

# The IAEA Platform on SMRs and their Applications: Progress and Achievements after one year

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Section Head, Nuclear Power Technology Development Section**

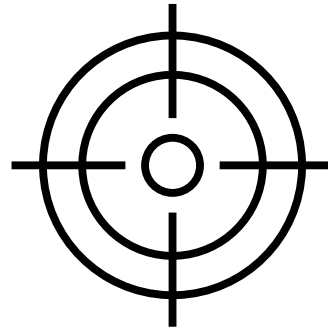
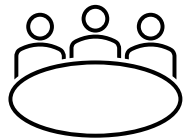
# Agency-wide Platform on SMRs and their Applications

Objective: Provide national governments, experts and regulators with integrated Agency-wide support on all aspects of SMR development, deployment and oversight

## What?

IAEA's internal governance to coordinate activities consistently with MSs needs and requests

**Single access point for MSs and stakeholders**



## How?



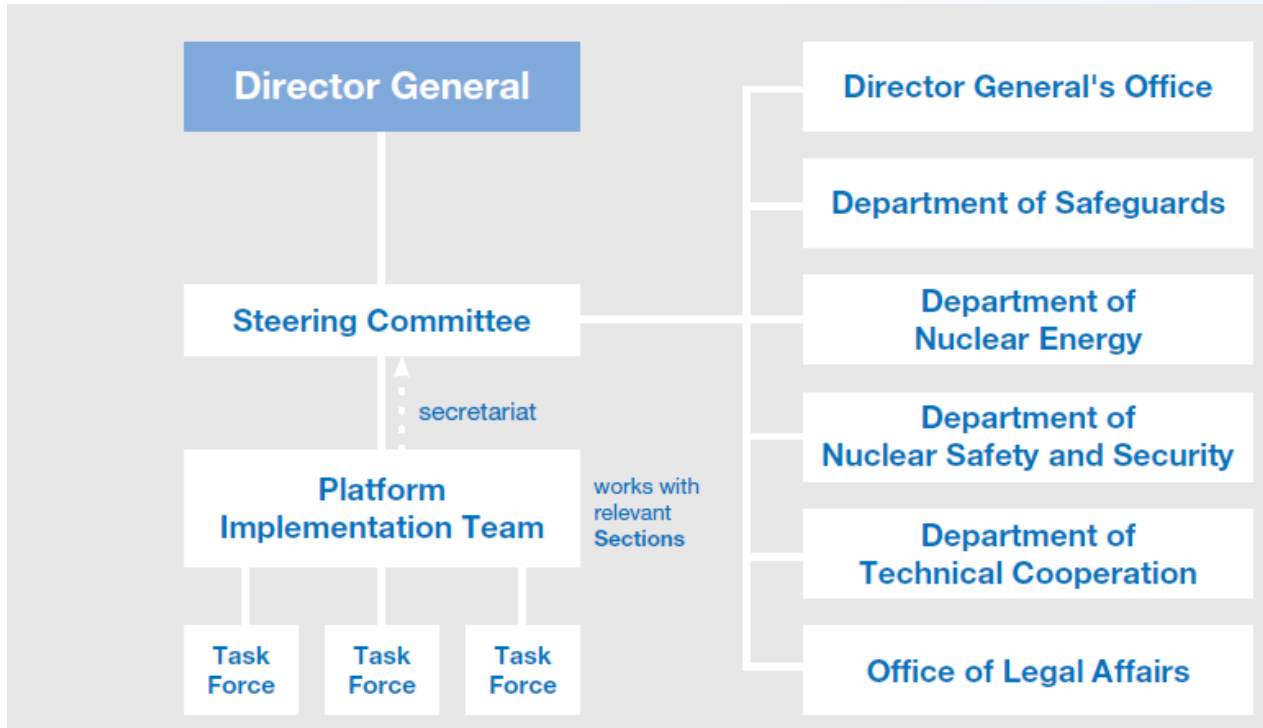
- Develop medium-term strategy on SMR and its applications
- Create enabling environment and a **portal to enhance internal as well as external communication**

