

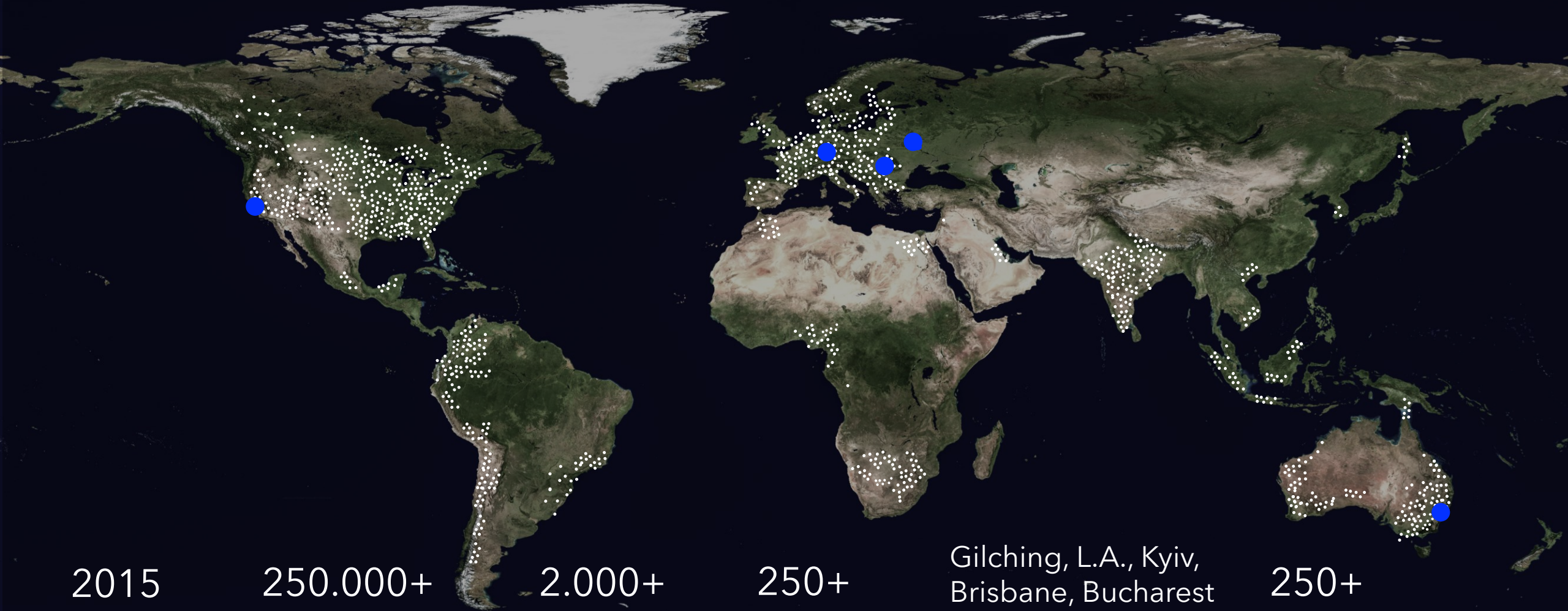


QUANTUM
SYSTEMS

Automated Aerial Intelligence

Anywhere and Anytime.

Quantum Systems at a glance



2015

Founded

250.000+

Flight Hours

2.000+

Units in Mission

250+

Vector in UKR

Gilching, L.A., Kyiv,
Brisbane, Bucharest

Locations

250+

Employees

Family of Systems

Verschiedene Fähigkeiten - eine Systemfamilie



Trintiy Pro/Tactical™

- **Mapping Drone**
- 5.75 kg / 2.4 m / 90 min / 7.5 km
- Available



Twister™

- **Short-Range Reconnaissance**
- 3.5 kg / 1.25 m / 75 min / 15 km
- Available beginning in: 2025



Vector™

- **Mid-Range Reconnaissance**
- 8.4 kg / 2.8 m / 180 min / 45 km
- Available



Reliant™

- **Long-Range Reconnaissance**
- 25 kg / 3.4 m / 12 h+ / 100 km
- Available beginning in: 2026

