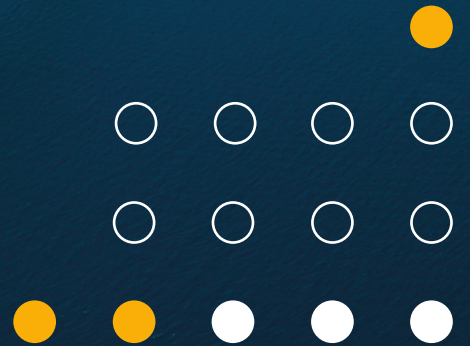




 **COMPUTERS &
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SOFTWARE & CONSULTING
Exclusive Tekla distributor in Turkey

Tekla for bridge designers





The most comprehensive BrIM solution

for bridge designers

Tekla Structures is an intelligent Bridge Information Modeling (BrIM) solution for the constructible design of bridges of any type and size. With this powerful software, it's easier and faster than ever before to design the structures that are essential to connecting the world.

Passion for bridge design

Tapping into the power of BrIM lets you boost your bridge designs with accurate information, trustworthy documentation and high-quality constructibility.

Just as bridges allow traffic to flow smoothly, Tekla Structures allows information to flow efficiently. This is because models designed with Tekla Structures contain all the information needed for building and maintaining a structure. Project stakeholders can share, access and manage this valuable information throughout the lifespan of a project, anytime and anywhere.

One tool for every bridge design

Tekla Structures lets you easily design any type of bridge or civil structure, from basic to complex, using a variety of materials.

Bridge types



Beam or box girder bridges



Truss bridges



Arch or tied arch bridges



Cantilever bridges



Suspension bridges



Cable-stayed bridges



Underpasses or box culverts

Materials



Concrete



Steel



Precast concrete

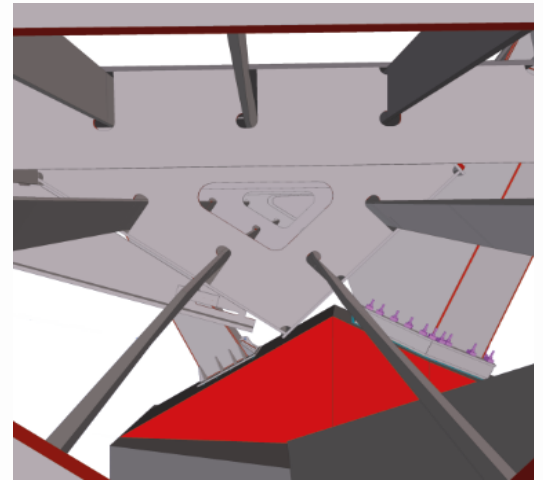
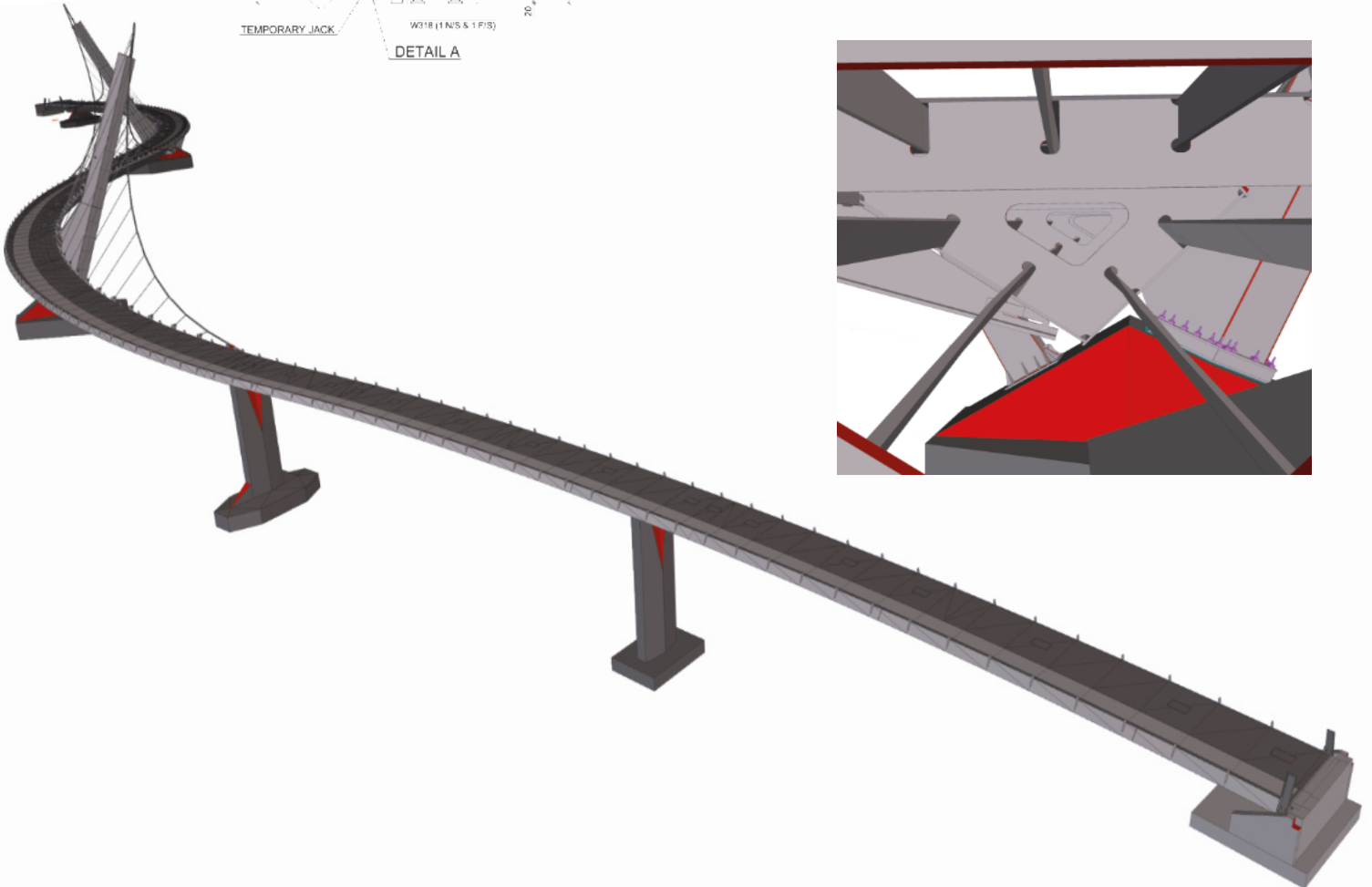
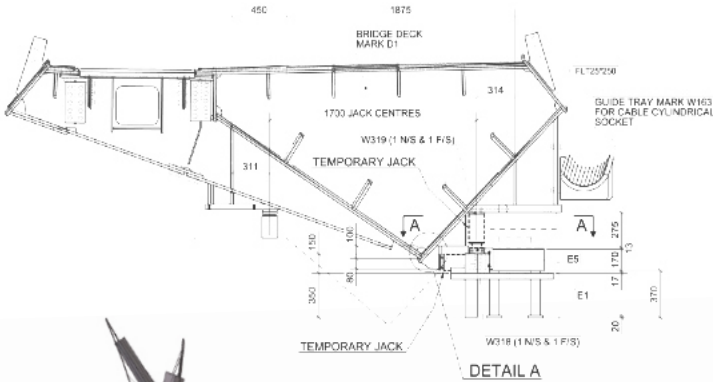


