



ELECTRONICS DIVISION

FOB PROTECTION

FORWARD OPERATING BASE PROTECTION

The FOB protection solution consists of dedicated systems to strengthen surveillance and detection, increase the safety of personnel especially by anti-intrusion measures, enhance active protection and improve the ability to exercise Command & Control for responding to potential threats.

Today's challenging operational deployments are characterized by extended Areas of Responsibility (AOR) exposing allied forces to threats which are difficult to identify and locate. They result from the need to control wide geographical regions using widely dispersed forces to suppress action taken by hostile forces. In such situations, Forward Operating Bases (FOBs) are at the centre of a coalition's presence and are, therefore, a constant target for hostile forces.

As an experienced prime contractor and system integrator, the company can provide turn-key FOB solutions, which are configured according to the type of installation to be defended. They adapt to the geography of the terrain, the operational situation and the level of security desired.

Each FOB solution is supplied with dedicated surveillance and defense systems, customized to reflect the characteristics of the base. They employ a core architecture and asset mounting platform, based on a set of common sensors, in order to standardize, as far as possible, system elements and their design.

The company's extensive experience in robust and secure communications supports Situational Awareness across protected areas.

TYPICAL FOB PROTECTION SCENARIO

Constant Monitoring

Advanced, highly sensitive and reliable sensing technology constantly monitors the area surrounding the FOB, providing multi-sensor inputs to the central Command & Control post.

Alarm Intruder Detection

Normally, the FOB protection system receives alarms from the radar as well as from closed circuit cameras.

Threat Analysis

Once the source of the alarm has been located, the C2 system automatically analyses the threat level of the track, correlating data in order to update the COP.

Option Checking

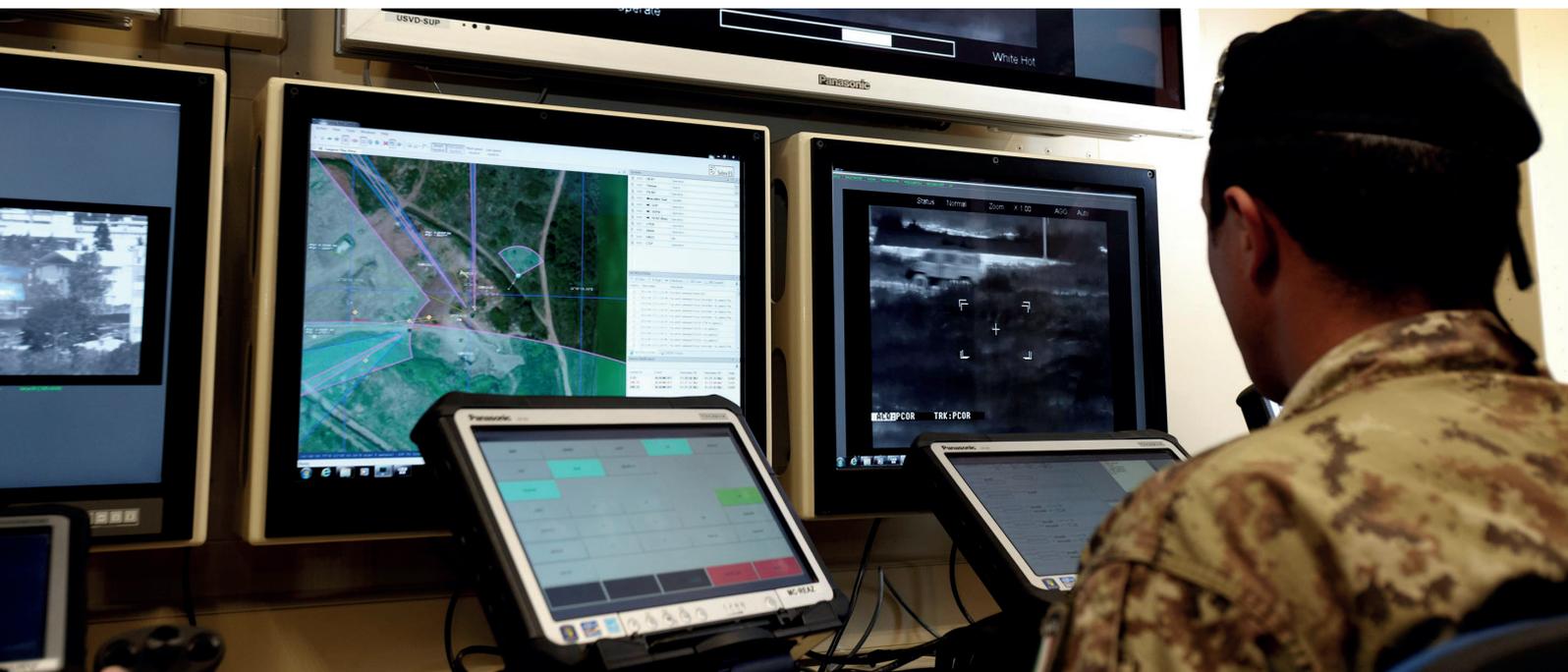
In the event that the new track is potentially hostile, the operator can point the optronic system on the target detected by the radar for a visual check, starting an optical tracking sequence at distances of 10 km or more.

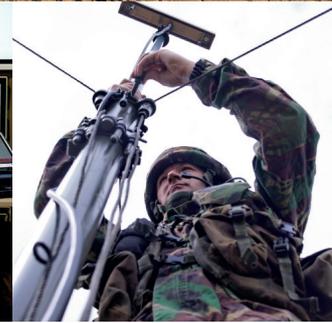
Decision Making

If the threat posed by the track is not yet clear, or if it is identified as an enemy, the system supports the operators in deciding for the most effective counter-action.

Threat Neutralisation

In case unmanned platforms are involved, they may proceed autonomously by following the coordinates provided by the radar and, thanks to their cameras, can gather more information on the target, as well as reacting with offensive fire if necessary.





Electro-optical system

Ground surveillance radar

Acoustic Detector System

Command & Control

Fixed Base Force Protection

MULTI-LAYER PROTECTION

To be able to observe, monitor and defend the AOR, a FOB protection system uses different elements arranged in various layers.

- For guarding and perimeter surveillance, it exploits a series of detection devices: firstly, fixed and mobile CCTV, with the ability to alert automatically, using motion detection and autotracking algorithms; and secondly intrusion detection systems (IR barriers and microphone cables) placed on the perimeter, inside the FOB and at access points to the base
- To perform observation and surveillance tasks in outdoor areas, radars and electro-optical sensors are incorporated. Radar detection, in particular, may alert on the presence of vehicles, drones, helicopters, as well as walking or crawling persons at several kilometers from the location of the FOB
- Acoustic-based systems locate sources of enemy fire, such as artillery, guns, mortars and other explosions. Armed vehicles and direct/indirect fire systems provide response
- The key component is the Command & Control (C2) module, housed in standard shelters. Specialist operators manage system and operations, monitoring sensor components and guiding response weapon systems.

Information gathered by the sensors combines to create a geo-referenced Common Operational Picture (COP). The aggregation, correlation and automatic merging of information, through the use of algorithms supports the identification and classification of any threats. The FOB protection system uses these elements to react to possible threats, either automatically or via operator control. The system also supports the commander in the choice of the reaction by TEWA (Target Evaluation & Weapon Assignment) cycle.

System deployment is also facilitated by innovative network enabled communications solutions for subsystem interconnection and exchange of data. Through these, it is possible to readily connect all sensors and cameras installed across the different areas of the base into a single system and ensure effective C2.

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