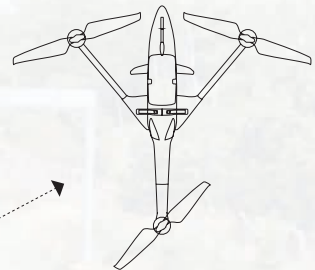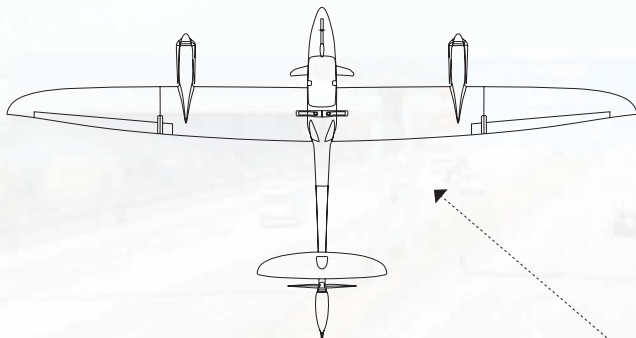# quantum systems

2iN1 SYSTEM

VECTOR™
eVTOL FIXED-WING

SCORPION™
TRI-COPTER

VECTOR™
- Take-off weight: 7.4 kg / 16.3 lb
- Flight time: 120 minutes
- Cruise speed: 15 – 20 m/s
  29 – 39 kn
- Wind speed: 12 m/s / 23 kn
- Wingspan: 2.80 m / 9.2 ft

CENTERPIECE
- EO / IR gimbal
- Mesh IP encrypted data link
- Quantum-Skynode

SCORPION™
- Take-off weight: < 5 kg / < 11 lb
- Flight time: up to 35 minutes
- Cruise speed: 0 – 15 m/s
  0 – 29 kn
- Wind speed: 10 m/s / 19 kn
- Wingspan: 1.37 m / 4.5 ft

In cooperation with **ESG** DEFENCE + PUBLIC SECURITY · **Auterion**

THE NEXT GENERATION
OF eVTOL FIXED-WING UAS

The mathematical definition of a vector fits very well for the latest UAV from Quantum-Systems. It can face any direction: upwards, forwards or downwards. That's exactly what Vector from Quantum-Systems is capable to do: vertical take-off, energy efficient long range fixed wing flight and back to a vertical landing. All automatic, no pilot or operator input needed.

VECTOR – The 2in1 vertical take-off reconnaissance UAS
Flexible and enduring, the Vector provides flight and surveillance characteristics that are exceeding performance of current UAV platforms in service all over the world.
The ability to operate in the most difficult terrain (VTOL) combined with extremely low noise emission (motor off silent mode) makes the Vector the perfect UAS for a wide range of non-invasive operations from air.
An under harsh operating connditions tested and proven encrypted mesh IP link sends video streams up to a range of

15+ km. A flight time of up to 120 minutes speaks for itself. All combined in a compact and robust electric VTOL UAS.

2IN1 – The 2in1 System design opens up further applications with the "Scorpion" configuration – By removing the wings and attaching a separate set of copter arms a dedicated multi copter platform becomes available for an even wider variety of mission applications. Either use a VTOL fixed-wing or a conventional copter – in both cases you only need one system to train on and to deploy it on site.

SCORPION – The SCORPION impresses with the same mesh IP encrypted HD data link with an operating range of up to 15+ km. As a tri-copter, it is ideal for smaller-scale and stationary use, for example in densely built-up urban areas. With a flight time of 45 minutes, it can cover a wide range of civil applications.

PAYLOAD

In order to provide relevant intelligence for better decision making we integrate high value sensors with powerful optics while keeping size and weight at a minimum. The result is

state of the art stability combined with unmatched robustness. Thanks to its modular concept, the front section of Vector & Scorpion can be equipped with different payloads.

