



# Cloud communications and collaboration to enable multimodal transport

Enhance operations, safety, security and the passenger experience with Rainbow™ by Alcatel-Lucent Enterprise

Rainbow™ by Alcatel-Lucent Enterprise delivers cloud communications and collaboration across your organization—and beyond. It connects passengers, operations, security teams and business processes. Rainbow can be deployed on your premises, on your private cloud or in hybrid mode,

adapting to your business requirements. Using Rainbow services, you can coordinate your daily operations and respond quickly in the event of an accident or emergency. It opens new dynamics as Rainbow is very well adapted to multimodal transport and multi-companies' environments.





# The connected journey: Communications and collaboration are key in transportation

Transportation services are essential to modern life, supporting the movement of people, goods and businesses. Service efficiency affects public safety, economic stability and daily life. To keep operations running smoothly, transportation operators and mass transit systems must prioritize efficiency, reliability, safety and security.

But unexpected disruptions and threats can arise at any moment. Operators need to stay prepared and respond quickly to ensure service continuity. **This means managing multiple modes of transit and coordinating with various providers.** Communication and collaboration tools help stakeholders work in sync to accelerate decision-making and improve response time.

Rainbow™ by Alcatel-Lucent Enterprise is a **cloud-based collaboration service** that empowers individuals and organizations to connect and collaborate more efficiently, regardless of where they are located. Available on desktop, web, smartphone and tablet, Rainbow provides **rich collaboration features** such as contact management, presence, chat, audio/video conferencing, screen and file sharing.

Through powerful APIs, Rainbow can be **integrated with business and operational processes**, enhancing existing applications with advanced communications and collaboration capabilities. It enables staff, passengers and various transport providers to connect within the same tool, improving communication efficiency.

## Solution brief

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## Customer use case 1

**A major urban transportation operator for metro and buses** wanted to improve the collaboration within their maintenance and repair teams that oversee almost 2000 buses across 200+ bus lines.

### Challenges

- Speed up repairs and keep transit operations on schedule
- Get the buses back to the road as quickly as possible
- Share knowledge and expertise to accelerate learning

### Solution

The **Rainbow UCaaS** hybrid model, based on an on-premises communication server, enables team members to communicate instantly through their smartphone using text, voice or video, providing always-on support across teams.

### Benefits

- Shared pictures and video enrich the knowledge database and speed up problem resolution from anywhere, at any time
- Creation of dedicated groups (or “bubbles”), focused on repair-related topics, helps teams stay aligned with their goals
- Integration with the Visual Notification Assistant (VNA) enhances mass notifications, ensuring instant and simultaneous alerts reach people wherever they are—whether in depots or on buses



## Transforming the passenger experience

In today's digital age, always-on connectivity is what passengers expect most from transportation providers—before, during and after their journey—**regardless of the mode of transport**.

Travelers rely on constant connectivity to efficiently plan their trips from point A to point B and to have access to multimodal transport options such as bikes, trains, car-sharing and taxis. They need to be connected to the passenger community and have **access to real-time transportation system information** like service disruptions, trip re-scheduling and emergency incidents, —while staying online on the go.

With the Rainbow Communications Platform as a Service (CPaaS) and its **rich set of APIs and SDKs**, software developers and integrators can quickly enhance passenger websites, mobile apps and workflows—without the need for redevelopment. Instant communications, integrated calls, video collaboration and notification features transform transport operators' applications by enabling **real-time communication capabilities**:

- **Websites**—Transportation operators can integrate Rainbow into their website to create a connected portal, offering passengers support through chatbots, text messages, voice and video communications—making it easier to get help when they need it.
- **Applications**—passengers can plan door-to-door trips, make payments, get real-time travel information using chatbots and re-schedule journeys. Integrating Rainbow enriches the travel experience by providing personalized communication services, contextual information and real-time support from transport staff.
- **Ticketing kiosks**—passengers can get real-time help through text, voice, or video, helping them stay on schedule.

- **Passengers with reduced mobility** can connect directly with a special assistant through the application. They also receive guidance on accessible routes and facilities to make their journey easier.

### Customer use case 2

Faced with the need to enhance the passenger experience, **a high-speed rail operator** sought a solution to provide seamless, hassle-free journey.

#### Challenges

- Minimize the impact of train delays and cancellations on passengers
- Reduce wait times at all stages of the journey
- Empower passengers to manage their own travel independently

#### Solution

**Rainbow CPaaS** enables communications and collaboration services to be integrated into the operator's mobile application, web pages or on-station kiosks.

#### Benefits

- Provides real-time support by enabling passengers to initiate a video or voice call with an agent when they need it, such as check-in, boarding, ticket changes and more
- Reduces waiting lines at physical service desks by offering a smooth, uninterrupted digital experience
- Reduces the number of unpaid rides by helping passengers obtain the correct tickets

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## Increasing safety and security

Safety and security are at the forefront of every transportation operator's mission. To safeguard passengers and staff, it's essential to deploy intelligent solutions that protect, detect, and respond to potential threats—ensuring a safe and resilient transportation system.

