

Continuity by design

Mission-critical networks and communications for manufacturing

Alcatel·Lucent

SOLUTION BRIEF



Downtime is not an option. When everything is connected and a link fails, real resilience is the continuity that follows.

Mission-critical describes any environment where downtime, a breach or loss of coordination has consequences beyond cost. These consequences can affect safety,continuity of essential services or compliance. Real resilience means being able to disconnect and keep operating, because mission-critical operations do not get second chances. Keep your people connected, your production running and your teams in control.

Why continuity matters now

Your operations just joined the network

Production processes increasingly rely on Ethernet and connected networks, generating data that can power analytics and AI for real-time visibility and predictive insights. But as connectivity grows, so does the potential attack surface.

IT and OT want different things

IT focuses on visibility and security, while OT prioritizes uptime and safety. Too much separation limits data sharing; too much central control can restrict OT. Shared data and clear governance bring both together without compromising their strengths.

Cyber risk reaches the production area

As production becomes more connected, cyber exposure grows. IEC 62443-aligned segmentation helps contain threats, while encryption protects communications with legacy equipment without disrupting production.

Modernization cannot mean interruption

Legacy systems must change step by step, without forced replacement, downtime or the loss of specialist systems performing critical jobs.

Three outcomes must hold for continuity, regardless of what fails around them

Coordination	Operations	Control
Connect teams, responders, operators and decision-makers through secure communication and collaboration.	Maintain resilient network and communications infrastructure that helps keep essential operations running.	Maintain visibility, security and governance across critical infrastructure, data and communications.



Coordinate across the plant

When something goes wrong, seconds matter. **Continuity of coordination** depends on two things: communication and collaboration tools that connect people, and the secure network that keeps those tools available. Operators, maintenance teams, supervisors and IT must be able to communicate and coordinate across OT and IT environments for a fast, effective response.

Coordinate the right response, at the right moment

- Deliver alerts and contextual information across sites, teams and devices
- Coordinate time-sensitive responses quickly and efficiently
- Connect office staff, operational teams, lone workers and field staff in seconds
- Bring internal teams and outside partners together in minutes through shared tools
- Integrate existing safety and security systems, such as video surveillance cameras, access control, radio networks, emergency help points (EHP) and public announcements (PA), without disturbing production

Solutions that support coordination

Communication in hazardous areas

Digital Enhanced Cordless Telecommunications (DECT) handsets keep staff reachable across large sites, indoors and outdoors. Explosion-proof, ATEX-certified models are available for areas with explosive atmospheres.

Targeted or plant-wide alerts

Visual Notification Assistant sends the right information to the right people, on the device each person carries.

Open integration

Application programming interfaces (APIs), connectors, gateways and developer tools help you connect the specialist systems and terminals you already use.

Protection for lone workers

Lone Worker Protection sends an alert with the worker's location when a worker falls, stops moving, or pulls the cord. If nobody responds, it escalates the alert automatically.

Collaboration across sites

Rainbow™ by Alcatel-Lucent supports secure collaboration between teams and locations. Outside partners can join as guests.

A resilient foundation

The network and Wi-Fi are designed to be without a single point of failure, with security built in. Omni Access® Stellar Wi-Fi does not rely on a central controller, so communications and notifications continue even if part of the network goes down.



Keep operations running

Production continuity relies on resilient networks, communications, integrated management and AI-assisted monitoring. These capabilities help detect problems early and simplify maintenance, keeping production running during equipment failures, network disruptions or temporary site isolation.

Keep production running

- Operate in harsh industrial environments with ruggedized equipment
- Keep voice communications available during outages or network disruptions
- Detect and resolve problems earlier, before they affect production
- Maintain and modernize infrastructure with minimal production disruption
- Ensure continuous connectivity for critical production systems
- Keep infrastructure supported throughout its lifecycle

Solutions that keep production moving

Ruggedized networking

Alcatel-Lucent OmniSwitch® industrial range covers three needs: extreme temperatures with PROFINET support, compact hardened use (including an IP67 model for AGVs), and resilient switch aggregation. All share one operating system.

Mission-critical voice

Alcatel-Lucent OmniPCX® Enterprise Communication Server Purple delivers resilient voice communications with redundancy, hot standby, call preservation and local survivability.