Timber



PEACE BRIDGE

- ▶ S-shaped, self-anchored suspension bridge leads pedestrians and cyclists over River Foyle.
- ▶ Approximately 250 meters long main suspension bridge with landspans of approximately 60 meters, 3.5 to 4.5 meters wide.
- ▶ The main deck comprises of a five-sided box section and cantilever arms, supported by four main cables with 14 hangers of spiral wound cable. Two nearly 40 meter tall inclined pylons hold the main cables which connect to anchorages on the deck boxes.
- ▶ Made with about 1,000 tons of steel.
- ▶ Stands on 30 steel piles, each driven into the riverbed 11 meters deep.



High LOD parametric modeling

The most powerful 3D parametric modeling environment available, Tekla Structures automates change updates and repetitive tasks, so that you can focus on the important job of designing safe structures. The 3D model's high level of development (LOD 300-450) means you can be confident that all deliverables, including the model, drawings and material lists, are consistent.

Wide range of support Services

To help you get the most out of your Tekla software solution, we offer a range of services such as local support, training, consultations, and Tekla User Assistance, our 24/7 online self-service. Tekla Warehouse, our free global BIM storage, is a convenient way to enrich your high-quality models with components, extensions, templates and add-ons for a customizable design process. What's more, our installation and integration services tailor Tekla to your local standards and settings.

A streamlined workflow every step of the way

Tekla Structures is a full structural workflow solution. From road alignment to geometry and rebar design, to steel fabrication and precast manufacturing, all the way to erection, scaffolding and on-site pours, Tekla Structures can be used throughout the entire project. After construction, the as-built model data can be stored for later use in asset management and model-based maintenance.

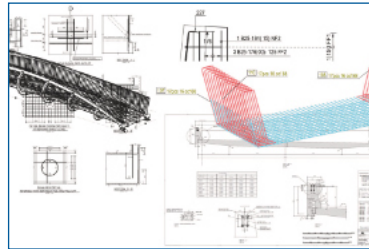
Design to build with Tekla

- ▶ Import road alignment automatically
- ▶ Easily define the key sections of your bridge
- ▶ Efficiently detail rebars of any size or complexity
- ▶ Manage changes and updates in real time
- ▶ Easily customize with content from our library
- ▶ Get accurate quantities and documentation
- ▶ Visualize and communicate with the model
- ▶ Prevent errors and waste on site
- ▶ Use the model data for asset management

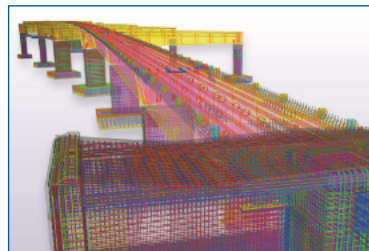
Constructible Process:



