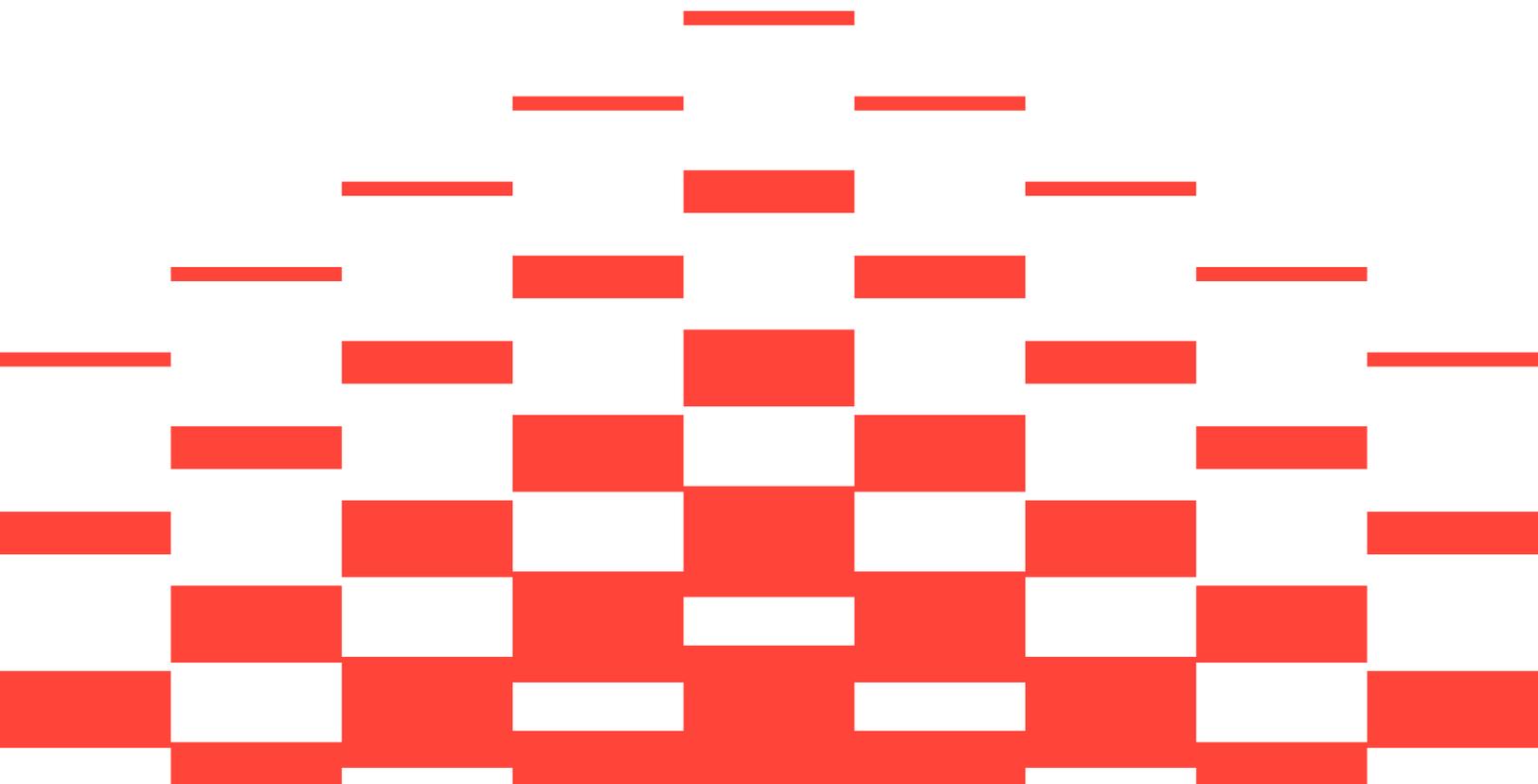


Case Study

Global Energy Technology Leader



Customer Background

Powering a New Era of Safe, Efficient Energy Control

The customer is a global energy technology leader driving the electrification and decarbonization of power generation and industrial operations. To help utilities and operators modernize their control infrastructure, the customer developed its signature **control system**, a flexible and scalable distributed control system (DCS) designed to keep complex plants running safely, efficiently, and reliably.

Built for thermal and renewable generation, including gas, steam, hydro, and wind, the control system can serve as a single, integrated control solution for the entire plant, covering everything from turbine and generator management to electrical distribution and balance-of-plant functions.

The Challenge

Power producers face increasing pressure to operate more efficiently, meet evolving cybersecurity and safety regulations, and integrate new energy sources, all while minimizing downtime and lifecycle costs.

