



# Vector™ & Scorpion™

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The ultimate 2-in-1 ISR system

# About us

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Quantum Systems is an aerial data intelligence company that provides multi-sensor data collection products to government agencies and commercial customers. Our electric vertical take-off and landing (eVTOL) systems boast industry-leading endurance, ease of operation, and reliability. Customers in the public and private sectors alike use our versatile sUAS with AI edge

computing capabilities for data acquisition in defense, security, humanitarian, and geospatial operations. With a world-class team and nearly a decade of experience in drones, robotics and imagery collection, Quantum Systems has a proven technology stack and a strong track record of building best-in-class sUAS systems that provide mission-critical data to operators.

# The ultimate 2-in-1 ISR system

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## Vector eVTOL fixed-wing sUAS

Autonomous Group 1 sUAS designed for mobile disconnected military and security operations. Vertical take-off and landing in confined areas.

Equipped with AES-256 encrypted mesh network radio, tactical hand controller and laptop (optional).

Wingspan 2.8 m | 9.2 ft

Weight < 8.5 kg

Wind 10m/s during hover phase

12m/s during cruise



## Advantages of the 2-in-1 system

- Max. efficacy
- Anti block airspeed sensor
- Easy-to-use

- Max. launch altitude 3000 m MSL
- Max. operating altitude 4500 m MSL

The 2-in-1 system comprising Vector™ and Scorpion™ shares a common main fuselage, ground controller, data link, sensors, and AI capabilities.

IP54

## Low audio and visual footprint



### AI board

Onboard AI Processing  
with NVIDIA Jetson Orin

ⓘ

### Scorpion Multicopter sUAS

Multicopter variant of Vector sUAS ISR platform that uses the same center fuselage to enable quick change between the two platforms. Scorpion excels in providing persistent surveillance in confined urban environments with the ability to hover in place. The gimbaled sensors, encrypted data link and control link remain.

Wingspan	1.37 m   4.5 ft
Weight	< 8.0 kg
Wind	10 m/s   19.4 kn

## Smart Battery

- Self heating

- Self monitoring

- Adaptable to aviation regulation



3h



2h

## Multicharger



Rugged simultaneous charging and discharging of all system batteries  
(Smart Batteries 120 and 180, GCS and GDC batteries)



**One person set-up**

**No tools needed**

**Easy to carry**

- Tactical backpack carrying case
- Fast deployment - less than 3 mins

## Backpack



Black

Compact portable carrying for the whole tactical deployment system.

# Gimbaled Sensor

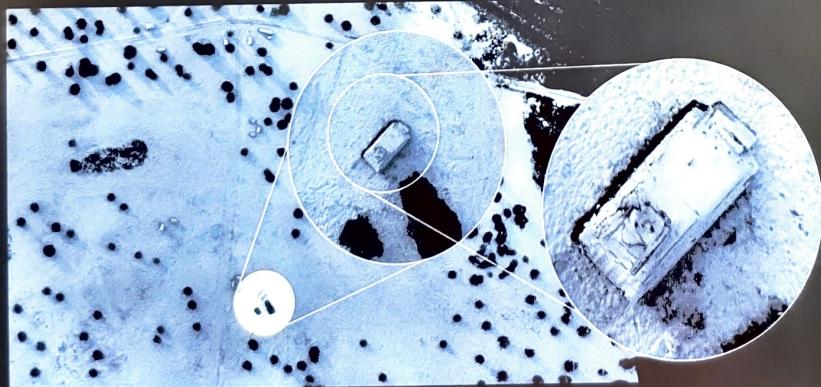


## Raptor

- IR 1280 x 720 px  
8x Digital  
LWIR uncooled 8 - 14 µm  
17.5° W.FOV - 2.2° D.FOV

- EO 1280 x 720 px  
40x Optical  
2x Digital  
60° WFOV - 1.5° NFOV -  
0.75° DFOV

- Image Stabilization
- +45° to 135° tilt
- Laser option



## Visible Channel

**Person**  
Detect 10 km

Recognize 6 km

Identify 3 km

### Vehicle

Detect 40 km

Recognize 10 km

Identify 6 km

## Thermal Channel

**Person**  
Detect 4.5 km

Recognize 1.3 km

Identify 0.6 km

### Vehicle

Detect 6 km

Recognize 1.6 km

Identify 0.8 km

# Datalink

## Technical Specifications

- Encrypted AES256
- Silvus Mesh Network
- Latency 7 ms average
- In-motion usability
- MIMO Beamforming Technology



## Handheld

Quickly deployable  
handheld link

**Battery**  
12 hours

**C2 & Video Range**  
15 km

**IP Rating**  
IP68

## Matrix

Mechanically steered  
long-range tracking antenna

**Battery**  
10+ hours

**C2 & Video Range**  
60+ km

**IP Rating**  
IP55



# Ground Control System

## Interoperability

- MIL-STD-09-02A (STANAG 4609) compatible interface with KLV Metadata
- Combat Management system (TAK, Skware, Telepak)