Geometry design and modeling



Trustworthy documentation



Advanced rebar detailing



Flawless fabrication



BIM-based construction

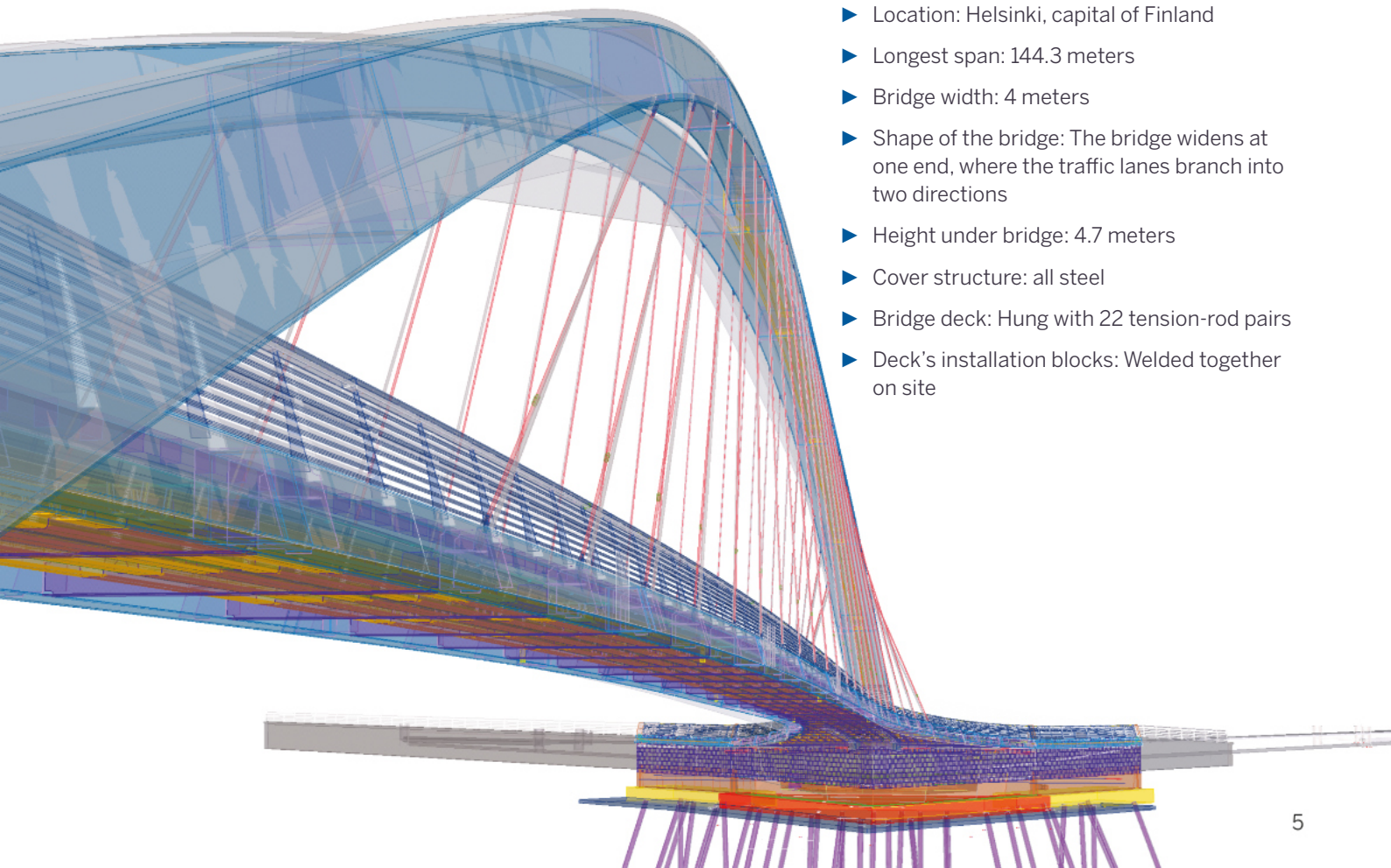


Smart bridge facility management



THE GRANDFATHER'S BRIDGE

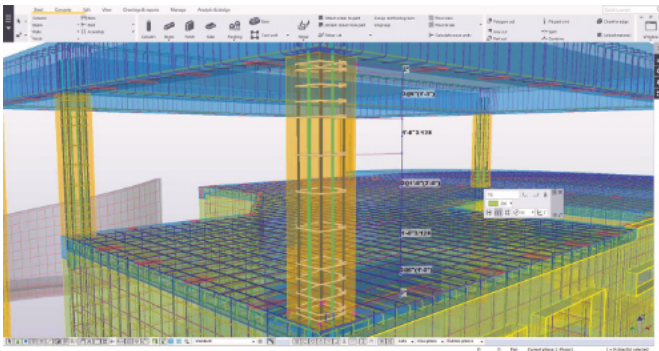
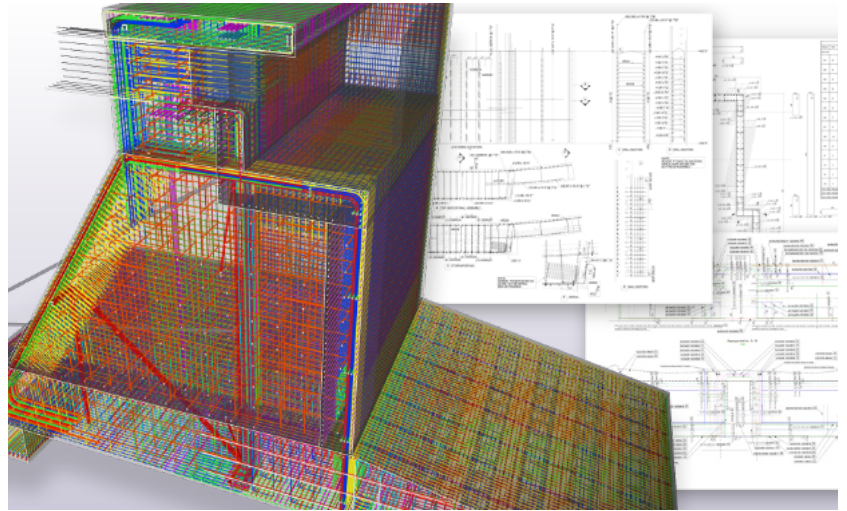
- ▶ Location: Helsinki, capital of Finland
- ▶ Longest span: 144.3 meters
- ▶ Bridge width: 4 meters
- ▶ Shape of the bridge: The bridge widens at one end, where the traffic lanes branch into two directions
- ▶ Height under bridge: 4.7 meters
- ▶ Cover structure: all steel
- ▶ Bridge deck: Hung with 22 tension-rod pairs
- ▶ Deck's installation blocks: Welded together on site



Get it consistently right

Get the documents with correct and consistent information from the very beginning and through the entire process.

- ▶ Generate placement and production drawings complete with bar marks.
- ▶ Pull-out pictures and bar bending schedules directly from the model.
- ▶ Create reports, bending schedules, and material lists for bars and meshes automatically.

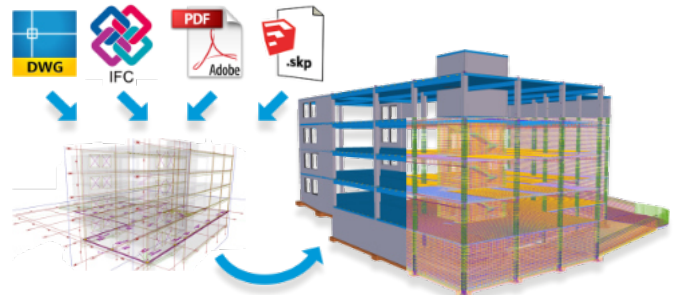


Adjust, modify, update, and adapt to changes easily

- ▶ Placed reinforcement automatically adapts to any changes in concrete geometry or properties like cover thickness.
- ▶ Adjust rebar placement and modify settings easily by interacting directly with model objects.
- ▶ Make updates only once: associative drawings and schedules can be updated automatically when the model changes.

Collaborate effectively

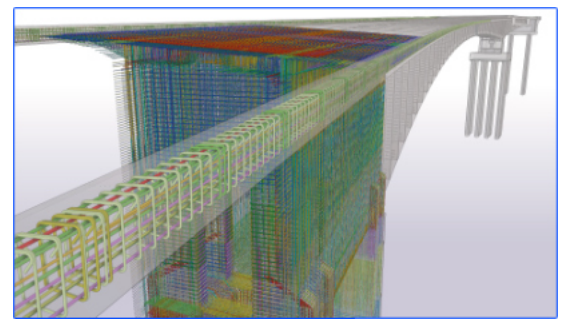
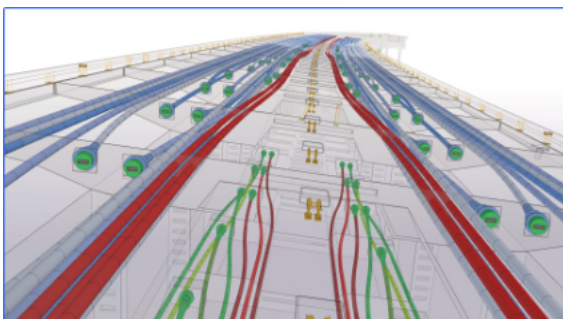
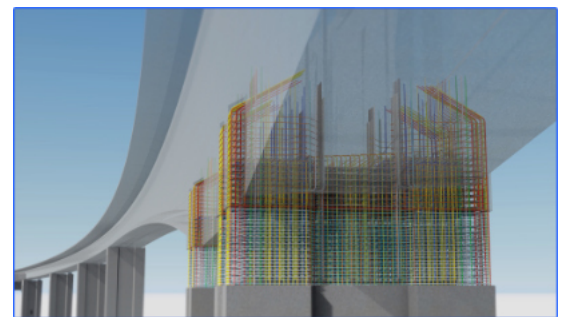
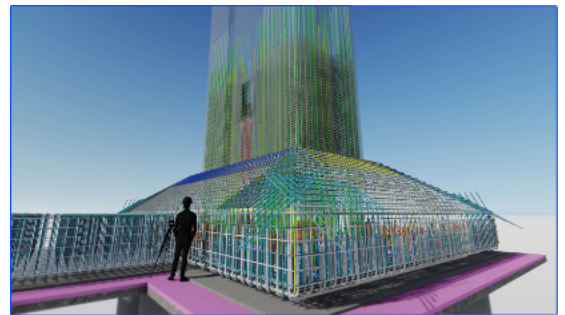
- ▶ Work with your team and partners: multiple users can work on the same Tekla model at the same time regardless of location, time zone, or the speed of their internet connection using Tekla Model Sharing.
- ▶ Exchange models in IFC format and work with complementary solutions using standard formats such as PDF, DXF, DWG, DGN.
- ▶ Detect and report design changes in reference model revisions automatically.
- ▶ Create 3D visualizations for complex connections, prefabricated cages, and communicate rebar placement sequences. 3D views and visualizations can be included in the drawing. The 3D models can be viewed with collaboration tools such as Trimble Connect.





