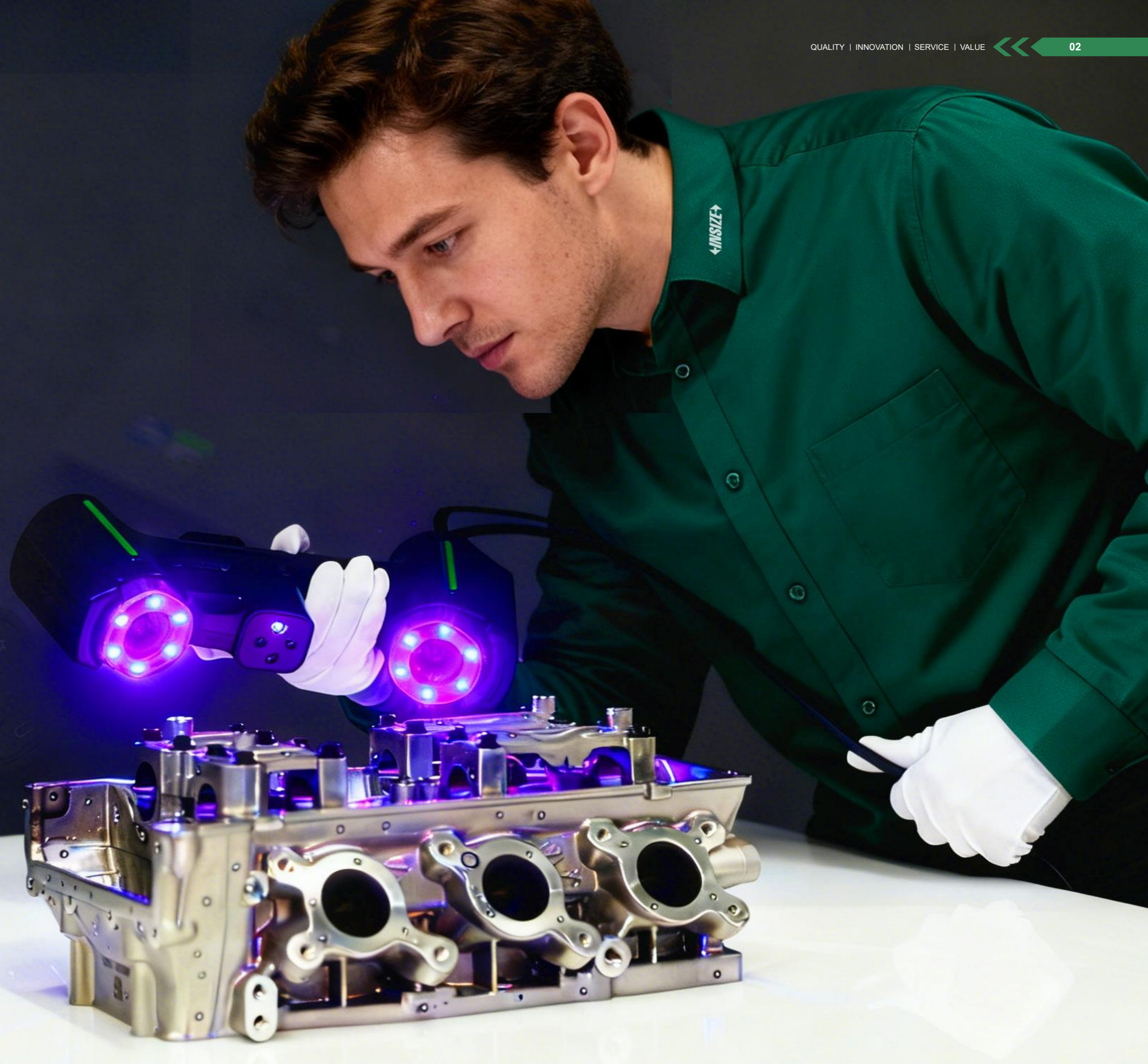# LSM-L340
HANDHELD 3D SCANNER

CATALOGUE NO. LSM-E01

The newly upgraded LSM-L340 handheld 3D scanner, with its 26 beamhigh-density cross blue laser line array. Achieves ccurate capture of detailssuch as complex surfaces and deep hole positions has been achieved.

