FS-1 UAS

Surveillance and mapping

FS-1 UAS

Wingspan	**2.5 m**
MTOW	**8 kg**
Payload	**1.5 kg**

PERFORMANCE

Cruise speed	**65-75 kmh**
Operational altitude	**500-3000 m**
Service ceiling	**6000 m**
Endurance	**3.5 H (4.1 H max tested)**
Flight distance	**200-250 km (+50 km reserve)**

COMMUNICATIONS

(Multiple frequencies available on demand)

Comm. and control	**Hopping, 80 km with omni station, 120 km with tracker**
Payload IP Link	**30 km with omni station, 80 km with tracker ground station**

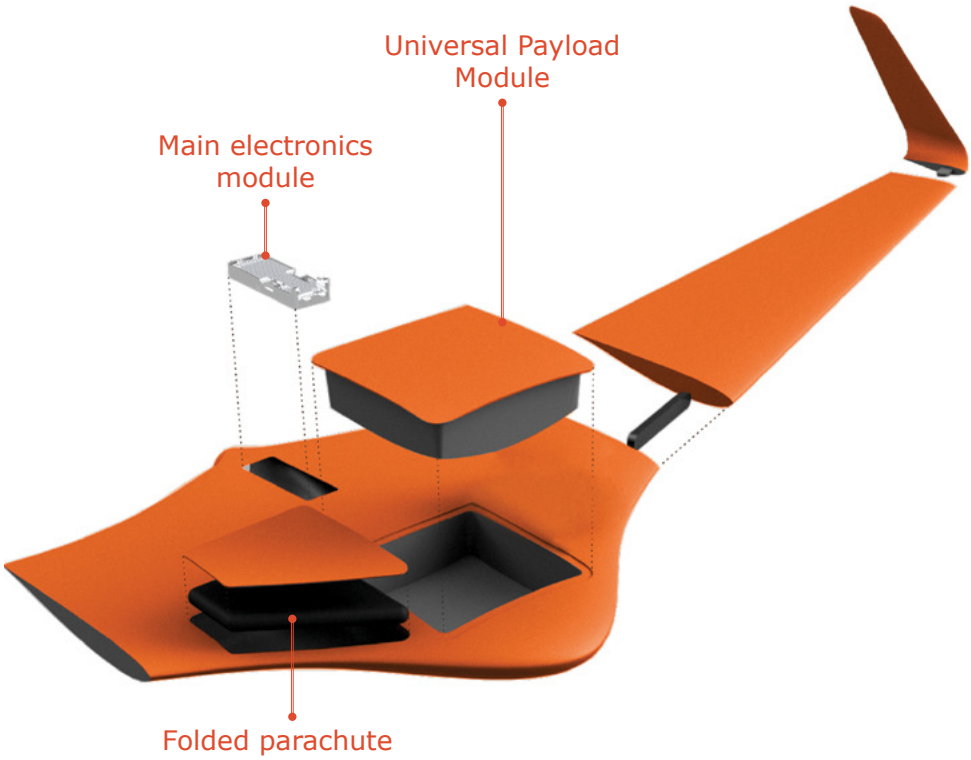
FS-1 UAS is designed to be as compact, cost-effective, and robust as possible. Having a 2.5 m wingspan and endurance of 3.5+ hours, it competes with much larger UAVs. It features a modular payload bay architecture and can carry in-house and third-party payloads.
The payloads can transmit data live utilizing ip or telemetry connections or store data in integrated storage to be processed after landing.

The UAV incorporates a powerful Linux-based system featuring target tracking, target detection, target coordinate calculation, stitching, and targeting in different coordinate systems. The entire system, including the ground station and the bungee catapult, is packed in a single storage case designed to fit in the trunk of a small sedan.

FS-1 UAS

FS-1 UAS is designed from the ground up to be modular. The entire airframe has the following main components;

- Main electronics module - single-board solution includes the communications, flight computer, and onboard power systems.
- Payload module - 200x200 mm payload bay capable of integrating up to 1.5 kg payloads supporting in-field swap of payloads.



*The battery is inserted from the wing-fuselage junction and is a custom Li-Ion pack with integrated BMS and health tracking functionality. Any number of additional battery packs can be ordered.

CHANGE DETECTION

Swiftly identifies and highlights environmental alterations for accurate monitoring and analysis.

