

ORIENT



Organisation  
of the European  
Research Community  
on Nuclear Materials

A Coordination and Support Action in  
Preparation of a Co-Funded European  
Partnership on Nuclear Materials



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## Press release

# European project on nuclear materials successfully concludes, paving the way for co-funded European partnership

*As Europe powers towards a greener future, an EU-wide initiative on nuclear materials research and innovation could unlock safer, more efficient, and sustainable nuclear energy, solidifying its place in the green transition.*

**Brussels, 05 April 2023** – The ORIENT-NM (Organisation of the European Research Community on Nuclear Materials) project, a Euratom-funded Coordination and Support Action (CSA) that laid the foundations for developing a co-funded European partnership (CEP) on nuclear materials, has concluded its work. The project was **instrumental in raising interest among stakeholders and demonstrating the value of a coordinated and ambitious research and innovation EU-wide partnership** to accelerate the design, manufacturing, and qualification of innovative nuclear materials.

In the context of the clean energy transition and Europe's climate neutrality objectives, **nuclear energy has a critical role to play** as the world's second-largest source of low-carbon energy. **Nuclear materials represent a key element for nuclear energy's safety, efficiency, economy, and sustainability.** Hence, ORIENT-NM achieved consensus for establishing an ambitious and coordinated research and innovation **EU-wide partnership that catalyses EU Member States' national resources towards commonly defined objectives** is remarkable.

Over the course of 30 months, ORIENT-NM worked closely with key actors from the nuclear energy R&D field and policymakers from the European Commission and Member States. To accomplish the task, **member states representatives were engaged in a two-way dialogue** to collect information on national programmes, define contents and priorities, analyse their interest in a future CEP in nuclear materials, and provide information such as socio-economic benefits and financial aspects, among

others. Additionally, **the project's analysis of the national energy and climate plans (NECPS) suggested that nuclear power will be expanded in Europe from now to 2040** via long-term operation, power upgrades, new low-water reactor buildings and next generation systems (i.e., small modular reactors and fourth generation -Gen-IV-systems).

ORIENT-NM's main milestones included the development of a **Vision Paper** and a **Strategic Research Agenda for structural and fuel materials for all nuclear fission reactor generations until 2040**. Additionally, the partnership envisaged by ORIENT-NM put forward **five research lines transversal to the different classes of nuclear materials**, significantly impacting the safety and efficiency of current and future nuclear power plants.

The scientists who spearheaded ORIENT-NM are now **preparing a CEP proposal in response to the nuclear materials call finally included in the Euratom programme 2023-2025**. If approved, the fifteen years horizon of the partnership activities will be aimed at creating sufficiently strong foundations to enable the application of the approaches defined during ORIENT-NM for the benefit of the nuclear energy field.

*"We believe that a European coalition of workforce, skills and funds in the nuclear materials field could represent the strong point of the path toward final sustainable energy solutions. In this way, the future co-funded European partnership in nuclear materials, as envisaged by the ORIENT-NM project, will represent an added value for the European objectives on carbon neutrality and energy independence. We look forward to continuing our efforts and the close work with key stakeholders across Europe to achieve our shared goals of safety, efficiency, and sustainability in the nuclear energy sector."* – Lorenzo Malerba, coordinator of the ORIENT-NM project.

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## About ORIENT NM

ORIENT NM (Organisation of the European Research Community on Nuclear Materials) project is a–Coordination and Support Action funded by the Euratom research and training programme with EUR 1 099 588.75 from 10/2020 to 03/2023. It is coordinated by The Center for Energy, Environmental and Technological Research (CIEMAT), with the involvement of the European Energy Research Alliance (EERA), The Sustainable Nuclear Energy Technology Platform (SNETP), the Belgian Centre for Nuclear Energy Studies (SCK CEN), the Technical Research Centre of Finland (VTT), the French Alternative Energies and Atomic Energy Commission (CEA), Électricité de France (EDF), the Karlsruhe Institute of Technology (KIT), the Italian National Agency for New Technologies, Energy and Sustainable Economic Development (ENEA), the Dutch Nuclear Research and Consultancy Group (NRG), the European Commission's Joint Research Centre (DG JRC), the Research Centre Řež (CVŘ), the Polish National Centre

for Nuclear Research (NCBJ), the Romanian State Owned Company dedicated to Technologies for Nuclear Energy (RATEN), and the Stockholm Royal Institute of Technology (KTH). For more information, see: [www.eera-jpnm.eu/orient-nm/](http://www.eera-jpnm.eu/orient-nm/)

#### [About the European Energy Research Alliance \(EERA\)](#)

The European Energy Research Alliance (EERA) is an association of European public research centres and universities active in low-carbon energy research. EERA pursues the mission of catalysing European energy research for a climate-neutral society by 2050. Bringing together more than 250 organisations from 30 countries, EERA is Europe's largest energy research community. EERA coordinates its research activities through 18 Joint Programmes and is a key player in the European Union's Strategic Energy Technology (SET) Plan. For further information, see [www.eera-set.eu](http://www.eera-set.eu).

#### [About the Sustainable Nuclear Energy Technology Platform \(SNETP\)](#)

The Sustainable Nuclear Energy Technology Platform (SNETP) is a research, development and innovation platform that supports and promotes safe, reliable, and efficient operation of the civil nuclear systems by facilitating the cooperation among its members. It is recognised as a European Technology and Innovation Platform (ETIP) by the European Commission. The international membership base of the platform includes industrial actors, research and development organisations, academia, technical and safety organisations, SMEs as well as non-governmental bodies. For further information, see [www.snetp.eu/](http://www.snetp.eu/).



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