

CYBER & SECURITY SOLUTIONS

# OIL & GAS, ENERGY AND UTILITIES SOLUTIONS



Leonardo's Critical Infrastructure capabilities deliver surveillance and security systems to the Oil & Gas upstream, midstream and downstream companies as well as to energy and utilities companies to provide 24/7 protection to the workforce and infrastructures involved in mission-critical & safety activities helping to preserve the efficiency of operations. Surveillance and monitoring technologies deliver both physical and cyber protection, contributing to a safer working environment and enhanced business continuity.

## COMPLETE SOLUTIONS

Leveraging a breadth of expertise across both defense and civil domains, we have developed a range of capabilities to offer modular complex solutions ensuring effectiveness, reliability, security and control of Oil & Gas, Energy and Utilities operations throughout all stages of the lifecycle. As a systems integrator and world leader in sensor development and production, Leonardo offers multi-functional integrated solutions to engineering procurement construction companies and end users.

Our solutions are based on proprietary technology and third party state-of-the-art products, able to meet the increasing operational demands of critical infrastructure safety, security and reliability. Our solutions encompass protection of assets and people through the integration of high performance sensors, physical & cyber security, mission critical communications and process automation systems, in order to provide:

- long range threat detection
- Early threat assessment and comprehensive situational awareness.
- Increased situation awareness -and coordination through data and communication management.
- Generation of "Standard" and "Emergency Operating Procedures"

## BENEFITS

Leonardo solution can provide significant advantages for oil&gas, energy and utilities companies:

- Deep understanding of security control centers and safety and security procedures in all Critical Infrastructure.
- Strong system integration expertise.
- Scalable, flexible security solutions with embedded operator alert systems.
- Integrated communications solutions employing operation specific technologies.
- In-house Research & Development capability for operational communications technologies, sensors design and command and control implementation.
- Long-standing experience in automation and process control for industrial sector

