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Trimble Announces 2024 Tekla Global BIM Awards Winners

WESTMINSTER, Colo., Oct. 2, 2024 /PRNewswire/ -- Trimble® (Nasdaq: TRMB) announced today the winners of its 2024 Tekla® Global Building Information Modeling (BIM) Awards. In this biennial competition, the world's most impressive structural construction projects that use Tekla solutions are judged in eight categories on criteria such as Use of BIM and Collaboration, Innovative Use of Tekla Software, Constructibility, Environmental Benefits and Cool Factor. The overall winner for the best BIM project of 2024 is the Kruunuvuori Bridge in Helsinki, an end-to-end BIM project.

Tekla 2024 Global BIM Awards Category Winners

Infrastructure Project Category and Overall 2024 Winner: Kruunuvuori Bridge, Finland

Promising to be a true landmark at its completion, the Kruunuvuori Bridge inHelsinki will be the longest car-free bridge in the world spanning 1,200 meters. It is a cable-stayed bridge with in situ concrete substructures and a 135 meter-high pylon. The project was a cooperation between the City of Helsinki Urban Environment Division (KYMP), WSP Finland Oy, Kreate Oy, YIT Infra Oy and Ramboll Finland Oy. The project was voted the overall winner of the 2024 Tekla Global BIM Awards as well as the winner in the Infrastructure category.

The tram, pedestrian and bike bridge project features a model-based design from a host of applications (Tekla Structures, Trimble Novapoint, Trimble Connect®, Autodesk® Civil 3D®, Navisworks® and Grasshopper). The team did wind tunnel testing for structural design and stability testing using both a BIM and a 3D-printed model. IFC format models ensure efficient geometry control for each construction phase, including model-based erection guidance, and BIM and BrIM integration ensures precision, efficiency and transparency throughout the project's lifecycle.

The jury specifically praised that the team is managing the project as a full-blown BIM project, using a multitude of software, and with bidirectional field-to-office and office-to-field connectivity enabling a unique quality in handling the complexity of the project.

Public Project Category: Seattle Aquarium Ocean Pavilion, U.S.A.

In the Public Projects category, the jury was most impressed by the technical challenges the Turner Construction team had to overcome with the Seattle Aquarium Ocean Pavilion project. The 50,000 square-foot exhibit features complex designs such as a shell-like tank with no straight edges based on 229 CNC router-shaped panels and connects to existing city infrastructure.

The team relied on a bidirectional data exchange between Tekla Structures and Rhino and Grasshopper to ensure consistent geometry. The detailed installation sequence drawings and constructability analysis were done in Tekla Structures. In the field, the team could access the latest 3D models using Trimble Connect, and used a cohesive model-based lay-out workflow based on Trimble FieldLink and robotic total stations.

Industrial Project Category: Brewery Roman, Belgium

The Brewery Roman project, entered by Matthieu Gijbels, was the Best Industrial Project category winner. This expansion of one of the oldest family breweries in Belgium started with a 3D scan to generate a high-density point cloud that would serve to identify potential conflicts and fine-tune the model throughout the project. This was crucial in the light of the partial preservation and reconstruction of the building's facade.

The model, generated in Tekla Structures, was shared between the project stakeholders using Tekla Model Sharing. Using Trimble Connect AR, the team ensured that all stakeholders could always access an up-to-date version and view the model as an augmented reality overlay over the camera image displayed on a tablet. The project was characterized by the high level of detail of the model (LOD400) with highly-detailed steel structures and precast concrete elements.

Commercial Project Category: Lyyra, Finland

Ramboll Finland Oy, Ylva, Haahtela, Arco Architecture Company Oy and Byggnadsekonomi Oy were winners in the Commercial category for their Lyyra project, a new block of real estate in the city center of Helsinki. The jury especially valued the data-driven nature of the project and the fact that a new city block was built on top of a fully-functional metro station and in between two buildings. This took strong collaboration and coordination between Ramboll as the main structural engineer and Peikko (the steel frame producer). The team applied laser scanning for the initial design and on-site comparison of the as-built situation with the data model in Tekla Structures. The model was shared between the two companies using Tekla Model Sharing and used in a 'live' situation, with workers on site having the models both on tablets or mobile phones and on paper.

Due to the limited amount of space on the job site, all deliveries were just-in-time, requiring a lot of coordination work, which was also model-based. The team applied Deltabeam® Green beams, and recycled 95% of demolition waste on-site to further

the sustainability aspect (striving for a LEED Platinum and Well certification).

