SHINING 3D
METROLOGY

# FreeScan Omni Series

World's First Standalone Inspection-Ready Metrology 3D Scanner

**Inspect on the move**

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# FreeScan Omni Series

FreeScan Omni Series is the industry's first wireless, standalone, metrology 3D scanning platform, delivering certified accuracy of 0.02 mm. Powered by onboard computing, an integrated screen, and dual light sources, FreeScan Omni Series enables high-performance scanning and data processing directly on the device.

Built as a scalable platform, FreeScan Omni Series supports flexible module expansion, enabling a progressive investment that evolves with future application demands.

- On-Scanner Scan-To-Inspect
- Certified Accuracy of 0.02 mm
- Multi-Mode & High-Performance
- Scalable Platform with Modular Expansion

## Metrology-Grade On-Scanner Inspection

From scanning and meshing to inspection and reporting, every step is seamlessly completed right on the scanner. With preset templates and an intuitive interface, frontline staff can just scan the part and get instant, consistent reports—making quality control efficient and scalable.

**Built-in PTB-certified software**

Integrated with SHINING3D Inspect module, the standalone device delivers instant, high-quality, full-field inspection results.

**Automated & intuitive inspection**

Run inspections automatically with just one click, and navigate the process effortlessly with a user-friendly interface and visualized results, making inspections both simple and efficient.

**Effortless reporting & export**

View detailed inspection reports directly on the device or easily export them to a USB drive or PC in multiple formats.

# Engineered for On-Site Quality Control

## Certified metrology accuracy

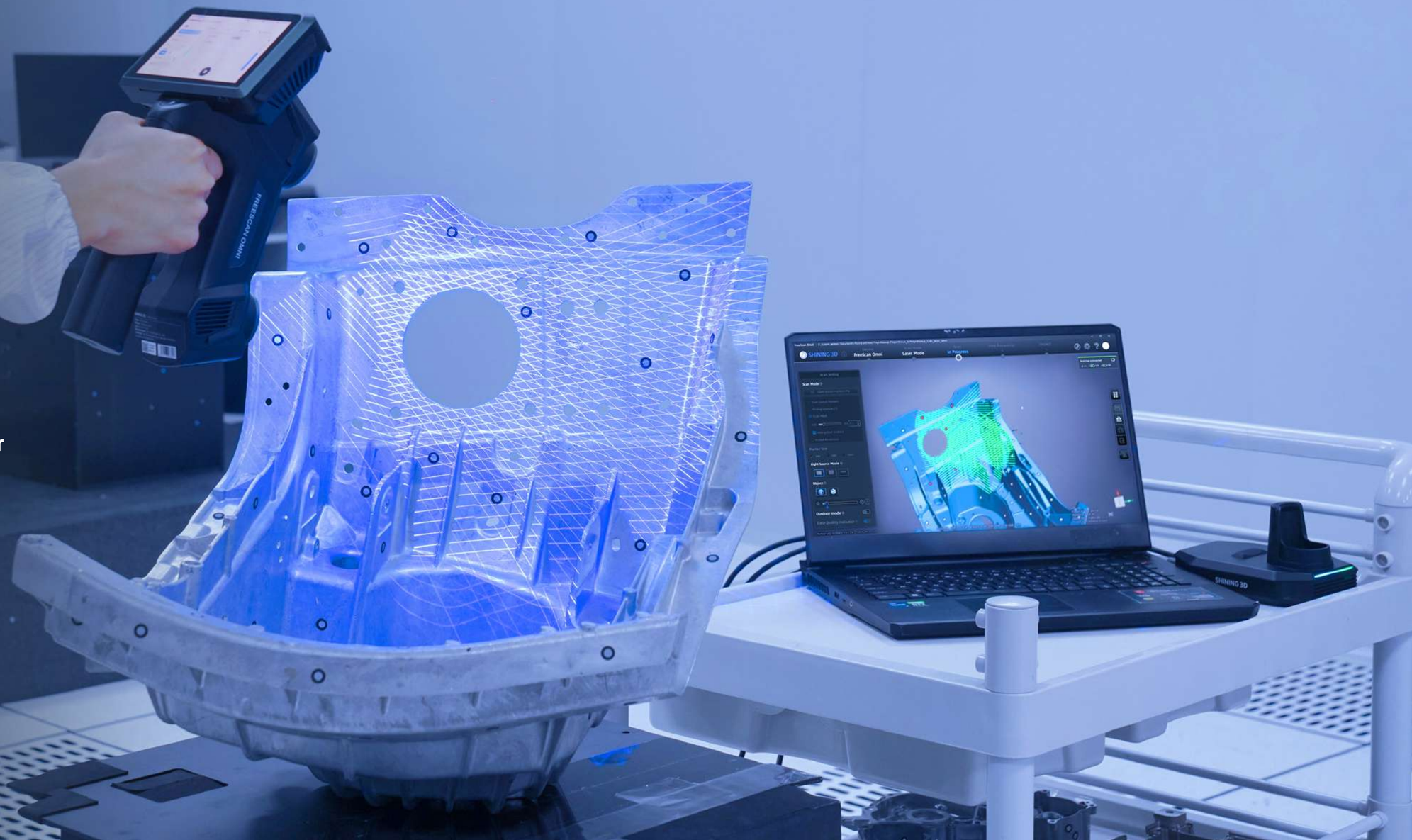
Delivers reliable volumetric accuracy of 0.02 + 0.03 mm/m for reliable and consistent measurement results. Built-in SHINING 3D's patented video photogrammetry (VPG) enhances volumetric accuracy while streamlining setup for efficient large-object scanning.

