SMART **&** SAFE CITY SOLUTIONS

LEONARDO

Complexity is what characterizes our cities and poses a challenge to those who govern them. Multiple heterogeneous domains have to be taken into account, each of which entails needs that being a function of the territory, are often characterized by interrelations and mutual dependencies that can trigger dangerous domino effects with serious consequences in case of problems.

This requires the cooperation among all the stakeholders who act on the same territory in order to identify the best strategies for its government and managerial bodies. Technology has always played an important role in improving the governance of cities and many of the important sectors are strongly oriented towards digitalization and are already managed by applications and technological solutions. Integration between these sectors is an important step in building efficient governance.

COMPLETE SOLUTIONS

The overcoming of the concept of independent silo (each domain has its sensors, its data and its applications) leads to a significant improvement of the process that transforms the data into information.

The pooling of information allows the improvement of planning activities, the optimal management of daily and emergency situations and the construction of a complete situational awareness, which is essential to support decision making process.

Integration and sharing is directly linked to cybersecurity. The increase in digitalization increases the frontier of cyber-attack and this must be considered in the design of new systems.

Leonardo has developed a range of technology capabilities to effectively support city administrations in such complex scenarios and provide them with cyber protected, secure by design solutions able to enhance:

→ Safety and security for citizen and communities;
→ Mobility and Transport;
→ Global monitoring to have a complete and real-time situational awareness of the city.

BENEFITS

Leonardo solution can provide relevant advantages for smart and safe cities:

→ Multidisciplinary approach able to take advantage of experiences indifferent key sector for city government.

→ Vertical solutions availability and possibility to integrate with third party systems.

→ Strong technological capabilities for the delivery of complex heterogeneous systems.

→ Solutions able to address both the strategical planning and the management of events and situations.

→ Proven cyber security experience for the design and deployment of secure.
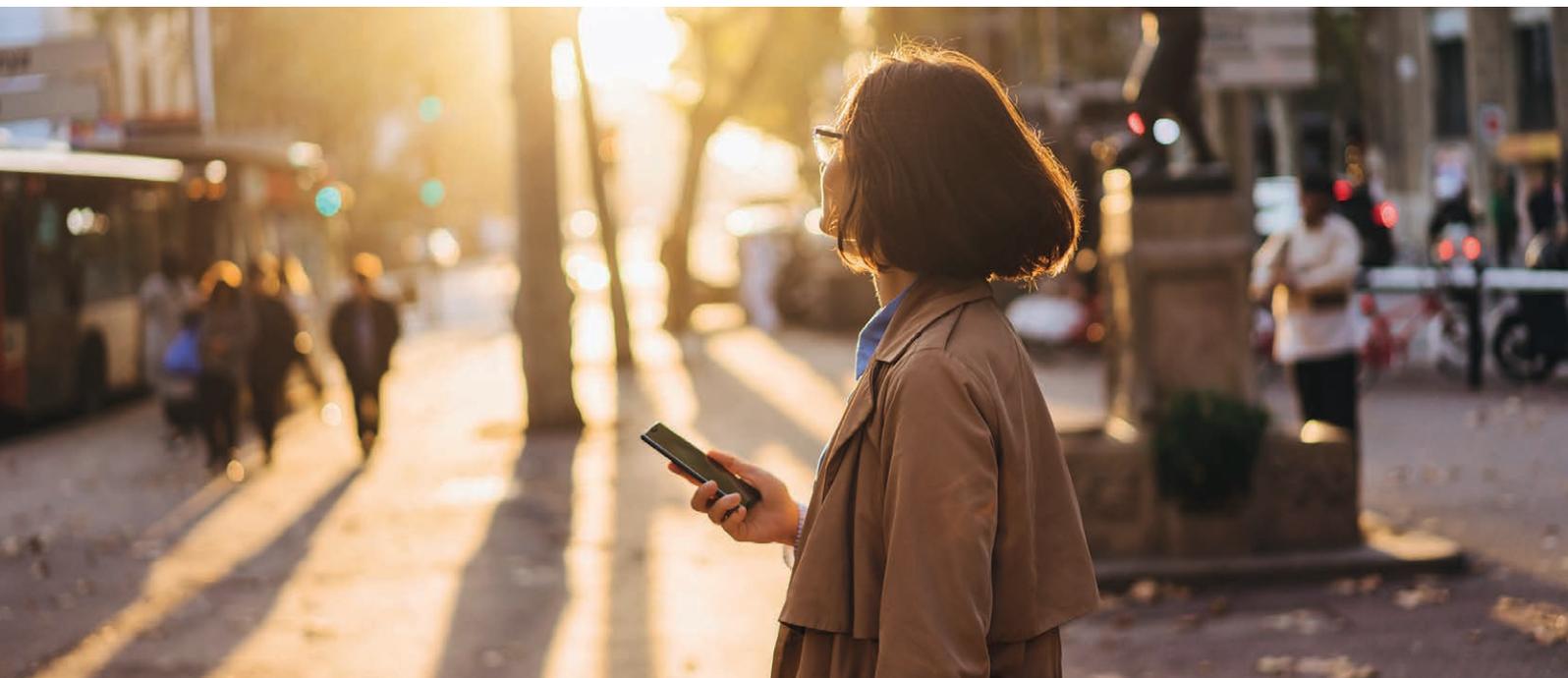
SECURE DIGITAL: GLOBAL MONITORING & SECURITY

