

D6.5 UPDATE 1 DISSEMINATION, COMMUNICATION, AWARENESS PLAN

WP6 Dissemination, Communication, and Exploitation

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Project Coordinator: FHa

| | |
|----------------------------|---|
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ABBREVIATIONS

| | |
|------|---|
| FHa | Fundación para el Desarrollo de las Nuevas Tecnologías del Hidrógeno en Aragón / Aragon Hydrogen Foundation |
| KPIs | Key Performance Indicators |

EXECUTIVE SUMMARY

HYPRAEL is focused on developing advanced technologies for energy and cost-efficient compressed hydrogen production. The main goal is to develop and validate the next generation of alkaline electrolysis technology (AEL) for highly pressurised H₂ production.

The D6.5 Update 1 Dissemination, communication, awareness plan seeks to explain the steps and activities followed by the consortium, and to describe the information updated. This document evaluates and registers the past communication and dissemination activities, as well as the planning of future events. This will give us the opportunity to improve on the communication tools and channels used towards a successful dissemination of the Project and its results.

1. SUMMARY OF METHODOLOGY, GROUPS AND TOOLS

Communication, dissemination, and awareness activities should involve all the partners of the project. Without the help of all together, the dissemination of the results of the project won't be effective. Nevertheless, Aragon Hydrogen Foundation, as work package leader, is progressively working on the right way to disseminate the project, although, should improvements be detected, they are implemented and will be reported in the updates of deliverables.

From the beginning of the project, the message to be disseminated was established, putting a difference among target audiences. This is to say that the communication addressed to end users in the medium to long term is focused on evaluating system performance, including efficiency, durability, and cost analysis. It also highlights lessons learned from testing and maintenance processes, as well as challenges related to the balance of plant (BOP).

Regarding the messages targeted at potential investors in the short term, they highlight the importance of the market potential and roadmaps for deployment together with environmental impact and economic viability as well as communicating the value proposition of project deliverables.

On the other hand, a broader message concerning the integration of renewable energy and hydrogen, aimed at mitigating the environmental footprint of energy generation and enhancing economic and social well-being, should be conveyed to the public. The aim is not only to decrease resistance to these innovative technologies and inspire their early adoption, but also to increase hydrogen adoption for societal acceptance.

2. UPDATE ON THE PROJECT COMMUNICATION TOOLS

2.1.1. Project Website

The project website (<https://hyprael.eu/>) is thought as the central communication tool for project awareness. The website has a responsive design, aiming to reach all target groups, from the general public to stakeholders. This website is meant to be the dissemination channel to reach all target groups and present the progress of the project. To use it properly, it is necessary that all partners join forces to keep it updated with quality content about the project or topics related to the consortium and the objectives HYPRAEL aims to achieve.

The website was designed taking into account relevant parts of the project:

- Home page: introductory project page with general information.
- Project: an overview of the project, highlighting the motivation, background and objectives, the technical content, and the structure.
- Consortium: including the composition of the consortium, expertise, and roles.
- News section: regularly updated with information related to activities, public-oriented results, announcements, list of conferences and events, and press releases.
- Publications section: in which public reports among other materials, will regularly be updated, as well as HYPRAEL graphic material, such as posters or leaflets.
- Contact: Links to social media accounts, email contact form and subscription form to formalise subscriptions to the HYPRAEL newsletter.

Navigation links to all these pages can be seen in Figure 1.

HYPRAEL's website was launched in October 2023, so it has been online for 9 months to date. Thanks to the Google Analytics tool, we can further analyse web traffic, user access patterns and online behaviour.

