



Transformation to smarter ports with Digital Age Communications

Alcatel-Lucent Enterprise delivers flexible, secure and highly available [Digital Age Communications](#) to move from a connected to a [smart port](#).



Sea transport is the backbone of the world's economy, with 90% of the world's trade carried by sea, according to International Maritime Organization¹. Because of its place of importance in the worldwide economy, ports and shipping are also recognised as significant contributors to air pollution. In fact, European Maritime Transport environmental reports indicate that ships produce 13.5% of all greenhouse gas emissions from transport in the EU².

In the seaport and logistics industry, there are many stakeholders involved in the end-to-end process, all working towards a common goal of delivering cargo to its intended destination safely, securely and on time. Collaboration is key to coordinating operational activities in the most cost-effective way, improving overall competitiveness, while ensuring

environmental sustainability and providing full traffic stream transparency to all involved parties.

Seaports and shipping face many challenges that impact their operations, competitiveness and sustainability. To be successful, they must embrace digital transformation, which includes updating technology that complies with government regulations. This update helps increase capacity, mobility and security, while improving sustainability and efficiency.

Smart ports and logistics companies rely on connectivity, digitalisation, and real-time communications and collaboration. Tackling these challenges requires three key areas of improvement:

- **Passenger experience**
- **Operational efficiency**
- **Safety and security**

ALE is here to help

Alcatel-Lucent Enterprise provides the technology building blocks to interconnect transportation sub-systems and offer innovative and smarter services. Those building blocks include professional services, data networks, voice communications and cloud collaboration solutions.

¹ - [International Maritime Organization](#)

² - [European Maritime Transport](#)

Solution sheet

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Improving the customer experience

Digitalisation supports new forms of interaction with customers, including enriching applications with contextual information and providing the right assistance to ensure transparent and problem-free service access. Digital interactions also enable customer care service to ensure a satisfied customer experience.

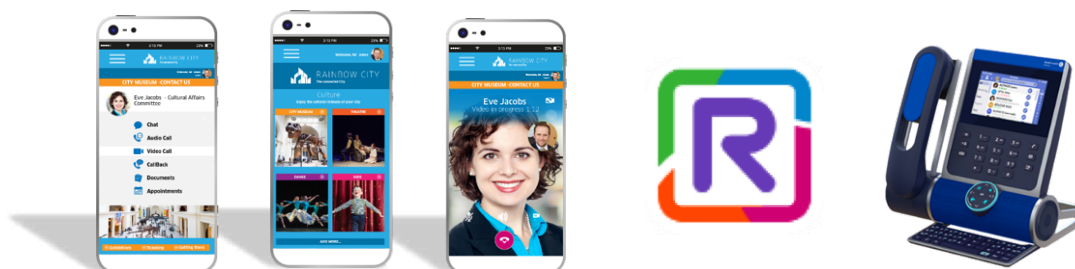
- Customer-centric services
- Digital interactions
- Real-time information and communications



For logistics companies, a closed relationship with the end-customer, freight companies and service providers is fundamental in the booking service process. The CRM application is enhanced with communications services using Rainbow, the Communications Platform as a Service (CPaaS), to provide synchronisation of incoming calls with the customer profile and click-to-call from the CRM customer file. The goal is to improve response time and real-time support using the Rainbow connector. Additionally, the cloud-based solution lets companies flexibly and dynamically scale up and scale down their customer service staff based on seasonal demand, to optimise the resource strategy.

There is no a good customer experience without the right tools, Alcatel-Lucent Enterprise provides solutions for a seamless **Digital Workplace**, enabling employees to successfully work from anywhere with the right apps and devices including:

- Innovative desk phones and mobile DECT handsets
- Automated and customised welcome greetings
- Call taking/dispatching console
- Real-time customer interaction through integrated multimedia communications (IM, voice to video) with [Rainbow™ by Alcatel-Lucent Enterprise](#)
- APIs to integrate with business applications to enable customer service



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Enhancing operational efficiency

Communications solutions are vital to coordinate activities such as terminal monitoring and back office, across teams to enable them to execute their main tasks. Adapted communications over a variety of devices such as desk phones, smartphones, mobile DECT handsets and softphones for warehouses, other radio communication devices and objects help address the multitude of requirements. As well, instant collaboration tools and multimedia conversations over IM, voice and video enable quick decision-making and problem resolution.

Operational efficiencies are enhanced with the Internet of Things (IoT). Capturing data and automating processes through IoT offer improved visibility and provide information needed to anticipate mechanical defects or incidents, which can simplify preventive maintenance tasks. IoT devices are intended to facilitate port operations such as ground water level detection, guarding port boulders, buoy availability, container tracking and high voltage cabinet protection.

