

ATM CAPABILITIES



Leonardo ATM capabilities ensure safe, fast and efficient flow of air traffic, security of people and goods, effective exchange of information between operators providing:

- High degree of automation and interoperability
- Improved operational efficiency
- HMI flexibility for different operational needs (clearance delivery, ground, tower, APP, ACC)
- Tight integration between ground/ground, ground/air and airside/landside

ATM capabilities cover the domains of Communications, Navigation, Surveillance, and Weather systems, including:

- SATCAS, systems for ATC automated services and management which integrates:
 - Flight Data Processor
 - Monitoring aids
 - Arrival manager
 - Short and medium term conflict detection
 - Air/ground data link
 - Controller working position
- GAINS™, advanced surface movement guidance and control system which integrates:
 - Ground safety nets
 - Path monitoring
 - Ground route and departure planning
 - Aircraft and vehicle guidance
 - Integrated tower working position

- ATON, simulation environment for training and test purposes

COMMUNICATION

Leonardo supplies complete, reliable and redundant ground-to-air voice and data multimode communications systems enabling connection to package communication networks.

Leonardo also pioneers AeroMACS broadband ground data-link for IP and VoIP advanced radio network solutions. Key benefits include:

- Faster, safer and more efficient air traffic provided by different voice and data modes
- Increased operations effectiveness and efficiency
- Multi-mode VHF/UHF ground-air-ground communications
- Ground-air-ground data-link support for air traffic management
- Remote communication network management
- VDL2/ACARS & ATN integrated data link ground system solutions for AOC/CPDLC communications and future VDL2-supported applications

NAVIGATION

Leonardo designs, manufactures, commissions, and supports a complete line of ground-based radio navigation and landing aids, including category I through II/III Instrument Landing Systems (ILS), Doppler and conventional VHF omni-directional range (VOR), and high and low power Distance Measuring Equipments (DME). Key benefits include:

- GNSS technology to improve safety levels during all flight phases
- Total turn-key solutions for en-route, precision landing and airport guidance requirements
- Minimum maintenance costs

Leonardo also offers GRACE navigation sub-system which provides GNSS ATC interface monitoring and performance prediction (e.g. GPS, EGNOS, Glonass, Galileo) over the airways of the controlled airspace.

SURVEILLANCE

Leonardo surveillance services provide reliable positioning information and unambiguous identification of targets achieved by high-performance sensors and sophisticated data fusion algorithms. Track/call sign association is based on multilateration data, Mode-S data, and traditional SSR code. Key benefits include:

- Maximum flexibility to facilitate numerous and different integrated surveillance sources such as radars, multi-lateration, ADS-B and ADS-C
- Enhanced situational awareness by means of integrated traffic picture and aircraft-derived data
- Expanded operations on closely spaced parallel runways

Leonardo range of solutions includes:

- ATCR-33S and ATCR-44S primary surveillance radars
- SIR-S modular secondary surveillance Mode-S radar
- SMR magnetron or solid state surface radar
- MXC ADS-B ground Station for gate-to-gate control (1090MHz standard)
- ADAM local and wide-area multi-lateration solutions for airport and en-route control

WEATHER SYSTEMS

Leonardo is world leader in design, manufacture and installation of weather radar sensors and weather systems. Weather systems integrate data received from a wide range of weather sensors and sources.

Those provide complete weather picture, meteorological forecast and real-time alerts. Key benefits include:

- Reliable weather products for heterogeneous meteorological aviation services
- Composite real-time presentation of weather situation and related hazards
- Capability to integrate several third-party sensors

Leonardo range of solutions includes:

- METEOR – Advanced doppler weather radar systems
- RAINBOW 5 – Multi-radar network management
- AWOS – Airport Weather Observation systems

For more information:
infomarketing@leonardo.com

Electronics Division
Via Tiburtina, Km 12.400 - 00131 Rome - Italy
T +39 06 41501
F +39 06 4131133

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