Certification and standards



- **ITAR Free**
- **European Supply-chain**



VECTOR



Vector - USP

Real VTOL Technology

- On the Spot take-off and landing
- 3 h Flight time
- Inaudible and invisible flight



Ease of use

- Ready to Fly in under 3 min
- Automated Flight
- Transportable by 1 Operator



Battle proven Systems

- thousands of flight-hours in UKR
- encrypted data link
- GNSS denied operation



Vector

Operational characteristics.

eVTOL fixed-wing

Low noise levels, inaudible at 200 m altitude & slant range

Automatic return-to-base feature in emergency cases

Quickly turns invisible due to camouflage matt paint & small size

Deployable by one operator only in mobile, dynamic environments

Integrated in BMS (Kropyva, ATAK, Palantir,...)

Mission planning & adaptations possible at any time during a mission

RCS comparable to a bird

Takeoff altitude 3.000 m msl

Operation ceiling 4.500 m msl

GNSS denied operations

Night operations

ITAR free logistics & western supply-chain (made in Germany)

ROVER capability



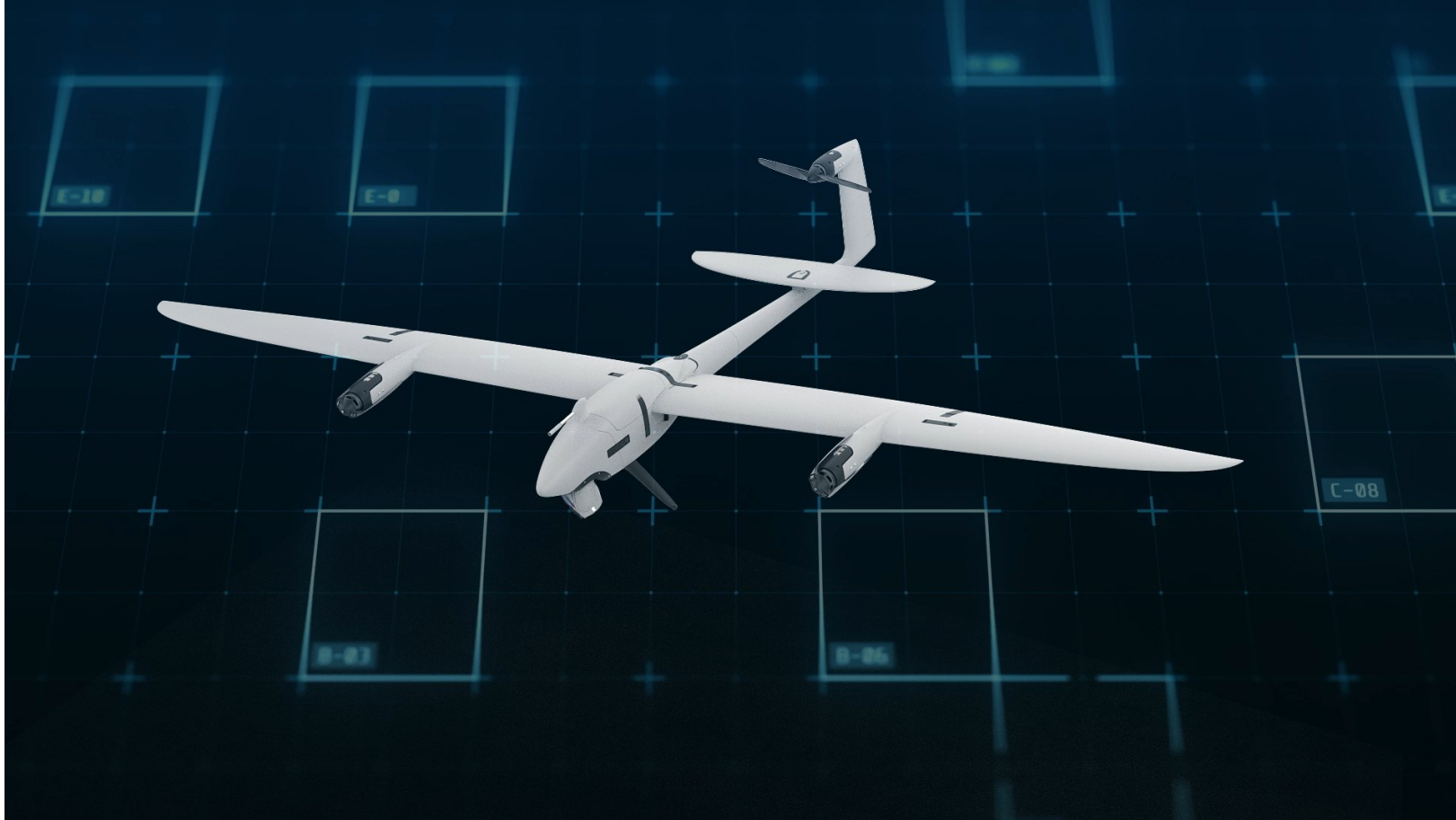
Features

Minutes	120 / 180 min
Wingspan	2.80 m / 9.2 ft
Weight	7.5 kg / 16.3 lb
Wind	12 m/s / 23 kn
Datalink	up to 35 km
Temperature range	-20°C to 45°C
Cruise speed	15-20 m/s / 29-39 kn

**QUANTUM
SYSTEMS**

Vector & Scorpion

2-in-1 Modular System



Scorpion (Upgrade Kit for Vector)

Tri-copter

Operational characteristics

Low noise levels, inaudible at 400 m altitude & slant range

Automatic return-to-base feature in emergency cases

Quickly turns invisible due to camouflage matt paint & small size

Deployable by one operator only in mobile environments

Ready for take-off in less than 3 minutes

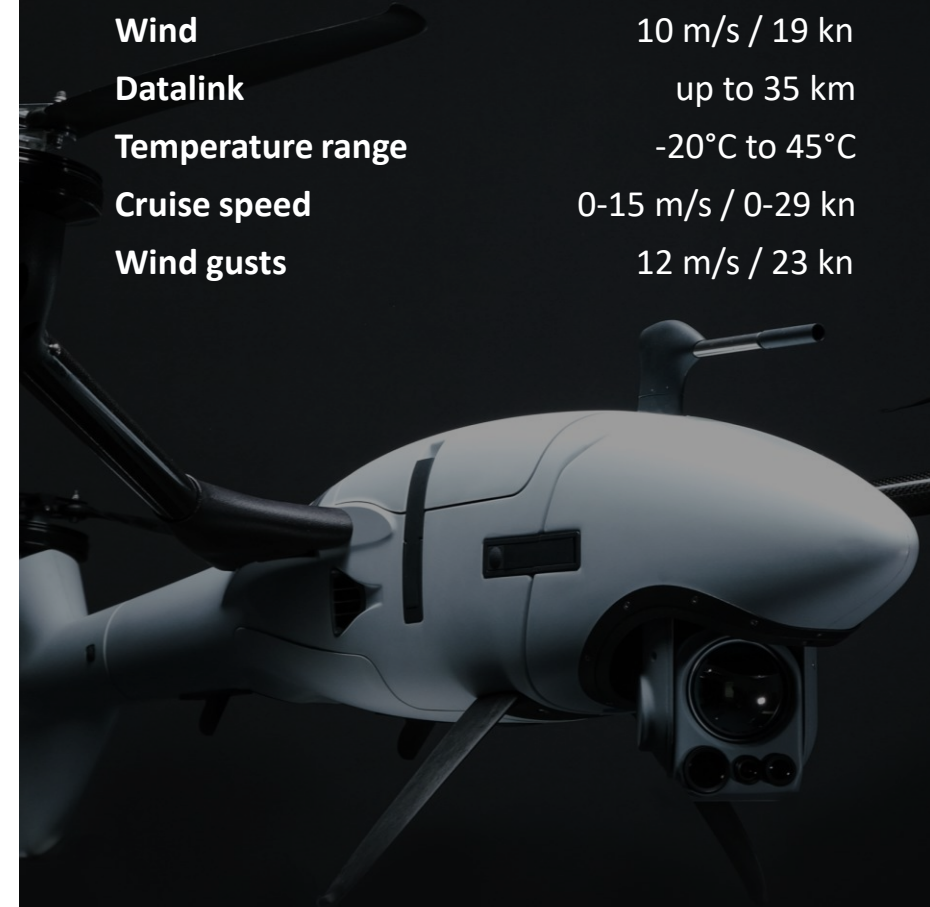
Mission planning & adaptations possible at any time during a mission

