

Publication: Oil Review Middle East
Country: UAE
Circulation: 9,467
Date: Volume 25 / Issue 2 2022
Page: 22

Unlocking the value in digital information

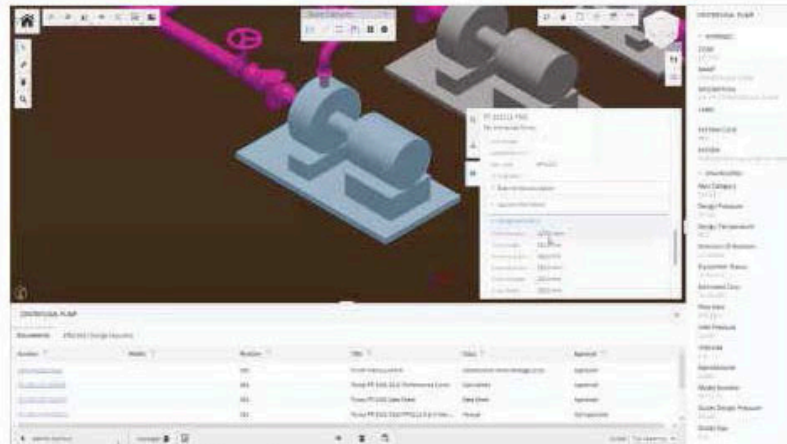
Bentley Systems discusses how to speed up the implementation of a digital twin with a trustworthy asset information system.

ASSET-INTENSIVE INDUSTRIES – such as process, utilities, and transportation – rely on accurate, comprehensive and up-to-date information for effective operations. Through maintenance, procurement, modifications and upgrades, however, asset information is always changing, and all these functions use the same information. Therefore, it is imperative to have consistent information across all consumers to ensure safe, reliable, and efficient operations. Often, though, the information is held in disparate and unconnected silos, with limited management of change across the digital ecosystem. The result is personnel spending more time trying to find the information that they need and verifying its validity and accuracy, leading to wrong decisions and increasing costs due to duplication or the wrong work being carried out. This situation ultimately puts the safety of the workers and the reputation of the organisation at serious risk.

What is required is a digital solution that connects these disparate sources together, validates the information, brings visibility to all changes across the asset lifecycle, and ensures reliability at the point of use.

Market-leading asset lifecycle information management software, such as Bentley's AssetWise ALIM, can help unlock the value in digital information from the day that it is deployed. Whether in the planning stage of a new project or operating an existing asset, it is important to have a flexible system that is easy to implement and ready for the first step toward asset management to save costs,

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View relevant and up-to-date asset information, such as the operational characteristics, related documentation, and affected change requests.

improve safety and reduce risk. It can then be used as the backbone of a digital twin, effectively managing change and enabling easy access to validated and trusted asset data, documents and drawings in an open and connected digital environment.

Deliver value from information faster than ever

One of the main challenges of implementing any new information management solution into a business or organisation is the time that it takes to get started and see value. It becomes more pronounced on larger projects that are more asset- and information-intensive. Getting started can take months, even years – time better spent delivering results. With an asset information system in place, it is possible to start small and see the benefits of asset lifecycle information from day one. From the time a system is deployed, there is access to an environment where teams can load documents and tag information, capture the full installation history of equipment, run simple review and approval workflows, distribute documents and search for the relevant information.

The sample configuration delivered with ALIM can easily be extended to support more complex business processes, such as managing concurrent changes or information packages.

The system allows asset owners to think big while proving small before scaling quickly across their asset base, creating an understanding of what to do and where to be upfront. They can start with a smaller project or asset to learn from, then roll out across the project or across similar operations. Like any leader in business, they want the shortest time to ROI in every project. Implementing a solution that is flexible means that they can start at any stage of digital maturity, use the information that they already own, and quickly see results to rapidly expand.

Kick-start a digital twin solution

A digital twin is a virtual representation of real-world entities and processes, synchronised at a specified frequency and fidelity. Digital twin systems transform business by accelerating holistic understanding, supporting optimal decision-making and enabling effective action.

