Hydrogen Research & Innovation Days

24-25 November 2025

Clean Hydrogen Partnership

Co-funded by the European Union

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E2P2

Developing a sustainable alternative power source for urban digital infrastructure

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RETHINKING POWER GENERATION FOR A SUSTAINABLE FUTURE

- Centralized power production
- Constrained power distribution
- Environmentally unsustainable

- On-site production
- Low strain on power distribution
- Low-environmental impact

VISION

To develop and demonstrate low environmental impact fuel cells that provide economic and resilient prime power solutions for data centres.

EQUINIX

Infraprime

VERTIV

RI.SE

TEC4FUELS

snam

SolydEra

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OBJECTIVES

Define the fuel cell prime power concept for data centres

Create an authoritative open standard for fuel cell adaption to power data centres

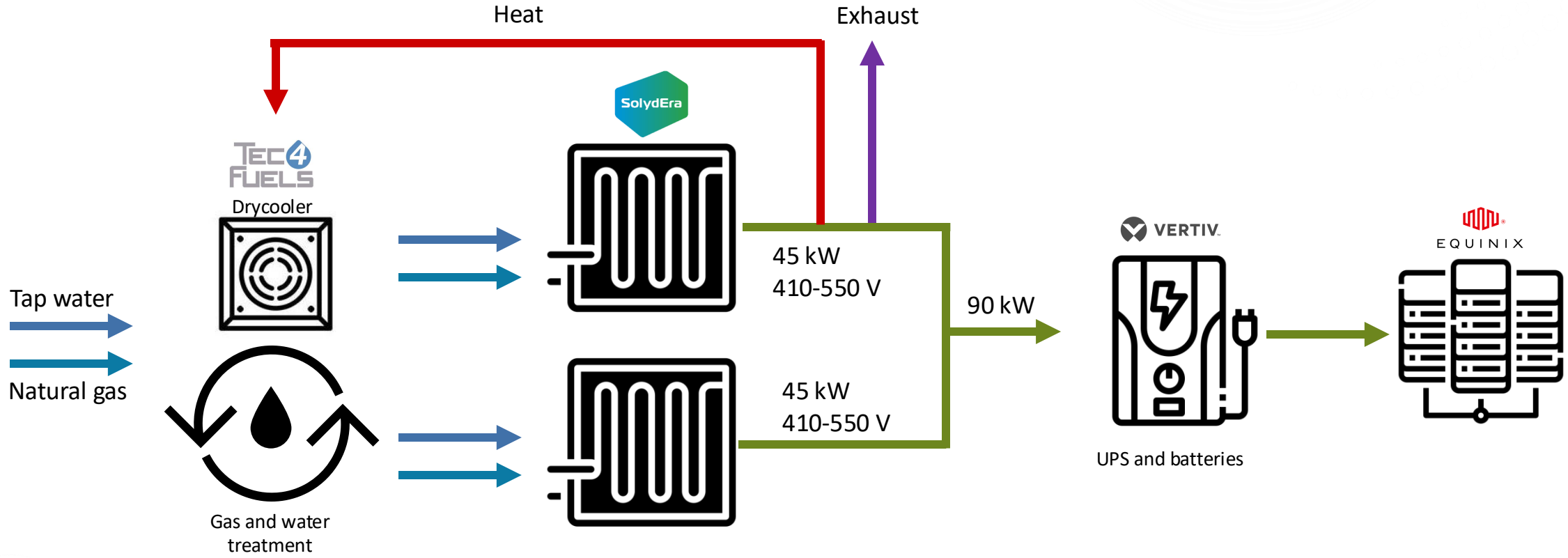
Demonstrate and validate a PoC for fuel cell-based prime power module for data centres

Collect extensive operational data from running fuel cells as prime power for data centres

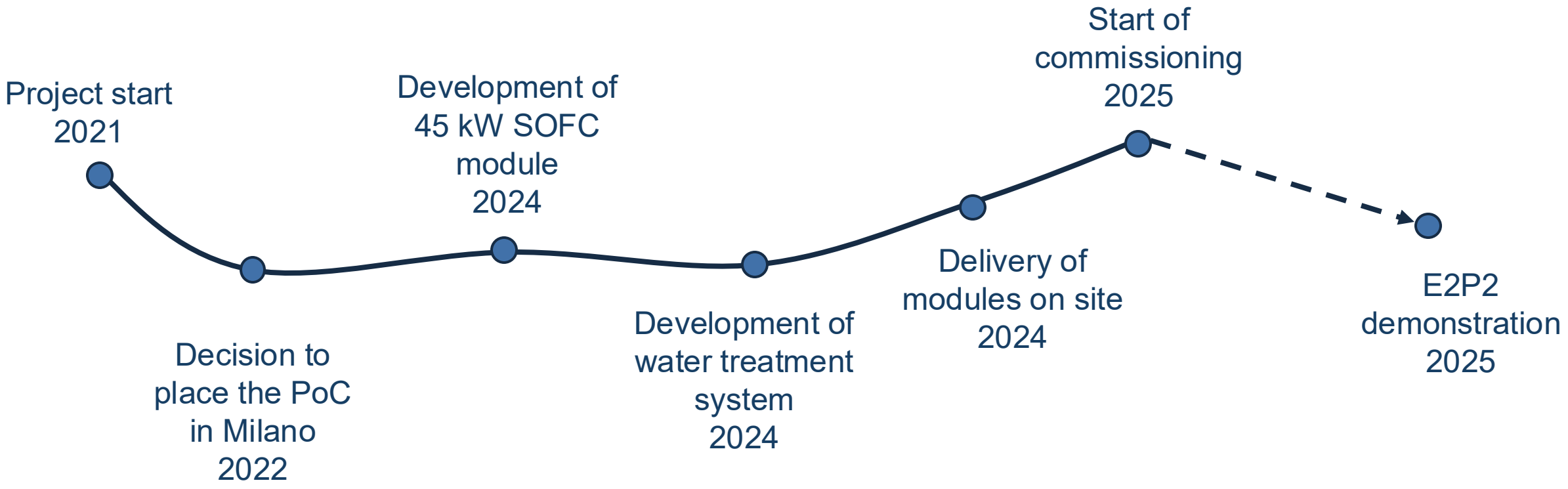
Analyse the combined social, environmental and commercial impact for the European market

