

# H<sub>2</sub>shift



## 2024

### TEST SERVICES RAMPING UP

While the SEP is established, the test services and testing lines are fully implemented ready for the first validation phase

## 2025

### SHOWCASING OF TESTING SERVICES

Selected showcases amongst the H<sub>2</sub>SHIFT partners will support a first phase of validation of the services of the Open Innovation Test Bed

## 2026 2027

### OPEN CALLS VALIDATION OF TESTING SERVICES

The OITB will be further enhanced and tailored to the needs of target users, and the response of the market will be tested through two waves of Open Calls

## 2028

### COMMERCIAL OPERATION

After the end of the project, the OITB will operate in the market supporting especially start ups and SMEs and exploring the onboarding of further services / test lines

H<sub>2</sub>SHIFT Consortium is a diversified range of players from academia, industry and business support services, covering the whole value chain of the Open Innovation Testbed.

## Services for Hydrogen Innovation Facilitation and Testing

H<sub>2</sub>SHIFT project is the first **Open Innovation Test Bed for innovative hydrogen production technologies** alternative to current commercial water electrolysis.



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# H2SHIFT PROJECT

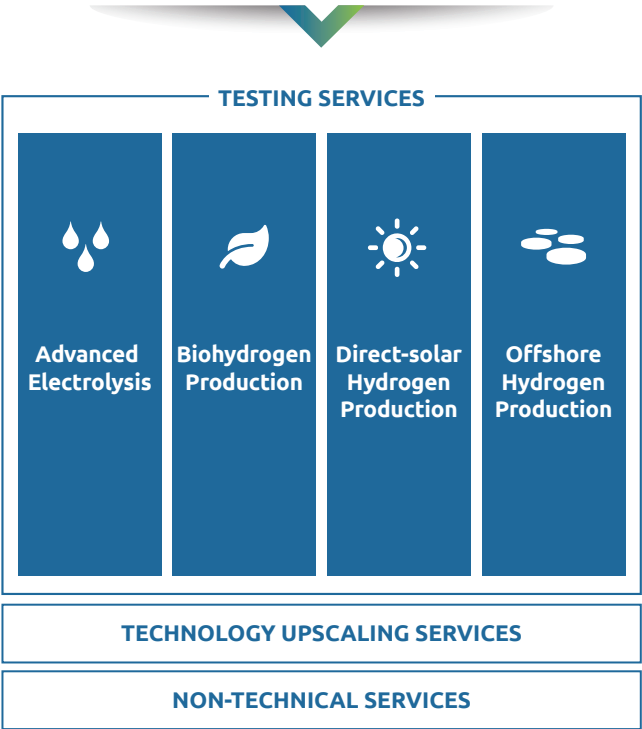
Through H2SHIFT's Single Entry Point, startups and SMEs will access a bundled support offer including cutting-edge lab and testing facilities, services, and unique expertise.

Through the testing, upscaling and business support services, H2SHIFT customers will be helped in advancing their technologies beyond the state-of-the-art, from proof of concept (TRL 3/4) to demonstration in industrial environments (TRL7/8).

## H2SHIFT OFFER

Seven technology test lines, technology upscaling services and business acceleration services constitute the H2SHIFT offer, which is built around the following target technologies:

### H2 PRODUCTION TECHNOLOGY SINGLE ENTRY POINT



### INNOVATIVE SOLUTION

#### Advanced Water Electrolysis



- Solid Oxide Electrolysis (SOE)
- Proton Conducting Ceramic Electrolysis (PCCEL)
- Anion Exchange Membrane Electrolysis (AEMEL)

#### Direct Solar Hydrogen Production



- Thermo-chemical water splitting
- Photo-electro chemical water splitting

#### Biohydrogen Production



- Hydrogen from biomass
- Hydrogen from biogas/biomethane
- Hydrogen from bioethanol