Small Projects Category: Te Veld Modular Homes, The Netherlands

The residential project 'Te Veld Modular Homes' from The Netherlands is the winner in the Small projects category. The project revolves around designing and engineering a model of a temporary house. The house was designed specifically for a residential project encompassing a total of 700 semi-permanent homes. The homes feature a high level of sustainability as they are prefab timber structures with some steel elements for structural rigidity.

All co-makers were an integral part of the design and production process. The plumbing and electrical installers drew their installation in the 2D model after which the engineers from prefab builder Barli converted these to 3D for the timber frame production using Tekla Structures. The design by LA Architecten allowed for rapid production and also the delivery planning was optimized for the least waste and impact possible. The Tekla model even included fall protection during the factory assembly, slope insulation, kitchen cabinets and overflows.

Student Projects: Tomasz Stęplowski (Wroclaw University of Science and Technology), Poland

Tomasz Stęplowski of the Wroclaw University of Science and Technology in Poland is the winner of the Global BIM Award in the student category for his design of a funicular-shaped structure of a reinforced concrete hall with the arched girder of the main nave. Tomasz's thesis aimed to find an effective shape for the main part of the structure based on the methods of graphic statics. To test scientist and architect Robert Hooke's observation from 1675: '*as hangs the flexible line, so but inverted will stand the rigid arch*,' he designed not only the arch girder but also other elements of the hall, such as columns, beams, slabs and footings in Tekla Structures.

API Development Projects Category: Component Code Generator, U.S.A.

In the API Development Projects category, Keyack Technology Solutions won the award for their Component Code Generator, a Tekla Open API-based tool that shortens the time required for programming for coding, building system configurators and setting key variables by over 20% to 30%. Typically, developers spend a lot of time manually finding and mapping variables as well as understanding how to properly set the component input on existing components to put them in the model. The Component Code Generator can read selected existing custom, system, or API-plugin components from the Tekla Structures model to automatically generate a C# method to insert that component.

Public Choice Winner: Preservation Plaza Canopy, U.S.A.

Of all the 155 entries, the most votes from the general public went to the Preservation Plaza Canopy by Structures Online.

Tekla Global BIM Awards
Overall, 155 projects from 35 countries (which included winners of the 2023 and 2024 regional Tekla BIM Awards competitions) were entered into the global competition. The winners of the Tekla Global BIM Awards were decided by an international expert jury consisting of Andrew Livingstone, research associate at the Center for Offsite Construction and Innovative Structures at Edinburgh Napier University, Rob Roef, senior business developer digital built environment at the Dutch organization for applied scientific research, TNO, co-chair Building Room, BuildingSMART International and chair of buildingSMART Benelux, Aviad Almagor, vice president of technology and innovation Trimble, and Artur Tomczak, bSDD Product Manager for buildingSMART International and PHD Researcher at the Norwegian University of Science and Technology, NTNU.

"Since its inception in 1999, the Tekla Global BIM Awards have shown us the best of the best in BIM and structural engineering," said Jari Heino, vice president and general manager, BIM & engineering division at Trimble. "Moreover, the entered projects have shown how broad the field of application is for our Tekla Structures software and other Trimble technologies. The projects share richness in quality, detail, functionality and sustainability. The Student category proves again that a new generation is talented in applying BIM technology and driving future success in the structural engineering trade."

More information about the Tekla Global BIM Awards, submissions, jury and winners is available at www.tekla.com/bim-awards

High resolution images of winners are available here.
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Trimble is developing technology, software and services that drive the digital transformation of construction with solutions that span the entire architecture, engineering and construction (AEC) industry. Empowering teams across the construction lifecycle, Trimble's innovative approach improves coordination and collaboration between stakeholders, teams, phases and processes. Trimble's Connected Construction strategy gives users control of their operations with best-in-class solutions and a common data environment. By automating work and transforming workflows, Trimble is enabling construction professionals to improve

productivity, quality, transparency, safety, sustainability and deliver each project with confidence. For more information, visit: construction.trimble.com.

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Trimble is transforming the ways people move, build and live. Core technologies in positioning, modeling and data analytics connect the digital and physical worlds to improve our customers' productivity, quality, safety, transparency and sustainability. For more information about Trimble (Nasdaq: TRMB), visit: www.trimble.com.

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For further information: Eric Harris, Director, Strategic Communications, Trimble, Inc., eric_harris@trimble.com

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