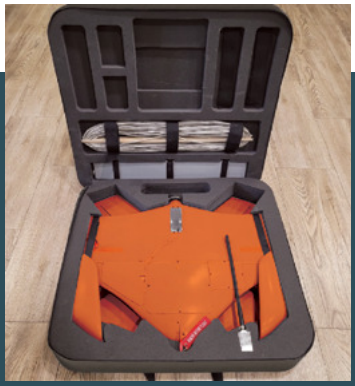
30.04.2024

09.03.2023

COMPATIBILITY WITH GIS

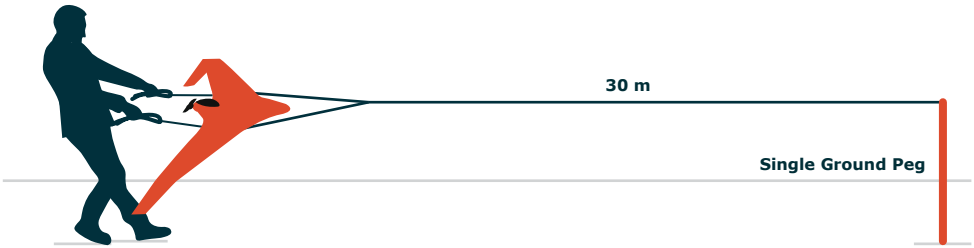
Seamlessly integrates with GIS platforms, enhancing data visualization and facilitating comprehensive geographic insights.

Google Earth QGIS ArcGIS

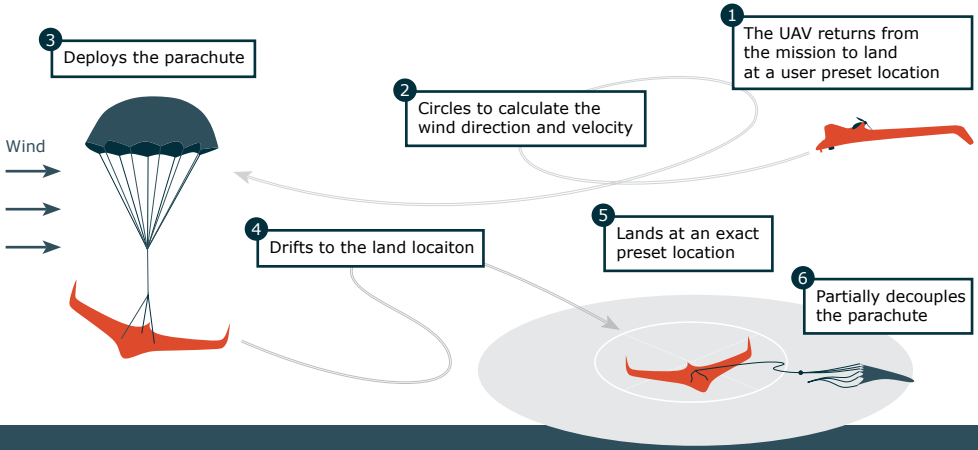


BUNGEE TAKEOFF

FS-1 uses a custom bungee launch algorithm which allows for fast robust takeoff operations on almost any terrain. It doesn't compromise endurance (like VTOL) or require a heavy catapult.



	VTOL	Catapult	Bungee
High Endurance	✗	✓	✓
Light Equipement	✗	✗	✓
Low Maintenance	✗	✗	✓



PRECISION PARACHUTE RECOVERY

During the flight's final phase, the aircraft circles the landing area and calculates the wind direction and velocity. Afterward, the aircraft deploys the parachute and drifts to the exact landing point. On impact, the aircraft instantly decouples half of the parachute strands to prevent any drift on the ground.

FS-1 can execute recovery at up to 15ms of wind.

FS-1 SYSTEM COMPONENTS

PAYLOADS

FS1-PM1
Daytime Mapping 62MP

FS1-PD1
Daytime 30x FHD Gimbal

FS1-PN1
Thermal 640x480 60mm

ANTENNA STATIONS

FS-G1
Omni station telem.
(ethernet and POE)

FS-G2
Omni station telem/IP
(ethernet and POE)

FS1-PN1
Tracker Station Telem/IP
(ethernet and POE)


REMOVE BEFORE FLIGHT

FS-1 MAPPING

FS1-P1 Airframe	2
FS1-P2 Container	4
FS1-P3 Battery	2
FS1-P4 Charger	2
FS-G1	2
FS1-PM1	1
FS-PC	1
FS CLIENT	1 license

FS-1 DAYTIME GIMBAL

FS1-P1 Airframe	2
FS1-P2 Container	2
FS1-P3 Battery	4
FS1-P4 Charger	2
FS-G3	1
FS1-PD1	2
FS-PC	1
FS CLIENT	1 license

FS-1 NIGHT GIMBAL

FS1-P1 Airframe	2
FS1-P2 Container	2
FS1-P3 Battery	4
FS1-P4 Charger	2
FS-G3	1
FS1-PN1	2
FS-PC	1
FS CLIENT	1 license

info@foxight.com