

CYBER & SECURITY SOLUTIONS

MARITIME4FUTURE



Ports are strategic assets for a territory and for an entire nation. The movement of goods and passengers is constantly increasing and over 90% of traffic takes place by sea, so attracting goods (and passengers) and increasing the receptivity of a port means creating value for operators, companies and cities. Nevertheless, to do this, the port of tomorrow must have three main characteristics: be efficient, secure and sustainable.

Artificial intelligence, advanced analytics, 5G, process digitalization, automation, cyber protection are the key technological drivers to support this new model and guarantee reliability, business improvement and decarbonisation of the future hubs.

COMPLETE SOLUTIONS

Leonardo, as technological leader, systems integrator and with a great experience in transport and logistics at national and international level has developed an ecosystem of solutions for digitalization, automation, communications, physical and cyber security and global monitoring. Advanced systems and platforms integrating new technologies such as AI and 5G, that aim to support this direction of development by creating value and synergy between these needs:

Our innovative solutions enable us to:

- Propose the right technologies for the specific needs of the context
- Offer resilient, interoperable platforms to improved port KPIs
- Simplifying stakeholder communication and cooperation
- Making Cyber and physical security an added value instead of a bottleneck to improve port reliability
- Safeguard the investments already done integrating external systems and exploiting their data

Leonardo offers a very wide solutions portfolio in this domain, covering all the different needs of the port community:

- Advanced gate automation for access control and operation management
- Integrated physical security to protect perimeters, areas, building, people
- Video and audio analysis based on AI
- Port digitalization with implementation of platform for global monitoring process optimization.
- SCADA for plants and building and energy monitoring platform
- Land mobile radio with narrowband critical communications solutions and new broadband frontiers for LTE, 5G

BENEFITS

Leonardo solution can provide significant advantages for ports and terminals:

- Significant improvements in port efficiency, increasing the just-in-time information and automating procedures
- Synergic integration of port security with operational processes to improve reliability and effectiveness of port monitoring and controls
- Improvement in cooperation between all the community operators with “one stop shopping” platforms and video/data/messages communication interoperability
- Exploiting and valorization of data for situational awareness, trend, prevention, prediction related to port activities and security
- Safeguarding of technological investments, energy saving and optimization, enhancing of traffic flow to a better sustainability and the realization of a green port



SECURE DIGITAL: GLOBAL MONITORING & SECURITY

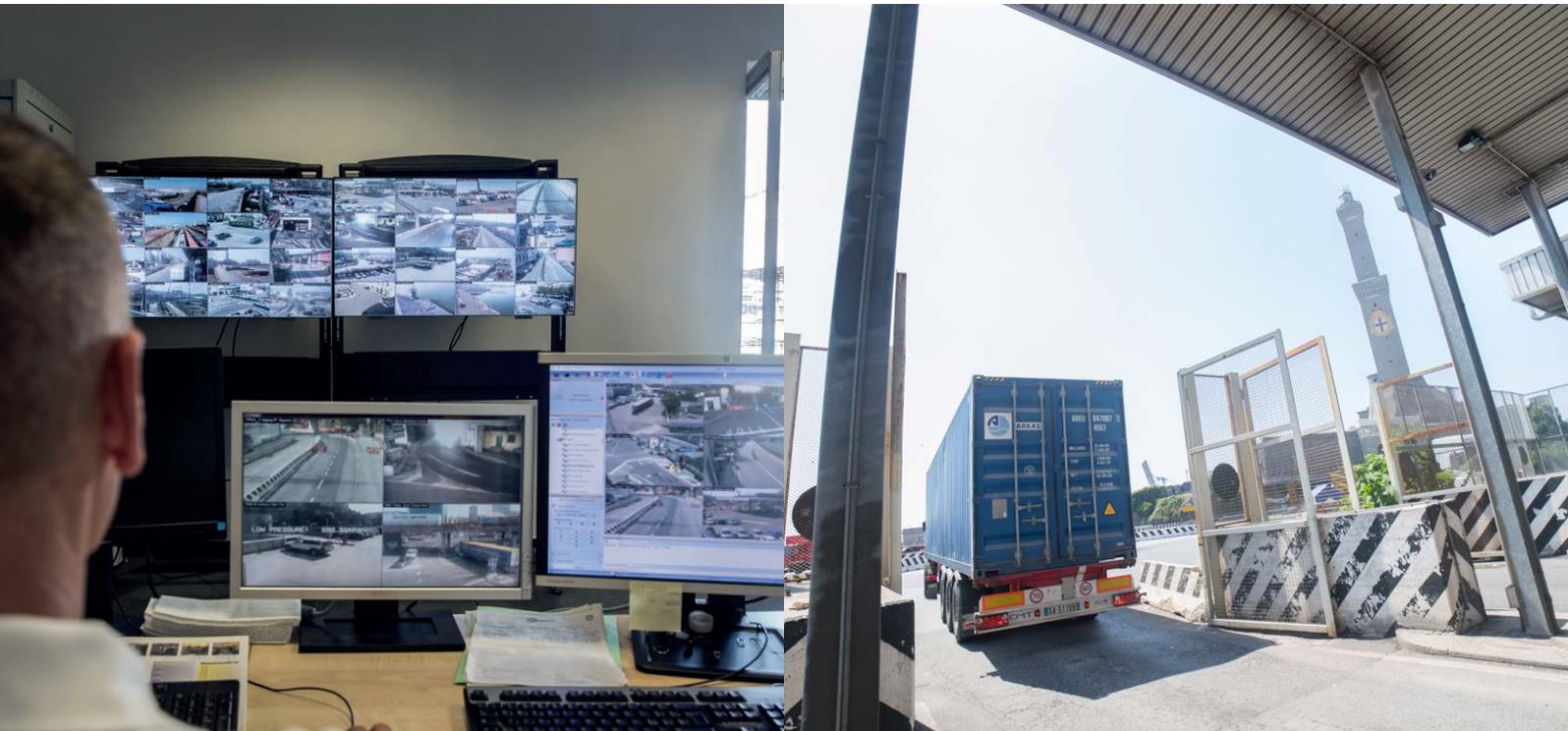
Taking advantage of the integration of in-house developed systems with “best-of-breed” technologies, our Integrated Control Center has been designed specifically to address high-grade requirements of performance and security in port environment leveraging technology to multiply operators’ effectiveness, improving efficiency. Exploiting artificial intelligence and heterogeneous systems integration. Leonardo global monitoring solutions provide superior situational awareness, complete coordination and control of operations in the management of day by day operational status, activity trend and emergencies