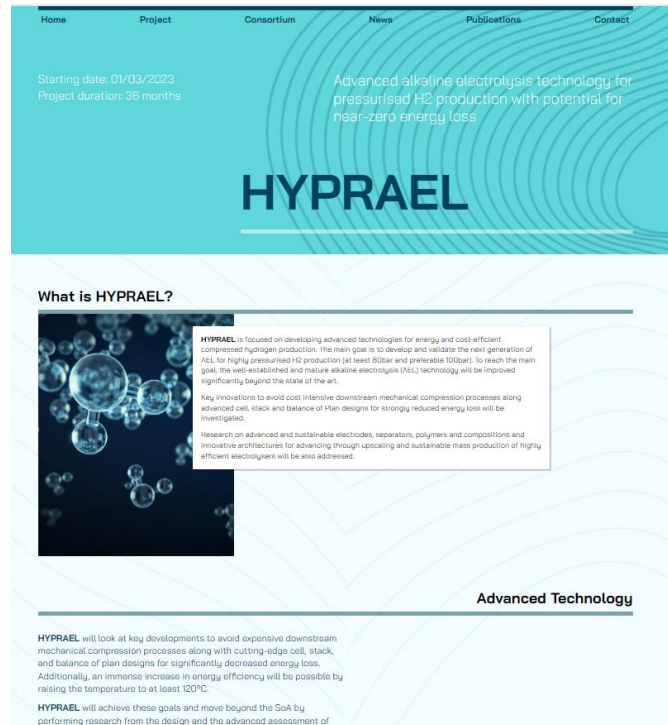


Figure 1. HYPRAEL’s homepage website

To start with, most of the users first visit (482 views) the homepage. This is interesting because this is the place where the project is explained as it is also where they can read about the advance technology at first glance. The second most visited page is the “news” section, reflecting the work done in disseminating events and news about the project and its partners. This shows the positive result of constant work on social networks, redirecting to the website with every link that is published. However, the effort will be accentuated to attract more people to the HYPRAEL project. As shown in Figure 2, the views to the “consortium” page are in third place, with 195 views to date, followed by “publications” and “project” page, so the interest of our visitors is diverse.

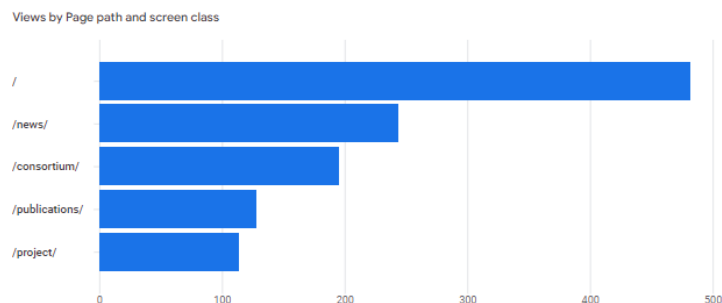


Figure 2. HYPRAEL’s website visits to section

It is interesting to mention that two of the news items published on the website have hooked the

visitors. The first one, titled: “Breakthrough in green hydrogen production: Pressurized alkaline electrolysis with near-zero energy loss” (96 views) and the second one, titled: “HYPRAEL makes progress and plans ahead at Steering Committee Meeting.” (84 views).

It is important to note that writing news about the project requires in-depth research of the sector and partners need to be involved.

Additionally, it is worth noting that the number of visits (350 in 2023 and 600 in 2024. To make a total of 950 views) established in the key performance indicators (KPIs) has been significantly higher than the number of visits defined. The project's website registered a total of 1.700 visits to date. (Figure 3 HYPRAEL's website view).

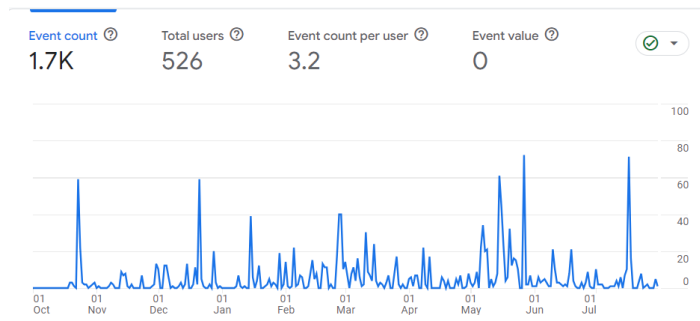


Figure 3. HYPRAEL's website view.

