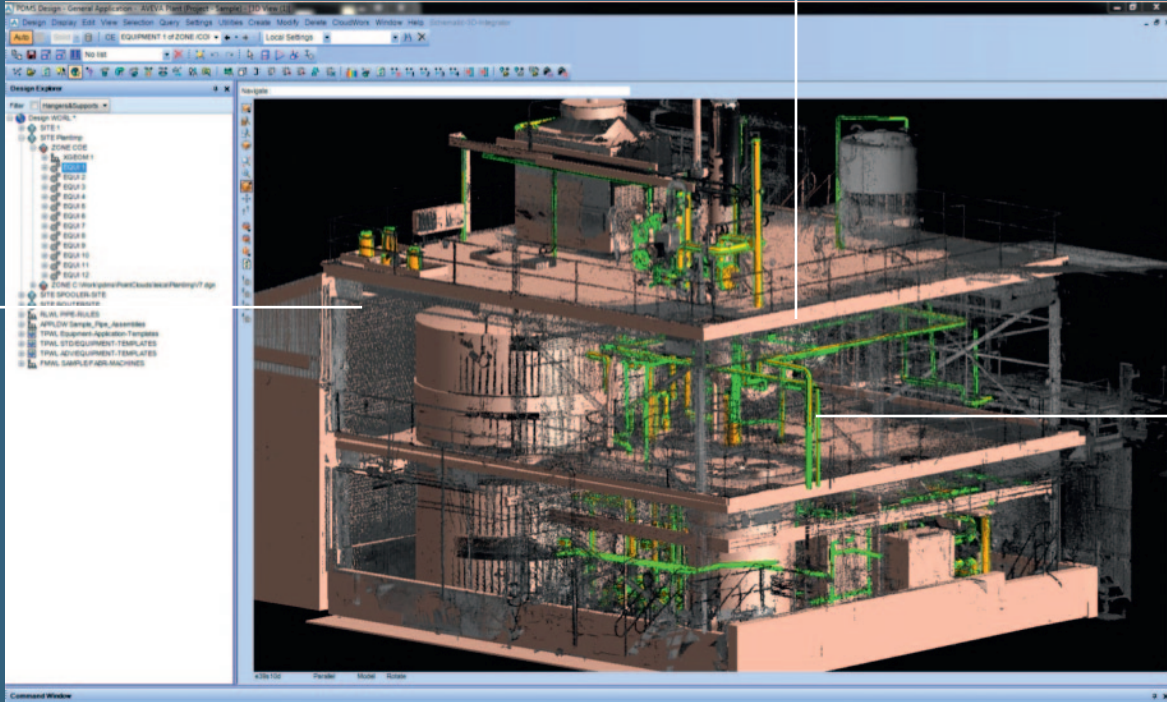


Leica CloudWorx 1.3 for PDMS

Point Cloud Plug-in Software

Point cloud of existing site
is displayed in the correct
location within PDMS

PDMS
treats point
clouds in the
same manner as
other modelled
items for
clashing



New 3D object
exchange for
between PDMS
and Cyclone

Efficient management and use of as-built laser scan data

Leica CloudWorx 1.3 for PDMS is a plug-in for efficiently manipulating, as-built point cloud data – captured by laser scanners – directly within PDMS for better retrofit design, construction & operations. It provides a virtual site within PDMS, for greater confidence in assessing potential construction and operational impacts of a new design.

Users operate in the familiar PDMS interface, shortening the learning curve for working with point clouds. The Leica CloudWorx tools and powerful Leica Cyclone point cloud engine and database architecture let users efficiently visualise and work with large data sets. Users benefit from complete, accurate laser scan data to conceive designs, check proposed designs against

existing conditions, create as-built models, perform critical construction & fabrication QA, and more ... all directly within PDMS.

