# TERSUS

# Tersus L1

**Handheld SLAM Scanner
A Real-time 3D Reconstructor**

# Tersus L1

L1 is a new generation of handheld mobile scanning products launched by Tersus GNSS, which integrates LiDAR, vision module, high-precision inertial measurement unit, and high-performance computing control module, easily cope with the complex scenes, and directly get the colorized point cloud to realize real-time 3D reconstruction.
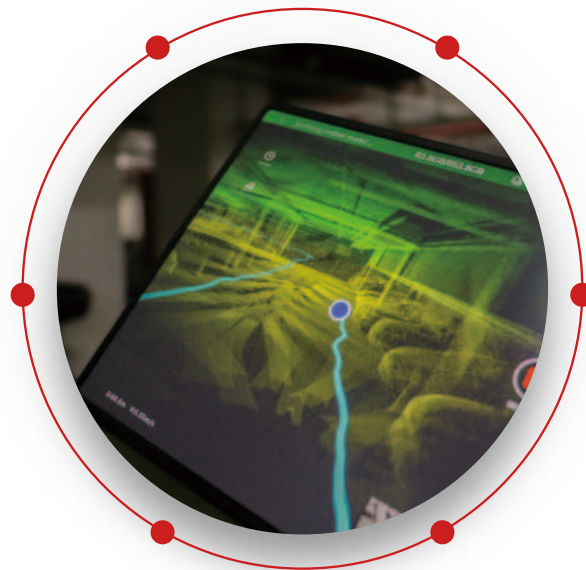


# Tersus L1 Features

### High efficiency, long working hours break-point scanning

90 minutes of continuous operation time, and it can continue to scan from the break-point. In large application scenarios, no need for segmented scans, which significantly improves the efficiency.

### High precision, industry-level of real-time SLAM algorithm

High-precision IMU and self-developed algorithm, the relative accuracy can reach ±1.5cm and the absolute accuracy can reach less than 5cm in horizontal and vertical.



### High visualization, real-time point cloud color rendering

High-precision vision and laser fusion technology generate true-color point clouds in real time, with strong visibility to reproduce the real world.

### High reliability, easy to adapt to complex scenarios

In some complex scenarios, the data maintains accurate structure and stable quality, and it can be perfectly adapted to various usage scenarios with different accessories.

### Integrated design, compatible with multiple platforms

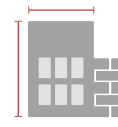It has a rich selection of accessories, including RTK, UAV, and backpack kits, suitable for different scenarios.

# Application

| | | | |
|---|---|---|---|
| Topographical Mapping | Agricultural & Forestry Survey | Engineering Survey | Geological Exploration |
| Volume Calculation | Emergency Mapping | Underground Space | Smart City |
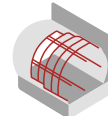
# Scenario
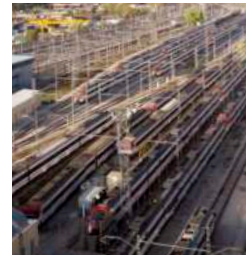
| | | | | |
|---|---|---|---|---|
| Indoor structures, underground parking area | Urban streets, rural roads | Building facades | Railways, roads, pipelines | Forest tree distribution survey |

# Software

We offer two professional software solutions designed to meet the needs of field data collection and point cloud post-processing. LixelGO software is used in conjunction with our L1 product to carry out field scanning tasks. LixelStudio software is used to optimize, merge, colorize, and perform other post-processing tasks on the data files of field scanning.
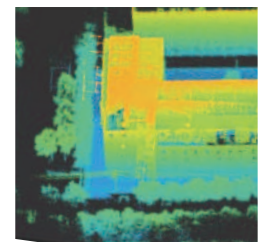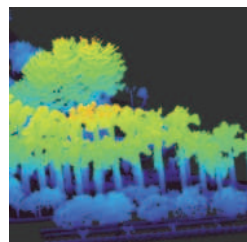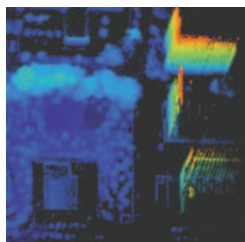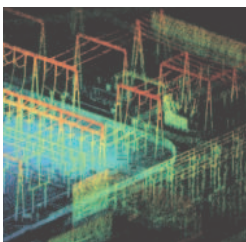
# Software Features

- Remote viewing of true-color point clouds, visual display of massive data
- Supporting point cloud measurement, cropping, sectioning
- Semantic classification of models and data vectorization processing, double improvement the efficiency
- Powerful cloud computing and abundant storage space

# Technical Specifications

## Tersus L1

| LiDAR Performance | |
|---|---|
| Laser Class | Class 1 Eye Safe |
| Wavelength | 905nm |
| Channel | 16 |
| Range | 150m |
| FOV | 360°×270° |
| Effective Measurement Rate | 320,000 pts/s |
| Return Mode | Single/Dual Return |
| Range Accuracy | ±1cm |
| Range Precision | 0.5cm |
| **System** | |
| Relative Accuracy | ±1.5cm |
| Repeat Accuracy | 1cm |
| Odometer Error | 0.01% |
| Data Storage | 1TB SSD |
| Single Usage Duration | 1.5h |

| Camera Quantity | 4 |
|---|---|
| Visually Positioning | Support |
| Resume Breakpoint | Support |
| Colorized Point Cloud | Support |
| Absolute Coordinate Point Cloud | Support |
| Scan Mode | Indoor |
| | Outdoor |
| | Semi-open |
| **Physical Characteristics** | |
| Weight | ＜ 1.9kg |
| Operating Temperature | -20°C ~ +50°C |
| Point Cloud Precision | ＜30W |
| IP Level | IP54 |
| Power Supply | Removable Battery |
| Battery Capacity | 46.8wh |

| Optional Accessories | |
|---|---|
| | RTK Module |
| | UAV Kit |
| | Backpack Kit |
| **Software** | |
| Registration | Control Point |
| | Point Pairs Align |
| Measurement | Point/Distance/Angle |
| | Surface/Volume |
| Segment/Remove | Manual Segment |
| | Automatic Dynamic Object Removal |
| Correction | RTK Correction |
| | Control Point Correction |

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# Tersus GNSS Inc.
## Right to the point.

Tersus GNSS is a leading Global Navigation Satellite System (GNSS) solution provider. Our offerings and services aim to make centimeter-precision positioning affordable for large-scale deployment. Founded in 2014, we have been pioneers in design and development GNSS RTK products to better cater to the industry's needs. Our portfolios cover GNSS RTK & PPK OEM boards, David GNSS Receiver, Oscar GNSS Receiver and inertial navigation systems.

Designed for ease of use, our solutions support multi-GNSS and provide flexible interfaces for a variety of applications, such as UAVs, surveying, mapping, precision agriculture, lane-level navigation, construction engineering, and deformation monitoring.

Descriptions, specifications and related materials are subject to change.

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