Complete offer for global net-centric protection

SELEX Sistemi Integrati's Large Systems for Homeland Defence support the new missions carried out by modern armed forces, both in area and out-of-area, implementing large-scale net-centric defence systems.
All of the systems are based on a common architecture, which integrates sources of information, command and control functions, added-value services and effectors on a global network infrastructure.

SELEX Sistemi Integrati and Large Systems for Defence

The globalisation of military conditions makes the need for Homeland Defence: uppermost and fearless protection of territory, people and institutions (including out-of-area operations) against conventional and asymmetric threats.

To ensure this is the defence field is to have timely and reliable information available for processing, sharing and integrating data in one operating scenario so as to identify appropriate measures.

SELEX Sistemi Integrati's Large Systems for Homeland Defence support the new missions carried out by modern armed forces, both in area and out-of-area, implementing a common architecture, based on information sources, command and control, value-added services and actuators. SELEX Sistemi Integrati's mastery is in:

- **Joint systems**
  C4I defence programmes based on the integration of data from the armed forces' command and control operating headquarters into the interforces operating centre. The systems can also be used in mobile configurations, with satellite links, for out-of-area operations.
- **Ground systems**
  Battlefield digitalisation programmes for national and coalition armed forces, allowing for the modernisation and upgrading needed to meet NATO standards. Battlefield digitalisation programmes set up a digitalised unit, initially at brigade and divisional level, with a view to setting up an integrated ground force. Numerous weapon systems form part of the Large System, united by digitalisation of manoeuvre assets, centred on the network for continuous information exchange. SIACCON, SICCONA, "Future Soldier" and BFSA form part of this system.
- **Naval systems**
  Programmes for the development of an integrated coastal defence system, based on new generation sensors that can be integrated with the VTS national network, and the definition of a modern naval C4I, with land and shipboard centres able to host and support commanding officers in both out of area and littoral warfare.
- **Air Defence systems**
  Programmes to upgrade the Italian sensor network, in line with the new frequency allocation requirements (M-WAS) and programmes to update NATO's sensor network (NATEDS).

  Moreover, there is the air force command and control system, SICCONI, able to manage air space defence and all operational and logistic aspects.
- **Training & Training systems**
  Programmes for the creation of an integrated environment for armed and defence forces, for complex platforms to check and validate new products and ensure that they meet the NEC NCW requirements, before they enter into operational service.