Global monitoring enables real-time observation of urban dynamics, improving the prevention and management of risks and critical events.

Data analysis from sensors, infrastructures, and services supports more informed and timely decision-making.

Data valorization turns raw data into actionable knowledge to optimize mobility, energy efficiency, and public safety.

In a smart and safe city, integrated data enhance operational efficiency and environmental sustainability and strengthen citizen protection, increasing resilience, reliability, and overall quality of life.

genesiX	**genesiX** is the new Leonardo web platform which in the different operational domains exploits available data and systems to generate information and provide knowledge and decision-making superiority". → Collection of information from structured (data bases, archives) and not structured (video, sensors, media) data sources. → Data processing, correlation and analysis with the support of AI, dashboard and context specific indicators. → Geolocation of all information on multilayer map (digital twin), events and resources management (safety, operation, maintenance), decision support through procedural workflows → Coordination of field operations with mobile app and comms (MC_linX).
Forge2Know	**Forge2Know** is a Big Data analytics platform designed to ingest, store and analyze both structured and unstructured data, turning them into actionable insights. It provides advanced AI/ML, governance and real-time processing features, scalable to large amount of data to support data-driven decision-making.
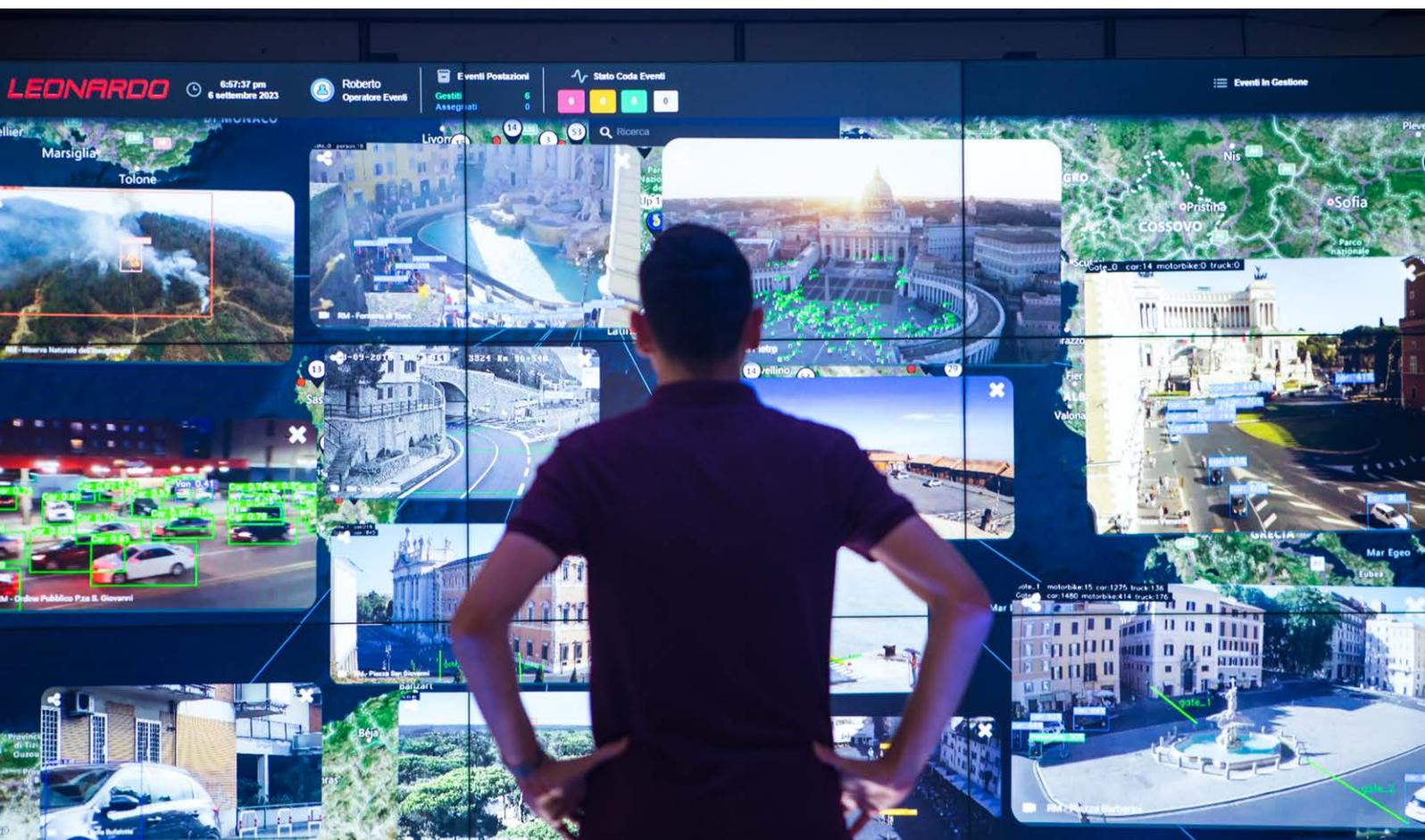
Leonardo security platforms are designed to provide a common operational picture for Command & Control, security management, situation awareness and resilience, creating a handling center for airport safety and security.

Leonardo can provide an integrated control centre solution where security authorities can benefit from situational awareness to easily supervise the infrastructure, quickly assess, and proactively respond to an incident, with a high level of cooperation between all the entities involved and the embedded support of AI to improve detection and reaction capabilities exploiting all the on field sensors and cameras.

