For a number of years now, IFPEN has been participating in calls for projects associated with various programs financed by the European Commission, focusing mainly on the flagship instrument for funding research and innovation, the Framework Program for Research and Development (FP).

From 2021, IFPEN's participation in the Horizon Europe program has reflected its innovation strategy focused on the major environmental challenges of our era. IFPEN has succeeded in extending its area of expertise beyond its traditional sectors, offering its know-how to address complex issues related to soil health, for example (DEEPHORIZON), and hydrogen storage (FRHYGE). IFPEN has participated in the submission of over 80 project proposals since the launch of Horizon Europe, and is currently involved in more than 30 ongoing projects.

> **See list of projects that IFPEN is involved in**

CO2 capture, batteries, underground water reservoirs: focus on 3 projects

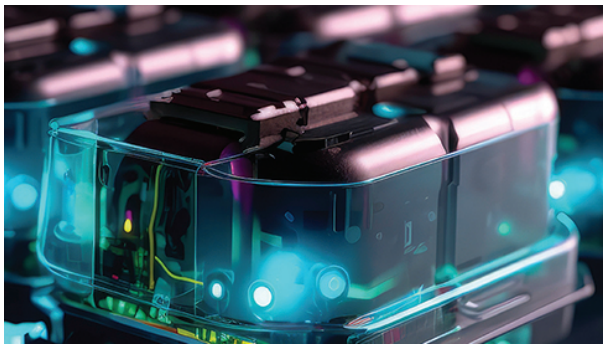
"3D": CO_2 capture to support the decarbonization of industry

DMX™ Demonstration in Dunkirk (3D) is part of the Horizon 2020 program. Coordinated by IFPEN, 3D brings together a further ten partners from the worlds of research and industry from six European countries.
The 3D Dunkirk pilot has three objectives:

1. Demonstrate the efficiency of the DMX™ process on an industrial pilot scale
2. Prepare for the development of a first industrial unit
3. Design the future European Dunkirk - North Sea European cluster, which should be able to capture, pack, transport and store 10 million tons of CO_2 per year and be operational by 2035.

The “3D” project aims to validate reproducible technical solutions and enable the industrial roll-out of capture-storage technology around the world. It should play a major role in enabling energy-intensive, CO_2-emitting industries such as the steel industry to reduce their emissions. This project is an essential lever in terms of meeting the objectives of the Paris Climate Agreement.
> Find out more

Modalis² and HELENA: on the road to the batteries of the future



Funded as part of Horizon 2020, the Modalis² (Modeling of Advanced LI Storage Systems) project, led by IFPEN and involving nine other European partners, has produced promising results in the modeling and simulation of advanced batteries, incorporating in their design the use of new materials such as alloys with silicon for cathodes (Gen 3b) and solid electrolytes (Gen 4b).

The HELENA project dedicated to solid-state batteries and the Horizon Europe winner in June 2022, is an extension of the research conducted within the framework of Modalis². Ultimately, research efforts should lead to the development of a high-density and high-power technology for use, in particular, in the aviation sector.
> Find out more

KARST: understanding water flow and pollutant transport in karst aquifers

IFPEN also takes part in calls for more fundamental research projects within the framework of Marie Sk?odowska-Curie actions, and also within the framework of the European Research Council (ERC), which awarded IFPEN its first “ERC Synergy” grant in 2022 for the KARST project.

The grant will enable the international, multidisciplinary research team to update the physical laws governing water flow and the transport of pollutants in underground cave systems (karst aquifers).
> Find out more

Innovation at the heart of large-scale projects

Link to the web page :