



TURNKEY AIRPORT

Turnkey Airport is the SELEX Sistemi Integrati solution designed to deliver a fully operational airport system in a very short time, based on the fast development of integrated airside and landside systems to answer the need of increasing air traffic. This total airport management solution is structured into four main layers covering security, safety, services and sustainability.

THE CONTEXT

The increase of air traffic and passengers represents a challenge for airport infrastructures that will be required to face the management of growing passengers volumes without affecting airport operations and safety during the transition phases. Airports are evolving into bottlenecks in the Air Traffic Management network and the capacity crunch at airports poses a threat to safety, efficiency, and competitiveness of all stakeholders in the air transport sector. Airport authorities require new scalable and modular systems, able to quickly expand with no impact on current operations to follow passengers growth. As nodes of the air transport system, new airport concepts should aim at an integrated airport management, where all major aircraft operator, airport, aerodrome ATC and ground

handling processes are conducted using a common picture sharing required information. Individual tools and systems have to evolve towards a **Total Airport System**, conceived as System of Systems (SoS), a global element for all airport partners. Then, the whole system shall be able to expand with a smooth and timely management to guarantee service continuity. The complexity of this scenario has driven SELEX Sistemi Integrati to define the Turnkey Airport solution that is designed and delivered in response to the emerging needs of new airport infrastructures, at the same time expanded and integrated with existing elements, tailored on all stakeholders requirements within a unique centralized management approach.

THE SOLUTION

SELEX Sistemi Integrati approach considers an airport as a system of systems, able to:

- integrate airport stakeholders' data and knowledge
- coordinate and plan the usage of airport resources
- support the timely introduction of innovative services improving the "airport as a whole".

Already System Integrator and prime contractor in the Finmeccanica Group for the development of large systems for Homeland Security, the Company considers the Turnkey Airport solution as a complex large system, with centralized project management and capability to operate in



partnership with many stakeholders. The Turnkey Airport is scalable and adaptable to different sizes and types of airports. It can be tuned to different levels of complexity, according to the presence and status of legacy systems. At the foundation of this total airport approach SELEX Sistemi Integrati puts its longstanding experience in Air Traffic Management and Airport Operations. The deep understanding of airports problems/issues, combined with the capability to integrate ATM with Airport Systems, makes the Turnkey Airport a natural evolution for answering both air traffic and Services/Security/Safety/sustainability increasing needs.

THE SYSTEM

The Turnkey Airport solution is based on two complementary elements: Airport Traffic Management (ATM) and the Airport Integrated Management System (AIMS).

ATM

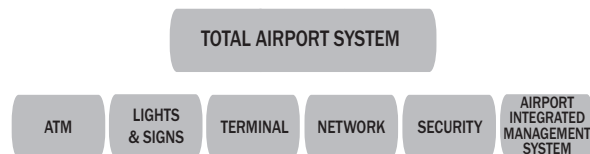
Air Traffic Management is a wide complex area in which ATC Systems integrates a range of products and tools to comply with heterogeneous operational requirements and Air Traffic Management environments, ranging from large, nation-wide, En Route Area Control Centres to small Approach Control Units. In this context SELEX Sistemi Integrati provides a global approach that includes Air Traffic Control, Surveillance and Weather Systems, as well as Navigation Aids. In particular the ATM bases on the supply of ATC systems to more than 100 Customers as well as through the active participation in international R&D and standardization initiatives, working groups and task forces promoted by ICAO, EUROCONTROL, and EUROCAE. Navigation Aids, Primary and Secondary Surveillance Radars, Automatic Dependent Surveillance Broadcast (ADS-B), together with Multilateration (M-LAT) and Wide Area Multilateration (WAM) systems represent the SELEX Sistemi Integrati products for surveillance. In addition the company is one of the world leader in the manufacturing and installation of Weather Radar Systems.

Airport Integrated Management System (AIMS)

AIMS provides an advanced Support System to Operations Management in terms of processes and information for coordinating the overall airport activities through the real-time integration and correlation of all airport related systems.

AIMS consists of two major elements :

- an advanced Collaborative Decision System to collect, analyse and display heterogeneous data and information within a unique picture to support the daily activities of airport operators
- an integration platform to enable the real-time information exchange among systems and subsystems.



KEY POINTS

Leveraging advanced technical expertise in the design and development of Large Systems and many years' experience in the realization and provision of ATM systems, SELEX Sistemi Integrati found it natural to extend its activities towards a total airport solution. This approach results in the "Turnkey Airport", a solution that features the following key points:

- provide a greater control of development costs and risks during all design and realization phases, thanks to a centralised management interacting with many different project partners
- optimise airport efficiency by means of collaborative decision processes which fully integrate airport systems operated by heterogeneous stakeholders
- follow air traffic expansion with a seamless approach
- guarantee a sustainable airport, minimizing environmental impact in both design and operation phases.