



3D WORLD
INSTANTLY UNVEILED

● AlphaScan

● AlphaScan AI Metrology-Grade Handheld 3D Scanner

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HANGZHOU INSVISION TECHNOLOGY CO., LTD

COMPANY PROFILE

A high-tech enterprise specializing in the fields of 3D machine vision and artificial intelligence. The company is dedicated to providing high-precision 3D facial recognition, 3D digitization, 3D measurement products, and industry solutions, while promoting the widespread use of metrology-level 3D vision technology. The core members of the team come from leading industry companies and have focused on high-precision measurement for over ten years, accumulating deep expertise in the AI metrology field and possessing unique advantages in the research and application of artificial intelligence algorithms. The company has established a modern precision instrument manufacturing factory in the Zhejiang Zhuji Vision Industrial Park, with advanced research, development, and production capabilities.

The company's independently developed and manufactured AlphaScan handheld 3D scanner integrates AI algorithms and super-resolution 3D reconstruction technology to achieve more accurate and realistic data collection, with the highest industrial metrology-level accuracy reaching up to 0.020mm. The device is widely used in industries such as automobile manufacturing, mold manufacturing, aerospace, photovoltaic energy, healthcare, and machining, with users spanning countries including the United States, Germany, Italy, Japan, South Korea, Singapore, and many others. The software supports multiple languages.

The company has passed ISO9001:2015 quality management system certification and obtained international authoritative certifications including EU CE, US FCC, and RoHS. In 2024, we were successfully recognized as a National High-Tech Enterprise, marking the company's high level of innovation, intellectual property, product development, and service excellence as recognized by the state.



CORE ADVANTAGES

- © Accuracy: Industrial metrology-level precision up to 0.020mm
- © Algorithm: High-precision stereo calibration algorithm with portable binocular vision technology
- © Advantages: More stable interface design, AI+3D efficient fusion algorithm, and user-friendly interactive software

© PRODUCT MATRIX



AlphaScan

AI Metrology-Grade Handheld 3D Scanner

By integrating AI algorithms and equipped with AI modules, it offers outstanding 3D display performance, perfectly optimizing hole positions and edge issues, further enhancing precision.



AlphaVista

AI Metrology-Grade Handheld 3D Scanner

While continuing the exceptional stability and precision of AlphaScan, AlphaVista achieves an all-around performance leap through groundbreaking technological innovations.



AlphaAutoScan-400

Fully Automatic 7-Axis Collaborative Robot

Intelligent, efficient, and automated

One-click scanning for effortless operation, suitable for a variety of workpiece sizes



AlphaScan

AI Metrology-Grade Handheld 3D Scanner

Featuring an exquisite appearance, simple and elegant design with a focus on practicality and portability, while being sturdy and durable.

26/34 CROSSED BLUE LASER LINES

For standard-range and large-area rapid scanning

7 BLUE LASER LINES

For precision scanning

1 SINGLE BLUE LASER LINE

For enhanced scanning of deep holes or recesses

ACCOMPANYING SOFTWARE

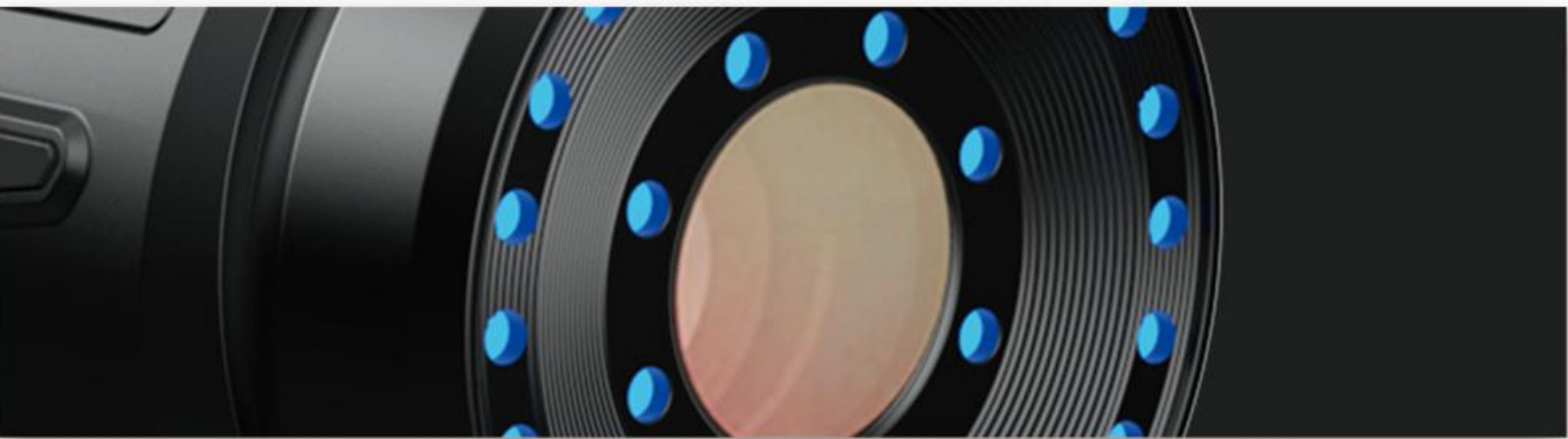
3D Scanner, Marking Points, Marking Balls
Accompanying Software (3D INSVISION)
Ultra-long 2-in-1 Cable

Non-Coded Point Photogrammetry System with Volume
Accuracy up to 0.02mm + 0.015mm/m



Dual-layer LED design for clearer deep holes and enhanced scanning performance

PRODUCT INTRODUCTION



Dual-layer LED design for clearer deep hole scanning, delivering better scanning results.



