IAEA
International Atomic Energy Agency
Atoms for Peace and Development

Second Technical Meeting on Updating the Technology Roadmap for Small Modular Reactor Deployment

IAEA Headquarters
Vienna, Austria

13-17 July 2026

Ref. No.: EVT2404320

Information Sheet

Introduction

Being essentially carbon-free, nuclear fission technology will continue to be a key player in transition to a "green" economy by introducing small modular reactors (SMRs) as a new paradigm in the green energy sector. With this shift, the fission community fosters the assurance of SMR's viability for mass production and substantial reduction of construction time thus compensating the deficit of economy of scale. SMRs are expected to fulfil the need of flexible power generation for a wide range of users and applications, e.g.: replacing aging fossil power plants, serving remote regions and countries with less developed energy and transport infrastructure, supporting various non-electric applications like hydrogen production, desalination, and other industrial needs. To provide flexile power generation, efforts are being made to foster SMRs for hybrid energy systems that combine nuclear cogeneration, variable renewables and non-electric applications in synergy.

In 2021 the IAEA issued the NE Series NR-T-1.18 on Technology Roadmap for Small Modular Reactor Technology Deployment. The goal of this publication was to provide Member States with the overview of how several SMRs had progressed along their respective roadmaps and to present a model roadmap for pursuing SMR deployment in the future. This publication also provided a methodology for developing a technology roadmap for SMR technologies with longer development horizons and discuss emerging opportunities and challenges. This publication comprises a set of generic roadmaps for deployment of SMRs based on the latest inputs from Member States interested in SMR technology.

Throughout 2021 – 2025, significant advances have been made globally on the development and deployment on SMRs. A floating NPP with 2 units of PWR in Russian Federation and an in-land demonstration plant with 2 units of HTGR in China are already in operation. Construction projects for SMR are ongoing in Canada, China and Uzbekistan. More than 80 SMR designs of various types including microreactors at different stages of development; dozens of them are expected for first-of-a-kind deployment around 2030 in Canada, France, Republic of Korea and the United States of America.

The First IAEA International Conference on SMRs and their applications (21-25 October 2024) was marked by 1300 in-person participation and more than 300 papers accepted. It manifested continuous interest to SMR technology from the IAEA Member States. Series of SMR Schools conducted in 2025 (May: Kenya, July: Thailand, August: Argentina) made a well workable forum to exchange views of the potential recipient countries on the specific of SMR deployment in their national and regional context. The 6-th and 7-th Technical Working Group of Small and Medium-sized of Modular Reactor (TWG-SMR) conducted in December 2024 and September 2025 reiterated earlier recommendations to capture lessons-learned of technology development and latest projected deployment plans to include in the NE Series NR-T-1.18 that has to be updated. Technology roadmaps have proven to be very useful management tools for identifying, evaluating, and promoting the development of complex technology projects, including advanced nuclear reactor developments.

The Nuclear Technology Development Section (NPTDS) being responsible for updating the NE Series NR-T-1.18 conducted several events on this topic: 1st Consultancy (26-28 February 2024), Technical Meeting (19-23 August 2024), 2nd Consultancy (11-14 February 2025), 3rd Consultancy Meeting (12-14 November 2025).

Objectives

The purpose of the event is to provide a forum for the exchange of information and to receive final feedbacks from Member States to update the IAEA NE Series NR-T-1.18 on Technology Roadmap for Small Modular Reactor Deployment by discussing major technology gaps in order to advocate longer term insights associated with readiness of the technology, fuel cycle, and deployment models. The objectives of the event are to:

- discuss the status of nuclear power projects with SMRs in Member States by highlighting lessons-learned, prospects and challenges of SMR deployment from the viewpoints of designers, utilities, regulators, end-users and other key stakeholders;
- discuss technology roadmap development of advanced SMR designs based upon non-water-cooled technologies and their associated fuel cycle approaches; and
- discuss lessons-learned in design development and specific areas of concern associated with design, manufacturing and construction and the implications on safety, operating performance, and licensing.

