TERSUS

# MetaVerse Painter 400

## Mobile Mapping System - MVP 400

# Tersus MetaVerse Painter 400

The Tersus MetaVerse Painter 400 (MVP 400) is a high-performance airborne LiDAR mapping system designed to deliver centimetre-level precision in the most complex environments. It integrates a powerful laser scanner capable of high pulse rates and multiple returns, a tightly coupled GNSS/INS navigation module, and interchangeable high-resolution cameras. This combination captures dense, survey-grade point clouds, even beneath thick canopy or across steep terrain.

Delivered as a ready-to-deploy solution, the MVP 400 is a complete mobile mapping system provided by Tersus. It includes the LiDAR unit, an industrial-grade camera, a mounting system, and a full software suite to streamline your entire workflow from mission planning to post-processing. With its ability to generate high-precision spatial data, dense point clouds, and high-resolution imagery, the MVP 400 is the ideal solution for terrain mapping, agricultural and forestry surveys, power line inspection, smart city modelling, and transportation infrastructure management.

# Features

- **Long-Range Scanning**
  Typical flying height up to 400 m, enabling efficient large-area coverage.
- **Exceptional Penetration**
  With up to 7 echo returns, it can easily penetrate dense vegetation to acquire true ground points.
- **Lightweight & Integrated Design**
  All-in-one system weighs only 1.4 kg with camera, LiDAR, storage, and DJI SkyPort quick-release interface.
- **Survey-Grade Precision**
  Achieve 3 cm vertical and 5 cm horizontal accuracy with a 5 mm ranging error.
- **High-Efficiency Data Capture**
  Features a 90° FOV, scan speeds of 300 lines/s, and a pulse repetition frequency of up to 1,000 kHz.
- **Swappable Camera Options**
  Choose between 26 MP APS-C or 45 MP full-frame camera kits to perfectly balance project requirements and cost.

# Supported Drones

**Compatible with popular drone models**

DJI M300/350 DJI M210 DJI M600

## Lightweight for Extended Missions

The highly integrated, all-in-one design keeps the total weight at just 1.4 kg. This reduces drone power consumption, leading to longer flight times and increased operational efficiency.

## Ready to Deploy Out of the Box

The MVP 400 is delivered as a fully calibrated system. Simply mount it to a compatible drone using the integrated DJI Skyport interface and begin your mission immediately, without complex on-site setup procedures.

## Capture More with Every Pass

A wide 90° field of view and an effective operating altitude of up to 450 m (@35% Reflectivity) ensures broad coverage of your project area with fewer flight lines, saving time and cost.

## Data You Can Trust

A tightly coupled GNSS/INS navigation module, combined with our advanced Tersus post-processing (PPK) algorithms, ensures survey-grade accuracy for both the final point cloud and the georeferenced imagery.

## A Powerful, Simplified Workflow

From mission planning and real-time QC with the MVP Pilot app to one-click data processing in our software suite, the entire workflow is engineered for efficiency and ease of use, delivering high-density point clouds automatically.

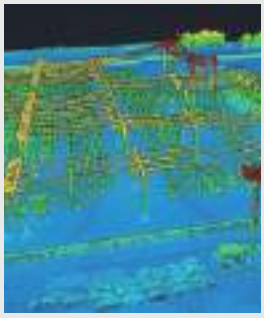
# Application Scenario

**Terrain Surveying**

**Road Construction**

**Building Management**

**Forestry Analysis**



**Power Line Inspection**

# Technical Specifications

## Basic

**System Platform**

| | |
|---|---|
| Weight | 1.21kg (without camera) |
| | 1.40kg (with 26MP camera) |
| Dimensions | L-156mm |
| | W-90mm |
| | H-115mm |
| Power Supply | DC 9 ~ 36 V |
| Power Consumption | 45W (Typical) |
| Operating Temperature | -20°C ~ +50°C |
| Storage Temperature | -30°C ~ +60°C |
| IP Rating | IP54 |
| Data Storage | 256 GB (Up to 512GB optional) |
| System Accuracy | |
| -Horizontal | 5 cm (@150m AGL) |
| -Vertical | 3 cm (@150m AGL) |

**Laser Scanning Unit**

| | |
|---|---|
| Scanning Principle | |
| | Mechanical Rotation (Rotative Prism) |
| Laser Class | Class 1 Eye Safe |
| Wavelength | 1550 nm |
| Measurement Range | 500 m @ 20% Reflectivity |
| Operating Height | 350 m @ 20% Reflectivity |
| Ranging Accuracy | 5 mm |
| Field of View (FOV) | 90° |
| Scan Speed | 300 lines/s |
| Pulse Repetition Frequency | 100-1000 kHz |
| Returns Supported | 7 returns |

**GNSS/IMU Performance**

| | |
|---|---|
| Positioning Accuracy (PPK) | |
| -Horizontal | 1cm+1ppm |
| -Vertical | 2cm+1ppm |
| GNSS Constellations | GPS, BDS, |
| | GLONASS, Galileo, QZSS |
| Attitude Accuracy | |
| -MVP400 | Heading 0.04°, Pitch/Roll 0.008° |
| -MVP400Pro | Heading 0.02°, Pitch/Roll 0.005° |
| IMU Data Rate | 1000 Hz |
| INS Data Rate | 500 Hz (Option Up to 1000Hz) |

## Option

**Camera Options**

| | |
|---|---|
| Camera Kit | |
| -MVP400 | 26 MP APS-C |
| -MVP400Pro | 45 MP Full-Frame |
| Effective Pixels | |
| -MVP400 | 6240x4168 |
| -MVP400Pro | 8192x5468 |

| | |
|---|---|
| Sensor Size | |
| -MVP400 | 23.5x15.6mm |
| -MVP400Pro | 36x24mm |
| GSD @ 100 m | |
| -MVP400 | 2.3cm |
| -MVP400Pro | 2.1cm |



# 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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