

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

FLYING AUTONOMY - NO PAYLOAD

Hover Endurance	46 minutes
Cruise Endurance (52 km/h)	117 minutes
Cruise Range (52 km/h)	101 km

FLYING AUTONOMY - 50 KG PAYLOAD

Hover Endurance	20 minutes
Cruise Endurance (74 km/h)	41 minutes
Cruise Range (74 km/h)	51 km

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
Battery Configuration	Dual battery, hot-swap compatible
Total Embedded Energy	10 123 Wh
Propeller Diameter	Lift motors 56" Cruise motors 42"
Carbon Arm Diameter	50 mm (lift & cruise)
Optional Tethered Supply	400V DC => 60V DC
Protocols	MAVLink, DroneCAN
Optional interoperability	STANAG 4586
Positioning	Multi-Constellation GNSS + RTK

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 FEATURES

Main Kill-Switch	cf. XAP Remote drone circuit breaker
Circuit breaker power Switching Capacity	150 A continuous / 300 A peak
Auto Detection	Shock, abnormal motion, anti-flip
Embedded Geocaging	Independent multi-zone module
Parachute System	Yes
Remote Shutdown	Optional via 4G or drone remote
EMC Architecture	Segmented industrial buses
Telemetry Frequency	20 Hz
Cloud Infrastructure	Sovereign French IoT server
Security	Encrypted communications, certificate per drone
Regulatory Target	EASA SORA – Heavy-Lift C6 Category

AVAILABLE OPTIONS

External sensors	on demand
LiDar	on demand
Additional cameras	on demand
Specific actuator integration	on demand

REFERENCES

PF1022	XAP SIRIUS 50 X4 VTOL FLYING WING
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