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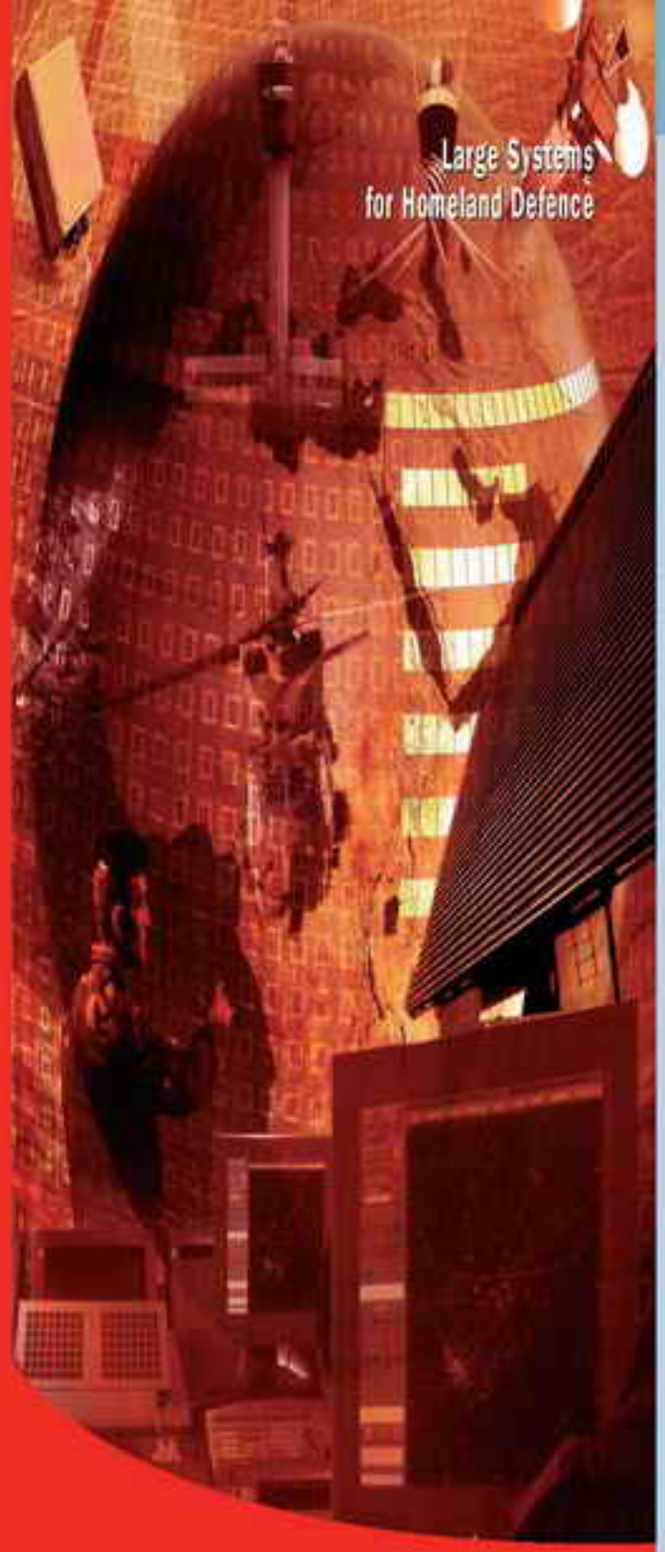

Predictable results
for unpredictable threats

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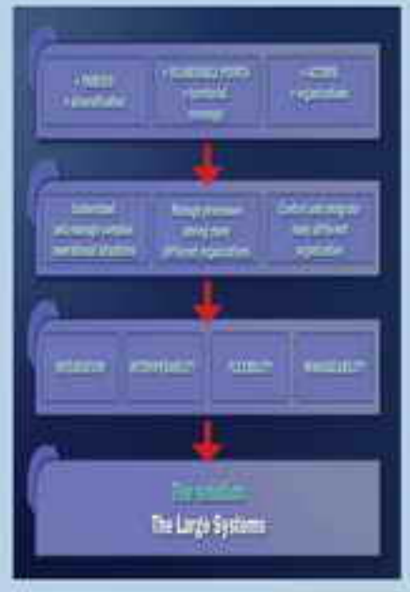
SELEX Sistemi Integrati: Homeland Defence Mission



Homeland Defence covers all of the activities necessary to protect people, institutions, and territory both domestically and internationally from conventional and asymmetric threats, given the global nature of operations and economic Homeland Defence is a high priority. Guaranteeing security today means being quick, reliable information to be processed, shared and integrated in a unique operational environment allowing the most effective steps to be taken. The Large Systems produced by SELEX Sistemi Integrati provide this service.

Large Systems solution

A Large System is a group of operators and systems capable of gathering and distributing information, enabling collaboration between the components, sharing the evaluation of situations, and automatically synchronising actions. A Large System has greater capacity and capability than the sum of individual parts, and its effectiveness increases as a result of coordinating and rationalising resources already present, while also introducing new enabling technologies.

Within the Finmeccanica Group, SELEX Sistemi Integrati is the design authority and prime contractor for Homeland Protection. The company is responsible for designing, developing and supporting Large Systems for Homeland Protection, a domain that includes both Homeland Security and Homeland Defence solutions. With access to a wide range of technologies, products and skills, both its own and those of other Finmeccanica companies, SELEX Sistemi Integrati is positioned to carry out this mission successfully.