## Why?

- Member States request for consistent, coordinated and optimized Agency support
- Effective and efficient support to Member States, International Organizations and stakeholders willing to cooperate with the IAEA



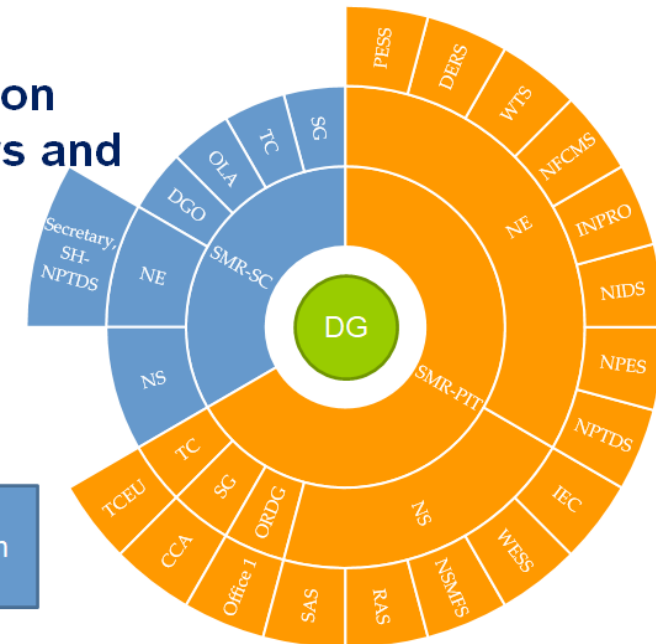
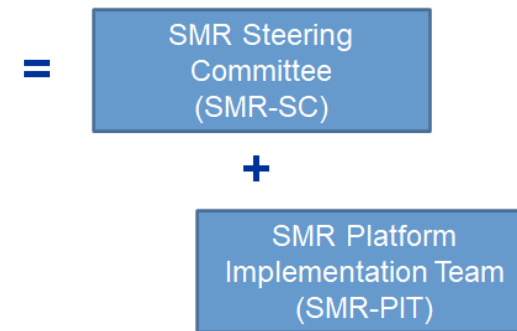
# Platform Organization



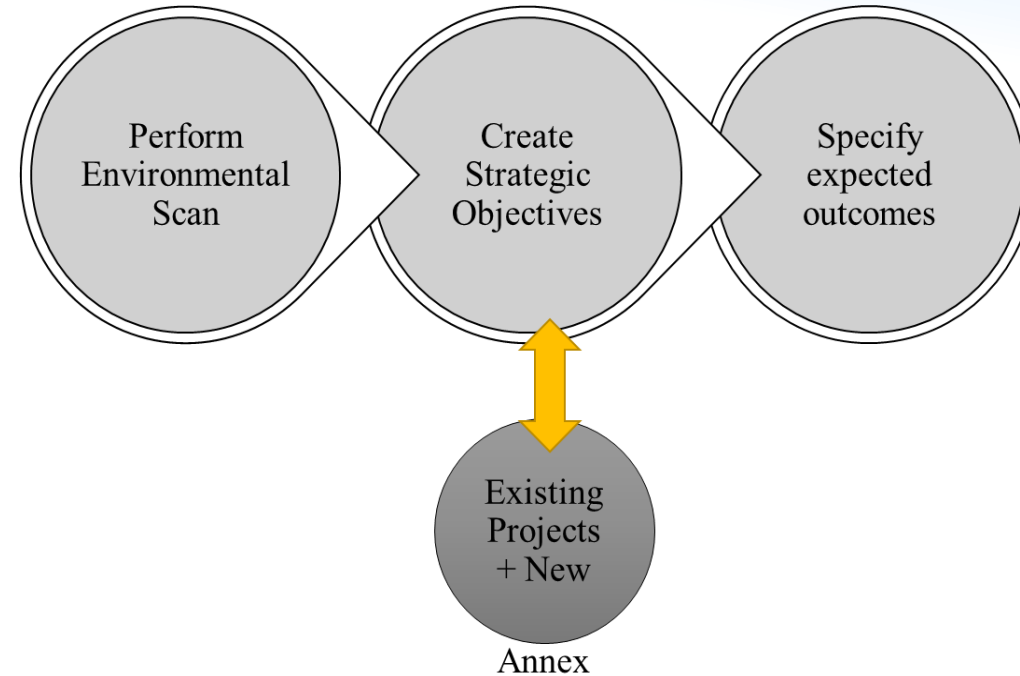
## Agency-wide Platform on Small Modular Reactors and their Applications

