



Interregional Workshop on Advances in SMR Technology Developments and their Applications

Hosted by

The Government of the People's Republic of China

through

Shanghai Nuclear Engineering Research and Design Institute Co., Ltd.

Shanghai, China

1 to 5 September 2025

Ref. No.: ME-INT2023-2500300

Information Sheet

Purpose

The purpose of the event is to discuss and share experience on technology development for the SMRs and their applications, showcasing design philosophy and key technical features, roadmaps to deployment, safety and licensing aspects, system and component design maturity level.

Working Language

The working language(s) of the event will be **English**.

Deadline for Nominations

Nominations received after **4 June 2025** will not be considered.

Project Background

To meet the growing demand for energy and to mitigate global climate change challenge, the interest in

Small Modular Reactors (SMRs) and Micro-Reactors (MRs) is growing, especially in regions inaccessible to large electricity grids and regions with smaller electricity grids that need technology options deployed incrementally to closely match increasing energy demand. SMRs and MRs are also viable options for users with needs beyond electricity supply, e.g., district heating, desalination, industrial process heat, as well as hydrogen.

The purpose of “INT2023 Supporting member States’ Capacity Building on Small Modular Reactors and Micro-reactors and their Technology and Applications as a Contribution of Nuclear Power to the Mitigation of Climate Change” project is to provide broad support to Member States in the development and deployment of SMRs and MRs. The project provides a broad range of fora to enable effective capacity building through training and technology transfer activities on all aspects of SMR development. The project also covers the emerging MRs, the development of SMRs for electric and non-electric applications, and the coupling of such nuclear systems with renewables in integrated energy systems. The aim of the project is to enable national stakeholders to gain enhanced understanding of key characteristics of SMR and MR technologies and their applications, and to formulate, in line with international safety standards, countries’ specific legal and regulatory frameworks, and generic user requirements and criteria for SMR technologies.

Nuclear power is broadly recognized as a low-carbon energy source and is a key option to achieve zero-carbon economies by 2050, as outlined in the 2015 Paris Climate Agreement, provided that it can be deployed quickly and on a large scale. SMRs have the potential to become game changers thanks to their mass production in factories, small footprint, and compatibility with smaller grids, making them an attractive option for a broad range of users across the globe.

For SMRs to be massively deployed by 2050, they need to become mature solutions and reach some kind of standardization. This makes the supply chain a crucial element in the deployment of SMRs. Use of standards and codes for SMR may support this standardization, as will design engineering. The testing of components may also support harmonization of regulatory practices by sharing standardized testing methodologies.

Scope and Nature

The event has several specific objectives, which are as follows:

- To disseminate information about the current state of development of SMR technologies and their applications;
- To highlight the challenge of these technologies, especially with regards to safety demonstration and licensing;
- To discuss how these challenges can be overcome through international cooperation.

The 5-day workshop splits in several topical sessions covering:

- Technology holders’ considerations on the status and perspectives of the technology development for SMRs;
- Participants’ presentations on their approach regarding SMRs;
- Issues regarding safety of SMRs and its assessment in the licensing process; and
- Initiatives to foster standardization.

The event will feature presentations from the IAEA, developers of SMRs technologies, regulators and participants in the workshop. The hosting organization will provide a technical tour for participants to illustrate the topic of the workshop.

In addition, the event will provide opportunities for participants to network and continue sharing information and good practices as well as other potential follow-up tasks and coordinated activities, as appropriate.

Expected outputs

The key outcome of the workshop would be an enhanced knowledge and understanding of SMRs technologies for near and mid-term deployment (up to the next decade). To achieve the outcome, the workshop will feature presentations from IAEA and local experts, highlighting in particular:

- Design philosophy and key technical features of nuclear reactor technologies available for SMRs;
- Considerations on design safety, safety assessment, engineering and operation;
- Licensing consideration;
- Technology roadmaps for deployment;
- IAEA resources available to Member States to advance deployment of SMRs/MRs.

Participation

The event is open to up to 30 participants from the following Member States participating in the TC Project INT2023:

The selected participants to attend from the following member states will be funded:

Algeria, Bolivia, El Salvador, Ethiopia, Indonesia, Jamaica, Kuwait, Kyrgyzstan, Malaysia, Mongolia, Morocco, Myanmar, Philippines, Rwanda, Serbia, Singapore, Sri Lanka, United Republic of Tanzania, Thailand, Tunisia, Zambia

At no cost to the IAEA, participants from following countries can also be considered:

Belgium, Canada, Denmark, Finland, France, Italy, Japan, Republic of Korea, Russian Federation, United Kingdom, United States of America

Participants' Qualification and Experience

The target audience of this event are those individuals working in Member States' governments, energy planning authority, nuclear energy programme implementing organizations (NEPIOs) or prospective owner/operator organizations, technology developers and regulatory bodies/ potential users, particularly those needing to understand the key issues and challenges associated with SMR.

