



# SIA AI Cooperation

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# About

SIA AI Cooperation is an active member of the Latvian Hydrogen Association, which currently actively cooperates with the Latvian company NACO, as well as actively cooperates with European industry companies through the hydrogen association.

## Project experience:

- ▶ Built Hydrogen BackUp,
- ▶ Associate member of the H2Value project,
- ▶ ERASMUS-EDU-2024-PEX-COVE associate member,
- ▶ Competence center grant,
- ▶ 2 more projects have been submitted to the EU Commission.

# Competence center BackUp project

The purpose of the project: the development of a new, innovative - hydrogen back-up or reserve power supply system. The competences of the scientific team in the field of hydrogen development will be expanded.

The project option is to develop a new product: Hydrogen back-up system.

- ❑ Project budget: EUR 65000.00
- ❑ Project implementation period: 6 months, the project started in December 2023.
- ❑ The project finished by May 2024, resulting a new Hydrogen BackUP

# H2Value project

The aim of the H2Value (Supporting the Regional Development of the Green Hydrogen Fuel Value Chain for Transportation in Estonia and Latvia) project is to establish the first interregional green hydrogen value chain in South Estonia (Tartu region) and Northern Latvia (Vidzeme region) to activate the emerging hydrogen markets in these regions. Making strategic investments in kick-starting the cross-border hydrogen value chain – including infrastructure, production, storage and transport – is expected to create a greater market pull for hydrogen in Estonia and Latvia and to help overcome some of the major market failures.

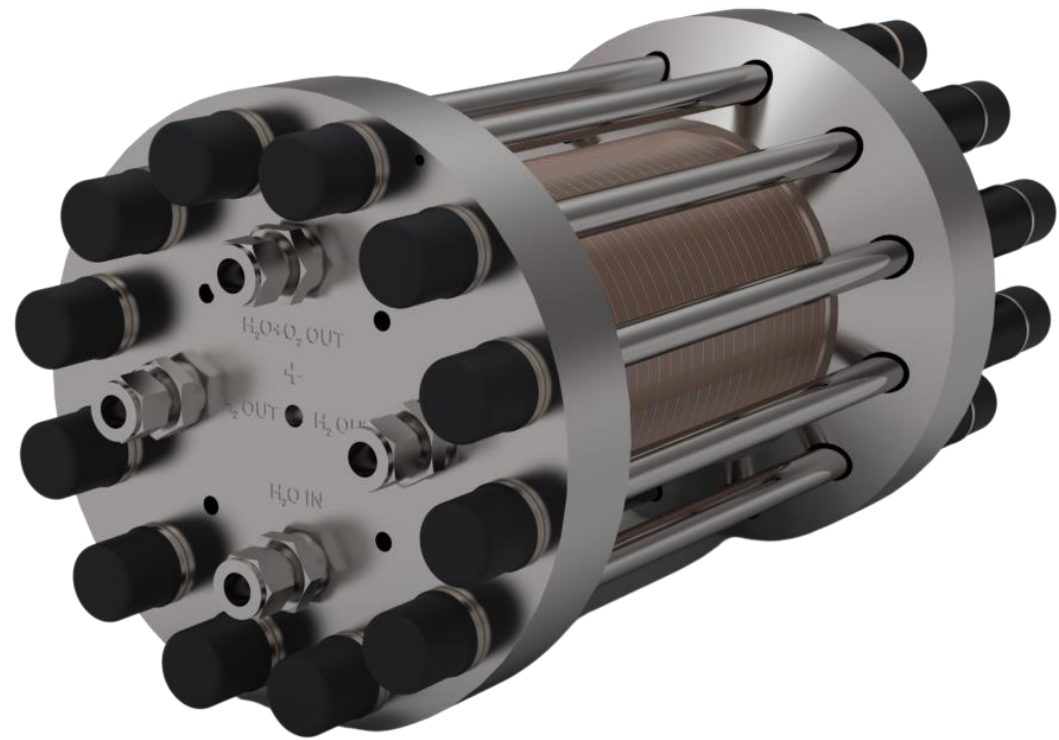
# ERASMUS-EDU-2024-PEX-COVE project

Consequently, the H2VE project aims to respond to the challenges and needs of the emerging VE in terms of skills shortage and mismatches derived from the digital and green transition, improving the responsiveness of the VET systems to these changes while promoting inclusion and equity in education.

# PEM electrolyser project of the Competence Center

The purpose of the project: to develop a new and innovative product - medium power 50 kW Catalyst coated PEM (Proton Exchange Membrane) electrolyser using the direct magnetron sputtering method, which replaces the traditional CCM (Catalyst Coated Membrane) approach.

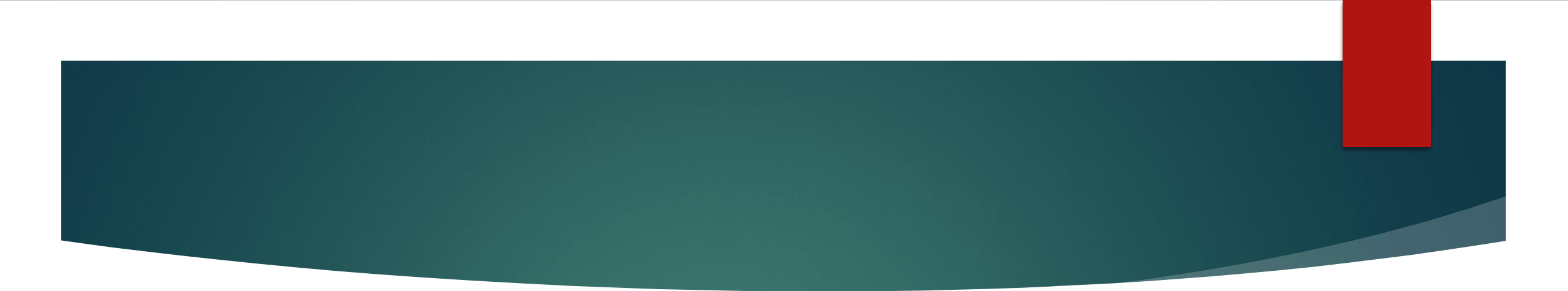
- ❑ Project budget: EUR 890,263.68
- ❑ Project implementation period: 12 months, the project started in September 2024.
- ❑ The project to be finished by September 2025, resulting a new type of PEM electrolyser



# The preferred solution

The result to be achieved is the technical project, on the basis of which electrolyzer production can be carried out in Latvia. This project will include electrolyzer development solutions, coating of electrolyzer membranes with catalytic coating, prototype design. As part of the project, develop a new electrolyzer with a new generation of catalytic coating.



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- ▶ The implementation of the project will allow us to offer competitive, medium-power electrolyzers, promoting the use of green energy and expanding the market
  - ▶ Wider use of renewable energy
  - ▶ 40x less noble material required (9.75g saved noble material per coating on 1 sq.m)
  - ▶ Reduced emissions of 321,798 kg CO<sub>2</sub>/m<sup>2</sup> of coating due to lower demand for noble materials and more efficient use of energy, not counting the 2x longer life of components on average (which could double the impact by reducing maintenance and replacement).



Thank you!