



PROFESSIONAL DIGITIZATION AND 3D SCANNING WITH REALISTIC COLOR

SMARTTECH is a Polish manufacturer of non-contact 3D measurement systems, developing proprietary optical scanning technologies for over 25 years. We specialize in solutions dedicated to the protection of cultural heritage, constantly optimizing our devices and methods to meet the needs of museum professionals, archaeologists, and monument conservators.

Our advanced measurement systems are used in institutions worldwide – trusted by, among others: the Louvre (France), the National Museum of Korea, the National Museum of Prehistory in Taiwan, and the Institute of Optics CNR in Italy.

We provide comprehensive digitization services using structural-light 3D scanning, photogrammetry, and systems from renowned partners. By integrating different technologies, we minimize execution time and costs while ensuring the highest precision and fidelity.

Scope of services:

- Virtual museums – creating three-dimensional online exhibitions
- Condition documentation – analysis of changes before and after conservation
- Precise 3D models with realistic texture – for scientific research and analysis
- Digital reconstruction of monuments – restoring missing fragments
- Visualizations and virtual tours – for promotional and educational purposes
- 3D printing – for educational, documentation, and exhibition purposes

Innovative technologies

Dedicated solutions

Over 25 years of experience

Professional 3D digitization services – specialists you can rely on

SMARTTECH has carried out numerous measurement projects for museum institutions in Poland and worldwide and has equipped and trained digitization laboratories working in the field of cultural heritage protection. Our mission is to educate and facilitate the conscious use of 3D scanning technology by museum professionals, archaeologists, and historians to make everyday work with monuments easier.

We work with respect for our clients' principles and guarantee:

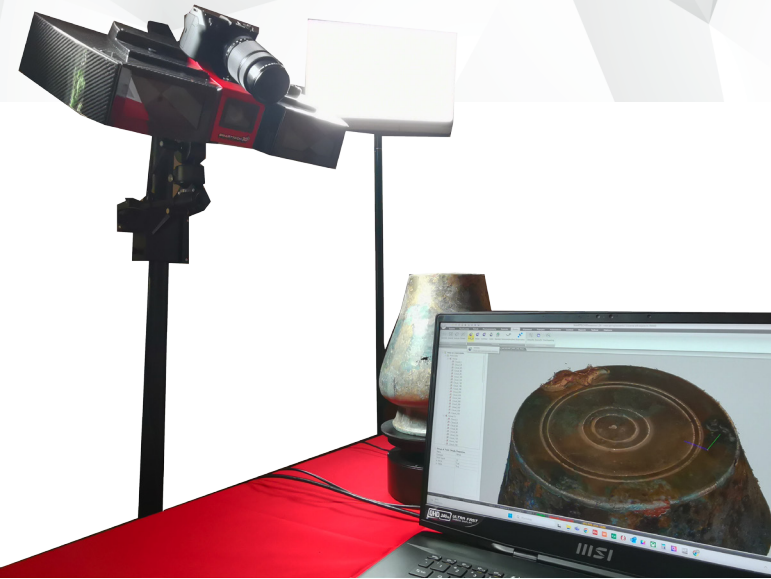
- Measurements in accordance with digitization procedure
- Possibility to retain original measurement files
- Verification of shape and color accuracy using certified standards
- Preparation of ready-to-use 3D models for documentation, visualization, and 3D printing
- Measurements carried out at SMARTTECH laboratories or at client's site at convenient dates
- Free access to SMARTTECH3Dviewer software for browsing results
- Option to purchase professional model-processing software at reduced price

ARCHIVING The result of object scanning is a point cloud with spatial coordinates X, Y, Z and RGB color values. The color point cloud is recognized worldwide as the most reliable method of archiving objects, due to the absence of distortions connected with further data processing (e.g., the need to map texture onto a model). Thanks to the highest resolution available on the market, measurement data can be used both for research purposes and simplified as needed for popularization purposes.

VISUALIZATION The SMARTTECH3Dmeasure software allows automatic generation of realistic textured mesh models, which are used for creating online virtual museums as well as presentations and visualizations of unprecedented quality.

VIRTUAL ASSEMBLY AND RECONSTRUCTION Virtual reconstruction of an object's shape based on scanned fragments and the expert knowledge of our clients allows for extended research on the object and facilitates planning and assembly work during re-exhibition.