The activities will be conducted in English and candidates should have sufficient English proficiency to participate in the event without difficulty.

Candidates are requested to provide a summary of how this event will provide direct benefit to their current or future job position.

Accepted participants should read the following references to get the most out of the event:

- INTERNATIONAL ATOMIC ENERGY AGENCY, Advances in SMR Developments - 2024, IAEA, Vienna (2024)
- INTERNATIONAL ATOMIC ENERGY AGENCY, Small Modular Reactors Catalogue 2024, 2nd edition, IAEA, Vienna (2024)
- INTERNATIONAL ATOMIC ENERGY AGENCY, Technology Roadmap for Small Modular Reactor Deployment, IAEA Nuclear Energy Series No. NR-T-1.18, IAEA, Vienna (2021)
- INTERNATIONAL ATOMIC ENERGY AGENCY, IAEA Safety Standards, Specific Safety Requirements No SSR-2/1 (Rev. 1), Vienna (2016)
- INTERNATIONAL ATOMIC ENERGY AGENCY, Applicability of IAEA Safety Standards to Non-

Application Procedure

Candidates wishing to apply for this event should follow the steps below:

1. Access the InTouch+ home page (<https://intouchplus.iaea.org>) using the candidate's existing Nucleus username and password. If the candidate is not a registered Nucleus user, she/he must create a Nucleus account (<https://websso.iaea.org/IM/UserRegistrationPage.aspx>) before proceeding with the event application process below.
2. On the InTouch + platform, the candidate must:
 - a) Finalize or update her/his personal details, provide sufficient information to establish the required qualifications regarding education, language skills and work experience ('Profile' tab) and upload relevant supporting documents;
 - b) Download and complete the [Designation of Beneficiary and Emergency Contact Form](#), and upload to InTouch+ ('Profile' tab under the personal section) specifying the document name. If already provided, kindly discard this step;
 - c) Search for the relevant technical cooperation event (EVT2500300) under the 'My Eligible Events' tab, answer the mandatory questions and lastly submit the application to the required authority.

NOTE: Completed applications need to be approved by the relevant national authority, i.e., the National Liaison Office, and submitted to the IAEA through the established official channels by the provided designation deadline. **All nominations must include a scan of the candidate's first page of passport with photo.**

For additional support on how to apply for an event, please refer to the [InTouch+ Help page](#). Any issues or queries related to InTouch+ can be addressed to InTouchPlus.Contact-Point@iaea.org.

Should online application submission not be possible, candidates may download the nomination form for the training course from the [IAEA website](#).

Administrative and Financial Arrangements

Nominating authorities will be informed in due course of the names of the candidates who have been selected and will at that time be informed of the procedure to be followed with regard to administrative and financial matters.

Selected participants will receive an allowance from the IAEA sufficient to cover their costs of lodging, daily subsistence and miscellaneous expenses. They will also receive either a round-trip air ticket based on the most direct and economical route between the airport nearest their residence and the airport nearest the duty station through the IAEA's travel agency American Express, or a travel grant, or they will be reimbursed travel by car/bus/train in accordance with IAEA rules for non-staff travel.

Disclaimer of Liability

The organizers of the event do not accept liability for the payment of any cost or compensation that may arise from damage to or loss of personal property, or from illness, injury, disability, or death of a participant while he/she is travelling to and from or attending the course, and it is clearly understood that each Government, in approving his/her participation, undertakes responsibility for such coverage. Governments would be well advised to take out insurance against these risks.

Note for female participants

Any woman engaged by the IAEA for work or training should notify the IAEA on becoming aware that she is pregnant.

The Board of Governors of the IAEA approved new International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources. The Standards deal specifically with the occupational exposure conditions of female workers by requiring, inter alia, that a female worker should, on becoming aware that she is pregnant, notify her employer in order that her working conditions may be modified, if necessary. This notification shall not be considered a reason to exclude her from work; however, her working conditions, with respect to occupational exposure shall be adapted with a view to ensuring that her embryo or foetus be afforded the same broad level of protection as required for members of the public.

Programme Management Officer

Mr Jing Zhang
Division for Europe
Department of Technical Cooperation
International Atomic Energy Agency
Vienna International Centre
PO Box 100
1400 VIENNA
AUSTRIA
Tel.: +43 1 2600 26540
Fax: +43 1 26007
Email: J.Zhang@iaea.org

Administrative Contact

Ms Saiyi Gan
Division for Europe
Department of Technical Cooperation
International Atomic Energy Agency
Vienna International Centre
PO Box 100
1400 VIENNA
AUSTRIA
Tel.: +43 1 2600 22303
Fax: +43 1 26007
Email: S.Gan@iaea.org