

INOVx's RealityLINx Is a Hidden Gem for Asset Information Management

By Sid Snitkin

Summary

INOVx's ability to transform laser scans into Operations & Maintenance (O&M) focused 3D models of the plant with "fly through" graphics is well known. But, don't let these 3D graphics blind you from seeing the full Asset Information Management (AIM) capabilities of their flagship product RealityLINx.

Companies I talk to appreciate the value that an accurate 3D Model can bring to Operations and Maintenance (O&M). They see how the ability to recognize

The power of INOVx's flagship product RealityLINx to help operations and maintenance personnel is immediately clear to anyone involved with operating facilities...

But, the power it also has to drive better Asset Information Management is a real "hidden gem"!

spatial relationships between process problems, work orders, etc. adds a powerful, new dimension to planning and control. And, those that have seen a RealityLINx demo immediately see how their company could quickly reap these benefits.

But, one has to consciously move beyond the engaging graphics to see some of the even more important benefits of RealityLINx. Under the covers of their 3D façade lies a gem of a system for

managing asset information across all of an organization's O&M solutions. It provides every worker with an intuitive, seemingly "real world" portal into all of the organization's asset information. And, this information is presented in the context of a "virtual" plant which helps them appreciate the full implications of every piece of data.

The same virtual plant environment helps everyone detect information that is out-of-date or simply wrong. This is vitally important as accurate asset information along with the collaborative nature of a virtual plant environment promotes increased safety and awareness in daily work tasks. And, the best thing is that the more that people rely upon RealityLINx as their portal into the plant, the more their own self interest drives them to fix these problems and improve the integrity of all asset information.



Coordinating configuration changes between O&M and engineering is an ongoing problem for most organizations. This is another area where RealityLINx can bring significant value. It can periodically synchronize the “virtual” model used for operations with any 3D design models that the organization may have. While engineering groups will still want to control the Management-of-Change for their master drawings, the continuous monitoring of configuration by O&M personnel, which is an inherent benefit of using RealityLINx, represents a step change in the ability of organizations to ensure the quality of their design data.

INOvx Has a Unique Perspective on 3D Plant Models

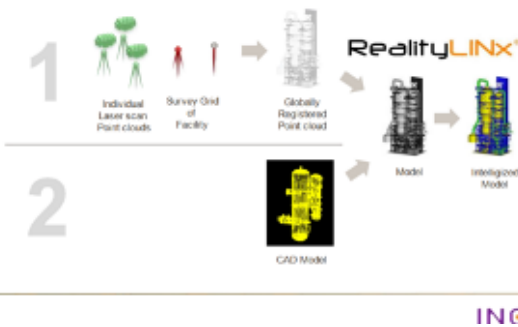
INOvx is often associated with laser scanning. This is not surprising, as their focus has always been on capturing the “as-exists” situation within plants and laser scanning services has been a natural way for them to accomplish that task. However, unlike most companies that provide laser scanning services which are focused on providing enhanced point clouds for input to 3D Design packages, INOVx’s objective for laser scanning is to capture information to develop “intelligized” 3D models of the facility for use by O&M personnel.

For 3D Models, the needs of Designers and O&M personnel are quite different. They have completely different perspectives of the plant (e.g. asset tag # versus system or inspection circuit) and they expect 3D models to answer different questions about the facility. Designers are concerned with installing equipment and they use 3D models to detect things like clashes and interferences. At the individual tag level, they need information about the equipment size, weight, connections, etc. O&M personnel, on the other hand, are concerned with operating, maintaining and inspecting the equipment. The spatial relationships provided by 3D models help them identify related problems and plan their work activities. Their concerns at an equipment level relate to things like current status, outstanding work requests, procedures, operating and repair history and what parts they need to keep it running.

RealityLINx Relationships Support O&M Needs

All modern 3D models are based upon the idea of the model being a collection of equipment objects and spatial relationships that can be dynamically rendered by software to create the virtual plant that we see. Other relation-

Two ways to get to the intelligized model



Asset Information – Key Stakeholders and Flows

ships are also supported in most 3D models to enable users to turn on/off different elements, apply design constraints, etc. The nature of these relationships and the user capabilities they support depends upon how the supplier expects the model will be used.

INOvx follows this same approach in the way that they build their “intelligized” 3D models. Their model building process generally begins with a globally registered laser scan point cloud, but they can also use a 3D Design model, when such models are available. RealityLINx supports 3D models from popular Plant PLM solution providers like Intergraph, Bentley, Aveva and Autodesk as well as the ISO15926 based XMpLant.

RealityLINx is focused on the needs of O&M personnel. It incorporates a different set of objects, attributes and relationships than traditional 3D Design products. This allows them to support the many different plant perspectives that are most natural for each person involved in operations, maintenance, inspection, etc. The plant perspective can include subsets, additions and be organized to the specific view of each role. They also support complex linkages to information and functionality within systems typically associated with O&M like ERP, EAM, Inspection, Reliability, etc. And, a palette of integration services is available to connect with popular packages from suppliers like SAP, Meridium, Metegrity, CONAM, Credosoft, OSIsoft, etc.

Managing the AIM Meta Model

Rather than copying information into their 3D model objects, RealityLINx is designed to dynamically access information from other sources and other software solutions. From an AIM perspective, this acts as a powerful meta model for managing all asset information. Not only does it provide access to the information, the spatial relationships in the model also allow users to correlate asset information on the basis of spatial and other relationships supported by RealityLINx.

One of the things that impressed me particularly during our recent briefing was the ease by which these linkages could be created. Clearly, the number of linkages can be daunting making it critical that users have convenient tools for their creation and maintenance.

Last Word

3D models are clearly very popular across the ALM community. Most organizations would not even consider building a new facility or executing a major brownfield project without including a 3D model in the process. Many organizations likewise recognize the value of 3D models for O&M and are asking for this as part of their plant handover package from EPCs. Some Plant PLM suppliers, like Intergraph, also recognize the value of 3D models for O&M and have developed solutions like SmartPlant for Owner Operators to meet this need.

Unfortunately, all plants are not new and few organizations invest in building 3D Design models of existing facilities unless they have a major upgrade, and then only for the parts of the plant affected by the project. So, O&M personnel continue to miss the opportunity to reap the significant benefits described in this report. A laser scanned-based RealityLINx model is clearly a cost effective way to acquire these benefits. In the process, the organization will have captured and gained control of their actual equipment configuration which will generate ongoing benefits and additional benefits when eventual upgrades are actually commissioned.

Maintenance of design information, 3D models and otherwise, remains a key challenge for asset-intensive organizations. And, the big problem is ensuring that changes made by O&M are properly communicated to engineering. We believe that RealityLINx can make a big contribution in resolving this fundamental issue. Finally, organizations are able to leverage the self interest of siloed functional groups to keep asset information updated for the benefit of all. This is significant and merits our pronouncement that RealityLINx is a hidden gem for the AIM community.

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