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DELYCIOUS

Clean Hydrogen Partnership

Co-funded by the European Union

D1.3 Annual Data Reporting



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Document control sheet

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About DELYCIOUS

As Europe accelerates its transition to clean energy, the Net Zero Industry Act identifies low-carbon hydrogen production as a strategic priority. DELYCIOUS tackles key challenges in water electrolysis technology, focusing on extending electrolyser lifespans and reducing operational costs under variable renewable energy sources. In DELYCIOUS, the development of cost-efficient, innovative, open, universal, and safe diagnostic tools to investigate the chemical and electrochemical properties of electrolysis systems is foreseen. This project combines Raman Spectroscopy (Raman) and Electrochemical Impedance Spectroscopy (EIS), to explore the chemical and electrochemical properties of electrolysis systems. By using both physical and data-driven modeling, it will be possible to identify important degradation parameters. To ensure that the diagnostic tools work effectively in various temperature ranges and across various electrolysis technologies, three technologies namely Alkaline Electrolysis (AEL), Proton Exchange Membrane Electrolysis (PEMEL), and Solid Oxide Electrolysis (SOEL) are addressed in this project, with a demonstration on alkaline electrolysers beyond 100 KW.

Consortium

Fraunhofer IWES

Coordinator

Air Liquide

UNIVERSITY OF TWENTE.

DUMAREY

HORIBA

etaflorence

stargate hydrogen

SIVONIC

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Publishable Summary

This deliverable is the annual report on the progress of project towards the achievement of Clean Hydrogen Partnership (CHP) - Strategic Research and Innovation Agenda (SRIA) Key Performance Indicators (KPI's) as a part of Clean Hydrogen Joint Undertaking (JU) Annual Program Review Data Collection Exercise for 2026. The data reported at the CHP portal consisted of major results achieved so far, updates on diagnostic parameters, safety management and dissemination and exploitation activities of the project. DELYCIOUS reports no major difficulties or any risks in the first year of the project. Additionally, relevant information for a public poster *cum* factsheet along with graphics was provided for the use of CHP dissemination activities.

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