

SIRIUS 20 X4 VTOL FLYING WING



ONE PLATFORM, TWO FLIGHT MODES

The SIRIUS 20 X4-VTOL is designed for long-range industrial missions that require both the flexibility of vertical take-off and landing and the efficiency of fixed-wing flight. It enables operators to inspect large infrastructures, monitor coastal areas, map extensive territories and perform BVLOS operations without the need for runways or launch equipment.

Built on the modular SIRIUS platform, the X4-VTOL combines a detachable flying wing with an automated VTOL transition system. Operators can seamlessly switch from hover flight to high-efficiency cruise while retaining the same payloads, electronics and mission systems used across the SIRIUS range.

Unlike conventional VTOL drones developed around dedicated airframes, the SIRIUS 20 X4-VTOL shares its architecture, maintenance procedures, spare parts inventory and software environment with other SIRIUS configurations. The wing can be installed or removed in the field, allowing rapid conversion between long-range VTOL and heavy-lift multirotor operations.

Compatible with Mission Planner, QGroundControl, MAVLink and ArduPilot VTOL environments, the platform also integrates XAP proprietary technologies including advanced battery management, encrypted telemetry, embedded geocaging and sovereign IoT connectivity.

LAUNCH — CRUISE — RETURN

STANDARD PAYLOAD OPTIONS

RGB inspection cameras
Thermal imaging cameras
Multispectral NDVI sensors
Hyperspectral imaging systems
Environmental sensors (H ₂ , VOC, CO ₂ , O ₂ , particulate matter)
Optical zoom cameras
Long-range LiDAR modules
RTK positioning systems
ADS-B surveillance modules
Search and rescue drop systems
Maritime emergency buoy deployment

BEYOND VERTICAL FLIGHT. BUILT FOR DISTANCE.

ONE PLATFORM, TWO CONFIGURATIONS:

Convert from VTOL flying wing to heavy-duty hexacopter using the same electronic core and mission systems.

COMPLETE CONTROL OF ELECTRONICS, SOFTWARE AND DATA:

Flight controller, battery management, telemetry and cloud infrastructure remain fully under XAP control.

MOTORSPORT-DERIVED RELIABILITY:

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

OPEN MAVLINK ECOSYSTEM:

Compatible with Mission Planner, QGroundControl and existing professional UAV workflows.

SOVEREIGN MISSION INFRASTRUCTURE:

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

STANDARD VTOL ECOSYSTEM:

Native ArduPilot Plane VTOL, Mission Planner and MAVLink compatibility allow immediate integration with existing UAV fleets and mission procedures.

HYBRID VTOL ARCHITECTURE:

Vertical take-off and landing combined with efficient fixed-wing cruise. No runway, launcher or recovery system required.

EXTENDED RANGE:

More than 100 km operational range at cruise speed while carrying professional mission payloads.

DETACHABLE FLYING WING:

Carbon composite wing removable for transport and field conversion. One platform supports multiple mission profiles.

AUTOMATED VTOL TRANSITION:

The XAP flight controller manages transition phases automatically while maintaining safe flight envelopes and redundant failure modes.

FULL MASTERY OF CRITICAL TECHNOLOGIES:

Flight control, battery management, telemetry, geocaging and mission electronics are designed and maintained by XAP.



► DRONES: XAP SIRIUS 20 X4 VTOL FLYING WING

FLYING AUTONOMY - NO PAYLOAD

Hover Endurance	54 minutes
Cruise Endurance (51 km/h)	42 minutes
Cruise Range (51 km/h)	35,5 km

FLYING AUTONOMY - 20 KG PAYLOAD

Hover Endurance	25 minutes
Cruise Endurance (67 km/h)	18 minutes
Cruise Range (67 km/h)	20,5 km

TECHNICAL SPECIFICATIONS

Configuration	VTOL Hybrid (4 Lift Motors + Fixed-Wing Cruise)
Payload Capacity	20 kg
Empty Mass	~22 kg
Maximum Take-Off Mass (MTOM)	42 kg
Battery Voltage (Max)	100 V DC
Battery Current (Max)	TBD
Battery Configuration	Dual battery, hot-swap compatible
Protocols	MAVLink, DroneCAN
Optional Tethered Supply	400V DC => 60V DC
Optional interoperability	STANAG 4586
Connectivity	4G LTE, Wi-Fi, Ethernet
Positioning	Multi-Constellation GNSS + RTK

MECHANICS

Frame Material	High-pressure forged isotropic carbon fiber
Wing type	Detachable Carbon Composite Flying Wing
Wing span	~3 200 mm
Arms	Foldable twill carbon fiber
Arm Protection	Mechanical fuse per arm
Folded Dimensions	520 × 800 × 400 mm
Rotor Span	2 070 mm
Internal Payload Volume	4 L upper bay + 4 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

PF1018	XAP SIRIUS 20 X4 VTOL FLYING WING
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