International Symposium on AI and Nuclear Energy

3—4 December 2025
Vienna, Austria

BACKGROUND

Artificial intelligence (AI) is rapidly transforming global industries, including the nuclear sector. As AI technologies expand, the energy demand of data centres is increasing significantly. This trend highlights the need for clean, reliable and scalable energy sources—an area where nuclear power, including advanced designs such as small modular reactors (SMRs), offers a compelling solution.

Meanwhile, AI is becoming a powerful enabler within the nuclear power industrial sector. From optimizing reactor operations and enhancing safety to improving design, construction and supply chain processes, AI is helping to accelerate innovation and efficiency across the nuclear lifecycle.

Recognizing the strategic importance of these developments, the IAEA is convening the International Symposium on Artificial Intelligence and Nuclear Energy. The event will bring together stakeholders from the nuclear and AI sectors, governments, regulators and academia to explore synergies and share best practices.

Through high-level panels and technical discussions, the Symposium will address key themes such as powering data centres with nuclear energy, the role of AI in nuclear innovation, and the importance of safety, security and international cooperation. The outcomes will contribute to a framework for responsible and effective integration of AI in the nuclear domain.

OBJECTIVES

The objective of the Symposium is to enable the participants to engage in high-level dialogue to:

1. **Explore synergies between nuclear energy and AI** by examining how nuclear power can sustainably meet the growing energy demands of AI technologies, particularly data centres, and how AI can enhance innovation, safety and efficiency across the nuclear sector.

2. **Facilitate international cooperation** by bringing together stakeholders from nuclear and AI industries, governments, regulators, academia and international organizations to foster partnership and collaborative initiatives that support clean energy transitions and digital transformation.

3. **Promote the safe and secure integration of AI in nuclear applications**, including through discussions on regulatory frameworks, safeguards, cybersecurity and the responsible use of emerging technologies in line with IAEA standards and guidance.

4. **Strengthen the IAEA's role** in supporting Member States and emerging end-users—such as the AI industry—as active participants in the nuclear energy ecosystem, contributing to the development, deployment and oversight of advanced nuclear technologies.

AUDIENCE

The Symposium will bring together high-level representatives from the nuclear and AI sectors, including executives from utilities, suppliers, regulators and AI organizations. It will also engage government officials, international organizations, academia, youth, technical experts and NGOs, fostering a multidisciplinary dialogue on the intersection of AI and nuclear energy.

PROGRAMME STRUCTURE

The Symposium will consist of:

- **Opening Session**, featuring keynote speeches from high-level representatives of nuclear and AI sectors. These addresses will highlight strategic opportunities and the potential for collaboration between the two industries.

- **Topical Panel Discussions**, bringing together international experts to explore how nuclear energy can support the energy needs of AI technologies and how AI can enhance innovation safety and efficiency in the nuclear sector. Panels will cover themes such as powering data centres, AI applications in nuclear operations, project management and supply chain optimization.

- **Stakeholder Engagement**, including networking spaces, exhibitions, side events and booths. These will provide opportunities for participants from industry, regulatory bodies and international organizations to exchange ideas and build partnerships.

- **Closing Session**, summarizing key insights, recommendations and audience contributions and outlining potential pathways for future cooperation.

SYMPOSIUM WEB PAGE

Detailed information on administrative procedures, including participation and registration is provided on the Symposium website:
https://www.iaea.org/events/ai-symposium-2025

EXHIBITS & SIDE EVENTS

A limited amount of space will be available for exhibits during the Symposium. Interested parties should contact the Scientific Secretariat by email at *AI-Symp-2025@iaea.org* by **1 September 2025.**

Please contact the Scientific Secretariat directly for information on Side Events.

SUPPORT

Organizations interested in contributing to the success of the Symposium are invited to engage through various forms of support. Your financial contributions will help improve the efficiency and effectiveness of the event in its organization and deliverables.

Voluntary financial support opportunities are available in the following categories:

- **Symposium Donor** >€ 10,000
- **Networking Event Host** € 5,000 to <10,000
- **Networking Supporter** € 2,000 to <5,000

In-kind support is also welcome.

Interested organizations are invited to contact the Scientific Secretariat for further details on how to engage.

REGISTRATION

Participation is open to individuals designated by IAEA Member states or invited organizations. All participants must register through the InTouch+ platform by **26 November 2025.** Early registration is encouraged due to limited seating in the plenary.

SCIENTIFIC SECRETARIAT

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For all matters related to the Symposium, please email:
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ADMINISTRATION & ORGANIZATION

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WORKING LANGUAGE

The working language of the Symposium will be English.