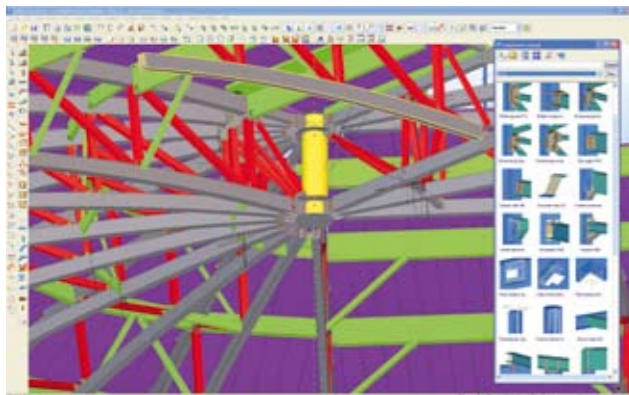
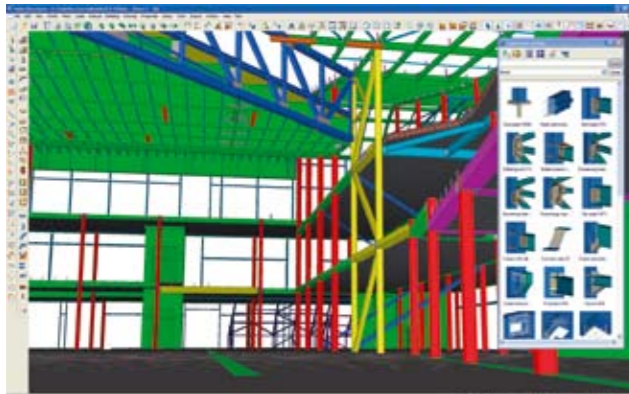


TEKLA STRUCTURES – INTELLIGENT 3D MODELING



TEKLA CORPORATION

Tekla's model-based software products make customers' core processes more effective in building and construction and infrastructure management. Tekla Corporation has area offices and partner organizations worldwide. International operations account for nearly 85% of net sales. Founded in 1966, Tekla is one of the longest operating software companies in Finland.



Tekla's technology creates new business opportunities for the construction industry. The most advanced building information modeling (BIM) solution on the market includes an accurate, dynamic and data-rich 3D environment. The highly detailed 'as-built' digital structural models generated with Tekla Structures software enable effective visualization and management of the project.

Effectively integrating model and non-model-based software solutions allows using the building information model in collaborative workflows. Tekla Structures users can streamline the design, fabrication, and construction processes, ultimately ensuring the highest level of constructability in project delivery. Tekla Structures encompasses specialized configurations for structural engineers, steel detailers and fabricators, concrete detailers and manufacturers, and construction companies.

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**Structures that
Perform**

Impressive Buildings – Modeled with Tekla Structures



Jay Pritzker Pavilion, Millennium Park, Chicago, US

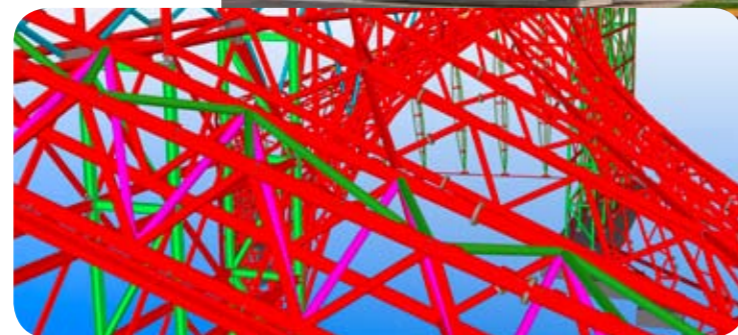
Opened in 2004, Chicago's Millennium Park upstages its taller and more famous neighbors, the skyscraper forest it's nested within. Architect Frank Gehry applied his signature style to this revolutionary outdoor concert venue. The Jay Pritzker Pavilion stands 120 feet high, with a billowing canopy of brushed stainless steel ribbons that frame the stage opening and connect to an overhead trellis of crisscrossing steel pipes. The trellis supports the sound system, which spans the 4,000 fixed seats and the Great Lawn, which accommodates an additional 7,000 people. Design began in June 1999 and construction completed in July 2004. The amphitheater follows Dowco's previous stint as steel detailer of complicated geometry on Gehry's Los Angeles concert hall using Tekla Structures software. Walsh Construction was "traffic cop" for five different 3D models used by players scattered all over America. Internet meetings allowed remote players to view, rotate and discuss the model in real time, saving time and costs and slashing the number of requests for information. The 3D model also helped when the center and east elements of the building had to be replaced or adjusted by Dowco.

