

# PRESS RELEASE

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Gemesis secures nearly €1 million in FTJ funding to accelerate APERIO, our industrial neutron imaging platform dedicated to batteries, hydrogen systems, membrane systems, mechatronics, and energy components.

[EU](#) This operation was co-financed by the European Union and the Auvergne-Rhône-Alpes Region.

GEMESIS announces the award of a major and strategic grant of up to €903,516.45 for the development of the APERIO project, dedicated to the creation of a neutron imaging system for the non-destructive testing of batteries, hydrogen systems, and electrochemical components.

This support complements the funding already obtained under the France 2030 / PIA4 program, dedicated to the project's engineering and feasibility studies. This new contribution will accelerate industrial investments as well as the realization of a first operational demonstrator.

The APERIO project aims to develop an industrial approach to neutron imaging, capable of observing internal phenomena that are difficult to access using conventional testing methods.

Thanks to the sensitivity of neutrons to hydrogen and light elements, this technology notably enables real-time observation of :

- Fluid distributions,
- Two-phase flow phenomena,
- Internal defects,
- Aging and degradation mechanisms,
- As well as the electrochemical behavior of complex systems.

The objective is to provide industrial companies and research centers with new tools for understanding, qualification, and improvement of critical energy systems.

[Advanced Testing Stations Combined with Neutron Imaging](#)



Beyond the development of the imaging solution itself, APERIO also includes the deployment of advanced testing stations enabling the study of :

- Single-cell fuel cell systems,
- Electrolyzers,
- Battery cells,
- And electrochemical components.

These platforms will make it possible to correlate conventional physical data (pressure, temperature, current, voltage, etc.) with internal observations obtained through neutron imaging.

This convergence opens the way to advanced diagnostic capabilities, multiphysics analysis, and a deeper understanding of internal mechanisms under real operating conditions.

## An Industrial and Strategic Momentum

This milestone represents a major step forward for the industrial launch of the project and for the technical, financial, and operational structuring of this new strategic activity within GEMESIS.

In parallel, GEMESIS is complementing this funding with an additional €2 millions fundraising round, combining equity financing and bank debt, in order to accelerate the technological, industrial, and commercial deployment of the APERIO project.

Beyond the technological project itself, this momentum contributes to the development of a French and European industrial sector focused on advanced imaging, non-destructive testing, and strategic decarbonization technologies.

The objective is to contribute to industrial sovereignty by developing next-generation characterization and detection tools aimed at improving the energy systems of tomorrow.

## A Collaborative Project

GEMESIS would like to thank the Auvergne-Rhône-Alpes Region for its support in the development of the project, as well as Auvergne-Rhône-Alpes Entreprises for its guidance and continued support.

We also thank our partner Exosens, with whom we are developing an industrial vision of neutron imaging designed for practical applications in the fields of energy, hydrogen, batteries, and defense.

The project also relies on a network of technical, scientific, and industrial stakeholders contributing to the development of next-generation advanced characterization solutions.

## About Gemesis

Based in Lyon, Gemesis specializes in the design of advanced test benches, special-purpose machines, and containerized systems for battery, hydrogen, energy, and defense technologies. The company also develops software solutions dedicated to operando testing and complex instrumentation.



## Press contacts

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