RCS comparable to a bird

Takeoff altitude 3.000 m msl
operation ceiling 4.500 m msl

Features

Flight Time	53 min
Wingspan	1.37 m / 4.5 ft
Weight	<5 kg / 11 lb
Wind	10 m/s / 19 kn
Datalink	up to 35 km
Temperature range	-20°C to 45°C
Cruise speed	0-15 m/s / 0-29 kn
Wind gusts	12 m/s / 23 kn



Datalink

Silvus technologies (USA).

Multiple antenna configurations available to extend situational awareness, enhance intelligence, and provide maximum mission flexibility and interoperability.

Ground Radio Configuration	Range
Hand-held Antenna	15+ km
Stationary Antenna	35+ km
Tracking-Antenna	50+ km

Introduction of Dual-Band Data Link (C+S-Band)



Datalink

Operational characteristics.

Mesh-IP encrypted

Selectable channel bandwidth
in 5, 10, 20 MHz

Different frequencies from 400
MHz to 6 GHz (current
standard: s-band connection
2.2-2.5 GHz)

Encryption DES 56
AES/GCM 128/256

Data rate: up to 100 mbps
(adaptive)

Output power: up to 10 W

Latency 7 ms average (20 MHz BW)

Sensitivity -99 dbm @ 5 MHz BW

Battery life up to 12 hours (for
handheld datalink)

IP 67 housing



QUANTUM
SYSTEMS

Gimbaled sensor

"Raptor" - best in its class.

EO Zoom	40 x optical, 2 x digital
EO Resolution	1280 x 720 px
IR Zoom	8 x digital
IR Resolution	1280 x 720 px
Data Rate	5 MB/s (H264)
Power consumption	10W
Weight	640 g / 1.41 lb
MISC	KLV - Stream/ GeoLock / Image stabilization/ Object tracking

Not Released but under development (2025):

