

H2Shift

Regulation for the first H2Shift Open Call

1. Goal

H2Shift aims to foster collaboration with both national and international innovative startups and SMEs in the hydrogen sectors. Through the open calls, the open innovation test bed consortium will support and accelerate the development of technologies related to hydrogen production methods.

The most promising and fitting companies will be selected through the process detailed in this document. This regulation is available on the H2Shift website <https://h2shift.eu/>.

2. Proposed challenge

H2Shift acts through an established legal entity, the Single Entry Point (SEP) that coordinates and manages all the activities of the project. The SEP is the first contact for the external companies with the consortium of partners that are included in the H2Shift program and that offer their service, technical and non-technical. The partners act jointly through the SEP for coordination purposes only. The SEP is not a separate legal entity. Each H2Shift Partner remains a distinct legal person.

The SEP is formed by the following entities:

- SNAM S.P.A. (c.f. IT13271390158), with registered office in Piazza Santa Barbara 7, San Donato Milanese (zip 20097), Milan, Italy ;
- POLITECNICO DI TORINO (c.f. IT00518460019), with registered office in Corso Duca degli Abruzzi 24 (zip 10129) Turin, Italy;
- RESOLVENT DENMARK PS (VAT number: 38384082), located at Måløv Byvej 229V, 2760 Måløv, Denmark;
- TECHNOLOGICAL SCIENTIFIC ENVIRONMENT PARK TORINO SPA (c.f. IT07154400019), headquartered at Galleria San Federico 54 c/o FinPiemonte, Turin (zip 10121), Italy;
- CDI Italia (c.f. IT1008080001), based at Piazza San Carlo 206, Turin (zip 10121), Italy;
- POLITECNICO DI MILANO - POLIMI (p.iva 04376620151; c.f. 80057930150), headquartered at Piazza Leonardo da Vinci 32, Milan (zip 20133), Italy;
- FUNDACIÓ INSTITUT DE RECERCA EN ENERGIA DE CATALUNYA (IREC-CERCA), VAT number: G-64946387, located at c/ Jardins de les Dones de Negre 1, 2a planta, 08930, Sant Adrià de Besòs (Barcelona), Spain;
- TECNICAS REUNIDAS SA (VAT number: A-28,092,583), located at Parque Empresarial Adequa, Edificio 6, Avenida de Burgos 89, Avda. Burgos 89 ADEQUA 6, 28050 Madrid, Spain;
- YOUWIND RENEWABLES EHF (Partita IVA: 551019-0390), con sede in Valhúsabraut 14, 170 Seltjarnanes (Islanda);
- UNIVERSITY OF SOUTH WALES PRIFYSGOLDE CYMRU (USW), Registered Charity Number 1140312, con sede a Treforest, Pontypridd CF37 1DL, UK;

Moreover, FONDAZIONE POLITECNICO DI MILANO (FPM), P.I 04080270962, established in PIAZZA LEONARDO DA VINCI 32, MILANO 20133, Italy, is involved alongside SEP in the open call process, as part of H2Shift. For clarity and consistency, all parties involved in the document will be collectively referred to as the **H2Shift Consortium Partners**.

The open call will accept applications from startups and SMEs focusing on Hydrogen production technologies related to the following test lines facilities to better support them and validate their technologies:

Test Line 5: Thermochemical Water Splitting

- **Location:** Italy (Politecnico di Torino)
- **Technology Focus:** Thermochemical splitting of water to produce hydrogen.
- **Parameter:** High-temperature chemical cycles that split water molecules using heat.
- **Application:** Exploring solar and waste heat integration for thermochemical hydrogen production.

Test Line 6: Photo-electro-chemical Water Splitting

- **Location:** Italy (Politecnico di Torino)
- **Technology Focus:** Using sunlight and water splitting to produce hydrogen.
- **Parameter:** Photovoltaic-driven electrochemical reactions for hydrogen generation.
- **Application:** Integration with solar power for hydrogen production at large scales.