RANSELVA BRIDGE

- ▶ Randselva Bridge is a 634-meter-long cantilever concrete bridge being built without drawings. It's based solely on BIM-models.
- ▶ Located near the city of Hønefoss, around 50 km north-west of the Norwegian capital.
- ▶ It has a main span of 200 meters and six piers that range in height between five and forty-two meters.
- ▶ At its highest point, the bridge deck will stand 55 meters above ground level.
- ▶ The largest hammerhead will be 21 meters long, 8 meters in width and 14 meters in height
- ▶ 95% of all information is transferred to the contractor with IFC files. Parametric design has been used to model ~70% of all objects.
- ▶ The BIM-model contains over 200,000 rebars and 250 post-tensioning cables.



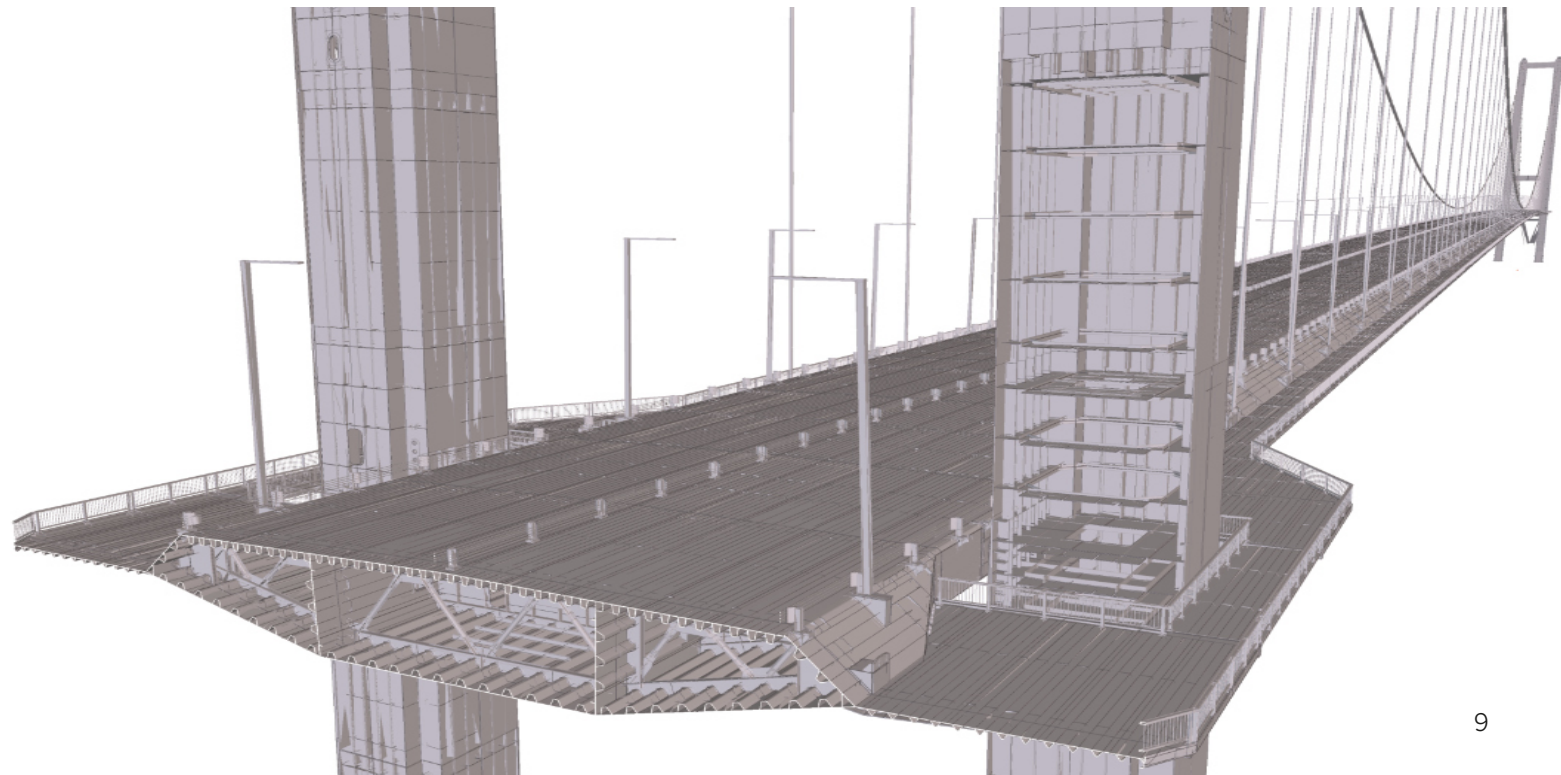
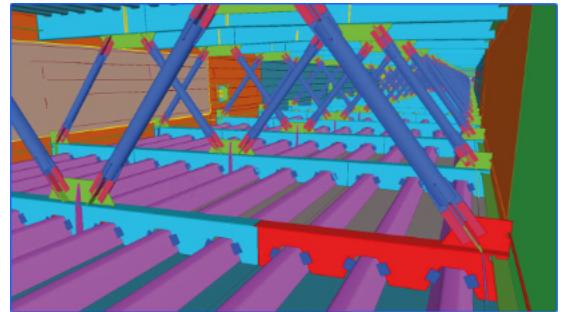
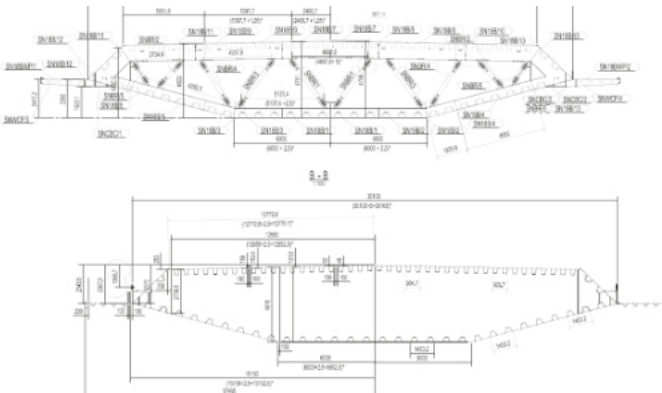
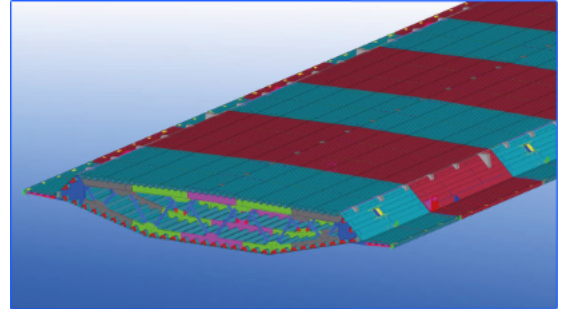
1915 ÇANAKKALE BRIDGE