<p>genesiX</p>	<p>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”..</p> <ul style="list-style-type: none"> → 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).
<p>Forge2Know</p>	<p>Forge2Know 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 can provide an integrated control centre solution where security authorities can easily supervise the infrastructure, quickly assess, and proactively respond to an alert, with a high level of cooperation between all the involved entities.

<p>SC2</p>	<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>
<p>Ganimede</p>	<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>
<p>ViGate</p>	<p>Gate Automation & Access Control solution designed to streamline and secure access procedures in critical infrastructures such as ports, logistics hubs, and large industrial sites.</p> <p>It is an integrated suite combining design & build of hardware solutions for entry/exit lanes and software applications to manage and automate people, vehicles, trains and goods entrance and exit procedures, reducing waiting times and operational costs</p>



Continuous monitoring of systems and sensors across port infrastructures is essential to ensure operational safety and business continuity. The ability to remotely execute specific control commands enables fast and targeted responses, minimizing downtime and operational impact. Centralized supervision also allows the correlation of physical anomalies with potential cyber threats. This integrated approach becomes crucial for the early detection of cyber-attacks that manifest through operational disruptions.

VBrain

VBrain is a modular technology management and alarm-supervision platform designed to integrate and supervise heterogeneous systems such as access control, video surveillance, fire detection, lighting, HVAC, Networking and other building, on field or data-center technologies in a unified environment.

It collects, normalizes and correlates data from connected devices, enabling automated alarm generation, event sequencing and operational decision support.

