



SEAKNOT

NEWSLETTER #1

**Visit the SEAKNOT website
to discover our latest project outputs:**

[Visit our website](#)

A word from the Coordinator

SEAKNOT was born one year ago from the sound conviction of the need to know where we are standing today in Severe Accidents research. Right at this time, we are losing high valuable assets with the deserved retirement of some of our seniors and the inaccessibility of data from past experiments for upcoming generations of researchers, instrumental in the field for decades. Their messages, their unwritten legacy, should be passed onto the young workforce that will take over likely using different type of tools (i.e., artificial intelligence or machine and deep learning) also to face with innovation in nuclear technology (i.e., Small Modular Reactors, high enriched fuel and burn ups, and advanced technology fuels).

Today we have been able to adapt a well-known methodology to build a Phenomena Identification and Ranking Table (PIRT) that will be a cornerstone to define what we should address in the coming ten years in the severe accidents research. Two indispensable elements on this PIRT construction will be awareness of existing data, which will help us to assess the existing knowledge, and experimental infrastructures, which will let us know which ones will be needed and which others should be built in a near future.

This journey is as challenging as exciting, and we should all feel proud and committed to the future in severe accidents research we are working for.

Luis E. Herranz
SEAKNOT Coordinator

Project results

In the SEAKNOT project, we have made significant progress in various areas. Let's break down these results:

Understanding Severe Accidents

We've adapted an already developed method to the entire severe accident domain called Phenomena Identification and Ranking Table of Severe Accident (PIRTSA) to better assess what is needed to investigate and how. We focus on assessing radiological consequences, release onset time, radiological release rate, and specific radionuclides in different accident phases. We are also compiling a list of these phenomena for further study.

Creating a Validation Database

Our work here involves creating a database directory to identify which data are useful to validate specific models in severe accident codes. We are reviewing current severe accident databases and validating new data. Our focus includes traditional and advanced nuclear technologies. For the first year, we've gathered data about accidents and related fields. We're developing a method to classify and use this data effectively. This will help us improve nuclear safety and share our findings online in the future. We're also closely cooperating with other project components for a safer nuclear energy future.

Severe Accident Infrastructure Network

The SEAKNOT project is also building a network of experimental facilities to study severe accidents. This part of our work is divided in two main focus which involve mapping existing facilities (WP 3.1) and creating an infrastructure network for future research, particularly for Small Modular Reactors (SMRs) (WP 3.2). We have made significant progress in both focuses and the results will be detailed in April 2024 during our next SEAKNOT interim meeting.

Knowledge Sharing

The work conducted in this part of the project aims to ensure that the expertise in severe accident research doesn't vanish thus we are focused on sharing knowledge about severe accidents with the next generation. We plan to strengthen their knowledge and skills through various communication and dissemination activities. An internal mobility program will also facilitate knowledge transfer from experienced scientists to new talents. Our aim is to not only equip the next generation with robust skills but also spread SEAKNOT's technical progress far and wide, reaching both the international scientific community and stakeholders.

Project Coordination

Our project coordination has been active, with key milestones achieved. These include setting up a project website, quality procedures, and organizing meetings. We've also established an Advisory Board and End User Group to ensure the project's success.

Resources

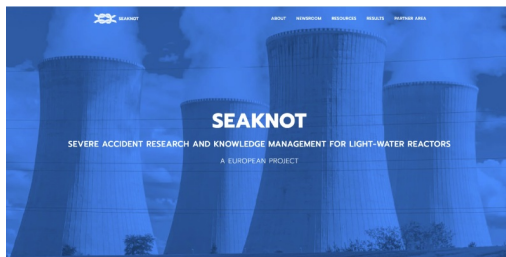
In the first year of SEAKNOT, we've initiated a range of communication activities. Discover the various tools and channels at your disposal to stay updated on the project's developments! [Share SEAKNOT updates within your network!](#)



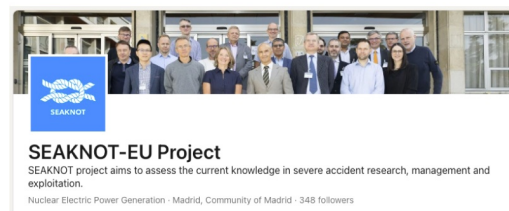
A project brand (logo and visual identity), including [documents or presentation templates and posters](#) to ensure the project's visibility among all relevant stakeholders.



