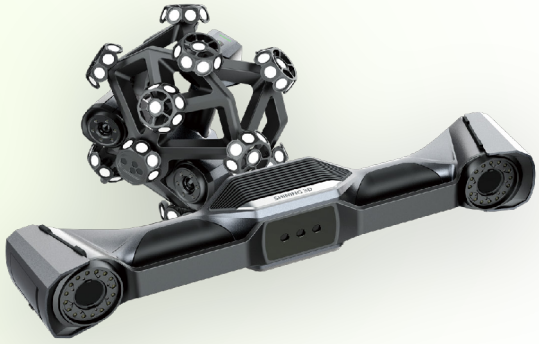
OPTICAL TRACKING METROLOGY SYSTEM

FreeScan Trak Nova

Wireless Multi-Functional Dynamic Tracking & Scanning System

SMALL IN FORM, BIG ON PERFORMANCE

A tracker, a wide-range laser scanner and a tracked scan head in one wireless kit. The UE Nova tracker follows the TE Nova scan head in real time, so accuracy comes from the tracker, not from targets stuck to the part. It captures up to 6,140,000 points per second on large, fixed or delicate parts.



0.02 mm	0.062 mm	6.14 M
ACCURACY	VOLUMETRIC @ 12 M³	POINTS / SEC

- **Flexible & Separable System**
- **Compact & Agile Dynamic Tracking**
- **Wireless & Lightweight Design**
- **Integrated Video Photogrammetry**
- **Verified Accuracy VDI/VDE 2634 & ISO 10360**



TE Nova in hand, UE Nova on the tripod as the tracker. The scan head weighs 1.2 kg, so detail work on a mining gearbox flange stays comfortable.

All-in-One Scanning System

One wireless system with three tools: the TE Nova tracking scanner, the UE Nova wide-range handheld scanner that doubles as the tracker, and a video photogrammetry module. Built for large parts in construction machinery, rail, civil aviation and energy.

1.2 kg, TE Nova tracking scanner	1.6 kg, UE Nova tracker and scanner

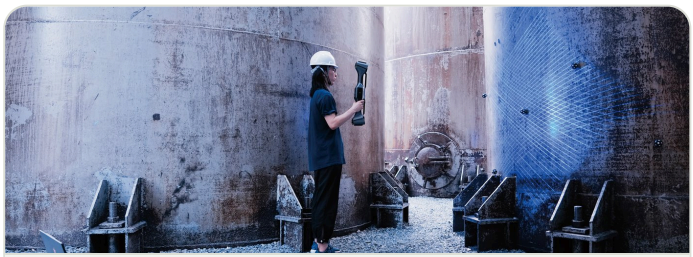


TE Nova scanning a server cabinet with no markers on it. The UE Nova tracks from the optional mobile workstation, which shows live results on screen.

Dynamic Tracking Scan: Compact and Agile

Marker-free scanning. Real-time tracking means no targets on the part and less prep time.

Certified metrology accuracy. Acceptance tested to VDI/VDE 2634 and ISO 10360.



The UE Nova off the tripod, scanning a storage tank wall handheld. No cable runs back to the PC, and the battery hot-swaps mid-job.

Wide-Range Laser Scan: Vast and Fast

Largest FOV on the market. The UE Nova tracker also scans handheld, with a 2.6 × 2.2 m field of view and up to 2.6 m scanning distance.

Fully wireless. Hot-swappable batteries keep long jobs running.

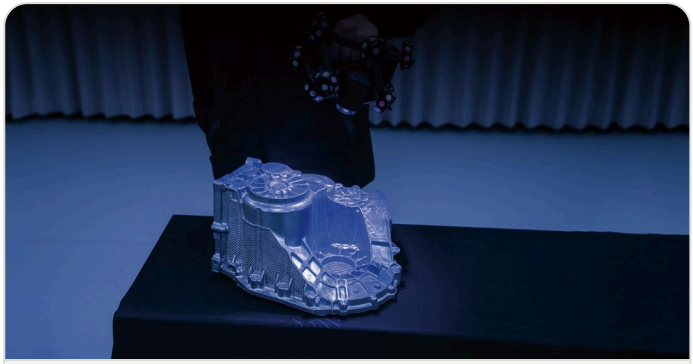
Ultra-Fast Scan Speed

Up to 6,140,000 points per second captures high-quality 3D data quickly without losing fine detail.