Unrestricted by the work environment, whether in tight spaces or facing large objects, it enables 3D measurement anytime and anywhere.



Metrology-level measurement accuracy ensures that every detail is captured with precision. With ultra-high measurement speed, it efficiently completes 3D modeling of products.

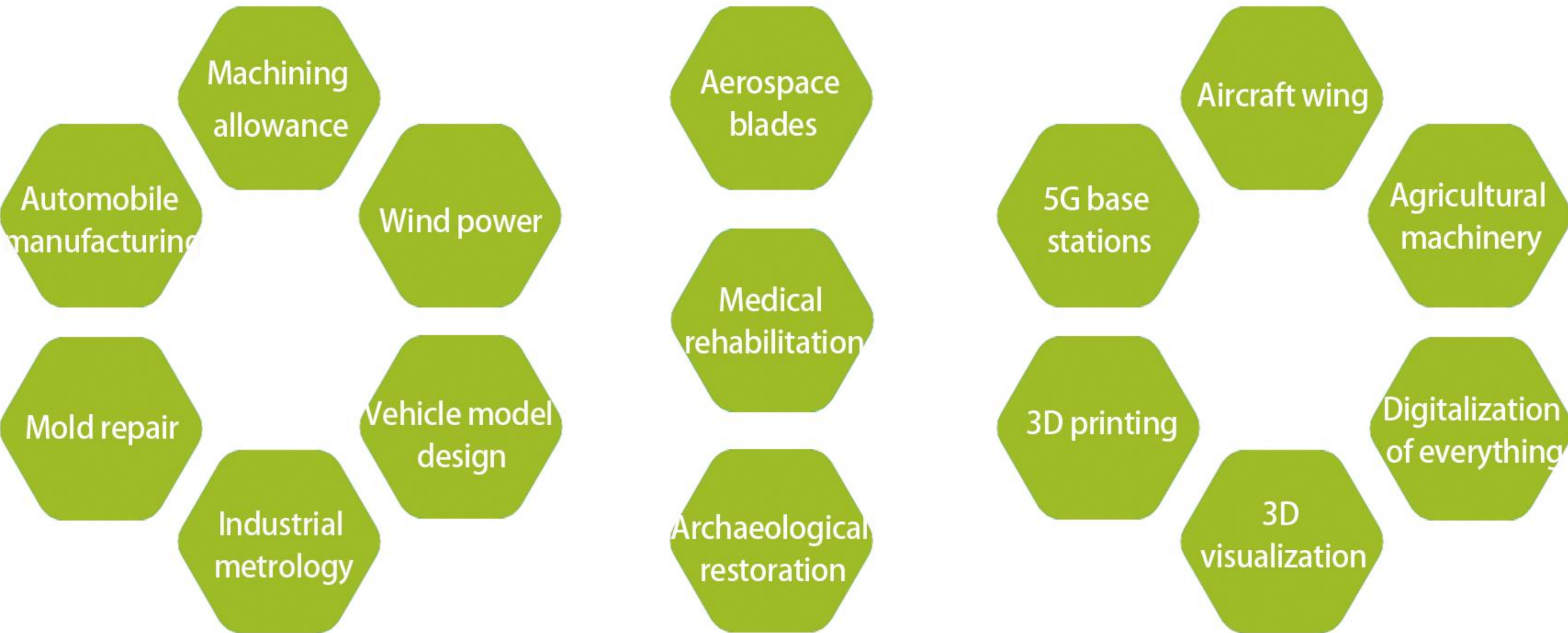


Exclusive design language with a high-speed USB fixed knob, ensuring more stable data transmission.

THCHNICAL SPECIFICATIONS

Model Number		AlphaScan	AlphaScan Pro	AlphaScan Max
Scanning Mode	High-Speed Scanning	26	34	34
	Precision Scanning	7	7	7
	Deep Hole Scanning	1	1	1
Highest Precision		0.020 millimeters		
Maximum Scanning Speed		3,800,000 measurements per second	4,150,000 measurements per second	4,150,000 measurements per second
Maximum Scanning Field		650mm×550mm		
Laser Class		Class II (Eye Safe)		
Maximum Resolution		0.01 millimeters		
Volume Accuracy	Standard	0.020mm+0.030mm/m		
Accuracy	Photogrammetry System	None	None	0.020mm+0.015mm/m
Reference Distance		300 millimeters		
Depth of Field		550 millimeters	600 millimeters	600 millimeters
Output Format		ASC, IGS, TXT, UMK, STL, PLY, OBJ, etc.		
Operating Temperature		-10° C to 40° C		
Interface Type		Recommended USB 3.2		

