



European Steel Bridge Awards 2024

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.

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 objective is to give European recognition to steel and composite bridges emphasizing the various advantages of steel in construction, production, economy, sustainability, architecture, and to attract the interest of clients, architects and engineers in using more steel within the bridge construction sector, thereby making the steel industry more competitive.

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.

The professional jury met in the Czech Technical University, Faculty of Civil Engineering on 11 June 2024 in order to select the winners of the 2024 European Steel Bridge Awards:

- **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.



The professional jury met in Prague on 11 June 2024: Dr. Bernhard HAUKE, Dr. Ing. Marek FOGLAR, Prof. Frantisek WALD, Véronique DEHAN (ECCS Secretary General), Prof. Pavel RYJÁČEK, Dr. Ing. arch. Karel HÁJEK

The nominees by country in alphabetical order:

Category ROAD AND RAILWAY BRIDGES

Austria: ÖBB / Koralmbahn Graz-Klagenfurt / Jauntalbrücke

The Graz - Klagenfurt railroad-line, "Koralmbahn", is part of the Austrian high-capacity rail network and a section of the European rail network. The Koralmbahn will significantly increase capacity on the north-south axis Vienna - Tarvisio and will noticeably shorten travel times. The main construction project for the Jauntal-bridge is the new built construction of the double-track supporting structure and two ramp bridges as well as the renovation and new construction of the piers and abutments.

Project Owner:

- ÖBB – Infrastruktur AG

Engineering Firm:

- KOB ZT-GmbH
- ZKP TZ-GmbH

Steelwork Fabricator:

- Donges SteelTEC GmbH

General Contractor:

- Arge Jauntalbrücke Swietelsky / Donges SteelTEC



© KOB ZT-GmbH

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.

Project Owner:

- Rheinbahn and Landeshauptstadt 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



© MCE GmbH

Czech Republic: Railway bridge over the Labe river in Děčín

During 2021-2023 „Společnost most Prostřední Žleb“, joint venture of STRABAG Rail a.s., DT Mostárna a.s., STRABAG AG carried out the project of new Děčín railway bridge construction, which was installed instead of an old one dated 1916, the old bridge structure was dismantled.

DT Mostárna, a.s. was responsible for the new bridge structure manufacturing and assembly as well as dismantling of the old bridge structure.

All elements of the bridge structure were manufactured and painted by DT Mostárna, a.s. in Prostějov, CZ then transported to a quay in Děčín, where the structure was welded together and skidded over the Labe river.

Project Owner:

- Správa železnic, state organisation

Engineering Firm:

- SUDOP PRAHA a.s.

Steelwork Fabricator:

- DT Mostárna, a.s.

General Contractor:

- „Společnost most Prostřední Žleb“, joint venture of: STRABAG Rail, a.s., DT Mostárna, a.s., STRABAG AG



© DT Mostárna, a.s.

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. 275m 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 reopened in new glory on 23 March 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

General Contractor:

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



© DB AG

Hungary: Comprehensive reconstruction of the Széchenyi láncíd (Chain Bridge) in Budapest

The Széchenyi Láncíd is an iconic building of Budapest, listed as a World Heritage Site. When first opened in 1849, its center span of 202 meters was the largest in the world. The original cast-iron structure was updated and strengthened in 1914. After World War II, it needed to be rebuilt. The bridge is directly exposed to corrosion due to its perforated track structure. In the last decades, its condition had deteriorated and was in urgent need of comprehensive renovation. With the structural and monumental upgrades, eg. the replacing reinforced concrete roadway with orthotropic steel, but keeping and repairing the bridge's main elements, its lifespan was significantly extended.

Project Owner:

- BKK Zrt.

Architectural Firm:

- FŐMTERV Zrt. – MSc Kft. – CéH Zrt. Consortium and FŐMTERV Zrt.
- Steelwork design: FŐMTERV Zrt. and MSc Kft.

Engineering Firm:

- Budapest Közút Zrt.

