

**structural system**  
The structure consists in a classical system of two longitudinal steel beams located on both sides of the deck, but modified to configure an attractive transversal section. This structural section improves the views of the river from the footbridge and houses comfortability the pedestrians and the cyclists, while assuring an efficient response to the structural requirements. In this sense, the thickness of the deck is forced to a minimum, in order to favor the desired intentions of elegance and slenderiness of the footbridge. To achieve this minimum thickness of the deck, that remains constant through all its length, a system of Tuned Mass Dampers is set up in the lateral spans, in order to prevent and control any possible vibration effect, assuring the comfort of both pedestrians and cyclists.

The deck is directly supported on the abutments of both banks of the river, and in two intermediate piers. For these intermediate piers a very delicate and transparent solution is required, emerging naturally from the river and respecting the continuity of the deck. A set of steel columns with different inclination is proposed for each pier, giving the impression of an aleatory distribution of anchor posts. This aleatory distribution of the columns derives however from a structural logic: a set of four columns with small inclination is placed at both sides of the deck, allowing a direct transfer of the vertical loads from the longitudinal beams, while three additional inclined columns are placed in the central area of the section, assuring the required lateral stability of the footbridge.

According to this structural system a very simple and fast construction process is proposed, by considering the elevation of the intermediate areas of the deck on each span, that active flooring in the river, from cantilevering deck arms on both lateral abutments and interior piers. Finally, it's also interesting to remark that very low maintenance is required for the footbridge. Only specific and simple interventions are needed, and they can be done easily considering both the accessibility from the deck and the proximity of the water level.

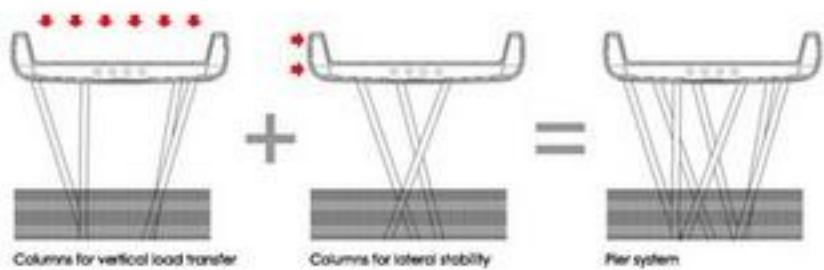


international architectural ideas competition  
new footway and bicycle bridge *lent-tabor*  
**ZIMETNA CRNINA** 2  
Monter, Slovenia - European Capital of Culture 2010  
PURE ENERGY!  
Photo: M. Kavčič, M. Štrukelj, P. Štrukelj, S. Štrukelj, G. Štrukelj

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3d view



The aleatory distribution of the columns derives from a structural logic: slightly inclined columns near the main beams for vertical load transfer, and strongly inclined columns in the central area for lateral stability.

#### On the cross section

A great deal of most, and many other bridges' beauty lies in the formal expression of the way in which their structures function. The Old Bridge is in this sense very powerful.

We decline any competition with it. We let it stand alone. The Lent-Tabor footbridge's loadbearing structure is clad with a skin of wooden planks with the following objectives: the bridge becomes abstract. One cannot see how the bridge stands and thus crossing it becomes "magical". It provides a singular character and an identity that makes it recognizable.

It adds a texture half way between nature and built artifice. Ambiguous as it is in a way the river: natural but dominated by man.

As the wood ages the bridge will be more beautiful with each new day.

#### Two different river banks

At present both river banks are mainly represented by two green slopes. They should differentiate given that the character of each one is special.

Toborsko nabrežje, the Tabor embankment, is reconstructed into a lookout podium from which to contemplate Maribor's historical city. Unencumbered, free from visual obstruction, it is open, its border materializes into a pier from which the footbridge arises.

At the old port, the Lent embankment, the bridge emerges from within the foliage. The riverbank preserves its green slope and magnificent trees that will now have, in its improved urbanization, a place from which to laze in the sun and look southwards.

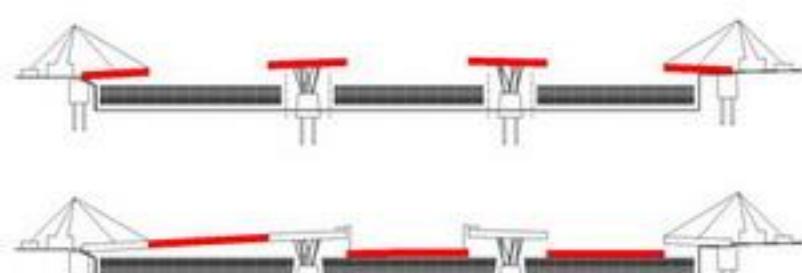
1 Creation of watertight areas in the river, where the footbridge piers are situated.  
2 Construction of the foundations and the abutments.



3 Construction of the cantilever arms of the deck, from the intermediate piers and from the lateral abutments (temporary hanging system required).



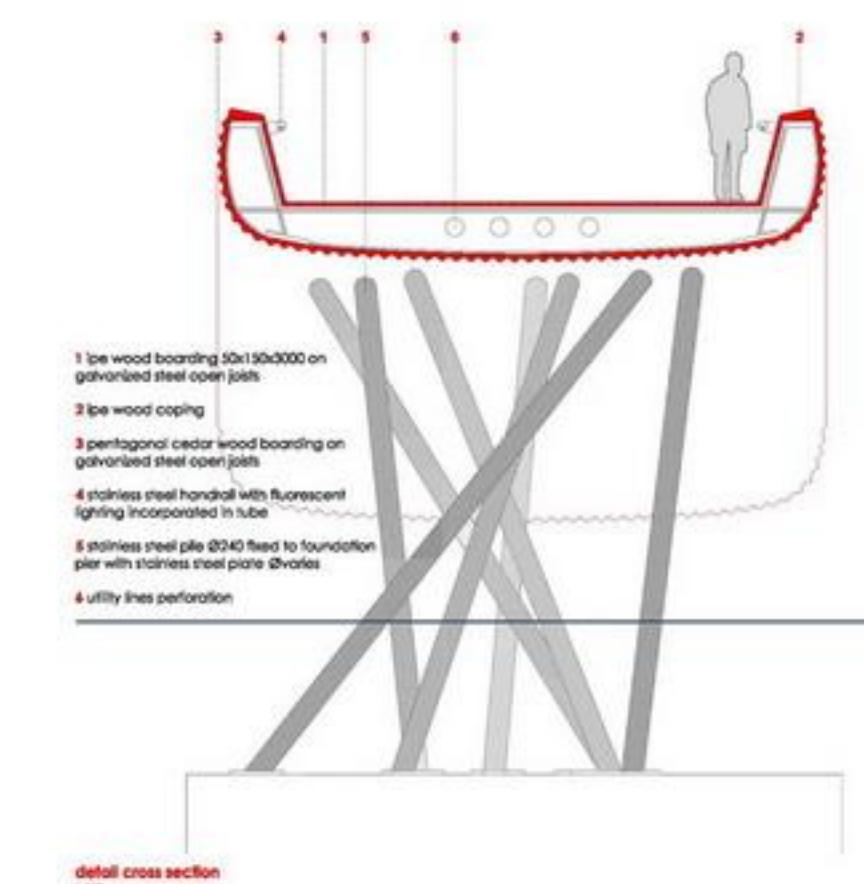
4 Construction of the suspended spans of the deck. These spans come floating in the river and are hung up from the cantilever spans. The two main longitudinal beams are hung up independently.



5 Final adjustment and substitution of the deck. Finishing.



structural schemes  
1:1000



detail cross section  
1:50

