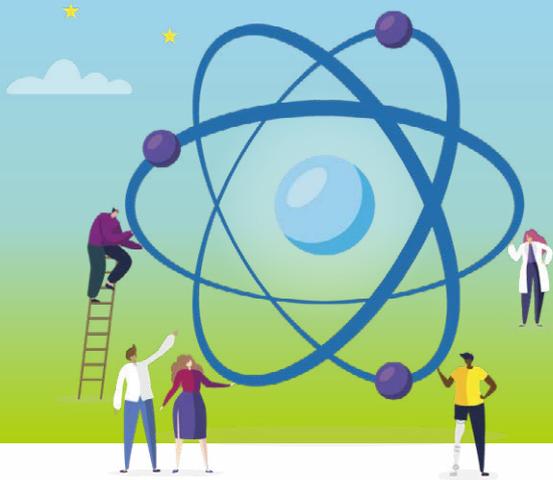




European
Commission



Euratom Research and Training Programme 2021-2025



June 2022

The European Commission has launched 28 projects with the total budget of 100 million EUR and a new European Partnership under the Euratom Research and Training Programme 2021-2022. These research and innovation actions will contribute to improving nuclear safety, management of radioactive waste, radiation protection, and safe use of nuclear power and of non-power applications of ionising radiation. These projects complement the European co-funded partnership [EUROfusion](#).

A NEW EURATOM PARTNERSHIP: PIANOFORTE

The European Partnership for research in radiation protection and detection of ionising radiation will build on and further develop the research priorities identified in the roadmap prepared by the 2015-2020 European Joint Programme for the integration of radiation protection research, [CONCERT](#). The Partnership will provide solutions and recommendations for protecting people and the environment from the potentially harmful effects of ionising radiation in all exposure situations, in line with the [Basic Safety Standards Directive](#). It will improve the quality of life and health of European patients through the development of new and optimised diagnostic and cancer therapies involving radiation sources.

The new Partnership, together with the on-going and newly launched Euratom projects, aims at better understanding the effects of medical exposure to ionising radiation and optimisation of radiological protection. It will make a substantial contribution to the [Europe's Beating Cancer Plan](#) and will complement the [Mission on Cancer](#) on optimising diagnosis and treatment.

EURATOM PROJECTS IN SPOTLIGHT:



The **ArtEmis** project will design, build, and operate a smart and scalable multi-sensor system of geochemical sensors to measure changes in radon concentration in ground water. The systems' data will be used to build machine-learning models to forecast earthquakes and volcano eruptions in European prone areas.

The **DELISA-LTO** project addresses thermal ageing and swelling phenomena in long-term operation of water-water energy reactors of European and Ukrainian units, key factors for the remaining life evaluation. The project will model and verify the modelling tools, to harmonise methodologies for long-term operation assessments and develop an effective "early warning" tool for the assessment of the system integrity.





The **ECOSENS** project will develop economic and societal considerations for the future of nuclear energy in society, bringing natural, social sciences and engineering into one project and opening up to the social, political, cultural and ethical context.



The **HARPERS** project will establish and clarify the benefits of more aligned and harmonised regulations and standards for decommissioning and initial phases of radioactive waste management, including shared processing facilities between Member States. It will reinforce the activities of the on-going programme and projects related to radioactive waste management ([EURAD](#), [PREDIS](#) and [SHARE](#)).



The **INNUMAT** project studies innovative materials for structures and components of advanced nuclear reactors. The development of new and the improvement of existing materials in terms of radiation, temperature and corrosion resistance is a necessary step for deploying advanced fission and fusion power plants.



The **NPhyCo** project will support EU's decarbonisation goals by 2050. It explores the technical, operational and economic feasibility and viability for existing Nuclear Power Plants (NPPs) to generate large amounts of hydrogen, which will play a key role in our future energy systems, and for delivering on the aim set out in the [European Green Deal](#).



The **SEAKNOT** project is carrying out a sound and critical analysis of the current State-of-the-Art and knowledge management in the field of Severe Accidents, to have experimental research facilities and analytical tools available to tackle efficiently possible future challenges.



The **PULSAR** project is focused on space missions applications. Nuclear power systems are the only current alternative to solar arrays for long-term generation of power in space.



The **TANDEM** project will develop assessments and tools to facilitate the safe, secure and efficient integration of SMRs into smart low-carbon hybrid energy systems. It will focus on two main case studies: a district heating network and power supply in an urban area, and an energy hub serving energy conversion systems, including hydrogen production, in a regional perspective.



Additionally, the Euratom Programme will support two European initiatives on nuclear education and training. The **OFFERR** project will establish an operational scheme to facilitate access for researchers and industry to key nuclear science infrastructures in Europe. The **ENEN2plus** project is the largest and most integrative nuclear Education and Training effort up to date. It supports cross-border and cross-disciplinary mobility within and beyond EU in cooperation with DG JRC, OECD/NEA and international partners including the United States, Korea and Japan.



For more information visit:

https://ec.europa.eu/info/horizon-europe/euratom-research-and-training-programme_en

© European Union, 2022

Reuse of this document is allowed, provided appropriate credit is given and any changes are indicated (Creative Commons Attribution 4.0 International license). For any use or reproduction of elements that are not owned by the EU, permission may need to be sought directly from the respective right holders.

All images © European Union, unless otherwise stated. Image sources: © ivector #235536634, #251163013, #245719946, 2020. © Nikolai Titov, #139317295; © ivector, # 222596698; 2021. Icons: © palau83, #230401324; ©motorama, #276353407; 2019. © palau83, #198119406, 2021; #1981194252022, #238083962, #445950938, #504740002; 2022. Source: StockAdobe.com.

PDF ISBN 978-92-76-53055-8 doi:10.2777/57133 KI-07-22-340-EN-N



Publications Office
of the European Union