



# EinScan *TRAK*

Wireless Marker-Free Tracking System

*Trak in, Markers out*



 Detachable Scanner

 Wireless

 Marker-Free

# EinScan Trak

## Wireless Marker-Free Tracking System

EinScan Trak is the world's first wireless, dual-form, marker-free tracking system. Its detachable handheld scanner seamlessly transforms into an independent wireless laser scanner, delivering greater flexibility across diverse scanning tasks. The marker-free tracking system captures large surfaces directly without markers, while the handheld scanner supports marker-free blue laser scanning for feature-rich surfaces, streamlining workflows from large-scale objects to detailed parts. With three laser scanning modes, flexible form factors, and versatile scanning modes, EinScan Trak delivers a portable, professional 3D digitization solution for reverse engineering, cultural heritage preservation, automotive customization, and large-object digitization.

## One System, Two Work Modes

Choose the right setup for your applications—detachable, easy to calibrate, and ready with one-click startup. Enables seamless switching and flexible combination of tracking mode and handheld scanner mode, supporting real-time adjustment during scanning and cross-mode resolution merging.



### Handheld Scanner Mode

#### Handle the Hard-to-reach Areas

Handheld scanner mode reaches narrow spaces beyond the coverage of tracking mode and provides a lighter, more flexible experience for scanning hard-to-reach areas and small size objects.



### Tracking Mode

#### Expansive Scanning for Large Objects

Fast, expansive scanning for medium to large objects (e.g., speedboat). Move the tracker freely to extend your coverage and reduce costs.



# Inside Tracking System

How the Units Collaborate for Efficiency

## 15m³ Large Volume Wireless Scanning

Equipped with Wi-Fi 6 module supports wireless scanning. Connects via an independent LAN and pairs automatically at startup. Enjoy 15m³ ultra large tracking volume, giving you more freedom to move, capture, and create with higher efficiency.

\*A router is required and included as standard.

## Hybrid Leapfrog Function for Large Objects

Move the tracker with marker-based alignment to extend the scanning range for large objects, only 4 markers needed for per tracking range, balancing the accuracy and efficiency of large objects modelling.