The device provides three scanning modes: high-speed, precision , and deep hole. Flexible switching based on different workpiece characteristics and measurement requirements has significantly improved in various fields such as reverse engineering, quality inspection, and digitalization of cultural relics applicability of the scenario.

While continuing the advantages of lightweight body, high-speed scanning, and stable accuracy of the series products, this generation of products innovatively configures a new heat dissipation system in key parts of the host, effectively solving the problem of equipment heating caused by long-term continuous operation and ensuring measurement. The data is consistently stable and reliable.

Its enhanced modular design not only improves the structural strength of the equipment, but also expands the compatibility of accessories.Scalability of functionality brings highly adaptable and easy-to-use efficient 3D scanning solutions to users in various industries.

Technical Parameters

camera

scan indicator

laser transmitter

multi-function buttons

LSM-L340

LED illumination

heat dissipation system

SPECIFICATION

Scanning mode	hige-speed scanning	26 cross blue laser lines
	precision scanning	7 parallel blue laser lines
	deep hole scanning	1 blue laser line
Maximum scanning speed		5400000 measurements/s
Volume accuracy		0.015mm+0.035mm/m (standard configuration) 0.015mm+0.025mm/m (required optional photogrammetric rulers)
Laser class		CLASS II (eye-safe)
Maximum resolution		0.01mm
Depth of field		550mm
Reference distance		300mm (hige-speed scanning, deep hole scanning), 200mm (precision scanning)
Maximum scanning field		650mm×550mm
Output format		stl, ply, txt, asc
Operating temperature		-10°C~40°C
Interface		USB3.0
Power supply		100~240V, 50/60Hz
Dimension (L×W×H)		335×140×70mm

STANDARD DELIVERY

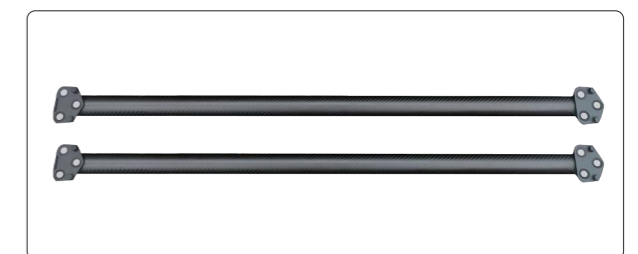| Main unit	1 pc
Scanning software	1 pc
R1.5mm mark	1000 pcs
R3.0mm mark	4000 pcs
Calibration plate	1 pc

OPTIONAL ACCESSORY

3D measuring software	CMM-CEM-PI
Photogrammetric rulers	LSM-L340-RULER
Computer	customized according to measuring requirements

calibration plate (included)
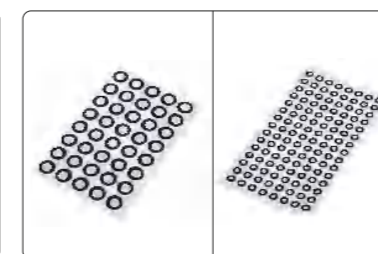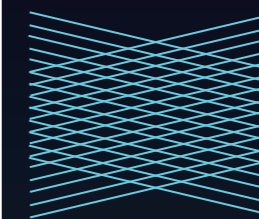
R3mm and R1.5mm marks (included)

photogrammetric rulers (**optional**)

Product Advantages

Features three scanning modes to adapt to diverse scenarios

Flexibly switch between precision, deep-hole, and high speed to handle operations in various scenarios.

(computer is **optional**)

High-speed scanning:
26 cross blue laser lines

High-speed scanning

26 crossed blue laser lines large format efficient scanning suitable for large-scale rapid modeling.

(computer is **optional**)

Precision scanning:
7 parallel blue laser lines

Precision scanning

7 parallel blue laser lines suitable for scanning complex details or Small components.

(computer is **optional**)

Deep hole scanning:
1 blue laser line

Deep hole scanning

1 blue laser line, scanning deep holes and other concealed areas real time and efficient detection of sheet metal,etcthin walled component boundary.