APPLICATION FIELDS



DEMONSTRATION STEPS



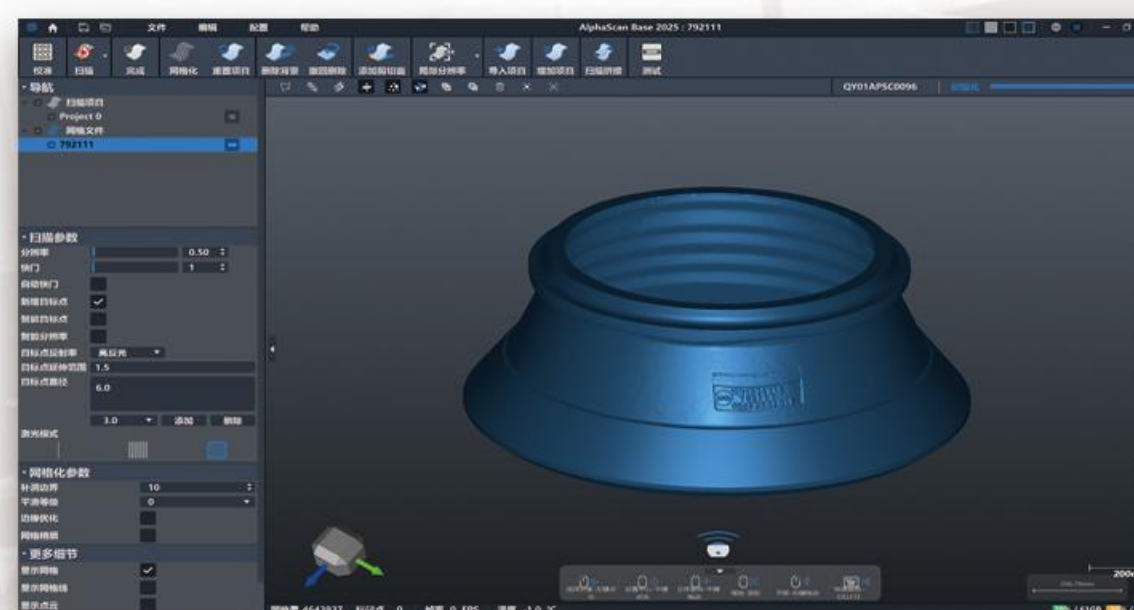
Exquisite Craftsmanship • Compact and Portable

High-Quality Materials, Precision Machining and Polishing
Compact and Flexible Body
Ergonomic Handle Design for Comfortable Long-Term Use
Convenient for Use in Various Settings



Precise Scanning • Recreating Reality

Real-time mesh generation of scan data
What You See Is What You Get
Saves point cloud processing time and enhances overall efficiency



Enhance Accuracy • Expand Dimensions

The 3D scanner's super-resolution technology enhances data accuracy and completeness, improving image clarity and detail display.
It improves image analysis and recognition effectiveness, while reducing data processing time and costs.



