OpenBridge® Designer
CONNECT Edition
Integrated Modeling, Analysis, and Design for Bridges

OpenBridge Designer is a fully integrated modeling, analysis, and design application that produces deliverables derived directly from the models, improving bridge constructability and ensuring smooth project delivery. The application utilizes modeling capabilities of OpenBridge Modeler® and the analysis and design features of LEAP® and RM Bridge to meet all design and construction needs. With this application, you can use one product to create an interoperable physical and analytical model to use throughout the lifecycle.

PRODUCE INTELLIGENT MODELS
OpenBridge Designer produces intelligent, parametric models that are rich in engineering content properties for various bridge components. The application reuses data from various stakeholders, thus maintaining relevant and up-to-date geometry within a single model. It allows you to specify the construction sequence of the bridge for analysis and design as a true 3D solution, as well as perform clash detection with other structures, objects, and underground utilities to eliminate problems before they occur.

ACCELERATE PERFORMANCE WITH ALL-IN-ONE BRIDGE APPLICATION
Innovative analysis, design, and load-rating functionality come together in one advanced environment in OpenBridge Designer. The direct exchange of project information helps users improve decision-making for design and construction while connecting and enhancing workflow processes. The resulting information provides a rich data asset for as-built documentation, maintenance, and operations. Because of its collaboration and data management, OpenBridge Designer is the ideal solution for professional bridge organizations, construction teams, maintenance and inspection crews, and bridge owner-operators.

IMPROVE COLLABORATION
OpenBridge Designer allows direct referencing of DGN models from highway alignments, profiles, and ground information created with OpenRoads™ and OpenRail™ applications, as LandXML and IFC files. If reference data changes, the parametric and rule-based bridge model automatically responds to those changes. You can also perform detailing with ProStructures, review geotechnical information with gINT®, and store and query bridge inspection reports with Bentley’s inspection software. OpenBridge Designer also works seamlessly with ProjectWise, and you can create a digital twin of your bridge to maximize the collaboration between different teams and disciplines. Also, models built with OpenBridge Designer, facilitate model-based construction workflows and can be easily integrated into SYNCHRO®, allowing virtual construction planning up-to-the-minute information.

IMPROVE DELIVERABLES PRODUCTION
Modeling in a 3D environment helps rapidly verify bridge geometry. The bridge is seen in plan, elevation, and cross-section views. A variety of deliverables can be generated using OpenBridge Designer. It also facilitates the evaluation of multiple bridge alternatives, construction sequences and costs reports, and well-organized analysis and design reports. You can utilize iTwin® Design Review workflows for 2D and 3D design review in a web-based environment that streamlines review sessions on design work-in-progress deliverables. OpenBridge Designer, with its seamless interoperability with ProConcrete, can be used for concrete detailing. OpenBridge Designer also offers a companion installation of LumenRT to create stunning visualizations.
OpenBridge Designer At-A-Glance

EASE OF USE
- Intelligent graphical user interface
- U.S. customary and metric (SI) units
- Comprehensive 3D physical bridge modeling
- User customizable libraries
- Intuitive dialogue driven workflows
- Cross-section template for complex geometry
- Catalog of appurtenances
- Automated bridge creation through Bridge Wizards

MODELING AND VISUALIZATION CAPABILITIES
- All bridge types
- Superstructure and substructure modeling
- Parametric, intelligent bridge components
- Intuitive, dialogue-driven workflows
- Rule-based and constraint-driven modeling
- Clash detection and clearances
- Solid and transparent views
- Lifelike rendering
- Reference roadway information and ground data
- Construction scheduling and animation

VERSATILE REPORTING OPTIONS
- Customized and dynamic report
- Deck and beam-seat elevations report
- Material quantities report
- Cost estimate report
- Camber diagram
- Formats: 3D, PDF, MS Word, MS Excel, HTML

AUTOMATED DRAWING GENERATION
- DGN and DWG drawings
- Plan and elevation drawings
- Bridge framing plans
- Precast, prestressed concrete girders
- Piers and abutments

INTELLIGENT ANALYSIS AND DESIGN
- Full 4D analysis
- 3D geometry for static and dynamic analysis, including creep, shrinkage, and time effects in schedules
- No limitations
- Geometry, boundaries, loading and combination, construction stages, linear dynamics, nonlinear material behavior, nonlinear
- Any structural model
- Plane truss, plane frame, grillage, FEM, etc.
- All bridge types
- Cables, tendons, beams, springs, and advanced elements
- Complex analysis
- P-Delta, cable sagging, large displacements
- Nonlinear time history analysis, pushover analysis
- Hydro dynamic analysis
- Wind buffeting in time and frequency domain, wind CFD
- High speed rail
- Optimization
- Any materials
- Steel, concrete, and composite structures, pre-/post-tensioning
- Any erection method
- Balanced cantilever, pre-cast segmental, incremental launching, span-by-span, advanced shoring, etc.
- 20+ international design codes

INTEGRATION WITH OTHER SOFTWARE
- Direct data exchange with MicroStation®, OpenRoads, OpenRail, AssetWise® Inspections, ProStructures, gINT, and more
- AASHTO BRIDGEWare database
- File formats: DGN, DXF, XML, and LandXML

SYSTEM REQUIREMENTS
OPERATING SYSTEM: Supports all systems with standard web browsers
BROWSER COMPATIBILITY: Explorer/Edge/Chrome/Firefox/Safari
CONNECTIVITY: Internet connectivity is required