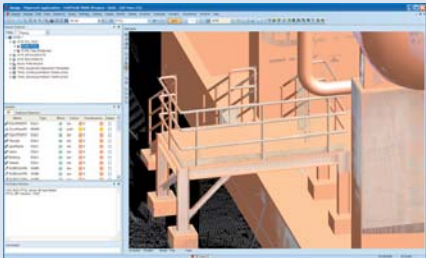


Leica CloudWorx 1.0 for PDMS

A Powerful, Versatile, and Effective Point Cloud Solution for AVEVA VANTAGE PDMS



Leica CloudWorx 1.0 for PDMS

accurately delivers all the complexity of a project site directly into the engineer's PDMS design desktop. CloudWorx provides powerful point cloud visualization and advanced point cloud management technology that extends AVEVA customers' capabilities by adding the convenience of working with rich as-built laser scan data directly within AVEVA's PDMS design environment.

High-Definition Surveying™ (also known as laser scanning) offers the most accurate, complete, and cost effective way to collect and work with as-built information for existing facilities or structures. HDS is a proven engineering and construction enabling and cost saving technology, which is being used on many of today's industrial revamp and new construction projects. Leica CloudWorx for PDMS now delivers this powerful capability directly into AVEVA's VANTAGE technology.

High Accuracy plus High Performance

Leica CloudWorx for PDMS is based on Leica Geosystems' long proven Cyclone™ point cloud foundation. This foundation includes point-based cloud representations for the highest accuracy measurements results. It also includes a versatile, high-performance database architecture that directly corresponds to PDMS' database architecture.

Conceive and Design in Context with the Existing Environment

Design teams can conceive, design, visualize, and dynamically interact in context with the real world "as-found" point cloud conditions. Users essentially experience a virtual site presence within their native design environment. Engineers and project teams can now easily conceive and validate new retrofit designs and enjoy greater confidence in their ability to assess construction and operational advantages and impacts.

Powerful Point Cloud Management & Measurement

CloudWorx for PDMS provides several ways to quickly, efficiently, and effectively manage vast amounts of point cloud data. User named and defined "Cutplane

Slices and Half-Space Sections" and/or "Limit Boxes" provide a quick and easy way to navigate point cloud data. Selections can then be recalled and removed as needed on demand. Measurements are taken using familiar PDMS measuring tools.

3D As-Built Modeling

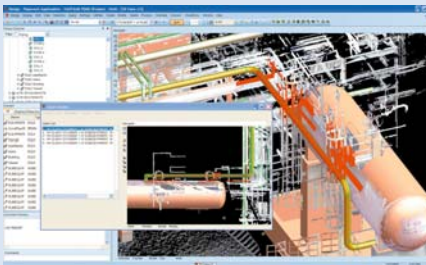
Pipe center D-Points are automatically generated by selecting a single cloud point on the pipe surface. The actual calculated pipe outside diameter attribute is retained for reference. Using the point cloud, D-Points generated by CloudWorx, and PDMS 3D modeling tools, users can create catalog-based intelligent as-built piping systems, structures, duct work, electrical tray systems, vessels and equipment.

Automated Point Cloud Clash Detection and Reporting

Clash detecting against point clouds with CloudWorx is performed using PDMS' own automated clashing and reporting tools. Users can automatically detect clashes between modeled objects and point clouds, based on a user's own defined setting. All interfering points within a user-defined region are visually highlighted and itemized.

Versatile Support of Multiple Scanner Formats

AVEVA users can take advantage of spatial scan data from any laser scanner via industry-standard ASCII-based data formats. In addition, Leica CloudWorx for PDMS directly accepts, without any data format conversion steps, compact native data formats from the industry's most popular scanners. These include all models of Leica Geosystems HDS time-of-flight and phase-based laser scanners, all Cyra scanners, and selected scanners from other vendors. This capability to accept native formats from the industry's most popular scanners provides users the opportunity to take advantage of increased office efficiencies via the largest network of scanning service providers and installed base of scanners.



- when it has to be **right**

Leica
Geosystems

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Features		Benefits
<p>Large Point Cloud and Model Support</p> <p>Efficient loading Visualization Navigation Cyclone Object Database Client/Server technology - Fast data processing - Efficient data management</p>	<p>Interference Checking</p> <p>Check designs for interferences with point clouds using PDMS clash tool Highlight interfering points User-defined parameters</p>	<p>Easy to Learn and Easy to Use</p> <p>Integrated into existing PDMS design and work processes Short learning curve</p>
<p>Rendering</p> <p>Level of Detail (LOD) graphics Intelligent memory management</p>	<p>Point Cloud Archiving</p> <p>Point clouds as historical as-built record</p>	<p>Fast, Accurate, Comprehensive, Reality-based</p> <p>Comprehensive as-built data Efficient information extraction tools Higher confidence as-built projects using sophisticated environment visualization</p>
<p>Visualization</p> <p>View point clouds with: - Intensity mapping - True color</p>	<p>Supported Data Formats</p> <p>Native Format - 3dd, scan (Leica and Cyra), zfc, zfs ASCII - pts, ptx, svy, txt, xyz</p>	<p>Supports Wide Range of Applications</p> <p>Concept and design validation Engineering and construction planning As-is condition assessment for range of applications including retrofit and revamp projects</p>
<p>Display Control</p> <p>Control over: Display point clouds Snapping to point clouds Flexible point masking: Fence Section (half-space) Slice Limit box (volume clipping)</p>		<p>Design and Verify In Context with Detailed Point Cloud Data</p> <p>Visualize, measure, and design in context with reality Facilitate retrofit engineering and design for clash-free installation Support construction monitoring</p>
<p>Point Cloud Management</p> <p>Limit Box Manager (2 point, 3 point, CE volume) Cutplane Manager (sections, slices) Hide Regions Manager (rectangular, polygon, and circular fence) By scanner location Layers in Cyclone database</p>		<p>Minimize or Eliminate Site Revisits</p> <p>Detailed point clouds archived in Cyclone database provide data on as-needed basis</p>
<p>As-Built Modeling</p> <p>PDMS Design Point Placement: Pipe Center D-Point (Includes actual calculated bore diameter attribute) D-Point at pick</p>		<p>Workgroup Support</p> <p>Data sharing in network environment with Cyclone-SERVER</p>
<p>Measurement (Utilizes PDMS Measuring Tools)</p> <p>3D point coordinate Point-to-point Point-to-design entity</p>		<p>System Requirements</p> <p>Microsoft Windows XP (SP1 or higher), Windows 2000 (SP3 or higher with up to date security patches) 2.0 GHz Pentium® 4 or higher/Pentium® M Processor 1.7 GHz or higher 512 MB RAM (1GB or more recommended) SVGA or OpenGL accelerated graphics card Ethernet network card for licensing AVEVA Vantage PDMS 11.6 SP2 or higher AVEVA Vantage PDMS LMI (Laser Model Interface)</p>

Illustrations, descriptions and technical specifications are not binding and may change.
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