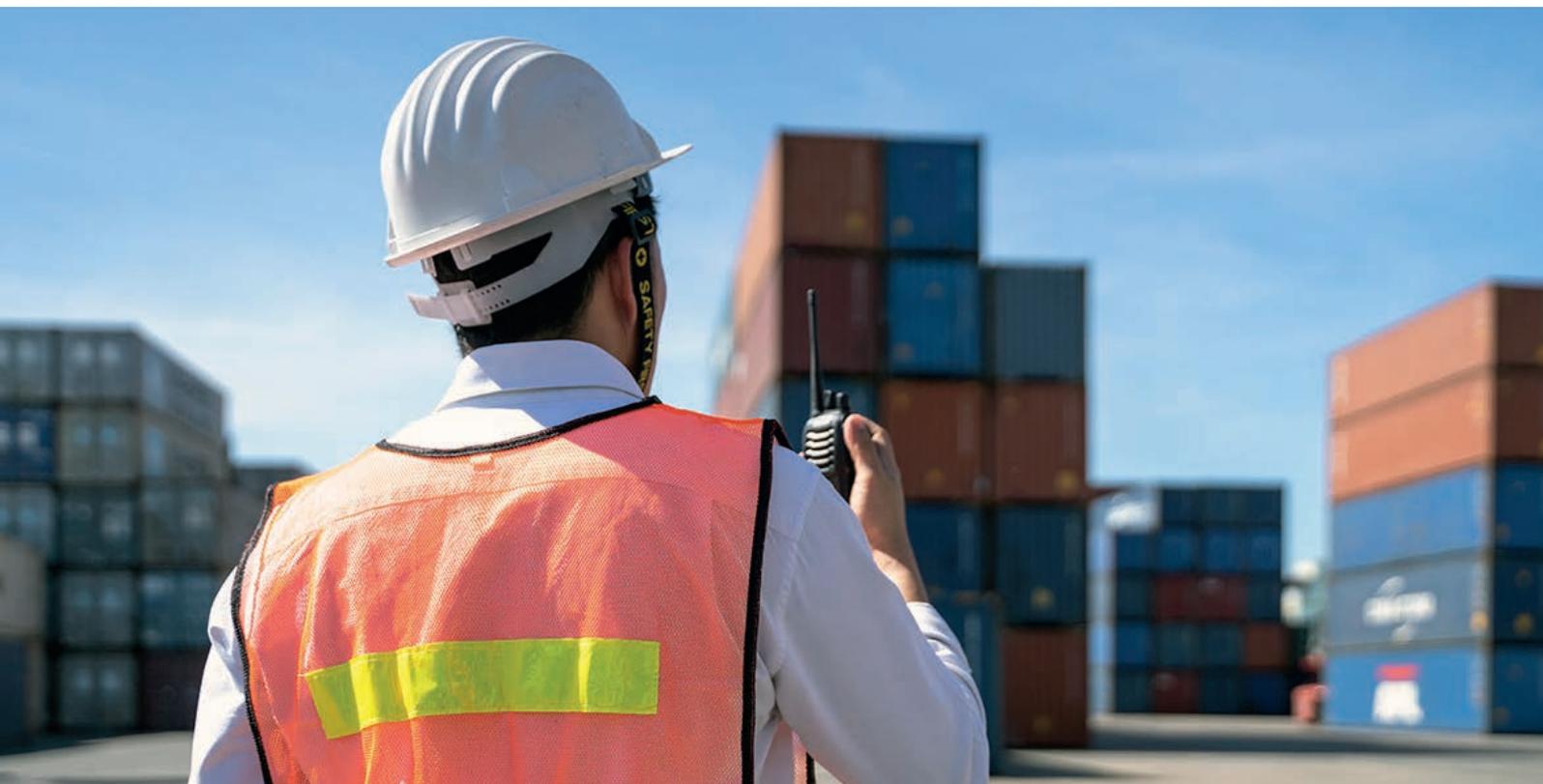
Featuring the characteristics of a powerful SCADA platform, VBrain provides real-time monitoring, command and control, ensuring cost effectiveness and timesaving for maintenance and management processes, also preventing system failures, as well as ensure business continuity.



CRITICAL COMMUNICATIONS

Efficiency, safety and security has a core element in the communication system that becomes critical to ensure continuity and reliability. Leonardo, acting both as a technology provider and system integrator, develops cutting-edge radio communication solutions guaranteeing reliability, security and coordination of all the operations and bodies in this complex scenario.

<p>MCX (broadband)</p>	<p>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.</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>
<p>TETRA / DMR (narrowbnd)</p>	<p>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).</p> <p>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.</p>
<p>Hybrid networks</p>	<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 TETRA, DMR and MCX components.</p>



CYBER RESILIENCE

Ports and facilities are becoming increasingly complex and dependent on the extensive use of information and communications technologies (ICT) at all stages.

Failure to address security risks could lead to serious injury or fatality, disruption or damage to port systems, loss of use of buildings, impact upon business operations, reputational damage, loss of revenue, financial penalties or litigation.

It is essential that cyber security be considered as part of a holistic approach for the whole infrastructure.

Leonardo can help Ports make changes to their cybersecurity posture and develop stronger, risk-based cybersecurity approaches through a wide offer portfolio.

Leonardo’s services and platforms guarantee the monitoring and predictive, proactive protection of strategic data and assets.

Furthermore, 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>Cyber resilience & Consulting services</p>	<p>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.</p>
<p>Global Cybersec Center and Advanced Managed security services</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>Cyber security platforms</p>	<ul style="list-style-type: none"> → 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.



HIGHLIGHTS

Leonardo designs and deploys effective, secure and reliable solutions matching the challenging requirements of port and logistics sector.

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

The Leonardo long experience in the port and maritime domain, the wide solutions portfolio and the leadership in technology and innovation are the elements on which our offer is built for a more efficient, safe and sustainable port of the future.

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