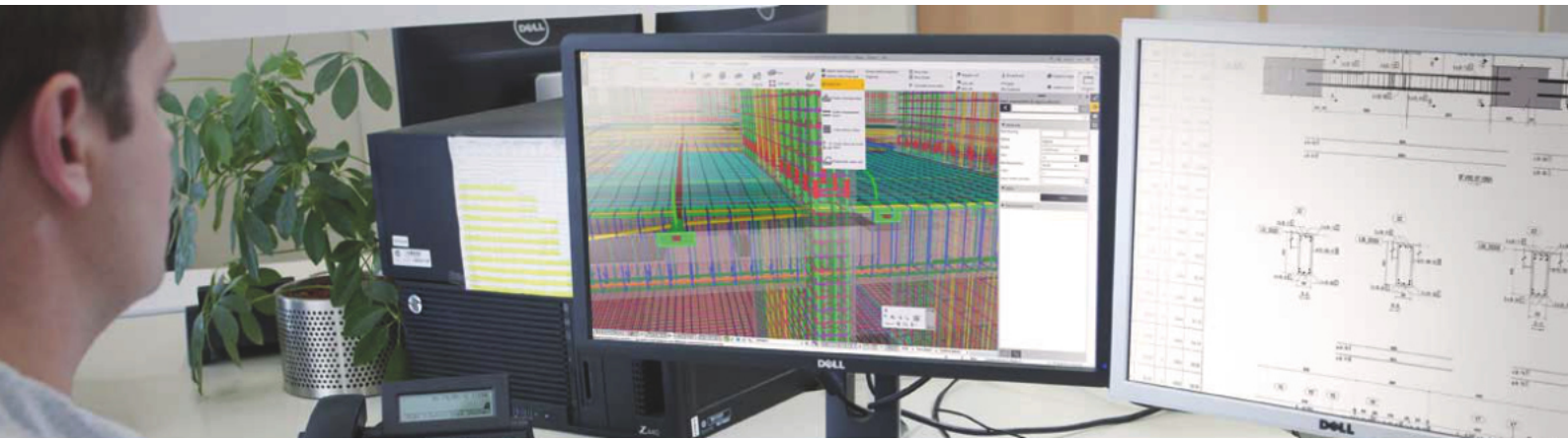
- ▶ The longest suspension bridge in the world with a main span of 2,023 m
- ▶ The total length of the bridge is 3,563 m
- ▶ The sixth tallest bridge in the world with the tower height of 318 m
- ▶ The deck of the bridge is 45 m wide, carries 3 lanes of traffic on each direction
- ▶ 105.000 tons of steel used for the construction of the bridge.
- ▶ The bridge crosses the Dardanelles, south of the Sea of Marmara, Turkey
- ▶ The design and the structural engineering have been made by COWI.
- ▶ Constructed By DAELIM, LIMAK SK E&C and Yapı Merkezi



OSMANGAZI BRIDGE

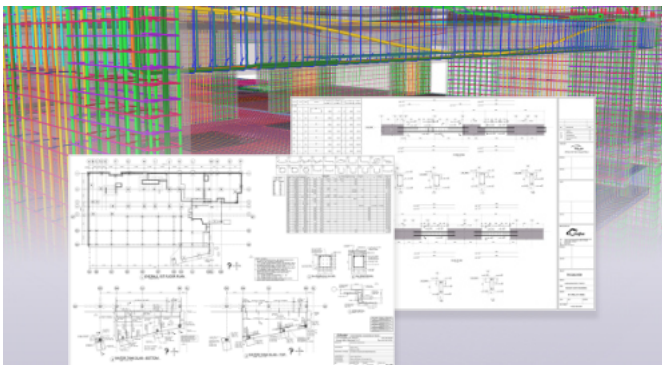
- ▶ The world's fourth longest suspension bridge with a central span length of 1550 m,
- ▶ Located at the Gulf of İzmit, along the eastern side of Marmara Sea, Turkey.
- ▶ The bridge has a total length of 2682 m with its 566 m side spans on both sides.
- ▶ The towers are made of 18,000 tons of steel and have a total height of 252 m.
- ▶ The girders provide three lanes of traffic on each direction and have a total weight of 34,000 tons.
- ▶ The main contractor of the bridge is IHI Infrastructure Systems & ITOCHU Consortium.
- ▶ The design and the structural engineering have been made by COWI.
- ▶ The girders and the towers are fabricated and ground/trial assembled by Çimtaş Steel - Gemlik and Çimtaş Shipyard - Gölcük.





Rebar drawings and schedules

With Tekla Structures, those who detail and document reinforcing steel for fabrication purposes can address late design and on-site changes efficiently, and avoid requests for information (RFIs) by producing more accurate, information-rich fabrication and construction drawings and schedules.

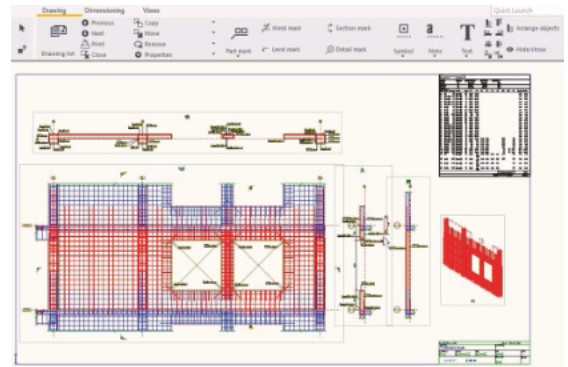


Draw it right

- ▶ Generate placement and production drawings complete with bar marks, pull-out pictures, and bar bending schedules directly from the model.
- ▶ Ensure consistent information in all drawing views, lists, and schedules with the direct link between the model and the drawings.