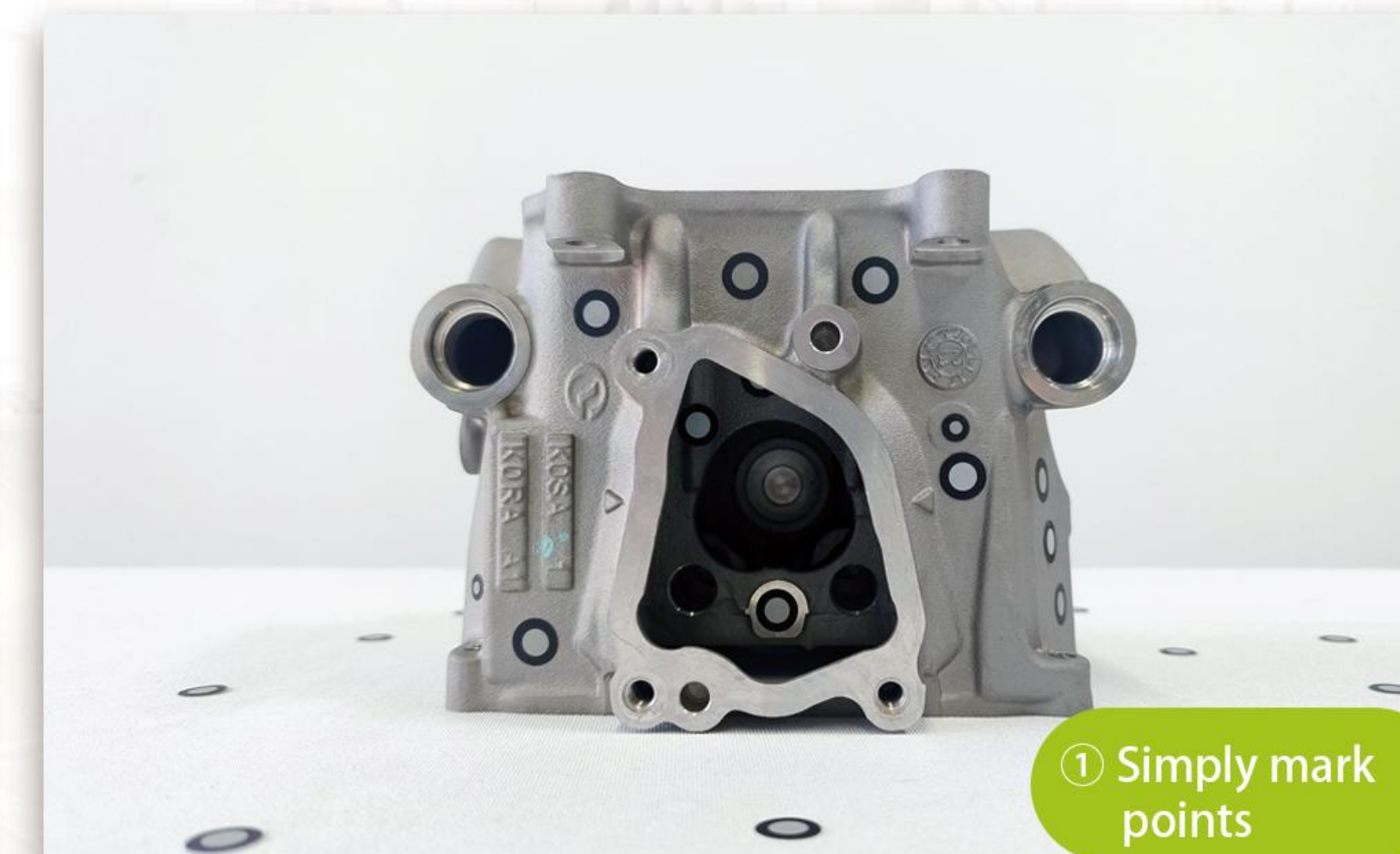
High-Speed Efficiency • Massive Data

Portable Binocular Vision Technology with High-Precision Stereo Calibration Algorithm
Camera frame rate higher than similar products
Achieves an ultra-high scanning speed of 4,150,000 measurements per second



Precise Capture • Perfect Reproduction

Equipped with an ultra-high-definition camera module
Industrial metrology grade accuracy up to 0.020mm
Three scanning modes for precise detail representation