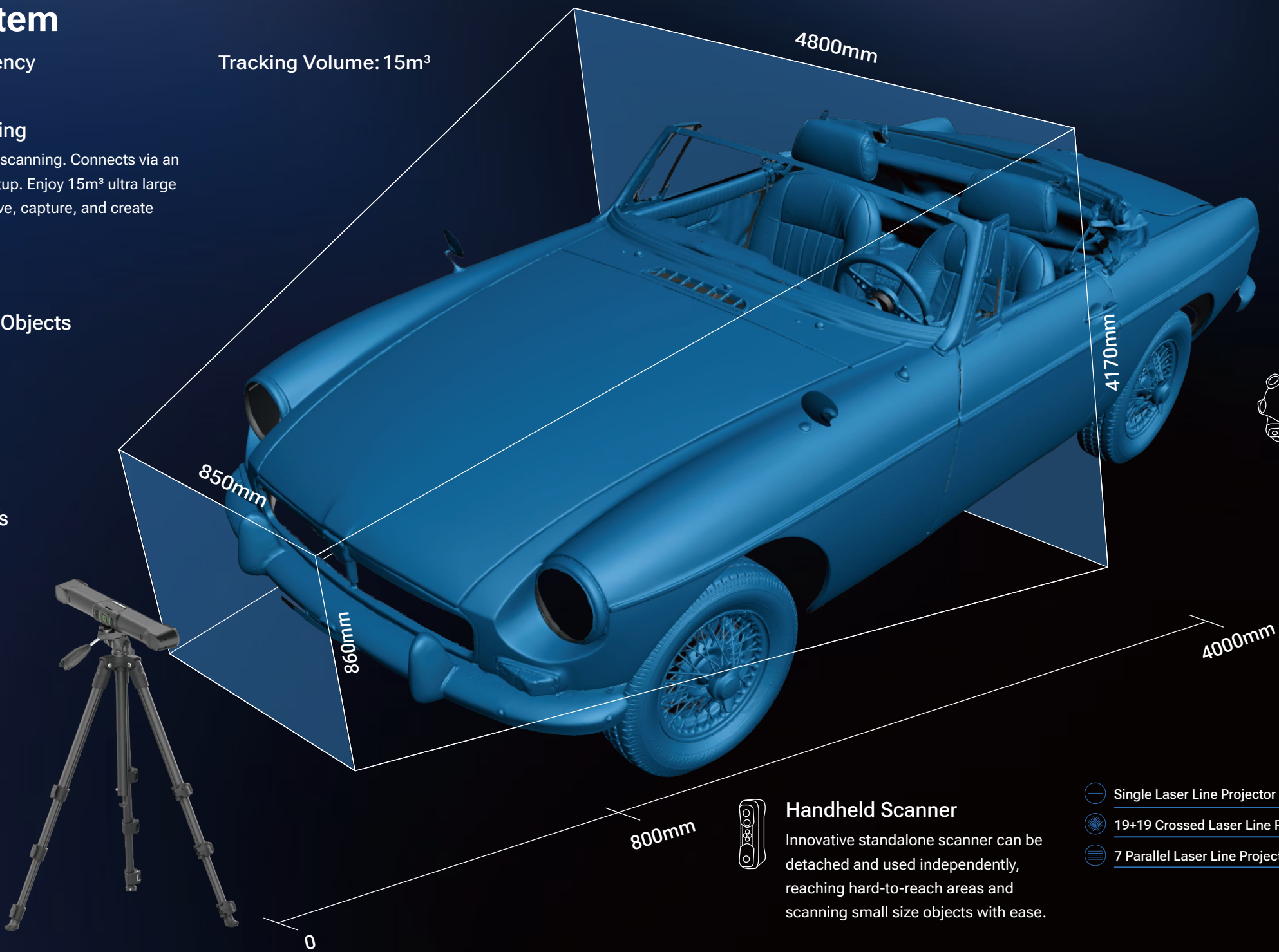
## High Speed up to 2,630,000 Points/s



### Tracker

Constantly tracking the spherical scanner's position in space with extreme precision, eliminating the need for preparation.

Tracking Volume: 15m³



### Spherical Scanner

Tracked by the tracker, its specialized spherical design allows for smooth and stable tracking without any other accessories.



### Handheld Scanner

Innovative standalone scanner can be detached and used independently, reaching hard-to-reach areas and scanning small size objects with ease.

- Single Laser Line Projector
- 19+19 Crossed Laser Line Projectors
- 7 Parallel Laser Line Projector



2MP Depth Camera

5MP Texture Camera

2MP Depth Camera

4000mm

# Three Scanning Modes

Built for Diverse Needs



**19+19** Crossed Laser Lines  
For High Efficiency

Acquires high-quality data from large objects quickly, delivers workflow efficiency and scanning flexibility.

*Scan Data*



**7** Parallel Laser Lines  
For Fine Details

Captures lines and sharp edges on automotive components with greater clarity.



**Single** Laser Line  
For Deep Holes

For challenging deep hole scanning, the single laser line reaches deeper to capture fine details with 1:4 diameter- depth ratio, supporting applications such as vehicle reverse engineering.

# All-Scenario Marker-Free 3D Scanning

Less Prep. Faster Setup. Higher Productivity.

