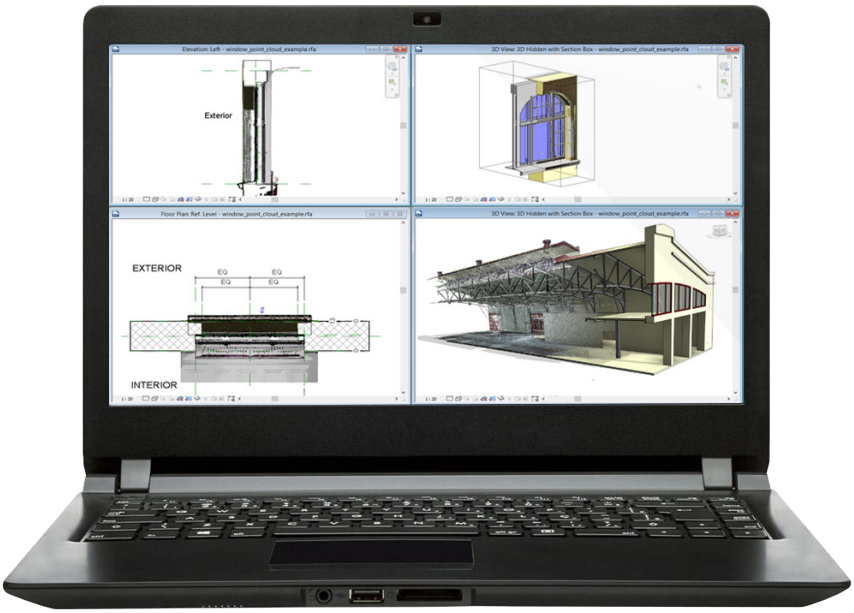
PointSense Plug-in for AutoDesk® Revit®

Effective processing of 3D laser scanner data in Revit®



Revit® model from 3D scan data in the Family Editor

PointSense for Revit® is a perfect complement for users working with point cloud data in Autodesk® Revit®. This add-on software provides functionality for quick and simple processing of laser scan data in Revit. Use customized commands for modeling and detailing BIM elements such as:

- Ground surfaces
- Walls/doors/windows
- Stairs
- Columns/beams/pillars
- Roofs and many more

PointSense for Revit® Solution

PointSense offers quick and intuitive workflows for processing large point clouds in Revit® and creates inventory architecture that can be used in BIM.

- Fit and align walls automatically with intuitive tooling
- Create models directly in the point cloud using 3D construction aids and real 3D point snap
- Fit Revit work planes in the point cloud
- Calculate measurements from orthographic images directly in the Revit project
- Process scan data in the Revit Family Editor
- Work with simple and intuitive navigation menus in the photo like scan view

Features

Create 3D models directly in Revit® Point Clouds

PointSense for Revit® features a wide range of 3D construction aids. Within the application, users can create 3D model lines and construction points using real 3D point snaps in the point cloud independent of Revit work planes. Users can intersect model planes and thus find exact intersection lines and intersection points, as well as create fitted work planes directly in the point clouds.

Compare the model with reality

Surface analysis enables the comparison between the point cloud and the Revit model. The results can be exported as profile lines or to other databases. From the profile lines, complex ground surface models can be created along with complex model components.

Save time and money with automated functionality

PointSense for Revit allows for quick and precise wall extraction. Various wall types and thicknesses are automatically detected. The wall alignment tool allows users to globally align, correct and fix extracted walls segments throughout an entire model for continuous, axially aligned wall floor plans, even over several floors. Users define the tolerances that are to be observed. Additional functions include the automatic creation of deformed floor slabs based on floor irregularity as well as the creation of a ground surface from 3D coordinates, taken from points in the point cloud (topo-surface).

Work with point cloud data directly in the Family Editor

PointSense enables the use of 3D laser scanner data directly in the Revit Family Editor. With three possible options for displaying the data; point cloud regions, planar scan views or true orthophotos, creation of object specific families such as doors, windows and columns is made easy.

Easier navigation of project details

The photo like scan view of the data allows improved recognition of details even while working with large point cloud projects. This makes orientation easier and increases the precision of your processing. These VirtuSurv projects display the scan data quickly and clearly and allow users to easily manage and navigate the scanner data.

