

# LiMOBILE M2 LITE

## Mobile Laser Scanning System



### A Cost-Effective Mobile Mapping Solution for Professional Surveying

LiMobile M2 Lite is a lightweight, high-value mobile laser scanning system independently developed by GreenValley International. Weighing only 6 kg, the system is designed for rapid deployment and flexible field operations. It integrates a 300 m long-range mapping LiDAR, a horizontally mounted SLAM LiDAR, and an in-house developed 30 MP high-definition panoramic camera, with optional Distance Measurement Instrument (DMI) support available.

Through advanced multi-sensor fusion technology, the system maintains high-precision mapping performance even in GNSS-denied environments. Combined with the LiDAR360MLS processing platform, LiMobile M2 Lite delivers a complete end-to-end workflow for professional geospatial data acquisition and production. The system is ideally suited for applications including urban asset inventory, roadway infrastructure management, intelligent transportation, and urban forestry surveys.

### Advantages

#### I High Cost-Effectiveness

LiMobile M2 Lite combines professional-grade sensor performance with reliable data accuracy in a highly cost-effective solution. By lowering the entry barrier to mobile mapping technology, the system enables more organizations and surveying teams to adopt professional mobile LiDAR workflows efficiently and affordably.

#### I Professional-Grade Accuracy

The system is equipped with a high-performance LiDAR sensor capable of generating up to 1.28 million points per second, delivering absolute accuracy better than 5 cm. Its integrated 30 MP panoramic imaging system is precisely synchronized with the LiDAR sensor to produce high-quality true-color point clouds.

Designed to meet the requirements of large-scale urban surveying and high-detail mapping, M2 Lite delivers reliable, survey-grade data quality for applications ranging from roadway surveys to 3D city modeling.

#### I Lightweight Design

With a total system weight of only 6 kg and a compact mechanical structure, LiMobile M2 Lite can be installed on a vehicle roof by a single operator in less than 5 minutes.

The system supports both external power input and an optional battery module, allowing flexible deployment across a wide range of operational environments and vehicle platforms.

#### I Reliable in Complex Environments

LiMobile M2 Lite integrates GNSS, IMU, DMI, LiDAR SLAM, and panoramic imaging technologies through advanced multi-sensor fusion algorithms. This robust architecture enables stable and accurate data acquisition under complex operating conditions.

Even in GNSS-denied or signal-degraded environments, the system can reliably reconstruct accurate 3D spatial data, significantly expanding operational flexibility and coverage.

#### I End-to-End Data Processing Workflow

The system is deeply integrated with the LiDAR360MLS professional processing suite, supporting the complete workflow from georeferencing and point cloud registration to colorization, classification, feature extraction, and final deliverable generation.

This integrated workflow substantially improves post-processing efficiency and enables a seamless transition from field acquisition to final project delivery. The platform is widely applicable in roadway asset management, utility inspection, urban landscaping, and intelligent transportation projects.

## Specifications

### System Parameters

|                             |                    |                      |                                                               |
|-----------------------------|--------------------|----------------------|---------------------------------------------------------------|
| Dimensions                  | 351×224×375 mm     | Weight               | 6 kg                                                          |
| Roof Rack Dimensions        | 750 ×320 ×113.5 mm | Roof Rack Weight     | 7.5 kg                                                        |
| Storage                     | 1 TB×2             | Power Supply         | External Power: 110–220 V AC input<br>Optional Battery Module |
| Operating Temperature       | -10 °C ~50 °C      | Protection Rating    | IP65                                                          |
| Power Consumption (Typical) | 60 W               | Input Voltage        | 24 V DC                                                       |
| Power Consumption (Max)     | 110 W              | Interface Connection | Wi-Fi / Ethernet                                              |

### LiDAR Parameters

| LiDAR Type        | Mapping LiDAR                 | SLAM LiDAR                    |
|-------------------|-------------------------------|-------------------------------|
| Sensor Model      | XT32M2X                       | XT32                          |
| Vertical FOV      | 40.3° (-20.8°~+19.5°)         | 31° (-16° to +15°)            |
| Scan Rate         | 1,280,000 pts/s (Dual Return) | 1,280,000 pts/s (Dual Return) |
| Range Accuracy    | 1 cm                          | 2 cm                          |
| Horizontal FOV    | 360°                          | 360°                          |
| Measurement Range | 0.5 to 300 m                  | 0.05 to 120 m                 |

### Camera Parameters

|                    |                           |                   |              |
|--------------------|---------------------------|-------------------|--------------|
| Resolution         | 30 MP (12 MP × 4 sensors) | Image Resolution  | 7680 × 3840  |
| Maximum Frame Rate | 10 FPS                    | Sensor Type       | CMOS         |
| Trigger Mode       | Time Trigger              | Power Consumption | Maximum 14 W |

### Positioning and Orientation System Parameters

|                                |                                                |                               |                      |
|--------------------------------|------------------------------------------------|-------------------------------|----------------------|
| GNSS Systems                   | GPS, GLONASS, Galileo, BeiDou, QZSS, SBAS      | IMU Update Rate               | 100 Hz               |
| Mechanical DMI (Optional)      | Mechanical wheel encoder for road applications |                               |                      |
| Positioning Accuracy (RMS, 1σ) | Horizontal: 0.01 m <sup>[1]</sup>              | Roll/Pitch Accuracy (RMS, 1σ) | 0.01 <sup>°[1]</sup> |
|                                | Vertical: 0.02 m <sup>[1]</sup>                | Heading Accuracy (RMS, 1σ)    | 0.04 <sup>°[1]</sup> |

### Data Output

|                     |                      |                   |                      |
|---------------------|----------------------|-------------------|----------------------|
| Relative Accuracy   | ≤2 cm <sup>[2]</sup> | Absolute Accuracy | ≤5 cm <sup>[2]</sup> |
| Point Cloud Formats | LAS, LAZ, LiData     |                   |                      |

### Software

|                           |                        |                          |                        |
|---------------------------|------------------------|--------------------------|------------------------|
| Data Acquisition Software | GreenValley APP        |                          |                        |
| Preprocessing Software    | LiDAR360MLS-Geo Module | Post-processing Software | LiDAR360MLS (Optional) |

### Notes

[1] Post-processing accuracy under favorable satellite reception conditions.

[2] Accuracy measured in GreenValley International's calibration field at a vehicle speed of 40 km/h using LiDAR360MLS software processing. Actual accuracy may vary depending on operating environments.

The LiMobile M2 Lite is not available for sale in the United States, Canada, Latin America, Australia, New Zealand, Türkiye, Saudi Arabia, Egypt, or the following European countries: the United Kingdom, Ireland, Spain, Portugal, France, the Netherlands, Belgium, Germany, Austria, Switzerland, Italy, Poland, the Czech Republic, Slovakia, Hungary, Ukraine, Croatia, Slovenia, Norway, Denmark, Sweden, and Finland.

Deliveries to all other eligible markets are expected to begin in late December 2026. Please contact your local GVI representative to confirm availability.