Steelwork Fabricator:

- ACÉLHIDAK Kft.

General Contractor:

- A-Híd Zrt.



© A-Híd Zrt.

Poland: Railway bridge over the Regalica river

The railway bridge over the Regalica River is 276 metres long. As part of this investment, in addition to the bridge itself, two new tracks were built for speeds of over 100 km/h. The new structure was built on the site of the old bridge, which had previously been demolished. It was built 6.2 m above the high level of navigable water at this location. All vessels will be able to pass under it freely, including the icebreakers stationed at the nearby base.

Project Owner:

- Państwowe Gospodarstwo Wodne Wody Polskie – Regionalny Zarząd Gospodarki Wodnej w Szczecinie PKP PLK S.A.

Engineering Firm:

- Top Projekt Sp. z o.o.
- Prodesign Bartosz Stasiak

Steelwork Fabricator:

- Mostostal Kraków S.A.
- Węglokoks S.A. Huta Pokój Konstrukcje sp. z o.o.

General Contractor:

- Budimex S.A.



© Mostostal Kraków

Poland: Rotary Bridge in Nowakowo

The 103m-long rotary bridge at Elbląg river in Nowakowo is a steel structure and is a part construction of a waterway connecting the Vistula Lagoon with the Bay of Gdańsk. Mainly bridge is in closed position and carrying out vehicular, bicycle and pedestrian traffic for local residents. Supplied by Liebherr special bearing is placed in the middle on the main support, allowing the bridge to rotate in the vertical axis by 90° in about 2 minutes and pass trough vessels. Daily it rotates form 2 to 8 times. The entire structure weighs more than 650t. It is the longest of the three swing bridges designed and built as part of the waterway and the longest in Poland.

Project Owner:

- Urząd Morski w Gdyni

Architectural Firm:

- Mosty Gdańsk Sp. z o.o., PROJMOS Biuro projektów budownictwa morskiego Sp. z o.o.

Engineering Firm:

- Mosty Gdańsk Sp. z o.o., PROJMOS Biuro projektów budownictwa morskiego Sp. z o.o.
- Cranes-Consulting & Designing Ryszard Żmuda
- Mostostal Kraków S.A.

Steelwork Fabricator:

- Mostostal Kraków S.A.

General Contractor:

- Budimex S.A.



© Mostostal Kraków S.A.

Portugal: Viaduto de Santo Ovídio

The Santo Ovidio viaduct is part of the Yellow Line of the Oporto Metro extension from Santo Ovidio to Vila de Este.

The viaduct with a curved alignment in plan, radius of 201.955m, has a total length of 421.6m consisting of 6 spans with the following distribution 62+80.6+3x74.4+55.8m.

The superstructure is a semi-through type composite truss, with an equivalent box girder type section, made through a reinforced concrete deck slab at the bottom chord level and a steel bracing system at the upper chord level. A constant height of 6977mm ($L/h=12$) and a width of 10.2 m is adopted for the deck accommodating two metro tracks.

Project Owner:

- Metro do Porto S.A.

Engineering Firm:

- GRID International Consulting Engineers S.A. as member of the Consortium LCW/Amberg/GRID

Steelwork Fabricator:

- Electrofer Engenharia e Construção, SA

General Contractor:

- Ferrovial / Alberto Couto Alves – Linha Amarela ACE



© Ferrovial / Alberto Couto Alves – Linha Amarela ACE

Category CYCLE AND PEDESTRIAN BRIDGES

Austria: Replacement of Erdberger Steg

The “Erdberger Steg” is a pedestrian & cyclist bridge in Vienna. The first bridge was built in 2002 as a timber structure, but due to serious damages it had to be replaced in 2022. As a result of the growing number of cyclists the width of the bridge had to be increased as wide as possible. The new bridge had to be built on the existing foundations without exceeding the support forces of the old one. Another important task was that the time where the bridge is closed for traffic had to be as short as possible. Therefore, a lightweight steel structure with an optimized erecting procedure was the best solution for the new bridge.