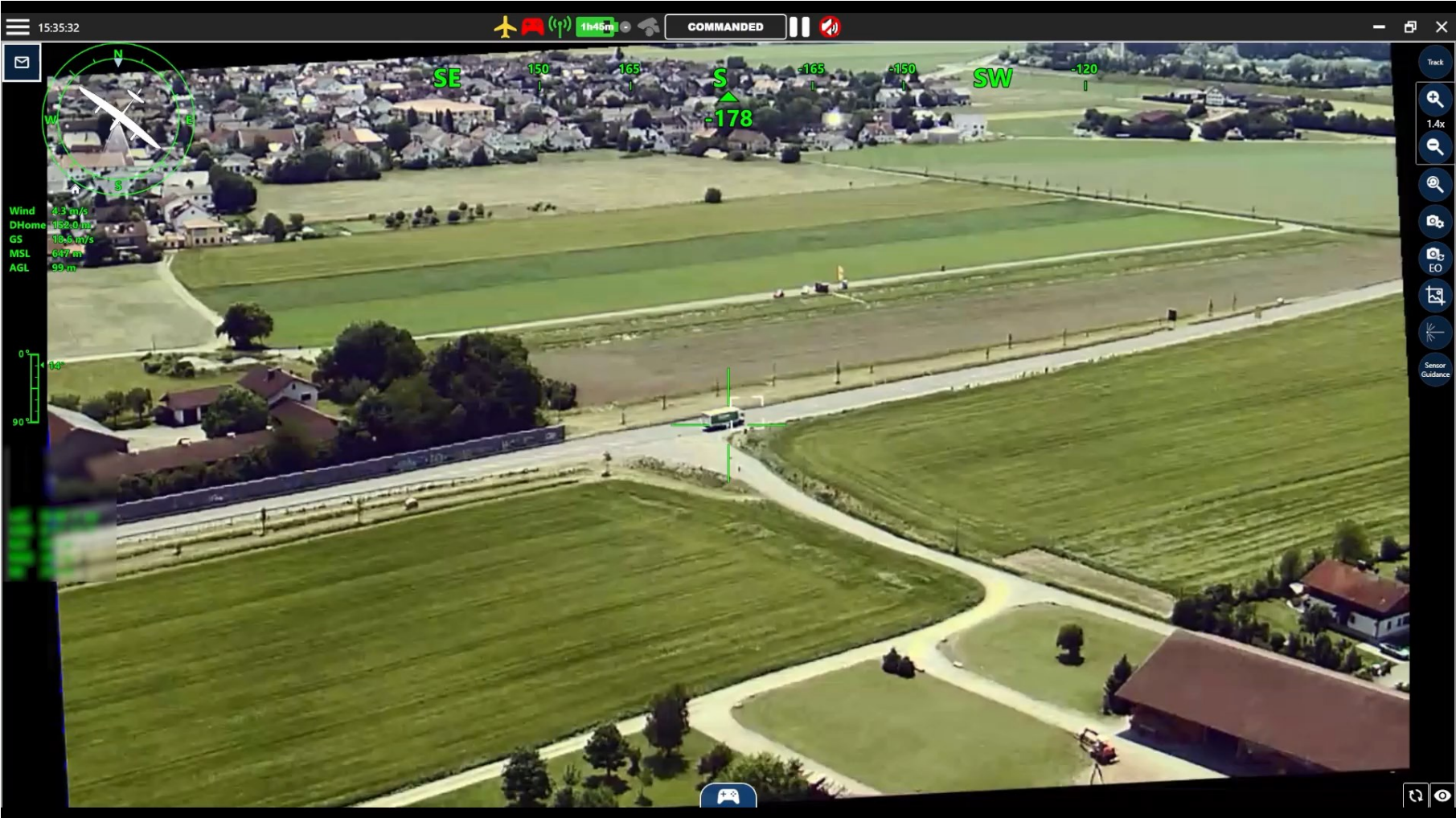
- Raptor 360
- Raptor 360 with Laser Illuminator (850 nm, 200 mW, 1 m Spot Diameter on 1 km Range)
- Raptor AI



QUANTUM
SYSTEMS

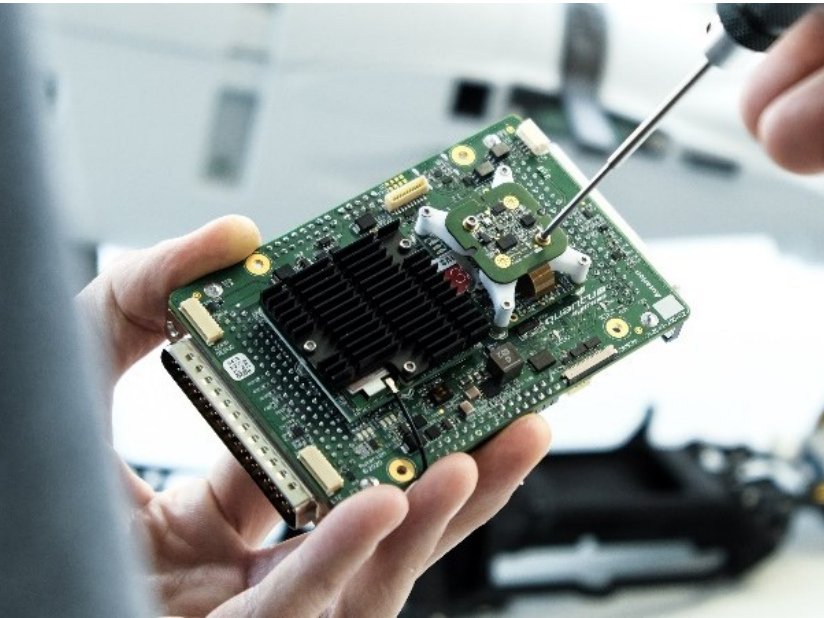
Gimbaled sensor

"Raptor" - best in its class.