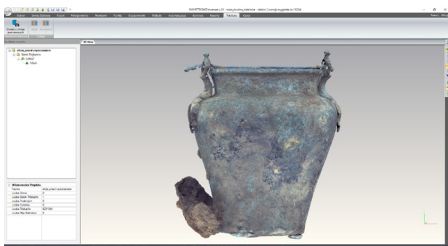




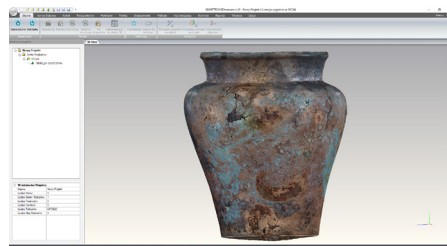
Devices used in services:

- 3D scanners with structural-light technology, resolution >1000 pts/mm², accuracy up to 0.025 mm
- Handheld 3D scanners for hard-to-reach objects
- Geodetic 3D scanners for architectural monuments
- Photogrammetry (PhaseOne 150MP camera)

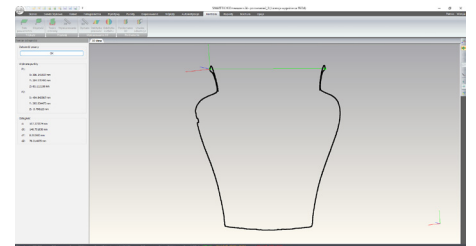
- Hybrid technology integration to optimize results, file size, and required detail precision
- Data processing in proprietary SMARTTECH3Dmeasure software and other 3D programs
- Work automation with software and robotic arms allowing efficient digitization of large collections



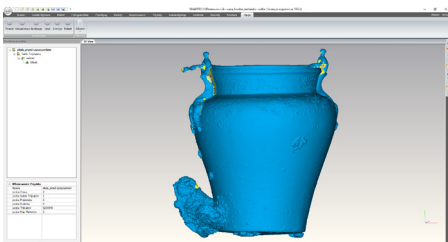
Color point cloud before conservation



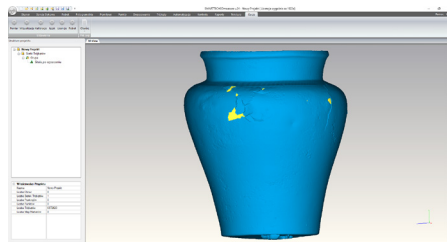
Color point cloud after conservation



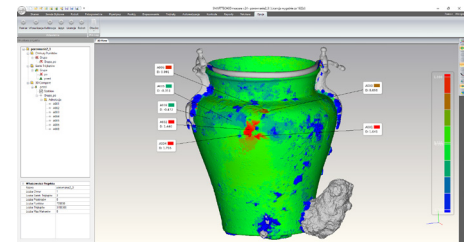
Virtual cross-sections for measurements



Triangle mesh before conservation



Triangle mesh after conservation



Comparison of models before and after conservation with color-coded surface analysis



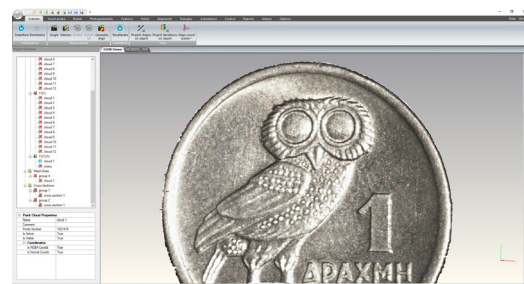
As part of comprehensive services, we also offer the possibility of producing 3D prints of models in various technologies – from inexpensive FDM models for educational purposes to precise full-color prints that can successfully replace the original object in an exhibition.

For interested clients, we also provide training on digitization, working with data, and post-processing results. When purchasing your own equipment, we refund up to 50% of the amount previously spent on services.

We are also happy to assist in obtaining funding from EU or regional sources by preparing documentation of the 3D digitization process.

SMARTTECH3Dviewer – Your tool for analyzing 3D models.

Download free software that allows you to evaluate results and remotely browse 3D models – ideal for distributed research and collaboration between institutions, available at www.skanner3d.pl



Functions of SMARTTECH3Dviewer:

- Free 3D browsing – rotate, zoom in/out at models
- Virtual measurements of a 3D model
- View model with and without texture – enables real evaluation of measurement precision
- Support for popular formats OBJ and GLB



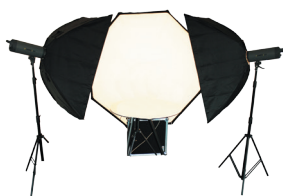
SMARTTECH3Dviewer

3D scanners and additional equipment:

MICRON3D
color stereo



SMARTTECH3D
CobotScan



Automatic shadow-less lighting system



Automatic rotary table:

- load capacity 15 kg, diameter 200 mm
- load capacity 80 kg, diameter 500 mm
- load capacity 300 kg, diameter 500 mm

Our clients:

