

SMART PORTS AND LOGISTICS

PASSENGER TERMINALS

When embarking and disembarking at terminals, cruise passengers are eager for good Wi-Fi and connectivity. At the same time, staff and ship data must also be downloaded. A cybersecure way to differentiate between the two traffic types is critical. In addition, cruise ships can enhance the passenger experience with real time access to traveler information systems and displays.

CUSTOMS AND PORT AUTHORITIES

Customs ensures that goods comply with legal and regulatory requirements, while port authorities oversee port operations and logistics. Communications services such as Instant Messaging (IM), voice, video and file sharing can enable effective collaborations between service providers, port operators and authorities. This collaboration, based on real time and accurate information, is critical to improving operations and customer satisfaction.

PERIMETER SECURITY AND EMERGENCY

Ports are targets for illegal activities, including theft and vandalism, which disrupt operations and cause loss of goods. Proactive solutions to protect, detect and react are essential for security teams. Security IoT devices such as smart cameras, access control, fire detection and emergency call points, combined with real time communications and contextual information, improve incident response time.

ABOARD SHIPS

Mission-critical networks connect always-on functions such as radar, piloting and surveillance and ensure communications between crew and command. Equipment must be designed for inclement weather conditions, such as humidity and salt, and comply with DNV certification. The shipyard's environment requires high connectivity and efficient communications and collaboration tools to support industrial activities such as construction maintenance and repair.

WAREHOUSES AND LOGISTICS

Loading and unloading ships is a key port activity. Today, most cranes are equipped with video cameras and Wi-Fi for remote control. Containers and materials are stored indoors and outdoors. The port is the hub where a constant flow of vehicles transports them to various destinations. In the warehouses, Isolated Worker Protection and Remote Visual Assistance services help field workers stay connected and protected from hazards. Collaboration tools can assist logistics companies with the complex process of service and transport bookings, which strengthens their customer relationships.

OPERATIONS CONTROL CENTER (OCC)

The OCC coordinates and monitors port operations and ensures 24/7 service delivery. Integrated communications improve collaboration and speed response times. A mission-critical architecture is key to protect against cyberattacks. Video is a valuable tool to enable the OCC to more effectively oversee all operations, improving efficiency, safety and security.

Digital transformation enables operators to move from connected to smart transportation in a secure and sustainable way.

Alcatel-Lucent accelerates the digital transformation for rail, air, ITS, ports and logistics operators around the world. We help you connect your transportation subsystems with technology building blocks enabling smarter services for your staff, customers and passengers.

Read more on:

www.al-enterprise.com/en/industries/transportation



Shaping the future of transportation

with smart and secure networks, communications and collaboration solutions

ON TRACK: SAFE AND SECURE RAIL

1

STATION/PLATFORM

Wi-Fi and cloud-based collaboration can help travelers, whether booking tickets or looking for directions. Enrich the passenger journey with chatbots, innovative applications and Artificial Intelligence. And make network access cybersecure by design to prevent threats.

3

TRACKSIDE

Ruggedized Ethernet switches that withstand harsh conditions provide trackside technology to support subsystems such as signaling, emergency telephony, video surveillance and Wi-Fi. On-track sensors deliver real time information to help identify problems before they cause issues.

2

ONBOARD

Voice, web and mobile applications make the journey easier and more enjoyable. Proactively provide information and integrate chat, voice and video to deliver a personalized multimedia experience. In the event of an incident, passengers can request assistance through the onboard mission-critical communications system.

4

OPERATIONS CONTROL CENTER (OCC)

Integrating private and secure cloud-based applications and a management platform into the OCC simplifies day-to-day operations. A converged mission-critical architecture reduces the number of networks that require support and management. Fully integrated communications and collaboration accelerate response and resolution times.

5

TUNNELS

Today's rail tunnels are marvels of modern engineering. However, challenges remain, including how to:

- Connect thousands of datapoints in extreme conditions
- Ensure stable communications when accidents happen
- Provide a network monitoring and control system
- Guarantee safety for maintenance teams

THE OPERATIONAL AIRPORT JOURNEY

1

PASSENGER CONNECTIVITY

Enhance passenger comfort during their dwell time and provide access to airport and airline services by prioritizing quality Wi-Fi. For an even more powerful and strategic approach, deploy Wi-Fi® 7 and integrate cybersecurity by design into your connectivity solution.

3

OPERATIONS CONTROL CENTER

The brain of all airports for monitoring and coordinating operations. Integrated communications improve collaboration, speed response times and minimizing the impact on passenger services. Centralized management and private, secure cloud-based applications can streamline day-to-day OCC operations. And a mission-critical architecture is key to protect against cyberattacks.

5

EMERGENCY COORDINATION

Collaboration enables the coordination of multiple emergency services at the right time and place. Enriched with contextual information such as geolocation or video cameras, people or sensors can trigger emergency processes. Automation accelerates the decision-making process and reduces response time.

6

PERIMETER SECURITY

Due to the critical role airports play, all outdoor areas must be secure against any physical intrusion. This requires many high-resolution cameras monitored in real time, and ruggedized network equipment with rich protocols to support this specific traffic flow. Remote management is essential, and even better when embedded in the video management system with the ability to reboot frozen cameras.

4

PREVENTIVE AND PREDICTIVE NETWORK MAINTENANCE

Artificial Intelligence (AI) tools play a pivotal role in identifying and avoiding potential network issues, enhancing security and managing hardware risks. They ensure the efficient functioning and longevity of airport LAN and WLAN infrastructures. Potential issues can be identified and rectified before they become major problems, minimizing downtime and maximizing overall airport performance.