#### Offshore Hydrogen Production



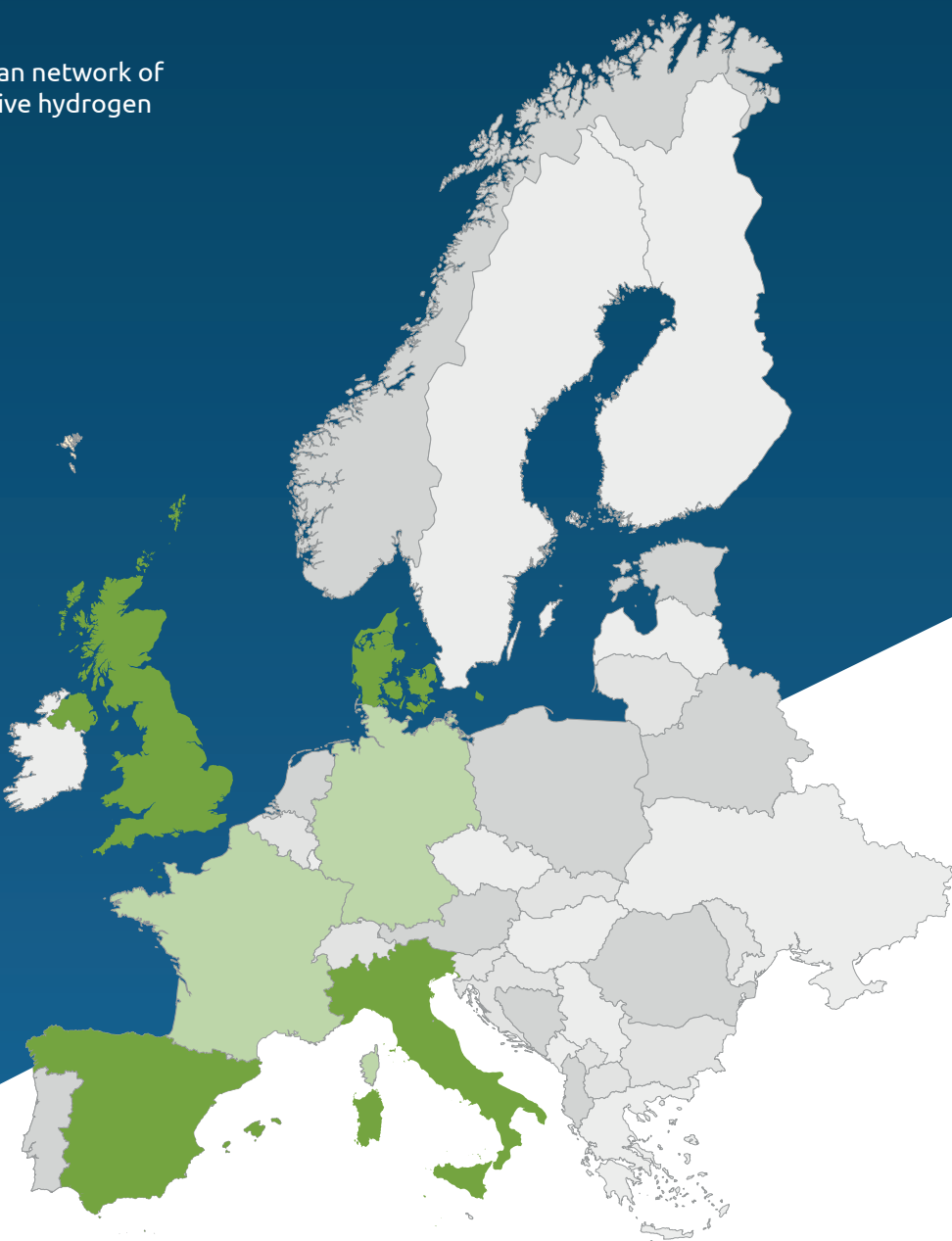
- Hydrogen produced in an offshore environment

## TEST LINES

Focus on the test lines: a European network of centres of excellence on innovative hydrogen production technologies.



Scan the QR code to learn more about test lines



**TEST LINE #1**  
High-temperature electrolysis  
@IREC  
SPAIN

**TEST LINE #2**  
Anion Exchange Membrane electrolysis  
@University of Wales  
UNITED KINGDOM

**TEST LINE #3**  
Biogas reforming and biomethane decomposition  
@SNAM  
ITALY

**TEST LINE #4**  
Bioethanol reforming  
@Technicas Reunidas  
SPAIN

**TEST LINE #5**  
Thermochemical water splitting  
@POLITO  
ITALY

**TEST LINE #6**  
Photo(electro)catalytic H<sub>2</sub> production  
@POLITO  
ITALY

**TEST LINE #7**  
Offshore Production of H<sub>2</sub>  
@Youwind Renewables  
ICELAND

**TEST LINE #8**  
Technology upscaling  
@Resolvent  
DENMARK

**TEST LINE #9**  
Acceleration services  
@COLLÈGE DES INGÉNIEURS  
ITALY, FRANCE, GERMANY