## Marker-Free Tracking System

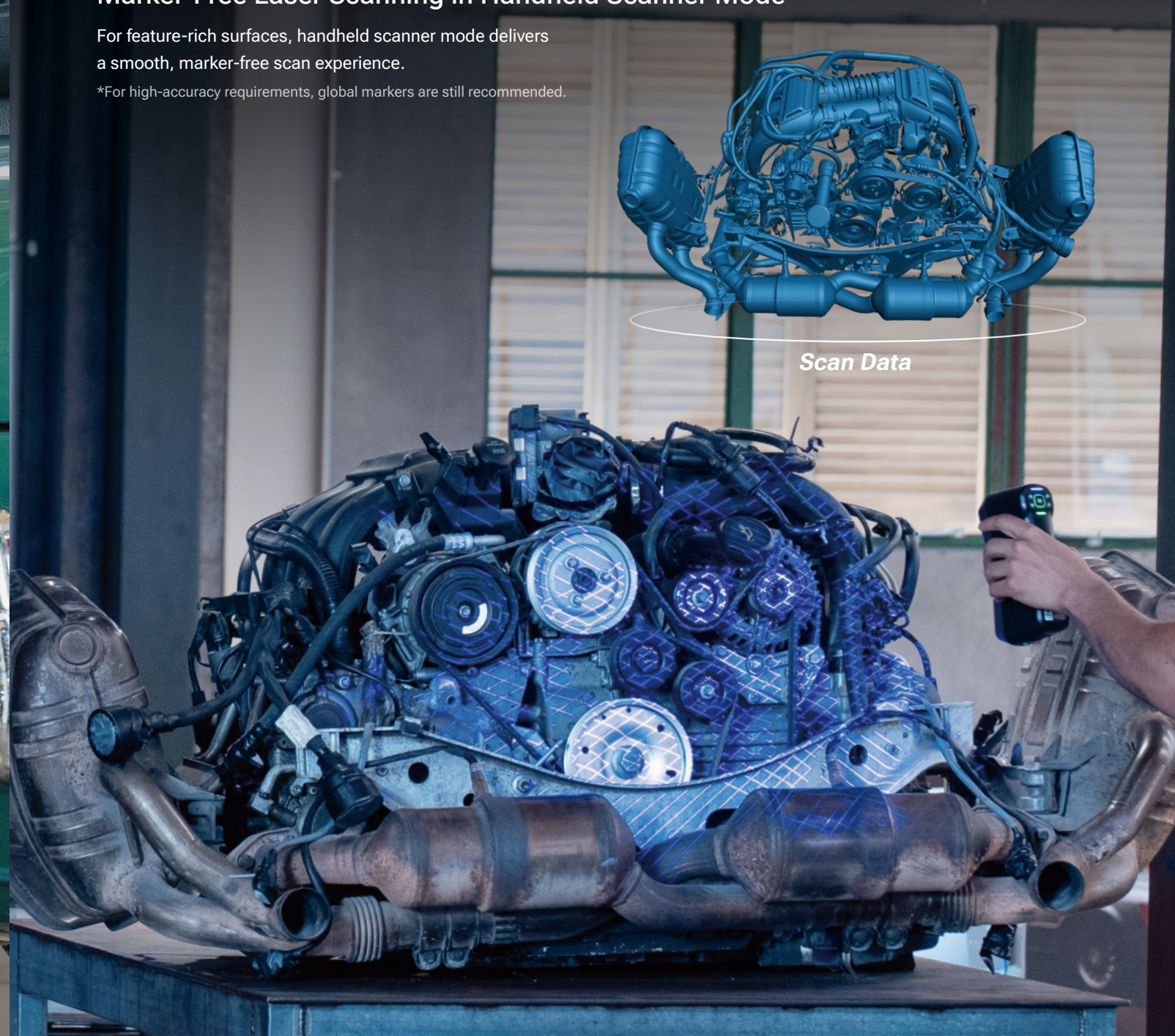
EinScan Trak features built-in retroreflective markers on its spherical scanner module, enabling the wireless tracker to precisely monitor the scanner's position in real time. This supports a more flexible scanning workflow and stable data capture without relying on object features or placing markers on the surface.



## Marker-Free Laser Scanning in Handheld Scanner Mode

For feature-rich surfaces, handheld scanner mode delivers a smooth, marker-free scan experience.

\*For high-accuracy requirements, global markers are still recommended.



