



DEMOKRITOS
NATIONAL CENTRE FOR SCIENTIFIC RESEARCH



NEWSLETTER



OFFICIAL LAUNCH OF EXCELLEND ERA CHAIR PROJECT

The Horizon Europe ERA Chair project EXCELLEND officially launched on February 1st, 2025, under the leadership of world-renowned expert Prof. George Tsatsaronis, at the Institute of Nuclear & Radiological Sciences and Technology, Energy & Safety (INRASTES). The project aims to bring together all energy-related activities of NCSR "DEMOKRITOS" into a single, dynamic team focused on sustainable energy solutions and climate neutrality, aligned with EU priorities such as the European Green Deal

By strengthening synergies with NCSR laboratories, other national and international research institutions, and industry, it aspires to build a leading sustainable energy research group in the EU and contribute to the European Research Area (ERA). The project is coordinated by Dr. George Kosmadakis, Senior Researcher at the Solar & Other Energy Systems Laboratory of the INRASTES.

[Read more](#)

ISSUE 1

Feb 2025 -
Feb 2026



1ST CROSS- INSTITUTE SYNERGY DISCUSSION

13/03/2025

The Chair of EXCELLEND, Prof. George Tsatsaronis, and the project coordinator, Dr. George Kosmadakis, held their first synergy meeting with Dr. Stasinios Konstantopoulos, Researcher at the Institute of Informatics & Telecommunications, representing the MANOLO project. During the meeting, the project members explored opportunities for collaboration by combining AI computing with mechanical engineering to develop interdisciplinary approaches to energy systems.

[Read More](#)



Funded by
the European Union

*Funded by the European Union's Horizon Europe research and innovation programme under grant agreement nr. 101185742. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Research Executive Agency (REA). Neither the European Union nor the granting authority can be held responsible for them.

INTERINSTITUTIONAL COLLABORATION WITH H2LAB

The collaboration between the EXCELLEND project and the Integrated Hydrogen Laboratory (H2Lab) of NCSR “Demokritos”, INRASTES, was initiated in 2025, marking an important step in strengthening research on hydrogen technologies.

Since February 2026, Ms. Alexandra Pavlidi has been actively contributing to this joint effort, focusing on the multi-dimensional assessment of hydrogen storage and transport solutions. The research focuses on both physical-based as well as material-based hydrogen storage and carrier methods, evaluating environmental and technoeconomic criteria.



INVITED LECTURE ON HYDROGEN ECONOMY

07/07/2025

A lecture on lessons learned in energy engineering in the last 50 years was provided by George Tsatsaronis on July 11th, 2025, at the Summer School of NCSR "Demokritos".

This was a first session of many yet to come within the EXCELLEND ERA Chair project.

[Link to the post](#)

NEW OPEN-ACCESS DATASET

20/11/2025

A new open-access dataset is now available, featuring measurements from a solar parabolic trough collector field installed at the Solar & Other Energy Systems Laboratory of NCSR “Demokritos”, prepared within the EXCELLEND ERA Chair project.

The dataset is available here: <https://zenodo.org/records/17659294>

DECARBONIZATION, HYDROGEN ECONOMY, AND POWER-TO-X

24/09/2025

On September 24, 2025, Prof. George Tsatsaronis delivered an invited lecture on “Decarbonization, Hydrogen Economy, and Power-to-X” to approximately forty staff members of the Regulatory Authority for Energy, Waste, and Water, as part of the EXCELLEND ERA Chair project. The lecture offered an excellent opportunity for discussion on the prospects of the energy transition and the role of hydrogen and Power-to-X technologies in shaping a sustainable energy future.



[More about the event](#)

[Link to the publication](#)

STRENGTHENING COLLABORATION WITH NTUA

14/07/2025

On the 14th of July, we had the opportunity to visit the School of Mechanical Engineering at NTUA, where we engaged in productive and discussions with members of the Thermal Engineering Department. The exchange of ideas highlighted several promising fields for future collaboration and reinforced our shared commitment to advancing research and innovation.



REPRESENTATION AT ASME-IMECE CONFERENCE IN MEMPHIS

20/11/2025



Prof. George Tsatsaronis participated in the ASME's International Mechanical Engineering Congress & Exposition (IMECE) conference held in Memphis, USA, where he delivered an engaging presentation during a technical session focused

on the use of exergetic efficiencies in chemical processes. His contribution highlighted important methodological advancements in the field and sparked valuable discussion among participants. At the conference, he proudly represented the EXCELLEND ERA Chair project as well as Technische Universität Berlin, further strengthening the project's international visibility and academic collaboration network.



EXCELLEND: BUILDING OUR TEAM

Our team is steadily approaching full capacity, marking an exciting phase in our development. We currently have six researchers on board bringing expertise in mechanical and chemical engineering, with two additional members expected to join by April.

In addition, three other members support project management activities. A full presentation of all team members will be featured in the next issue.



Funded by
the European Union