HEXAGON
PPM

CLOUDWORX INTERGRAPH SMART® REVIEW

ANALYZE POINT CLOUD DATA WITHIN INTERGRAPH SMART REVIEW

Benefits

- Easy to learn and easy to use
- Fast, accurate, comprehensive, reality-based visualization with point clouds
- Design verification with detailed, as-built point cloud data
- Measurements directly from the point cloud
- Minimized or eliminated site revisits
- Workgroup support

Intergraph Smart® Review is the complete visualization environment for interactively reviewing and analyzing large, complex 3D models of process and power plants. Used by many companies around the world, the software provides all the visualization tools you need to review designs during engineering, construction, or maintenance – in one powerful application.

The CloudWorx add-on uses the Leica Geosystems HDS Cyclone™ software platform to provide access to point cloud data inside Smart Review. This powerful combination enables you to perform a plant walkdown without leaving the comfort and safety of your office!

Laser scanning offers the most accurate, complete, and cost-effective way to collect and work with as-built information for existing facilities. CloudWorx Intergraph Smart® Review is the first point cloud solution to provide Hexagon users with the convenience and added value of working with rich, as-built laser scan data directly within Smart Review.

Review and Visualize in Context with the Existing Environment

Users enjoy a virtual site presence within their native review environment. Project and design teams can review, visualize, and dynamically interact with real-world, "as-found" point cloud conditions and a fully-rendered PDS® or Intergraph Smart 3D design model. You can confidently assess a design's impact on construction and/or operations.

Powerful Point Cloud Management and Measurement

CloudWorx Intergraph Smart Review users can quickly navigate and manipulate point cloud data. For any viewpoint, the application automatically selects the best set of data to load, plus it offers ready access to all data without having to segment scan data sets into smaller blocks. To quickly isolate areas of specific interest, users can apply sections and spatial limit boxes and recall a defined partition on demand. Smart Review tools can be used for direct measurement on the point cloud, either within the point cloud or to design CAD elements.

Automated Point Cloud Interference Detection

Automatically detect clashes between modeled objects and point clouds, with results based on a user-defined tolerance threshold setting. All scan points indicating a clash within the defined threshold are visually highlighted.

High Accuracy Plus High Performance

Enjoy both high-definition and high-performance point cloud management. Leica's point-based representation – in contrast to volumetric or "voxel"-based representation approaches – preserves the highest accuracy and fidelity of the raw scan data. From a performance standpoint, Leica algorithms treat data volumetrically for efficient processing, storage, and sharing.

Multiple Scanner Format Support

Hexagon PPM users can take advantage of scan data from any laser scanner via industry-standard data formats. In addition, CloudWorx Intergraph Smart Review directly accepts, without any data format conversion, compact native data formats from the industry's most popular scanners. These include all models of Leica Geosystems HDS laser scanners.

Large Point Cloud and Model Support	Efficient loading High-fidelity visualization Real-time navigation	Cyclone object database client/server technology - Fast data processing; efficient data management
Rendering	Level of Detail (LOD) graphics preserve data quality "Single-pick" point cloud density control	Intelligent memory management
Visualization	View point clouds with intensity mapping and true color for photo-realistic views	
Display Control	Control for displaying point clouds and snapping to point clouds	Flexible point masking for fence, section (half-space), slice, and limit box (volume clipping)
Point Cloud Management	Limit box manager Hide regions manager (fences) By scanner location	Cutplane manager (sections, slices) Layers in Cyclone database
Measurement - Support Intergraph Surface Measuring	3D point coordinate Point-to-point	Point-to-CAD entity
Interference Checking	Check designs for potential interferences with point clouds Highlight interfering points	User-defined parameters
Point Cloud Archiving	Point clouds as historical, as-built record	

ABOUT HEXAGON

Hexagon is a global leader in sensor, software and autonomous solutions. We are putting data to work to boost efficiency, productivity, and quality across industrial, manufacturing, infrastructure, safety, and mobility applications.

Our technologies are shaping urban and production ecosystems to become increasingly connected and autonomous – ensuring a scalable, sustainable future.

Hexagon's PPM division empowers its clients to transform unstructured information into a smart digital asset to visualize, build and manage structures and facilities of all complexities, ensuring safe and efficient operation throughout the entire lifecycle.

Hexagon (Nasdaq Stockholm: HEXA B) has approximately 20,000 employees in 50 countries and net sales of approximately 3.8bn EUR. Learn more at hexagon.com and follow us @HexagonAB.