## Blazing-fast computing processor

Powered by a high-performance processor, FreeScan Omni Series leverages an edge-based computing module for rapid 3D scanning and data processing, significantly enhancing workflow efficiency.

## Exceptional detail capture

Features dual 5MP industrial cameras, capturing sharp and highly detailed 3D data for superior measurement and analysis.



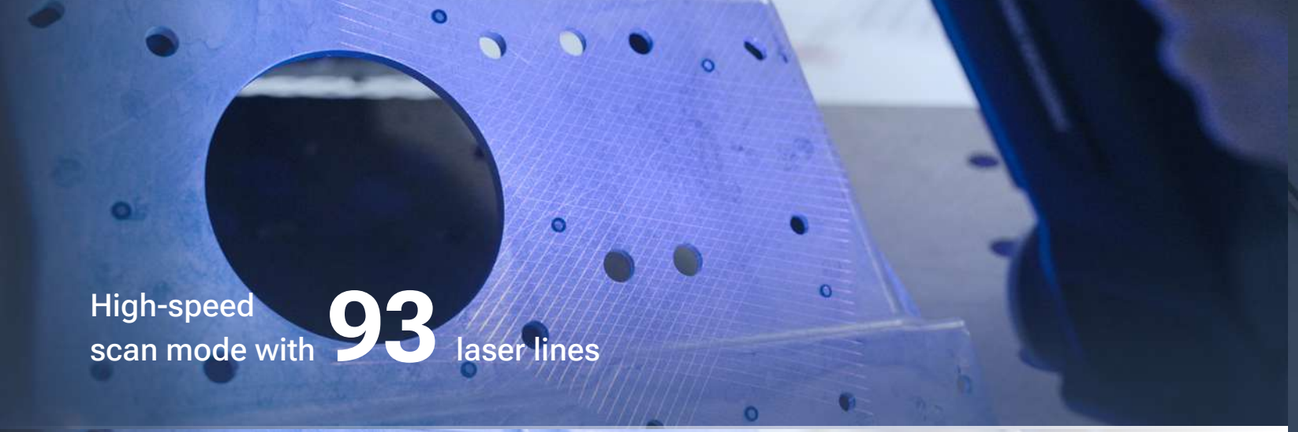
## Power Without Limits

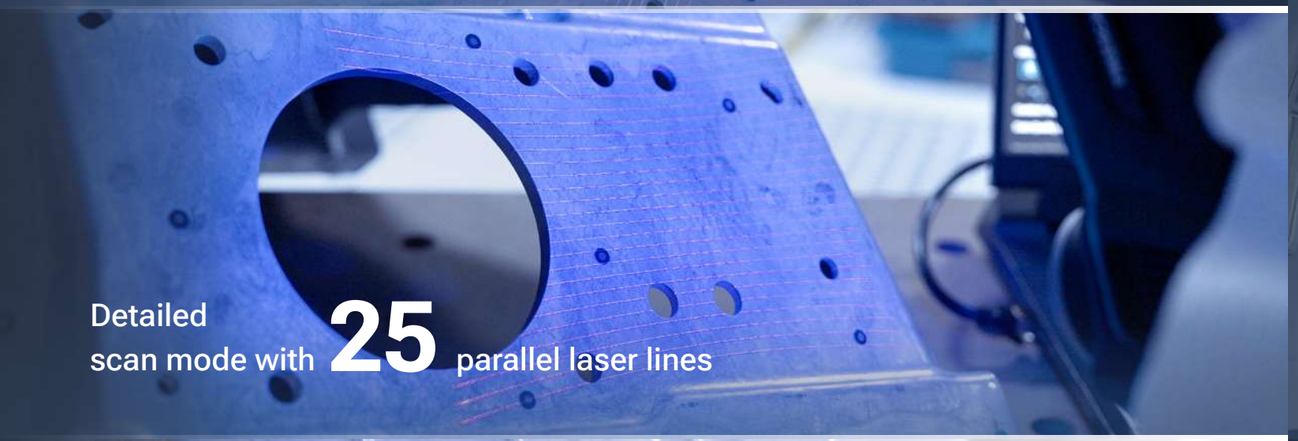
FreeScan Omni Series delivers a fully wireless experience, eliminating power cords and data cables. Scanning, processing, and inspection run entirely on the device. Detachable battery packs enable seamless swaps without downtime.