Capable of ultra-high measurement speed, efficiently completing scanning tasks

Equipped with 26 crossed blue laser lines, the scanning speed reaches 5.4 million times per second, and the scanning surface amplitude is for 650mm×550mm, it can efficiently and stably complete scanning work.

Ultra large depth of field

Novices can quickly get started and operate easily from near to far.

Support optional photogrammetric function

Built in photogrammetric function, optional photogrammetric ruler can be activated,Can improve accuracy to 0.015mm+0.025mm/m.

0.015mm

Having metrological measurement accuracy

High precision performance of 0.015mm+0.035mm/m.

AI

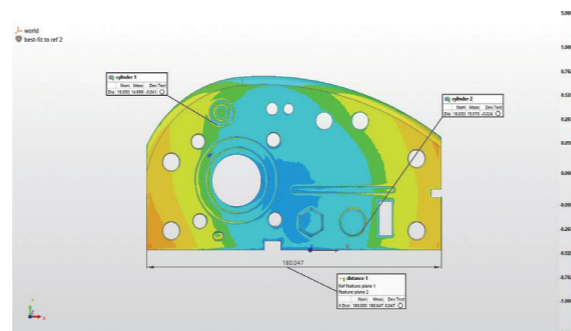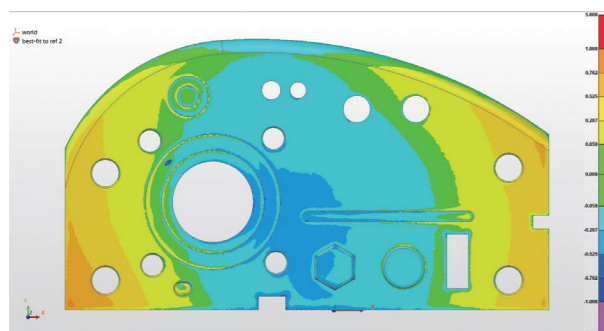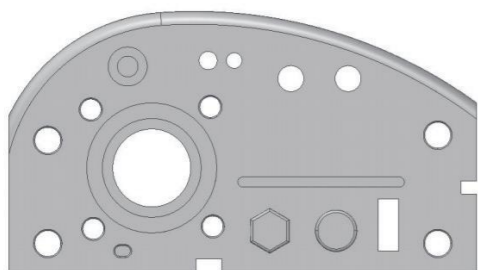## Equipped with AI algorithm module, significantly improving scanning efficiency

With the help of AI algorithm modules, it is possible to quickly remove outliers and achieve grid optimization with just one click.