# Build Complete 3D Models Efficiently

Flexible Scan, Smart Merge



Handheld Scanner Mode

Resolution: 0.5mm



Handheld Scanner Mode

Resolution: 1.0mm



Tracking Mode

Resolution: 2.0mm



Tracking Mode

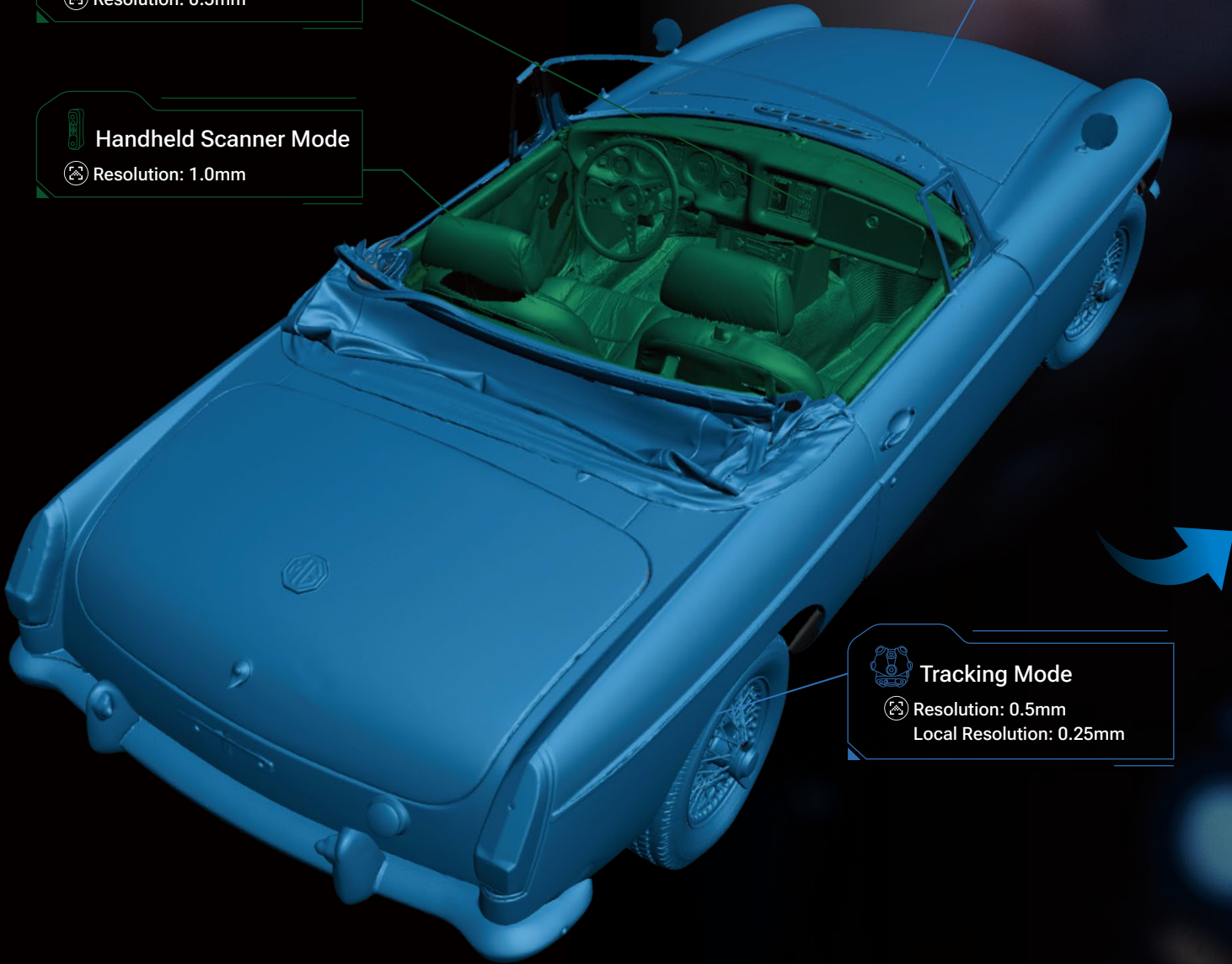
Resolution: 0.5mm  
Local Resolution: 0.25mm

## Smart Data Merge Across Modes and Resolutions

Merge data captured in tracking mode and handheld scanner mode within one project, with compatibility across different laser modes and resolutions. Reduce redundant data and build more complete 3D models faster.

## Real-Time Adjustment During Scanning

During scanning, you can switch between different resolutions in one scan and customize areas that require more details in the local resolution function. It delivers a resolution of up to 0.05 mm and supports a scanning range of up to 4 meters.



