3DASH Tool

Training material

CARTIF

SHORT DESCRIPTION

3DASH Tool

The “**3DASH tool**” (3D Automatic Surfaces Handling - REVIT plug-in) **automatically detects and creates BIM entities** (walls for now) from 3D point clouds (PTX, PTS, PLY formats) acquired by laser scanning or photogrammetry systems.

USE CASES

Application of 3DASH Tool

Use case

Design: Create 3D design.

3D Modelling of existing asset based on point clouds.

Scan to BIM: 3DASH Tool

Who can use the tool?

This tool can be used by any professional who needs to quickly model a building in BIM from point clouds. Knowledge of Revit and point cloud handling is recommended but in any case the tool is easy to use.

MAIN TOPICS

3DASH Tool

Installation

Copy plugin to corresponding Path

Use

Launch plug-in

Video tutorial:

- Import point cloud
- Parameter configuration
- Process (detect, segment,...)

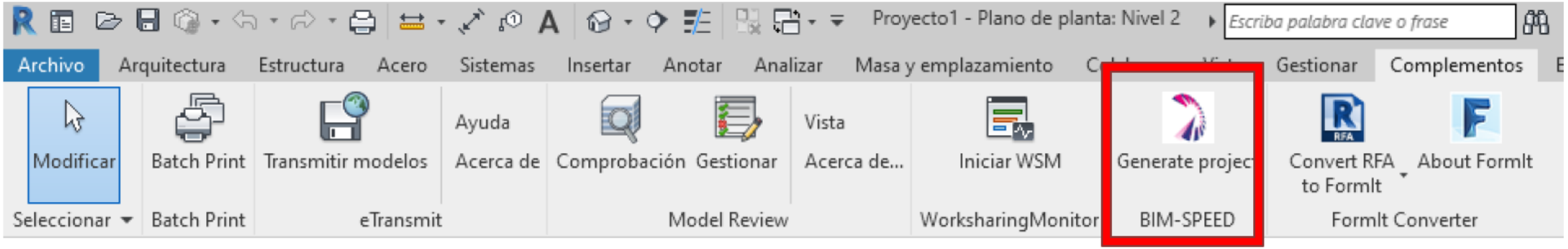
Results

BIM primitives (Revit walls) automatically created

Installation

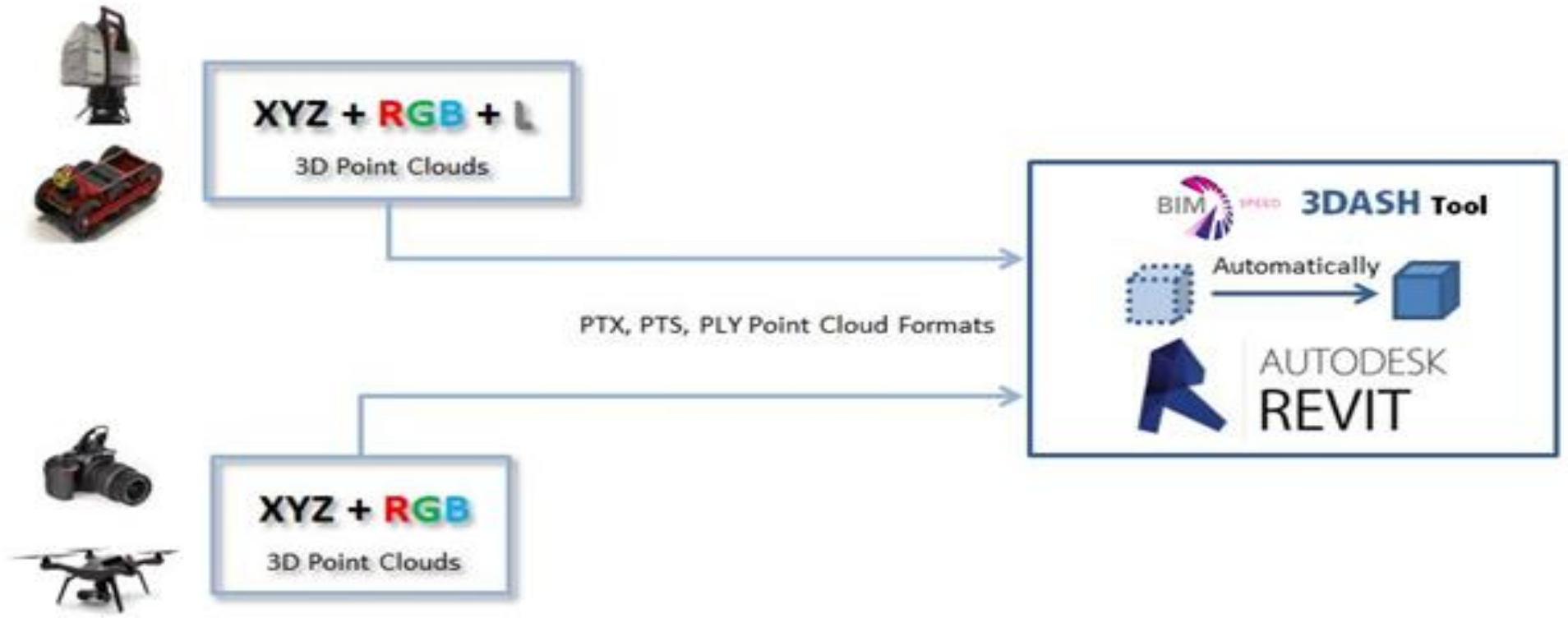
3DASH Tool installation

Copy *BimSpeed* folder and *BimSpeed.addin* file in this path:
C:\ProgramData\Autodesk\Revit\Addins\XXXX
Being *XXXX* the year of Revit version (this tool has been tested for 2017, 2019 and 2021 Revit versions)



