

Revit® 3D model from 3D scanner data
Point Cloud in the Family Editor

PointSense for Revit®

Effective processing of 3D laser scanner data in Revit®

The functionality of PointSense permits a quick and intuitive workflow when processing large point clouds in Revit® and creates inventory architecture that can be used in BIM.

Create your 3D-models directly in Revit® Point Clouds

PointSense for Revit® makes available a wide range of 3D construction aids. With the application you can create 3D model lines and construction points using real 3D point snap in the point cloud, independently of Revit® work planes. You can intersect model planes and thus find exact intersection lines and intersection points. You can also 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 in databases. From the profile lines you can create complex ground surface models and also model components in any detail.

With automated functions you save time and money

With PointSense for Revit® you can, for example, create walls from the point cloud automatically, quickly and precisely. The wall types for different wall thicknesses are created automatically. With the wall alignment tool you create on demand continuous, axially aligned walls and rectangular floor plans, even over several floors. You define the tolerances that are to be observed. Other functions include the automatic creation of new families from the body of the point clouds or the creation of a ground surface from 3D coordinates, taken from points in the point cloud (topo-surface).

Work with scanner data directly in the family editor

PointSense enables the use of 3D-scanner data directly in the Revit® family editor. The three possible options for displaying the data, as point cloud regions, planar scan views or as true orthophotos make child's play of the creation of object specific families for doors, windows, columns etc.

Retain the overview, guaranteed

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

Benefits

You work with Autodesk Revit® and use a 3D laser scanner for fast data acquisition? In Revit® you miss the functionality of being able to process 3D laser scan data? You are looking for a quick and simple workflow that doesn't require any training?

The solution is PointSense for Revit®

- Tools for automatically fitting and aligning walls
- Create directly in the point cloud using 3D construction aids and real 3D point snap
- Fit Revit® work planes in the point cloud
- Calculate from ortho images directly in the Revit® project
- Process scan data in the Revit® families editor
- Simple and intuitive navigation in the photo like scan view

PointSense for Revit® is the perfect complement for working with point clouds in Autodesk® Revit®

- Use the customized commands for modeling and detailing BIM elements:
 - Ground surfaces, walls, doors, windows, stairs, columns, beams, pillars, roofs and many more.

Specifications

Operating system	Microsoft® operating system, Windows 7, 8 or 8.1 in the 64-bit version
Hardware requirements	To work with point clouds in Revit®, 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.

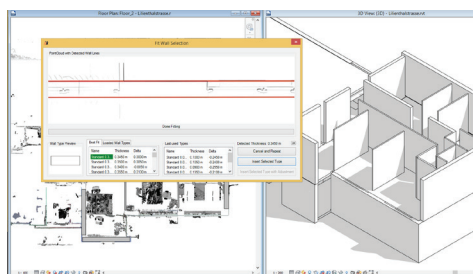
Features

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 for the producing 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, independently 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



Automatic wall creation

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

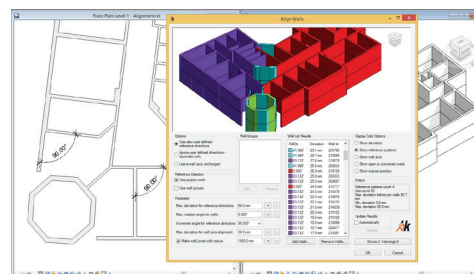
- Insert point cloud regions directly in the families editor
- Use scaled ortho images as construction aids
- Use the planar scan view to create construction aids directly in the families editor
- Save model lines as a 2D or 3D Revit® family

Work with linked documents

- Retrieve "Shared coordinates" directly from the point cloud

Worksharing

- Support of Revit® Worksharing projects



Automatic wall alignment