Rainbow provides operators with **a collaboration platform that allows faster incident resolution**. Rainbow is even more efficient in **a multimodal and multi-operator context interacting with any existing communication systems**:

- **Passengers are active participants in the security process**, using the operator application to identify suspicious activities or luggage.
- **Rainbow bubbles (group chats)** let security staff quickly alert and inform each other of any incidents and allows them to collaborate to resolve issues.
- **Alert tone and priority-based messaging**, such as Emergency, Important, Informational or Standard, inform on event criticality. Acknowledgment tracking ensures timely response and accountability.
- **The large amount of IoT in transportation for safety, operations and passenger services** require connecting objects, systems, business processes and people. Rainbow provides two-way communications to receive information from devices, such as video surveillance cameras and sensors, control them, collect statistics and notify the right team about any specific activity.
- **Rainbow ensures data safety and security**. It enforces data sovereignty through privacy-conscious hosting on over 20 data centers. By implementing robust encryption and access controls, it complies with the highest national and international regulatory standards, including **ISO 27001, CCPA and GDPR**.

### Solution brief

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### Customer use case 3

**A worldwide general contractor** provides public transport operators with turnkey solutions composed of multiple technology blocks. The Operations Control Center (OCC) is an important unit, where several applications need to be interconnected to manage operational activities and security incidents.

#### Challenges

- Deal with multiple security systems, such as Emergency Help Point (EHP) requests, Public Announcements generation, onboard communication assistance and regular operational activities.

#### Solution

The **Rainbow Hub** all-in-one platform provides operational communications and collaboration services such as video conferencing, file sharing, chat and group creation.

#### Benefits

- Choice of public cloud or private implementation model
- Openness capabilities enable easy integration in the OCC ecosystem
- Interconnection to third party systems, such as broadband radio/5G, public announcement (PA) and emergency communication systems, etc.



## Improving operations

Improving operations is about making faster and better decisions, optimizing operational procedures, keeping on schedule, coordinating all stakeholders and quickly recovering from disruptions—all while staying on budget.

Here's how Rainbow **improves collaboration among operations staff**:

- **Real-time information** is shared about work in progress, such as installation and maintenance tasks.
- **Seamless communications with other teams.** Using different communication systems such as radio, telephony, mobile devices and intercom, is quick and easy. Rainbow is a relationship machine that can work as a federator system to connect existing systems.
- **Remote Visual Assistance**, powered by Rainbow, allows field workers to request real-time support from Operations Control Center (OCC) experts, who can see exactly what the technician sees. Equipped with a headset, camera and connected bracelet, the technician receives real-time help, optimizing time-to-resolution.
- **Rainbow Classroom** is a digital training tool that empowers experts to share their knowledge through virtual and multimedia sessions. It supports the training of operational staff and the onboarding of new employees, keeping teams informed, motivated and engaged.

Rainbow offers a **flexible solution for services and organizations of all sizes**, seamlessly integrating with existing on-premises telephony systems—eliminating the need to rip and replace. **With deployment options across public, private or hybrid cloud and scalable subscription models**, it adapts to your operational needs and budget as you grow.

### Solution brief

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## Customer use case 4

**A leading company in the cruise ship industry** is seeking a mobility solution to enhance collaboration among its operational staff of over 1,000 members while they're on the move on the ship.

### Challenges

- Enable communications in all ship areas (rooms, kitchen, entertainment areas, corridors, etc.) to improve service quality and efficiency
- Ensure always-on, independent internet access for collaboration web-based applications
- Integrate seamlessly with the existing communication platform that provides telephony services to cabins and crew
- Minimize the high cost of satellite-based internet access

### Solution

Based on a private cloud, **Rainbow Edge** delivers mobile communication and collaboration services on top of the existing ship's communication, LAN and WLAN infrastructure.

### Benefits

- Independent communication and collaboration services from external internet access
- Protection of sensitive data
- Remote maintenance and upgrades via satellite, maintaining full control of the application
- Compliance with local regulations





Whether it's air transport, ports and logistics, intelligent transport or railway bus or metro operators, all must work smoothly and collaboratively together to provide the best service for passengers and customers. Rainbow is a powerful and secure platform that improves operations, accelerates problem solving and builds confidence and trust throughout the entire door-to-door passenger or freight journey. It's a smart way to embrace digital transformation in your organization.

## Connected Transportation

At Alcatel-Lucent Enterprise we help you connect transportation systems with technology that works across and beyond your organization. With global reach and local focus, we deliver networking, communications and collaboration services built for transportation systems, to deliver mobility, security and safety.

## For more information, visit:

[ALE Transportation solution pages](#)

[Rainbow website](#)

[Rainbow website for developers](#)