Product Applications
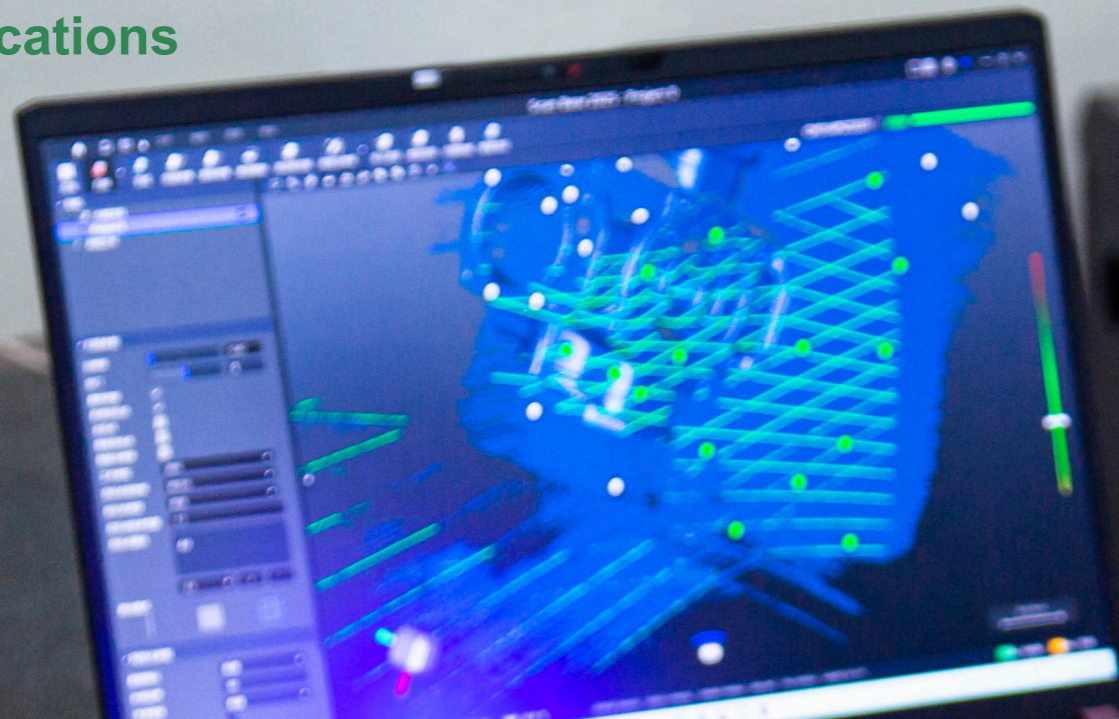
3D Inspection

Data integration optimization

After scanning is completed, import the point cloud data or 3D model into professional detection software for future reference be prepared for handling.

Intelligent comparative analysis

Align the imported scanning data with the reference standard parts and generate color after alignment deviation chart, assistin error analysis.

Reverse engineering process

It provides a complete set of advanced tools from point cloud data processing, mesh editing and repair, to NURBS based precise surface reconstruction, which can efficiently transform physical objects into high-quality 3D models that can be used for redesign and production.
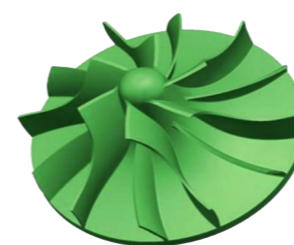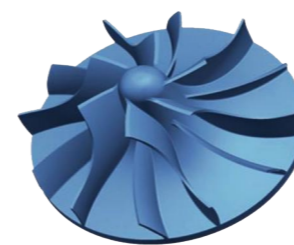
Data processing

Merge, combine, optimize, fill holes, smooth, and reduce scanned data to obtain high-quality small planar models.
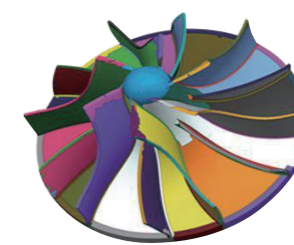
Domain division

Automatically classify small flat bodies into different set domains based on curvature and features.

Accurate fitting

Easily and quickly create 3D freeform surfaces from the free-form shapes of the mesh.

CAD Conversion

Creating CAD features from scanned data, blending and surface modeling covering different part types to ensure model accuracy.

Industry Applications

▶ Automotive industry

Handheld 3D laser scanner is a digital core tool in the automo-tive industry, which runs through research and development,produc-tion, and sales production and quality control. It quickly obtains accurate 3D data for reverse engineering and assembly inspec-tion testing and digital restoration significantly shorten the cycle, reduce costs, and improve product quality.
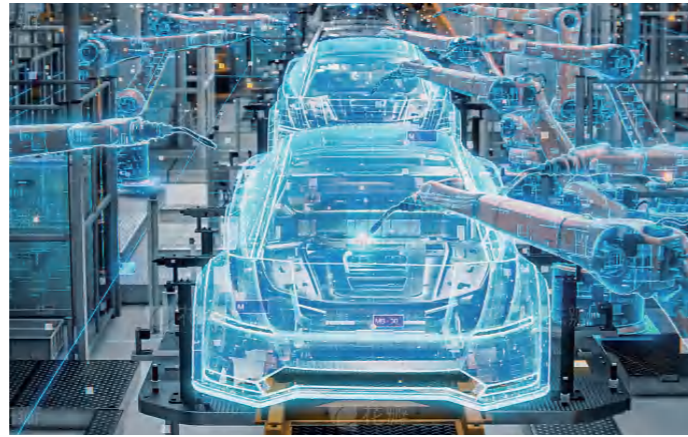
▶ Traditional mechanical processing industry

Handheld 3D laser scanners inject new digital energy into traditional machining. It achieves margin analysis, process detection, and reverse engineering by quickly obtaining full-size 3D data, accurate positioning deviation. This technology signific antly improves detection efficiency, optimizes processes, and shortens cycles, helping enterprises achieve digital transformation.