Project Owner:

- MA 29-Brückenbau und Grundbau, City of Vienna

Architectural Firm:

- tragwerkstatt Ziviltechniker gmbh

Engineering Firm:

- tragwerkstatt Ziviltechniker gmbh
- Hollinsky & Partner Ziviltechnikergesellschaft m.b.H.
- Steel and Bridge Consulting ZT GmbH
- ste.p ZT GmbH

Steelwork Fabricator:

- Mostostal Kielce

General Contractor:

- Porr Bau GmbH



© MW-Architekturfotografie

Austria: Michael-Gröller-Fußgängerbrücke „Passarel-la“

The publicly accessible pedestrian bridge, called Michael-Gröller-Fußgängerbrücke „Passarel-la“, connects the campus with the park of the Institute of Science and Technology Austria (ISTA) over the federal road B14 in Maria Gugging (Klosterneuburg), Austria.

The bridge is designed as a three-dimensional curved steel structure. It consists of a deck bridge and a ramp running underneath. In the area of the western abutment both bridge arms merge into a common supporting structure.

Project Owner:

- Amt der Niederösterreichischen Landesregierung

Architectural Firm:

- RCR Aranda Pigem Vilalta ARQUITECTES as general planner represented by Riegler Riewe Architekten ZT GmbH

Engineering Firm:

- Peter Mandl ZT GmbH

Steelwork Fabricator:

- Biedenkapp Stahlbau GmbH

General Contractor:

- Biedenkapp Stahlbau GmbH



© RCR Aranda Pigem Vilalta ARCHITECTES

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:

- TAROS NOVA a.s.

Architectural Firm:

- TAROS NOVA a.s.

Engineering Firm:

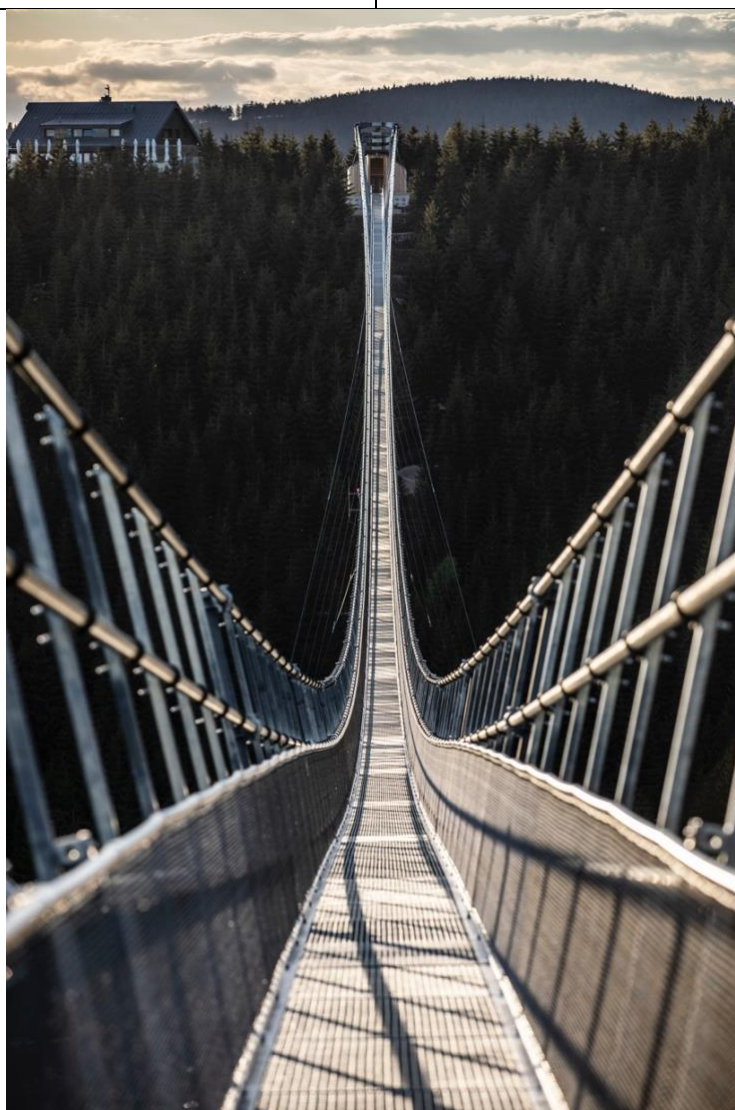
- TAROS NOVA a.s.