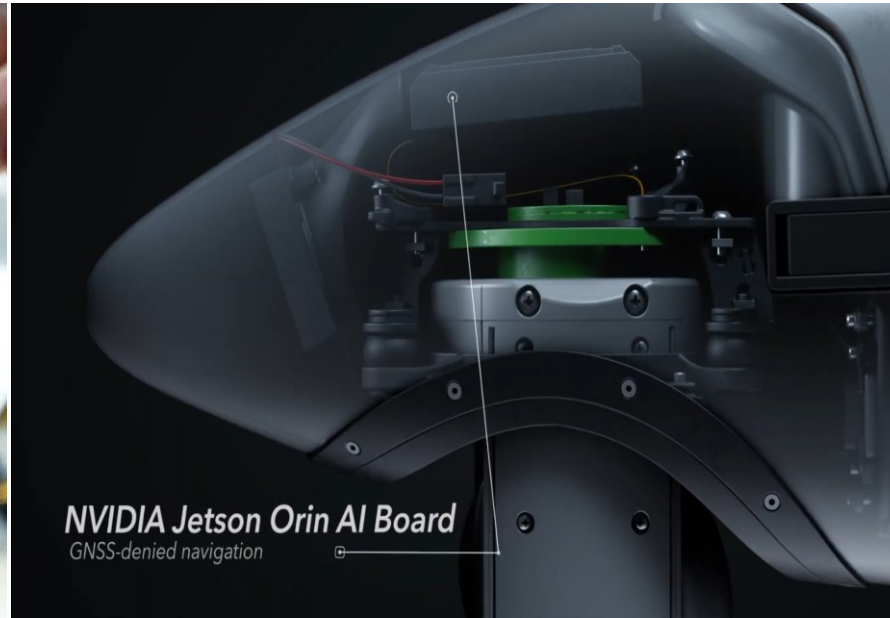


Vector

On-board AI processing.



Quantum Skynode



Quantum AI edge computing



Tracking, detection & classification
Visual Navigation

Area Search Concept



Vector

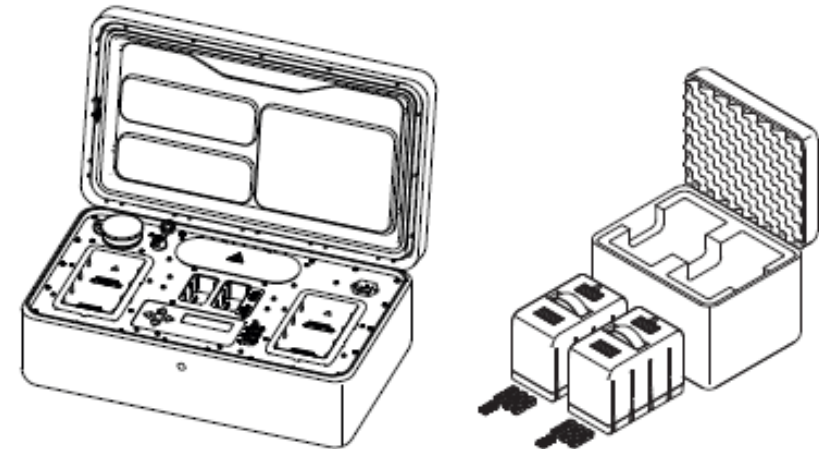
Smart Battery Pack 180 + Multicharger.

Battery design:

- Compact with maximum capacity, but still fitting into Vector
- UN 38.3 Certified
- New Battery Hatch + Counter Balance weight
- Smart and self-heated

Multicharger:

- Charges 2 SBP
- 2 Silvus Battery Slots
- 2 USB ports
- 1 Toughbook charging cable
- Input: NATO socket or standard wall plug (230 V or 110 V)
- Ruggedized IP-certified case



Vector

Certification roadmap.