Test Line 7: Offshore Hydrogen Production

- **Location:** Iceland (Youwind Renewables)
- **Technology Focus:** Offshore hydrogen production from wind and renewable sources.
- **Parameter:** Wind-to-hydrogen conversion in offshore environments.
- **Application:** Harnessing offshore renewable energy to produce hydrogen.

Test Line 8: Technology Upscaling

- **Location:** Denmark (Resolvent)
- **Technology Focus:** Scaling up hydrogen production technologies.
- **Parameter:** Focus on scaling proven technologies to industrial size.
- **Application:** Expanding commercial production of hydrogen from pilot to large-scale systems.

3. Requirements for participation; terms and conditions for the submission of the application for participation

Entities that comply with the provisions of Legislative Decree 179/2012 (Article 25, paragraphs 2 and 3), and those in accordance with DL3/2015 (Article 4, paragraph 1), as well as startups or SMEs (both legal entities based in Italy, the European Union, the European Economic Area, or outside these areas) that are recognized as legal entities in their respective jurisdictions.

Applications for participation can be submitted between 2pm CET on December 10th 2025, and 11:59am CET on March 18th, 2026, through the dedicated website for the initiative. To participate, it is mandatory to complete the relevant application form. Once submitted, the application form cannot be modified.

The application process includes two different levels of registration.

The **first level** of registration concerns the personal user profile and requires the following information:

- ☐ E-mail
- ☐ Password

The **second level** of registration concerns the profile of the Company and involves the request for the following information:

- ☐ Company name
- ☐ Number of employees
- ☐ Entity description
- ☐ Date of incorporation
- ☐ Contact data (Contact person, email, phone number)
- ☐ HQ Country
- ☐ VAT number/Fiscal Code (if applicable)
- ☐ Website
- ☐ Technology readiness level
- ☐ Solution abstract (max. characters 1500)
- ☐ Technology and patent
- ☐ Test lines of interest
 - TL5 – Thermochemical water splitting
 - TL6 – Photo-electro-catalytic hydrogen production
 - TL7 – Production of hydrogen in offshore environment
 - TL8 – Technology upscaling services (Prototyping for industrial scalability, Computational modeling)
- ☐ Specify which type of test you would need to plan, develop, or perform with the TL(s) of interest (e.g. stationary or dynamic tests, exploratory or preliminary tests, Stability/durability/long-duration tests, etc.) (max. characters 2000)

- ☐ Provide an estimate for the size of the test bench/experimental facility required for your tests, along with clear and appropriate metrics (e.g., kW_{electric} or kW_{thermal} or Nm³/h as input, gH₂/h)
- ☐ Indicate the estimated testing time (considering the maximum of 6 months)
- ☐ Outline the dimensions of the technology to be tested, including its physical boundaries and control volume.
- ☐ Funding received (if any)
- ☐ Collaborations and partners
- ☐ Expected outcome
- ☐ Logo
- ☐ Pitch in PDF or PPT
- ☐ Useful links (video presentation) as optional

4. Process and selection

At the end of the proposal submission phase (18 March 2026), the evaluation process will begin, encompassing the following phases:

- a. application screening;
- b. preliminary shortlisting;
- c. interview.

a. Application screening:

A team composed of members from H2Shift Consortium Partners, shall exclude from further selection any candidate whose profile and documentation fails to meet the necessary requirements and conditions outlined. Specifically, such disqualifying factors include the following:

- ▮ **Object of the Open Call:** all candidates whose solution does not pertain to the topics proposed, shall not proceed for the next stage. Moreover, the OCs are eligible for legally registered companies, globally only if startups or SMEs. Participating as a large company or as an individual is ground for formal exclusion from the call.
- ▮ **Alignment with the test line support:** The applications from startups or SMEs will be considered, especially those that align with or can be supported by the test lines available within the H2Shift consortium for the specific open call. This ensures that the companies selected for the call will receive practical and effective support. Additionally, all applicants must meet eligibility criteria related to their Technology Readiness Level (TRL). This ensures that the technology is at a sufficient TRL to be validated within the testing environments provided by the different test lines, facilitating accurate and relevant validation of the proposed innovations.