▶ Aerospace industry

In the aerospace field, handheld 3D laser scanners, with their high precision and adaptability to complex environments, can quickly obtain complete 3D data of components and are widely used in shape inspection, fixture verification, and reverse design. By quickly comparing scanned data with CAD models, deviations can be detected, damage assessment and component replace-ment can be performed, providing strong data support for flight safety and significantly improving operational efficiency.

▶ Emerging industry applications

Cultural Heritage and Digital Archiving

By using non-contact 3D scanning technology, it is possible to establish millimeter level precision digital archives for precious cultural heritage such as sculptures, ancient buildings, and archaeological sites without touching the cultural relics themselves. On the premise of ensuring zero damage to cultural relics, not only can research and restoration be supported, but innovative applications such as virtual museums and 3D printing replicas can also be derived, allowing cultural heritage to achieve eternal life in the digital world and continue its vitality in creative dissemination.
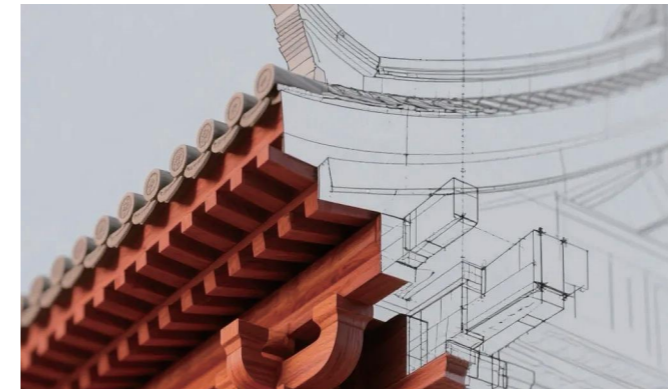
Customized medical and rehabilitation engineering (medical industry, orthopedics, dentistry, plastic surgery)

The LSM-L340 is equipped with a two-stage laser, which is relatively safe, has low power, and relatively low radiation compared to industrial grade lasers. At present, in the fields of dentistry, orthopedics, and rehabilitation, LSM-L340 can accurately scan patient body parts (such as missing teeth, residual limbs, and spinal morphology) with industrial grade and metrological accuracy. It can quickly obtain unique data required for design and production, accurately match dentures, prosthetics, orthotics, etc. promoting the development of precision medicine and personalized customization.

3D Measurement Software
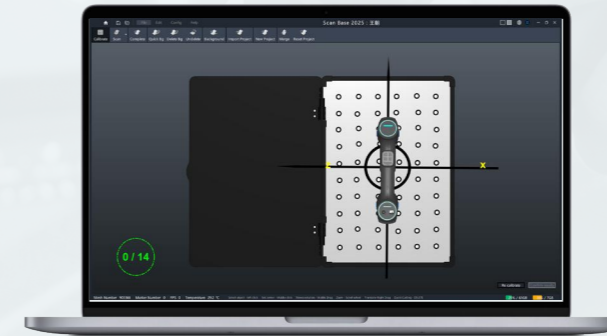
Scanning Software (included)