Existing

- CE-certification
- IP54 Water- and dust- resistance
- Electro magnetic interference tests
- UN38.3 Lithium battery certification

In progress (German MoD Demands due to „FALKE“ award)*

- EASA C3 Certification
- 2B - Bundeswehr certification framework, military air worthiness authority (LufABw) certification

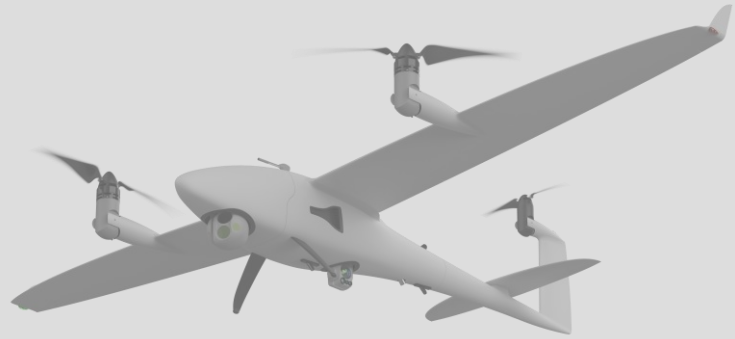
Aditionally

- Temporary NATO Stock number
- New Hardware Revision with IP55 rating (hardened for salinity)



Our Family of Systems

A common system architecture for a maximum ease of use on all levels.

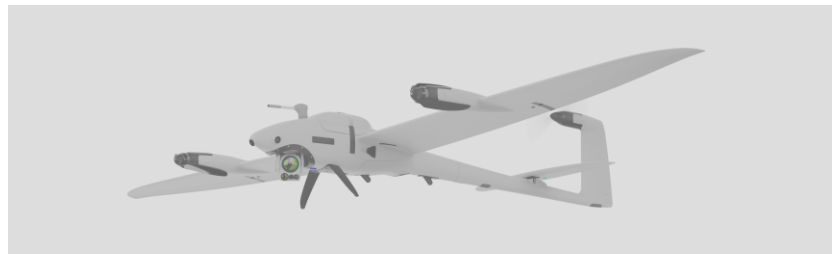


1 Reliant

+100 km

Brigade/Battalion

Long-Range Reconnaissance



2 Vector

+35 km

Company/Platoon

Mid-Range Reconnaissance

8 kg / 2.8 m / 180 min / +40 km

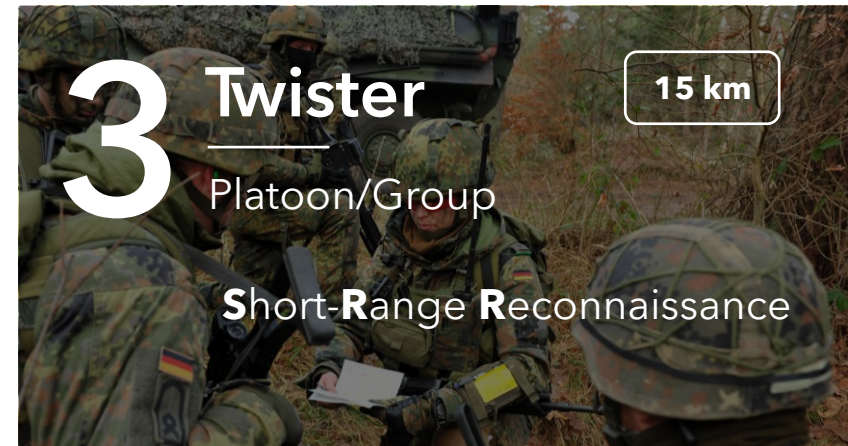


3 Twister

15 km

Platoon/Group

Short-Range Reconnaissance



Twister

Greatest assets.

