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## **PRESS RELEASE**

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### **The 2006 IABSE Outstanding Structure Award presented to**

**The Central Bus Station Hamburg, Germany**

**The Rion-Antirion Bridge, Greece**

**The Millau Viaduct, France**

The 2006 IABSE Outstanding Structure Award has been conferred to three structures: The Central Bus Station Hamburg, Germany, The Rion Antirion Bridge; Greece, The Millau Viaduct, France and Professor Manfred A. Hirt, President of IABSE, conferred the Award at the Opening of the IABSE Symposium 'Structures and Extreme Events' in Budapest, Hungary on September 13, 2006.

The Award recognises the most remarkable, innovative, creative or otherwise stimulating structures completed within the last few years. It consists of a Plaque to be fixed to the structure and Diplomas for the Structural Engineer, the Architect, the Contractor, and the Owner.

**The Central Bus Station, Hamburg, Germany** received the Outstanding Structure Award for being a 'delightful canopy over a bus station with soaring, transparent cantilevers designed to perfection enhancing the urban infrastructure'.

The Central Bus Station was opened in 2003. The unique design of the new roof for the central bus station ZOB is a landmark with its own corporate identity. The radial oriented arrangement of the bus-pockets, as well as a subway tunnel underneath lead to the significant and individual half-moon shaped geometry of the roof. Like a huge boomerang almost 200 m long, the roof hovers above the service buildings and the entire bus-stations.

The roof structure is supported 12 m above ground by a colonnade of slender steel columns, following the curvature of the multi-rib steel shell structure carrying the cantilever beams. Transparent glass panels are fixed underneath the steel purlins spanning between the filigrane cantilevers.

Made of 3400 single splice pieces and 2000 covering sheets, the steel shell acts like a ring beam mainly stressed by axial forces. According to its stress level, the surface geometry decreases smoothly towards the longitudinal edges.



**The Rion-Antirion Bridge** received the Outstanding Structure Award for being “a monumental bridge over a demanding route with significant foundation and challenges executed with strength and grace”.

It crosses the Gulf of Corinth in western Greece. Its environment presents an exceptional combination of difficult physical conditions: large water depth, deep soil strata of weak alluviums, strong seismic activity, and possible tectonic movements. Furthermore the Bridge has to withstand the impact of a 180,000 tanker sailing at 16 knots. All these constraints have called for an exceptional design: this cable-stayed bridge presents three main spans, 560 m each, and two lateral spans. Foundations consist of 90 m diameter caissons resting on the sea bed. The top 20m of soil is reinforced by means of a quite innovative concept called inclusions.

Another unique feature of the project is its continuous fully suspended deck, for its total length of 2252 m. This creates an effective isolation system that reduces seismic forces in the structure and allows the deck to accommodate fault movements. The Bridge was completed in August 2004, five months ahead of schedule.

**The Millau Viaduct** received the Outstanding Structure Award for being ‘an elegant, slender bridge soaring above a deep valley connecting two plateaus which was constructed using an innovative launching procedure which advanced the state of practice in bridge construction’

The cable-stayed bridge is situated in the Tarn River Valley in Southern France and was inaugurated on December 14th 2004. It is continuous along its eight cable-stayed spans (typical span of 342 m). The ‘useful project life’ is 120 years. The deck is a trapezoidal profiled metal box girder with an upper orthotropic decking. The 87 m high pylons are composed of two stiffened metal box girders. The eleven pairs of cables which support each span are arranged in a single plane in a half-fan pattern.

Piers P2 (height 245 m) and P3 (height 223 m) are the two highest piers ever built in the world. From their base to 90 meters below the deck, the piers rise as a single hollow shaft, then they are divided into two separate parallel shafts, which are each pre-stressed vertically by eight cables.

*The International Association for Bridge and Structural Engineering (IABSE) comprises 4'000 members in 100 countries. Founded in 1929, IABSE deals with all aspects of planning, design, construction, maintenance and repair of civil engineering structures. To fulfil its mission, IABSE organises conferences and publishes a quarterly journal, Structural Engineering International, as well as books and reports. The Association has a number of technical groups and presents awards in recognition of outstanding contributions in the domain of structural engineering.*

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