SC2	**SC2** is a very flexible, scalable and reliable PSIM (Physical Security Information Management) solution to manage security with a high level of configurability and the possibility to create a federate architecture connecting different sites. The solution allows complete situational awareness with all info, resources and alarms, actionable on a geo-localized map. Different systems of various brands can be included and operations can be also enhanced by AI Video analytics. Dozens of brands for many different security systems are integrated. The solution also provides the possibility to command and control drones and robots, body worn camera and voice communication to coordinate on field resources. We design, integrate, install and deliver a complete range of protection systems (access control, perimeter protection, cctv cameras, intrusion detection, smoke & fire detection, public address and evacuation, ...) to guarantee quicker and more effective threat prevention, detection and response. Subsystem integration at command and control level increases the situational awareness and the effectiveness of the solution provided.
Ganimede	**Ganimede** is Leonardo advanced framework for managing AI-based algorithms for analysis of audio/video sources, live or recorded. A single platform with more than 20 algorithms easily configurable and appliable to already existing multi-brand video sources. Possibility to apply multiple algorithms on the same streaming. Implementation and training of algorithms in Leonardo labs specialized in AI, scalability for projects up to 10,000 cameras with 20 different algorithms. Natively integrated in Leonardo platforms, Ganimede provides interfaces for integration in third party systems.
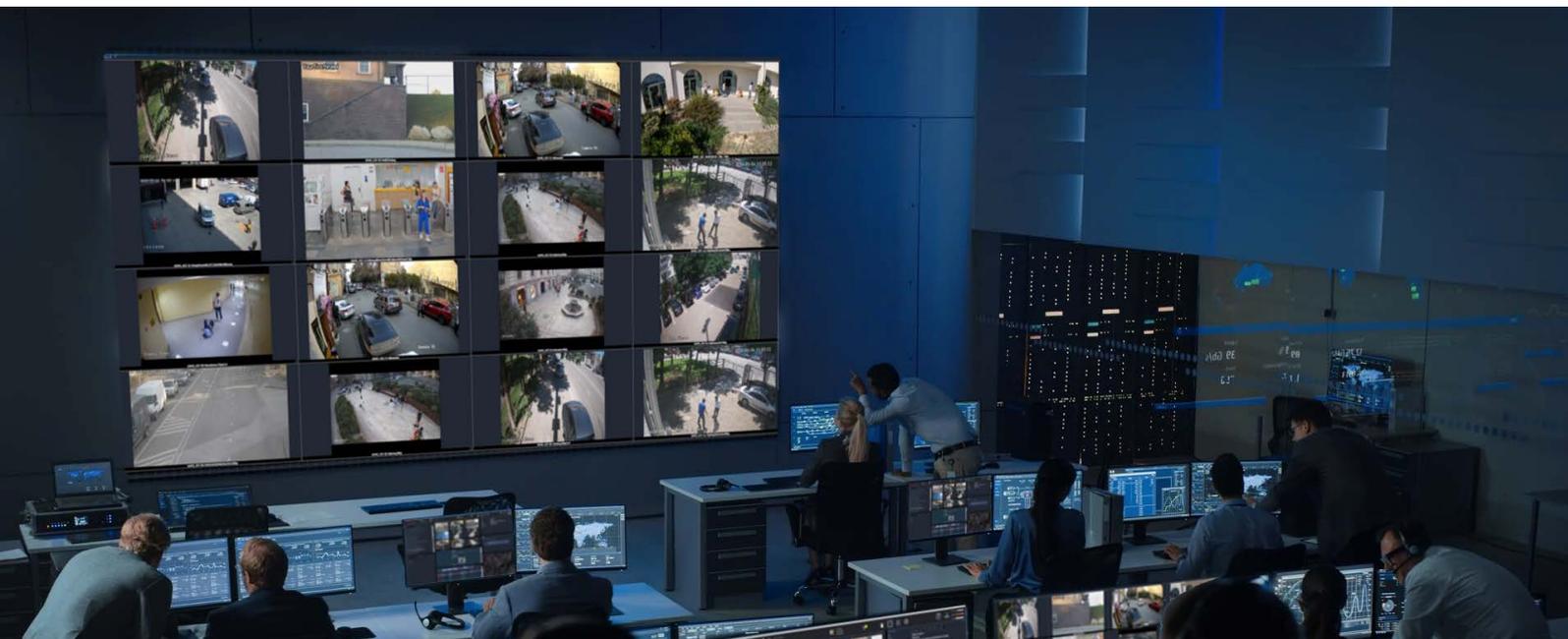
Mobility and mass transit are amongst the most complex challenges that modern society faces. There is a growing need to balance the increasing propensity for movement with the search for a reduction in the impact on environmental and natural resources.

Digitalization of vehicles and infrastructures, improvement of services are the pillars of the innovative framework MATRICS (MAss TRansIt Complete Solution), the complete Leonardo ecosystem for railway, mobility and urban transport.

