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Winner Category 2

Quote of the Jury: "The architectural design of this pedestrian bridge is excellently supported by the structural solutions. The irregular shape of the structure and the combination of different materials - wood, concrete and steel - provide an eye-catching and unique artwork."

Owner *Maritieme Dienstverlening en Kust - Afdeling kust*
 Architect *West8*
 General Contractor *Westconstruct*
 Engineering Office *BAS bvba*
 Construction Period *02/2013 - 05/2014*

The pedestrian bridge is located on the Belgian coast, connecting the village with the beach and crossing both the coastal road and a double tram line. The primary structure consists of two irregular timber warren trusses supported by reinforced concrete portal frames. The trusses are 'meccano'-like, assembled in different layers which create visual interest architecturally. These layers also create great eccentricities which form important secondary moments in transversal direction. The top and bottom chords are built-up beams, held together by packers which provide sufficient lateral stability. On each concrete portal there is a steel frame in between the wooden members which provides overall lateral stability. The structure, however, is not entirely three-dimensional. The difficult geometry and eccentricities of the structure require visual and analytical high performance software. This software makes it possible to analyze and interpret the secondary effects, and allows for a link between 2-dimensional models and hand calculations. Maintaining the design of the nodes of the truss, while implementing the packers at the top and bottom chords proved to be a challenging job which involved integrating the practical experience of the contractor with engineering optimization, all the while maintaining the overall design and architectural detailing. As a result, the bridge is both highly particular, and structurally unique.

BAS bvba

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BAS
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 bureau voor architectuur en stabiliteit

BAS bvba is primarily known for giving advice on architectural structural engineering. From the architect's first conceptual idea onwards, interplay between spatial form and structural concept will be sought to obtain maximum coherence. In close collaboration with the architects and other advising team members, a number of design-cycles are organized to confront ideas which gradually result in a global concept of coherence wherein structure is (be it hidden) fully present.