## Smart Dock:
## Power & Wi-Fi Set in One Step

Quick power boost — always ready to go.

Auto network setup — just dock once to connect.


High-speed
scan mode with 93 laser lines


Detailed
scan mode with 25 parallel laser lines

Deep pockets
scan mode with 1 laser line

Multiple Scanning Modes
for Industrial Usage
IR rapid scan mode for quick scans
without markers

## Flexible Expansion for Evolving Needs

**FreeScan Omni** is a fully integrated, on-device scan-to-inspect solution that completes scanning, inspection, and reporting in one flagship configuration.

**FreeScan Omni Lite** shares the same hardware foundation as FreeScan Omni, delivering certified accuracy, and high-performance scanning. As application needs evolve, FreeScan Omni Lite can be expanded with dedicated modules.

| Highlights | FreeScan Omni | FreeScan Omni Lite |
|---|---|---|
| SHINING3D Inspect module for PC | ✓ | ○ |
| On-device inspection | ✓ | ○ |
| Video photogrammetry (VPG) | ✓ | ○ |
| AI feature recognition | ✓ | ○ |
| Two Work Modes (PC and Standalone mode) | ✓ | ✓ |
| Multiple scanning modes (high speed / detailed / deep pockets / IR scan) | ✓ | ✓ |

○ Available as optional module

## On-device inspection

Scan, inspect, and generate reports directly on the scanner, enabling scalable, consistent on-site quality checks directly on the shop floor.

