Energy and utilities organisations expect to benefit from operational improvements as they accelerate their digital transformation and adopt innovations. However, they will still encounter challenges such as migration strategies, outdated technologies, integration between new and old systems and managing very large-scale networks.

The convergence of operational technology (OT) and information technology (IT), the massive deployment of Internet of Things (IoT) and Industrial Internet of Things (IIoT), along with process automation and preventive maintenance will help overcome these challenges. Here are seven essential elements to consider.

Seven essential elements for energy and utilities

1. **Protect people and assets**
   - Ensure in-device triangulation of OT and IT devices while safeguarding the network through IoT segmentation
   - Enable remote monitoring and control of electrical circuits, valves and other OT devices
   - Establish a multichannel notification workflow between people, processes and sensors

2. **Operate seamlessly in extreme conditions**
   - Implement a unified network management system for wired and wireless infrastructure and protect supervisory control and data acquisition (SCADA) traffic
   - Proactively address network issues through predictive maintenance and AI, ensuring timely detection and resolution

3. **Control your connected devices**
   - Implement a zero trust network security strategy
   - Enhance communications system security with voice encryption and built-in security features

4. **Safeguard against cyberattacks and breaches**
   - Mitigate cyber threats by implementing a zero trust network security strategy
   - Ensure built-in cybersecurity for both office and remote user applications
   - Establish a multichannel notification workflow between people, processes and sensors

5. **Achieve OT-IT convergence**
   - Implement a unified network management system for wired and wireless infrastructure and protect supervisory control and data acquisition (SCADA) traffic
   - Proactively address network issues through predictive maintenance and AI, ensuring timely detection and resolution

6. **Optimise operations for time and cost efficiency**
   - Implement optimised architectures and product life cycles to maximise longevity
   - Leverage cloud solutions to reduce space and energy requirements
   - Reduce digital pollution, improve waste management and decrease energy consumption throughout the entire value chain

7. **Minimise energy consumption and environmental impact**
   - Implement optimised architectures and product life cycles to maximise longevity
   - Leverage cloud solutions to reduce space and energy requirements
   - Reduce digital pollution, improve waste management and decrease energy consumption throughout the entire value chain

Learn more about how Alcatel-Lucent Enterprise can help you:

- Enhance safety and security
- Increase operations efficiency
- Improve customer engagement

Visit our energy and utilities webpage.