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Business and technology trends in 3D imaging for engineering/construction/manufacturing

Bring On the Innovation!

By *Lieca N. Hohner*, Chief Editor

In recent weeks, some exciting announcements have come over the wire that point to the adoption of point cloud technology going mainstream. Bentley's partnership with Pointools is already getting great buzz, and this week, Autodesk customers continue the trend through arrangements with Ambercore and Quantapoint. No one in the scanning industry is resting during this economic slowdown--they're working night and day with such great determination to produce solutions that will reinvent existing work processes and force new thinking. This is just the beginning--keep your eyes and ears open for more news in the short-term. Read on for last week's software and hardware announcements.

AutoCAD Users Gain Point Cloud Functionality in New Releases

The wait is over for Autodesk AEC customers wanting to process large scan data sets inside AutoCAD. Last week, [Ambercore](#) announced that its point cloud technology has been incorporated into the releases of AutoCAD Civil 3D 2010 and AutoCAD Map 3D 2010, part of Autodesk's Subscription Advantage Packs. These releases are the first integrated Autodesk-Ambercore products brought to market; a license deal between the two companies was made in September 2008.

AutoCAD Civil 3D 2010 and AutoCAD Map 3D 2010 users will now be able to read, store, index and quickly retrieve extremely large point cloud data sets of millions of points in order to create DEMs and contour data, digitize as-built features for design projects, visualize power lines and surrounding vegetation for right-of-way management, develop an understanding of the site context in site surveys, and more. The resulting visualization and analysis capabilities give users the tools to build high-precision 3D models enabling them to better plan, design and manage AEC projects.

Since software compression, transfer and processing has been a longstanding problem for CAD users, this news is expected to be well received. We look forward to hearing the impact of this new capability by millions of Autodesk users.

Quantapoint Integrates 3D Laser Scan Data in Autodesk Revit

[Quantapoint](#) also unveiled an integration arrangement with Autodesk last week. Using QuantaCAD, 3D laser scan data may be accessed directly (without subsampling or converting to polygon meshes) within Autodesk Revit as Quantapoint-trademarked photorealistic Laser Images and high-definition Laser Models of integrated laser data. The models allow for direct design analysis and remodeling, the creation of new designs, design reviews and real-time validation.

The solution corrects one of the challenges of Building Information Modeling (BIM), says Quantapoint Founder Eric Hoffman: that being the creation of models that accurately represent existing buildings. Additionally, he says, new 3D BIM designs can be viewed and clashed with the laser data to ensure that they will fit into the existing facility, thus eliminating rework.

Adding to its high-profile project roster that includes NYC's Guggenheim, Wrigley Field, the Art Institute of Chicago and the St. Louis Public Library, Quantapoint was highlighted October 23 on WICS-TV NewsChannel 20 in Illinois for its work on the state's capital in Springfield. Accurate drawings of the building's existing conditions don't exist, and manually measuring the structure that would require great amounts of labor to trace piping and verify the construction of walls was not an appealing solution to capturing true, usable measurements of the building. From Quantapoint's resulting scans, a 3D replica model of the capital can now be made--accurate to an eighth of an inch--and used as a reference point for renovation or add-on projects. View the WICS broadcast [here](#).



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