50	laser lines high-speed scan	**7**	parallel lines detailed scan	**1**	laser line deep pockets



UE Nova held overhead on a wind-turbine blade. On parts this size, VPG holds the UE Nova to 0.072 mm + 0.012 mm/m volumetric accuracy.



TE Nova scanning a cast gearbox housing. Intelligent resolution adds mesh density on ribs and curves like these and keeps flat areas light.

Video Photogrammetry (VPG)

SHINING 3D's patented video photogrammetry replaces coded markers. A calibration rod and the tracker's video check references in real time, which keeps volumetric accuracy consistent and cuts setup time on large objects.

Advanced Software

Intelligent resolution. Mesh density follows the curvature of the part, so features stay sharp.

Multi-scan data fusion. Wide-range coverage and dynamic-tracking detail merge into one dataset.

AI feature recognition. Round holes, rectangular holes and slots are detected and measured fast.



TE Nova held up to the underside of a hull in a shipyard. The carbon fiber frame keeps it light for overhead work, and scan controls sit on the head.

Free to Scan, Built to Perform

Integrated wireless modules. Real-time data transfer with high frame rates, no cables or external devices.

Built-in computing. Both scanners process data on board for fast results on the go.

Swappable batteries. Swap packs to keep long or remote jobs running.

Easy to Carry, Light to Move

Compact and complete. The whole system packs into one case.

Carbon fiber structure. Light and durable in tough conditions.

Remote button control. Run the scan from buttons on the sensor, not the mouse.

Certified Accuracy: ISO/IEC 17025 Laboratory

The accuracy figures in this brochure are verified, not estimated. The SHINING 3D Accuracy Laboratory is accredited to ISO/IEC 17025 by CNAS, and the Trak Nova is acceptance tested there to VDI/VDE 2634 Part 3 and ISO 10360, with measurements traceable to international standards. That is the record your quality manager, and your customer's auditor, will ask for.



Large-volume hall: reference scale bars set the traceable length standard for volumetric accuracy tests.



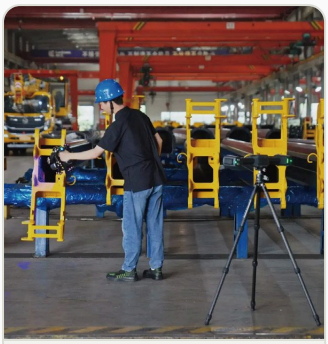
Long-range rail: depth-of-field and working-distance performance verified along a calibrated track.



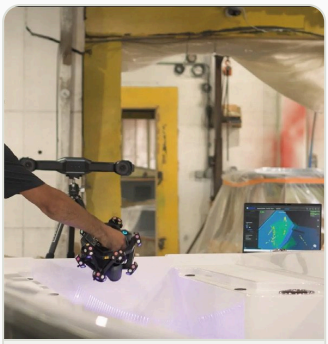
Calibration benches: instruments are verified to VDI/VDE 2634 and ISO 10360 before a certificate is issued.

Proven Across Industries

Where the Trak Nova Series is already at work: parts too large, too fixed or too delicate to bring to a CMM.



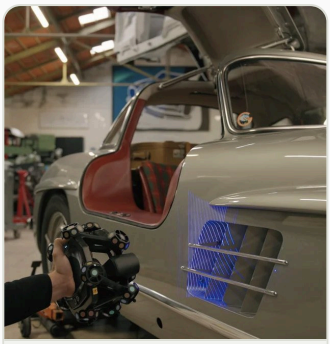
Exterior panel QA: long panels checked on their fixtures, with the tracker on a tripod beside the line.



Marine mold inspection: a hull mold scanned in the shop, with live results on the laptop.



