



TRANSFORMING SOLID OXIDE ELECTROLYZE CELLS PRODUCTION

into a sustainable, high-performance, circular process, to drive cost-effective, large-scale hydrogen production globally.



Goal
01

Three Advanced Manufacturing Technologies

To produce SOELs components with reduced environmental impact.



Goal
02

Development of an AI based Quality Control Tool

The Advanced Electrode Manufacturing Supervisor (AEMS) to reduce wastes during production.



Goal
03

Eco-Design and Design for Recycling Guidelines

Production of strategies to reduce Critical Raw Materials (CRMs) presence in the SOECs.



The project is supported by the Clean Hydrogen Partnership and its members.



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By developing innovative, sustainable Solid Oxide Electrolyzer Cell (SOEC) components, this project combines advanced manufacturing techniques, AI-driven automation, and circular design to reduce waste, improve efficiency, and support the clean energy transition.

HysPRINT will optimise 3 manufacturing technologies for SOECs components, aimed at reducing energy consumption and material use, while improving cells and stacks performances.



**InkJet
Printing**



**PVD
Magnetron
Sputtering**



**ReScale
Method**

An Advanced Electrode Manufacturing Supervisor (AEMS) AI-based tool will also be developed, to control the quality of the components during all steps of the manufacturing process contributing to the reduction of waste and scraps.



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