

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



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.



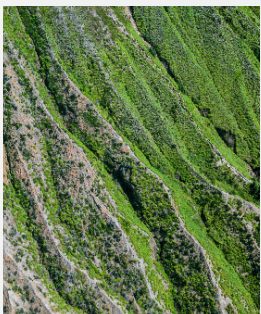
Data You Can Trust

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.

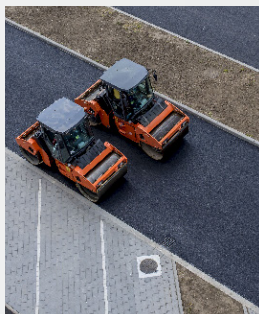
A Powerful, Simplified Workflow

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.

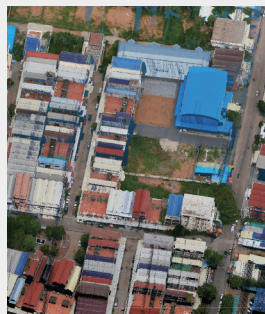
Application Scenario



**Terrain
Surveying**



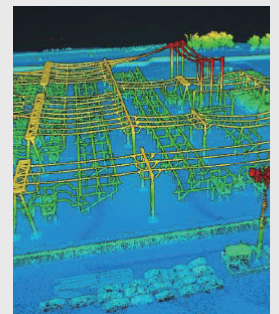
**Road
Construction**



**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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