

# European Steel Bridge Awards 2024

The overall winner **ESBA 2024 Laureates** and **Special Awards** were announced and celebrated in the frame of the 11<sup>th</sup> International Symposium on Steel Bridges (<u>https://steelbridges2024.com</u>).

The European Steel Bridge Awards are given by ECCS every two years to encourage the creative and outstanding use of steel in construction of bridges. The awards are dedicated to the owner, general contractor, the architects, the engineers and the steelwork contractors of each outstanding steel bridge project submitted from ECCS Full Member countries and international contestants in order to esteem their collaboration and the excellence of their work.

Sixteen projects related to Road and Railways Bridges and to Cycle and Pedestrian Bridges were received from all over Europe.

A professional jury met in the Czech Technical University, Faculty of Civil Engineering on 11<sup>th</sup> June 2024 in order to select the winners:

- Dr. Bernhard HAUKE, Chairman of Promotional Management Board of ECCS;
- **Prof. Pavel RYJÁČEK,** Czech Technical University, Faculty of Civil Engineering, Chairman of the ECCS Bridge Committee;
- Prof. Frantisek WALD, President of ECCS;
- Dr. Ing. arch. Karel HÁJEK, Atelier Karek;
- Dr. Ing. Marek FOGLAR, Metrostav a.s.

Steel is recognized for its high potential in terms of strength, durability, design flexibility, adaptability, recyclability and reusability. Today's steel structures allow the best adaptation to modern life and renovation of historical elements of our built environment, being in cities or countryside. Steel is also the perfect material for reaching a circular economy while leaving the necessary room for creativity in design.

**ECCS** is the European Federation of National Associations of Steelwork Contractors, the unique platform gathering all the actors of the sector: steel producers, contractors, researchers and academics. ECCS is a federation of 15 National Associations of steelwork contractors: www.steelconstruct.com



# Category ROAD AND RAILWAY BRIDGES

# LAUREATE

# Austria: U81 Brücke Nordstern (Düsseldorf, Germany)

The ARGE was commissioned by the LHS Düsseldorf in May 2020 to build the U 81 Nordstern Bridge. The construction of the U 81 route will connect the FH Düsseldorf to the light rail network, enhancing public transportation. The bridge follows a large 90° curve with a radius of 225 meters over the A 44 and the B 8. This 6-span bridge, spanning 441 meters, was constructed using the incremental launching method. The largest span of 82 meters is located over the A 44 highway. The launches were carried out using a 40-meter-long precast segmental span. The structure is a truss bridge with roadway decks connected to both sides of the bottom chord.

#### Owner:

- Rheinbahn and Landeshauptsadt Düsseldorf

#### Architectural Firm:

- Consortium Grassl Vössing

#### Engineering Firm:

- Grassl Ingenieure
- MCC ZT GmbH

### Steelwork Fabricator:

- MCE GmbH
- Haslinger Stahlbau GmbH
- Kralovopolska steel s.r.o.

## General Contractor:

- ARGE Wayss & Freytag / Implenia / MCE



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The bridge is an engineering masterpiece combining contemporary design and construction methods to achieve a unique and beautiful structure for public transport in the dense urban situation above the existing motorways. The jury members

also appreciated the solutions to the challenges resulting from the horizontal curve by the unconventional central truss girder, that perfectly fits the surrounding landscape and emphasises the importance of modern public transportation.



# **SPECIAL AWARD - Heritage**

## Germany: Railway Bridge Chemnitz Viaduct - Revitalization and strengthening

The Chemnitz Viaduct railway bridge, built between 1901 and 1909, is located in the Chemnitz railway arch as part of the so-called Saxony-Franconia-Magistrale. Due to identified structural weaknesses and the poor condition of the existing structure, the approx. 275 m long and 17.50 m wide Chemnitz viaduct was technically repaired, upgraded and partially replaced for modern railway transport under the conditions of monument protection. After an intensive planning and construction phase, the structure was officially reopened in new glory on 8. September 2024.

#### Project Owner:

- DB AG

Architectural Firm:

- KREBS+KIEFER Ingenieure GmbH (Object planning)

#### Engineering Firm:

- KREBS+KIEFER Ingenieure GmbH (Structural design)
- Mensinger & Stadler (Assessment of the bearings)
- GMG Ingenieurgesellschaft (Proof Engineer)
- DB Engineering & Consulting (Plan and acceptance inspector)

#### Steelwork Fabricator:

- New steel construction: Züblin Stahlbau GmbH
- Strengthening of existing structure: DB Bahnbau Gruppe
- Bearings: mageba GmbH

#### General Contractor:



© DB AG

- ARGE Chemnitzer Viadukt (consisting of Strabag AG, DB Bahnbau Gruppe, Ed. Züblin AG, Wilfried Keßler Erdbau & Abbruch GmbH, Lasch GmbH Zwickau, Bilfinger arnholdt GmbH)



The Chemnitz Viaduct is an excellent example of the combination of preserving the heritage structure and the use of the latest science, design and execution techniques for the use of modern parts and renovation of the existing elements

for the railway traffic for the upcoming century. The jury members appreciated the significant effort of the bridge owner to preserve the style of the original iconic bridge as well as the engagement of the local community.



