

Open for business

Bentley takes further steps in its drive towards true interoperability, says David Chadwick

In another major development in plant design, Bentley Systems is further enhancing interoperability to provide totally open, standards-based design and engineering solutions while reducing the overall cost of using its products.

There is perhaps a more diverse selection of technological disciplines involved in plant design than in any other area of construction. The disciplines range from pipe designers, process engineers mapping out layouts in both 2D and 3D, electrical engineers, wiring experts, analytical engineers specialising in temperatures, pressures and pipe stress, and as many as a half dozen more that I haven't mentioned. It's for this reason that the use of ISO 15926-based software like Bentley OpenPlant is so imperative, as it enables all of these disciplines to work on the same model at the same time.

The need for this software becomes even more critical when you consider that the software tools these diverse disciplines employ often are based on different CAD applications. Bentley continues to be a forerunner in providing the software interoperability that helps users resolve these challenges.

Moreover, Bentley's OpenPlant offerings are available through new Bentley subscriptions that typically cost less than the Unix-era maintenance fees of other vendors' proprietary piping design systems. For example, with Bentley's Designer for Piping Passport Subscription (OpenPlant), individual piping designers gain access to Bentley OpenPlant Modeller; Bentley OpenPlant Isometrics Manager; ProSteel Modeler; ProjectWise Passport and ProjectWise Clash Resolution Visa - plus complete virtual training - all for a single, cost-effective

annual fee. This is the full range of software, training, and content their project mix requires. The same good value is available to those acquiring Bentley OpenPlant products through perpetual licenses - for OpenPlant Modeller V8i, OpenPlant ModelServer V8i, and OpenPlant Isometrics Manager V8i.

The new OpenPlant technology shares and meets the primary goal of the iRING user community - to enable real-time, seamless sharing and interoperability of data and information across different organizations and systems using an internationally recognized standard. In 2009, the iRING user community demonstrated, using prototype software, the benefits of interoperability achievable with a full technical implementation of ISO 15926 and challenged the major software vendors do the same with commercially available software. Accordingly, Bentley has released three new OpenPlant products, all based on ISO 15926 as well as the MicroStation V8i architecture.

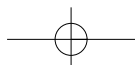
Bentley OpenPlant Modeller V8i is the first 3D plant modelling software application to use the ISO 15926 data model as specified by the iRING user community. It's also the only plant modelling software that can natively support workflows combining DGN, RealDWG, Point Cloud, and PDF data. Plant designers use it to create 3D piping and associated equipment models using the MicroStation V8i user interface. It serves all of the other disciplines involved in real-world plant design projects through Bentley's V8i intraoperable applications for civil, construction, environmental, building and HVAC, electrical, structural, instrumentation, and process design requirements.

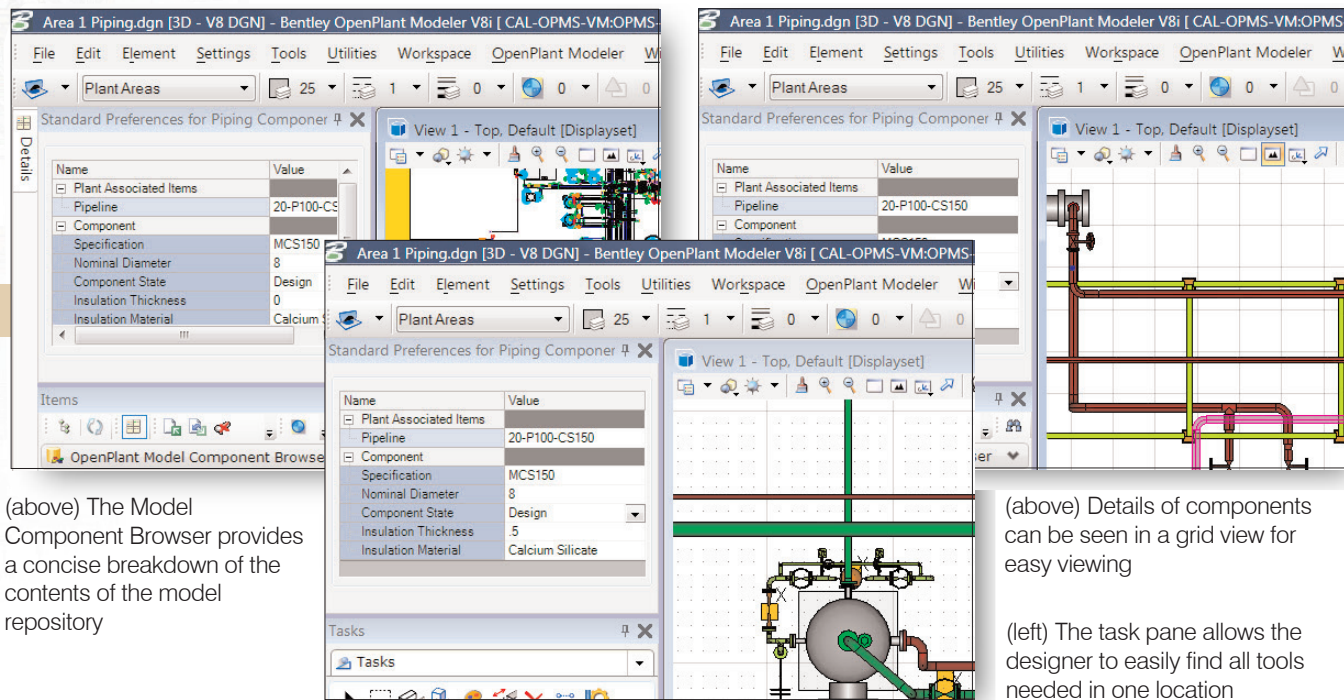
As a completely open solution, though, it

