

## French National Engineering Awards 2016: Citadelle Bridge in Strasbourg wins main award

*Thursday 20 October 2016 – A team from Egis\* has won the “Grand Prix” award in the French National Engineering Awards 2016<sup>1</sup> for their design of the Citadelle Bridge in Strasbourg. The prize giving ceremony this year took place at the French Ministry for the Environment, Energy and Marine Affairs. This prestigious distinction is another acknowledgement of the ingeniousness and high added value of Egis in the field of the design of urban structures.*

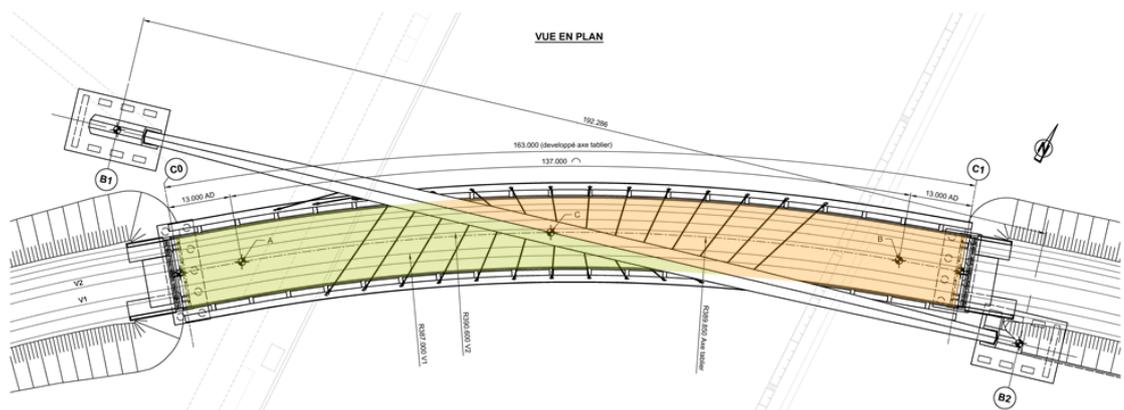
Built under the project ownership of the *Compagnie des transports strasbourgeois* (CTS), the Citadelle Bridge is part of the plan to extend the Strasbourg LRT line D to the German border town of Kehl. It was designed to enable trams to cross the Vauban docks, without affecting the waterway gauge, and ultimately arrive in the town of Kehl. It was built by the GTM Hallé/Eiffage Construction Métallique business grouping.

Delivered at the end of the summer and due for commissioning in April 2017, the Citadelle Bridge will allow the tram and soft transport modes (pedestrians and cycles) to gain access to the future Deux Rives development park to be built on the former site of the Strasbourg port and which is currently in planning stage.

### Technical constraints converted into opportunities

The structure is a metallic bridge with a through-arch supporting a curved suspended deck measuring 163 metres between abutment centres. While the blueprint adopted for the arch was a specific architectural intention, its shape is also a technical response to the exertions to which it is subjected.

“The innovation in the bridge essentially lies in finding the perfect geometry from a perspective of balancing thrusts,” explains **Jean-Bernard Nappi, an architect at Egis**, in charge of the architectural design of the structure.



Due to the urban restrictions on both banks, the route curves considerably as it passes over the Vauban docks. The placement of the arch, the width of the deck and the pattern of suspension cables offer sufficient gauge to allow the tramway and pavements to be created. They also result in a perfect balance of arch and deck thrusts.

\*The Egis team comprises Jean-Bernard NAPPI, architect; Claude LE QUÉRÉ, Nabil YAZBECK, Alexandros GIANOPOULOS, Bridge Engineers and Frédéric MENUÉL, Bridge specialist at Egis.

## Integrated design

“The structure is the result of highly integrated design between the architect and the engineers,” adds **Claude Le Quéré, Bridge Engineer at Egis**, responsible for designing the Citadelle Bridge. “All our work around designing the shape combined technical requirements with the aesthetic vision, with a desire for simplicity and the aim of making the bridge elegant, in keeping with the project for the future development of the area.”

The Engineering Structures and Railway teams at Egis pooled their skills to manage all the interfaces with the LRT line: the selection of a compatible alignment, the selection of a track-laying method, consideration of deformability criteria at each end of the bridge, and the integration of railway facilities and equipment.



The Citadelle Bridge is now part of the Strasbourg cityscape and fulfils the ambition of the Eurométropole to build an emblematic bridge, capable of acting as an anchor for the rehabilitation and urban development of part of the Strasbourg port zone.

## About Egis

€937 million managed turnover in 2015  
13,000 employees



Egis is an international group offering engineering, project structuring and operations services. In engineering and consulting, its sectors of activity include transport, urban development, building, industry, water, environment and energy. In roads and airports its offer is enlarged to encompass project structuring, equity investment, turnkey systems delivery, operation and maintenance services and mobility services. Employing 13,000 people, including 8,300 in engineering, the group generated a managed turnover of €937 million in 2015.

Egis is 75%-owned by the French “Caisse des Dépôts” and 25%-owned by Iosis Partenaires (a “partner” executive and employee shareholding).



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(1) A competition launched by the French Ministry for the Environment, Energy and Marine Affairs, the French Ministry of Housing and Sustainable Homes (CGEDD) and the French Ministry of the Economy, Industry and the Digital sector (DGE) organised in partnership with Syntec Ingénierie and in association with Le Moniteur group