

AI in Nuclear Energy: A Governance Gap

Global coordination is missing — but solutions are emerging.

Swipe for insights →

THE DATA

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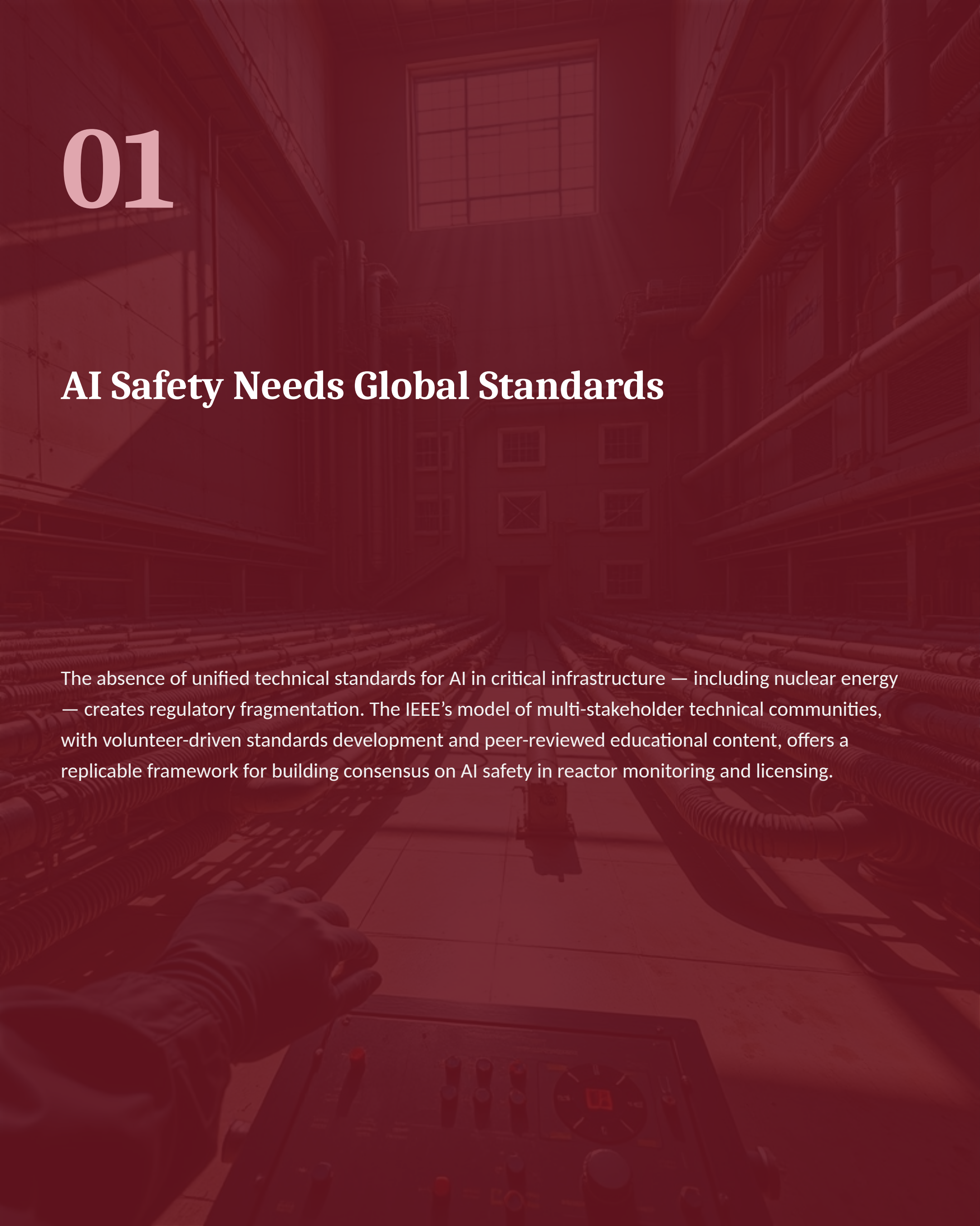
Volunteers in IEEE Smart Cities

This global network of technical experts now includes dedicated tracks for AI, security, and smart governance.

This scale of coordinated technical engagement is unprecedented in the public sector, offering a model for how AI governance in nuclear energy could be structured through open, standards-driven collaboration.

Source: IEEE Spectrum • Published October 18, 2026
<https://spectrum.ieee.org/ieee-smart-cities-new-services>



The background image shows a perspective view down a long, symmetrical corridor in a nuclear reactor control room. On both sides, there are long rows of control consoles with numerous pipes and conduits running along them. At the far end of the corridor, a bright light source creates a strong glow. The entire image is overlaid with a semi-transparent red filter.

01

AI Safety Needs Global Standards

The absence of unified technical standards for AI in critical infrastructure — including nuclear energy — creates regulatory fragmentation. The IEEE's model of multi-stakeholder technical communities, with volunteer-driven standards development and peer-reviewed educational content, offers a replicable framework for building consensus on AI safety in reactor monitoring and licensing.



02

Trust Through Transparency

Public trust in AI-driven nuclear systems hinges not on performance alone, but on verifiable governance. The IEEE's public media center, open webinars, and ambassador program demonstrate how transparency in technical decision-making can rebuild citizen confidence — a critical precondition for AI adoption in high-risk nuclear environments.

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