Stamping parts inspection: a stamped frame captured with the tracker a short step away.



Digital restoration: body details of a classic car captured without touching the paint.

Specifications

Specification	FreeScan Trak Nova	FreeScan UE Nova	FreeProbe Series (Optional)
Accuracy	0.02 mm (0.00079 in)	0.072 mm (0.00283 in)	0.025 mm (0.00098 in)
Volumetric accuracy	0.062 mm (12 m³) 0.00244 in (423.78 ft³)	—	0.062 mm (12 m³) 0.00244 in (423.78 ft³)
Volumetric accuracy with VPG	0.046 mm + 0.012 mm/m (extension volume) 0.00181 in + 0.00014 in/ft	0.072 mm + 0.012 mm/m 0.00283 in + 0.00014 in/ft	0.046 mm + 0.012 mm/m (extension volume) 0.00181 in + 0.00014 in/ft
Scan speed	6,140,000 points/s	4,600,000 points/s	100 measurements/s
Resolution	0.01 – 10 mm (0.00039 – 0.39370 in)	0.5 – 10 mm (0.01969 – 0.39370 in)	—
Flexible FOV	Up to 2600 × 2200 mm (102.36 × 86.61 in)		—
VPG	Included (no coded markers required)		—
FOV indicator of VPG	Included		—
High-speed scan	Included (50 laser lines)	Included (50 laser lines)	—
Detailed scan	Included (7 parallel laser lines)	Included (supports near mode)	—
Deep-pocket scan	Included (1 laser line)	—	—
Working distance	300 mm (11.81 in)	1200 mm (47.24 in)	—
Depth of field	TE Nova: 380 mm (170 – 550 mm) 14.96 in (6.69 – 21.65 in) UE Nova: 2700 mm (800 – 3500 mm) 106.30 in (31.50 – 137.80 in)	2300 mm (300 – 2600 mm) 90.55 in (11.81 – 102.36 in)	—
Connection	Wireless & wired mode (fiber optic)		
Output formats	stl, obj, ply, asc, 3MF, P3		
Working temperature	-10 – 40 °C (14 – 104 °F)		
Working humidity	10% – 90% RH		
Net weight	TE Nova: 1.2 kg (2.6 lb) UE Nova: 1.6 kg (3.5 lb)	1.6 kg (3.5 lb)	FreeProbe 2: 0.46 kg (1.0 lb) FreeProbe 2 Pro: 0.59 kg (1.3 lb)
Dimensions	239 × 191 × 232 mm (9.41 × 7.52 × 9.13 in)	580 × 119 × 87 mm (22.84 × 4.69 × 3.43 in)	FreeProbe 2: 50 × 110 × 363 mm (1.97 × 4.33 × 14.29 in) FreeProbe 2 Pro: 50 × 114 × 455 mm (1.97 × 4.49 × 17.91 in)
Certifications	CE, FCC, RoHS, WEEE, KC, FDA, UKCA, IP50, TELEC, TiSAX		—
Acceptance test	VDI/VDE 2634 Part 3 & ISO 10360 certified (ISO/IEC 17025 accredited lab)		ISO 10360 certified (ISO/IEC 17025 accredited lab)
Recommended PC	Windows 10/11 Pro (64-bit) · Intel Core i7/i9 13th/14th Gen HX or Core Ultra 9 285HX · NVIDIA GeForce RTX 5080 Laptop GPU · 16 GB VRAM · 64 GB RAM		

VDI/VDE 2634 PART 3 · ISO 10360 · ISO/IEC 17025 ACCREDITED LAB · IP50

See it on your parts.

Book a live demo or a free sample scan. US-based metrology team, fast turnaround.

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FreeScan™ Trak Nova, UE Nova and FreeProbe are products of SHINING 3D. Rev1 Technologies is an authorized United States reseller. Acceptance testing is performed in SHINING 3D's ISO/IEC 17025 accredited lab. Specifications provided by the manufacturer and subject to change without notice.

Rev.1 TECHNOLOGIES