Communication support materials, such as a [general SEAKNOT presentation](#), a [leaflet](#) and a [factsheet](#) presenting the project, to communicate at conferences, workshops and online.



The [public website](#) which serves as the primary communication channel to reach the project's stakeholders and audiences.



A [LinkedIn account](#) in order to communicate on SEAKNOT, promote its results and advertise about future initiatives.

[See more resources](#)

SEAKNOT at events

In the past year, SEAKNOT has been involved in various public events. The project was introduced and presented at international conferences and meetings such as ERMSAR 2022 in Karlsruhe, the [SNETP Coordinators' Hub Day](#) in Brussels, the [MUSA Final Open Workshop](#) in Madrid, and the ICONE 30 Conference in Kyoto. We also engaged in discussions at forums like FISA 2022, the NUGENIA TA2 General Meeting, and the SNETP 2023 Forum.

In May 2024, the SEAKNOT project will host the [11th European Review Meeting on Severe Accident Research \(ERMSAR 2024\)](#) in Stockholm, Sweden. ERMSAR is a platform for experts to exchange practical knowledge in severe accident research, and SEAKNOT is actively involved in organizing these important events. More information on how to register and how to submit abstracts [here!](#)

11TH CONFERENCE ON
SEVERE ACCIDENTS RESEARCH
May 13-16, 2024 – Stockholm, Sweden
ERMSAR 2024

Pisa.

As the only nuclear conference fully focused on SA, it is an open and field-specific conference about the latest progress of international knowledge on SA in NPPs. The scope of the conference includes also innovative nuclear technologies, such as Accident Tolerant Fuels (ATFs), Small Modular Reactors (SMRs), fusion, etc.

Training

With the aim of fostering knowledge exchange, the latest iteration of the **[NUGENIA TA2 Severe Accident Phenomenology Short Course, SAP 2023](#)**, took place in Madrid from June 19 to 23, 2023. This edition marked a significant milestone, as it was jointly organized under the SEAKNOT framework & jointly co-organized by UPM Universidad Politécnica de Madrid, CEA - IRESNE, CIEMAT Madrid, University of Pisa and Jožef Stefan Institute.

The SAP short course is focused on the transfer of knowledge gained on SA in the last two decades to MSc/PhD students, young engineers and researchers recently involved in this area.

The next **[SAP 2025 edition](#)**, always within SEAKNOT framework, will be organized in Summer 2025 at Forschungszentrum Jülich and... **[Stay tuned for the Summer Camp on Severe Accidents!](#)**



Discover the SEAKNOT's Internal Mobility Exchange Programme



Rolling applications are open

SEAKNOT's Education and Training (E&T) initiatives primarily target MSc and PhD students, while also welcoming young researchers interested in the Source Term domain. A significant step in this direction has been the establishment of an internal **[Mobility Exchange Program](#)** designed to provide training opportunities through delegations to SEAKNOT partner laboratories. Detailed guidelines are accessible on the **[SEAKNOT website](#)**, the **[ENEN database](#)**, **[SNETP](#)**, and the **[SEAKNOT LinkedIn](#)** channel.

More information

Are you a young researcher working on matters related to the work conducted by SEAKNOT & eager for a

long-term

stay at one of our partner laboratories or considering participation in **ERMSAR 2024** next May? **Apply** to SEAKNOT's mobility programme! The programme can offer financial support to help young researchers in mobility or present their research results in international events.

Upcoming events



SCOPE | Saudi International Conference on Nuclear Power Engineering

November 13-15, 2023, Dhahran, Saudi Arabia



European Review Meeting on Severe Accident ResearchERMSAR 2024

May 13-16, 2024, Stockholm, Sweden



14th International Topical Meeting on Nuclear Reactor Thermal Hydraulics, Operation and Safety (NUTHOS-14)

August 25-28, 2024, Vancouver, British Columbia, Canada

NURETH 21

21st International Topical Meeting on Nuclear Reactor Thermal Hydraulics

31 Aug 2025 - 5 Sep 2025, Busan, South Korea

SEAKNOT is on social media, **follow us on LinkedIn** to share our news with your network.

Get in touch: contact@seaknot-project.eu

[Visit our website](#)



Funded by
the European Union

This project has received funding from the HORIZON-EURATOM-2021-NRT-01 under Grant Agreement No. 101060327.

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