

**Bentley**<sup>®</sup>  
Advancing Infrastructure

**CONNECT** Edition



## STAAD.Pro<sup>®</sup> Advanced

Comprehensive Structural Analysis and Design Software

STAAD.Pro Advanced is a comprehensive and integrated finite element analysis and design offering that includes a state-of-the-art user interface, visualization capabilities, and international design codes. It is capable of analyzing any structure exposed to static, dynamic, wind, earthquake, thermal, and moving loads. STAAD.Pro Advanced provides structural analysis and design for any type of project, including towers, buildings, culverts, plants, bridges, stadiums, and marine structures.

### The CONNECT Edition

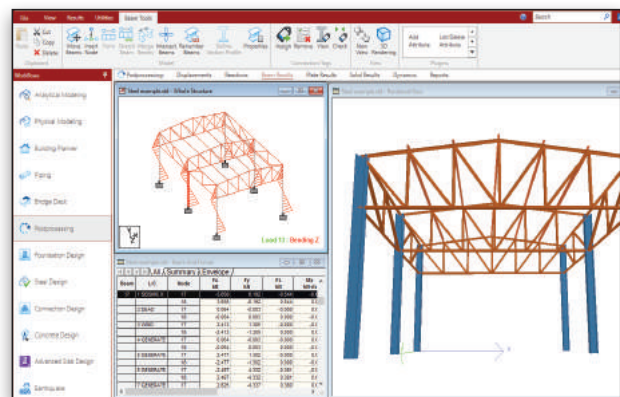
The SELECT<sup>®</sup> CONNECT Edition includes SELECT CONNECT services, new Azure-based services that provide comprehensive **learning, mobility, and collaboration** benefits to every Bentley application subscriber. *Adaptive Learning Services* helps users master use of Bentley applications through CONNECT Advisor, a new in-application service that provides contextual and personalized learning. *Personal Mobility Services* provides unlimited access to Bentley apps, ensuring users have access to the right project information when and where they need it. *ProjectWise<sup>®</sup> Connection Services* allow users to securely share application and project information, to manage and resolve issues, and to create, send, and receive transmittals, submittals, and RFIs.

### Analysis and Design

STAAD.Pro Advanced, which extends the scope of the standard version of STAAD.Pro, includes linear static, response spectra, time history, cable, imperfection, pushover, and non-linear analyses. STAAD.Pro Advanced provides your engineering team with a scalable solution that will meet the demands of your project.

STAAD.Pro Advanced reduces the resource hours required to properly load your structure by automating the forces caused by gravity, wind, earthquakes, vehicles, or vibration. No matter what material you are using or in what country you are designing your structure, STAAD.Pro Advanced accommodates your design and loading requirements, including U.S., European (including the Eurocodes), Nordic, Indian, and Asian codes. Even special codes are accommodated at no extra cost, such as AASHTO, ASCE 52, IBC, and the U.S. aluminum code.

With an unparalleled quality-assurance program, open architecture for customization, and a 25-year track record – including such projects as the MCI Stadium in Washington D.C., Wimbledon Court No.1 in London, and the tallest transmission tower in Asia – STAAD.Pro Advanced is the perfect structural engineering workhorse for your design firm.



Clear Start Page and new structure wizard allow user configuration and easy access into the program.

### Extremely Flexible Modeling Environment

The power of STAAD.Pro is in an interface based on the latest programming technology. Along with our tutorial movies, we include online help and dozens of examples to illustrate solutions to commonly raised modeling, analysis, and design issues. Eighty percent of new users learn to use STAAD.Pro efficiently in under two hours.

### Broad Spectra of Design Codes

Steel, concrete, timber, and aluminum design codes from around the world including a number of historical codes means that you can take STAAD.Pro to wherever your company works.

### Interoperability and Open Architecture

STAAD.Pro is more than an analysis and design application. From simple importing of CAD models to creating custom links and developing third-party applications using OpenSTAAD, it can be the heart of your structural solution. When integrated with ProjectWise<sup>®</sup>, your STAAD.Pro models can be efficiently managed with the leading project collaboration system. By using the ISM integration, models become part of an integrated BIM workflow with products such as ProStructures, OpenBuildings Designer, Revit, and Tekla.



### Quality Assurance

STAAD.Pro and STAAD.Pro Advanced undergo the most demanding quality and testing program. Our procedures follow the requirements of 10CFR Part 50 Appendix B, 10CFR Part 21 and ASME NQA-1 so that STAAD.Pro and STAAD.Pro Advanced have been approved for use on the design of nuclear power installations.

## System Requirements

### Processor:

Intel® Pentium or AMD processor  
2.0 GHz or greater

### Operating system:

Windows 10 or Windows 8/8.1 or 7  
64 bit OS

### System memory:

1 GB minimum, 4 GB recommended.  
Additional memory potentially improves performance, particularly when working with larger models. 8 GB or more can help speed solutions for very large, complex models with large numbers of load cases.

### Disk space:

Requirements will vary depending on the modules you are installing. A typical minimum is 500 MB free space.