Image Credit: Bentley Systems



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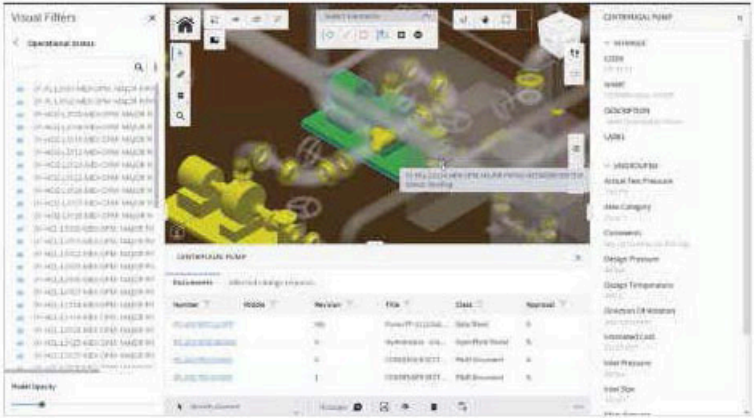
An ALIM system can be the foundation of a digital twin solution, ensuring that the digital twin is always consistent and up to date. Asset owners can take control of their lifecycle information quickly and easily by tailoring their solution with adding advanced tag management, document control, or developing robust change management workflows. They can work toward an immersive asset environment in which an object within a model can be clicked on to reveal its information, documentation, and change history.

ALIM operates in an open, interoperable, and connected environment, offering a set of cloud-provisioned services that provides support to digital workflows, context, and concepts, allowing firms to access accurate, reliable, and consistent information. A set of standard connectors to multiple third-party systems, such as SAP and Maximo, ensures that all users are accessing a common, validated, and up-to-date source.

Remote familiarisation and control of work

Safety requirements, workforce flexibility, remote sites and infrequent maintenance are driving the need for virtual, simultaneous familiarisation and control of work. Bentley's iTwin Visualization provides a facility to enable dedicated teams, workers, and contractors to prepare work safely and efficiently, while reducing the need for on-site visits.

This familiarisation is also critical for supporting daily operations and ensuring that processes are executed safely and on time. iTwin Visualization provides the context for managing work on site by displaying the operational status of the assets and ensuring a holistic view of the operational information that is needed to perform tasks. This capability is valuable when planning or working on a specific area of a facility, as it provides a quick visual assessment on a piece of equipment to see what changes may be pending, as well as the equipment detailed information.



View operational status of any asset within the digital twin.

Generate sustainable benefits

AssetWise ALIM has been successfully implemented over many years across a wide range of industries, delivering tremendous benefits and ROI.

An example is one of Australia's leading natural gas producers, based in Queensland, who has a master tag registry for its assets that includes more than 20mn data points. To handle a doubling of data from documents and model files, as well as migration of documents from systems based on energy performance certificates (EPCs), the company uses AssetWise ALIM software, hosted on Microsoft Azure. This application has reduced tag capture time by 90%, as well as lost time from maintenance crews arriving on site without correct parts and tools.

Support a digital twin

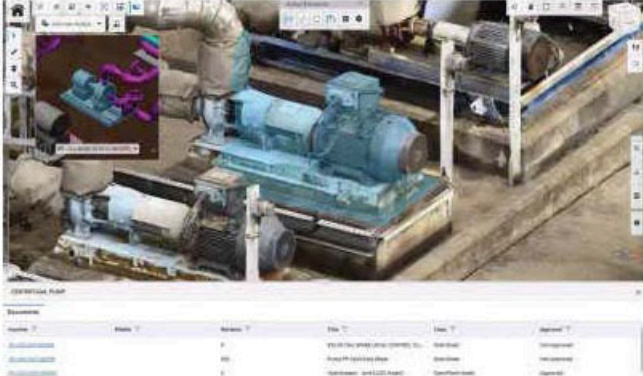
Used as the starting point of your digital solution, an asset information system is integral for keeping your digital twin evergreen through formal change management and workflow automation. AssetWise ALIM via an iTwin viewer enables access to an asset's operational information in the context of reality models, 3D models, and drawings. Users can search for assets based on specific criteria and then visualise them within the iTwin platform for further analysis.

The iTwin viewer simplifies daily operation and maintenance activities by providing quick access to relevant and up-to-date asset information, such as operational objects, related documentation, affected change requests, and projects. It provides complete visibility of the asset's status, including any planned changes. This visualisation aspect provides effective capabilities to navigate within the model, find information faster, highlight critical asset data and share information easily.

The flexibility and openness mean that you can work with the information you have from third-party software – by supporting interoperability, the data does not have to come from Bentley applications – as well as providing integration to other mission critical systems including SAP and Maximo. In the 2020 Verdantix survey, 69% of operations executives mentioned open architecture for integration as either a 'very important' or an 'important' criterion when evaluating software applications for asset management.

Bentley's AssetWise product line, including ALIM, works within your existing information ecosystem to drive actionable information from the data that you already own, making it the ideal entry point for your digital twin strategy. ■

“ An asset information system is integral for keeping your digital twin evergreen.”



The reality model of a facility provides a clear presentation of the actual site.