2

BAGGAGE HANDLING SYSTEM

Baggage delivery is a large and complex system, where any interruption can cause chaos. Deploy a mission-critical network infrastructure and a robust industrial network to connect all IoT devices such as sensors, QR and barcode readers, cameras and many more.

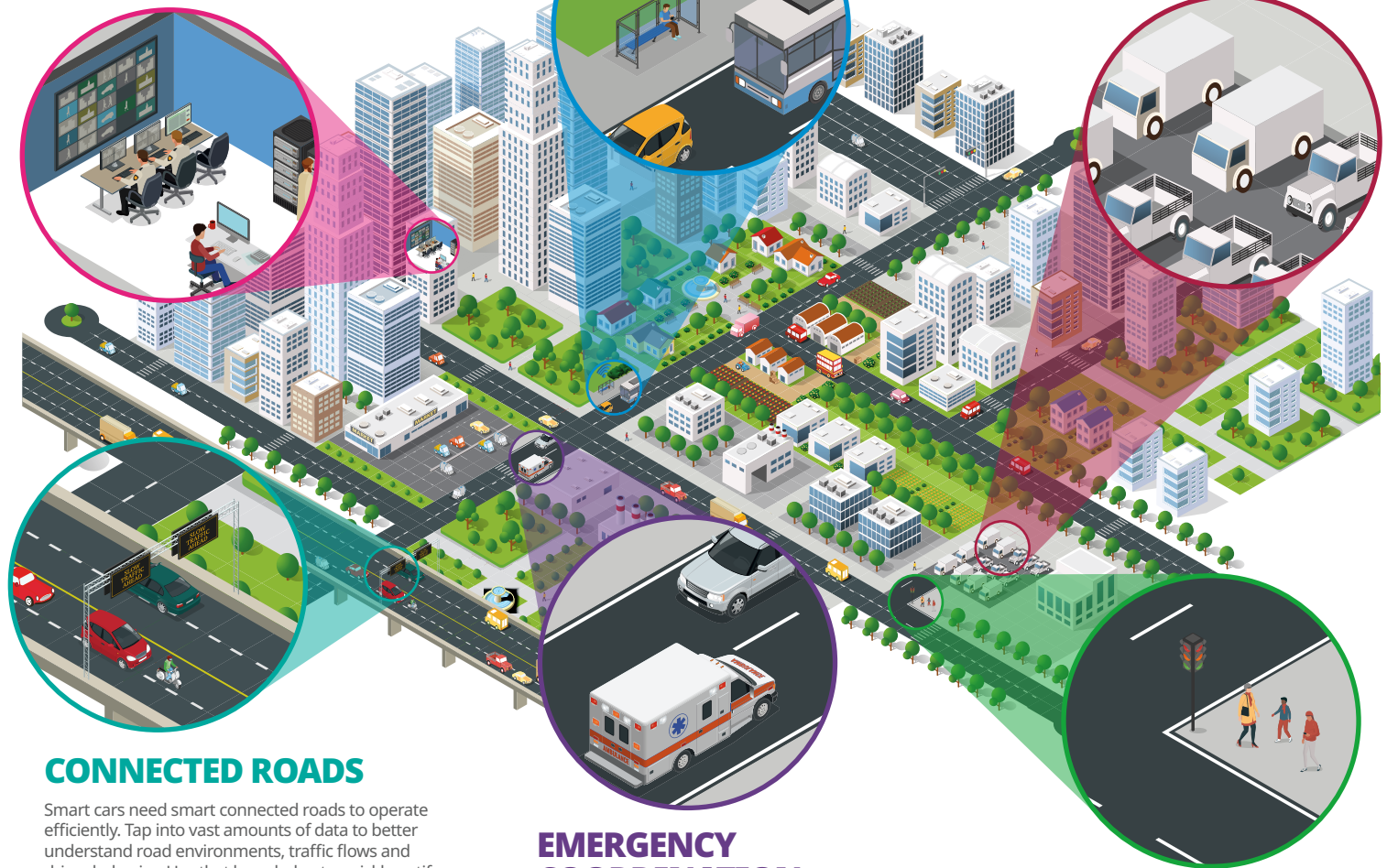
TRAVEL SMART WITH INTELLIGENT TRANSPORT SYSTEMS

CONNECTED BUS STOPS

Transit passengers require the most up-to-date schedule information as well as traffic and road condition data to ensure a safe and timely arrival. Dynamically push travel information to commuters. Use intelligent security cameras to easily detect and assist single or vulnerable riders.

IOT SENSORS FOR CAR PARKS

Mobile apps help find parking spots, but sensors and cameras are game changers. They help monitor air quality, vehicle emissions and safety incidents such as fire, flood, theft and vandalism. Automatically onboard IoT devices based on the right classification and profile. Protect these devices from cyberattacks and breaches by using strong security mechanisms (authentication, segmentation, policy attribution, sensor orchestration).



CONNECTED ROADS

Smart cars need smart connected roads to operate efficiently. Tap into vast amounts of data to better understand road environments, traffic flows and driver behavior. Use that knowledge to quickly notify authorities of incident information and communicate approaching road conditions to drivers.

EMERGENCY COORDINATION

When a critical incident occurs, decision-making and coordination are crucial. Deliver the right information at the right time to the right team with a mission-critical communications system, connecting all systems together. Better coordinate emergency response amongst security, ambulance, fire, police and maintenance staff using specific communications tools that enhance safety operations.

CAMERA-EQUIPPED TRAFFIC LIGHTS

With traffic volumes on the rise, digitized and connected traffic lights enforce traffic rules, monitor volume and help alleviate congestion. In the event of an accident, data from camera-equipped traffic lights help the OCC quickly alert assistance services. Camera synchronization and remote management are simplified through Internet Protocol (IP) connectivity.