b. Preliminary shortlisting:

A team composed of H2Shift Consortium partners will proceed to conduct a detailed analysis of all the proposed solutions that have successfully passed the “Application Screening” stage. The team members will evaluate each application based on pre-defined criteria (described

in Chapter 5) and will indicate their preference to form a shortlist of candidates. Shortlisted candidates will then take part in one-to-one interviews with selected members.

c. Interview phase:

Once the shortlist has been finalized, individual meetings will be scheduled with each selected shortlisted applicant. During these meetings, tailor-made interviews will be conducted with the help of other experts. Such professional figures might be involved for different purposes, including providing a critical and technical opinion over candidates and their proposed solutions or expressing their preference over certain applicants, if asked. In any case, interviews will revolve around the questions chosen, which may relate to, among other things:

- ▯ Technical aspects of the proposed solutions
- ▯ Business expectations for the proposed solutions
- ▯ The way in which the proposed solutions would apply to H2Shift
- ▯ Startup evolution and growth

Once all the shortlisted candidates will be interviewed, the best performing applicants will be evaluated by a Jury, who will be responsible to select the Finalists. A maximum of one application will be selected for each test line. Nevertheless, it is possible that no application will be selected for one or more test lines should the required evaluation threshold not be achieved.

Acceleration phase:

The selected finalists will be supported with technical deep-dives and mentoring sessions and connection with the most suitable test lines to start a validation of the technology through the tech facilities, for the duration of 6 months.

5. Evaluation criteria

The guiding principles for the selection process follow European Commission best practices such as: equality & fairness (all proposals treated equally upon arrival and evaluated impartially independent of origin, gender, religion or any other personal information of the applicant), excellence (high quality of each participant ensured), transparency (decisions based on the rules and processes set out at the beginning of the program, and applicants receiving feedback on their outcome), confidentiality (all data received during the process treated confidentially and in respect of EU data privacy law and national GDPR laws), and efficiency (evaluation all following processes following a strict timeline and all information communicated in a timely and clear manner to participants).

The selection process is based on a set of criteria, called “pillars”, aimed at evaluating different areas of the companies and their technologies. Each pillar is divided into weighted sub-pillars scored from 0-5 (with 0 being the lowest score), all contributing to the final score of the applicant. The final ranking also takes into consideration the TRL. Submitted proposals will be evaluated based on the following criteria:

1. Technical and business-related aspects:

- **Alignment with Climate transition purposes:**
The proposed solution should demonstrate strong alignment with the cleantech and climate transition possibly including also adjacent solutions
- **Technical and economic feasibility:**

The solution must be technically viable and economically sustainable in real operational environments, with clear evidence that it can be brought to market under realistic conditions.

- **Level of Innovation:**

The companies should present a solution with a significant degree of innovation, contributing meaningfully to technological progress and offering potential disruptive impact in the context of the energy transition.

- **Business Model and Scalability:**

A solid and credible business model is required. Particular attention will be given to the scalability of the solution, which is considered essential for long-term growth and market adoption.

2. General features:

- **Company Team:**

The company's team will be assessed based on its experience, competencies, and diversity, evaluating whether the team has the capabilities needed to deliver the proposed solution.

- **Market Assessment:**

A market evaluation will be conducted to determine the potential future market size, growth opportunities, and overall commercial attractiveness of the solution.

- **Intellectual Property:**

Existing and verified intellectual property—or comparable proprietary assets—will be considered an advantage, although it is not a mandatory requirement.