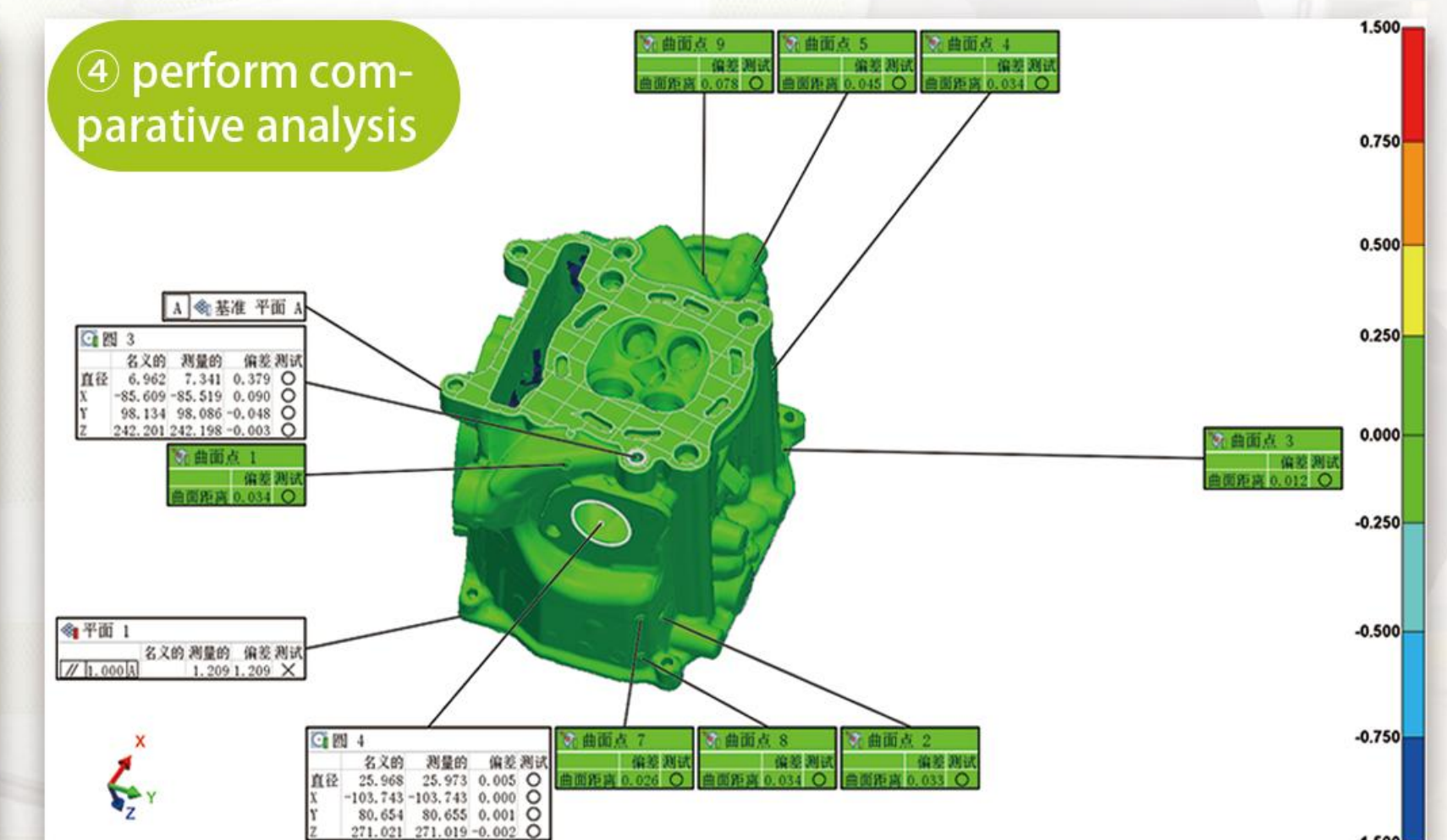
① Simply mark points



② quickly scan



③ generate data



④ perform comparative analysis

AUTHORITATIVE CERTIFICATION



TECHNICAL HIGHLIGHTS

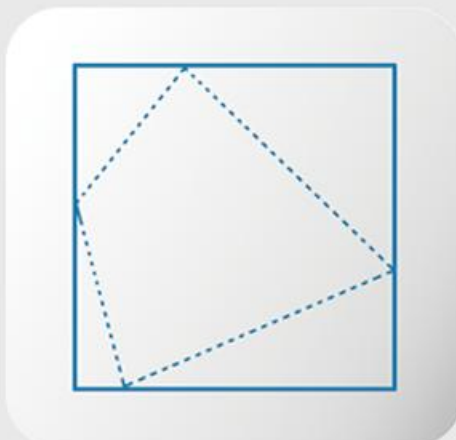
AlphaVista | Precision without boundaries, effortless control

AlphaVista adopts a lightweight design with an optimized body structure, making it easy to operate and flexible. The streamlined body integrates industrial aesthetics and ergonomic principles, not only showcasing technological beauty but also offering a comfortable gripping experience.

While maintaining the exceptional stability and precision of AlphaScan, AlphaVista achieves an all-around performance leap through groundbreaking technological innovations. It uses a combination of 50 blue laser lines, paired with an innovative optical system and intelligent algorithms, effortlessly handling challenges ranging from micron-level precision component inspection to reverse engineering of large industrial parts. Whether it's capturing complex curved surfaces with fine detail or efficiently scanning large workpieces, AlphaVista accomplishes tasks with exceptional accuracy and speed, ensuring high-precision data acquisition. Moreover, AlphaVista's modular design further enhances its versatility, providing users with flexible and efficient multi-scenario solutions.



