

Data sharing

Bentley Systems is making strategic moves to develop partnerships and boost interoperability - Mike Woof reports



Software specialist Bentley Systems continues to expand its operations by developing its product portfolio, as well as buying up other smaller companies, making key agreements with other firms and broadening its base for interoperability.

One of the most significant deals is for the firm's acquisition of Pointools, the UK-based point cloud technology specialist with which Bentley has had a partnership for some time. Several other key partnership deals have also been struck with companies including giants Microsoft and Adobe, as well as the smaller firm Bluebeam Software.

Bentley's acquisition of point cloud specialist Pointools is another strategic move that will

Bentley Systems is continuing with its strategy of boosting interoperability that allowed GIS data to be gathered using Topcon hardware, used in its own design software and then downloaded onto Trimble machine control equipment for the A46 road project

reap rewards for the future. This business will be integrated into the Bentley portfolio and will further develop its capabilities in this technology area. Bentley Systems first started a partnership with Pointools some years ago but has opted to acquire the firm as part of its long-term strategy to broaden its offering in key fields. With the acquisition of Pointools, Bentley says it will be able to move beyond embedding the Vortex engine in MicroStation and will now be able to assimilate point cloud processing and data management through its own ProjectWise and AssetWise software platforms. The move further enables users of Bentley software products to use large datasets from point cloud scans

and incorporate them into 3D models. At this stage the size of the acquisition has not been released however.

The deal is a significant one and CEO Greg Bentley said, "Laser scanning can be used to create a useful 3D model of assets."

The value of point cloud technologies for construction is one that Bentley identified early on and the firm has had a relationship with Pointools for some time. However Bentley said that this acquisition allows the firm to further integrate point cloud processing throughout its product portfolio. The firm says its move ahead from embedding the Vortex engine within the MicroStation package with point cloud processing and

► data management capabilities being available throughout the ProjectWise and AssetWise platforms. Eliminating point cloud distribution and adoption obstacles through i-models and ProjectWise will allow a more efficient and effective flow of data in both directions between the designers and the construction operations. Design changes or on-site changes can be accommodated more quickly and efficiently as a result. To prevent the user being buried in data, a new capability within ProjectWise provides only the point cloud information required. The system can give a low resolution overview of a project for which high resolution point cloud data is available, only providing the high resolution data as the user zooms in on a specific area. The capability is being increased further with the addition of a point cloud management and streaming service also being introduced. The company says that its latest Descartes V8i program is offering advanced point cloud processing and management capabilities, to speed workflows and reduce costs.

Bentley said that point cloud scanning technologies have become ever more efficient and provide greater quantities of data. However this has generated its own problem and he said, "The data files have been intractable due to their size."

The sheer quantity of data that is generated poses issues for handling and storage. Bhupinder Singh, senior vice president at Bentley Systems said, "The problem you have with point clouds is that the hardware is getting cheaper and you're having to integrate more and more of those huge data files."

Pointools is also a supplier of point cloud technology to various other technology firms, including Bentley Systems' closest rival Autodesk. However Bentley said that this should not be an issue, "We're a leading developer for Autodesk products."

And another highly strategic move is the agreement on interoperability between Bentley Systems and Autodesk. This arrangement will allow compatibility so that data libraries from either firm's products will be accessible to the other. This mature agreement between two close competitors will strengthen both in the long term, as it



recognises some clients may favour certain products from one or the other and no longer locks these users out from data sharing.

The deal with Microsoft is for its Azure cloud-based services, which will sustain infrastructure to architecture, engineering, construction and operations (AECO). The new Bentley Transmittal Services package will allow AECO businesses to package, receive and track their transmittals using a dashboard portal. These shared services are said to be of benefit to users of the ProjectWise and AssetWise platforms, reducing risk and time needed for working as well as allowing greater visibility of the status of a project. The firm says that this new capability allows users to access and include in the transmittal the correct versions of design content, with improved flow across an organisation and any firewalls through the Azure cloud. Scott Guthrie, corporate vice president at Microsoft said, "You can store and use data from anywhere on the desktop."

Another crucial move for Bentley Systems comes through the agreements made with Adobe, the developer of the widely used PDF file, and Bluebeam Software. This strategic deal will allow PDF files to be used more efficiently in construction design processes, navigating 3D models and drawings within PDF documents. Bluebeam is a small specialist software firm that has concentrated on developing tools around PDF creation, mark-up and editing for AECO workflows. According to Bentley Systems, this agreement will allow greater mobility for AECO content.

Bentley said that this will ensure the integrity of data being sent to field workers, "PDFs have been an instrument of information mobility." He added that 3D PDFs can be viewed by engineers, providing an effective tool for fast visualisation.

Singh commented, "No matter where the mark-ups originated, they will get integrated into ProjectWise. The mark-up goes back to the source file and we also audit all the source trails so you can prove you have done the work." He added that a 'watermark' system for policy management also ensures that the user can receive the original PDF file without subsequent changes and that this system works on PC, Tablet and the iPad. The system uses the source trail to identify changes as well as who has added them.

John Landwehr is senior director for enterprise solutions at Adobe and he said, "Integrated projects require data mobility. We go all the way from basic file sharing." He continued, "Bentley will extend PDF to include AECO-specific functionality through its i-model plug-ins for Adobe Acrobat and Adobe Reader."

The move is of significance for users of Bluebeam's PDF Revu mark-up and collaboration package, which enables digital workflows for users of Bentley software products. Richard Lee, president and CEO of Bluebeam commented, "Revu users will soon be able to synchronise their redlines through ProjectWise directly back to the information source, such as MicroStation, OpenPlant or AECOSim applications." ■

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