# Highly Adaptable, Flexible Wireless Workflow

Reliable Outdoor Scanning Performance with Longer Battery Life

 **Ideal for Various Materials**  
Scan black and reflective surfaces(e.g.,car rims) effortlessly without any data loss.

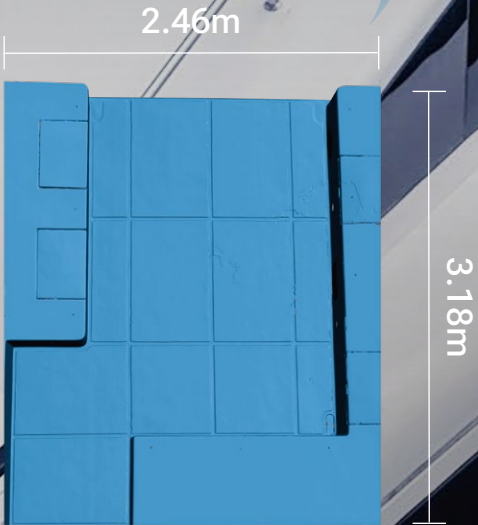
 **Multi-Environment Adaptability**  
Reliable scanning outdoor & indoor, supports scanning under strong outdoor light up to 110,000 lux.

 **No Battery Anxiety**  
Up to 5.5 hours of battery life in tracker mode, with hot-swappable batteries for uninterrupted operation. Handheld scanner mode supports up to 3.5 hours of use.

 **Safe to Transport, Easy to Carry**  
High-strength CFFIM carbon fiber, built for shock resistance and worry-free transport.

 **5-10 Minutes Calibration, Built for Changing Environments**  
Quickly calibrate the full system and maintain reliable performance from -10°C to 40°C, with fewer recalibrations and greater workflow efficiency.

Ship Modification Design



Scan Data



**5MP Texture**  
High-Definition. True-Color.

5MP HD texture scanning accurately captures object colors and material details. It breaks the stereotype that laser tracking 3D scanning lacks color, bringing the efficiency of tracking systems to cultural heritage, research, and other fields.

Scan Data

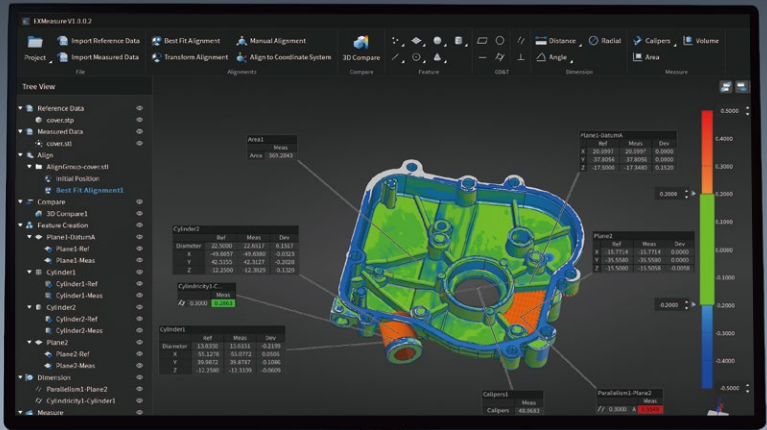
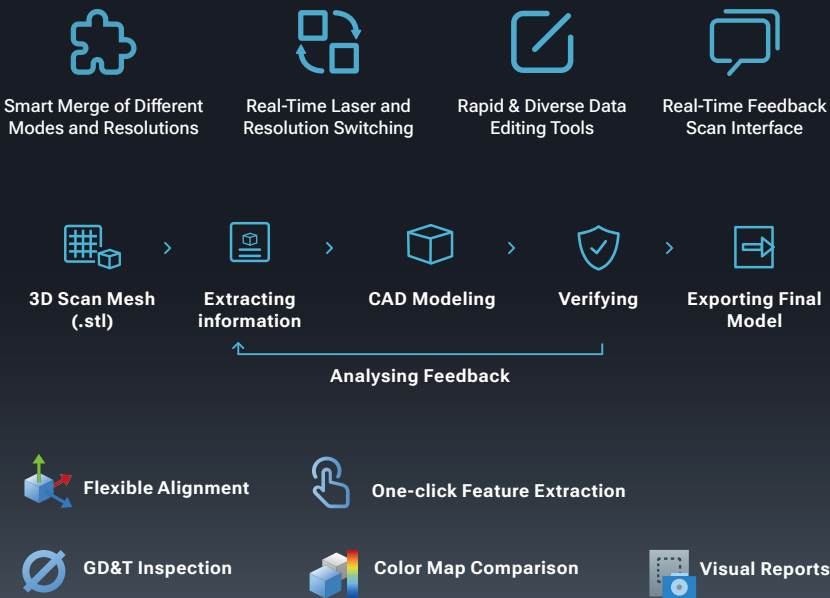
# Flexible Scanning, Precise Measurement, Streamlined Reverse Engineering

