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Ensuring Reliability Across Generations: Maintenance and Asset Management at CERN

Thursday, 28 May 2026 15:55 (25 minutes)

CERN's mission is to design, build, and operate particle accelerators and experimental facilities that serve a diverse international scientific community. The accelerator complex, experimental areas, and associated infrastructure encompass a wide variety of technologies and components, ranging from cutting-edge instruments to legacy systems with decades of operational history.

Given the long operational lifetimes of its installations, CERN faces unique challenges in ensuring the retention and transfer of critical knowledge across multiple generations of engineers and scientists. Effective asset and maintenance management is therefore essential to guarantee reliability, performance, and safety throughout the lifecycle of the facilities.

This presentation will provide an overview of CERN's current approach to asset and maintenance management, including organizational structure, strategic priorities, and the integration of advanced tools and methodologies. Emphasis will be placed on how data-driven decision-making, maintenance strategies, and knowledge management practices are applied to maintain operational excellence.

Attendees will gain insight into the challenges and solutions of managing one of the world's most complex and long-lived scientific infrastructures, with potential applications to other large-scale, technology-intensive organizations.

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Session Classification: Special Session: Maintenance in the Fusion Industry