

## FEATURES OF THE FULMAR SYSTEM:

- **Flight range:** from 6 to 12 h.
- **Operating range:** 800 km.
- **Video recording range:** 70 – 90 km.
- **Made from “pre-preg” carbon fiber material.**
- **Gasoline and heavy fuel engine.**
- **Dual payload:** with EO / IR fusion capacity.
- **Launch on portable catapult.**
- **Simple deployment:** regardless of terrain and weather conditions.
- **Ready for operation in under 20 min.**
- **Ready for launch from ships and recovered by netting on board moving ships.**
- **Operational capability in winds of up to 70Km/h.**
- **Fully automated operation and with only two operators.**
- **High flight precision with double navigation sensor.**
- **Dual Modem:** redundancy, frequency hopping and communications relay.
- **Can be integrated into C4ISTAR systems.**
- **Remote viewing terminals (RVT).**
- **Multifunction control station:** control capacity for up to 3 UAVs, control transfer between stations.
- **Automatic detection of objectives.**
- **Multi-tracking:** tracking of static and moving objectives.
- **IFF Mode 3 / Transponder class C.**
- **Incorporates AIS repeater.**
- **Modular concept:** easy user maintenance.

### FULMAR

The FULMAR system has a reduced lifecycle cost and high-performance features and can be easily deployed and integrated into C4 ISTAR systems. Its operational and maintenance simplicity make it the most effective mini-UAV solution with high tactical capabilities.

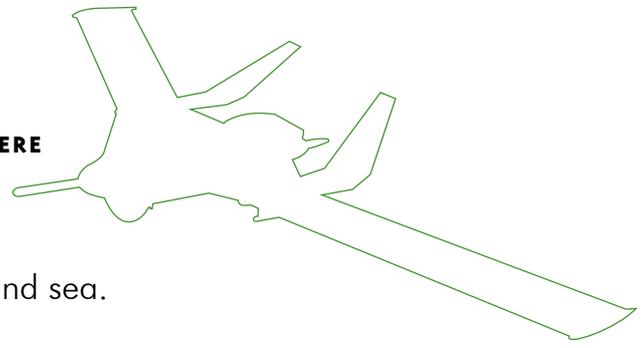




**TOGETHER, SMARTER, EVERYWHERE**

## FULMAR

Landing capability on land and sea.



Thales is one of the leading companies in the field of manned and unmanned ISR and has participated in many organizations and international projects over the years, as evidenced by its extensive references and diverse customers.

UAVs are used increasingly widely because of the great benefits they offer.

They are of particular interest to armed forces in intelligence, surveillance and reconnaissance (ISR) missions, among others.

The Fulmar UAS is a highly versatile system, with capabilities for a variety of missions such as mountain search and rescue, illegal traffic monitoring, support to ground forces, intelligence missions, etc. The FULMAR is vital in increasing the armed forces' ISR capability through the use of advanced sensors that can be used both remotely and close to the area of interest. Moreover, Fulmar's high reliability and ease of use provide added value in joint operations. Such features are a key differentiator in operational theatre decision-making.

There are many advantages in the use of UAS systems as compared to a manned vehicle: a UAS does not require a pilot on board and so can enter environments dangerous to humans, stay in the air for many hours and be programmed to perform a mission completely autonomously.

Technical specifications:

- **Wingspan 3 m, length 1.2 m, height 0.5 m.**
- **Cruising speed:** 100 km/h.
- **Altitude:** up to 4000 m.
- **Maximum take-off weight:** 20 kg.
- **Payload:** up to 8 kg.
- **Endurance:** 6 to 12 h.
- **Operating range:** 800 km.
- **Range for real-time video:** 70 – 90 km.

Additionally, FULMAR provides the following advantages:

**Small size:** can be transported in a lightweight trailer towable by any vehicle.

**Easy to use:** only two operators are required, who are qualified after a short training period. The system is ready for deployment in under 30 minutes.

**Powerful GCS (Ground Control Station):** enables planning missions in advance, with the capability of modifying them live with just one click.

It also permits 3D flight planning, a key factor in operating on mountainous terrain. Up to 3 unmanned aerial vehicles can be controlled simultaneously by the same GCS and control can be passed from one GCS to another to extend the range of operation while permitting its use on land and sea environments simultaneously by allowing launch and recovery from different GCS).

**Autotracking and Geotracking:** the UAV can detect and designate targets and may be commanded for tracking.

**Endurance:** the system, which is capable of remaining up to 12 hours on a flight mission, has the ability to launch another UAV before the return of the first one to ensure the mission's continued persistence.

**Large payload:** capable of integrating different types of sensors such as gyro-stabilized electro-optical or infrared cameras, microsensors such as CBRN, multispectral cameras, etc.

**Capable of operating in adverse weather conditions:** withstands winds of up to 80 km/h.

**Discreet:** its heavy fuel engine reduces noise and flight altitude (500 m / 600 m), making it difficult to locate and impossible to shoot down.

**Airspace integration:** IFF mode 3 or transponder class C available to make military and civil authorities aware of the UAV's presence.

**Interoperability:** the system is easy to customize, with all information being integrated from the GCS into C4ISTAR systems, as it has IP output that allows the information to be spread to various locations through existing networks.

**Naval Version:** can be launched and recovered on board, can land at sea and float for 24 hours.

**Heavy Fuel engine:** available for use with a variety of fuel types such as diesel oil, JP8 and JP5, approved for use on combat ships.

**Safe flying:** its double-sensor navigation system controls the UAV under degraded or interfered GPS conditions. The system is primed to return to the launch point in case of communication loss.

Its great glide capability, 17 kilometres for each kilometre of altitude, gives enough time to decide where to land in situations of engine failure. For such occasions it is fitted with emergency batteries that allow the UAV to be controlled and to land it safely.

**Deployable anywhere at any time:** with its catapult-based launcher system and net landing capability, it can be operated and recovered at any time regardless of weather conditions and terrain characteristics.

**Efficient maintenance:** As a Spanish and European company, Thales España offers technical support close to the user.

1st-level maintenance can be performed with a standard tool kit by military personnel. 2nd- and 3rd-level support can be provided at the client's facilities or at Thales, and a specialised technician can also be sent to the zone of operations.

**Affordable:** low operational and maintenance cost. Developed for dual use (military and civil) based on standard COTS technologies. Versatile platform configuration optimizes customizations.

**Modular system:** a solution designed for easy and rapid exchange of components, with components easy to repair independently.

**European solution:** Non-ITAR components. No obligation to recover the UAV if it is shot down.

Thales offers a service mode for the FULMAR in which the user pays only for specific missions with a predefined SLA.

The system is operated by Thales operators or customer operators trained by Thales. This smart concept allows the concepts of operations (CONOPS) to be developed and military and civil ISR applications to be proven on a win-win basis between Thales and its customers.