PRODUCT HIGHLIGHTS



Large depth
of field range



Wide-area
scanning



Real-time
calibration



Built-in
photogrammetry



High-speed
efficiency

TECHNICAL SPECIFICATIONS

High-speed efficiency: 4,500,000 measurements per second

Maximum scanning area: 2200×2200mm

Measurement depth of field: 2.2m

Measurement range: 1~10m

Built-in photogrammetry system without coded points



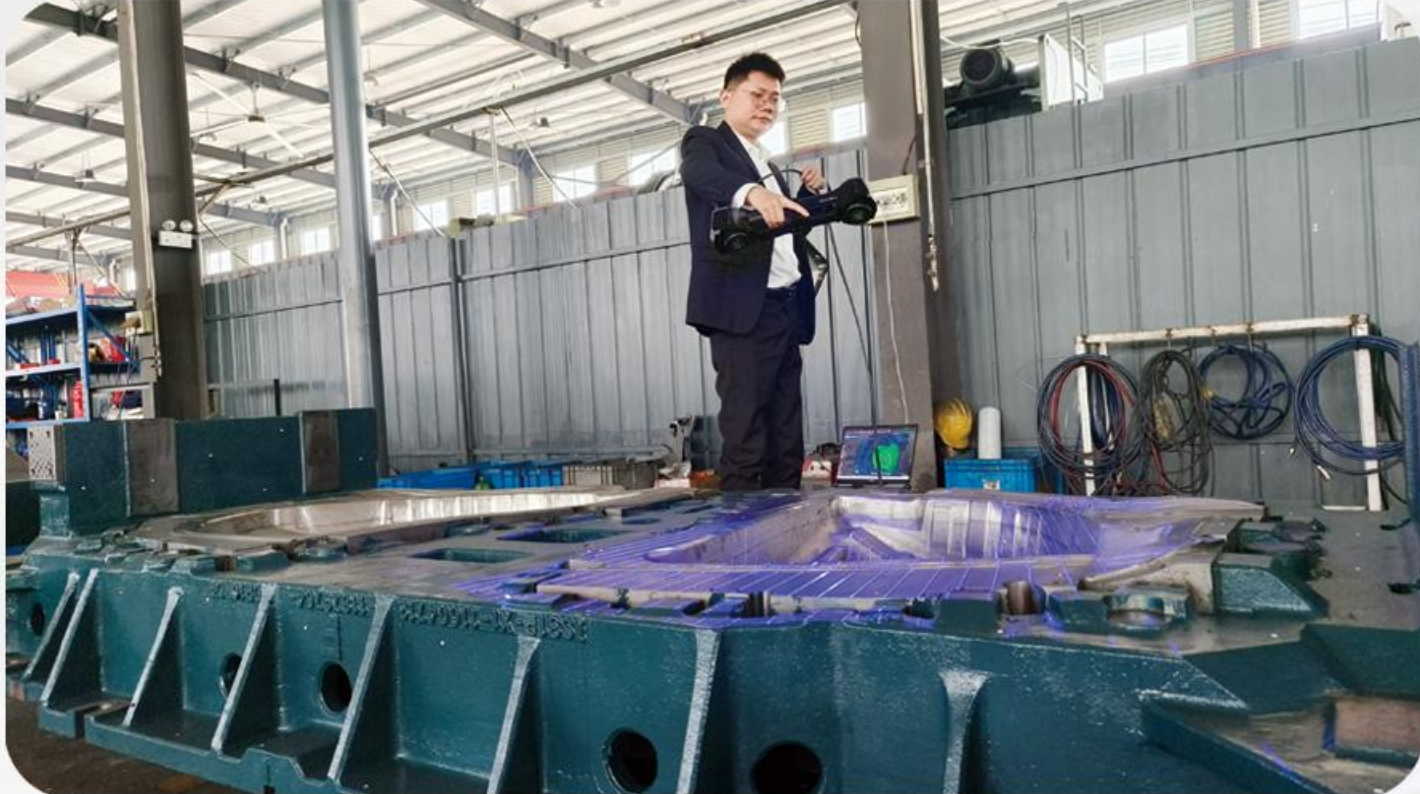
◎ THCHNICAL SPECIFICATIONS

Product model	AlphaVista
Measurement rate	4,500,000 measurements per second
Light source type	50-crossing multi-line blue laser
Laser type	Class II (eye-safe)
Resolution	0.1mm
Maximum precision	0.073mm
Volumetric accuracy	0.073mm
Maximum scanning area	2200×2200mm
Maximum scanning area	300 ~ 600mm
Working distance (mid)	600 ~ 1300mm
Working distance (far)	1300 ~ 2500mm
Weight	1.27kg
Dimensions	长×宽×高: 430×135×90mm

