Workflow
Trimble Realworks - ArchiCAD

From the point cloud to parametric 3D modeling for BIM planning

1) Processing in Trimble Realworks

After cleaning the point clouds (eliminating areas and points of no interest), horizontal and vertical building sections are extracted.

*Building surveyed with TIMMS - point cloud by reflectance*

*Vertical cross section of the facade - point cloud based on reflectance*
The data is then exported in e57 format (which can be imported to ArchiCAD). In addition, again in Realworks, the vertical distances between the extradoses/upper surfaces of the slabs of the individual floors are measured.

This operation is important for defining the floors in ArchiCAD.
2) Processing in ArchiCAD V.19

Setting the floors in ArchiCAD before importing the clouds

Cloud cut-outs are then imported to ArchiCAD.

The files are treated as objects:

Importing point clouds as objects
Vertical cross-section view of point cloud in ArchiCAD - checking, along one section, of the levels relating to the upper surfaces

Then the ArchiCAD controls are used for 3D modeling and possible parametrization for BIM planning.
Creation of first 3D elements in ArchiCAD

TIMMS & UAV point clouds (roofs) based on reflectance

3D model in ArchiCAD
Point cloud based on reflectance

3D model in ArchiCAD