



Seaports and Logistic Services win with Alcatel-Lucent Rainbow

Connected seaports and efficient terminal operations address future challenges

Solution Brief

Seaports and Logistic Services win with Alcatel-Lucent Rainbow

Alcatel-Lucent 
Enterprise

Alcatel-Lucent Rainbow™ Communications Platform as a Service (CPaaS) for seaports and logistics services connects stakeholders to enable efficient operations and increase security. Rainbow CPaaS delivers communication services and collaboration technologies across and beyond your organization, optimizing your business processes and improving your customers' and staff's experiences.

From connected to smart seaports

Seaports are the backbone of worldwide trade because shipping is the most economical way to transport goods around the world. According to the [International Maritime Organization](#), 90 percent of world trade is carried by ships.

However seaports are facing a number of challenges that impact their operations, competitiveness and sustainability. These challenges include:

- Increasing capacity
- Improving security
- Updating technology
- Mobility
- Efficiency
- Artificial Intelligence (AI) and automation
- Security
- Sustainability
- Governmental regulations

Operations in a seaport are diverse and complex, so all stakeholders (for example; Port Authority, Customs, Terminal Operators and Carriers) need to be fully synchronized for the entire process to run smoothly. A collaboration tool that can support the end-to-end process is key. Collaboration is fundamental to:

- Effectively coordinate operational activities
- Automation and AI to minimize costs
- Improve overall competitiveness
- Ensure environmental sustainability
- Provide full transparency about traffic streams to involved parties
- Reduce the carbon footprint

The end-to-end process including loading and unloading cargo from ships, clearing customs, and transfer to other modes of transportation to complete the delivery require close collaboration among key stakeholders.

According to the [Port Logistics and 2019 Trends - Global Trade Magazine](#), port automation and the integration of technology solutions are trends that took charge in 2018 and they show no sign of slowing down in 2019.

At the heart of the smart and connected port is technology. However, success also requires a group of consistent and coherent long-term strategies that take into account sustainability, climate changes, technology, industries and the existence of the port in the future.

Digital technologies are the cornerstone of seaport transformation because they will improve on current logistic services, offer new operational models and open new business growth areas.

The commercial process and transactions related to the goods, from the seller to the buyer, across logistics, shipping line and seaport, is vital. Digital transformation of this process, with the adoption of blockchain, improves transaction time, reduces paperwork and improves efficiency.

All devices, business process, applications and personnel must be interconnected. Communicating between each other to connect ports, IoT, data analytics and collaboration applications through CPaaS will enable seaports to become more intelligent and flexible to address new challenges and requirements more effectively.

Seaport operators are embracing digital transformation to move from a "connected" to a "smart" seaport to address today's challenges as well as future challenges.

Efficient operations are fundamental for transportation operators' daily scheduling. To optimize operations, collaboration between different stakeholders is vital; it enhances and shortens the decision-making process, helps operators execute their daily schedule and coordinate actions in a timely manner in case of service disruptions. Integrating a CPaaS solution with business processes, to allow communication and collaboration services, is a necessity.



Why Alcatel-Lucent Enterprise?

ALE provides a secure solution that enables innovative services and applications for transportation operators.

This is based on three main objectives:

- Transforming the customer experience
- Improving operations
- Increasing safety and security

Transforming the customer experience

[Rainbow CPaaS](#) platforms embed collaboration services into existing business applications. API (Application programming interface) deployment enables seaport authorities and operators to connect and provide real-time communications capabilities such as messaging, voice, collaboration and video to transform their customer experience.

Transparent business-to-business relationships are fundamental for freight forwarders. Real-time and accurate information is key to business success and it improves satisfaction and loyalty. Benefits of an integrated Rainbow CPaaS collaboration tool include:

- Empowering the seaport operator application to enable the service provider, or end customer to access the group of available services. They can be informed in real-time, via chat bot about the cargo status, including load, discharge, and storage and dispatching, and provided real-time support from the right staff.
- Support of a mobile workforce for better coordination between stakeholders through a common application environment that allows collaboration and communication services to achieve seaport operations.
- Integration with a Customer Relationship Management (CRM) application or any other service provider application to provide online support for customers through a specialized agent during the freight service booking process.