NightHawk2 UZ

EO: • Zoom: 20x optical, 2x digital
• Resolution: 1280 x 720 px
IR: • Zoom: 4x digital
• 1280 x 720 px

• Data rate: 5 Mb/s (H264)
• Power consumption: 7 W
• Weight: 350 g / 0.8 lb
• MISC: KLV-Stream, GeoLock,
Image stabilization,
Object tracking

HD40-LV

EO: • Zoom: 10x optical, 2x digital
• Resolution: 1280 x 720
IR: • Zoom: 4x digital
• 640 x 480 px

• Data rate: 5 Mb/s (H264)
• Power consumption: 15 W
• Weight: 600 g / 1.3 lb
• MISC: KLV-Stream, GeoLock,
Image stabilization,
Object tracking

HD40-XV
ONLY FOR SCORPION

EO: • Zoom: 30x optical, 2x digital
• Resolution: 1280 x 720 px
IR: • N/A

• Data rate: 5 Mb/s (H264)
• Power consumption: 20 W
• Weight: 800 g / 1.7 lb
• MISC: KLV-Stream, GeoLock,
Image stabilization,
Object tracking

MISSION SOFTWARE
KEYFACTS

Easy to use mission planning software with advanced UAS Control overlay from Quantum-Systems
• Automatically generated efficient flight paths.
• Define flight area and mission parameters with a few clicks.
• Launch UAS with or without having planned a mission beforehand.
• Record the full mission on the GCS (including video and aircraft data).
• Replay the mission at any time while recording is continued.
• Get support through warnings when the aircraft is about to exceed its limits.
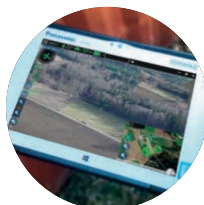
GCS
KEYFACTS

• Ground control tablet platform (Incl. two front side joy-sticks and left- and right-side Toggle switches)
• Intel® Core™ i5-7Y57 Pro Processor
• Water and dust resistant (IP65)

VECTOR™
eVTOL FIXED-WING

15-20m/s / **29-39**kn CRUISE SPEED	**7.4**kg / **16.3**lb WEIGHT
2.80m / **9.2**ft WINGSPAN	**120** MINUTES	**12**m/s / **23**kn WIND

UAV
KEYFACTS

Mission ready in less than 2 minutes, only one operator needed

- Payload & all general parts with quick lock-mechanism (No tools needed)
- Fiber reinforced airframe and shock absorbing landing gear
- Sophisticated cooling system for data link & electronics
- Detachable gimbal
- Mesh IP encrypted data link with a range of 15+ km
- Heated batteries for cold temperature operations

SCORPION™
TRI-COPTER

0-15m/s / **0-29**kn CRUISE SPEED	**<5**kg / **<11**lb WEIGHT
1.37m / **4.5**ft WINGSPAN	**35** MINUTES	**10**m/s / **19**kn WIND

▌SELECT YOUR UAS MISSION SCENARIO

Providing information for tactical and military decision makers is only one possible use case for Vector & Scorpion. Critical information is also vital in scenarios where the advanced EO & IR sensors provide a significant benefit for rescue and emergency services.

SEARCH AND RESCUE
Use the Vector's long range sensing capabilities to detect missing people.

MOUNTAIN RESCUE
The robust construction of the Vector is a proper foundation for operation under harsh environmental conditions.

TRAFFIC INVESTIGATION AND SURVEILLANCE
The general overview from the air of a traffic accident helps to coordinate first responders on the ground and can provide a solid basis for diverting traffic.

FIRE FIGHTING AND FIRE PREVENTION
The recognition of the hazardous situation from the air is essential in order to be able to guide the fire-fighting personnel in a targeted manner. Live video provides ground forces with real-time information about the situation from the air. With the thermosensor, glowing nests can be detected during fire fighting.

AERIAL INSPECTION
Use advanced photogrammetry sensors to record infrastructure projects and industrial plants in the smallest detail and to document construction progress and condition. Continuous surveillance flights are also possible.

ANTI POACHING
With its IR sensors, the vector has the ability to detect hidden people on the ground. Since the complete video stream is geotagged, it is easy to inform the park rangers about the position of the suspects.