Evaluate opportunities for improved energy efficiency and waste heat recovery

TECHNICAL SOLUTION



JOURNEY SO FAR

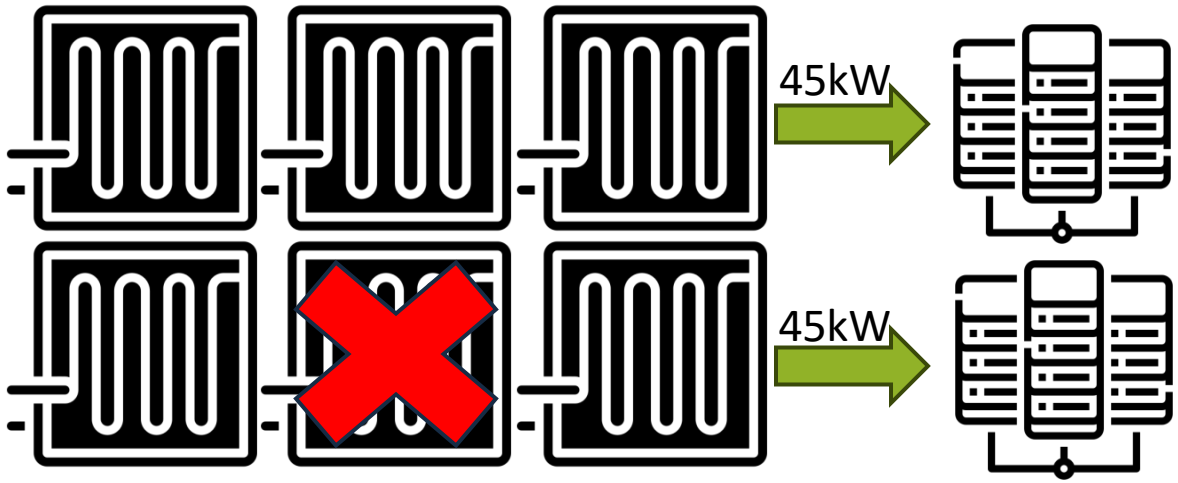


OUTCOMES

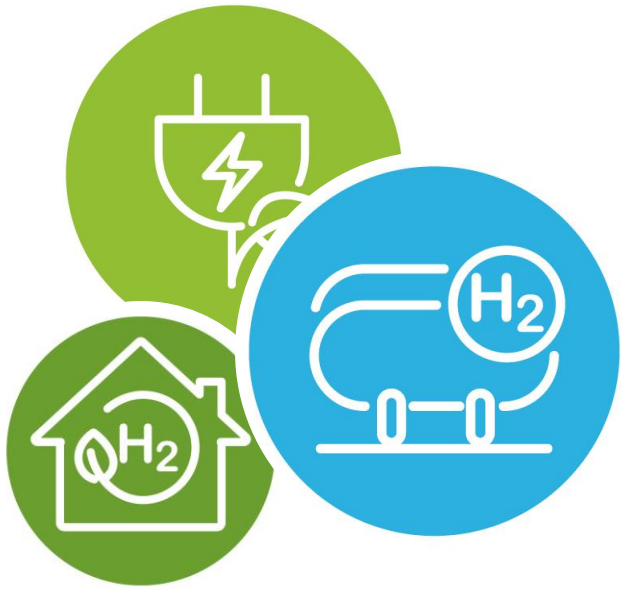
- Design concept of SOFC system as a base for an open industry standard, to provide design guidelines for end-users and suppliers.
- Development of a 45kW SOFC module with 60% efficiency.
- A specially designed control system for E2P2.
- Development of gas and fluid cleaning.

INNOVATION ACTIONS

Power per stack	Number of stacks	Total
1,5 kW	60	45 kW



SolydEra has proven that the SOFC module can deliver its 45 kW even though one stack is down.



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IMPACT

- Scalable FC system
- Low-maintenance
- Low Scope-1 carbon emissions
- A defined open-standard
- Increased H_2 preparedness
- Resilient and robust system

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THANK YOU!

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