Working Language

English

Expected Outputs

The outputs of the meeting will be:

- Working materials that document the results of discussions, status and lessons-learned of SMR developments and deployments, and approaches to resolve key technical and licensing challenges;
- Working materials that provide inputs for understanding of research, development, and testing needs associated with SMRs, non-proliferation attributes associated with advanced SMR concepts, and fuel cycle implications.

The expected outcome of the meeting will be:

- Consolidated revision of the NE Series NR-T-1.18.

Participation and Registration

All persons wishing to participate in the event have to be designated by an IAEA Member State or should be members of organizations that have been invited to attend.

In order to be designated by an IAEA Member State or invited organization, participants are requested to submit their application via the InTouch+ platform (https://intouchplus.iaea.org) to the competent national authority (Ministry of Foreign Affairs, Permanent Mission to the IAEA or National Atomic Energy Authority) or organization for onward transmission to the IAEA by **22 May 2026**, following the registration procedure in InTouch+:

1. Access the InTouch+ platform (https://intouchplus.iaea.org):

- Persons with an existing NUCLEUS account can sign in to the platform with their username and password;
- Persons without an existing NUCLEUS account can register here.

2. Once signed in, prospective participants can use the InTouch+ platform to:

- Complete or update their personal details under 'Complete Profile' and upload the relevant supporting documents;
- Search for the relevant event under the 'My Eligible Events' tab;
- Select the Member State or invited organization they want to represent from the drop-down menu entitled 'Designating Authority' (if an invited organization is not listed, please contact InTouchPlus.Contact-Point@iaea.org);
- If applicable, indicate whether financial support is requested and complete the relevant information (this is not applicable to participants from invited organizations);
- Based on the data input, the InTouch+ platform will automatically generate the Participation Form (Form A) and/or the Grant Application Form (Form C);
- Submit their application.

Once submitted through the InTouch+ platform, the application, together with the auto-generated form(s), will be transmitted automatically to the required authority for approval. If approved, the application, together with the applicable form(s), will automatically be sent to the IAEA through the online platform.

NOTE: The application for financial support should be made, together with the submission of the application, by **22 May 2026**.

For additional information on how to apply for an event, please refer to the InTouch+ Help page. Any other issues or queries related to InTouch+ can be sent to InTouchPlus.Contact-Point@iaea.org.

Selected participants will be informed in due course on the procedures to be followed with regard to administrative and financial matters.

Participants are hereby informed that the personal data they submit will be processed in line with the Agency's Personal Data and Privacy Policy and is collected solely for the purpose(s) of reviewing and assessing the application and to complete logistical arrangements where required. The IAEA may also use the contact details of Applicants to inform them of the IAEA's scientific and technical publications, or the latest employment opportunities and current open vacancies at the IAEA. These secondary purposes are consistent with the IAEA's mandate. Further information can be found in the Data Processing Notice concerning IAEA InTouch+ platform.

Expenditures and Grants

No registration fee is charged to participants.

The IAEA is generally not in a position to bear the travel and other costs of participants in the event. The IAEA has, however, limited funds at its disposal to help meet the cost of attendance of certain participants. Upon specific request, such assistance may be offered to normally one participant per country, provided that, in the IAEA's view, the participant will make an important contribution to the event.

The application for financial support should be made, together with the submission of the application, by **22 May 2026**.

Venue

The event will be held at the Vienna International Centre (VIC) where the IAEA's Headquarters are located. Participants must make their own travel and accommodation arrangements.

General information on the VIC and other practical details, such as a list of hotels offering a reduced rate for IAEA participants, are listed on the following IAEA web page:

https://www.iaea.org/events.

Participants are advised to arrive at Checkpoint 1/Gate 1 of the VIC one hour before the start of the event on the first day in order to allow for timely registration. Participants will need to present an official photo identification document in order to be admitted to the VIC premises.

Visas

Participants who require a visa to enter Austria should submit the necessary application to the nearest diplomatic or consular representative of Austria at least four weeks before they travel to Austria. Since Austria is a Schengen State, persons requiring a visa will have to apply for a Schengen visa. In States where Austria has no diplomatic mission, visas can be obtained from the consular authority of a Schengen Partner State representing Austria in the country in question.

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Subsequent correspondence on scientific matters should be sent to the Scientific Secretary and correspondence on other matters related to the event to the Administrative Secretary.