



STORAGE RESEARCH INFRASTRUCTURE ECO-SYSTEM

RI Information sheet 2022

EDF R&D, Hydrogen and water electrolyser platform

Chemical Storage

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Project Acronym	StoRIES
Call	H2020-LC-GD-2020
Grant Agreement No.	101036910
Project Start Date	01-11-2021
Project End Date	31-10-2025
Duration	48 months

1. Photo



2. Geographical coordinates ([48.375555019730534](#), [2.843303329527817](#))

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3. Description of the research infrastructure for the webpage

A complete test facility for:

Characterising systems

- Measuring performance under normal and disrupted conditions,
- at various points and for various operating modes,
- Understanding system deterioration,
- Assessing the impact of disruptions from the power grid, including major disruptions,
- Influence of electrolysis systems on the power grid,



- Characterisation of the flexibility of electrolyzers.
- Studying Hybridisation with other means of storage

Scenarios and case studies

- Assessment of electrolyzers' ability to contribute to balancing supply/demand and to providing the power grid with system services,
- Putting forward power supply scenarios that involve varied sources of electricity, storage systems, etc., representing current and future electricity production means,
- Optimising electrolyser management, factoring in network requirements, electrolyser constraints and the use of hydrogen downstream, performing tests on control algorithms.

Platform's main characteristics

- 4500 m² in total / 2 test areas, each of 600 m²
- Electricity supply: 2 MW / In development 5-10 MW
- Water supply: up to 5m³/h at more than 4 bar
- Hydrogen produced: currently up to 400 Nm³/h
- Several pathways for using the hydrogen produced under investigation

Tests performed in one location

- free of all supply constraints
- in completely secure conditions / environment
- in real-life operating conditions

4. Availability of the research infrastructure

(Please indicate time periods in which infrastructure will not be available for StoRIES in the next 2 years – if already known)

This is not known at this stage

5. Special considerations (confidentiality / NDA agreements, insurance requirement, special training, HSE training)

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A contract will be drawn up for each test campaign that will include confidentiality, safety and other requirements. No specific HSE training is required, operations which pose a risk can be performed by trained and qualified EDF personnel.

6. Energy storage technology that can be analysed/studied by using the research infrastructure

- Electrochemical
- Chemical
- Thermal
- Mechanical
- Superconducting Magnetic
- Cross-cutting (Specifically: ...)

7. Key words for the webpage

Water electrolyser, hydrogen, hybridisation

8. TRL level (if applicable):

- 1-3
- 4-6
- Above