### Display:

Graphics card and monitor with 1280x1024 resolution, 256 color display (16-bit high color recommended)

A sound card and speakers are needed for the tutorial movies and slide shows.

Find out about Bentley at: [www.bentley.com](http://www.bentley.com)

### Contact Bentley

1-800-BENTLEY (1-800-236-8539)  
Outside the US +1 610-458-5000

### Global Office Listings

[www.bentley.com/contact](http://www.bentley.com/contact)

## STAAD.Pro Advanced At-A-Glance

### User Interface

- Graphical capabilities. Models can be created quickly and accurately using structural grids, tooltips to highlight data, frame generators, and a structure wizard for standard structural frames
- Visualization. From simple wire frames for speed, accuracy, and ease of use to fully rendered 3D models for clear mass distribution and presentation
- All new advanced IDE style Editor with IntelliSense, Database Integration, and context sensitive help
- Meshing capabilities. Triangular or quadrilateral meshes created from zones within defined models or imported from DXF files
- Load generators. Seismic UBC, IBC, ASME wind and snow, bridge loading BEAVA
- Customizable interface with VBA tools. Create windows and tables to your own specifications. SQL query builder
- Building Planner. Special modeling environment for building structures (requires SELECT or ELS)

### Objects

- Beams. Standard linear, curved and physical beams, compression/tension only, with databases of sections from around the world
- Plates. 3- or 4-noded 2D plates and surface objects with holes
- Solid. Solid 3D bricks from 4- to 8-noded
- Supports. Foundation and multi-linear springs
- Loads. Full range of loads for static and dynamic analysis that can be defined explicitly or calculated using the wide range of load generators

### Analysis

- Elastic. Traditional first-order including iterative one-way analysis
- P-Delta. Both large and small P-Delta including stress-stiffening effects
- Imperfection. Account for imperfections in structural geometry
- Dynamic. Modal analysis including stress-stiffening eigen solution and steady-state options, time history, and response spectrums
- The standard solver, the staple of STAAD® for over 20 years is now complemented by an advanced solver that is up to 1,000 times faster
- Section Wizard. Calculate properties of built-up sections, drawn freehand, parametrically defined, or imported from a CAD drawing

### Design and Documentation

- Steel Design. Choose from 50 codes from around the world
- Integrated steel drawing production using Steel Autodrafter (requires SELECT or ELS)

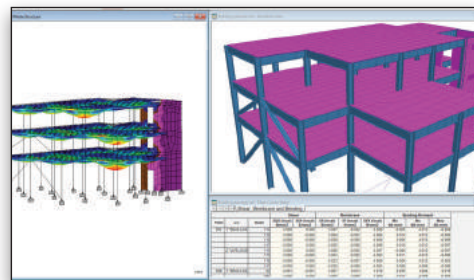
- Concrete Design. Select from 40 design codes, either in batch processing or the interactive Concrete Design Mode
- Advanced Concrete Design. Integrated concrete design, detailing, and drawing production
- Timber. Support four design codes
- Aluminum design
- Shear wall designs for U.S., Indian, and British codes

### Post Processing

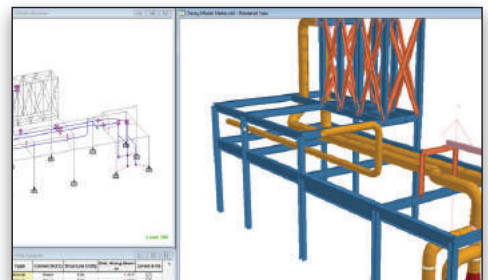
- The STAAD.Pro Advanced interface is configured to suit the model to ease access to the required data
- Interactive graphics. Linked tables and windows to get direct feedback from one item in related windows
- Output file. Simple clear information to verify the analysis
- User report. Create high-quality documents
- Contoured stress plots. Using automatic or user-configured scales, colors, and limits
- Animations. View displacements, stress contours, or mode shapes dynamically

### Intraoperability

- Bentley CONNECT provides unparalleled project management to your engineering workflow
- RAM® Connection. Joints defined in the model with the forces calculated from the analysis can be passed into the leading connection design application
- AutoPIPE®. Pass the STAAD.Pro structural steel frame into AutoPIPE to correctly account for the pipe support stiffnesses and import the pipe engineers support reactions back into the model for an accurate design in a fraction of the time of traditional methods
- STAAD Foundation Advanced. Import the STAAD.Pro support reactions and positions directly to design the structure foundations
- RAM Concept. Floor slabs can be identified and linked to RAM Concept for full RC and PT design and detailing in a state-of-the-art application
- ProStructures and OpenBuildings Designer. Two-way link to support creating models with design and construction documents
- OpenSTAAD is an API from which STAAD data can be extracted directly into custom programs or applications such as Microsoft Word or Excel. You can even use OpenSTAAD to drive the creation of STAAD.Pro models, run the analysis, and view the results with your own interface
- CAD, DXF. Use CAD models as the base wire frame, structural grid or outline of a complex deck that needs to be meshed
- CIS/2. Exchange data with other steel design packages



Analyze and design any structure exposed to a wide range of loads.



Easily integrate piping designs into your structural design and analysis.

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