Steelwork Fabricator:

- steel structures: FERRMON, spol. s r.o.
- steel ropes: REDAELLI TECNA S.p.A.

General Contractor:

- TAROS NOVA a.s.



© Sneznik a.s.

Czech Republic: Cable – stayed footbridge in Prague-Radotín

The original, seriously damaged concrete footbridge across the Berounka river, was replaced by an asymmetric 110 m long steel cable-stayed footbridge using the adapted existing substructure. The 24 m high pylon consists of one tube asymmetrically pinned to the upper chord of the triangular lattice structure above the bearing sliding on the pillar. Removable composite deck, of width extended from original 2,5m to 4 m, is supported by hot-dip galvanized steel structure.

Project Owner:

- Municipality of Prague 16, Radotín

Architectural Firm:

- AP atelier

Engineering Firm:

- EXCON a.s.
- Mott MacDonald CZ, spol. s.r.o.

Steelwork Fabricator:

- EXCON a.s.

General Contractor:

- EXCON a.s.



© EXCON a.s.

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

Construction of a footbridge with complete reuse and rehabilitation of a road swing bridge. The footbridge is designed for cycle and pedestrian use, suitable for people with reduced mobility with ramps of 110 meters on one side and 120 meters on the other side and 2 stairways of 15 meters each.

The structure is equipped with 735 meters of architectural hot dip Galvanized and painted guardrails and including stainless steel and illuminated handrails.

Project Owner:

- PLAINE COMMUNE

Architectural Firm:

- Exploration Architecture

Engineering Firm:

