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Splavarska Lent-Tabor Bridge I Maribor, Slovenia

2022-2023

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SPLAVARSKA LENT-TABOR BRIDGE
MARIBOR, SLOVENIA

Situation	Maribor, Slovenia
Client	Maribor's city council
Architects	Francisco Burgos Ruiz (23/05/1959). Colegiado COAM 7816 Ginés Garrido Colmenero (31/07/1962). Colegiado COAM 9103
Designers	Burgos & Garrido Arquitectos
Engineering	Alejandro Bernabeu, Jorge Bernabeu I Bernabeu Ingenieros I IDOM
Architecture team	Agustín Martín, Jaime Álvarez, Carlos Carnicer, Rebeca Caso, Raquel Marugán, Pilar Recio, Alberto López, Héctor Pérez, Carolina Matos
Engineering team	Manuel de la Cal, Josué García, Alfonso González (Bernabéu Ingenieros) + Romina González (IDOM Internacional)
Local engineering	Ponting, Viktor Markelj
Project Management	MEA Inzeniring, Metka Pav□i□
Main constructor	MAKRO 5
Date	Contest 2010 I Project 2012-2014 + 2021 I Construction 2022-2023
Photography	Roland Halbe

Descriptive text

Maribor's coachmen were the most delighted when in 1912 the Austrians opened the now Stari Most - the 'Old Bridge' - over the Drava River, replacing the wooden bridge that had caused an annoying bottleneck on the busy road from Vienna to Trieste. The Stari Most, which links the districts of Lent and Tabor north and south of the river at its highest point, eventually became a symbol of the city, even though it left the banks of the Drava disconnected at the lowest point. The new Splavarska pedestrian bridge now links the two banks again in close proximity to the 'Old Bridge'. Next to it, the new bridge is silent, underlines the presence of the metal structure of the old bridge in the city and distinguishes itself from it with a different material. Entirely wrapped in wood - on the inside in azobe and on the outside in stained larch - it pays a muted homage to the activity of the raftsmen who traditionally linked the two shores and acquires an archaic and timeless character. Its wooden planks will soon acquire a greyish and imprecise colour that will make it better and better every day, dissolving in time its material and structural expression. Thus, too, it will be reminiscent of the large logs that once flowed down the Drava from the mountain logging operations, or of the wooden bridge that stood where the new one now stands, providing a recognisable image that is already part of Maribor's memory.

The bridge has an arched profile formed by two steel girders on either side of the deck. It has a total length of 132 metres and three spans of just over 42 metres, and rests in the riverbed on two sets of piers, each consisting of seven slender galvanised steel tubes of varying inclinations, the lightness of which allows the bridge to float weightlessly over the river. The Splavarska is abstract, does not show its load-bearing structure - unlike the Stari Most -, has a unique character and a clear identity, and can be seen as 'halfway' between the natural and the artificial. In addition, it reiterates its connective function by incorporating a sophisticated version of the 'tin telephone' of children's experiments with a taut steel cable and two glasses integrated into the ends of the parapet that make the passage over the river also a playful experience.

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Structural Description

Splavarska footbridge in Maribor (Slovenia) covers a total length of 132 meters over the Drava River. The new footway and bicycle bridge is located near the Glavni Most, the Old Bridge, symbol of the city since its construction in 1913. The new structure aims not to compete with the historic bridge, On the contrary, it approaches it to highlight its formidable presence. The Old Bridge and new footbridge complement each other.

The new structure replicates the span layout of the historic bridge. A slender deck covered with timber is supported on two very transparent intermediate piers. The visual strength lies in the concealment of structure, which renders it equally abstract and expressive. It becomes one more piece of the Glavni Most's structure.

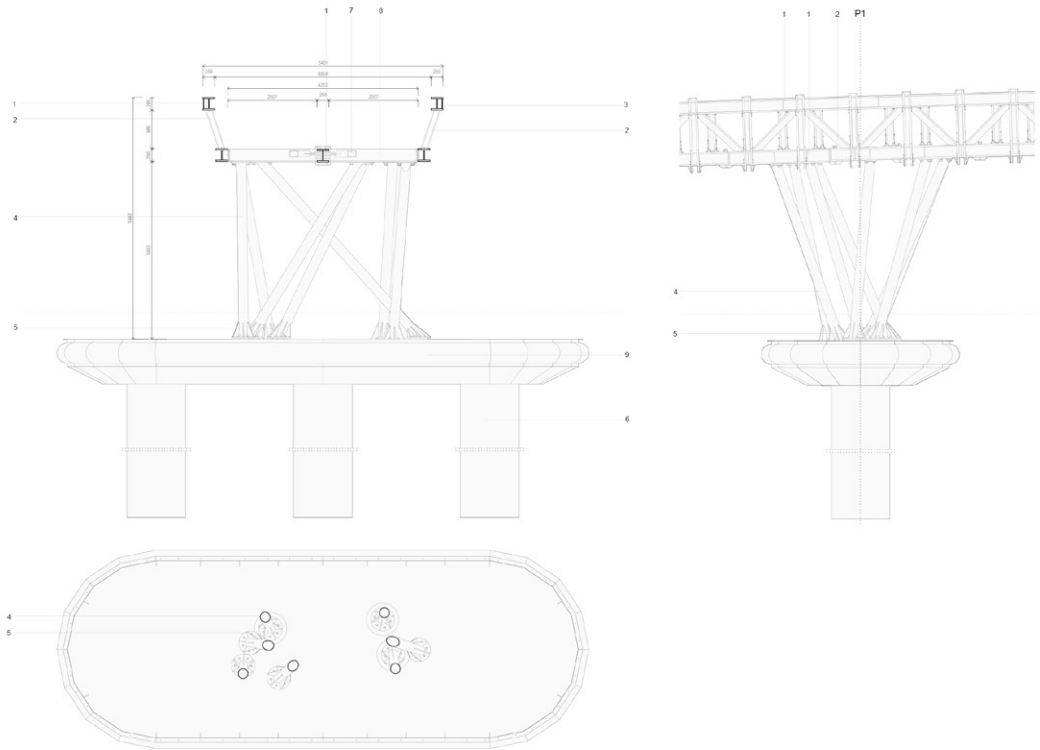
Visually it is as transparent as possible. Without intricate or ostentatious structural feats, it is natural and simple: two supports and maximum slenderness. The steel structure is covered in timber (larch on the exterior, azobe for the pavement), evoking the ancient use of the river for the transport of timber by rafts made of the same timber to be transported. The footbridge takes the name Splavarska, in relation of this traditional activity of rafters on the Drava River.