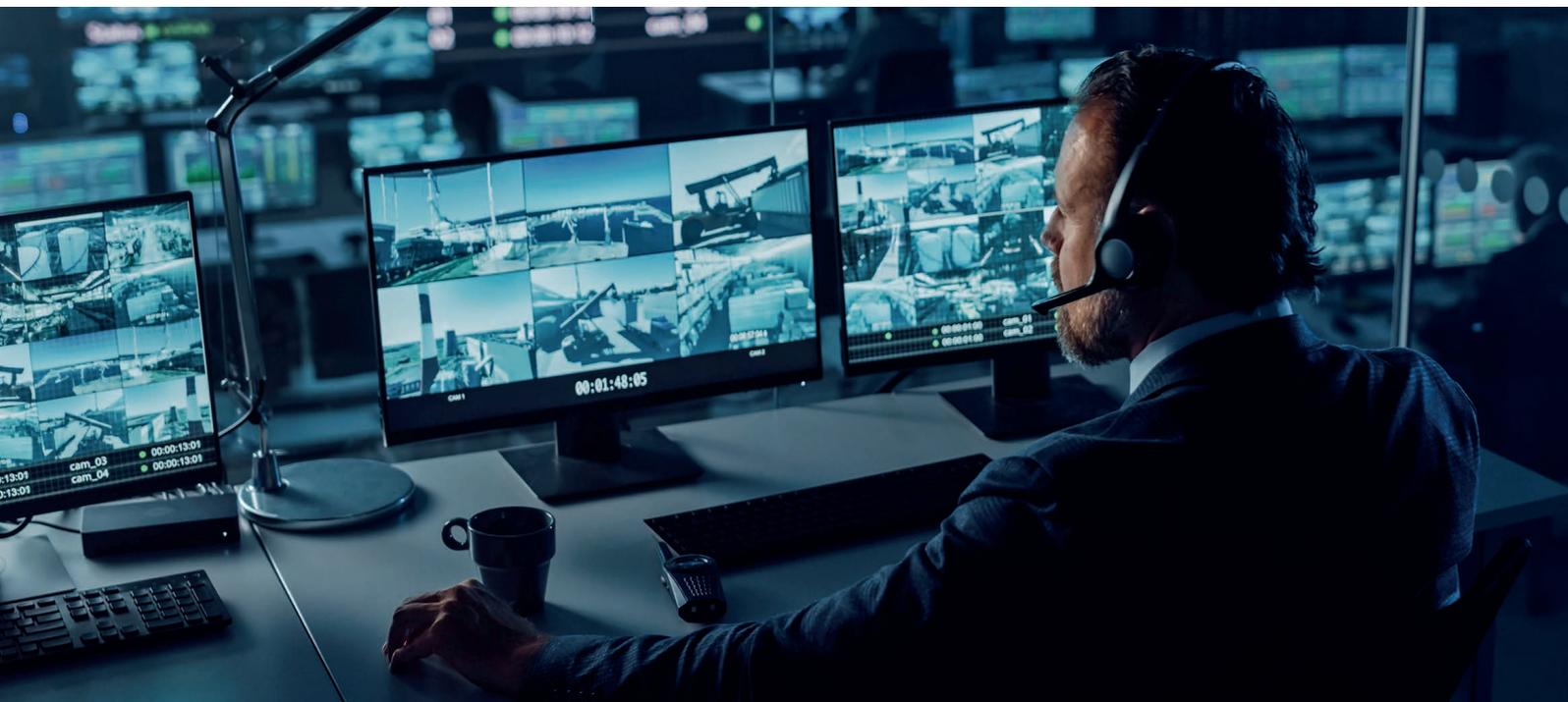


## SECURE DIGITAL: GLOBAL MONITORING & SECURITY

Global monitoring and data valorization are critical for the oil & gas, energy, and utilities sectors, where operational continuity and asset protection are essential. Continuous, real-time monitoring enables early detection of anomalies, cyber threats, and operational risks across geographically distributed infrastructures. Data valorization transforms large volumes of operational and security data into actionable insights. This supports predictive maintenance, improved efficiency, and informed decision-making. Ultimately, it enhances resilience, safety, and sustainability in highly regulated and mission-critical environments

Taking advantage of the integration of in-house developed systems with “best-of-breed” technologies, our Integrated Control Center has been designed specifically to leverage the vast amount of data to optimize performance and operations and provide complete situational awareness of the plants and address high grade requirements of security and safety in Critical Infrastructure. Features can be scaled depending on the customer needs from smaller and less demanding cases to higher and more complex scenarios

<p><b>genesiX</b></p>	<p><b>genesiX</b> 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”..</p> <ul style="list-style-type: none"> <li>→ Collection of information from structured (data bases, archives) and not structured (video, sensors, media) data sources.</li> <li>→ Data processing, correlation and analysis with the support of AI, dashboard and context specific indicators.</li> <li>→ Geolocation of all information on multilayer map (digital twin), events and resources management (safety, operation, maintenance), decision support through procedural workflows</li> <li>→ Coordination of field operations with mobile app and comms (MC_linX).</li> </ul>
<p><b>Forge2Know</b></p>	<p><b>Forge2Know</b> is a Big Data analytics platform designed to ingest, store and analyze both structured and unstructured data, turning them into actionable insights.</p> <p>It provides advanced AI/ML, governance and real-time processing features, scalable to large amount of data to support data-driven decision-making.</p>



Leonardo provides advanced platforms characterized by the same technological approach supporting security, safety and process management. Leonardo platforms, are characterized by flexibility, scalability, interoperation capability and feature complete integration with professional communications.

Our Integrated Control Center is able to:

- Integrate a large number of different sensors and subsystems to collect events and alarms
- Filter and correlate alarms through the intelligent rule based engine
- Geographically represent the on-field scenario thanks to an effective and flexible GUI integrated with a powerful GIS
- Automate operations and guide operators in the analysis of the situation by following standard and emergency operating procedures
- Boost on-field squad coordination through the integration of Mission Critical Communication
- Track and record all events to enhance post event analysis, investigation and debriefing activities.
- Increase the security performance level with AI-based analysis

<b>SC2</b>	<p>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.</p> <p>Dozens of brands for many different security systems are integrated. The solution also provides the possibility to command and control drones and robots, mobile app, body worn camera and voice communication to coordinate on field resources.</p>
<b>Ganimede</b>	<p>Ganimede is Leonardo advanced framework for managing AI-based algorithms for analysis of audio/video sources, live or recorded.</p> <p>A single platform with more than 20 algorithms easily configurable and applicable on already existing multi-brand video sources. Possibility to apply multiple algorithms on the same streaming.</p> <p>Implementation and training of algorithms in Leonardo labs specialized in AI, scalability on projects up to 10,000 cameras with 20 different algorithms. Natively integrated in Leonardo platforms, Ganimede provides interfaces for integration in third party systems.</p>



We are one of the main industrial companies able to manage the entire life cycle of automation and process control systems, from consulting and needs analysis with the customer to service levels and personalized aftersales assistance, combining process, system integration and project management capabilities with proven experience designing hardware and software applications.