Watch demo

## VPG (video photogrammetry)

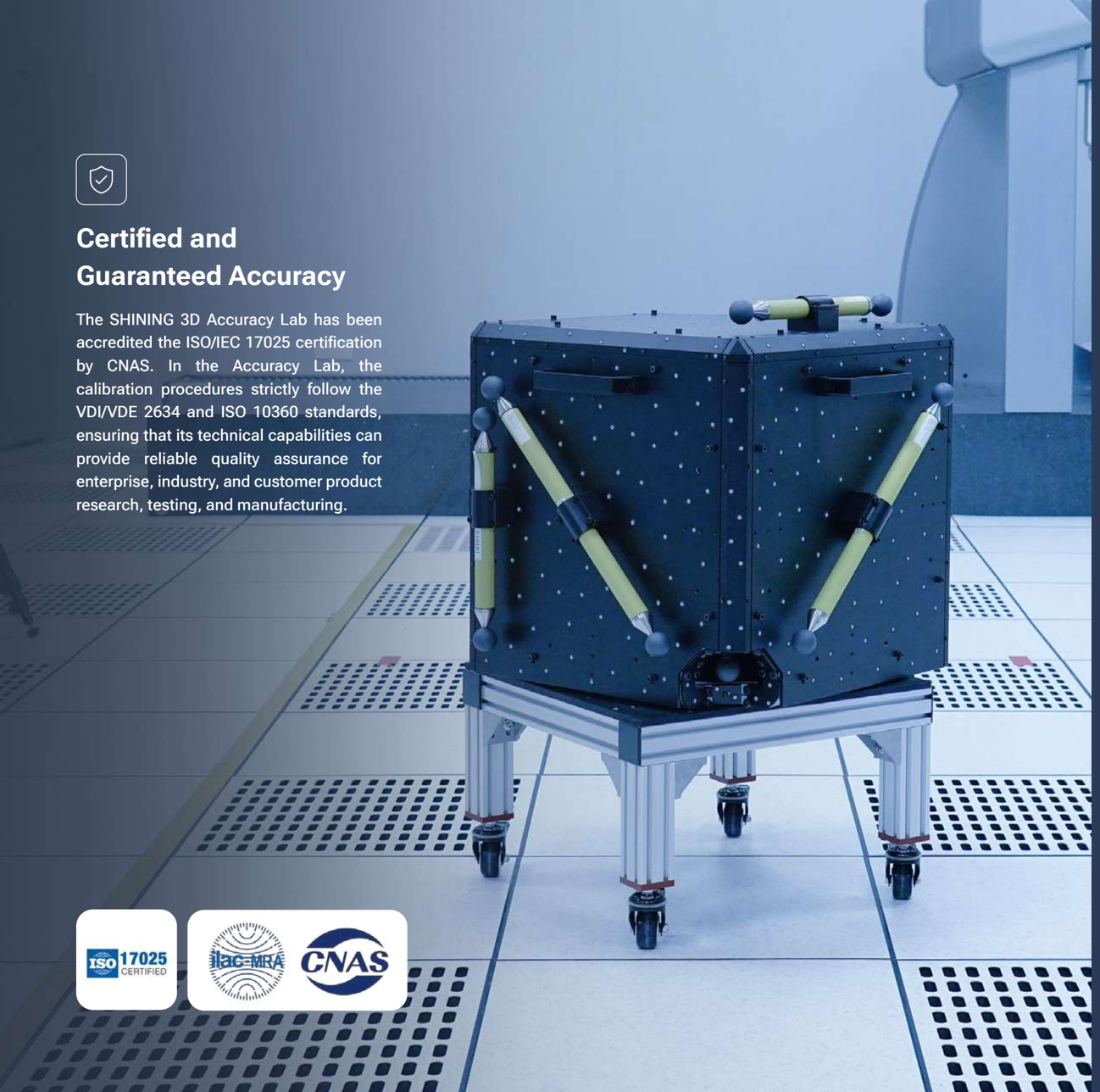
SHINING 3D's patented VPG ensures consistent volumetric accuracy for large-object scanning—without coded markers and with faster setup.

Watch demo

## AI feature recognition

Intelligent boundary detection provides fast, precise measurement of round holes, rectangular holes, and slots, ensuring high-quality and high-accuracy data capture.

Watch demo



## Certified and Guaranteed Accuracy

The SHINING 3D Accuracy Lab has been accredited the ISO/IEC 17025 certification by CNAS. In the Accuracy Lab, the calibration procedures strictly follow the VDI/VDE 2634 and ISO 10360 standards, ensuring that its technical capabilities can provide reliable quality assurance for enterprise, industry, and customer product research, testing, and manufacturing.

# SPECIFICATIONS

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| Product | FreeScan Omni Series |
|---|---|
| Accuracy | 0.02 mm (0.0008 in) |
| Volumetric accuracy with VPG | 0.02 + 0.015 mm/m (0.0008 in + 0.00018 in/ft) |
| Scan speed | Up to 7,619,000 points/s |
| Hardware | Built-in computing (32G) / FPGA / 1TB SSD |
| Resolution | 0.01 ~ 10 mm |
| Depth of field | 830 mm (170 ~ 1000 mm) |
| Max. FOV | Laser: 580 x 650 mm; IR: 1205 x 1104 mm<br>(Laser: 22.8 x 25.6 in; IR: 47.4 x 43.5 in) |
| VPG | Supported (no coded markers required) |
| Inspection module | Supported (integrated on-device inspection) |
| High-speed scan | Included (93 laser lines) \| VCSEL |
| Detailed scan | Included (25 parallel laser lines) |
| Deep pockets scan | Included (1 laser line) |
| Hole scanning | Supported (intelligent hole boundary detection) |
| Working distance | 200 ~ 680 mm |
| Smart dock connection | Wireless & Wired mode (Fiber optic) |
| Net weight | ≤1.1 kg |
| Output format | .stl, .asc, .3mf, .p3 |
| Working temperature | -10 ~ 40 °C (14 ~ 104 °F) |
| Working humidity | 10 ~ 90% |
| Certifications | CE, FCC, ROHS, WEEE, KC, FDA, UKCA, IP50,TELEC, TiSAX |
| Acceptance test | VDI/VDE 2634 Part 3 & ISO 10360 Certified (Tested in the ISO/IEC 17025 Accredited Accuracy Lab) |

SHINING 3D METROLOGY

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FreeScan Omni Series-EN 20260525-V1.1

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