USP 1: High operative utilization

- Fixed wing eVTOL
- inaudible and almost invisible at operating altitude

USP 2: Minimal logistical footprint

- Small rucksack solution
- Deployable & in the air within 2 minutes
- Low maintenance
- Western supply chain, free of ITAR

USP 3: High ease of use

- **Automated take-off and landing (hands off)**
- AI capabilities
- High mobility
- Family of systems



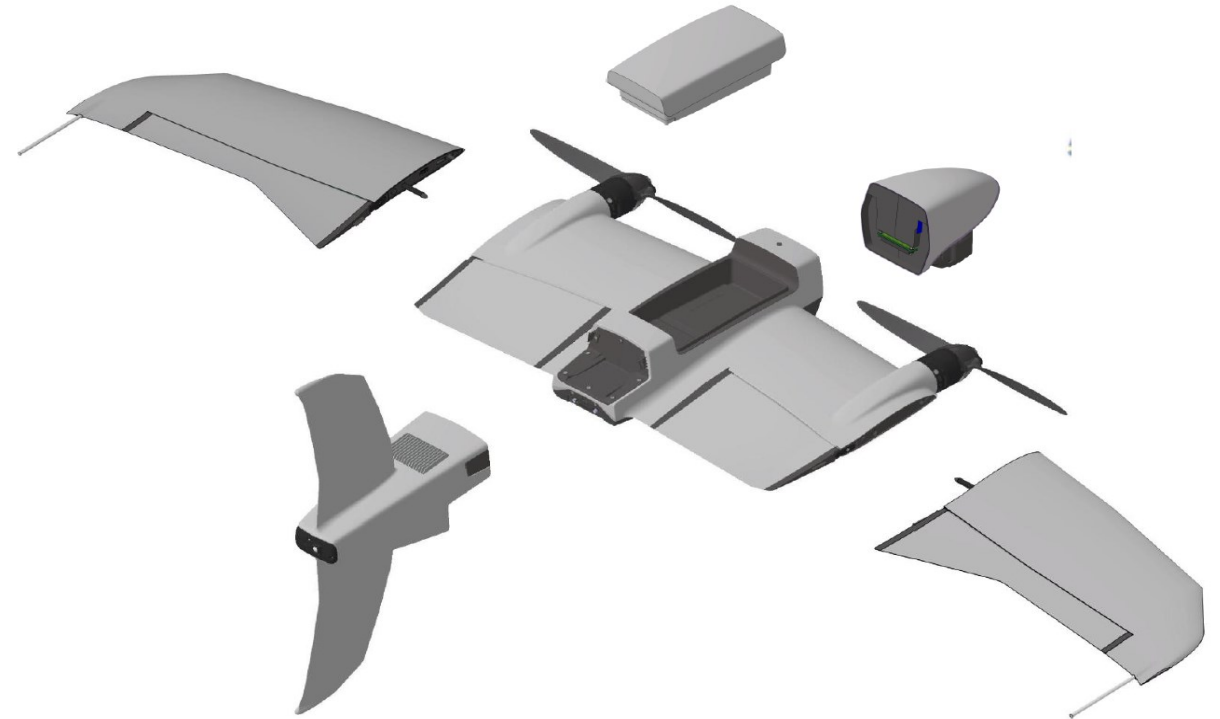




Twister

Technical Specifications (preliminary).

Wingspan	1,25 m
Weight (MTOW)	3.5 kg
Max Wind Tolerance	10-16 m/s
Max Take off altitude	3.000 m msl
Operation ceiling	4.500 m msl
Operating temperature	-20°C to 50 °C
Cruise speed	17-20 m/s
Flight time	Up to 90 min
Rucksack portable	6 part kit
Datalink range	15 km
Backpack size	40x54x25 cm
AI computing	Jetson ORIN NX 16GB



Gimbaled sensor

Nextvision "Nighthawk UZ"

EO Zoom	20 x optical, 2 x digital, continuous
EO Resolution	1280 x 720 px
IR Zoom	4 x digital
IR Resolution	1280 x 720 px
Power consumption	10W
Weight	350 g / 0.77 lb
MISC	KLV - Stream/ GeoLock / Image stabilization/ Object tracking





QUANTUM SYSTEMS

Aerial intelligence when it matters.