Features and Benefits

- New 3D object exchange between Cyclone and PMDS
- Fast manipulation of scan data
- Slices, Half-Space Sections, and Limit Boxes
- Automatic pipe center D-points
- Accurate tie-ins, clash checking & reporting
- Direct measurements from point clouds
- Multi-user simultaneous network access
- Supports any laser scanner

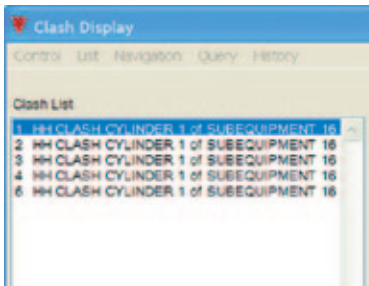
- when it has to be **right**

Leica
Geosystems

Leica CloudWorx 1.3 for PDMS



Powerful TruSpace viewing allows for fast easy navigation of the point cloud driven from the TruSpace Viewer window.



Using the standard PDMS clashing tools users can easily find critical interferences of new design work compared to the point cloud as-built data. Here a new pipe is seen to be clashing with a few large pipes in the scan just above the vessel.

Transfer models from Cyclone to PDMS and back again with ease

The PDMS COE transfer utility now enables the quick transfer of models. Cyclone models can be imported into PDMS for interference checking, tie point inspection and retro fit management. PDMS models can be exported into Cyclone, modified, updated and/or published to TruViews for real-time field inspection. Models exported from PDMS are exported as un-intelligent primitives, but have all the accurate dimensioning and tie point locations you need for inspection and retro fit.

Powerful Point Cloud Management & Measurement

Users can quickly, efficiently, and effectively manage vast amounts of point cloud data. "Cutplane Slices and Half-Space Sections" and/or "Limit Boxes" provide a quick and easy way to navigate point cloud data. Measurements are taken using familiar PDMS measuring tools.

3D As-Built Modelling

Pipes and Pipe center D-Points are automatically generated by selecting a single scan point on the pipe surface. Using the point cloud, D-Points and PDMS 3D modelling tools, users can create catalog-based intelligent as-built piping systems, structures, duct work, electrical tray systems, vessels and equipment. Also box shapes can be quickly created by picking on 2-3 planes of the box.

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 modelled objects and point clouds, based on a user's own defined setting. All interfering points within a user-defined region are visually highlighted and itemised.

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.

Leica CloudWorx for PDMS 1.3 Specifications*		Minimum Specifications	Recommended Specifications
Large point cloud mgt	3D limit boxes, slices, interactive visualisation of massive data Cyclone Object Database Technology: fast efficient point cloud mgt	Processor: 2 GHz Dual Core processor or better RAM: 2 GB (4 GB for Windows Vista or Windows7) Hard disk: 40 GB	Processor: 3.0 GHz Quad Core w/ Hyper-threading or higher RAM: 32 GB's or more 64 bit OS Hard disk: 500 GB SSD Drive Large project disk option: RAID 5, 6, or 10 w/ SATA or SAS drives
Rendering	Level of Detail (LOD) graphics, "Single pick" point cloud density control	Display: SVGA or OpenGL accelerated graphics card (with latest drivers)	Display: Nvidia GeForce 680 or ATI 7850 or better, with 2 GB's memory or more
Visualisation	TruSpace Viewer, Intensity mapping, True colour, Limit boxes, slices, cut planes	Operating system: Windows XP (SP2 or higher) (32 or 64), Microsoft Vista** or Windows 7 (32 or 64)	Operating system: Microsoft Windows 7 – 64bit
Measurement	3D point coordinate, point-to-point, point-to-design entity	File system: NTFS	File system: NTFS
Modelling	Region Grow Pipe and centerlines Region Grow box geometry PDMS Design Point Placement: Pipe Center D-Point (Includes actual calculated bore diameter attribute)		
COE import Export	Supported objects – Cylinder-Flange-Cone-Box-Planer Extrusion, Elbow		
Interference Checking	Check designs for interferences with point clouds using PDMS clash tool Highlight interfering points	* Reference the Leica Cyclone Technical Specifications document for a complete listing of product specifications. ** Some systems may not support Windows Vista's Desktop Windows Manager (DWM) with Leica Cyclone and must be operated in Windows Classic Look. Versions: AVEVA Vantage PDMS V12 or higher AVEVA Vantage PDMS LMI (Laser Model Interface)	
Supported Formats	Native Format – 3dd, scan (Leica and Cyra), zfc, zfs ASCII – pts, ptx, svy, txt, xyz		

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