Cursor on target (COT) protocol  
Modem capable  
Ethernet single connection

## SRoC

Touch Display  
7"

Hot swappable

Battery  
2x swappable battery module

IP Rating  
IP65



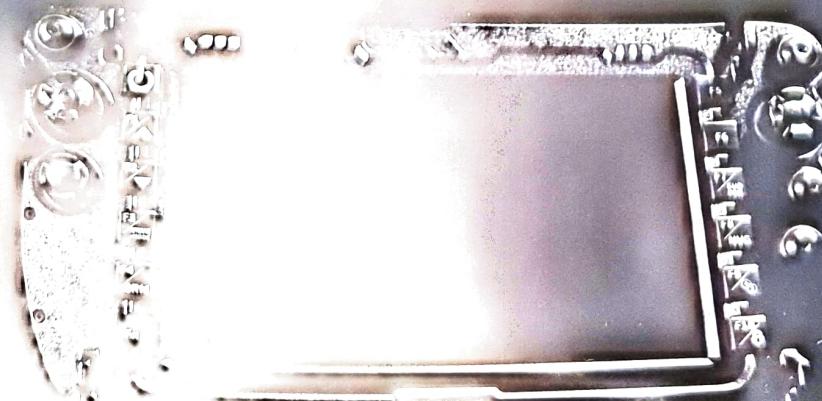
## Toughbook

Touch Display  
14"

Hot swappable

Battery  
up to 38 hours

IP Rating  
IP53



# Mission Control Software

## QBase Tactical

- Intuitive workflow
- Real-time reconnaissance
- Inflight changes
- Target tracking
- GeoLock



GNSS & Link Loss capabilities

Real-time automated system monitoring

Awareness



Sensor switch and sensor fusion

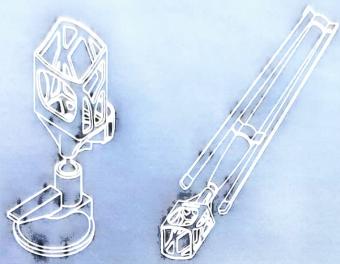
Waypoint mission

POI

# Add-Ons

## Handheld Mount

- Attachable on every flat surface



## Handheld Tripod

- Up to 2.20 m
- Packable
- Tactical & lightweight solution

①

## Datalink Switch

- Multiple GCS simultaneously
- Portable and rugged
- Safest transmission due to cable connection



## Data Extension Cable

↔ Connection to extend the connection between GCS and Datalink

12 m



A black and white photograph of a Vector UAV flying low over a field of tall grass. The aircraft has a long, slender body with a single engine at the front and two long, thin wings extending from the sides. The background shows a bright, hazy sky and a distant horizon.

# A Versatile Solution for Mission-Critical ISR and Public Safety Operations

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The Vector is a cutting-edge platform designed for mission-critical applications in military, defense, and public safety sectors, excelling in Intelligence, Surveillance, and Reconnaissance (ISR) with unmatched automation and data capture.

It supports surveillance, artillery fire optimization, border protection, search and rescue, disaster management, and law enforcement, making it essential for enhancing decision-making and operational success.



# Trinity™ Pro

## eVTOL fixed-wing sUAS

**Future-proof, reliable and easy-to-use professional mapping solution**

Trinity Pro is our flagship eVTOL fixed-wing drone revolutionizing aerial mapping. Combining the agility of multi-rotors with the efficiency of fixed-wings, Trinity Pro covers vast areas efficiently, ensuring extended flight times and enhanced data capture. Equipped with the Quantum-Skynode autopilot and Linux mission computer, it seamlessly

integrates with advanced sensors and AI, optimizing data insights. Its modular design enables quick setup in under two minutes by a single operator. With over 115,000 flight hours worldwide, Trinity Pro sets a new standard in reliability and performance for diverse industry applications, including mining, cadastre, forestry and agriculture.

# Technical Specifications

 Wingspan 2.394 m	 Maximum Take-Off Weight (MTOW) 5.75 kg	 Flight Time 90 minutes <sup>1</sup>
 Data Link Range 5 - 7.5 km	 Data Link Frequency 2.4 GHz	 Packing Size 100.2 x 83 x 27 cm (39.4 x 32.7 x 10.6 in)
 Cruise Speed 17 m/s (optimal)	 IP Rating IP55	 Operating Temperature -12 °C to +50 °C
 Max. Coverage 100 km or 700 ha	 Maximum Take-Off altitude 4800 m	 Wind Tolerance 11 m/s in hover phase 14 m/s during cruise <sup>2</sup>

<sup>1</sup>Subject to export regulation. Limited to 59 min by default.

<sup>2</sup>Subject to export regulation. Limited to 12.8 m/s or 25 kn by default.

## Cameras



### 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 0.3/0.8 cm 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.



### Qube 640

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



### Oblique D2M

The Oblique D2M is a powerful oblique imaging system consisting of five **high-resolution 26 MP** multidirectional cameras, making it the ideal tool for large scale 3D photogrammetry.