The new City Bridge of Drammen: A structural insight

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Abstract

The new City Bridge of Drammen, or Bybrua in Norwegian, is a 258.9m long urban bridge that will cross the railway station and the river. This new structure, that replaces the existing bridge, will connect the main areas of the city, Strømsø to the south and Bragernes to the north. The final design is a collaboration between Degree of Freedom, Norconsult, SAAHA and Knight Architects, outstanding for its symbolism as major landmark of the city.

The long structural design process of this bridge has overcome significant challenges such as the poor ground conditions in the riverbed, finding and adequate erection sequence, large ice loads and the coordination between different owners and multiple interdisciplinary teams.

Also highlight the fact that this bridge has been completely modelled using BIM technologies for all the disciplines, emphasizing the steel parts and reinforced concrete elements.

Keywords: urban bridge, composite, steel, concrete, arch, erection sequence, ice loads, climate change, FEM, BIM.

Figure 1. Render of the new bridge over the river Drammen