

Large-scale cutting-edge experiments **at the heart of an industrial environment**







Located in South-West France, just 30 minutes away from the Jean Féger Scientific and Technical Center (CSTJF) in Pau and 45 minutes away from Biarritz, the PPL borders on the laboratories of the Platform for Experimental Research in Lacq (PERL) of which it forms an integral part. It extends over almost six hectares at the heart of the Induslacq industrial platform, within the former historical gas site of Lacq, and consequently benefits from a growing, dynamic and responsible ecosystem (classified Seveso-3) managed by SOBEGI, an affiliate of TotalEnergies.

A dedicated team at the PERL coordinates the activities of the PPL and offers customized and bespoke support to entities planning to conduct tests or research.

From design to operation, not forgetting the construction of test benches or more significant infrastructures, the PERL researchers draw on their long-standing and cross-functional competencies and knowhow to foster synergies and the emergence of competitive and innovative solutions.

Gur purpose:

to support the business lines and innovation by facilitating and supporting the roll-out and operation of experimental resources focused on sustainable development at the heart of an industrial environment.



The PERL is the spearhead of the Company in researching innovative solutions to fight against climate change and protect the environment.

Around 130 people work at the PERL, one of TotalEnergies' research centers internationally renowned for its scientific expertise in the physical-chemistry of interfaces, environmental sciences and the separation and handling of gases. From lab-pilot to industrial scale, the researchers working with the OneTech R&D programs have developed cross-functional know-how particularly focused on sustainable development themes (carbon capture and storage, water management, soil management, measurement of greenhouse gas emissions, and so on).

THE OFFER AND ASSETS

Each experimental program is unique and calls for specific requirements.

The main asset of the PPL and its teams is based on the definition of tailored solutions, from the design phase of a project to its operation.

All themes, all energies

The PPL has the capacity to host pilots and test benches of all sizes for all Company entities as evidenced by the facilities found on site.

Programs already up and running on the PPL



All-round expertise for made-to-measure services and support

Depending on the complexity of their projects, the program managers benefit from the nearby presence of the PERL's community of researchers, the technical skills of the CSTJF teams, and where necessary, the innovation dynamics of the start-ups and engineering offices of the Lacq basin.

They are supported by a dedicated team at the PERL, which offers its multidisciplinary skills in processes, safety, projects and works. The objective is to size the facilities to fit in with needs, with the constant concerns of risk and cost management uppermost in mind.

In a controlled Seveso-3 industrial environment

Because the PPL makes a point of preventing and managing risks and respecting the environmental requirements related to the ICPE (French site classification system for environmental protection), all the raw materials and chemicals typically found on energy production sites, including toxic and/or flammable gases, can be implemented there.





to Xavier MARCARIAN

Manager of the PPL

What is the first step for setting up a pilot or test bench at the PPL?

The starting point is always a discussion. Our priority is to effectively evaluate needs, understand the stakes and the purpose of the project. We also factor in the project owner's vision, how they think the project should be carried out, its duration and the data they wish to obtain. All these elements are essential so that we can propose the very best set-up strategy.

During these preliminary discussions, we present all the possibilities offered by the PPL and its team, such as the facilities already present on site, how it functions, and the different levels of support, from a simple hosting arrangement in which an area of the site is made available, to end-toend responsibility for the pilot, from design to operation.

Anything is possible!

What happens next?

We provide the Master Plan for setting up at the PERL, a booklet that describes the organization and running of the PPL and the different parties' rights and duties, and an information request form, which enables us to identify needs such as surface area, utilities, the types of networks, and the chemicals and processes involved so that we can determine the potential risks to be taken into account throughout the project. This preliminary technical file - PPL project (DPT-PPL) serves as a basis for a kick-off meeting, the first milestone during which all the project management aspects and any external assistance (e.g. additional internal expertise, engineering office, etc.) are discussed, and a first draft of the set-up is drawn up.

Does the PPL enable open-innovation projects?



Setting up a pilot on the PPL offers the dual advantage of guaranteeing the internalization of R&D while keeping the door open for external partnerships. The confidentiality requirements are the same here as for all the Company's research centers. In a partnership or open innovation context, study or project owners have the possibility of including their external partners in their activities/operations at the PPL.

C Our watchwords: professionnalism, mutual support and enjoyment!



THE LACQ PILOT PLATFORM (PPL) PROJECTS

Alongside the technical facilities, the PPL comprises modular buildings made up of shared work spaces. They are fitted out with the same network/telecom connections as the PERL, meaning the data acquired from the site pilots and facilities can be processed. A specific architecture was also set up for the projects under the responsibility of the Remote Operations laboratory.

The PPL is a real technological showcase for the Company and can also host large-scale internal or external events such as test campaigns, with or without partners present, project inaugurations, and visits.

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Some of the infrastructures hosted at the PPL

TADI

TADI (TotalEnergies Anomaly Detection Initiatives) is a 2,000-m² test infrastructure attached to the Remote Operations laboratory of the PERL, and the only one of its kind in Europe. It is used to test, develop and qualify acoustic, infrared and laser sensors to detect gas leaks and greenhouse gas emissions. The PPL team is involved at all levels (design, construction and operation of the facilities) and, on the stage of this operational theater, runs controlled gas detection tests (CH₄, CO_{2'}, N_{2'} etc.) required to increase the TRL of the various user R&D projects.

The Robotics Development Platform

Joined onto TADI, this six-meter high modular structure is specifically designed for developing robots for future uncrewed industrial platforms. It contributes to training operators in how to use the technology, to defining the specifications for future versions of robots and developing new operating philosophies. The PPL team helped in the technical design of the project, particularly in building and setting up the structure.

The Water Monitoring & Sustainable Development platform

Thanks to piezometers ideally positioned across the PPL, the PERL teams develop tools to monitor and simulate aquifers (ADYCHATS project).

With SWAP (Sustainable Water Platform), a project for the sustainable and integrated management of water on our sites, rainwater and other "water" resources are reused in technologies associating new energies and water treatment processes.

For CO₂ storage

With DISCO2 (Detection of Induced Seismicity for CO_2 storage), the teams of the CO_2 storage R&D project develop monitoring tools to better anticipate the risks related to CO_2 storage.



Construction of the PPL mobile offices



End of soil remediation by RETIA



Start of work in the area



Area for R&D identified on the Lacq site





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