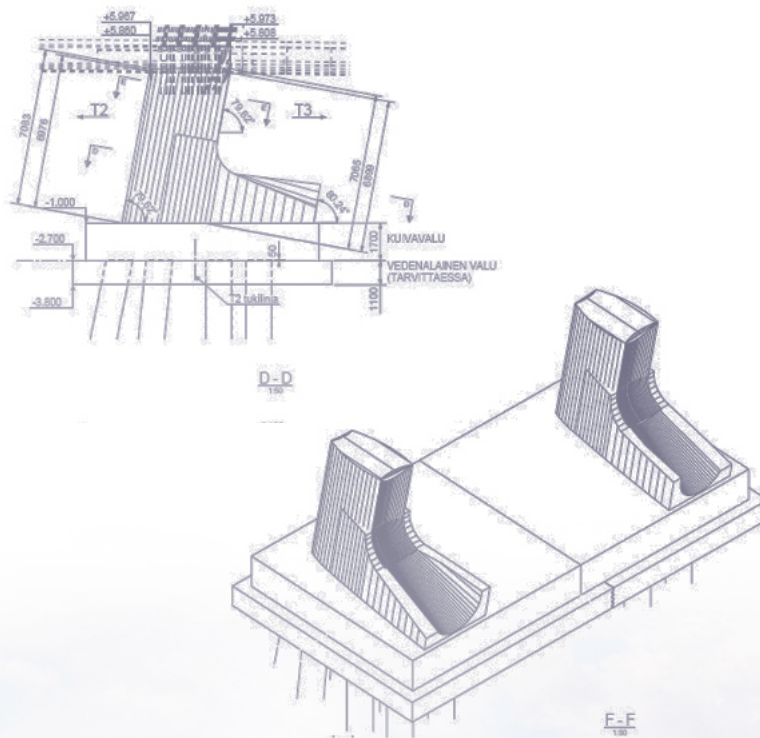
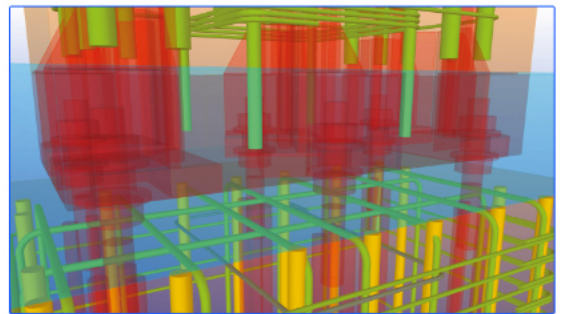
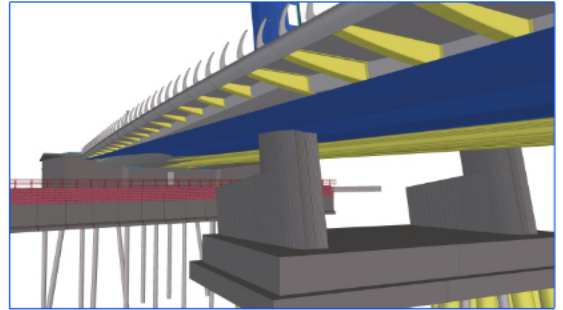
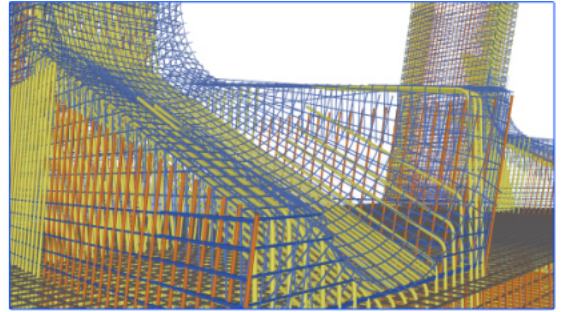
Automate your drawing production

- ▶ Create complete drawings for standard structures, such as pad-footings and columns using predefined settings.
- ▶ For more complex structures, create pre-set rules for different drawing views to quickly create dimensions and annotations.
- ▶ Add bar marks and pull-out pictures with a single mouse click.
- ▶ Generate additional sections, views, and 3D visualizations at any time.
- ▶ Create predefined rules to automate and standardize your documentation.



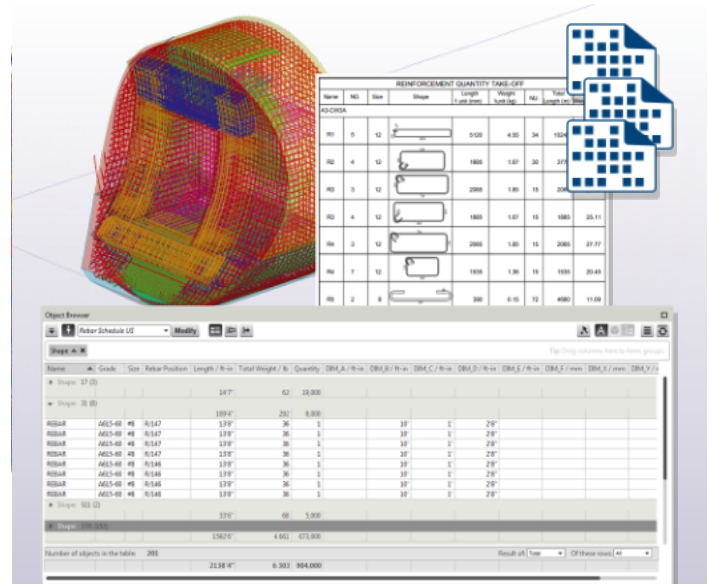
CRUSELL BRIDGE

- ▶ Crusell bridge is a cable-stayed bridge commissioned by the City of Helsinki's public works department. Jätkäsaari island, a part of the former West Harbor near the city center of Helsinki, is being transformed into a new maritime urban district.
- ▶ The Crusell bridge connects the western residential edge of Jätkäsaari with the commercial part of the Ruoholahti district.
- ▶ The bridge is 175 m long and 25 m wide.
- ▶ It has two asymmetrical cable-stayed spans, measuring 92.0 m and 51.5 m
- ▶ Its design was chosen through a competition. Construction began in the fall of 2008, and the bridge was completed in 2011.



