

DELYCIOUS

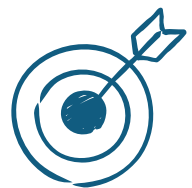
Diagnostic tools for **E**lectro**Y**zers:
Cost-efficient, **I**nnovative, **O**pen,
Universal and **S**afe

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Grant Agreement no. 101192075

Timeline 01.01.2025 - 31.12.2027

EU Funding € 4 million



About the project

DELYCIOUS is a Horizon Europe and Clean Hydrogen Partnership funded R&D project aimed at developing advanced diagnostic and monitoring tools for water electrolyzers that are cost-efficient, innovative, open, universal and safe.

The project is advancing innovation in Alkaline Water Electrolysis (AEL), Proton Exchange Membrane Electrolysis (PEMEL), and Solid Oxide Electrolysis (SOEL) technologies. Its diagnostic and monitoring tool will be validated at lab scale and demonstrated at large scale (>100 kW) on an AEL, bridging the gap to industrial applications and proving AEL's scalability at TRL6.

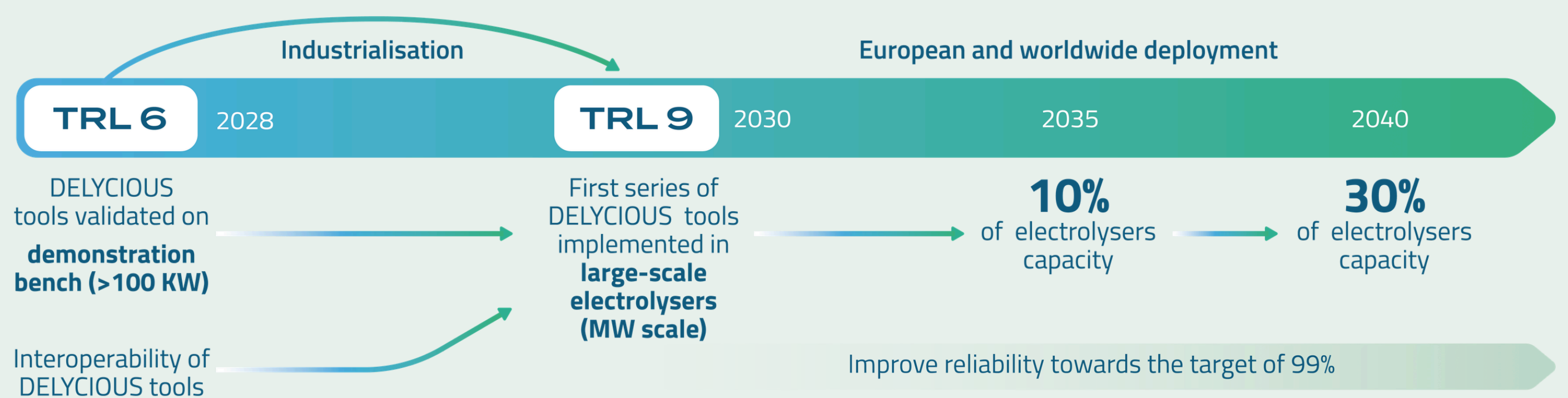
Strategic Objectives

- ✓ Develop a Flexible Test Platform
- ✓ Open-Access Software Platform
- ✓ Large-Scale Demonstration
- ✓ Roadmap to Commercialization
- ✓ Advanced Hardware Sensors
- ✓ Cutting-Edge Algorithms

Vision

- Advances SDG 7 (innovating clean hydrogen), SDG 9 (driving industrial progress), SDG 12 (reducing fossil fuel reliance), and SDG 13 (supporting climate action).
- Optimizes green hydrogen economics for new projects and upgrades.
- Empowers academia, industry, and professionals through R&D, mentorship, and open data access.
- Enhances electrolyser performance, drives large-scale deployment and standardization, lowers ownership costs, and enables greater renewable energy integration.

Expected Impacts



Timeline



M I L E S T O N E S

- M1** Successful lab-scale hardware integration
- M2** EIS device for lab-scale electrolyser available and approved for implementation in WP2
- M3** Raman device for lab-scale electrolyser available and approved for implementation in WP2
- M4** Raman device for the large-scale electrolyser available and approved for implementation in WP9
- M5** EIS device for the large-scale electrolyser available and approved for implementation in WP9
- M6** Full industrial relevant scale system integration and commissioning

Project Consortium

Coordinator			FRAUNHOFER GESELLSCHAFT ZUR FÖRDERUNG DER ANGEWANDTEN FORSCHUNG EV			DUMAREY SOFTRONIX SRL	
Technical Manager			AIR LIQUIDE FORSCHUNG UND ENTWICKLUNG GMBH			ETA - ENERGIA, TRASPORTI, AGRICOLTURA SRL	
UNIVERSITY OF TWENTE.			UNIVERSITEIT TWENTE			STARGATE HYDROGEN SOLUTIONS OU	
HORIBA			HORIBA FRANCE SAS			SIVONIC GmbH	

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