VTOL
SF6

General Information

The **VTOL SF6** system (vertical take-off and landing) is a UAS platform designed to perform aerial reconnaissance at a fixed point.
Especially suitable to perform flight plans in areas marked by a complex orography, it can perform timely, safe and accurate surveys.
The onboard **Skyrobotic autopilot** grants a precise automatic GPS navigation and allows the manual override of the multirotor at any time.
The proprietary software SkyDirector installed on a rugged tablet PC allows the definition of an accurate automatic navigation path based on waypoints. The system has multiple mission planning criteria, allowing the operator to select the most suitable ones for each mission, easily and intuitively.
Skydirector has specific planning tools (photomosaic, photomosaic 3D, target tracking etc.) that enable to collect accurate data in any application.
The platform folds into a man-packable unit that requires no tools for assembly.
The small unmanned VTOL is the ready-in-a-few moment eye-in-the-sky for civil defence, police forces, but also for farmers, geometers, archaeologists and other parties operating in smaller scale in the urban or rural environment.
This lightweight aircraft can be deployed in a few minutes and can operate for up to 40 minutes.
The system has specific safety functions: NoFlyZone, automatic Return To Home, Link loss fail safe, Gps Loss fail safe and others, that allow to manage any kind of situation.
SF6 is designed to increase Situational Awarness in every kind of operation.

Applications

Surveying and mapping

Mining monitoring

Precision agriculture

Archaeology

Disaster management

Aerial imaging and cinema

Homeland security

SKYROBOTIC
una società del gruppo Italeaf

Main Performances

WIDTH (OPEN)	1,2M
LENGTH (OPEN)	1.2 M
HEIGHT (OPEN)	0,5 M
MTOW	4.8 KG
PAYLOAD LIFT CAPABILITY	UP TO 2.0 KG
	(200G STANDARD)
MAX ENDURANCE @SEA LEVEL	UP TO 40 MIN
MAX AIRSPEED	16 M/S
CRUISE GROUND SPEED IN AUTO MODE	UP TO 10M/S
CRUISE GROUNG SPEED IN MANUAL MODE	UP TO 12M/S
OPERATIONAL ALTITUDE	50-300 (AGL) ITV150
MAX RATE OF CLIMB	3 M/S
STEADY STATE WIND	12 M/S
STORAGE TEMPERATURE	-20°C TO 50°C
NOISE SIGNATURE	INAUDIBLE IN URBAN
	ENVIRONMENT AT > 120 M
RADIO LINK RANGE	STANDARD 1,5 KM
	UP TO 8 KM LOS

Typical configuration

The standard composition
is the following:

- **nr.1** unmanned electrical VTOL aerial vehicle, weight approximately 4.8 kgs, capable of flying in manual, automatic and semiautomatic mode.

- **nr.2** stabilized payload modules in order to observe in real time surrounding environment during the flight. One module is equipped with a color TV sensor, the other one with a GIS photogrammetric sensor.

- **nr.1** Man-portable Ground Control Station (GCS) and Hand Controller

- **nr.1** SkyDirector License, for automatic plan simulation training and mission control.

- **Accessories'set** to allow transportation, maintenance and field use of the entire system (e.g. carrying cases, battery chargers, etc...).

RTK

Main functionalities

1. Advanced automatic tools for easy planning 2d and 3d surveing.
2. Unique RTK VTOL integration for centimeter geolocalization.
3. Unique tecnology: Target traking, Mission simulator, DataLink interoperability.
4. Complete automatic GPS navigation through way points that can be changed in live during the mission.
5. Loitering touch and go and rally waypoints selectable.
6. Manual navigation mode controlled by augmented stability
7. In direct cam navigation mode the operator can control the pan, tilt and zoom of the payload. A Mission Controller Unit, managed by a second operator, is optionally offered for observation.
8. Onpoint target tracking in stable loitering waypoint and manual navigation mode.
9. Sense and avoid capabilities (Q3 2015).
10. If the system is experiencing a persistent data link outage, the vehicle can be configured to perform a landing manoeuver or to fly back (homing) to the last known Ground Station position (without losing altitude until landing zone).

Further information

Skyrobotic can, on special customer's request, implement specific customizations according to the applications that the system will have to perform.
The configuration of the delivery can be built with different kind of payloads, e.g. IR camera, environmental sensors etc.
The training included in each supply consists of: theory, activities in simulation environment and fly practice.