



# Targus, the largest civil drone in Spain

OPV "Optionally Piloted Vehicle"

**indra**



## “TARGUS” is the civil drone with the largest payload capacity and endurance

Being developed in Spain and based on the Indra MRI Aerial Surveillance System, which is built using the Tecnam P2006T twin engine aircraft.

The aircraft, with 1.2 tons of maximum take-off weight, is prepared to carry surveillance sensors and the most advanced systems to gather information and send it in real time to ground to perform missions such as forest surveillance, fire-fighting, environmental protection and maritime security, among others.

The particular feature of OPV platforms, unlike unmanned aerial vehicles (UAVs), is that they can be operated in two modes:

- Manned mode, where an onboard pilot flies the aircraft like a conventional aircraft.
- RPAS mode, where the operation of the aircraft and all its functions are controlled from a base located on the ground.

TARGUS covers the development of an optionally manned platform that is certifiable in its two main operating modes. The system is designed and focused within the European regulatory framework for civil aviation, implementing the certification process.

The main advantage offered by this system is that it is a versatile platform, which allows both conventional manned operation and remote operation. Therefore, it is possible to have a pilot on board during the tests required to develop the RPAS system, for ferry flights or maintenance, whereas it can operate in unmanned mode when the characteristics of the missions, as well as the conditions and current air traffic regulation, allow it.

## TARGUS System description

TARGUS can fly in civil airspace like any other certified aircraft. Once deployed in the area of operations, it can be configured as an unmanned aircraft by means of a simple maintenance operation and perform unmanned flights. After the deployment, by means of another maintenance operation, TARGUS can be reconfigured as manned aircraft and fly as normal.

Main features of TARGUS:

- Based on the Tecnam P2006T platform (analog cockpit). EASA certified.
- Can be operated in both modes: Manned and Unmanned (RPAS).
- Allows the flexible integration of multiple payloads, including the MRI System (Seaspray 5000E radar + Flir UF275HD/Wescam MX-10 + AIS + Datalink).
- Autopilot with ATOL capacity.
- Range of 200 km, limited by the range of the LOS Control Data Link.
- Full remote control of all flight surfaces, engine, propeller, landing gear and auxiliary systems.
- Monitoring of the status of the aircraft, engine and electrical system.
- Extended endurance to 8-10 hours.

## Air Segment

### Platform

Tecnam P2006T in analog configuration with a simple and economic maintenance, minimum staff necessary for tuning, minimum operating cost, low noise emission and fast preparation in less than 5 min. Allows IFR flight and only requires pilot training (PPL/ME).

Basic features:

Description	TARGUS
Engine	Dual engine. Rotax 912 S3-100 HP
Configuration	High-wing and retractable landing gear
Wingspan/Length	11.4 m / 8.7 m
Weight (MTOW)	1,230 Kg
Maximum speed	140 KTAS
Cruise speed	122 KTAS
Stall speed	48 KTAS
Fuel	AVGAS/MOGAS
Fuel consumption	36 l/h
Endurance	5 h. 9 h. with additional tanks and depending on payload
Range	600 NM. 1,100 NM with additional tanks
Service ceiling	15,000 ft
Datalink range	LOS (100 NM) or BLOS
Take off distance	450m
Landing distance	320m

To increase endurance, auxiliary fuel tanks are installed on board TARGUS aircraft.

### RPAS system

The RPAS system is responsible for controlling TARGUS during flights in mixed mode and RPAS mode. The RPAS system controls the flight surfaces, engines and propellers, and monitors and records all parameters of the aircraft.

The aircraft can be flown in accordance with a predefined flight plan or instructions received in real time from the Ground Control Station (GCS).

The RPAS system establishes a communication link with the GCS using the Control Data Link to receive commands and transmit the status in a way in which the flight can be fully monitored from the ground.

### Mission System

The mission system is the core of the TARGUS System, as is of the MRI System and the result of years of experience in surveillance systems. Designed as a cutting-edge software system, it performs a complete integration of the information acquired by all the sensors, allows their control and manages communications with the ground station.

All systems are integrated in a single software application that controls the sensors, retrieving, merging and recording the data received by them, presenting all the information in a single dynamic image.

The user interface is designed with Indra's extensive know-how in surveillance systems. The complex information is shown graphically to facilitate decision-making.

The sensors are used in the most efficient mode. As a result, complex functions involving the use of multiple sensors are easily carried out and assimilated by the operators.



## Ground Segment

All the ground segment systems are integrated in a single container.

### The RPAS Ground Control Station (GCS)

that receives all the information from the aircraft through a dedicated link. It monitors its status and the flight parameters in real time and makes it possible to plan missions. It is not part of the supply.

### The Mission System Control Station

that controls the on board mission system and receives the data provided by it. It uses an independent data link to send and receive all information.

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Indra reserves the right to  
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