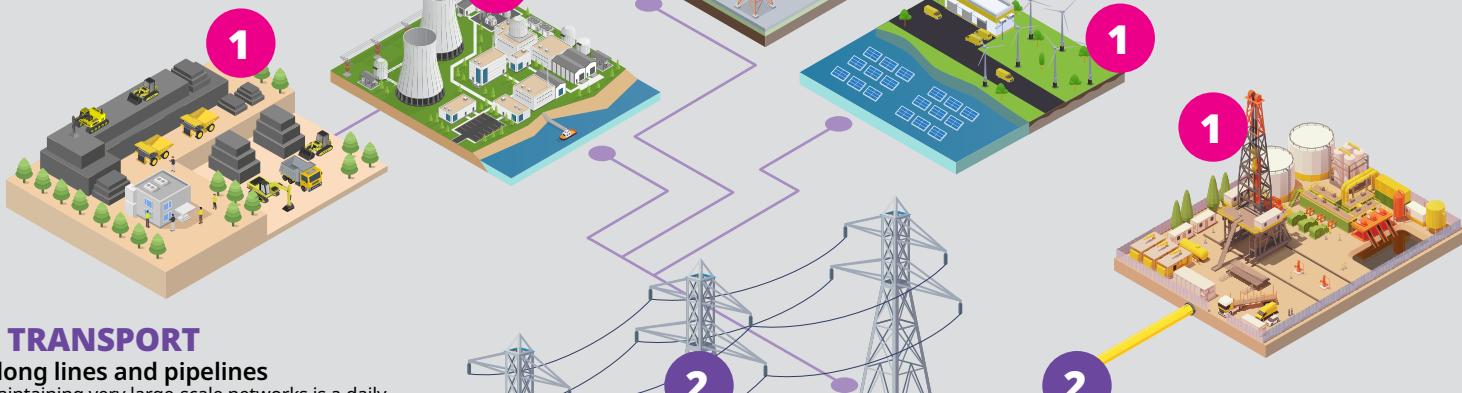# Smarter, safer and greener energy and utilities

## 1 PRODUCTION

### In plants

Production demands non-stop operations, **robust networks** and fast-recovery plans. **Mission-critical communications** are vital to connect all systems, ensuring that timely, accurate information reaches the right teams. **Ruggedized equipment** is required to maintain reliable connectivity and communication. **Wireless technologies** are often easier to deploy (e.g., Wi-Fi, private 5G). All of this highlights the importance of OT-IT convergence.

### For emergencies and security

During critical incidents, fast decision-making and coordination are crucial while staff safety remains paramount. **Context-rich alerts** (geolocation, video and sensors) automate emergency workflows, helping pinpoint incidents. **Isolated worker protection** include features such as man-down, emergency button and explosion proof equipment.

## 2 TRANSPORT

### Along lines and pipelines

Maintaining very large-scale networks is a daily challenge. **IoT sensors and cameras** monitor safety and security incidents, theft and vandalism. **IoT onboarding** ensures quick, secure IoT connectivity, simplifying deployment and maintenance. **Strong security mechanisms** protect IoT devices from cyberattacks and breaches.

## 3 OPERATIONS CONTROL CENTER (OCC)

The **OCC** operates 24/7 to monitor and anticipate issues, ensuring smooth coordination among stakeholders. **Integrated communications** help the OCC manage interactions and improve collaboration. **Dedicated APIs** ease integration with OCC functional blocks. **Centralized data** from cameras, sensors and displays boosts OCC responsiveness, making the **data center** critical.

## 4 DISTRIBUTION/TRANSFORMATION

### At substations

Substations operate around the clock to ensure continuous energy delivery. **Artificial Intelligence (AI) and Machine Learning (ML)** help anticipate and resolve potential network issues. Detecting unusual patterns enhances security in real time. **Video management systems** for perimeter security and intrusion detection are integrated with the network to mitigate disruptions at isolated substations, often targeted by malicious actors.

## 5 UTILITIES

### Coordinating services and operations

Operators must develop shared strategies and services to meet changing consumer demands. **Collaboration tools** assist energy providers with complex service delivery. Integrating collaboration services into customer support apps accelerates the entire process.

### Serving customers

In a competitive market, respond effectively turns customer interactions into business opportunities. **Automated attendants** offer 24/7 personalized greetings, while **omnichannel contact centers** boost service quality and increasing customer loyalty.

# Learn more about
## ALE technologies for energy and utilities



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