EXScan Trak+EXModel Series+EXMeasure

**EXScan Trak** is a scanning software for EinScan Trak Series, designed to support complex 3D data acquisition with a flexible and efficient workflow.

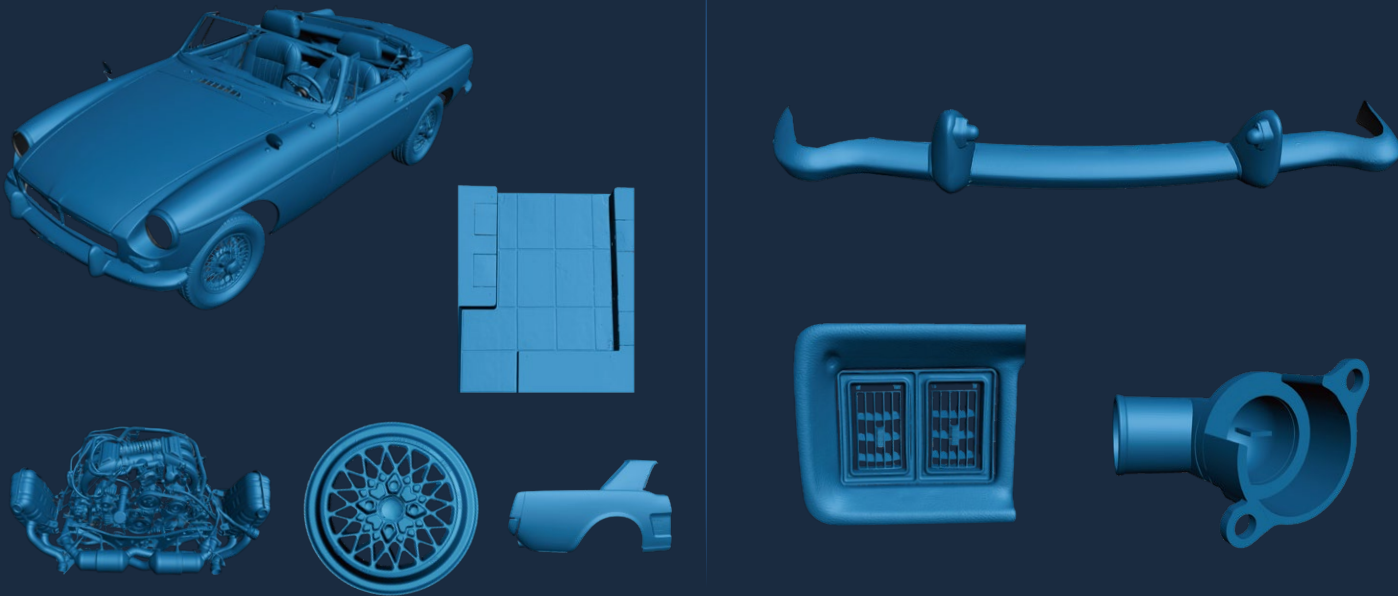
**EXModel Series** is a powerful gateway that simplifies CAD modeling, from 3D scanning to manufacturing. It provides a comprehensive set of tools that enable you to transform a mesh into a professional-quality CAD solid model in just a few simple steps.

