

SIRIUS 50 X4 VTOL FLYING WING

HEAVY-LIFT FLYING WING X4-VTOL

The SIRIUS 50 X4-VTOL is a long-range heavy-lift UAV designed for missions requiring both substantial payload capacity and extended operational reach. It is ideally suited for medical logistics, emergency response, critical infrastructure support, defense operations and the transport of equipment to remote locations.

Combining vertical take-off and landing with the efficiency of fixed-wing flight, the platform integrates a detachable wing, a hybrid propulsion system and more than 10 kWh of onboard energy. This architecture enables long-range missions without the need for runways, launchers or dedicated recovery infrastructure, while maintaining the flexibility of VTOL deployment.

Compatible with professional UAV standards including MAVLink, DroneCAN, Mission Planner and QGroundControl, the SIRIUS 50 X4-VTOL also integrates XAP proprietary technologies such as advanced battery management, encrypted telemetry, embedded geocaging and sovereign IoT connectivity. Designed, assembled and maintained by XAP, it shares the same software environment, maintenance philosophy and operator training framework as the entire SIRIUS ecosystem.

TAKE OFF — CRUISE — DELIVER.

FIFTY KILOGRAMS ACROSS FIFTY KILOMETERS.

DUAL-USE ECOSYSTEM:

Native ArduPilot Plane VTOL, MAVLink and optional STANAG 4586 interoperability provide seamless integration into both civilian and institutional environments.

50 KG OVER 50 KM:

More than 10 kWh of embedded energy delivering mission endurance beyond conventional Li-Po architectures.

SEMI-SOLID STATE ENERGY:

Technologies inherited from demanding automotive and electric mobility programs ensure operational robustness.

DUAL PROPULSION ARCHITECTURE:

Four lift motors combined with two cruise propulsion units ensure efficient VTOL operation and optimized long-range performance.

SOVEREIGN MISSION INFRASTRUCTURE:

Encrypted telemetry, French-hosted IoT services and independent geocaging ensure operational autonomy.

FULL MASTERY OF CRITICAL TECHNOLOGIES:

Flight controller, battery management systems, telemetry infrastructure, geocaging and mission electronics are developed and maintained by XAP.

STRATEGIC PAYLOADS:

Compatible with ISR pods, EO/IR turrets, LiDAR systems, SAR payloads, medical transport modules, environmental instrumentation and emergency delivery systems.

UNIFIED MCO PHILOSOPHY:

One operator qualification, one maintenance chain and one software ecosystem across the complete SIRIUS product range.

STANDARD PAYLOAD OPTIONS

ISR & Surveillance	EO/IR stabilized turret systems Long-range thermal imaging systems Maritime surveillance radar / ISR mission pods High-zoom optical payloads
Environmental & Scientific Missions	Airborne spectrometers Atmospheric profiling systems Multi-gas detection modules Radiological sensors Long-range LiDAR payloads

STANDARD PAYLOAD OPTIONS

Long-range transport	50 kg insulated medical cargo bay Sensitive equipment transport container Multi-point parachute delivery system Controlled lowering winch (50 kg / 30 m) Maritime rescue buoy deployment system
Communications & Navigation	RTK GNSS + aviation-grade INS ADS-B In/Out SATCOM connectivity (Iridium/Inmarsat)



► DRONES: XAP SIRIUS 50 X4 VTOL FLYING WING

TECHNICAL SPECIFICATIONS

Configuration	VTOL Hybrid (4 Lift Motors + 2 Cruise Motors + Fixed Wing)
Payload Capacity	50 kg
Empty Mass	70 kg
Maximum Take-Off Mass (MTOM)	120 kg
Cruise Speed	80 km/h
Hover Endurance (No Payload)	46 min
Cruise Endurance (50 kg Payload)	46 min
Operational Range	49 km
Battery Configuration	2 × Tattu Semi-Solid State 76 Ah / 66.6 V / 18S
Total Embedded Energy	10 123 Wh
Lift Motors	T-MOTOR VL1028 ×4
Cruise Motors	MAD M50C35 PRO ×2
Propeller Diameter	36"
Carbon Arm Diameter	40 mm
Flight Controller	XAP FC – ArduPilot Plane VTOL
Ground Software	Mission Planner / QGroundControl
Protocols	MAVLink, CAN, DroneCAN, NMEA, J1939, MODBUS
Optional interoperability	STANAG 4586

MECHANICS

Frame Material	Forged Carbon Fiber, Isotropic, Aero-Qualified
Wing Type	Detachable Carbon Composite Flying Wing
Wingspan	6 600 mm
Folded Dimensions	3 100 × 900 × 800 mm
Rotor Span	4 600 mm
Internal Payload Volume	6 L upper bay + 6 L lower bay
Operating Temperature	-20 °C to +50 °C

SAFETY

Main Kill-Switch	CAN + LoRa 868 MHz
LoRa Range	2.5 km
Optional Extension	SATCOM
Auto Detection	Shock, Anti-Flip, VTOL Transition Failure
Embedded Geocaging	Independent Multi-Zone Module
Parachute System	Standard
Remote Shutdown	Optional via 4G
EMC Architecture	Segmented industrial buses
Telemetry Frequency	200 Hz
Cloud Infrastructure	Sovereign French IoT server
Security	Encrypted communications, certificate per drone
Regulatory Target	EASA Specific Category (SORA), C6
Defense Option	STANAG 4586 Compatible

REFERENCES

PF1022	XAP SIRIUS 50 X4 VTOL FLYING WING
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