



## Bentley PlantWise V8i (SELECTseries 5)

Optimizing Plant Functionality and Minimizing Cost

With Bentley® PlantWise®, you can rapidly create automatically piped 3D plant concepts for immediate collaborative review well in advance of detailing. Automatic routing and immediate costing of piping and steel provides early, real-time “what-if” analysis of unlimited plant layout scenarios for ultimate plant optimization.

### Fast and Easy Conceptual Plant Modeling

Bentley PlantWise uses equipment and pipeline (or stream) information straight out of process design. It starts from the PFD data – the 3D layout can proceed in parallel with the P&ID development. The Bentley PlantWise PlantBuilder module allows designers to quickly lay out equipment, pipe racks, and structures during the early phases of a project, then add to the model incrementally as more information is available. The PlantWise AutoRouter module is tightly integrated with PlantBuilder. AutoRouter rapidly computes pipeline paths, selects and places in-line components, optimizes pipe-rack packing, and lets designers interactively edit routed pipelines and in-line component placement. Bentley PlantWise provides designers with precise material takeoffs based on an optimized layout.

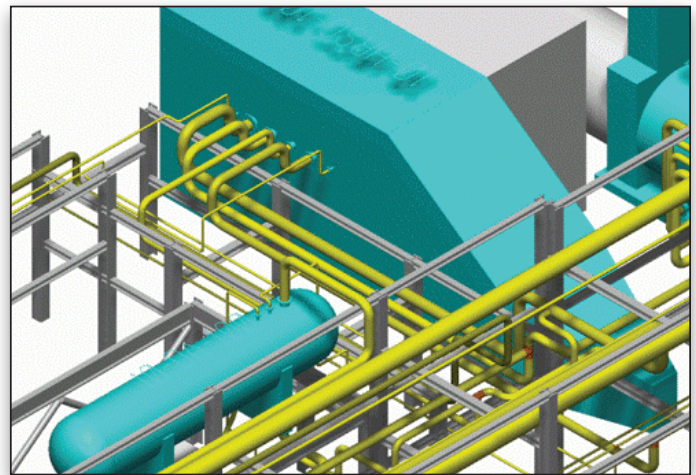
*Bentley PlantWise can rapidly create automatically piped 3D plant concepts for immediate collaborative review well in advance of detailing.*

### Early 3D Design Enables Informed Decisions

Bentley PlantWise saves lifecycle costs through early review of the 3D design for potential maintenance and operability concerns. Even before any detailed design has begun, operators and contractors can walk through the fully piped 3D plant model, find operations access problems, and immediately make adjustments. Bentley PlantWise re-routes the model to test and validate the solution.

In the chemical process industry, accepting a plant concept is a commitment to plant design and to the associated costs that extend throughout a plant's life. Bentley PlantWise helps enable fully informed decisions at the earliest project stage, thus greatly reducing project costs and schedule times.

Imagine reviewing a fully piped 3D plant model, discovering a constructability problem, and then making an adjustment immediately. Bentley PlantWise automatically implements the change and re-pipes the model to test and validate the solution. All of this can save millions of dollars on a single project!



*Rule-based AutoRouter lays out pipe using pipers preferences while avoiding obstacles on the pipeway.*

### Optimize Functionality and Minimize Costs

Bentley PlantWise provides instant creation and review of unlimited plant concept iterations, allowing design teams to make quick decisions on key factors like constructability, operation, maintenance, and safety. These rapid decisions and accurate takeoffs permit early procurement of critical-path material, reducing project schedules. In contrast, graphics centric 2D plant layout studies provide limited decision support, while conventional 3D tools are too cumbersome to use in advance of the detailed design phase.

With Bentley PlantWise, designers, process engineers, operators and maintenance supervisors work together to quickly implement changes that optimize plant functionality and minimize costs, while practically eliminating change orders and rework. Bentley PlantWise leverages the plant knowledge and best practices of the user to optimize value throughout a plant's lifecycle, which adds up to real competitive advantage.

### Address Environmental and Safety Concerns

The ability to visualize plant layout during conceptual design enhances decisions that impact more than cost. Will a plant fit into the allocated land? What issues need to be addressed to match the plant to the local environment and meet environmental requirements? Early analysis of environmental issues adds to the power of PlantWise's physical plant layout to enhance safety both in the plant and the surrounding community.

