Rail Baltica Central Station

Riga (Latvia)

Study mission for the station roof and canopies on the platforms, as well as the slab above the tracks

Owner
Republic of Latvia
Eiropas dzelzceļa līnijas

Architects
PLH Arkiterkter - COWI

Cost of the works
€ 430 M excl. vat

Studies
2019 - 2022

Execution
2019 - 2026

CM OA GC BIM

The construction of the new « Central Station » in Riga (Latvia) is part of the Rail Baltica project, which aims to integrate the Baltic countries into the European rail network. It will connect the cities of Helsinki, Tallinn, Riga, Vilnius and Warsaw. It is the largest infrastructure project in the region in 100 years.

Designed by PLH Arkitekter - COWI, following an international architectural competition, the project has a huge budget - 430 million euros, financed jointly by the European Union and the Republic of Latvia - and involves the construction of a new station, a railway bridge over the Daugava river, and the associated railway works.

The joint venture BERERIX (Besix - Rizzani de Eccher - ReRe Grupa Büve), together with the bureau Greisch, won the Design & Build competition and announced the signing of the project in 2019.

Bureau Greisch is in charge of the study of the global behaviour of the station structure, the management of the wind tunnel tests as well as the dimensioning of the lower part of the roof and the canopies on the platforms. He is also in charge of the study of the pre-stressed concrete slab that will overhang the whole of the tracks as well as its cores (for elevators and stairs) and its imposing architectural columns. With a surface area of 7,200 m², the slab, which will house a vast heated lobby, the ticket offices, the catering area and sanitary, will be the real heart and showcase of the new infrastructure.

The whole project is realized following a BIM methodology imposed by the owner. Bureau Greisch has optimized the search for the shapes of the structures with the parametric modelling tool Grasshopper. The result of these searches is then transferred without loss of information to the Tekla structure and Revit software, from which the plans and quantities are directly extracted.

This process allows our project teams, especially the engineers, to better understand the complex geometry of the structures. The interactions with the various participants are regularly analysed with Navisworks software allowing a visualization of the consolidated model regrouping all the disciplines (architecture, topography, civil engineering, railway structure, building structure, MEP, ...). The BIMcollab issue management platform is used daily for communication between project teams and notification of feedback to BIM modelers.