Photoneo 3D Meshing

Standard and **Instant** library overview

Photoneo 3D Meshing serves for an automatic creation of surface 3D models based on the scans from the Photoneo 3D Sensors. It is provided in a form of two separate libraries and GUIs.

Application name	3D Meshing (Standard Library)	3D Instant Meshing (Instant Library)
Purpose	Creation of high-quality 3D models out of scans from multiple distinct perspectives	On-the-fly 3D model creation using a stream of 3D data from the MotionCam-3D (Color)
Supported Photoneo 3D Sensors	Alpha 3D Scanner, PhoXi 3D Scanner, MotionCam-3D (Color)	MotionCam-3D (Color)
Video presentation	Video	Video
Source of data	Set of 3D scans taken from different perspectives	3D point cloud stream from MotionCam-3D
Tracking / Scan alignment	Set of 3D scans has to be in the same global coordinate system. Calibration is required: - for each scan using a marker pattern - only at the initialization when using a rotary table (with an encoder for positioning)	Automatic tracking (camera movement estimation) based on 3D features (support for inputting camera position, e.g. hand-eye use case) and 2D features. It allows for an automatic alignment of data, no global coordinate system is required
Pipeline	Sequential with full control of the individual steps	Instant model creation