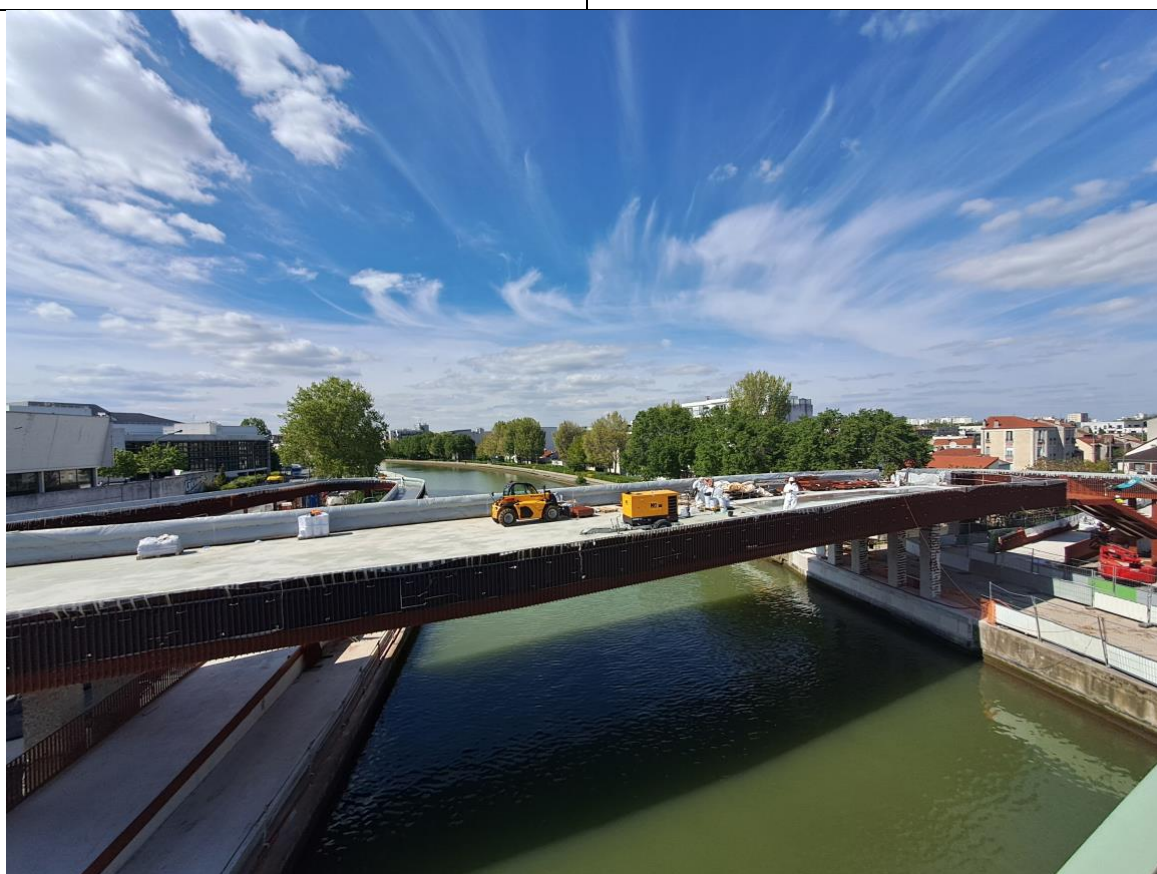
- Schlaich Bergmann Partner

Steelwork Fabricator:

- EIFFAGE MÉTAL

General Contractor:

- RAZEL-BEC



© E. Denny

France: Passerelle des Arts (Luxembourg)

The project's ambition, on the part of the client is to highlight the presence of the museums, particularly the Museum of Modern Art, from the main avenue (John F. Kennedy), which is at the center of the development of the Kirchberg district. This urban boulevard, along which are located the emblematic buildings of the recent development of the city of Luxembourg (Court of Justice, Criminal Court, Philharmonic, National library, etc.), has replaced a very harmful highway. The new footbridge will allow, from the bastion located on this avenue, to go over the valley and cross the woods to reach the museums. Given the topography, the footbridge spans over a length of 90 meters the precious forest located in the valley, at the level of the tree canopy. Thus, pedestrians and cyclists will feel as if they are floating in the canopy. The plan layout of the footbridge preserves all existing trees thanks to a system of curves and counter-curves that ensures the link while gently and contemplatively walking at canopy height. When walkers remain at ground level, descending along the valley, they discover the underside of the footbridge, which we want to appear as an extraordinary object thanks to its material: stainless steel.

Project Owner:

- Fonds Kirchberg

Architectural Firm:

- Marc Mimram Architecture & Associés
- FABECK ARCHITECTES

Engineering Firm:

- Marc Mimram Ingénierie
- Inca

Steelwork Fabricator:

- OUTOKUMPU Distribution France SAS

General Contractor:

- Viry Fayat Group




© Erieta Attali

Netherlands: Cirkelbrug

The bicycle bridge over the Waterlandseweg (N305) welcomes road users to Almere, enriches the network of cycle paths, connects two landscape structures and draws attention to two neighboring landmarks. The weathering steel bridge is a special and idiosyncratic sculpture that naturally fits into its location.

The architectural design is a sensational concept that was developed hand in hand with the structural design for optimal results. The intention was to create a construction that looks slim and playful from the side and offers sufficient space on the bridge for additional functionalities. The meandering shape led to a constantly changing cross-section, which was interesting to translate into a rational structural design, to model, fabricate and install. 3D models were used throughout the entire process, which were exchanged between the architect, the constructor and the steel constructor.