1<sup>st</sup> major achievement:

- An actual and effective coordination of all the agency activities on SMRs and their applications throughout the relevant Departments and Offices



# 2<sup>nd</sup> Achievement: Medium Term Strategy



- Thorough analysis of the ongoing and planned IAEA projects, initiatives and activities on SMR and their applications (*reported in the annex*)
- Identification of the gaps to achieve the objectives
- Basis for the preparation of the P&B 2024-25 for all the programmes, sub-programmes and projects dealing with SMRs and their applications

# The Agency's support strategy



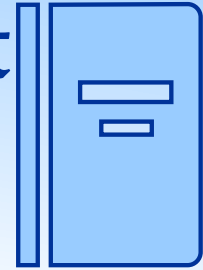
## Strategic Objectives

1. Support Member States to become knowledgeable customers and make an informed decision on whether to embark on or expand nuclear power based on SMRs
2. Support industrial preparedness for Small Modular Reactors and their applications, including related fuel cycles
3. Promote, support, and develop research and innovation
4. Supporting establishment of institutional, legal, and regulatory frameworks for the safe and secure deployment, operation, closure, and decommissioning of SMRs, including the management of spent fuel and waste
5. Prepare effective and efficient Agency safeguards
6. Support international cooperation on SMRs
7. Provide effective knowledge/technology transfer through technical cooperation

# Path Forward

- Develop a Work Plan for the implementation of the SMR strategy, including expanding focused work in the following categories:
  - Harmonization of high-level requirements and criteria
  - Regulatory harmonization to facilitate licensing
  - Capacity building for readiness level assessment
  - Non-electric applications
  - Business case development/economics
  - Supply chain of components and applicability of codes & standards
- IAEA's International Conference on Small Modular Reactors and their Applications

# 3<sup>rd</sup> Achievement: High Level SMR Booklet



## SMRs: A new nuclear energy paradigm

- Chapter 1: Small Modular Reactors and What They Can Offer – Understanding Technological and Global Perspectives
- Chapter 2: Success – what will it look like?
- Chapter 3: What's Next for SMRs?
- Chapter 4: IAEA Agency-Wide Support and Services
- *Target audience:*
  - ✓ Primarily policymakers and government officials interested in SMRs, not targeted towards subject matter experts
  - ✓ MSs interested in SMRs may be technology providers, potential customers, both new and expanding countries, or just interested to understand better challenges and opportunities offered by SMRs and their applications in view of possible inclusion in their energy mix

*First three chapters explain the IAEA secretariat's view on SMRs and their applications, and last chapter is devoted to the IAEA services to MSs*

*Electronic version to be made available on SMR Portal by the General Conference*

*Print version aimed to be available by October 2022*

# 4<sup>th</sup> Achievement: SMR Portal SCORPION



**Announcement!** [SMR Platform Annual Report](#) and [IAEA Mediumterm Strategy on SMRs](#) are just published

The IAEA Platform on Small Modular Reactors (SMRs) and their Applications (SMR Platform) coordinates the Agency's activities in this field and provides a 'one-stop shop' for Member States and other stakeholders. The SMR Platform offers expertise from the entire Agency, encompassing all aspects relevant to the development, early deployment, and oversight of SMRs and their applications.

Within the SMR Platform, the IAEA has developed the [SMR Coordination and Resource Portal for Information Exchange, Outreach and Networking \(SCORPION\)](#) to provide an overview of all Agency resources, service and activities on SMRs and their applications, facilitating exchange of information and experience among Member States.