The structure consists in a classical system of two longitudinal truss 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 comfortably the pedestrians and the cyclists, while assuring an efficient response to the structural requirements. The thickness of the deck is forced to a minimum, in order to favour the desired intentions of elegance and slenderness of the footbridge. To achieve this minimum thickness of the deck, that remains constant through all its length, Tuned Mass Dampers (TMD) are disposed in each of the 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 at both banks of the river, and in two intermediate piers. For these intermediate piers a very delicate and transparent solution is considered, emerging naturally from the river and respecting the continuity of the deck. A set of slender steel tubes with different inclination is proposed for each pier, giving the impression of a naturally inspired random distribution, as if they were stems of the riverside vegetation. This aleatory distribution of the columns derives however from a structural logic: four of the seven tubes that form each pier are disposed close to the longitudinal beams, at both sides of the deck, allowing a direct transfer of the gravity loads;while the other three are arranged in the central area of the dech with a greater inclination, assuring lateral stability.

The construction process is simple and efficient: piles, pile cap and steel structure are built with the help of a floating pontoon. The Drava River helps the construction of the footbridge that crosses it.

During construction emerged the idea of adding a new level of connection, an additional link between the two banks. Like the classic tin can telephone that transmits sound between two cups connected by a string. In this case it is permanent and with a total length of more than 130 meters. The device consists of a pre-stressed steel cable and two stainless steel cups made with welded steel plates, that act as sound diaphragms. The cable forms three catenary spans, with two intermediate supports at the position of the piers. Again, the Old Bridge defines the layout of the new device. This invisible connection is called Drava Telefon. A technical and poetic proposal, a conceptual game. The footbridge provides a physical and also a symbolic connection. The river and the historic bridge give meaning to the new footbridge and to the invisible connection between its banks.



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Detail

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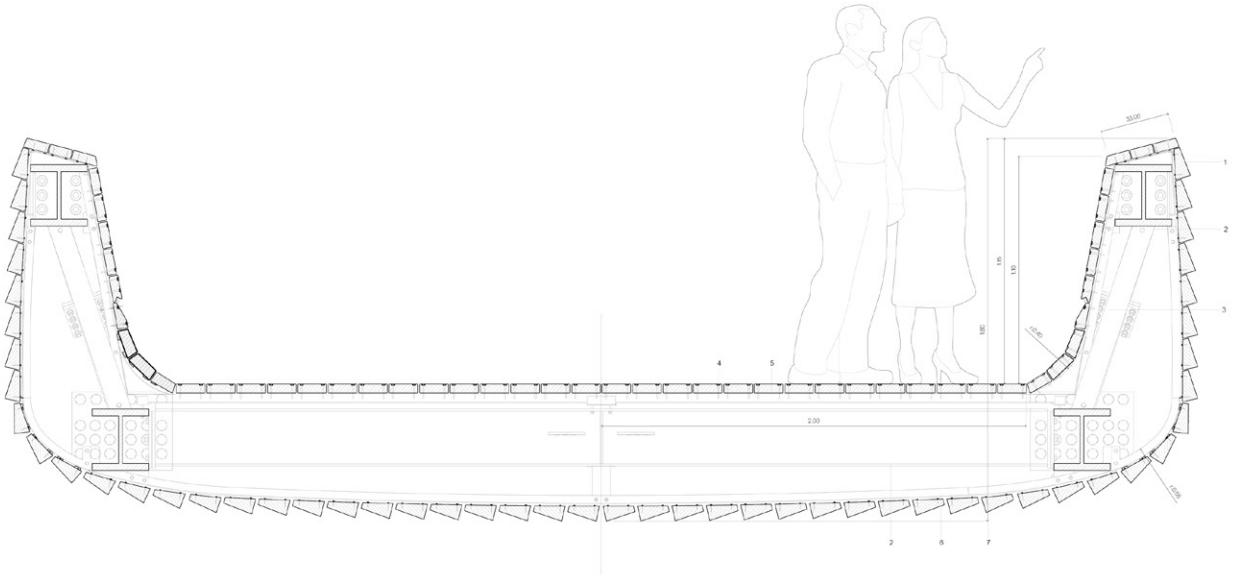

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and technical documents,

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