<p><u>Project Owner:</u></p> <ul style="list-style-type: none"> - Provincie Flevoland <p><u>Architectural Firm:</u></p> <ul style="list-style-type: none"> - wUrk architectuur stedenbouw landschap Rotterdam <p><u>Engineering Firm:</u></p> <ul style="list-style-type: none"> - Arup Amsterdam 	<p><u>Steelwork Fabricator:</u></p> <ul style="list-style-type: none"> - Van der Zalm Metaalindustrie, Brakel <p><u>General Contractor:</u></p> <ul style="list-style-type: none"> - Reimert Bouw en Infrastructuur
 <p>© Thea van den Heuvel Fotografie en Film</p>	

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:

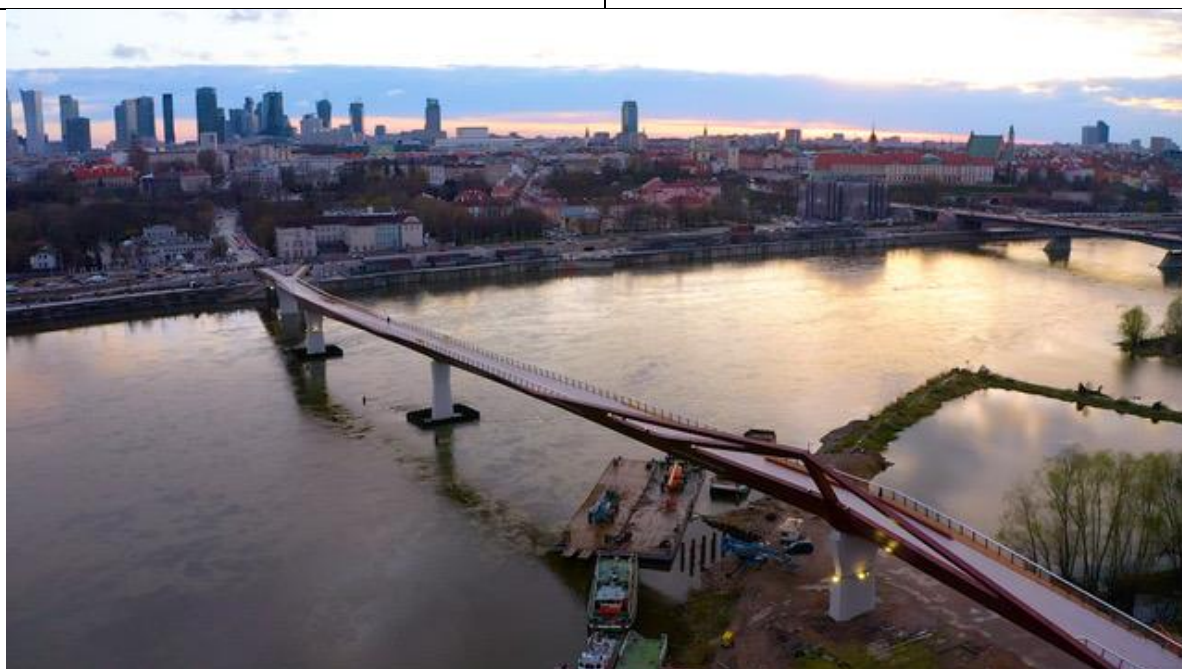
- Schuessler-Plan Inżynierzy Sp. z o.o.

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 Awards Ceremony **for the European Steel Bridge Awards 2024**

Among 16 projects received from all over Europe, winners were elected by the jury for the categories Cycle and Pedestrian Bridges, Road and Railways Bridges, as well as two Special Awards. They will be awarded on the 2024 ESBA Ceremony which will take place on 12th September 2024 in Prague in the frame of the 11th International Symposium on Steel Bridges (<https://steelbridges2024.com>).

The winning projects will also be published on the ECCS website: www.steelconstruct.com and in the ECCS *Steel Construction* journal 4/2024.

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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 16 National Associations of steelwork contractors (www.steelconstruct.com).

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