Rail Baltica joint venture RB Rail AS selected an engineering service provider (ENE Engineer) for the Global project energy subsystem deployment. The association of DB Engineering & Consulting GmbH; IDOM Consulting, Engineering, Architecture, S.A.U.; Italferr S.p.A. was announced as the winner in an international tender, organised by RB Rail AS.

The implementation of the Rail Baltica Global Project is project is financed by the national states — Estonia, Latvia and Lithuania — and co-funding from the European Union up to 85% of the total eligible costs, in particular in the framework of the Connecting Europe Facility (CEF) funding instrument.

RB Rail AS

RB Rail AS is a multinational joint venture of Estonia, Latvia and Lithuania established to lead and coordinate the implementation of the Rail Baltica Global Project, the first infrastructure development project of this scale in the Baltic region. RB Rail AS is responsible for the development, construction, and commercialization of the railway infrastructure megaproject.

More about Rail Baltica global project: [www.railbaltica.org](http://www.railbaltica.org)

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