Member States can request assistance on general issues related to SMRs and their applications through official channels, addressing their request to the Chair of the Steering Committee of the Platform, IAEA Deputy Director General and Head of the Department of Nuclear Energy. Once received, the request will be managed by the SMR Platform's Steering Committee and Implementation team, where Agency-wide follow up response and activities will be planned and implemented. The SMR Platform enables the IAEA to handle Member States' requests in an effective and efficient manner, providing comprehensive support.



## Latest SMR News



[SEE ALL](#)

<https://smr.iaea.org>

[SMR.Platform@iaea.org](mailto:SMR.Platform@iaea.org)

- Both SCORPION (external information portal) and the IAEA SMR Platform SharePoint (internal coordination) can be accessed at the address above
- IAEA internal page contains the data for the SMR-SC, SMR-PIT and **NHSI Industry Track Working Groups**
- **No registration required**



# Coming to the Portal

- The IAEA Medium Term Strategy (2022-2029) for Agency Support to Member States in the area of Small Modular Reactors and their Applications
- The 2021-2022 SMR Platform Annual Report
- Electronic version of the High Level SMR Booklet: *to be uploaded prior to the upcoming General Conference*

# 5<sup>th</sup> Achievement: New TC-INT Project



## ***Supporting Member States' Capacity Building on Small Modular Reactors and Microreactors and their Technology and Applications – A Contribution of Nuclear Power to the Mitigation of Climate Change***

Period: 2022 – 2025

Field of Activity (#6 Nuclear Power Reactors)

### Objective

To improve technical knowledge, capacity building and safety review capability in developing countries addressing the fundamental aspects of SMRs/MRs and their electric and non-electric applications.

### Outcome

Awareness raised on SMRs/MRs technology and their applications to enhance nuclear energy contribution in social-economic development in Member States

# TC-INT Activities completed to date



- Interregional Training Course on Understanding the Physics and Technology of Small Modular Reactors (iPWR design) using IAEA's educational Simulator 05 – 08 July 2022, Vienna
- Workshop on Economic Competitiveness, Marketability, and Bankability of Micro and Small Modular Reactor Technologies, August 15-18, 2022, Vienna

# 6<sup>th</sup> Achievement: Task Forces

	<b>Task force</b>	<b>Short description</b>
1	High level SMR booklet	Task force to draft a high-level IAEA publication on SMRs: A new nuclear energy paradigm.
2	Jordan Expert mission	Upon Jordan Atomic Energy Commission (JAEC) request. Task Force to plan and conduct an expert mission on “Using Small Modular Reactors (SMRs) including Economic Analysis for Electric Power Generation, and Nuclear Desalination”
3	CEA Laboratory of Seismic Mechanics Studies	Upon CEA Laboratory of Seismic Mechanics Studies request. Task Force to develop guidelines regarding SMR’s seismic behaviour and the implementation of a standard design for high seismicity sites.
4	Facilitate the accelerated Deployment of SMRs	Task Force to understand the key enablers to accelerate deployment of SMRs → also part of NHSI Industry
5	Floating/Transportable nuclear power plants	Task Force to enlarge and consolidate IAEA activities in this area, taking into account work already performed under INPRO as well as on the occasion of the MS request in 2018

# SMR Platform Annual Report 2021-2022



- The objective is to report to the Director General on the status of the implementation of the Platform, along with all the work done under the umbrella of the SMR Platform
- It also contains brief description, status and expected output of all the major agency activities and projects in the field, linked to the strategic outputs they meet/support
- Currently reports on the period from 1 May 2021 to 30 April 2022.
- The report summarizes the relevant work carried out and managed by all the Sections of the IAEA working on SMRs and their applications in the reporting period.
- **Developed and delivered on an annual basis by the SMR Platform**

# General Conference Side Event on the SMR Platform



## IAEA Platform on SMRs and their Applications: Progress and Outlook

Tuesday, 27 September 2022, 11:00 – 13:00, CR-4

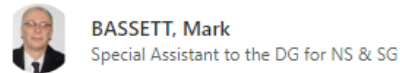
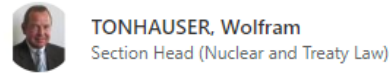
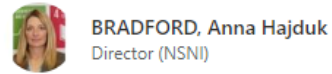
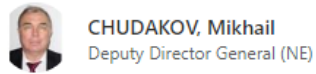
- In person with a virtual component
- Expected audience: 100
- Director General to open
- Presentations from all relevant Departments and Member States which have benefitted from the platform