Building facts:

- > Project owner: City of Chicago
- > Project management: The Public Building Commission of Chicago
- > Architectural design: Gehry Partners, LLP
- > Contractor: Walsh Construction
- > Structural engineering: Skidmore Owings & Merrill
- > Steel detailing: Dowco Consultants Ltd.
- > Mechanical and electrical engineering: McDonough Associates
- > Construction management: URS Construction Services

Royal Air Force Museum, Cosford, UK

This building provides a new exhibition area for a unique collection of Cold War aircraft and military equipment. The dramatic shape of the building is based upon hyperbolic parabola, creating two triangular exhibition areas separated by a central spine wall. There is a total of nearly 700 tons of steelwork of which a large proportion is in the tubular roof structure. During shop assembly some 1,360 unique brackets were fitted to the tubular rafters to provide a suitable fixing for the cladding system. As well as being designed for considerable wind loads, the structure also has to accommodate the additional load of a number of the aircraft being suspended from the steelwork.

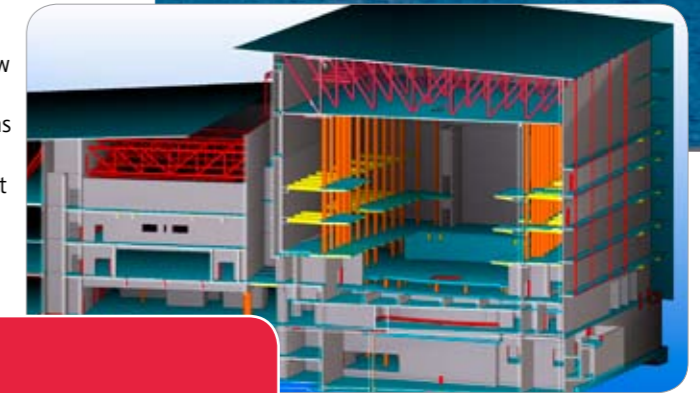


Building facts:

- > Owner: The Royal Air Force
- > Architect: Feilden Clegg Bradley
- > Consultant: Michael Barclay Partnership
- > Main contractor: Galliford Try Ltd

National Concert & Congress Center, Reykjavik, Iceland

In a unique setting of mountains, fjords, ocean and glacier, the National Concert and Conference Center of Reykjavik will no doubt become a major landmark on the Icelandic coastline. The 23,000-square-meter site will include a concert hall that seats 1,800, a restaurant, shops and conference rooms. Opening in 2010, the center will further reinforce Reykjavik's popularity as an international concert and conference destination, and strengthen its tourist industry. Ramboll Denmark, an extensive user of Tekla Structures, is involved in the construction, in collaboration with the Icelandic artist Olafur Eliasson and the renowned Danish architectural firm Henning Larsens Architects. Advanced 3D technology is used to facilitate information exchange and minimize the risk of errors. The center is a large and complex project that greatly benefits from 3D modeling and collaboration through industry standards. 3D technology not only offers a raft of new potentials for creating impressive cultural buildings – it also gives all parties involved a far better basis for making decisions and allows more people to be involved in the construction process. The world's largest 3D model is put to work from start to finish in the planning and designing of the center. Ramboll is responsible for all engineering disciplines on the project.



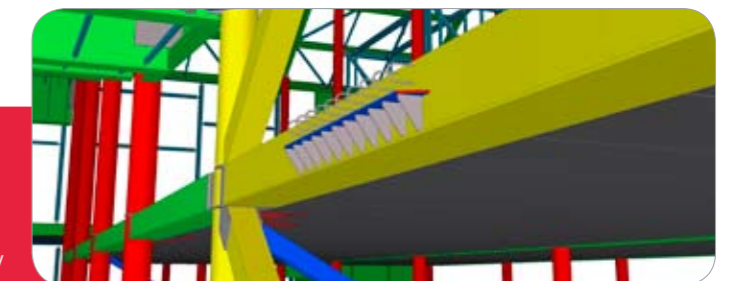
Building facts:

- > Project owner: Islenskir Adalverkattar hf (IAV)
- > Architectural design: Henning Larsen Architects, Artec Consultants Inc, Olafur Eliasson, Hönnun hf, Rafhönnun hf and Switbert Greiner
- > Structural and M&E engineering: Ramboll Denmark



Maritime Center Vellamo, Kotka, Finland

The new maritime center at the old port of harbor town Kotka, Finland, was completed at the end of 2007. The center accommodates two museums, and is an impressive landmark that brings to mind an image of waves in the sea. The building frame was erected using the 4D production model of Lemcon, the main contractor. The model was based on a 3D structural model created using the Tekla Structures software. The 3D model was supplemented with design and installation schedule details and included all technical information required for manufacturing and installing the frame structures. The production schedule of the steel workshop supplying the building frame was also linked to the same frame model. This way, the construction site was kept up to date regarding the status of design and manufacture. The use of the 4D model reduced the amount of on-site checks required, warned in advance of any disruptions, and enhanced schedule planning and control in the project.



Building facts:

- > Owner: City of Kotka, Finland
- > Architectural design: Architects Lahdelma & Mahlamäki
- > Main contractor: Lemcon Ltd.
- > Structural design: Consulting Engineers Magnus Malmberg Oy
- > Steel supplier: H-Steel Oy Ltd.