

# 3D Solutions

## News on The Use of Laser Scanning Technology

### Haag 3D Solutions

Haag 3D Solutions provides 3D imaging and BIM technologies to deliver highly accurate, reliable as-built documentation. Haag 3D Solutions specializes in professional 3D geospatial solutions for all types of design and construction projects.

Haag 3D Solutions is a division of Haag Engineering.



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## One Ala Moana Parking Garage

Working with a Contractor's Virtual Construction team, H3DS sent staff to Honolulu, Hawaii to perform 3D Laser Scanning (3DLS) of an existing 5 story parking garage adjacent to the Ala Moana Center. On top of the existing garage, a proposed 17 story residential tower is being constructed, with average sale prices of \$1.9M per unit. 3DLS was requested to document the locations of the existing columns, beams, MEP components and other features to allow for 3D Virtual Construction to occur. Mobilizing a crew and equipment to Hawaii, H3DS was able to document the existing parking garage in 2 night shifts, so as not to impact the mall's traffic or have it impact the sight lines in the data. Deliverables included Navisworks files, Point Cloud data and TruViews, which the Virtual Construction team utilized to pre-coordinate the construction occurring within the existing garage.



## Events:

June Las Vegas, NV	<b>Hexagon Conference</b> Rob Ashley and Jim Wiethorn
July Denver, CO	<b>APSG US West</b> Chris Zmijewski
August Colorado Springs, CO	<b>GeoGathering Conference</b> Kevin Kianka
September Dallas, TX	<b>Haag's Annual Dove Hunt</b>

Upcoming: **BIMForum - Denver, CO**  
Prefabrication & Modularization

**BIMFORUM**



**CyArk 500 Challenge - London**  
Digital preserve 500 heritage sites in 5 years

**SPAR Europe - The Netherlands**  
SPAR Europe and ELMF,  
Together for the 1<sup>st</sup> time



Laser scanning solutions for all types of land/domain topography require close collaboration among team members and an in-depth understanding of the client's needs.



## The Obelisk The Metropolitan Museum of Art



In March of this year, H3DS was contacted by the New York Central Park Conservancy to digitally document the Egyptian Obelisk and surrounding area, referred to as Cleopatra's Needle, in New York's Central Park. H3DS' field crews worked closely with representatives from the Metropolitan Museum of Art and New York Central Park Conservancy to laser scan the Obelisk utilizing a Leica HDS7000 and a Surphaser IR. The Surphaser IR was used because of its ability to

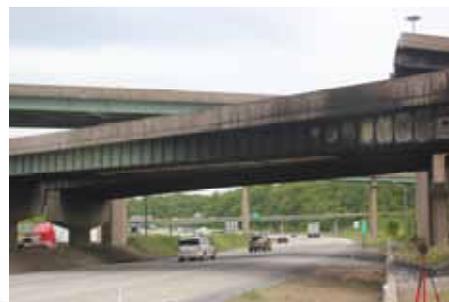
accurately document the hieroglyphics on the faces of the Obelisk.

As part of the project, H3DS developed a site plan from the scan data for the Museum personnel to coordinate scaffolding erection which will be utilized during a cleaning operation and 3D models of the Obelisk to be used in an upcoming Obelisk exhibition at the Art Museum. The cleaning is part of an ongoing effort to clean, maintain and preserve this artifact for future generations.

## I-81/Rt 22 Truck Fire Harrisburg, PA

On May 9, 2013 a tanker truck carrying diesel fuel overturned on a ramp connecting I-81 and Route 322EB near Harrisburg, PA. The resulting fire shut down the heavily travelled artery, but also severely damaged the ramp and the overpassing Route 322WB roadway. As a result of the fire, PennDOT removed sections of the Route 322WB Bridge and diverted traffic around the area.

H3DS was retained by a Forensic Engineering firm to document the scene and provide point cloud data for import and analysis in their programs. For this assignment H3DS responded with a Leica C10 scanner to document the scene and surrounding areas. Providing detailed coverage of the surface of the ramp, H3DS also documented the superstructure and substructure (underside) of the ramp, including the piers and abutments.



## H3DS Partners with CyArk



In July, H3DS signed an agreement to Partner with CyArk on several upcoming documentation projects. CyArk was founded in 2003 to ensure heritage sites are available for future generations, while making them uniquely accessible today. CyArk operates internationally as a 501(c)(3) non-profit organization with the mission of using new technologies to create a free, 3D online library of the world's cultural heritage sites before they are lost to natural disasters, destroyed by human aggression or ravaged by the passage of time. As quoted in a July 4, 2013 LidarNews article, CyArk's Justin Barton stated "Momentum is growing for this new program, and CyArk would like to gratefully acknowledge our other Data Donation Partners from all over the world: **Haag 3D Solutions.**" Haag "has chosen to contribute to their local community and wider global public while taking advantage of the programs benefits, exemplifying that by doing good, you do well.