- **Ecosystem Integration:**

Ongoing partnerships, collaborations, and connections within relevant innovation or industrial ecosystems will be positively evaluated.

6. Intellectual property, indemnity and warranties

For the purposes of this Regulation for the Open Call, "**Intellectual Property Rights**" means any and all intellectual property rights and other similar nature, anywhere in the world, whether registered or unregistered, in each case subsisting now or in the future, including, all rights in and to the following: (i) patents, petty patents and utility models, inventions and invention disclosures, (ii) trademarks, service marks, trade or business names, brand names, social media handles, Internet domain names, logos, (iii) copyright and neighboring and related rights, moral rights, computer software, (iv) designs, industrial designs, (v) databases, (vi) know-how, confidential information and trade secrets, (vii) all registrations or applications for registration for any of the foregoing, and any provisionals, divisionals, continuations, continuations-in-part, renewals, reissuances, re-examinations and extensions of any of the foregoing (as applicable), and foreign counterparts in all jurisdictions worldwide, and the right to claim priority from, and right to apply for the same, and (viii) the right to sue for past, present and future infringement of any of the foregoing.

H2Shift partners are owners of several trademarks for products and services, whether registered or not, and other Intellectual Property Rights. The trademarks and other Intellectual Property Rights of H2Shift Consortium partners may not be used without the prior written consent of H2Shift Consortium partners or the relevant company to which they belong. Participation in this Open Call does not grant the participant any right to use any such Intellectual Property Rights or the subject matter thereof in any part of the world.

All Intellectual Property Rights, names, trademarks, logos, graphic interfaces, texts, user interfaces, computer code and any distinctive sign mentioned or reproduced in the section dedicated to Open Call on H2Shift's website are and remain the exclusive property of their

authors and right holders. The reproduction and/or representation, in whole or in part, of the aforementioned elements is strictly prohibited.

Participants acknowledge that each participant and/or their assignees remain fully responsible for the protection of their Intellectual Property Rights against unauthorised use (registration application, patent application etc.), through legal actions, including the payment of any fees or costs incurred, whether such rights are owned by them and/or legally available to them. Subject to the limits of the law, to this end, each participant agrees that H2Shift Partners are exempt from any liability arising from infringement by third parties of Intellectual Property Rights contained in the application for admission to Open Call pursuant to this regulation.

Participants in the initiative represent and warrant that the content submitted:

- does not contain material that is unlawful, prohibited by law or contrary to what is indicated in this regulation;
- does not contain material in violation of the Intellectual Property Rights of third parties;
- is freely and legitimately usable in accordance with the provisions of this Regulation, as the participant is the owner of the rights of use of the same, or as it has acquired the availability from all persons entitled, having taken care of the complete fulfilment and / or satisfaction of rights, including of economic nature, due to the owners of the Intellectual Property Rights. The participants undertake to indemnify and hold H2Shift Consortium partners harmless from any loss or other prejudicial consequence (including legal costs of any legal proceedings) resulting from their infringement of Intellectual Property Rights.

The participants declare that they are aware of the responsibilities, including criminal liability, which they will incur in case of untruthfulness of the contents of the projects they submit and / or in the event of false statements regarding the requirements they have submitted in order to participate in the initiative governed by this Notice, and hereby release H2Shift Consortium partners from any claim of third parties.

The material and intellectual property that has been submitted, together with the applications sent by the participants, remains the property of the respective owners, with the right of H2Shift Consortium partners to use the same, solely with reference to the Call4Startup initiative.

Participants shall inform H2Shift Consortium partners and obtain its prior written consent before independently registering any Intellectual Property Rights related to the inventions developed during the initiative term. Such notice must include detailed information about the intended registration, allowing H2Shift Consortium partners to evaluate its impact and ensure compliance with the Regulation.