◎ APPLICATION DIRECTION



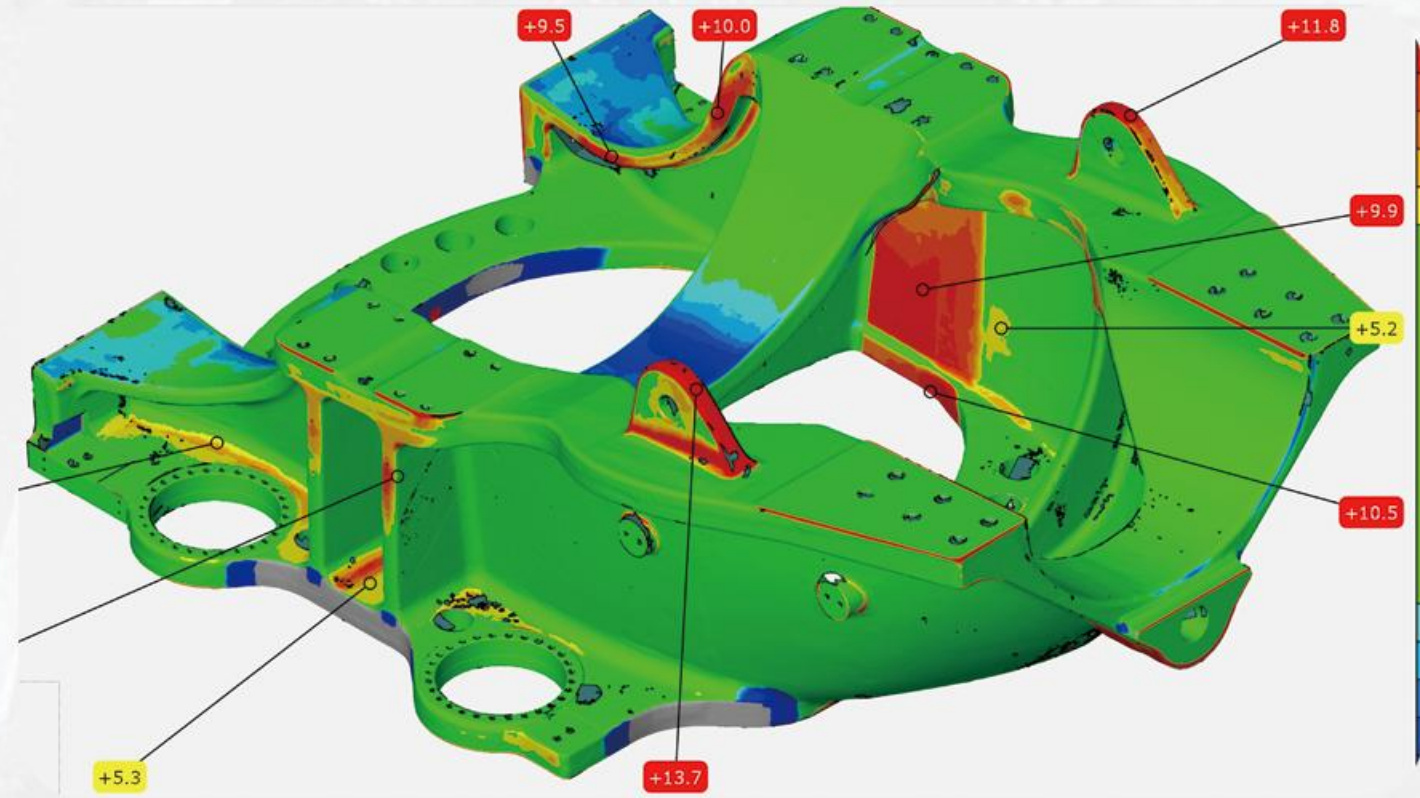
Industrial manufacturing



Mold reverse engineering



Automobile manufacturing



Machining allowance analysis

◎ 3D INSPECTION PROCESS

①Data integration optimization

After scanning is complete, the point cloud data or 3D model is imported into specialized inspection software, preparing for subsequent processing.



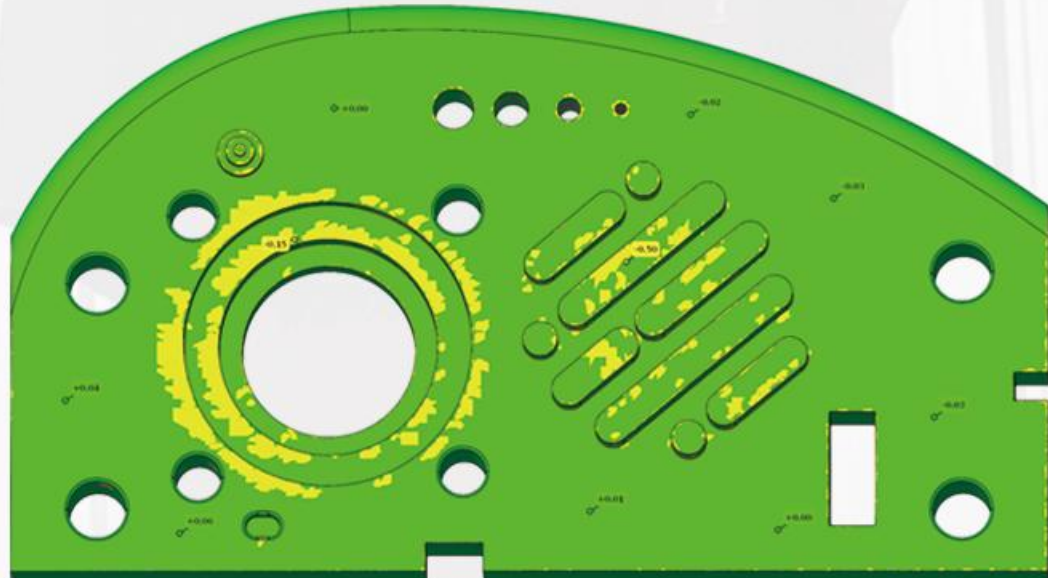
②Intelligent comparison and analysis

The imported scan data is aligned with the reference standard part coordinates. After alignment, a color deviation map is generated to assist in error analysis.



