



Capturing and sharing knowledge based on tools supporting ISO 15 926

Rob Brawn, Director of Automation Systems Integration at CH2M Hill, talks to our editor about the experience with Bentley's OpenPlant PowerPID and OpenPlant Modeller.

Thanks to the Gartner Group, the term "early adopters" has become very popular. At the very beginning of a technology hype, as described by the Gartner's Hype Curve, early adopters are due to their cleverness or just their curiosity. Early adopters are the first people in touch with or utilizing a new technology. Their judgment is important to the success a new technology or product especially when it transitions to mainstream deployment.

One of the early adopters of Bentley's OpenPlant program, is CH2M Hill, a global provider of consulting, design, construction, and operation services for public and private clients. The firm is headquartered in Denver, Colorado. The company is an outstanding user of

many of Bentley's products. The company is a multiple winner of the Be Awards of Excellence and their IT-expertise is documented in several publications "Year in Infrastructure".

The Be Awards of Excellence, which are judged by independent panels of industry experts and presented at the annual Be Conference, honor the extraordinary work of users improving the world's infrastructure. These projects can be seen as benchmarks and showcase the imagination and technical mastery of the organizations that created them.

Bentley's OpenPlant portfolio supports the ISO 15 926 standard. The ISO 15 926 initiative is an outgrowth from other ISO initiatives that have defined



Pictures: Brawn / private

particular domain data models in the process industry. To unify various data model approaches, ISO 15 926 was created as a standard description of plant-related objects that provides a standard vocabulary and description that can be interchanged across diverse systems and across the lifecycle of the asset or facility.

Mr Brawn, in which context are Bentley's OpenPlant products used in your company?

CH2M Hill has multiple business groups that serve different market segments. There can be challenges in delivering information in a variety of software applications and formats based on market segment or customer requirement. For example, customers may require work products to be delivered in PDS, SmartPlant 3D, PDMS, OpenPlant, PlantSpace, or AutoPLANT formats. Part of our challenge is to work efficiently and deliver information so that it is useful to the owner. Part of the solution is having a common standard and utilizing similar work approaches. From an enterprise perspective we also look at the "80:20 rule" selecting tools that are scalable to large or small projects and work best in most cases. We can customize as needed and adapt to meet customer requirements.

Which OpenPlant products does your company use?

We are using OpenPlant Modeler for piping and equipment and we are using OpenPlant PowerPID for process and instrumentation diagrams.

How long have you used them?

The early access to the OpenPlant Modeler completed in June of this year, so we have been using this tool for about four and half months. The OpenPlant PowerPID has been available for about a year and half and we have been using it on projects for about one year.

This means you use these tools in productive scenarios?

Correct. We have one project using OpenPlant Modeler and OpenPlant PowerPID and two more using OpenPlant PowerPID.

Can you use them out-of-the-box?

I will answer this question by dividing it into two parts: configuration and customizing. If you don't have any specialized standards and you are happy with what is delivered you can certainly take it out of the box and use it. What is delivered is a usable version of software. However, most people will want to change something. For example, you might want to change formats of line numbers or equipment tags. These little changes we call "project configurations" because we need to match the project standard. I think most people want to do some minor configurations. But once again, you can use the software out-of-the-box.

And to what extent is customization necessary?

We have done some fairly extensive

customization to meet requirements of certain market segments. OpenPlant PowerPID and OpenPlant Modeler are delivered in an "industrial" configuration. We have made some changes such as adding new component types and minor changes in schema configuration for water treatment. The user interface is simple and easy to get started. The configuration is a bit more complex because you may want to integrate with other systems or implement company standards

What is most important for you?

The interesting and remarkable part is the usage of open standards. The ability to configure the tool with the ISO 15 926 schema and easily exchange information is the backbone of the system. In terms of the tool itself the user interfaces are relatively easy to use with a minimum of training. There is a lot of potential for changing the configuration and customizing. Once you build your standard you can then copy it forward to new projects. New features like Dynamic views and server side ISO extractions make document production much easier. And OpenPlant integrates with ProjectWise. The OpenPlant Modeler component approach based on MCS integrated with ProjectWise allows us to easily distribute work in multiple locations. This is very important because we seldom execute a project in a single location.

Do you use catalogues?

Yes, we do. We have a standard catalogue library. We build our own specifications. We use, create and manage them with our material management system. We can export spec and catalogue information to the design tools. So, we can pull the same specification content to AutoPLANT, OpenPlant, PDS, or SmartPlant. This is a time saver to set up projects and helps ensure quality because we are re-using proven specifications instead of recreating them from scratch or copying them from project to project. The integration with material management system helps ensure output from the design model is compatible with procurement.

This means, based on the standard ISO 15 926, you capture knowledge and share it internally. Indeed.

What does ISO 15 926 mean for your customers?

We have relatively few customers requiring an ISO 15 926 handover today.

However, we are beginning to see that request occur. Even if our customer makes no requirements for information exchange, our internal use of ISO 15 926 standards helps deliver a better project for our customer.

In which format do you realize the exchange?

We have made significant use of the i-model for the graphics and the data. This is useful for sharing design concepts, performing design reviews, redlining/commenting and archiving snapshots at project milestones. This is the most common exchange format for us. In some cases we have straight data dumps (no graphics). We can export data tables or publish XML content containing the pertinent information.

Do you use XMplant?

We have not used XMplant but see its relevance for point-to-point transfers.

If you compare OpenPlant Modeler with other design tools: What is your overall impression?

I think the main benefits are the ability to easily share work in multiple locations, and as I mentioned before, the scalability of the solution – the 80:20 rule. We regard the OpenPlant portfolio as a solution that is scalable enough to do large projects but it is also cost effective for small projects. This is remarkable because quite frankly some other plant design tools are not cost effective on small projects.

Do you think the OpenPlant products can replace other systems?

For similar functions I would say: yes. For example, somebody using OpenPlant PowerPID doesn't need another CAD seat. The same is true for OpenPlant Modeler. Since we use a broad spectrum of functionality in our multi-discipline projects replacement depends on the required functionality. OpenPlant does not address all disciplines. We also need products that work for architecture, structures and civil/site prep. OpenPlant does not address these needs but Bentley provides compatible solutions such as Bentley Architecture, Structural and InRoads for this.

Thank you for your comments!

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