The customer needed an operating system foundation that could:

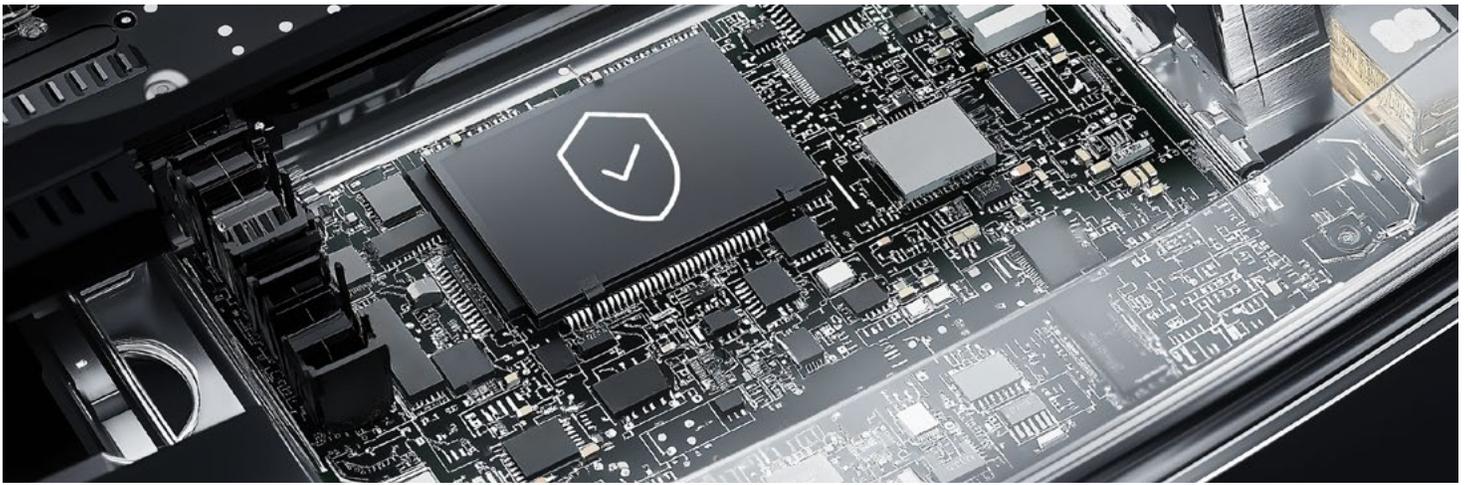
- Deliver **deterministic real-time performance** for mission-critical control.
- Support **mixed-criticality workloads** across safety- and non-safety-related devices.
- Simplify certification for **IEC 61508 SIL 3** and similar safety standards.
- Provide **long-term scalability** to support both legacy and next-generation architectures.

The Solution

To meet these requirements, the customer selected **QNX** as the software backbone for its control system platform.

- **QNX® Software Development Platform (SDP)** provides a proven, microkernel-based RTOS delivering high reliability and real-time performance for non-safety controllers.
- **QNX® Operating System for Safety (QOS)** powers the safety-certified system's controllers, enabling simplified compliance and certification.
- **QNX® Hypervisor** is being evaluated to consolidate multiple control workloads on shared hardware while maintaining strong isolation and system integrity.

This modular architecture allows the customer to use a common software baseline across safety and non-safety domains, reducing integration complexity and engineering effort while ensuring deterministic behavior throughout the system.



The Results

By standardizing on QNX technology, the customer has:

- Achieved **consistent, real-time control** across distributed systems, improving plant uptime and reliability.
- Simplified its **safety certification process**, accelerating time-to-market for new control systems.
- Enhanced **cybersecurity and resilience**, with secure inter-partition communication and runtime integrity monitoring.
- Reduced **lifecycle and maintenance costs** by adopting a scalable software platform that spans multiple generations of products.

The result is a next-generation control solution that gives power producers greater operational visibility, flexibility, and security, helping them stay competitive in a rapidly changing energy landscape.

Looking Ahead

The customer continues to advance its control platforms with the latest QNX innovations:

- Evaluating QNX for future product upgrades.
- Exploring further migration to streamline development and prototyping.
- Extending use cases to support new mixed-criticality applications and virtualization across industrial control environments.

Together, the customer and QNX are enabling a safer, smarter, and more connected energy future.

About Customer

Customer

Global Energy Technology Leader

Application

Distributed Control Systems (DCS)

Industry

Power Generation & Industrial Automation

QNX Products

QNX SDP, QNX OS for Safety, QNX Hypervisor

Safety Level

IEC 61508 SIL 3

Key Benefits

- Reliability
- Safety
- Cybersecurity
- Lifecycle Cost
- Scalability

Learn More

Find out more about QNX Industrial →

Find out more about QNX Safety →

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About QNX

QNX, a division of BlackBerry Limited, enhances the human experience and amplifies technology-driven industries, providing a trusted foundation for software-defined businesses to thrive. The business leads the way in delivering safe and secure operating systems, hypervisors, middleware, solutions, and development tools, along with support and services delivered by trusted embedded software experts. QNX® technology has been deployed in the world’s most critical embedded systems, including more than 275 million vehicles on the road today. QNX® software is trusted across industries including automotive, medical devices, industrial controls, robotics, commercial vehicles, rail, and aerospace and defense. Founded in 1980, QNX is headquartered in Ottawa, Canada.

Learn more at qnx.com →

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