Get reliable data directly from your model

- ▶ Create bending schedules and material lists for bars and meshes automatically.
- ▶ Include schedules into any drawing or report separately.
- ▶ Export data using industry-standard formats such as BVBS, PXML, and Unitechnik, and in proprietary formats of aSa, LP-System, Soule, Arma+, and many more.



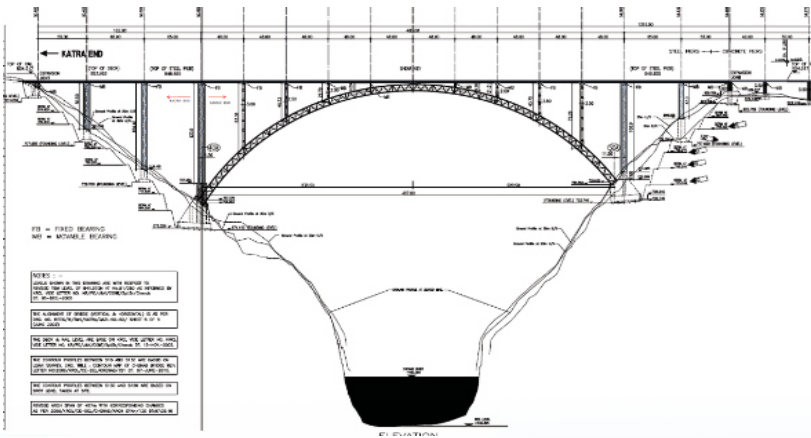
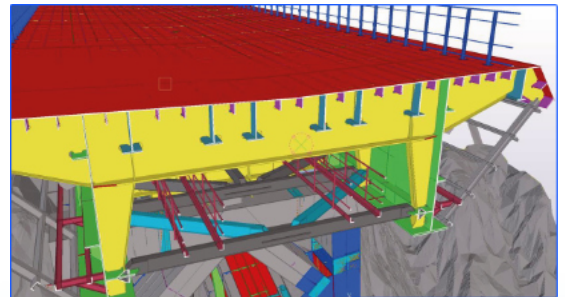
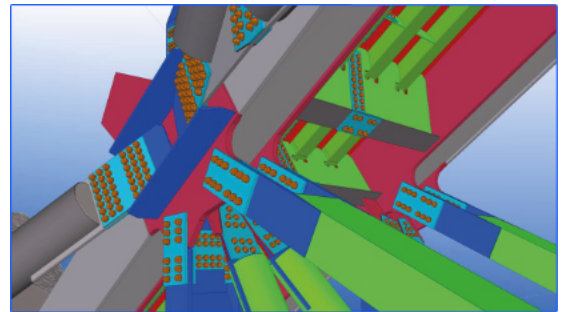
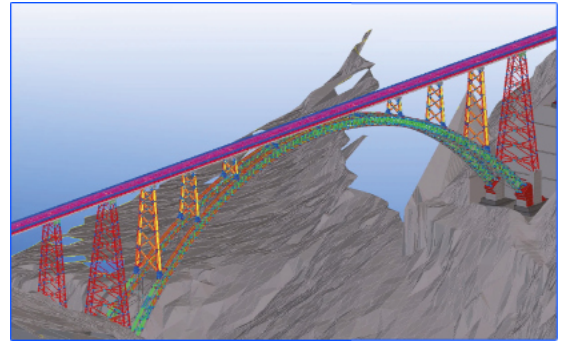
The construction software for rebar fabrication

Increase your productivity and prevent rework by improving documentation, management, and transfer of the information with Tekla software. When the constructible Tekla model is the source for all deliverables, you always have the same good quality information at hand to be used for bending schedules, bar lists, and rebar shop drawings. Fabrication quality data can be automatically transferred from the model to rebar cut-and-bend and mesh welding systems and material handling software. Automated tools enable managing, reporting, and coordinating information quickly and easily, according to production and delivery units. This helps you ensure delivery on schedule, running into fewer problems on site.



CHENAB BRIDGE

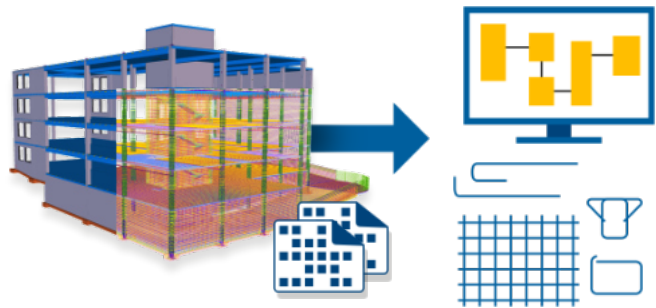
- ▶ Chenab Bridge is located in the Jammu and Kashmir area in the northern part of India. It crosses the river Chenab near the village of Kauri. It is part of the new Baramulla–Srinagar–Udhampur railway connection.
- ▶ The total length of the bridge is 1315 m.
- ▶ The free span length of the bridge is 467 m.
- ▶ Measured from the surface of the river below, the height of the bridge deck is 350 m.
- ▶ Chenab Bridge is an arch bridge completely made of steel. It is the tallest and longest-spanning railway bridge of its type in the world. It contains approximately 25,000 tons of steel.
- ▶ All the assembly joints are bolted. The amount of bolts is around 600,000.





Transfer your fabrication data effortlessly

- ▶ Interface with the leading rebar MES software and rebar processing systems.
- ▶ Integrate Tekla model data with your processes and applications through Tekla Open API™ application programming interface and achieve seamless data transfer.



Drive efficiencies and quality – take advantage of your model

Include 3D visualizations of rebar cages, complex connections, and placing an order in drawings to improve understanding of the work in progress.

Any user-defined information such as placing sequence and fabrication status can be added to model objects and visualized in 3D.

Those who plan and manage production and construction can work in the same model with a detailing team, utilizing detailed models and adding process relevant information using Tekla Model Sharing.

Create and manage the information that fits you best

- ▶ Organize and manage information according to your process needs by using the automated and flexible functionalities of the Tekla software
- ▶ Create on-demand reports, bending schedules, and material lists for bars and meshes directly from the model.
- ▶ Manage and coordinate information by structure types work breakdown structure, pour, and releases.

