National Park Service Records American Engineering History with Autodesk Software

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AutoCAD Software Used to Document American Engineering Achievements

SAN RAFAEL, Calif.--(BUSINESS WIRE)--Feb. 27, 2012-- The National Park Service uses AutoCAD software from Autodesk, Inc. (NASDAQ:ADSK), a leader in 3D design, engineering and entertainment software, to help document American engineering and industrial achievements as part of an historical program started more than 40 years ago.

The Great Flight Cage at the National Zoo in Washington, D.C. was built in 1963 and opened in 1965. The National Park Service used laser scanning technology from kubit to capture the Flight Cage as a point cloud that would then be imported into AutoCAD. (Photo: Business Wire)

America's engineering and industrial achievements are stunning accomplishments in themselves, although most Americans may not be aware of these achievements. That is why the Historic American Engineering Record (HAER) was established in 1969 by the National Park Service, the American Society of Civil Engineers and the Library of Congress to document historic sites and structures related to engineering and industry.

Everything from bridges and boats to factories and gold mines has been documented by HAER for historical purposes. Using laser scanning technology from Leica Geosystems and software from kubit, an Autodesk developer partner, HAER is able to capture "point clouds" of data that create a 3D image of these sites. Using the powerful AutoCAD® point-cloud rendering engine and kubit's enhanced functionality, HAER staff works with this point cloud data to create detailed 3D models and 2D drawings, which are then housed in the Library of Congress for access by the general public, ensuring America's industrial achievements are documented and preserved for future generations.

"We're creating a collection of documentation that tells a story about the built environment in America," said Tom Behrens, an architect with HAER. "Quite simply, AutoCAD lets us work more efficiently, enabling us to document more historic sites and structures than we could have in the past."

Answering the Call to Record History

Not everybody knows how many support cables are required to support the Golden Gate Bridge, or what a steam-powered lumber mill looks like. But they could easily find out — thanks to HAER's efforts. Fortunately, HAER has embraced technology to help its employees document sites more effectively. They start by laser scanning the site to capture millions of data points, creating a "point cloud" that provides a digital image of the site. This data is supplemented by hand measurements and digital photography.

HAER takes this data and works with it in AutoCAD, CAD software, which features a powerful, built-in point cloud engine capable of handling up to two billion data points. Additionally, software from kubit expands their ability to analyze the point cloud data and create accurate 3D models from within the native AutoCAD environment.

Using AutoCAD, HAER creates 2D technical drawings from these 3D models. By making AutoCAD a key component in its workflow, HAER is able to complete drawings more quickly and undertake more projects.

"America benefits from HAER's valuable work documenting the country's industrial and engineering processes," said Amy Bunszel, vice president of AutoCAD products. "It is terrific that AutoCAD plays a role in helping produce historical material with such a wide appeal to students of American history of all ages."

About HAER

In 1969, the National Park Service (NPS), the American Society of Civil Engineers, and the Library of Congress established the Historic American Engineering Record (HAER) to create a permanent documentary record of the nation's engineering and industrial legacy. The NPS sets qualitative standards, organizes and staffs recording projects. The Library of Congress curates the records, makes them available free of charge for study both at the library and on its Prints and Photographs website. The engineering societies offer professional counsel through their History and Heritage Committees and national memberships.

Individuals, engineering groups, historians and subject-matter specialists donate formal documentation to HAER that meets or exceeds our standards set forth in *Secretary of the Interior's Standards for Architectural and Engineering Documentation* . A major portion of the collection is comprised of these contributions. HAER formal documentation consists of all or any combination of measured and interpretive drawings, historical reports, and large-format photographs. All HAER documentation must explain and/or illustrate the site's significance; be accurate and verifiable; be produced on archival media tested for a 500 year lifespan that is also reproducible; and be clear and concise. For more information about the HAER program visit www.nps.gov/history/hdp/haer/index.htm

About kubit

Since 1999, German based firm kubit has developed field proven software for capturing existing conditions into the AutoCAD environment. kubit provides "reality capture" solutions and workflows for traditional surveying, photogrammetry and laser scanning technologies. Anyone with AutoCAD experience can master kubit software. Engineers, architects, forensic specialists, preservationists, archeologists and more utilize kubit software daily to solve their surveying needs. Whether a client is looking to manipulate huge point clouds or create simple plans the kubit team educates clients on the various measurement technologies and how to efficiently integrate them into the design workflow. kubit's US based headquarters is located in Houston, Texas.

About Autodesk

Autodesk, Inc., is a leader in 3D design, engineering and entertainment software. Customers across the manufacturing, architecture, building, construction, and media and entertainment industries — including the last 16 Academy Award winners for Best Visual Effects — use Autodesk software to design, visualize and simulate their ideas. Since its introduction of AutoCAD software in 1982, Autodesk continues to develop the broadest portfolio of state-of-the-art software for global markets. For additional information about Autodesk, visit www.autodesk.com.

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Photos/Multimedia Gallery Available: http://www.businesswire.com/cgi-bin/mmg.cgi?eid=50182178&lang=en

Source: Autodesk, Inc.

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