Technical Requirements

Operating system	Microsoft® operating system, Windows 7, 8, 8.1 or 10 in the 64-bit version.
Hardware requirements	Autodesk recommends a multi-core Intel® Xeon®, or an i-Series processor, or the AMD® equivalent with 16 GB RAM and DirectX® 11 compatible graphics card and SSD (Solid State Drive) hard disk with at least 5 GB of free memory.
Supported Revit® Versions	Revit® 2015 or later. You can use the Autodesk® products Revit® Architecture, Revit® MEP, Revit® Structure or the complete Revit® version from the Building Design Suite.

Important Features

Modeling in 3D
- Create walls quickly and precisely in the point cloud
- Automatic creation of new wall types for different wall thicknesses
- Automatic alignment of walls to produce rectangular floor plans to user-defined tolerances
- Automatic intersection of wall ends
- Create a ground surface (topo-surface) from point cloud coordinates
- Surface analysis, comparison between point clouds and models
- Create a ground surface or complex components from the results of the surface analysis
- Create new family types for doors and windows from the point cloud

3D construction aids
- Create 3D model lines and construction points using real 3D point snap in the point cloud, independent of the Revit® work plane
- Fit polygonal chains in the point cloud
- Create restricted, fitted work planes in the point cloud (by selecting just a single point, or by selecting many points)
- Create intersection lines and intersection points between any model planes
- Create and fit planes with only one click
- Automatic determination of plane boundaries

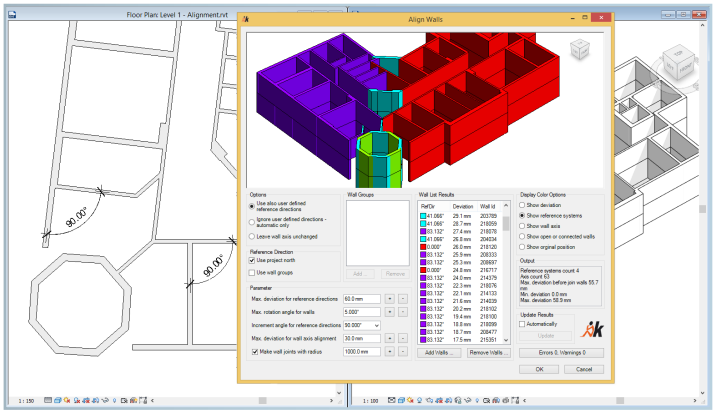
Ortho images
- Create, directly in the Revit project, ortho-images with optimized displays from point clouds
- Optional: Color images with automatically adjusted point density or in X-Ray mode

Photo like scan view
- Display scan data in a photo like planar scan view (VirtuSurv)
- Transfer coordinates from the planar view into the Revit project
- Custom commands to create BIM elements directly in the scan view: walls, doors, windows, pillars, beams, columns etc.
- Distance and coordinate picking
- Color the scans according to intensity, distance or the original RGB

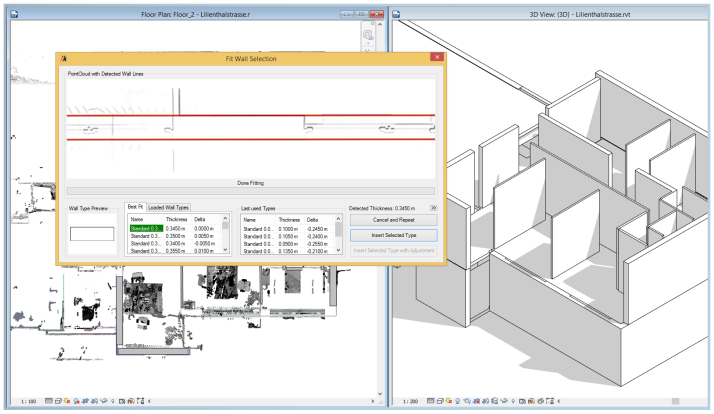
Work in the family editor
- Insert point cloud regions directly in the families editor
- Use scaled ortho images as construction aids
- Use the planar scan view to create construction aids directly in the families editor
- Save model lines as a 2D or 3D Revit family

Work with linked documents
- Retrieve “Shared coordinates“ directly from the point cloud

Worksharing
- Support of Revit Worksharing projects



Automatic wall alignment



Automatic wall creation

FREE TRIAL! PointSense programs can be tested free of charge and without obligation.
Visit www.FARO-3d-software.com to fill out a request form or simply call by phone.

For more information,
call 800.736.0234 or visit www.faro.com

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