

## Danube Bridge Tulln - A new Bridge with innovative Concept

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### Summary:

104 years after being built, the railway bridge across the Danube at Tulln has been completely reconstructed. The new bridge is based on a composite truss construction. After a construction time of only 16 months, commissioning in October 2009 was the last step in a project that will make European bridge construction history. For the dismantling of the existing supporting structure and the assembly of the new one including the railway facilities, the railway line was blocked for 7 months. Replacing the 400m-long supporting structure while keeping the effects on road, rail and shipping traffic to the lowest possible level put extremely high demands on owner, designers and ARGE Donaubrücke Tulln.

**Keywords:** Optimization techniques, the aesthetics of infrastructures

## 1. The existing superstructure

The existing double-tracked railway bridge is located on the Franz-Josefs Railroad's in the section Tulln - Absdorf, Lower Austria. It crosses the Danube at km 1963 + 150 near the City of Tulln. The existing steel truss bridge (fig. 01) was a five single span structures with open deck. A double-lane road bridge, also designed as a steel truss bridge, is located on the east side of the railway bridge. Both superstructures on common, massive piers in the river and on abutments [1]. The railway bridge was erected during the years 1903 - 1905 with their present-day appearance.



*Fig. 01: Existing double-tracked railroad bridge*