Airborne Tactical Observation and Surveillance (ATOS) system background information

ATOS is the world's leading solution to the growing demand for border control, wide area surveillance, targeted surveillance (overt or covert) and environmental and disaster control, integrating a wide number of sensors and sub-systems in a highly modular design.

Toady's emerging scenarios have redefined the concept of patrol missions to encompass threats that range from terrorist attacks to illegal immigration and the protection of Exclusive Economic Zones (EEZ). ATOS has been designed with these missions in mind and, thanks to its modularity, can be adapted to perform highly sophisticated surveillance missions such as anti submarine warfare.

General Description

ATOS is an integrated observation and surveillance system for airborne platforms. Its modular, open architecture supports the inclusion of additional capability and extra operator consoles.

ATOS is available in various configurations and can be easily installed and removed from a wide range of platforms (including fixed and rotary wing aircraft). Different configurations are available to fit various platform sizes.

The human/ machine interface and sensor integration has been carefully designed to minimise the operator workload while increasing the operator's situational awareness during the mission.

A Proven Product

The ATOS has already been selected by nine different nations. Systems have been installed on the ATR 42, DASH – 8, CN,235, Piaggio 166 , AW109, AB 412 and AS300B3 helicopters.

Following an international competition, the ATOS has been selected to be installed on the Australian airborne surveillance fleet, contributing to the Country's border protection and surveillance requirements.

In Italy, the ATOS system is in service with the Guardia di Finanza and Guardia Costiera on the ATR 42 MP, and in its light weight version for the Guardia di Finanza on board the P166. The ATOS has recently been selected for the Italian MoD to equip their new four ATR72 aircraft, integrating the company's AESA Seaspray radar and EO turret.

Advantages

The ATOS can be tailored to meet any ISR operational requirement of the customer.
The system is offered along with a total logistic support package covering ground and flight training, user manuals and maintenance.

Fixed or mobile Ground Control Stations (GCS) with data-link and video processing capabilities are also available.

Typical operational requirements

Exclusive Economic Zone (EEZ) Patrol
Detection, reporting and recording the location of any foreign vessels operating within the prescribed seaboard limit zone.

Search and Rescue
Detection, localisation and assistance to any vessel in an emergency including shipwrecked people. Also to act as an on-scene commander co-ordinating aid operations of cooperating vessels/ aircraft.

Environmental Survey
Early detection of pollution of sea surface due to discharge of oil from ships or installations.

Maritime Patrol
Detection, localisation and reporting of any surface vessels in the prescribed coastal area; long range detection, tracking and identification of surface targets.

Integrated Sensors:

Search Radar

> Small Targets detection
> Long Range Target detection
> ISAR (Inverse Synthetic Aperture Radar) imaging mode
> SAR (Synthetic Aperture Radar) surface mapping
> MTI/ GMTI (Moving Target/ Ground Moving Target)
> Air-to-Air detection
> Weather.

Gabbiano is a state-of-the-art, X-band Pulse Doppler Radar designed for a variety of all-weather surveillance missions including over ground, along coasts and on the sea. Gabbiano is a versatile radar suitable for Unmanned Aerial Systems (UAS), as well as for both fixed and rotary wing platforms. It is available in two variants, with a 360° antenna for belly-mounted installation, or with ± 90° antenna for nose-mounted installation.

Seaspray AESA radar is a multi-role radar combining a state of the art Active Electronically Scanned Array (AESA) with a commercial off the shelf processor. The radar covers both air to air and air to surface environments

Electro-Optics

SELEX Galileo's latest four sensors turret **EOST-46** is a stabilised turret for surveillance and tracking. It can fit a range of EO payloads, including an eye safe laser range finder, laser illuminator, TV camera, and the ERICA SLX thermal imager operating in the medium wavelength spectrum (3÷5μ or 8÷12μ).

The system can easily integrate third party sensors and EO systems.

.

Hyperspectral

> Environmental surveillance and pollution control
> Dangerous materials identification and tracking.

SIM.GA is a modular avionic hyperspectral system, composed of two Electro-Optical Heads (EOH) in VNIR, Short Wave InfraRed (SWIR) spectral range (from 0.4 μm to 2.5 μm) and a digital acquisition system.

SLAR

> The Side Looking Radar allows a rapid scan of very large areas (up to 20 miles per side)
> Environmental surveillance and pollution identification
> Can operate in conjunction with other sensors.

ESM

> Full band coverage
> Designed to identify all modern radar.

AIS

> Automatic Identification System

SAR DF (Search & Rescue Direction Finder)

> Five (plus one) Guard Channel to receiver Beacon and Radio signals.

Other role-specific sensors such as MAD (Magnetic Anomalies Detector) and sonic system for ASW roles can be integrated with ATOS.

GAMAS is a family of Acoustic Systems developed by SELEX Galileo to meet the requirements of ASW missions for helicopters and Maritime Patrol fixed wing aircraft.

Press Office Contacts

Solange Distefano Pozzuoli
Responsible for Press Office
Tel: +39 06 41883710
Mob. +39 335 7499374
email: solange.distefanopozzuoli@selexgalileo.com

John Stevenson
Press Office Coordinator
Tel: +44 (0) 1268 883013
Mob. +44 (0) 7540 628691
email: john.stevenson@selexgalileo.com