# Category CYCLE AND PEDESTRIAN BRIDGES

# LAUREATE

## Poland: Footbridge over the Vistula river in Warsaw

The Bridge to Praga was built in Warsaw. Construction of the building started in early 2022 and was completed in 26 months. It is the first pedestrian and bicycle bridge in Poland with a length of 452 metres, the bridge measures 16.3 metres at its widest point and 6.9 metres wide at its narrowest point.

#### Project Owner:

 Miasto Stołeczne Warszawa, Zarząd Dróg Miejskich w Warszawie

Engineering Firm:

- Schuessler-Plan Inżynierzy Sp. z o.o.

Steelwork Fabricator:

- Mostostal Kraków
  S.A.
- PPUH Konstalex Sp. z o.o.
- Mostostal Puławy S.A.
- General Contractor:
- Budimex S.A.



© Mostostal Kraków S.A.



The footbridge combines in an excellent way the engineering quality of the long-span bridge, and also the beautiful aesthetical and architectural form, creating a precious jewel on the Vistula River. The harmonic appearance goes well with the readable structural form.

The jury members appreciated the opportunities provided to everyone to stroll on the bridge and spend time admiring the splendid Warsaw panorama and the stunning river.

The simple and clear shape is perfect for maintenance.



# **SPECIAL AWARD – Special Design**

## Czech Republic: Sky Bridge 721 / The world's longest suspension footbridge

Sky Bridge 721 offers enchanting views surrounded by pure nature. It opens up an unprecedented journey between heaven and earth, and at its highest point, visitors are 95 metres above ground. It was featured on the cover page of Time magazine as one of the World's Gratest Places of 2022 to explore. Sky Bridge 721 is located in the Kralicky Sneznik mountains at an altitude of about 1100 m above sea level and spans the valley of the Mlynsky Potok. It is a unique engineering project in the Czech Republic, with its length of 721 metres it takes the lead as the longest footbridge in the world.

#### Project Owner/Investor:

- SNĚŽNÍK a.s. (Czech Republic)
- Architecture, Structural Engineering, General Contractor: - TAROS NOVA a.s. (Czech Republic)

Co-authors:

- Radek Ondruch, Aleš Gebauer, Ing. Václav Röder, Ph.D., Ing. Ondřej Orság, Ing. Jiří Kozák

#### Steel Fabricators:

- Manufacture of the steel structures: FERRMON, spol. s r.o. (Czech Republic)
- Manufacturer of the steel cables: REDAELLI TECNA S.p.A. (Italy)





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The footbridge offers enchanting views of Mlýnský Creek Valley surrounded by pure nature. It is a very fine example of how engineering challenges can be solved and how ideas can be transferred into the practice.

It is a unique engineering project as the longest footbridge in the world, promoting steel as the main material for long-span bridges.

The jury members appreciated the opportunities and potential to attract people to nature and enjoy the stunning views.



The European Steel Bridge Awards 2024 Nominees were (by country alphabetical order):

### Category ROAD AND RAILWAY BRIDGES

Austria: ÖBB / Koralmbahn Graz-Klagenfurt / Jauntalbrücke Austria: U81 Brücke Nordstern (Düsseldorf, Germany) Czech Republic: Railway bridge over the Labe river in Děčín Germany: Railway Bridge Chemnitz Viaduct - Revitalization and strengthening Hungary: Comprehensive reconstruction of the Széchenyi lánchíd (Chain Bridge) in Budapest Poland: Railway bridge over the Regalica river Poland: Rotary Bridge in Novakowo Portugal: Viaduto de Santo Ovídio

### Category CYCLE AND PEDESTRIAN BRIDGES

Austria: Replacement of Erdberger Steg

Austria: Michael-Gröller-Fußgängerbrücke "Passarel·la"

Czech Republic: Sky Bridge 721 / The world's longest suspension footbridge

Czech Republic: Cable - stayed footbridge in Prague-Radotín

France: Construction of a pedestrian bridge on the Saint-Denis canal between the Francs-Moisins area and the Stade de France

France: Passerelle des Arts (Luxembourg)

Netherlands: Cirkelbrug

Poland: Footbridge over the Vistula river in Warsaw

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