Reliant

Long-Range VTOL UAS

Group 2 ISR/RSTA platform for extended operations

Technical Specifications

Wingspan	4.3 m / 14.1 ft
Length	2.38 m / 7.8 ft
IP Rating	IP55
Packed Size	2 hardcases, fit into G-Wagon/Hilux type vehicle
Data Link Range	160 km
Data Link Freq.	2.2 - 2.5 GHz 4.4 - 4.9 GHz
Data Encryption	AES 256
AI Processing	3 x NVIDIA Jetson Orin

Flight Performance

MTOW	33 kg
Flight Endurance	10+ hours
Speed Range	~ 25 m/s
Wind Tolerance	15 m/s
Max. Take-Off Altitude (MSL)	3000 m
Max. Operating Altitude (MSL)	4500 m
Operating Mode	eVTOL

Reliant is a cutting-edge fixed wing VTOL UAS platform **for critical beyond-line-of-sight ISR/RSTA missions** in **GNSS-denied environments**, excelling in ISR with advanced automation and data capture. It enables **better decision-making and operations** for military and defense aerial intelligence applications on **land and sea.**

At Quantum Systems, we innovate drone technology by integrating hardware, software, and AI to **redefine aerial intelligence.** Our Reliant UAS delivers exceptional solutions for **Multi-Domain Operations (MDO)** and **Software Defined Defense (SDD).**

Payloads

- Gimbaled EO/IR sensor with additional options:
  - Laser rangefinder
  - Laser designator
  - Laser illuminator
- Synthetic aperture radar
- SIGINT payloads
- CRPA modules
- Electronic Warfare (EW)
- Additional data links

Vertical take-off and landing
No launch or recovery equipment needed
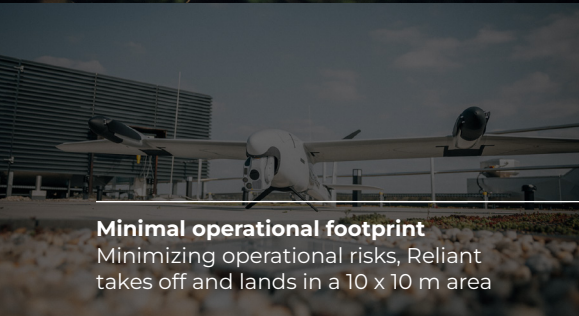
Minimal operational footprint
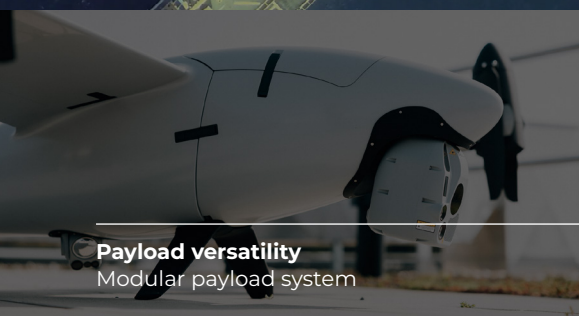Minimizing operational risks, Reliant takes off and lands in a 10 x 10 m area

Rugged design
Seamless operations in harsh conditions

Edge AI capabilities
Object detection, classification, and tracking (EO/IR)

Payload versatility
Modular payload system

Family of Systems (FoS)

Our family of systems, comprising four eVTOL drones and a drone-port solution, integrates hardware, software, and AI to deliver innovative aerial intelligence for Multi-Domain Operations and Software Defined Defense. Our scalable and functional solutions are the key to efficient and networked situational awareness in dynamic environments.

Reliant

Vector

Trinity Tactical

Twister
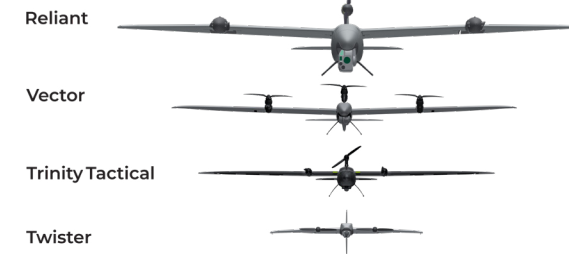
Digital Battlefield Capabilities

Gather Aerial Intelligence

- High-resolution EO/IR **visuals in real-time**
- **Tactical insights** and mission-critical information powered by onboard AI

Operate Anywhere

- Absolute & relative referencing for **uninterrupted GNSS-denied operations**
- Autonomous navigation and minimal footprint

Secure, Future-Ready System

- Scalable, modular design **adaptable** to evolving threats
- **Blended and modular training** concepts for efficient user enablement

Data Capturing

Data Processing

Data Sharing

EO/IR Gimbaled Video Sensor

- High-resolution imaging for **mission-critical intelligence**
- Advanced encoding formats: H.265, AV1

ISR Tactical Edge

- Advanced **aerial intelligence** for surveillance and reconnaissance
- **Real-time decision-making** in dynamic environments

Unified Operational Picture

- Integrated data streams for **real-time situational awareness**
- Comprehensive, actionable insights across domains

Navigation and Awareness Systems

- Precision landing and obstacle avoidance in **day/night conditions**
- ADS-B In and optional TSO-certified ADS-B Out for **air traffic awareness**
- Optional Mode 5/IFF transponder

Platform Flexibility

- Modular ROS/Docker architecture for **scalability** and future-proofing
- Powered by 3 x NVIDIA Jetson Orin NX for **onboard AI** processing

EW-Resilient Communications

- Dual-band connectivity with automated frequency changes and **AI-driven anti-jamming algorithms**
- **Interoperable** APIs for battle management systems like SitaWare, FacNav, and Kropyva

Expandable Sensor Suite

- Compliant with **USSOCOM modular payload standard** for SIGINT and Electronic Warfare (EW)
- Modular **third-party payload capability** for operational flexibility

Receptor AI Unified Software Suite

- **Sensor Fusion** for improved flight operations, tactical insights and predictive maintenance
- AI Capabilities
  - Advanced image processing (EO/IR).
  - Scene analysis for **immediate threat assessment**

Autonomous and Flexible Operations

- Swarm missions and distributed planning with **minimal user intervention**
- Enables **distributed mission planning** and swarm operations (MUM-T)