If, at any time during the term of the initiative, any party develops new results independently, that party will be the owner of the Intellectual Property Rights to those results and shall be entitled to apply for new intellectual property rights related to them. If new results are developed in cooperation between H2Shift Consortium partners and the participants, the collaborating parties will negotiate in good faith a special joint development agreement for any jointly developed intellectual property prior to filing any related application. The joint development agreement will detail the responsibilities, contributions, costs, and revenue-sharing mechanisms among the parties involved.

Accepting this Regulation for the Open Call, by submitting the application, winning participants authorise H2Shift Consortium partners to:

- publish on its websites and/or social channels (e.g. LinkedIn, Bluesky, YouTube) the title of the winning project of the initiative and the description of the project. It is understood that information in addition to the above may not be disclosed without the prior consent of the winning participant.

- use their names, trademarks, logos and/or distinctive signs for advertising and/or promotional purposes of the Open Call.

7. Terms and exclusion

Any applicant who submits statements and / or documents containing partially or wholly false and / or incorrect will be excluded from the initiative. Additionally, participants may be excluded if the information provided is:

- incomplete;
- submitted after the specified deadline;
- in violation to the rules set forth in this Regulation;
- infringing upon the Intellectual Property Rights of third parties.

8. Support for Patentability of Innovations

H2Shft Consortium Partners acknowledge the essential significance of safeguarding the intellectual property of participating startups and SMEs. Accordingly, H2Shft Consortium Partners are committed to providing technical support and necessary resources for the advancement of innovations that have not yet been patented. This support extends to assistance with the patenting process in adherence to applicable regulations.

9. Confidentiality and processing of personal data

The data subjects, with the submission of their application, declare to have read the privacy notice regarding the processing of personal data carried out by H2Shft Consortium Partners, in accordance with the purposes and methods means provided within the relevant privacy notice.

The candidates acknowledge and agree that the information submitted in the participation form and the related attached documentation, and any information in anyway provided during selection process, will be examined by:

- the members of SEP;
- the web platform administrator for the collection of applications;
- the members of the Final Jury;
- Fondazione Politecnico di Milano, as part of the H2Shift Consortium

The aforementioned parties will maintain and protect the confidentiality of the materials and information submitted for evaluation. Furthermore, they will refrain from using the submitted information, except for purposes strictly related to the initiative.

10. Storage and access to documentation

The original copy of this document is maintained by H2Shft Consortium Partners. Records produced in connection with the initiative, including data processing, data collection, and supporting documents related to the data collected, will be retained, where applicable for a period of not exceeding 48 months from the date of subscription to the Initiative. The retention period applies to both data collected for the registration of the user profile, and data related to startup profile) registration.

The H2Shift Consortium Partners are responsible for monitoring the adequacy and ongoing updates of this "Regulation" to ensure the fulfilment of the objectives set forth.

11. Limitation of Liability

H2Shift Consortium Partners shall not be held liable for any technical, hardware or software malfunctions, interruptions in network connections, or for any user registration that are failed, incorrect, inaccurate, incomplete, illegible, damaged, lost, delayed, incorrectly addressed or intercepted. This also applies to registrations that, for any reason, have not been received, or for electronic or other communications that are delayed, as well as any other technical issues related to the registration and submission of content in connection with this initiative.

Furthermore, H2Shift Consortium Partners expressly disclaim any liability for any reimbursement or compensation, whether partial or total, for any property damage and/or personal injury caused by the participants or by third parties during any phases of the competition.

12. Obligations of participants

Participation in the Open Call initiative constitutes the full and unconditional acceptance of this Regulation. In the event of any amendments to this Regulation, participants acknowledge and agree that the updated Regulation shall become effective for them from the date of its publication on the website <https://h2shift.eu/> without prejudice to their right to withdraw their participation in the initiative in question.

14. Information and support

Further information and clarifications can be requested at any time by e-mail to SEP@h2shift.eu

15. Applicable law

This Regulation and the participation in the Open Call initiative are governed by the internal laws of Italy.

Last update: December 9th, 2025