Today, the best systems engineering solutions in the field of automation are the result of synergy between multiple competences in specific areas. Our approach therefore involves the integration of our hardware and software products with the best referenced market technologies, appropriately customized through joint initiatives with world leading producers of automation components.

SCADA GRS

Leonardo **Global Ranger System (GRS)** is a SCADA system to monitor and control heterogeneous remote processes or plants. It has been successfully used in several technology fields, such as energy transportation, oil & gas, energy distribution, electrical traction control and ancillary systems management.

SCADA GRS is based on a distributed architecture allowing data collection from different equipment and systems geographically distributed on a wide area.

GR is a complete system to provide standard and/or custom solution for process control or plant automation including all the tools (engineering, smart maintenance, training) needed for developing and deploying a complete complex SCADA system



## CRITICAL COMMUNICATIONS

Industrial system as well as oil&gas, utilities or energy infrastructures require fully integrated information and communications solutions that are both reliable and robust, designed to operate in extreme and hazardous environments and during critical and emergency situations. Leonardo develops turnkey multi technology network solutions that integrate a range of wired and wireless communication technologies (TETRA, DMR and wireless broadband radios such as LTE and 5G) and guarantee transparent user connectivity in all circumstances, for safe and efficient operations.

<b>MCX (broadband)</b>	<p><b>MC_linX</b> 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.</p> <p>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.</p>
<b>TETRA / DMR (narrowbnd)</b>	<p><b>Adaptanet</b> 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).</p> <p><b>ECOS DMR</b> 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 <b>DMR Tier II</b>, with simulcast option and dynamic <b>analogue FM</b>, or <b>DMR Tier III</b> in simulcast or cellular configuration.</p>
<b>Hybrid networks</b>	<p>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 <b>TETRA, DMR</b> and <b>MCX</b> components.</p>



## CYBER RESILIENCE

Today’s Oil and Gas, Utilities and Energy industries are a technically sophisticated and complex operating environment with an increasing reliance on digitization, data analysis and sensors. While this offers greater operating efficiencies, it can also expose systems to increasing risks and vulnerabilities to cyber-attacks.

Leonardo can support customers in the design, deployment and management of cyber security and data protection networks, in order to defend and secure customers’ IT/OT infrastructures, ensuring resilience and business continuity.

Leonardo positions itself as a point of reference for Zero Trust solutions, combining the technological expertise of SSH, Arbit, and Axiomtics with Leonardo’s advanced technologies and solutions, assets and services, and specific knowledge. In a rapidly evolving environment where threats are becoming more stringent and regulations are becoming more stringent, organizations increasingly require advanced, future-proof solutions.

<p><b>Cyber resilience &amp; Consulting services</b></p>	<p>Leonardo’s Cyber Resilience &amp; 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.</p>
<p><b>Global Cybersec Center and Advanced Managed security services</b></p>	<p>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.</p>
<p><b>Cyber security platforms</b></p>	<ul style="list-style-type: none"> <li>→ Leonardo’s <b>GC Platform</b> 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).</li> <li>→ <b>LX Range</b> provides a realistic, high-fidelity environment for cyber training, simulation, and testing of complex attack and defense scenarios.</li> <li>→ <b>C-THINK</b> (Cyber Threat Intelligence) delivers actionable intelligence through continuous analysis of threats, actors, and vulnerabilities. It supports proactive risk mitigation and informed decision-making.</li> <li>→ <b>LENS</b> EDR Innovative and flexible Endpoint Detection &amp; 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.</li> </ul>



## HIGHLIGHTS

Leonardo designs and deploys effective, secure and reliable solutions matching the challenging requirements of oil and gas, utilities and energy sector.

Combining in house developed solutions with selected third party product we support our Customers in protection, security, communications, control and automation addressing the whole solution lifecycle.

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