SELEX Sistemi Integrati's Defence Solutions

Information Superiority

The crucial factor in military operations is not weapon capacity, but superior information: the possibility to access appropriate and timely sharing of real time information and to have a constantly updated overview of the situation, in terms of position and threat status and also in relation to Allied Forces. Such access allows for faster response times and greater precision and guarantees the effectiveness of the intervention.

Information technology and data operability

Recent technological developments in the IT and communications field have given information a determining strategic role, directing future military activities towards networks centric operations. In the era of NCW (Network Centric Warfare), the interoperability of military resources is decisive. This interoperability does not necessarily require the creation of new systems, but rather the co-ordination of available resources and intelligent processing of information coming from different systems, thereby producing useful data to support operations that can be exchanged in real time in order to boost the armed forces capabilities for survival, lethality and response.

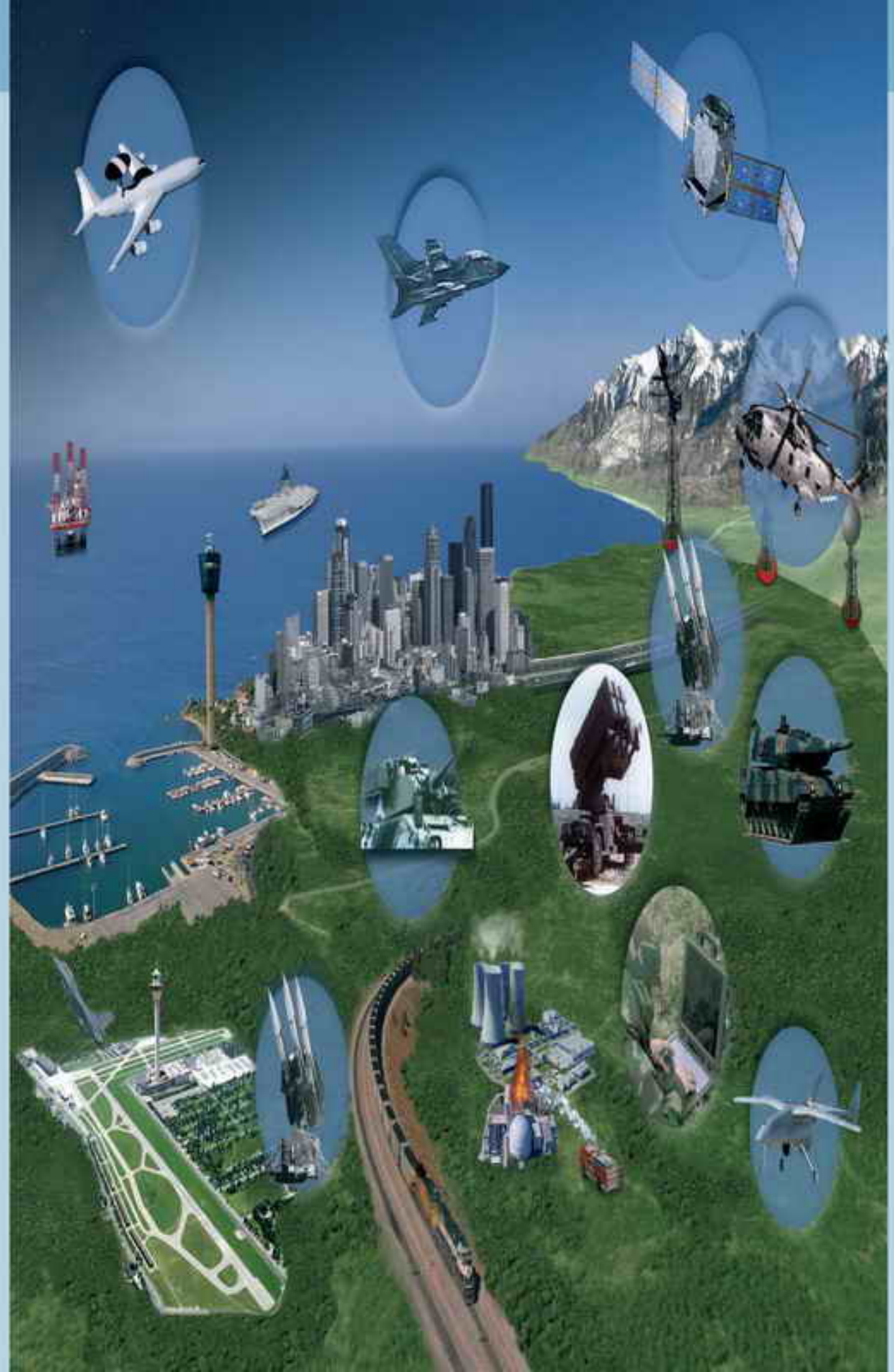
Effective Networks

SELEX Sistemi Integrati offers innovative defence systems and solutions designed to combat traditional and new threats in the form of networks centric defence systems, a key to mission superiority.
Diffusion of the operational situation amongst the forces involved creates widespread awareness and increases the system's capacity to quickly adapt and react at all levels. This ability allows for "adaptive self-synchronisation" as opposed to "pre-planned synchronisation" amongst forces in the field, thereby improving the effectiveness of the actions taken.

From hierarchical architecture to network architecture: Net-centric operations

Today, the evolution of processing systems distributed across the network makes it possible to disengage from hierarchical architecture to network architecture. SELEX Sistemi Integrati provides integrated defence systems based on NCW principles, directly connecting asset systems and command and control centres in a single network, in a configuration that is typical of distributed systems.

In the case of military applications, this offers a number of operating advantages, as the reduction of time resources, thanks to the direct use of data from sensors for actions involving surveillance, reconnaissance, fire, damage or kill assessment. Moreover, the possibility to access and share in real time appropriate multiple sources of information allows forces in the field to have a constantly updated overview of the situation with regards to the position and state of enemy and allied forces. This possibility boosts survival capacity and the achievement of effects based operations (EBO), with the dynamic re-configuration of forces in the field, in line with the mission's objective.



