framatome cybersecurity



Cybersecurity for Small Modular Reactors

Small Modular Reactors operate in many of the same ways as conventional nuclear power plants; however, their innovative designs also introduce new considerations related to advanced operating modes, greater digital automation, remote supervisory control, centralized fleet management, and reduced onsite staffing.

While these innovations bring significant operational benefits, they also create new and distinct cybersecurity risks. That is exactly why we have developed tailored, forward-looking solutions to ensure the resilience and protection of SMR installations.

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Designing cybersecure systems and architectures across every phase of the V-cycle

- Network segregation and communication filtering based on security devices (diodes, firewalls)
- Advanced detection and diagnosis capabilities based on the processing of multiple sensors (network probes, host agents, system logs) and interface with local SIEM/SOC
- Standardized, modular hardening solutions for kernel security, access control, networking, and monitoring, aligned with CIS benchmarks, NIST guidance, vendor recommendations, and international standards (IEC 63096, IEC 62443)
- Customized hardening in a risk-based approach for most critical systems

Implementing cybersecurity programs compliant with best practices and requirements for operation

- Cybersecurity program definition and implementation
- Support to regulatory and licensing submissions
- Identification of cybersecurity governance frameworks and compliance mapping
- System cartography, risk assessment and risk treatment
- Compliance audits to standards (IEC, ISO)
- Maturity assessments of stakeholders and supply chain
- Technical audits: architecture, configuration and penetration testing



Ensuring long-term cybersecurity and resilience after reactor divergence

- Vulnerability management services: identification, assessment, prioritization and risk-based remediation consistent with system-specific operational constraints and security needs including patching, hardening or reinforced monitoring
- Monitoring technologies that detect anomalies and cyber threats, providing advanced insight and context to support investigation and informed operations

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About Us

Framatome Cybersecurity: Protecting what powers the world

A robust defense-in-depth approach at overall and system level during the complete lifecycle of a nuclear facility:

- Dedicated team of 260+ engineers specialized in industrial cybersecurity for nuclear facilities and safety critical I&C systems.
- Supporting 1000+ customers operating critical infrastructures worldwide
- Experts on nuclear regulation and certification:
  ISO, IEC, NIST, UK NISR, French LPM, US NRC, NIS2, NERC CIP, RCC-E



Why choose Framatome as a strategic partner for nuclear cybersecurity?

A unique combination of nuclear and cybersecurity expertise:

- Expertise on nuclear regulation and certification for streamlined compliance
- Comprehensive, cross-functional approach to cybersecurity for a complete view of risks and protections across the entire project
- Experience on reducing licensing and integration risks
- A partner with over 60 years of proven stability with the long-term commitment to stand by you for the next 60

Trust us to:

- Accompany you during the whole lifecycle of your installation and beyond
- Extend your team with experts that understand your context and constraints
- Simplify compliance and homologation process

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