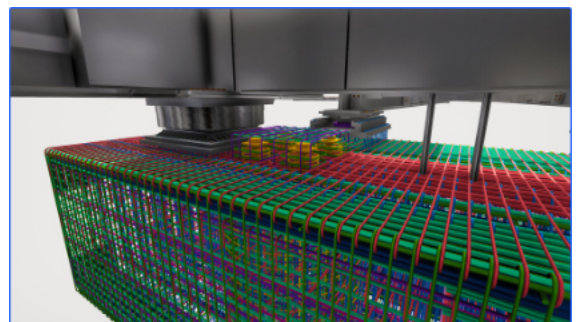
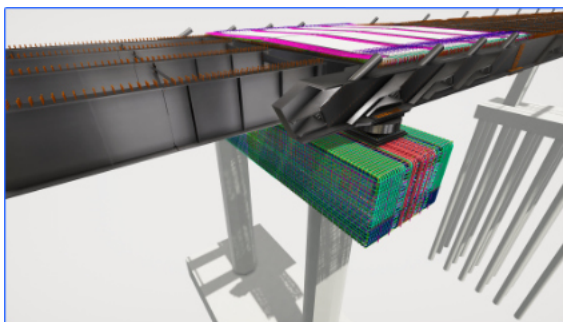
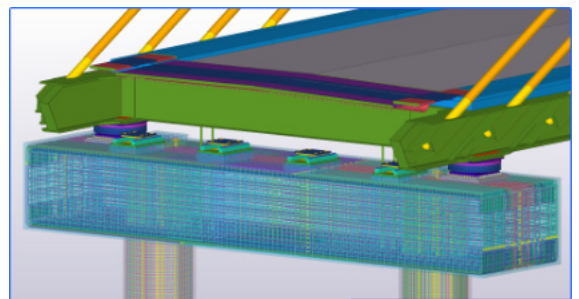
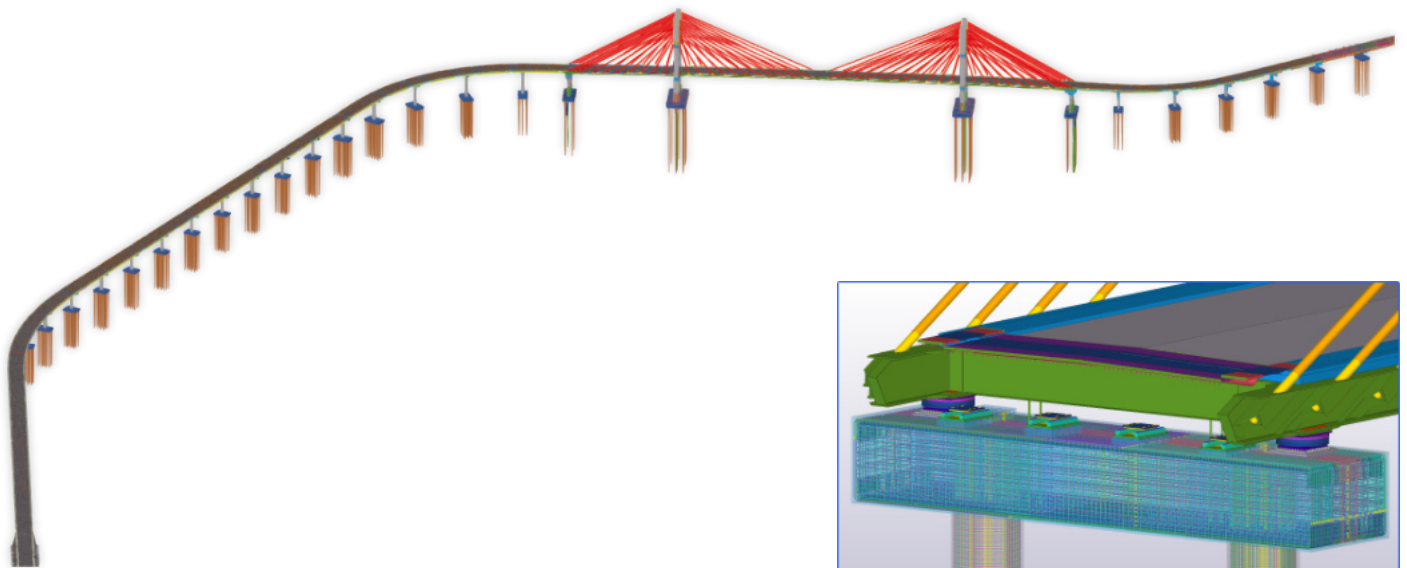
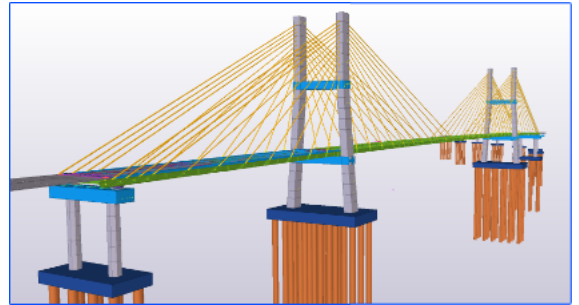
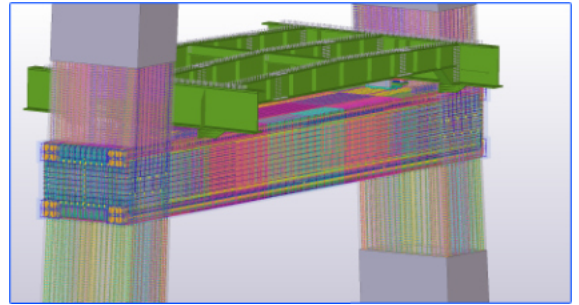


“The move from 2D to data-rich 3D models has allowed the team to visualize steel components and more easily identify potential errors. Automatic clash checking has also helped ensure that costly conflicts are exposed in the model before moving to the shop floor”.

- Dan Stevens, Dimension Fabricators

PUENTE NANAY Y VIADUCTOS DE ACCESO

- ▶ The bridge over the Nanay River will be a 2.2 km long viaduct located in northern Peru.
- ▶ The main section over the Nanay River is a cable-stayed bridge with a total length of 438 m.
- ▶ The approach structures are 1184 m long on the right bank of the river and 320 m long on the left bank of the river.
- ▶ 6000 tons of reinforcing steel, 5800 tons of structural steel.
- ▶ The city of Iquitos is the largest city in the Peruvian Amazon. It is found in the Amazon basin, along the Nanay and Amazonas rivers in the Loreto region. The city can only be reached by plane or by boat. With a population of more than 500 thousand people, it is the largest city in the world that cannot be accessed by road.





Educate



Design



Detail



Fabricate



Construct

Tekla software by Trimble - committed to open collaboration

Transform the way you work with reliable, detailed, data-rich structural workflows for outstanding performance. Build your legacy with truly constructible BIM, and feel the power of Tekla at your fingertips.

Why Tekla

Make the sky your limit and empower yourself to make real change with truly constructible BIM software. It drives more detail and data into structural BIM workflows for a deeper understanding of your designs at every phase. You have the expertise; we have reliable technology. Let's meet the changing demands of your industry, your customers, and the planet together. No matter your role or project size, Tekla can help you transform the construction industry, overcome challenges and achieve outstanding results.



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