## System Requirements

### Processor:

2 GHz x86 or x64 processor or better, dual-core or multiple-processor architecture is strongly recommended

### Memory:

1 GB RAM minimum, 2+ GB recommended

### Hard disk:

500 MB of free hard disk space

### Operating system:

Microsoft Windows XP Professional SP3, Window 7 (32- or 64-bit)

### Software:

MicroStation® 7.1 (J), 8.9.4 (XM), 8.11.7 (V8i)

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

### Contact Bentley

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### Global Office Listings

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

## Bentley PlantWise V8i At-A-Glance

### Automatic Pipeline Routing

- Fast, automatic routing auto re-routing available
- Quality auto-routing based on pipers rules
- Scaling of up to thousands of pipelines while maintaining fast auto-routing performance
- Using routing volumes to collect pipes in free space or to create non-standard pipeway configurations

### Automatic Component Placement

- Positions standard components such as tees, reducers, control valves, etc.
- Selects proper tee type
- Offers user-defined parametric components
- Auto-places key components manually and freezes them

### Pipeline and Component Manipulation

- Adjust a pipeline route manually and freeze it
- Manipulate part of a route and auto-route what remains
- Manually position key components and auto-route through them
- Slide tees, reducers, and other components along the routed pipeline path

### Parametric Equipment

- Create complex equipment graphics from a few inputs
- Build equipment types with simple geometry rules
- Use AutoNozzle to automatically position nozzles on equipment
- Create symbols and intelligent obstacles from 3D CAD graphics automatically

### Parametric Structures

- Build multi-section pipeways and structures from simple dialogs
- Create multilevel pipeways with routing preferences by level
- Change the number of levels along a pipeway's sections
- Change alignment of pipeway sections
- Define special reserved spaces such as HVAC and fire suppression levels

### User Rules

- Create customized equipment geometry
- Create AutoNozzle rules
- Create equipment-specific routing patterns
- Specify routing preferences for pipeline spacing, etc.

### Integrated ReportWriter

- Use simple spreadsheet-style formulas to provide calculations
- Produce summary cost reports using simple ReportWriter calculations
- Customize output for readability or export to another program
- Use built-in mass property calculations

### PlantDrafter

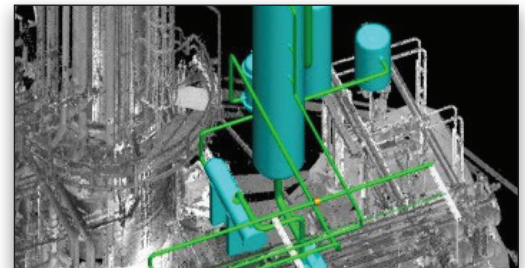
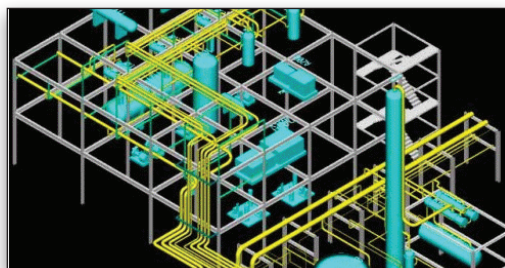
- Produce labeled plot-plan drawings
- Detached plan drawings for multi-level structures
- Optionally include single-line representations of routed pipelines
- Include standard drawing symbols

### Model Management

- Use incremental (delta) model to save results in very small file transfers
- Merge multiple models into new combined model
- Compare current model to previously saved versions
- Import process information and geometry from spreadsheets
- Move, rotate, mirror, copy, and delete groups of equipment
- Run reports individually or in batch mode
- Report on pipe quantities based on individual pipeways or all pipeways
- Option to use one or more volumes for reporting
- Create reports based on CWP/WBS breaks

### Interfaces

- Import equipment and stream data from Bentley AXSYS. Process
- Export pipeline centerlines, components, and equipment to AutoPlant and PlantSpace
- Export to Structural Modeler and ProSteel for structural steel
- Export i-models for design review and markup via Bentley Navigator
- Save model data in XmpLant Output APL (Alphanumeric Piping Language) output for PDS piping
- Import FrameWorks structural output via PML file
- Use AutoPlant and PlantSpace export for pipeline centerlines, components, and equipment
- Use Structural Modeler and ProSteel export for structural steel



*Rapidly create a plant concept with drag-and-drop modification capability, including immediate automatic re-routing of pipes.*