Use

3DASH Tool Process



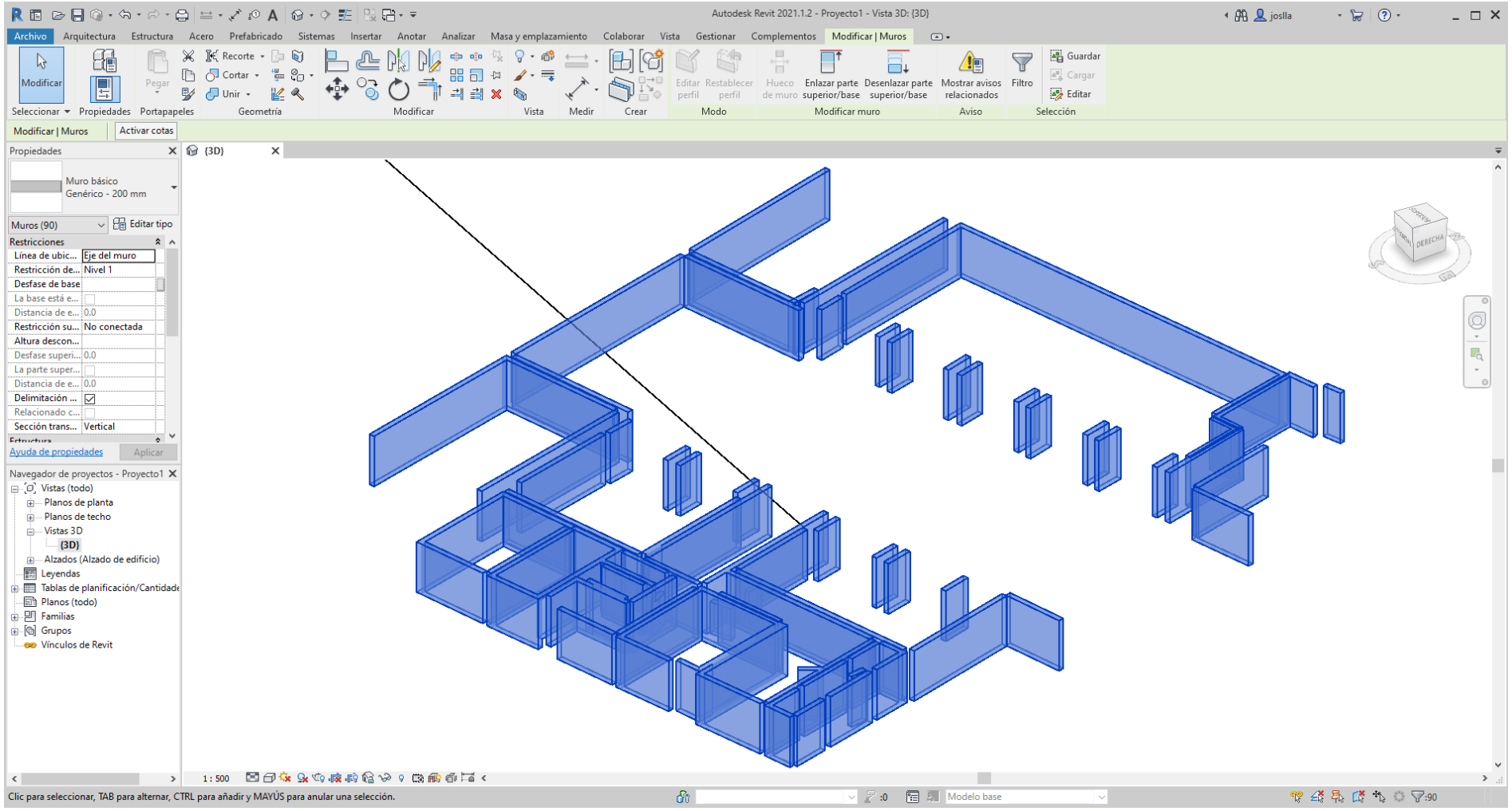
Processing Point Clouds

This specifically tailored plug-in for REVIT is programmed in C++ and supported by the Point Cloud Library (PCL) as standalone, large scale, open software project for image and point cloud processing. 3DASH is able to precisely display the detected features in a unique working project (RVT/RFA).

The PCL has a wide range of statistical algorithms to detect geometrical primitives such as planes, cylinders, spheres or cones. For now, walls are automatically detected using this tool on the corresponding point cloud. However, the detection of different basic features can be added upon request.

Results

Results


Autodesk Revit 2021.1.2 - Proyecto1 - Vista 3D: {3D}
Archivo
Arquitectura
Estructura
Acero
Prefabricado
Sistemas
Insertar
Anotar
Analizar
Masa y emplazamiento
Colaborar
Vista
Gestionar
Complementos
Modificar | Muros
Modificar
Seleccionar
Propiedades
Pegar
Portapapeles
Recorte
Cortar
Unir
Geometría
Modificar
Vista
Medir
Crear
Editar perfil
Restablecer perfil
Modo
Hueco de muro
Enlazar parte superior/base
Desenlazar parte superior/base
Modificar muro
Mostrar avisos relacionados
Aviso
Filtro
Guardar
Cargar
Editar
Selección
Modificar | Muros
Activar cotas
Propiedades
Muro básico
Genérico - 200 mm
Muros (90)
Editar tipo
Restricciones
Línea de ubic...
Eje del muro
Restricción de...
Nivel 1
Desfase de base
La base está e...
Distancia de e...
Restricción su...
No conectada
Altura descon...
Desfase superi...
La parte super...
Distancia de e...
Delimitación ...
Relacionado c...
Sección trans...
Vertical
Ayuda de propiedades
Aplicar
Navegador de proyectos - Proyecto1
Vistas (todo)
Planos de planta
Planos de techo
Vistas 3D
{3D}
Alzados (Alzado de edificio)
Leyendas
Tablas de planificación/Cantidade
Planos (todo)
Familias
Grupos
Vínculos de Revit
{3D}
DERECHA
1 : 500
Clic para seleccionar, TAB para alternar, CTRL para añadir y MAYÚS para anular una selección.
Modelo base

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3DASH Tool
BIM-SPEED Project

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