can also incorporate data from a number of external sources - such as piping catalogues and specifications from PDS, AutoPLANT, and PlantSpace. It can also be used to help engineers review and modify existing PDS designs using ISO 15926 protocols or i-models. As a result, there's no danger of users being locked into proprietary software. And, of course, being an open solution, it enables the total use of data from other sources without the expense and time taken to translate, correct, or modify imported data. Giving piping engineers the ability to rapidly and easily create 3D models, using the widely employed and highly intuitive MicroStation V8i user interface, makes it the most productive and easy-to-learn "industrial-strength" plant design environment ever introduced.

The second product is OpenPlant ModelServer V8i. This is used to bring in PDS models, piping catalogues, and piping specifications. It is, essentially, the admin manager for Open Plant Modeller. It incorporates records of data held throughout the globe - controlling check-ins, check-outs, and revision levels - and can be used to simultaneously track all files and components on a project. The end result is tighter and more efficient control, and the elimination of costs due to error and data loss.

OpenPlant ModelServer is the first plant design server software to effectively and productively manage both files and components, which is ideal for globally sourced projects that are necessarily loosely "coupled." All of its file management is done with Bentley's ProjectWise collaboration services - which are essential for the efficient exchange of deliverables and work packages. Projects using Bentley





(above) The Model Component Browser provides a concise breakdown of the contents of the model repository

(above) Details of components can be seen in a grid view for easy viewing

(left) The task pane allows the designer to easily find all tools needed in one location

OpenPlant ModelServer V8i can also benefit from yet another first: interoperable workflows across multiple design environments, including Intergraph's PDS as well as Bentley's AutoPLANT and PlantSpace.

The third product, OpenPlant Isometrics Manager V8i, provides management capabilities for pipe models and isometrics from either OpenPlant or other Bentley Plant products - or from PDS. It handles the automatic creation and global distribution of isometrics, again using ProjectWise. However, it also allows users to create intelligent isometrics, containing component information, from multiple sources.

Bentley OpenPlant Isometrics Manager V8i is the first isometrics generation software to extract and incorporate complete intelligence from 3D plant models, automatically and in real time. Isometric data is normally written into a dumb CAD file for easy interoperability. When you open it, all you are normally presented with are a series of line drawings. OpenPlant Isometrics Manager adds intelligence to the drawings, classifying them as pipes, valves, etc., so when you open an isometric model in the future you can click on a component and pick up all of the attributes associated with the object.

Uniquely, such "on demand" intelligent

isometric views remain relevant for owner-operators throughout the plant lifecycle - beyond procurement, fabrication, and construction to "as built" and "as safely operated" maintenance and compliance.

Among the firms actively involved in the iRING community are Bayer, Bechtel, CH2M HILL, Consolidated Contractors Company, Dow, DuPont, Emerson, Fluor, Hatch, and Zachry. When asked about Bentley's new OpenPlant products, Bruce Strupp, CPE-design technology director, CH2M HILL, a leading provider of the full spectrum of consulting, program management, design, construction, and operations solutions, said, "CH2M HILL has been an active member and participant in the iRING community of users. We're committed to the goals of these organizations to achieve true interoperability through ISO 15926, and are delighted to see Bentley standing up to meet these challenges. The capabilities being delivered by Bentley with these new products are what the iRING community has been waiting for."

Commenting on the cost elements, Anne-Marie Walters, Bentley global marketing director, said "Our new additions to OpenPlant are key facets of our 'Smart Plan' (www.bentley.com/SmartPlan) for PDS users that we introduced in March. The plan provides users of PDS software around the world with an economical

migration path that protects their knowledge investments and enables them to reuse their catalogs, specifications and PDS databases."

Bentley has also announced the next versions of Bentley OpenPlant PowerPID V8i and ProjectWise PDx Dynamic Review Service V8i. PowerPID V8i is the only commercial software for process and instrumentation diagrams to be based on a completely open data model. The new plant applications from Bentley are designed to enhance interoperability right across data formats, workflows, and plant design systems, and add to the comprehensiveness of Bentley OpenPlant - extending its ability to integrate across multiple infrastructure disciplines while improving project team collaboration and providing breakthrough value.

Being pretty comprehensive, there are finer details worth checking out on the various pages of Bentley's website. These include Bentley Passport Subscriptions, which offer named users an affordable alternative to perpetual license purchases: www.bentley.com/subscriptions.

For additional information on Bentley's OpenPlant products, visit www.bentley.com/openminds. For more information on Bentley's "Smart Plan" for PDS users and to read the white paper "Making PDS Interoperable," visit www.bentley.com/SmartPlan.