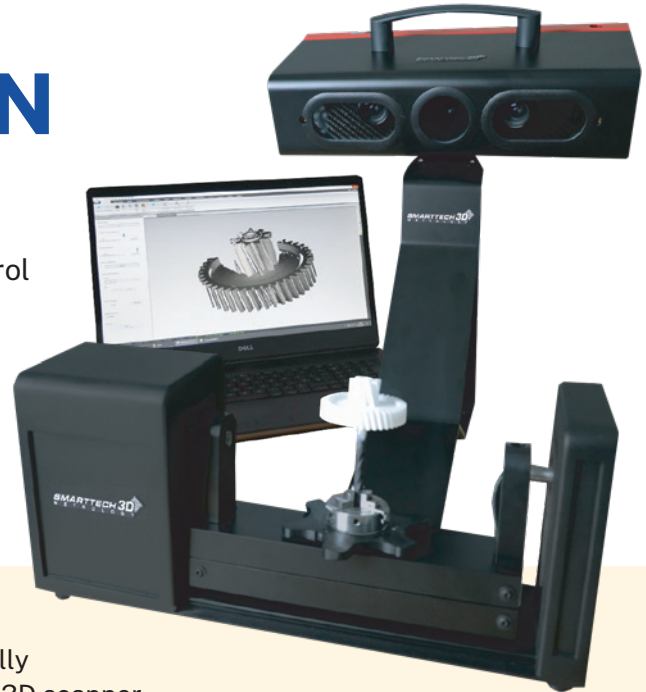SMARTTECH3D
QUALITY STATION

The automated compact measuring system Quality Station is a comprehensive solution for quality control of geometrically complex elements.
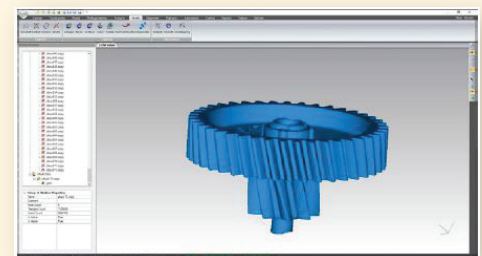
It consists of:
- 3D scanner equipped with two 6MP detectors
- Tilt-rotary table
- SMARTECH3D measure software

The Quality Station measurement system is a comprehensive solution for quality control of geometrically complex objects. Thanks to the integration of the optical 3D scanner with the tilt-rotary table, the device allows automatic, precise measurement of the object. The SMARTTECH3Dmeasure dedicated software, allows instant comparison of the measured part with the reference CAD model and generation of an individual control report in PDF format. Without the need for operator intervention.

The compactness of the solution means that it can be used even on a small surface of a standard desk. The support structure made of carbon fiber reduces the influence of temperature changes on the measurement process. The additional function of reverse projection of the deviation map onto the real object takes visual indication of errors on to a new level, facilitating quick repair or complete elimination of defective pieces.

3D scanning result - triangle mesh

Thanks to user-friendly handling, the ability to design your own control reports, and its small size, Quality Station is an ideal complementary solution for companies using additive technology in their activities. Then technology of field measurement with structured light used in the device, allows simple digitization of any shapes obtained from 3D printing.

APPLICATIONS

| Industrial quality control | Creating a virtual warehouse | 3D printing quality control | Control reports in PDF |

Integrated tilt-rotary table
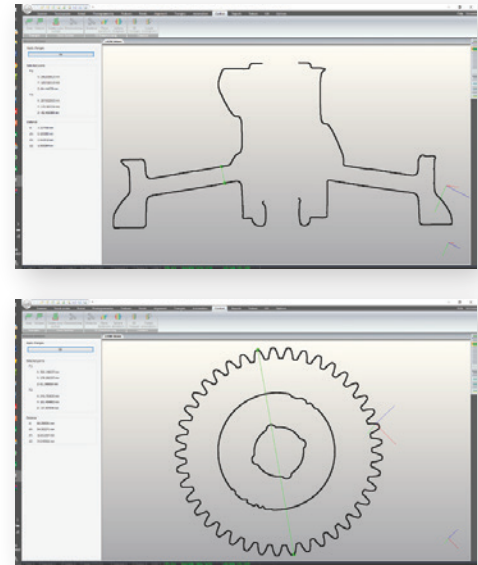
AUTOMATED QUALITY CONTROL SYSTETEM

MEASURED, COMPARE, CONTROL

The SMARTTECH3Dmeasure software supply with the system has been equipped with the basic tools needed for quality control, the entire measurement process adapted to the measured part and user requirements can be fully automated by creating your own measurement plan and designing subsequent stages of data processing. The functions of creating a color map of the deviations of the measured object compared to the CAD model, distance measurement as well as area and volume measurements are available. The user can also create a cross-section of the object and calculate the partials of full perimeter of the structure. All performed measurements, deviation maps along with local numerical values and cross-sections can be inserted in the report form and saved in PDF format for documentation and sharing with other users.
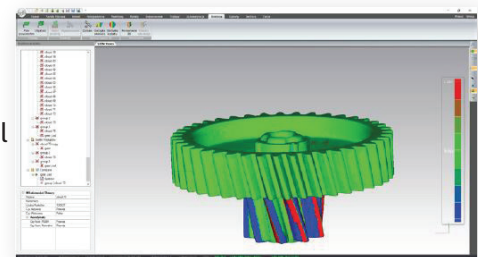

Virtual cross-section of measured objects

SHOW YOUR RESULTS DIRECTLY ON THE OBJECT

Reverse projection is the latest function available to users of SMARTTECH 3D scanners, it allows you to project points, lines, polygons and a color map of deviations directly on the scanned object. This allows clear marking of places that require special attention from the staff during the production process or visualization of deficiencies when collecting details from sub-suppliers. Sharing your feedback has never been easier - this time they appear directly on the object.

EXTERNAL SOFTWARE INTEGRATION

The results of 3D scanning, regardless of their application, are most often used in the further process in various software for quality control or reverse engineering. For this reason, the SMARTTECH3Dmeasure software also allows you to easily export results (formats such as OBJ, PLY, TXT, IGES) and continue workng in other CAD programs. The SMARTTECH3D SDK is also available.

Comparison of 3D scan result to CAD model

SMARTTECH3D QUALITY STATION TECHNICAL SPECIFICATIONS

Resolution	6-6 MP	
Scanning technology	SMARTLED white/green/blue	
Measuring field [mm^2]*	150x113	200x150
Measuring depth [mm]*	75	90
Sampling [points/mm^2] *	410	230
Accuracy [μm]	31	40

* +/- 15% tolerance

Waterproof transportation case