**EXMeasure** is a measurement software designed to work seamlessly with EinScan Trak Series, supporting digital dimensional analysis from scan data to verification.



# Applications

- Industry-Specific Customization
- Product & Industrial Design



- Heritage Preservation & Art
- AR, VR & Digital Content
- Education & Scientific Research



# SPECIFICATIONS

# EinScan *TRAK*

|                           |                                                                                                                                                                                                                                                                    |                                                                                                                                             |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| Work Mode                 | Tracking Mode                                                                                                                                                                                                                                                      | Handheld Scanner Mode                                                                                                                       |
| Scan Mode                 | Laser                                                                                                                                                                                                                                                              | Laser                                                                                                                                       |
| Light Source              | 19+19 Crossed Laser Lines / 7 Parallel Lines / Single Line                                                                                                                                                                                                         |                                                                                                                                             |
| Volumetric Accuracy       | Up to 0.1 mm                                                                                                                                                                                                                                                       |                                                                                                                                             |
| Resolution                | 0.05 ~ 10 mm                                                                                                                                                                                                                                                       |                                                                                                                                             |
| Scanning Speed            | 2,630,000 Points/s                                                                                                                                                                                                                                                 |                                                                                                                                             |
| Working Distance          | Tracking Distance: 800 - 4000 mm                                                                                                                                                                                                                                   | 100 - 500 mm                                                                                                                                |
| MAX FOV                   | 4796mm × 4174mm @ 4000 mm                                                                                                                                                                                                                                          | 547mm × 463mm @ 500 mm                                                                                                                      |
| Tracking Volume           | 15 m³                                                                                                                                                                                                                                                              | /                                                                                                                                           |
| Alignment Mode            | Tracking / Global Marker                                                                                                                                                                                                                                           | Marker / Global Marker / Feature                                                                                                            |
| Camera Resolution         | Tracker Cameras: 5MP * 2                                                                                                                                                                                                                                           | Depth Cameras: 2MP * 2; Texture Camera: 5MP * 1                                                                                             |
| Output Formats            | STL, OBJ, PLY, 3MF, ASC                                                                                                                                                                                                                                            |                                                                                                                                             |
| Laser Class               | Class 2                                                                                                                                                                                                                                                            |                                                                                                                                             |
| Operation Conditions      | Temperature: -10°C ~ 40°C                                                                                                                                                                                                                                          |                                                                                                                                             |
| Certifications            | CE, FCC, ROHS, WEEE, FDA, SRRC, IP50                                                                                                                                                                                                                               |                                                                                                                                             |
| MIN Configurations for PC | Windows 10/11 (64-bit); Graphics Card: NVIDIA GeForce RTX 3060;<br>VRAM: 6 GB or above; RAM: 32 GB or above, DDR5 dual-channel; Interface: USB 3.0; LAN;<br>Processor: 13th Gen Intel® Core™ i7-13650HX or above / AMD Ryzen7 7735H with Radeon Graphics or above; |                                                                                                                                             |
| Power Source              | 5.5 hours of continuous use<br>(Tracker 5400 mAh Batteries * 2; Scanner 5400 mAh Batteries * 2)                                                                                                                                                                    | 3.5 hours of continuous use<br>(5400 mAh Battery * 1)                                                                                       |
| Interface                 | USB type-C * 2                                                                                                                                                                                                                                                     | USB type-C * 1                                                                                                                              |
| Dimension                 | Tracker:<br>462 × 8 × 54 mm / 18.15" × 2.68" × 2.13"                                                                                                                                                                                                               | Scanner:<br>199 × 193 × 172 mm / 7.83" × 7.59" × 6.77" (Handheld Scanner)<br>244 × 186 × 238 mm / 9.57" × 7.32" × 9.37" (Spherical Scanner) |
| Net Weight                | 1.02 kg / 2.23 lbs                                                                                                                                                                                                                                                 | 1.46 kg / 3.21 lbs (Spherical Scanner)   0.48 kg / 1.17 lbs (Handheld Scanner)                                                              |

EinScan Trak - EN 20260805-V0.33

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