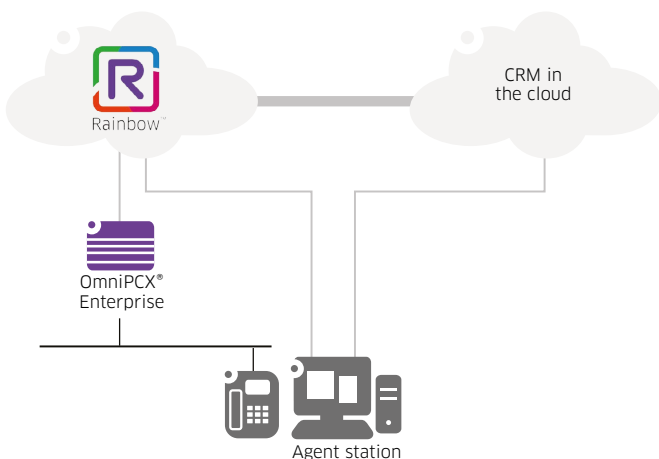
Improving operations

On-time, safe and secure cargo deliveries are the main seaport operations objectives. IoT adoption and AI can take operations to the next level. [Rainbow CPaaS](#) can be integrated into business processes to provide better coordination between stakeholders.

Rainbow CPaaS is the perfect solution to integrate communications IoT devices and AI applications. The increasing adoption of IoT devices and AI opens new opportunities to optimize and innovate operational activities. Different types of IoT devices, intended for operational purposes, can be connected through Rainbow CPaaS to seaport staff and processes to communicate and add value to the operational chain. Furthermore, leveraging AI provides process automation and proactive actions by analyzing data content and learning from new situations and context to improve the decision-making procedures.

Operational efficiency, driven by IoT adoption, is one of the main challenges that smart ports face, specifically in the logistics supply side such as warehouses and terminal operators. Location-based services (LBS), the Wi-Fi network, and CPaaS integration play an important role in taking operations to the next level. Alcatel-Lucent OmniAccess® Stellar LBS provides services such as indoor location, geofencing, geolocation, geonotifications, wayfinding and asset tracking based on Bluetooth Low Energy (BLE) and the Wi-Fi infrastructure. The combination of these solutions can provide new services and add value for port operators including; saving time, tool availability, easier port operations, automation and closed collaboration between stakeholders. Rainbow CPaaS:

- Improves daily operations for the Operations Control Center (OCC) staff by providing the right communications tool for stakeholders to collaborate and to be informed in real-time about any incidents.
- Enhances borderless collaboration by improving coordination between the stakeholders involved in the complete supply chain process. A homogeneous application environment enables collaboration between different companies that work toward a common goal.
- Enables the implementation of IoT devices intended to facilitate port operations such as, ground water level detection, guarding port boulders, container tracking, buoy availability and high voltage cabinet protection, with CPaaS integration into the business process and IoT hub as a front end, to allow bi-directional communication to the IoT environment.



Solution Brief

Seaports and Logistic Services win with Alcatel-Lucent Rainbow

- Improves operation inside the warehouse through asset tracking of forklifts, yard vehicles, cranes and trucks. Efficient asset management is key for warehouse or storage activities which are highly time dependent. LBS asset tracking lets operators locate the closest, right asset in an indoor space using wayfinding and propose the optimal path to retrieve the asset. As well, CPaaS integration into the end user app can automate service requests for different assets.

Increasing safety and security

Security is a high priority for seaports. With vast areas and attractive goods they are targets for illegal actions, including theft and vandalism. That can affect operations and incur significant losses. For example, according to [Globe Tracker](#), \$50 billion USD of cargo is stolen each year. For those reasons, security is a crucial concern for seaport authorities.

Rainbow CPaaS offers seamless integration with security applications and business processes. It connects devices and it can leverage AI, to enhance day-to-day seaport operations by automating regularly occurring actions and decisions and detecting potential risks. Rainbow CPaaS:

- Enables the monitoring of container status such as door opening/closings, location, light, humidity and G-force, and provides notification of global alarm activity to the security team. Through connected devices (IoT) in the containers and seaport areas intended for different purposes, such as security and operations, the right security team can coordinate actions, and improve the decision-making process between multiple players.
- Supports border and port security team activities by 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 declare emergency incidents, and it can notify the security team over a wide range of devices such as mobile phones, PCs, mobile radios, and phone sets using different communication media such as text, voice and video.

Learn more

Go to our dedicated developer website to get more information. <http://hub.openrainbow.com>

Visit our [website](#) for more information about Rainbow Cloud Services.



Connected Transportation

Where your customers connect for the best transport experience. Where you connect securely for speed, comfort and safety. Where your transportation infrastructure connects to enhance communications, security and efficiency.

