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SMARTTECH3D

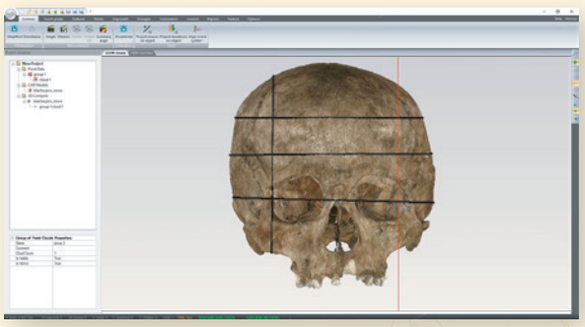
MICRON3D COLOR STEREO

3D Scanner for Full-Color Digitization

The MICRON3D Color Stereo is a 3D scanner designed to accurately digitize full-color objects. This touchless measurement system is an ideal tool for creating digital twins of real-world items, whether for archiving valuable artifacts or developing virtual prototypes across industries.

Its high-resolution imaging captures even the finest details, making it well-suited for applications such as documenting pottery with intricate ornamentation. Advanced technology records small features like canvas damage or microfractures, while sensitive detectors ensure accurate scanning of both dark and reflective surfaces. Integration with a shadeless lighting system delivers precise, true-to-color data.

The MICRON3D Color Stereo includes an adjustable tripod, transport case, and SMARTTECH3Dmeasure software. Automated measurement and data processing functions ensure high-quality shape and color information. The temperature-resistant carbon fiber housing and replaceable dustproof filters make it suitable for both laboratory use and fieldwork, including archaeological excavations.



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TECHNICAL SPECIFICATIONS

Resolution	6-6 MP			
Scanning Technology	Structural white LED light			
Measuring field* [mm2]	200x133	300x200	400x266	600x400
Measuring depth* [mm]	60	120	180	240
Sampling* [pts/mm ^{2}]	230	100	60	25
Accuracy[µm]	21	30	43	63

Resolution	12-12 MP			
Scanning Technology	Structural white LED light			
Measuring field* [mm2]	200x150	300x225	400x300	600x455
Measuring depth* [mm]	60	120	180	240
Sampling* [pts/mm ^{2}]	402	178	100	45
Accuracy[µm]	21	30	43	63

Resolution	20-20 MP			
Scanning Technology	Structural white LED light			
Measuring field* [mm2]	200x135	300x200	400x260	600x400
Measuring depth* [mm]	60	120	180	240
Sampling* [pts/mm ^{2}]	755	335	189	84
Accuracy[µm]	21	30	43	63

* +/- 10% value

ADDITIONAL ACCESSORIES

Easily adjust measurement volume with interchangeable lenses

Automatic Rotary Stage:
- max load 15kg, diameter 200mm
- max load 80kg, diameter 500mm
- max load 300kg, diameter 500mm

The scanner does not require calibration. With its “plug and scan” system, it can be used immediately without a lengthy setup process. Despite its advanced measurement technology, the system is designed for ease of use and can be operated by individuals without specialized technical training.

The MICRON3D Color Stereo is the only scanner in its class that combines such high resolution with the ability to capture accurate color information at the same time.

Measurement result: a dense point cloud (X, Y, Z with RGB color data)

The MICRON3D Color Stereo uses non-invasive white light technology, ensuring complete safety for scanned artifacts. Because no laser is used, the system is safe for delicate or valuable objects.

Designed for convenience and mobility, each MICRON3D scanner is delivered and installed with a dedicated workstation and SMARTTECH3Dmeasure software for data processing. All SMARTTECH3D scanners are factory-calibrated and ready to use, requiring no additional setup or calibration before scanning.

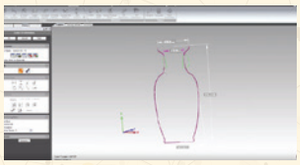
The MICRON3D Color Stereo is specialized for museum and cultural heritage applications. With more than 20 years of experience in 3D scanner production and collaboration with museums, SMARTTECH has developed improvements and accessories tailored to the measurement of national heritage objects. Available options include numerically controlled rotary stages for automated measurement and a fully integrated, professional shadeless lighting system synchronized with the scanner. This system ensures uniform reproduction of texture and color across the entire object and remains the only integrated lighting solution of its kind on the market.

ReLogic3D provides professional service, technical support, and comprehensive training in 3D scanning and data processing to meet the specific needs of museum professionals.

3D scanning process using the shadeless system

Measurement result: dense point cloud (X, Y, Z with RGB)

Triangle mesh (STL created automatically)



Virtual sections and dimensioning

REFERENCES

The MICRON3D Color Stereo meets strict safety standards for artifact preservation and produces models that comply with digital archiving requirements. These systems are trusted by cultural institutions and museums around the world, including the National Museum of Prehistory in Taiwan, the National Maritime Museum in Gdańsk, the Museum of the City of Łódź, the District Museum in Toruń, the Museum of the Origins of the Polish State, and the Museum of Gas Industry in Paczków, among many others.

ARCHIVING

Scanning with the MICRON3D Color Stereo produces a point cloud containing X, Y, and Z coordinates with full RGB color information. This color point cloud is ideal for long-term digital archiving, as it preserves accurate geometry and texture without distortion from later processing or texture projection. With its exceptionally high resolution, the data can be used for both detailed research and simplified models for public display.

VIRTUAL RESEARCH

A digital twin created with the MICRON3D Color Stereo allows researchers to study and share artifacts without moving the original objects. Using SMARTTECH3Dmeasure software, users can create virtual cross-sections, calculate surface area and volume, and compare objects or track changes over time.

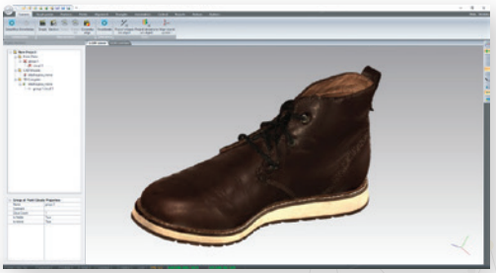
VISUALIZATION

SMARTTECH3Dmeasure software automatically generates realistic 3D mesh models with texture that can be used for virtual museums, high-quality presentations, or detailed visualizations. These models provide accurate, lifelike representations of artifacts for both research and public engagement.

VIRTUAL DATABASES AND PROTOTYPING

Digitizing prototypes in color allows designers to optimize storage, streamline workflows, and preserve detailed records of their work. The resulting digital database can be used for design, production, or research. The MICRON3D Color Stereo delivers precise shape and color reproduction, creating accurate digital twins ready for virtual reference or manufacturing use.

MICRON3D Color Stereo Scanner



The ideal shape and color reproduction
-perfect Digital Twin