

3D Solutions



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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.

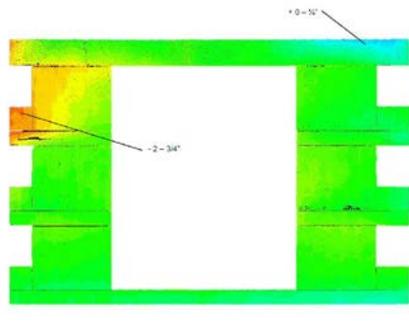
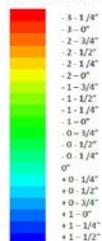
Façade Documentation

H3DS recently completed an assignment utilizing 3DLS technologies to document an existing building façade in a pharmaceutical campus. The building façade consisted of a cast-in-place concrete (over 20 separate planar areas) built in the mid 1970's and was scheduled to be reclad in an upcoming project. The project involved utilizing the existing façade as the base and constructing a new façade outboard of the base. As part of the design bid documents, H3DS was retained to document the façade and provide a summary report of the facades documented 3-Dimensional position to assist the upcoming bidders.

H3DS completed a documentation of the façade, both the exterior and courtyard areas, utilizing a Leica HDS7000 Laser Scanner and conventional surveying total stations. Following the field work H3DS worked with the design team to identify the Design Intent location of the façade. Design Intent identified where the original design plans identify the location of the wall as compared with the actual document condition. Once the Design Intent façade location was finalized, it was aligned with the documented condition and compared utilizing a color deviation method.

The color deviation method, identified the Design Intent location of the wall and graphically (utilizing colors) identified the deviation of the 3DLS documented wall locate on. This graphical method along with a summary report was given to the project's bidders to aid in the process of bidding the recladding and refine their assumptions.

DEVIATION FROM DESIGN



Events:

December Washington, D.C.	ECO Build Conference
San Francisco, CA	Construction Super Conference
January Saratoga Springs, NY	NYSAPLS Conference
Orlando, FL	Windstorm Insurance Conference
March Boston	PLRB /LIRB Claims Conference

Upcoming: SPAR – Colorado Springs, CO

BIMForum – Miami, FL
The Human Side of BIM



Montgomery Hill Apartments Floor Plans/Space Plans



Montgomery Hill Apartments, which is on the site of the old Montgomery County Hospital, formerly known as Charity Hospital of Montgomery County, in Norristown, PA, built in 1891, has been closed after the opening of the new Einstein Medical Center.

This 210,000 square foot, seven-story hospital building is being redeveloped into apartments. Due to poor documentation of the hospital space, the architect hired H3DS to develop two dimensional floor plans for all seven floors to utilize for space planning. The architect identified the complex layout of the floors as a space that lended itself to laser scanning. Laser scanning provided the ability to document the complex layout of each floor very accurately and quickly. H3DS utilized two phase based laser scanners and completed the field data collection effort in just six days.

From the registered pointcloud, H3DS developed the floors plans utilizing AutoDesk's Architectural Desktop 2013, which allowed CAD Technicians to import the pointcloud directly into AutoCAD and quickly trace over the walls and insert doors to match the data. This process made for a very accurate representation of the space on each floor. H3DS also delivered TruViews, broken down by the individual floors, which allowed the architect to review the pointcloud data for features that wouldn't normally be drawn in a two dimensional floor plan.



3-Dimensional Coordination for a proposed elevator

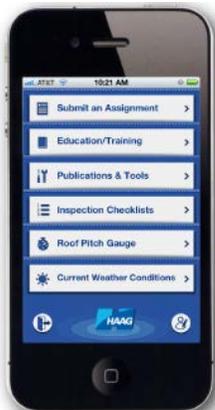
H3DS was retained for the NYC PS 721 Accessibility Project to 3-Dimensionally document the location of a proposed elevator over six floors and a crawl space. As part of the project coordination, H3DS worked with the project's surveyor to document a 1,000 Square Foot area on each of the floors of the proposed elevator, specifically locating existing architectural, structural and MEP component that will need to be interrupted, relocated or replaced as a result of the effort. Utilizing existing stairwells, H3DS was able to accurately navigate the multiple floors and 3-Dimensionally correlate each floor together for a unified coordinate system.

H3DS validated floor to floor elevations and provided the client with TruViews, floorplans and reflected ceiling plans indicating components that were documented within the area of interest. Utilizing these deliverables, the contractor will be able to pre-coordinate the location of the elevator, in order to minimize disruption of services and replacement of MEP and Structural Components.

Virtual Spherical Tours Colliers International



Working with Colliers, H3DS recently completed a Virtual Spherical Tour of a new listing to assist with the advertisement of the space. Utilizing a specialized camera and mount that is intended to create spherical images, H3DS staff assisted Colliers with documenting key locations in the space. Spherical images are created by taking a series of photographs in a single location. In the office, specialize software is utilized to merge the individual images into one spherical image. Utilizing this spherical image, users have a virtual view of the photo that is 360° making the user feel as if they were actually standing in the location of the camera and are able to spin 360°, pan up, down and zoom in. In addition to the photos, H3DS created a tour package that is an EXE file, able to be transmitted to Colliers perspective tenants.



International Association of Forensic and Security Metrology, Inc.

Chris Zmijewski has recently been appointed Director of the IAFSM

The **International Association of Forensic and Security Metrology** is a nonprofit professional association of users, service providers, and manufacturers of metrological techniques and technology working for the advancement of justice.

The IAFSM comprises from a wide variety of law enforcement, litigators, medical examiners, forensic and security applications whose common element is the use and/or development of high-precision metrological systems including:

- Long-, mid- and short-range laser scanners
- Sub-millimeter scanners
- White light scanners
- Electronic theodolites/total stations for surveying
- Hand-held measuring devices
- Reverse engineering systems
- Photogrammetry/videogrammetry
- 3D printers and peripherals
- Support software for CAD, 3D visualization and modeling, GIS, computer animation, analysis and presentation

Chris is excited to join the Association's mission to promote the development and use of precision measurement systems, techniques and software in the generation of two- or three-dimensional coordinate spatial data for documentation, planning, analysis and/or presentation purposes in the service of justice.



CAD CORNER

By: James Ragonese

The command line (the main way to communicate with AutoCAD) has been a vital tool and in AutoCAD 2013 has been modernized with a new look and feel. When opening the program for the first time, the command line is now a separate floating window however it is still capable of docking to the edge of the program. When it is docked at the bottom of screen, it is similar in look to previous versions, as a transparent, single line window that looks and acts like a toolbar. Users are now able to click on the options within the command line, providing greater flexibility and productivity in their daily work, with options that include an appealing background, and a semi-transparent prompt history, to display fifty lines of history without affecting the drawing area. A new tool on the command line provides easy access to the number of lines of prompt history, as well as autocomplete, transparency and option controls.

Quick Tip:

F2 or Arrow Fly out button accesses Command History

CTRL+F2 opens Text Window Dialog Box





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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