# Trinity™ Tactical
## eVTOL Fixed-Wing sUAS

## Highly automated GIS tactical mapping drone.

Trinity Tactical is a fixed-wing electric vertical take-off and landing (eVTOL) aerial mapping solution that rapidly delivers accurate spatial imagery to operators in GNSS-denied environments. Deployable in less than two minutes, Trinity Tactical is easy to use and autonomously performs Geographic Information System (GIS) mapping and terrain visualization missions with QBase 3D mission planning software. The durable, rucksack portable system is cyber-secure with AES-256 data link encryption and can be integrated with TAK.

# Flight Performance

| | | | |
|---|---|---|---|
| Max. Flight Time | 90+ minutes | Max. Wind Tolerance (cruise) | 26 mph / 23 kn |
| Optimal Cruise Speed | 38 mph / 33 kn | Max. Wind Tolerance (ground) | 8.6 mph / 7.5 kn |
| Linear Coverage | 56 mi / 90 km | Max. Operating Altitude (MSL) | 14,764 ft / 4,500 m |
| Area Coverage | 1,730 ac / 700 ha @ 120 m AGL | Operating Temperature | 10.4 °F to 122 °F / -12 °C to 50 °C |

# Technical Specifications

**Take-off Weight**
10.6 - 12.1 lbs / 4.8 - 5.5 kg

**Payload Capacity**
2.2 lbs / 2,000 g

**Frequency**
2.2 GHz (encrypted)

**Wingspan**
7.85 ft / 2.4 m

**Ground Control Station**
Toughbook

**C2 Range**
3.1 - 4.7 mi / 5 - 7.5 km with laptop

# Sensors

### Phase One P5

Phase One P5 stands as the world's pioneering GIS mapping sensor. The 128-megapixel medium format camera delivers unprecedented image detail and resolution down to 0.1/0.3 inch RMS XY/Z absolute accuracy.

### Sony ILX-LR1

The SONY ILX-LR1 is a 61 MP resolution and 35 mm full-frame RGB camera. Enabling 260 ha coverage at 1 cm/px GSD.

### Sony RX1R ll

The Sony RX1 RII is a CMOS full-frame camera, with fixed focal lengths and 42.4 MP resolution. It is ideal for all applications in surveying and monitoring applications.

### Qube 640

The Qube 640 LiDAR sensor has a 176° FOV. It supports vertical scanning, minimizing edge mismatches, and integrates an 8MP RGB camera for concurrent LiDAR capture and colorization in flight.

### Qube 240

The Qube 240 is a geomatics grade LiDAR scanner providing essential information by generating an accurate point cloud of the processed environment through 240,000 distance measurements per second.
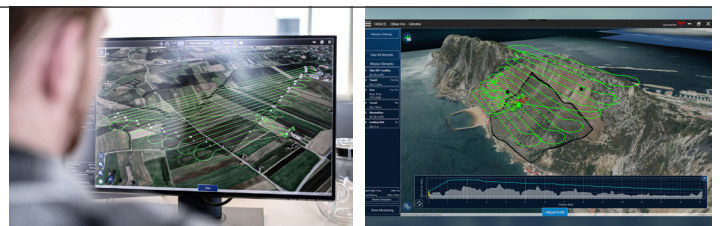
### MicaSense Altum-PT

Multispectral camera featuring five high resolution spectral bands (red, green, blue, red-edge and near infrared), a panchromatic sensor and a thermal infrared sensor.

# QBase 3D Software

With the QBase 3D software, efficient flight paths are automatically generated using the mission parameters entered by the operator. The operator can adjust parameters in QBase 3D during the mission at any time.

**QUANTUM SYSTEMS**