OpenBridge Modeler®

Intelligent 3D Parametric Modeling for Bridges

OpenBridge Modeler provides intuitive capabilities for 3D parametric bridge modeling with intelligent objects. It features advanced interoperability, allowing access to Bentley's civil application data and a seamless connection to Bentley's bridge design and analysis applications.

ANALYZE AND DESIGN INTELLIGENT MODELS

OpenBridge Modeler produces intelligent models with engineering content properties for all bridge components. Native bridge modeling capabilities facilitate the creation of complex models by engineers without requiring advanced 3D modeling skills. The created bridge elements react to changes and surrounding components without computing advanced 3D geometry. The multidiscipline, consolidated project view helps evaluate design decisions and identify constructability issues and conflicts early on. Your design teams can take the conceptual model into the design stage and perform analysis. OpenBridge Modeler offers comprehensive capabilities and workflows for 3D rebar modeling and compute bar lists and quantities.

INTEGRATE SOLUTIONS TO ACCELERATE PERFORMANCE

The integrated direct exchange of bridge geometry among various stakeholders improves decision-making for design and construction, connecting and enhancing workflows. You can also perform detailing with ProStructures, visualize soil boring data with OpenGround®, and store and query bridge inspection reports with AssetWise® Inspections. OpenBridge Modeler works seamlessly with ProjectWise®.

By using OpenBridge Modeler with ProjectWise and iTwin® Design Review, project team members can continuously share, reuse, and repurpose data, gaining the benefits of real-time collaboration, working across multiple locations and time zones, as well as among numerous contributors, companies, and stakeholders. Information exchange throughout the lifecycle of the bridge project among various stakeholders is accomplished with iModels and iTwin Services. These models can facilitate model-based construction workflows and can be easily integrated into SYNCHRO™ 4D and SYNCHRO Field, for virtual construction planning and up-to-the-minute information.

ENHANCE MODEL VERIFICATION WITH 3D VISUALIZATION

Modeling in a 3D environment can rapidly verify bridge geometry. Use the Dynamic View feature or push-button drawing generation tools to create 2D views of superstructure and substructure components, with dimensions, for producing preliminary drawings. Perform clash detection to eliminate problems before they occur. You can use native 3D visualization and rendering or push the model to LumenRT™, as well as create high-impact visuals and animations to effectively communicate the project to stakeholders for project approvals.

AUTOMATE DELIVERABLES PRODUCTION

Generate annotated plan, elevation, and section drawings. Generate a variety of reports to facilitate the evaluation of multiple bridge alternatives, construction sequences, and costs. Reports can be printed to 3D PDF, saved as HTML files, or exported to spreadsheets.

Create stunning visuals to enhance visualization and accelerate approvals.
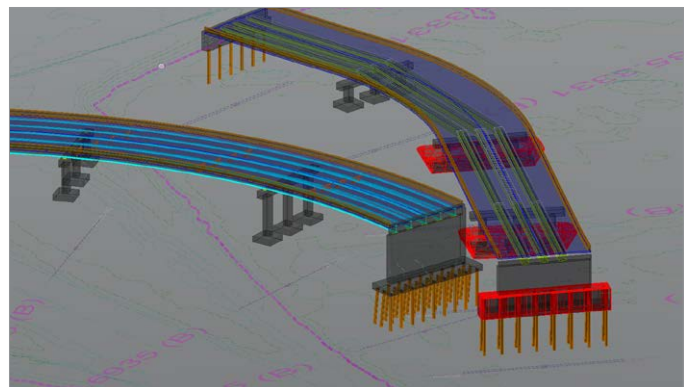
Use clash detection to reduce interference before construction begins.

OpenBridge Modeler At-A-Glance

EASE OF USE

- Familiar MicroStation® environment
- Bridge Wizard
- United States customary and metric (SI) units
- Comprehensive 3D physical bridge modeling
- 2D views, with dimensions using dynamic views
- Extensive library for super and substructure components
- Variety of reporting formats
- Intuitive dialog-driven workflows
- Cross-section template for complex geometry
- Catalog of appurtenances

POWERFUL MODELING AND VISUALIZATION CAPABILITIES

- Superstructure and substructure modeling
- Bridge Types:
    - Precast prestressed girder
    - Cast-in-place, concrete slab, multicell box, T-beam
    - Segmental: span by span, cantilever
    - Steel I-girder and Box (Tub)
- Bridge Components:
    - Deck slab
    - Girders, steel - built up or rolled, concrete
    - Abutments
    - Piers: cap, column, footing, piles
    - Variable columns and caps
    - Wing walls
    - Bearings and beam seats
    - Ground excavation
    - Light poles
    - Crash barriers, medians

- Cross frames and diaphragms and more
- Parametric, intelligent bridge components
- Rule-based and constraint-driven modeling
- Create custom components and use functional components with user-defined constraints
- ProStructures rebar modeling tools
- Clash detection and clearances
- Solid and transparent views
- Lifelike rendering with LumenRT
- Reference roadway information and ground data
- Construction scheduling and animation using SYNCHRO

VERSATILE REPORTING OPTIONS

- Deck elevations report
- Beam elevations report
- Pier, bearing, and seat elevations report
- Camber report
- Material quantities report
- Cost estimate report
- Input Echo report
- Formats:
    - 3D PDF
    - Microsoft Excel

INTEGRATION WITH OTHER SOFTWARE

- Bentley software:
    - OpenRoads™
    - ProStructures™
    - ProjectWise
    - iTwin Design Review
    - OpenGround
- Google Earth