IGD

FRAUNHOFER IGD: THE INTERNATIONAL LEADING INSTITUTE FOR APPLIED RESEARCH IN VISUAL COMPUTING

CultArm3D-P

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Short description

The CultArm3D-P is a color-calibrated, autonomous scanner that captures the geometry and texture of arbitrary objects using photogrammetry. It stands apart from conventional scanners with high-resolution results and independent view planning. Intelligent algorithms use a first scan to determine which further poses make sense, allowing capture of an object with the optimal number of scans. This approach enables the system to measure objects quickly and autonomously – without having to be taught or own the CAD model. This unique selling point allows digitization of any object in 3D.

Applications

CultArm3D-P is suitable for the next dimension of product and object photography. It can be used for objects up to 50 cm in height and 30 cm in diameter and adapts automatically to their individual dimensions.

Special feature

- Fast and fully automatic geometry and texture acquisition
- Reduced scan time within 5-15 minutes
- Automated process sequence
- Color calibrated results
- No postprocessing on 90% of objects
- Mobility and quick setup through self-calibration

Technical properties

Type
Precise geometry detection and color-calibrated textures

Equipment

Camera options (image sensors):
Full frame medium format sensor – PhaseOne iXG 100 MP
Full frame (35 mm) format sensor – Canon EOS 5DS R 50 MP

Lighting environment:
Diffuse D50 lighting (ring light or closed lighting cylinder)

Robot arm:
Universal Robot UR10

Turntable:
Turntable with currently 33 cm diameter (adaptable)

Measuring volumes
Currently 30 cm x 30 cm x 50 cm [length x width x height] (adaptable)

Resolution
Down to 30 μm