Data fusion technique

SELEX Sistemi Integrati's vast experience in implementing systems involving advanced data fusion techniques makes it possible to provide wide security coverage of the area, through the integration of information gathered from different types of sensors in various configurations and mounted on fixed and mobile platforms, such as:

- air and ground defence fixed and naval surveillance radar
- electro-optical sensors
- ESM (Electronic Support Measure)
- ground surveillance sensors
- underwater surveillance sensors
- satellite sensors

All data from the sensors is transmitted to the operational headquarters, where it is integrated with a vast range of information produced by external systems and by other defence systems, in order to provide the final user with a single and complete Common Operational Picture (COP) of all controlled areas.

Operating modalities

The systems are conceived in such a way as to allow for the following operating requisites:

- highly effective integration and interoperability of the coalition forces
- "Plug & Play" of the units in the battlespace
- availability of data from the units' sensors, for all participants
- situation awareness diffusion (COP)
- net-centric resources management, for research, interrogation, registration of systems, data and available services
- reduction of response time between sensors and effectors
- applicability to the same mission's military and non-military assets (CIMIC)

System Solutions Available

SELEX Sistemi Integrati's offerings range from stand-alone systems designed for specific customer applications and requirements such as long range 3D radar, tactical radar, multi-function radar, command and control operational headquarters, C2, C3 and C4I systems, through to complex systems requiring different levels of integration such as command and control operational headquarters, CCTV sensors, radar, electro-optical sensors, etc), telecommunications, software application and platform networks and equipment (aircraft, land, naval, etc), and ultimately to the development of integrated "systems of systems" based on the concepts of network centric warfare.

Integration of effectors

The effectors integrated into the systems include:

- Ground units (tanks and other armoured vehicles, gun batteries and soldiers with equipment suited to the new missions)
- Aeroplanes
- Helicopters
- Ships
- Missile systems

Forces in the field carry out the operating plan as a combined force, dynamically co-ordinating their actions thanks to constantly updated knowledge about the battlefield, provided in real time by the constantly updated COP.