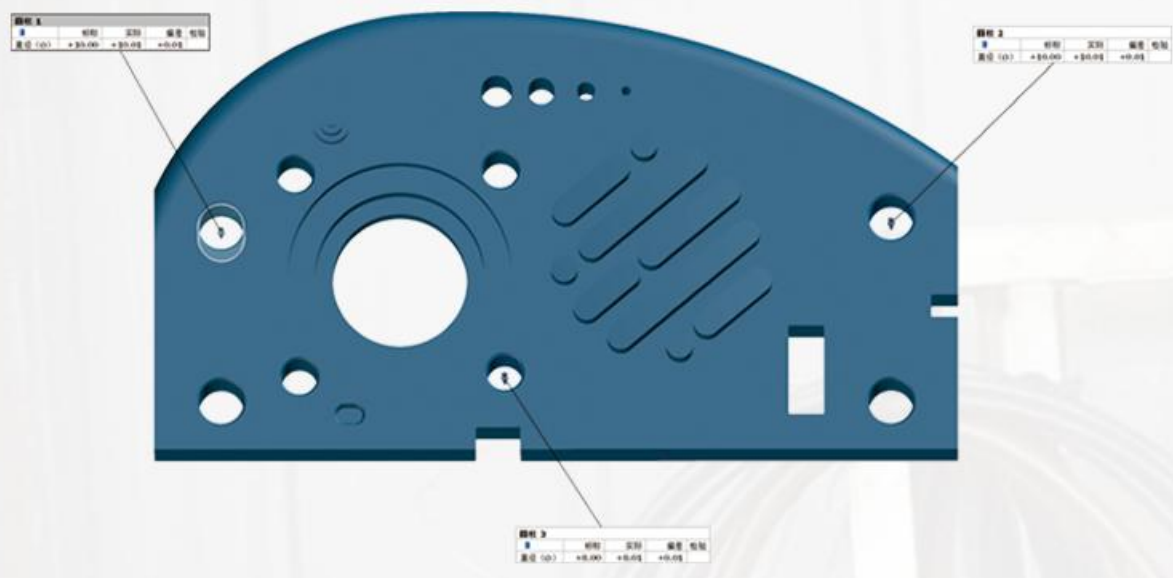
③Multidimensional quality verification

Based on the completed alignment, detailed dimension measurement and tolerance analysis are performed to determine whether the product meets design specifications.

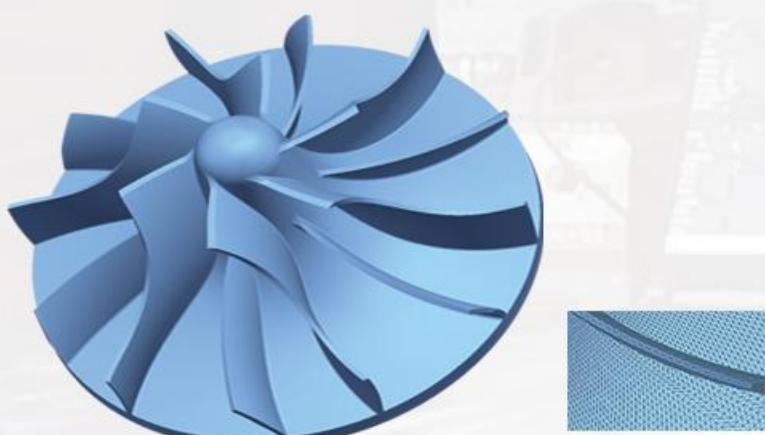


④Smart reporting system

Generate inspection reports with one click. Through visualized analysis data, it helps quickly identify issues and improve quality control efficiency.

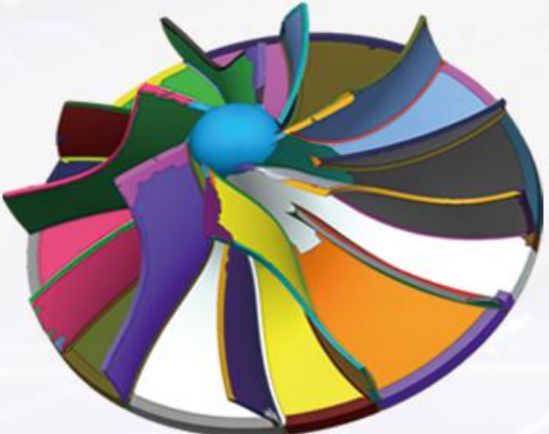


◎ REVERSE ENGINEERING PROCESS



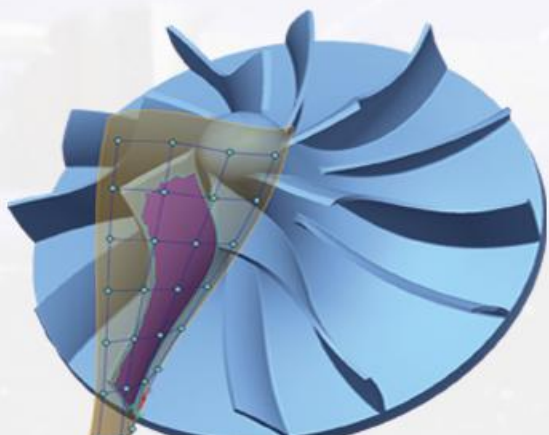
①Data processing

The scan data is merged, combined, optimized, hole-filled, smoothed, and simplified to obtain a high-quality, small planar body model.



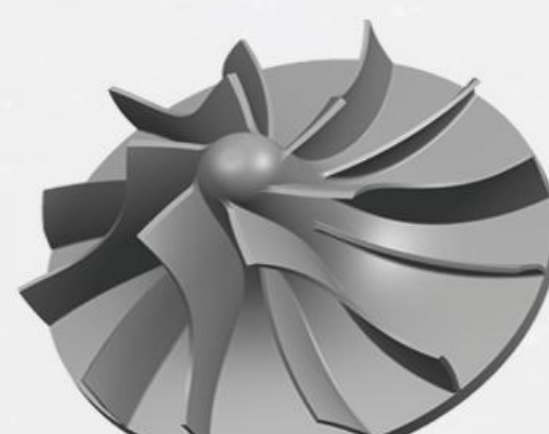
②Domain segmentation

Automatically classify the small planar body into different domain sets based on curvature and features, extract design parameters, and automatically create sketch contours.



③Precision fitting

A mesh-based fitting algorithm creates NURBS surfaces, easily and quickly transforming the freeform shape of the mesh into a 3D freeform surface body.



④CAD conversion

Create CAD features from scan data, with hybrid solid and surface modeling covering different part types to ensure model accuracy.