For more information go to [www.cyark.org](http://www.cyark.org)



## Glendale Galleria Glendale, CA

At the request of a skylight design firm, H3DS supplied staff to document two domed skylights at the Glendale Galleria in California. The skylight is supported by tubular steel which was field bent into the shape of a dome, with the goal of removing the skylights and utilizing the tubular steel for the new skylights. H3DS completed laser scans of the skylights during the operating hours of the mall, with limited impacts to pedestrian flow thanks to the speed

and range of Leica's HDS7000 laser scanner. Utilizing the 3DLS data, H3DS modelers were able to 3-Dimensionally model the tubular framing supporting the skylight and provide accurate as-built locations for the design and fabrication of the new skylights.



### 3D Laser Scanning makes the report...

In July, the USIBD released its first Cornerstone Report. A new Cornerstone Report will be released quarterly with each reviewing select aspects of building documentation.

The report is intended to assist the industry (service providers, clients, data users and other stakeholders) to identify where the industry is and where it is going. This first report, focused on the current state of 3D Laser Scanning based upon survey responses from service providers and consumers. For more information contact the USIBD at [www.usibd.org](http://www.usibd.org).

### CAD CORNER

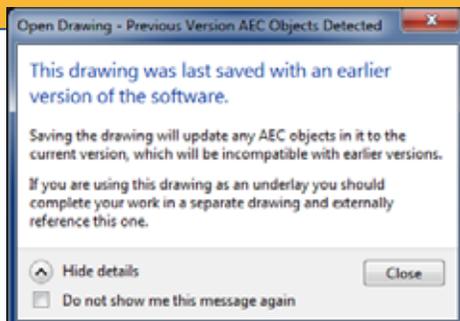
By: James Ragonese

Autodesk takes the phrase "There's no turning back" to heart, especially when it comes to their upgrades. Every fourth release of AutoCAD, historically has been a file format upgrade release and AutoCAD 2013 is no different. For vanilla AutoCAD users, this is not a big deal, as one can always open the file and save down to a previous version .DWG. The issue is when AutoCAD Architecture (ACA) users create their files in 2013 and then save back to an earlier version to share with consultants or clients. Those using a previous version of ACA, can no longer edit the AEC objects as intelligent objects. This means that smart objects such as walls, doors and windows will lose their intelligence.

When opening the file in an older ACA the following error will appear. Downgrading will make the objects within the drawing un-editable and users will not be able to change a simple door width, for example.

**Quick Tip:**

Save all .DWG files in the current version and ask your consultants to upgrade "Export to AutoCAD" Command: \_AECEXPORTTOAUTOCAD2010, Loading AEC Object Explode... This will explode all AEC objects to line work and blocks



## H3DS stampedes into Texas

H3DS is now servicing the Southwest and Southeastern United States with staff located in our Sugar Land (Houston Area), Texas office. Kevin Kianka, H3DS' Director of BIM/Modeling Program has recently relocated to our Sugar Land office to oversee operations and service our growing number of clients in Texas and the southwest and southeastern states. In addition H3DS will provide local and direct support for Haag Engineering's Forensic Engineers in Sugar Land by providing accurate 3D Documentation and modeling of accident scenes. Please contact Kevin at (281) 313-9700 to request a quote or discuss how H3DS can assist with your projects.





Haag Engineering Co., Forensic Engineers & Consultants since 1924, is excited to announce the establishment of a new company division, **Haag 3D Solutions, LLC**. **Haag 3D Solutions** is a technology and services company specializing in the application of 3D imaging and BIM technologies, delivering highly accurate and reliable as-built documentation for both public and private sector clients. **Haag 3D Solutions** was created to provide professional 3D geospatial solutions for all types of design and construction projects.

Centered in the northeast, The **Haag 3D Solutions** division is headquartered in Mt. Laurel, New Jersey, and will compliment the entire Haag Engineering team and offices throughout the United States.



Office Locations:

Dallas, TX  
Houston, TX  
Austin, TX  
Los Angeles, CA  
Minneapolis, MN  
Tampa, FL  
Denver, CO  
Atlanta, GA  
Mt. Laurel, NJ

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