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TinyScan360° – THE AIT MINIATURIZED 3D SENSOR

The revolutionary AIT TinyScan360° with a diameter of 3 mm is particularly suitable for the measurement, visualization and modeling of small objects such as pipes, cavities and boreholes with a diameter > 5 mm. The scalable and innovative combination of an optical high-contrast projector and a camera enables a reliable, fast and detailed 3D reconstruction of the scene – regardless of the geometry and material property (glossy, dark, reflective).

ADVANTAGES OF MINIATURIZED 3D SCANNING

The demand for miniaturized 3D measurement and inspection devices in industry increases steadily. Not only the imaging of tiny objects such as boreholes or pipes is required, but also the comprehensive 3D reconstruction including significant 3D information such as defects and diameter.

The AIT TinyScan360° offers

- live detection and visualization of small pipes, cavities and boreholes >5 mm
- precise measurement of objects, depth-accuracy >30 µm
- registration of point clouds without tracking targets
- real-time and reliable detection >20 Fps
- CPU, GPU; 32-Bit; 64-Bit; Windows/Linux; TI DSP platforms
- multi-sensor-system opportunity



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//01-02 AIT's TinyScan360°

//03 Schematic model of the AIT's TinyScan360° – two combined and synchronized projector/camera-setups with a diameter of 3 mm

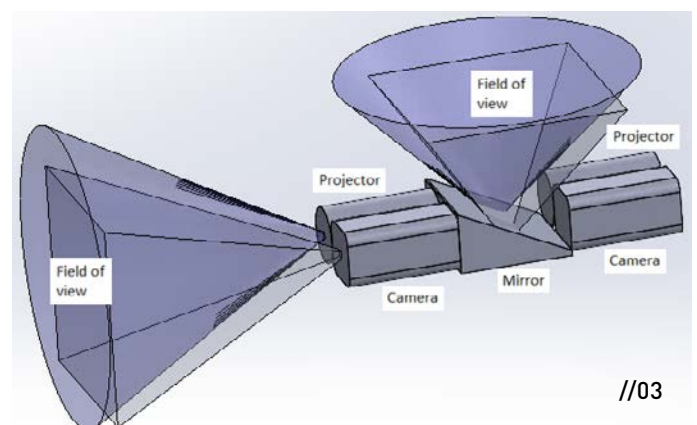
FIELDS OF APPLICATION

The stereo/projector-camera based 3D sensor technology on the one hand, and the associated methods and algorithms for precise 3D reconstruction on the other hand were both developed by AIT. They are already successfully being used in a wide range of applications.

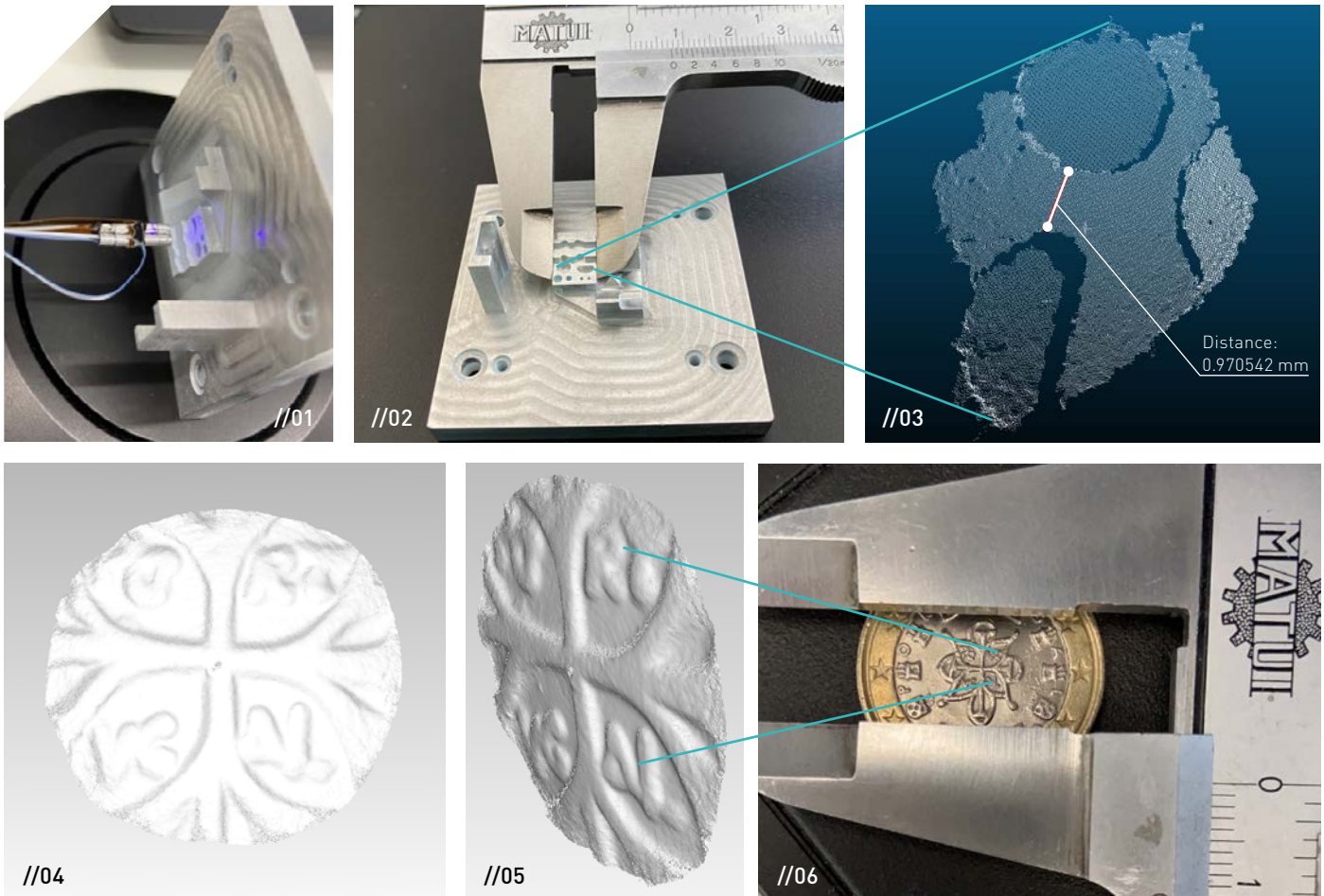
The principle is suitable for 3D measurement and 3D modeling of objects of any size or geometry in various application areas including industrial automation and the medical sector.

It can be used for

- precise 3D measurement and modeling of workpieces and assemblies,
- 3D inspection, quality assurance as well as production process control.



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//01 Scanning of the AIT-Goldstandard reference object with TinyScan360° and reconstruction in real-time

//02 AIT-Goldstandard reference object

//03 Point cloud of the scene

//04-06 Scan and 3D reconstruction of one 1 Euro coin in real-time

AIT, YOUR PARTNER FOR MINITURIZED 3D SCANNING

We offer research, development and multidisciplinary design including

- optics
 - electronics
 - mechanics
 - heat management
- and many more.

AIT AUSTRIAN INSTITUTE OF TECHNOLOGY GMBH

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