PolyWorks is a benchmark for a universal 3D measurement platform that deeply analyzes core features and functions, supporting seamless integration and data acquisition with over 400 global brands of 3D measurement equipment; Such as laser scanners, optical measurement systems, articulated arms, etc. This "hardware neutral" strategy ensures that users can process data from any device in a unified software environment, and decomposing data greatly protects the enterprise's hardware investment.
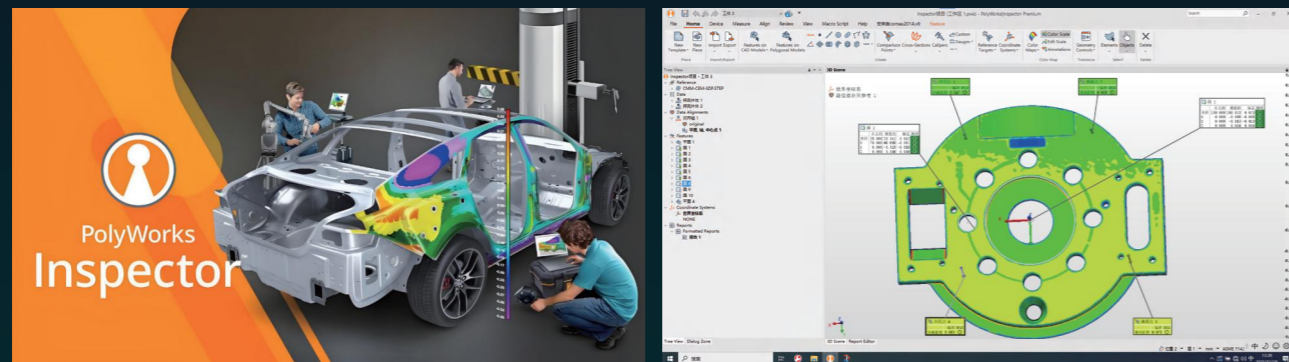
The combination of handheld laser scanners and PolyWorks measurement software forms an efficient end-to-end solution from the physical world to digital decision-making, with advantages reflected in the efficiency and deep exploration of the entire process.
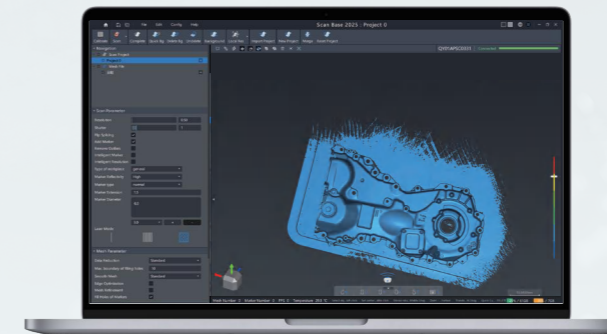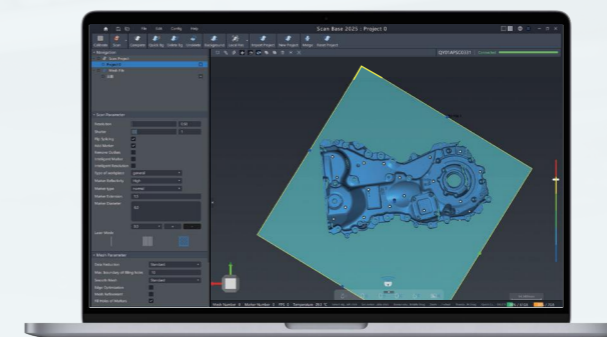
image guided calibration

You can refer to the device display position within the software window and the size of the center circle, quickly complete equipment calibration.
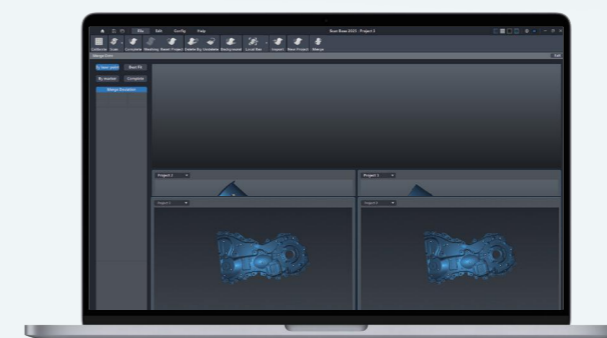
point cloud meshing

Software automatic recognition, one click grid processing.

exclude invalid point clouds

With the help of AI algorithm modules, clutter can be quickly removed or manually removed.

scanning splicing

If the size of the parts is too large and the computer load is too heavy, scanning can be carried out by project, and the projects can be quickly merged after the scanning is completed.

INSIZE

MEASUREMENT SOLUTION PROVIDER

www.insize.com

☎ +86-512-68099993

✉ sales@insize.com

◎ 80 Xiangyang Road, Suzhou New District, 215009 China