MATRICS-MOBI The Mobility Management System	**MOBI** (Moving Better In town) the new mobility integration platform to support planning, monitoring, forecasting and management of situations and decision-making processes. It provides the integration and management of proprietary and 3rd party systems such as Automatic License Plate Recognition, Traffic Lights, Variable Message Signs, CCTV, weather, environmental and pollution, and any system to complete the situational awareness of the city.
MATRICS-AVM for Operational Control Center	**AVM Control Center** collects data from vehicles and depots and monitors the services in real-time, detecting delays with respect to timetables, checking the operative status of all the vehicles and providing operators with a wide range of functionalities for monitoring, communicating, and planning of a modern public transport network.
eNOBU AI for always connected vehicles (bus, tramway and road transport)	The enhanced new generation **On-Board Unit** is an all-in-one system that integrates in a single device all the useful modules to make buses and tramways digital vehicles: network management, geolocation, board-to-ground communication, systems integration, video surveillance, and smart maintenance.
NG-OP-AVM driver console	The **New Generation Operator Unit (NG-OP-AVM)** is the Intelligent Cab Display to support driver with all the relevant info and functionalities
eNOBU AI light for Smart Stop and Traffic light control	eNOBU AI – LIGHT is specifically designed and built for the on field applications with applications also in the mobility sector for the management of smart stop systems and traffic light control. It support different modular and versatile configurations: traffic light management, CCTV & Network Video Recorder, 4G or 5G or No Radio, Managed Switch with possible extensions with video analytics based on AI.

CRITICAL COMMUNICATIONS

The communication networks that connect sensors, systems, people, machines are a fundamental building block of the smart city. The increasing proliferation of broadband capability worldwide is driving the need for mobile enhanced data systems to be used jointly with already installed professional radio networks.

MCX (broadband)	**MC_linX** is the next-generation mission-critical broadband communications platform based on the 3GPP MCX standard, designed to support secure, real-time voice, data and video services for safety and security and critical infrastructure operators. The solution includes a mobile client app, a web-based dispatcher and management tools for seamless push-to-talk, multimedia messaging, location services and situational awareness over LTE/4G/5G networks as well as WiFi.
TETRA / DMR (narrowbnd)	**Adaptanet** is a complete modular, scalable suite of TETRA products, satisfying requirements of high performance and secure encrypted communications of a transport network. The solution provides all the essential core equipment and services for voice and data calls, as well as a comprehensive range of supplementary and enhanced services (Core network, Base Stations, terminals and cab radio, Network Management System, dispatcher, and more). **ECOS DMR** solutions are characterized by a high degree of scalability and flexibility that allows selecting the most suitable configuration for Customer's requirements. The same radio base station can operate in **DMR Tier II,** with simulcast option and dynamic **analogue FM**, or **DMR Tier III** in simulcast or cellular configuration.
Hybrid networks	Leonardo **Hybrid Network Platform** is a solution designed for long lasting integrated narrowband-broadband infrastructure supporting professional network evolution. The core network provides coordination and control functions for the integrated network and core network services for **TETRA, DMR** and **MCX** components.
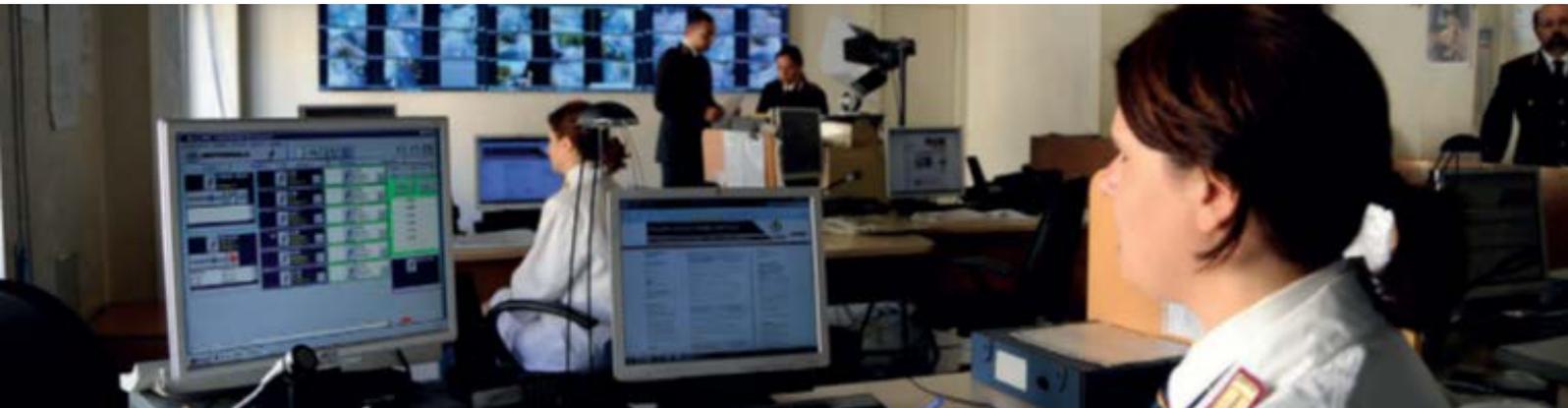
CYBER RESILIENCE

