SNETP FORUM 2026

25-27 March 2026 | Madrid, Spain

Background

SNETP is an international association (AISBL) with around 130 members from 25 countries, including nuclear power plant operators, research centres, industry, universities, and technical support organizations. Since 2007, SNETP has supported the creation and implementation of R&D programmes.

European Technology & Innovation Platforms (ETIPs), such as SNETP, are industry-led stakeholder fora recognised by the European Commission as key drivers of innovation, knowledge transfer, and European competitiveness. ETIPs develop research and innovation agendas supported by public and private funding for implementation at EU and Member State levels.

Continuous technological innovation is essential for ensuring safety and competitiveness in the European nuclear sector. This requires coordinated R&D&I programmes at EU level, developed in collaboration with international partners. In the context of climate change and rising global energy demand, nuclear energy contributes significantly to the EU's energy security and climate objectives as a low-carbon energy source. Combined with renewables, nuclear energy can help Europe achieve energy security and decarbonisation in hard-to-abate sectors in industry and transport.

Scope

The SNETP Forum 2026 will explore recent technological and scientific progress in advanced nuclear technologies, including SMRs and AMRs, safety, non-electric applications, long-term operation (LTO), and improved NPP performance. The objective is to assess how these innovations can enable the nuclear sector to strengthen its contribution to climate change mitigation and adaptation.

Based on results from recent collaborative projects, the Forum will identify key topics of common interest for the European community, helping to shape future R&D&I priorities and projects, and promoting knowledge transfer and harmonisation of best practices across the EU and beyond.

The programme will combine strategic plenary sessions with technical parallel sessions, ensuring diversity and inclusion of transversal topics such as digitalisation, integration with other energy sources, and fuel cycle back-end. Young Generation involvement and collaboration with international networks will be encouraged.

Programme Structure

The technical programme is organised into thematic tracks with plenary and parallel sessions, each featuring interactive formats (keynotes, panels, workshops) and moderated by experts.

Plenary sessions (for each panel, ideally 3, max 4 invitees for roundtable discussions)

Date	Time Block	Room	Chairs
25/03/2025	13:30-15:30	**P1: The role of nuclear fission in Europe's energy systems** • Incentives for Long term operation • Ensuring Economy/Competitiveness/availability and security of Electricity in the EU (in view of growing consumption and electrification)	**B. Salha**
26/03/2025	9:00-10:00	**P2: Small Modular Reactors advancement in the EU** • Technological maturity of new designs and the role of R&D in accelerating a multi-lateral licensing process • Need for new energy and decarbonization means for the industry	**P. Baeten**
26/03/2025	14:00-15:30	**P3: Current status of Nuclear energy in the Spanish energy mix** • LTO approach and value creation • How to meet the increasing electricity demand in the future while maintaining the grid stability? • Supply chain and other industries in Spain	**E. Gonzalez**
27/03/2025	11:30-12:30	**P4: Collaboration as a driver for innovation** • Collaboration vs. Competition: where the EU stands? • Competitive energy supply as major driver for the industrial competitiveness • Artificial intelligence impact in the nuclear sector	**L. Martinez**

27/03/2025	12:30-13:00	**Wrap-up and conclusions**	**B. Salha**

Parallel sessions

- 1 invited keynote + 4 oral presentations
  OR
- 6 oral presentations

Date	Time Block	Room (Track A)	Room (Track B)	Room (Track C)
25-03	16:00-18:00	**A1: *New Nuclear projects (financing, planning, construction*):** **Topics** • Experience on international and European project financing • A review of and updates about the new European nuclear projects in development. • Viewpoints on the establishment of a new European nuclear skills base and supply chain. ***Moderators: P. Nevitt & I. Darby (UKNNL)***	**B1: Long-Term Operation (NUGENIA session)** **Topics** • Modernization, modification, refurbishment projects or power uprate projects for LTO • Safety analysis for design modification considering internal/external hazards • Verification and validation of new technologies; ***Moderators: G. Tremblay (Westing) & A. Al Mazouzi (EDF)***	**C1: Non-electric Applications (NC2I session)** **Topics** • Activities in NC2I, GIF, OECD and IAEA • Cost competitiveness of nuclear heat, H2 and other energy products • The European market for decarbonised heat • Pathways to demonstration and deployment of co-generation ***Moderators: M. Fütterer (JRC) & C. Boudet (CEA)***
26-03	10:30-12:30	**A2: Hybrid Energy Systems (Panel Debate)** ***Topics:***	**B2: Digitization & AI (Demos)** ***Topics:*** • Enhanced Predictive Maintenance and Anomaly	**C2: Advanced Fuels & Materials (ESNII** ***Topics:*** • Fuel resilience under severe accident conditions(including ATF development)