With the Alcatel-Lucent Enterprise **Connecting Everything** approach, **IoT adoption** is made easy through solutions that enable:

- Bidirectional communications between devices and people
- Notification from different sensors over a wide range of devices
- Coordinated calls-to-action to improve and automate business processes
- Reinforced security using Artificial Intelligence (AI) to help with decision-making through data analysis of contextual information

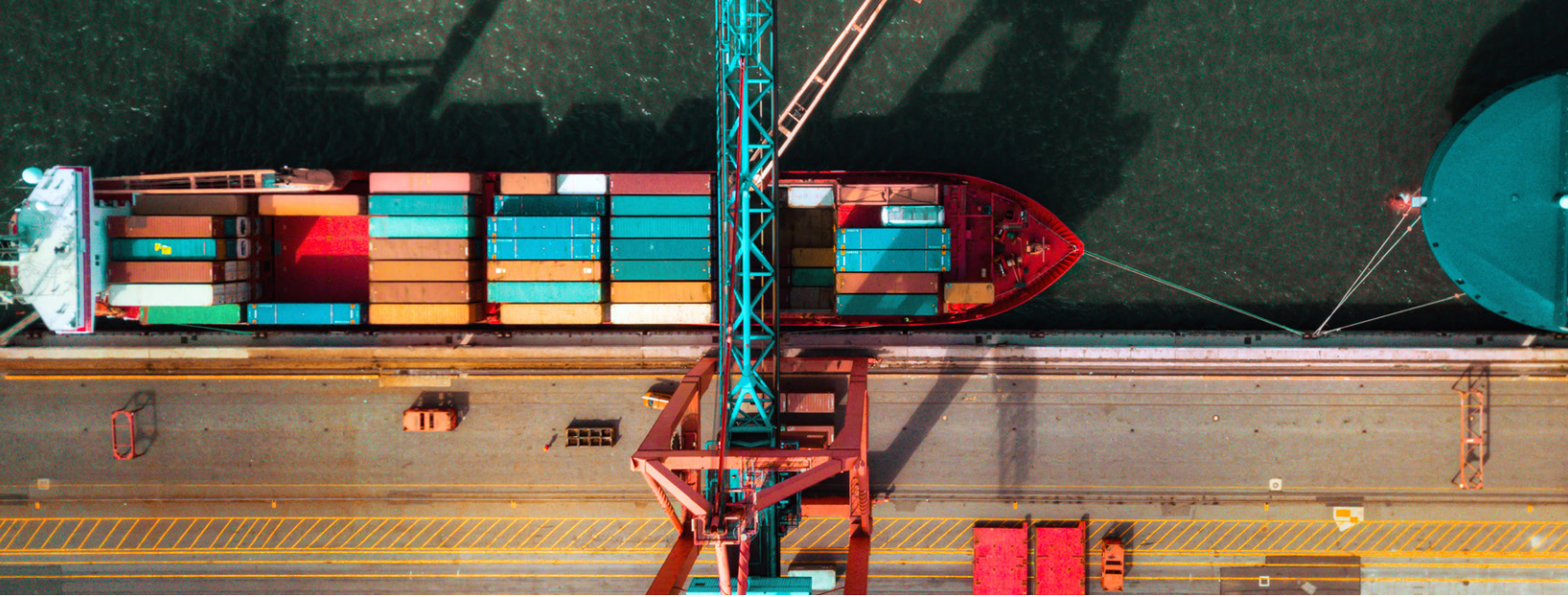


50 billion dollars worth of cargo is stolen each year according to the National Cargo Security Council. Container tracking with sensors that detect door opening/closing, light, humidity, location, G-force and shock are key to ensuring cargo integrity. When something goes wrong with the container a sensor can trigger an action and send messages, using CPaaS services integrated into the operation application environment, to notify the security team to coordinate tasks related to the irregular situation. Additionally, to provide contextual information to the event, the closest video camera can be engaged to check out the zone and plan accurate actions to deal with the incident.

IT teams benefit from operational efficiency. **Flexible Cloud models** help port operators embrace change by offering a wide range of private, public and hybrid cloud communications solutions providing innovative and new services with lower upfront costs. Rainbow cloud-based solutions also leverage interactions with AI and BOTs, as well as data from IoT devices and business systems for more informed, accurate, and faster decision-making.

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Increasing safety and security

Safety and security will always be the top priority for port operators. Mission-critical voice communications are key to ensuring staff safety and operational security. To meet these requirements, Alcatel-Lucent Enterprise delivers a:

- Highly available, robust and resilient architecture ensuring non-stop operations and business continuity
- Future-proofed, evolving communications platform providing investment protection and smooth transition to new business models



Connecting a variety of security IoT devices such as intelligent video cameras for intrusion detection, access control detection devices, fire detection and emergency call point to identify incidents is essential to assure the ports' security and support border security team activities. The call to action from any IoT is displayed as a notification over a wide range of devices such as mobile phones, PCs and telephones using different communications media including text, voice and video. A combination of communications solutions such as CPaaS services and communication servers allows bidirectional communications with the IoT devices to collect contextual information about the incident to coordinate actions and improve operators' decision-making capabilities.

ALE also offers a rich set of advanced digital solutions that:

- Enhance security through alarm notification servers
- Improve crisis management using emergency notification and broadcast solutions
- Provide conversation and screen activity recording
- Enable the integration of communications with the Operation Control Centre ecosystem through a complete set of APIs
- Improve on-site intervention using multimedia collaboration between experts and on-site technicians



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