

# Voxel Point Cloud (Processed)

A **Voxel Point Cloud** entity transforms a collection of spherical point cloud captures—often from mobile or static LiDAR devices—into a unified, volumetric voxel model. This format is ideal for analyzing spatial density and structure within 3D environments.

Transform spherical point cloud captures into a single volumetric voxel model, useful for dense interior or tunnel scans.

→ *Enables volume-based analysis and structure identification.*

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## Creating a Voxel Point Cloud

1. In your project's **Catalog**, click the **"Add Object"** button and select **"Voxelized Points"** from the dropdown menu.

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2. Fill in the following metadata:

Field	Description
<b>Item Name</b>	A clear, descriptive name for the new entity.
<b>Capture Device</b>	<i>(Optional)</i> A label identifying the capture device (e.g., "Riegl VZ-400i", "Mobile LiDAR").
<b>Capture Date</b>	<i>(Optional)</i> The original date of data collection.
<b>Horizontal Datum</b>	The horizontal reference system used in the point cloud data.
<b>Vertical Datum</b>	The vertical reference system for elevation values.
<b>Projection</b>	The spatial projection used for the dataset.
<b>Horizontal Units</b>	Units for horizontal coordinates (e.g., meters, feet).
<b>Vertical Units</b>	Units for vertical coordinates.

Field	Description
<b>Translate X/Y/Z</b>	Adjusts the position of the model along each axis.
<b>Scale X/Y/Z</b>	Rescales the model; a value of <b>1.0</b> retains the original size.
<b>Rotate X/Y/Z</b>	Applies rotation (in degrees) around each axis using Euler angles.
<b>Rotation Order</b>	Defines the sequence in which rotations are applied (e.g., XYZ, ZYX).

## Uploading the Data

- Click **“Choose Files”** to upload your point cloud data.
- Each file must be a **comma-separated list of XYZ values**, where:
  - The **first entry** in the file represents the location of the scanning device
  - All **subsequent entries** are points captured from that location

You may select and upload **multiple files** in a single batch.

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## Finalizing the Upload

Click **“Create”** to start the voxelization and upload process.

You can monitor progress in the **“Pending”** section of the project interface.

Once complete, the voxel model will be available for viewing and integration within your project.

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