# Staff contributors for the SMR Platform



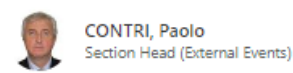
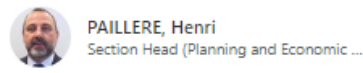
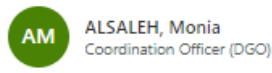
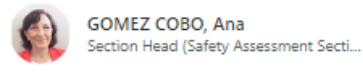
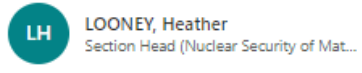
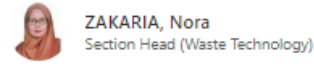
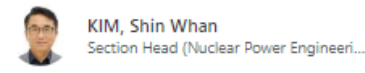
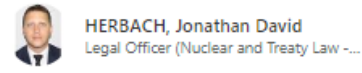
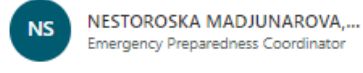
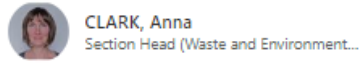
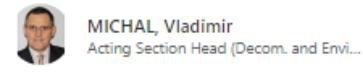
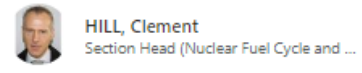
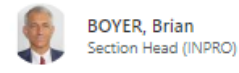
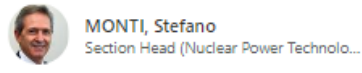
## SMR-Steering Committee

Chair: Mikhail Chudakov

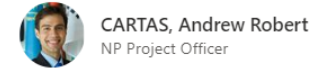


## SMR Platform Implementation Team

Chair: Stefano Monti



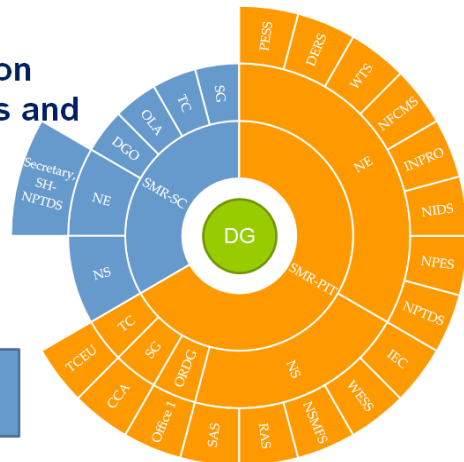
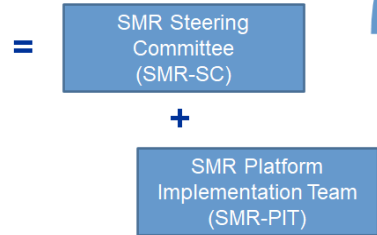
## Secretariat



## Other contributors, alternates, and task force members:

- |                         |                     |
|-------------------------|---------------------|
| Aiki van Heek           | Jay Doo             |
| Amparo Gonzalez         | Jose Bastos         |
| Espartero               | Karina Lange        |
| Anna Clark              | Kristof Horvath     |
| Anzhelika Khaperskaia   | Latha Mangalampalli |
| Ayhan Altinyollar       | Liliya Dunlinets    |
| Benoit Lepouze          | Marina Mishar       |
| Camille Scotto De Cesar | Mehmet Ceyhan       |
| Chirayu Batra           | Michelle Scott      |
| Clément Hill            | Miguel Santini      |
| Ed Bradley              | Pal Vincze          |
| Francesco Ganda         | Paolo Contri        |
| Frederic Stephani       | Paula Calle Vives   |
| Gerard Bruno            | Rebecca Robbins     |
| Hadid Subki             | Saied Dardour       |
| Henri Paillere          | Stefan Mayer        |
| Humman Khartabil        | Tariq Majeed        |
| Jae-Sung Lee            | Traci Newton        |

## Agency-wide Platform on Small Modular Reactors and their Applications



# Thank you!

Contact Us:

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