Cyber threats have been on the rise for years, but the last few years have seen an explosion in cyberattacks that target both data and physical assets. Due to the increase of interconnections among different sectors, cyberattacks and vulnerabilities in one area can have a cascading effect on numerous other areas. The consequences could be data loss, financial impact, but also disruption of crucial city services and infrastructure.

Leonardo provides a portfolio of services and solutions to identify, prevent, detect and respond to cyber-attacks that could affect our customers, offering a holistic approach to Cyber Security according to the NIST 2.0 framework.

Cyber resilience & Consulting services	Leonardo's Cyber Resilience & Consulting services help organizations protect critical systems and ensure business continuity against evolving cyber threats. Through a multidisciplinary, end-to-end approach, Leonardo supports clients in risk assessment, security strategy definition, and incident response. The goal is to strengthen digital resilience while ensuring reliability, regulatory compliance, and protection of strategic assets.
Global Cybersec Center and Advanced Managed security services	Leonardo's Global Cyber Security Center and Advanced Managed Security Services provide continuous monitoring and protection of critical digital infrastructures worldwide. Operating 24/7, the centers leverage advanced technologies, threat intelligence, and expert analysts to detect, prevent, and respond to cyber threats in real time. Through proactive security operations, incident management, and advanced analytics, Leonardo ensures rapid response and threat mitigation.
Cyber security platforms	→ Leonardo's **GC Platform** is a cyber defense platform that integrates services, technologies, and data into a single AI-multiagent ecosystem, ensuring end-to-end cyber management. It offers continuous observability, advanced automation, and predictive capabilities, ensuring resilience, risk reduction, and operational continuity (Cyber Mission Assurance). → **LX Range** provides a realistic, high-fidelity environment for cyber training, simulation, and testing of complex attack and defense scenarios. → **C-THINK** (Cyber Threat Intelligence) delivers actionable intelligence through continuous analysis of threats, actors, and vulnerabilities. It supports proactive risk mitigation and informed decision-making. → **LENS** EDR Innovative and flexible Endpoint Detection & Response platform, based on distributed agents and probes, allows the early identification of anomalies/intrusions on endpoints and the implementation of response and containment actions of cyber threats also based on fully customizable rules.
Zero Trust	**Leonardo Zero Trust** is a Defence-grade ecosystem based on EU technologies, covering all stages from access and authorization management to the protection of data in transit, at rest and in use, supporting operations across multi-domain and multi-classification environments.

HIGHLIGHTS

The objective of a City Administration is often summarized by the concept of "quality of life," which goes beyond security to include all the services that citizens use daily and expect to function efficiently and reliably.

Leonardo can design and deploy secure and resilient solutions that meet the demanding requirements of city administrations, addressing key aspects of citizens' lives such as safety, interaction with public services, and the orderly management of urban activities (traffic, commerce, public transport, etc.).

Ultimately, these solutions contribute to enhancing the overall quality of life within the urban ecosystem.

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