Tools for plant technicians

OmniVista Smart Tool helps non-IT operators see connected devices, test cables and reset ports on site. Network settings and security policies stay unchanged, and no cloud is needed.

Wireless across the plant

Alcatel-Lucent OmniAccess® Stellar access points provide Wi-Fi 6, 6E and 7, indoors and outdoors. Private 5G reaches production areas beyond the office. You see all of them in one Alcatel-Lucent OmniVista® console, under one security policy.

AI-assisted network operations

Alcatel-Lucent OmniVista® Network Advisor watches the network around the clock to detect issues, explain what is wrong (and where) and suggest fixes. Your team can apply updates with a single click or enable automatic remediation. The AI Virtual Assistant can also be queried in plain language.

Security cameras that stay on

The OmniSwitch VMS Plugin for Milestone helps security operators check and reset a camera from inside the video management system.



Stay in control

Manufacturers need visibility to secure increasingly connected production environments, while retaining control of their data, infrastructure and operations. You decide where data is stored, who can access it and how your production network evolves.

Modernization should never require you to give up control of data, access, pace or AI.

Keep control of your production environment

- Protect communications and control where operational data is stored
- See wired, wireless, internet of things (IoT), communications and production networks in one view
- Contain cyber threats and help keep production running during security incidents
- Use AI with your own data while retaining human oversight of recommended actions
- Modernize IT and OT infrastructure without being locked into a specific cloud model
- Prepare your network for future production, automation and AI needs

Solutions that support control

Sovereign collaboration

Rainbow Edge supports private communications and collaboration on premises. Data is stored in your own data center, so you keep control of your data.

Continuous verification

Zero trust network architecture (ZTNA) means no user, device or application is trusted by default. This helps protect mission-critical systems from unauthorized access.

Human-decided AI

AI-assisted operations give insights, recommendations and automation. Your team decides what to approve and what to automate.

Sovereign network operations

Alcatel-Lucent OmniVista® management tools can run on premises or in the cloud. They give you central deployment, visibility and control of your infrastructure.

Hardened software

Secure boot, signed software images and verified updates protect the network operating system from tampered firmware. Address layout randomization protects memory, and independent inspection checks the source code.

AI-ready data center

AI data center delivers a scalable design, intelligent automation and fast response times for modern AI applications.



Proven continuity in manufacturing



Scale without complexity

- Deutsche Aircraft - Germany
- An efficient and secure autonomous network supports the new production process of an aircraft manufacturer



Modernize networking and communications

- Polytype - Switzerland
- High-performance LAN, Wi-Fi 6, centralized network management and highly available VoIP support connectivity and workforce mobility



Connect people with production information

- CSF Inox - Italy
- Rainbow connects employees to enterprise resource planning (ERP) data through a virtual assistant, providing immediate access to stock, order and pump production information



Why Alcatel-Lucent Enterprise?

Strengthening continuity through data sovereignty and security

Protecting production data requires strong cybersecurity, regulatory compliance and control over where data is stored and how it is managed. At Alcatel-Lucent Enterprise, we:

- Follow National Institute of Standards and Technology (NIST) best practices for secure development
- Apply ISO 27001 standards to our organization and Alcatel-Lucent operated solutions
- Support zero-trust principles, granular network segmentation and highly specific security policies
- Conduct specialized security testing and validation
- Hold key industry certifications
- Support sovereign deployment models, including on premises, private cloud, public cloud and hybrid environments

We contribute to European Union proposals for cybersecurity directives. We help customers choose and use the right mix of secure networking, communications and collaboration solutions, and we train their employees in cybersecurity best practices.

Certified solutions, active risk management and trained staff help customers strengthen both cybersecurity and data sovereignty.

One partner for the foundation of continuity

Alcatel-Lucent Enterprise provides networking, communications and collaboration from one portfolio. Our solutions are used in hospitals, energy and utility grids, transportation networks and manufacturing facilities. They keep people connected, operations running and control with the people who own the system.

Continuity is not a hope or a promise. It is an architecture.

Learn more about Alcatel-Lucent Enterprise mission-critical solutions

Always connected. Always operating. Always in control.

Not all solutions are available in all countries.
Please contact your local Alcatel-Lucent Enterprise team for product availability.

www.al-enterprise.com

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