		• Modeling tools for HES (suitability for including nuclear, tool validation) • Modeling of economics (LCOE vs. LCA, impact of assumptions, how to ensure the reliability of results) • Effect of flexibility (e.g., power ramping) on lifetime, performance and economy ***Moderators: C. Vaglio-Gaudard (CEA) & A. Cagnac (EDF)***	Detection (machine learning model, sensor data analytics, real-time monitoring) • high-fidelity digital twins of nuclear plants for simulation, optimization, and operator training • AI-driven risk assessment tools ***Moderators: C. Schneidesch (ENGIE) & S. Szabolcs (AEMI)***	• Materials for high burnup and closed fuel cycles • Multi-scale modeling of microstructural evolution under irradiation • Corrosion-resistant materials ***Moderators: M. Bertolus (CEA) & O. Martin (JRC)***
26-03	16:00-18:00	**A3: LWR Small Modular Reactors (NUGENIA session)** ***Topics:*** • Passive safety features and severe accident mitigation strategies tailored for SMR designs • Innovations in factory fabrication and modular assembly • Standardization of design codes and licensing frameworks for multi-country deployment ***Moderators: N. Sobecki (EDF) & I. Horvatovic (SCK CEN)***	**B3: Innovation in the Nuclear sector (including case studies from Young generation)** ***Topics:*** • Fostering cross-sector collaboration between industry, research institutions, and authorities to accelerate deployment. • Leveraging EU open innovation ecosystems to integrate AI, digitalization, and cross-sector applications for safety and competitiveness. ***Moderators: B. Pothet (Framatome) & E. Guillaut (Orano)***	**C3: Advanced Modelling & Simulation (incl. high performance, fidelity, computing)** ***Topics:*** • Advanced Modeling and Simulation for accurate predictions of reactor behavior and safety margins including uncertainty quantification, verification and validation • Integration of HPC with real-time monitoring and digital twins for nuclear plants • Data-Driven Approaches and AI Integration ***Moderators: F. Roelofs (NRG Pallas) & L.E. Herranz (CIEMAT)***

27-03	9:00-11:00	**A4: Advanced Modular Reactors (AMR) & Generation IV (ESNII session)** ***Topics:*** • Innovative Reactor Concepts and Coolant Technologies • Fuel Cycle Innovation and Sustainability • Accelerating the time to market of AMRs (maturity of design, licensing, …) ***Moderators: H. Aït Abderrahim (Myrrha) & A. Goicea (nuclearеurope)***	**B4: Safety and licensing (Role of R&D)** ***Topics*** • adaptive licensing pathways for advanced technologies (materials, fuels, digital, IA, Robotics,…) enabling faster innovation while maintaining safety • Risk-informed licensing approaches adapted to novel reactor designs ***Moderators: P. Kinnunen (VTT) & T. Ethvignot (ASNR)***	**C4: Waste management and decommissioning** ***Topics:*** • Advanced dismantling technologies and Digital twins for decommissioning: Robotics, remote handling, and AI-driven planning. • Waste volume reduction techniques • Long-term storage and disposal solutions ***Moderators: A. Banford (UKNNL) & Giuseppe A. Marzo (ENEA)***

Organisers

Scientific and Industrial Innovation Committee: (all co/moderators)

Ferry Roelofs (NRG)
Abderrahim Al Mazouzi (EDF)
Luis E. Herranz (CIEMAT)
Michael Fütterer (JRC)
Baptiste Pothet (Framatome)
Józef Sobolewski (NCBJ)
Christophe Schneidesch (ENGIE)
Paul Nevitt (UKNNL)
Iain Darby (UKNNL)
Guillaume Tremblay (Westinghouse)
Candice Boudet (CEA)
Nicolas Sobecki (EDF)
Ivan Horvatovic (SCK CEN)
Szávai Szabolcs (AEMI)
Claire Vaglio-Gaudard (CEA)
Albannie Cagnac (EDF)
Marjorie Bertolus (CEA)
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Andrei Goicea (nucleareurope)
Elisabeth Guillaut (Orano)
Petri Kinnunen (VTT)
Thierry Ethvignot (ASNR)
Anthony Banford (UKNNL)
Giuseppe Augusto Marzo (ENEA)

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Albannie Cagnac (EDF)
Gilles Quénéhervé (LGI)
Clara Demange (LGI)