Besides, Google Analytics shows that 526 visitors are new to the site, so it could be said that not only the project's website is attracting the same visitors (returning visitors) but also a big number of them have visited the webpage for the very first time. (Figure 4 HYPRAEL's webpage users).

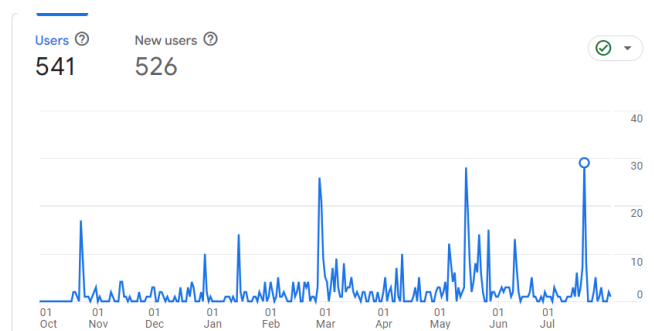


Figure 4. HYPRAEL's webpage users.

Regarding the geographical data, the leading country is Spain, followed by the United States. In third place is the Netherlands, then Belgium and in the fifth place is Germany. (Figure 5 HYPRAEL's webpage users by country).

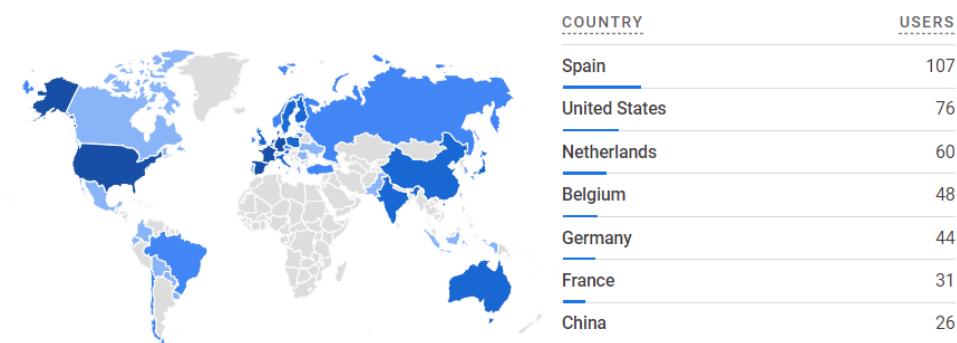


Figure 5. HYPRAEL's webpage users by country.

It stands to reason that a proper dissemination of the project gives positive results, allowing the achievement of key performance indicators (KPIs) and spreading the meaning and objectives of HYPRAEL around the world. At any rate, some key activities to improve can be mentioned. One of them could be to improve and update the sections "news" and "publications" of the website to keep the interest and increase the number of returning visitors, uploading, for instance, scientific publications related to the topics of HYPRAEL.

2.1.2. HYPRAEL Social Media

Presence in social media is absolutely necessary to reach most of the public. It can be confirmed that LinkedIn is the relevant tool to communicate and interact with the public while sharing real-time information.

Due to the editorial guidelines of the partners, it is not always possible to maintain a dissemination from the partners' social networks. Nevertheless, the activity on project's LinkedIn profile is up and running and active.

Still further, the hashtags used and established as official (#HYPRAELPROJECT, #hydrogenproject) have been adequate to position the project on LinkedIn and other media, although, other hashtags have been identified importantly enough to add them due to the search rankings obtained. Those hashtags are: #sustainability, #electrolysis, #electrolysers, #ElectrolysisSector, #Hydrogen, #GreenHydrogen among others referring to the post itself.

Beyond a doubt, LinkedIn is the social network par excellence for directing traffic to the project's website, for promoting the technology applied, in short, for complying with 360^o communication. While it is difficult to get a larger number of followers on both LinkedIn and X (formerly Twitter), if we continue being consistent in posting, we will get closer to the target audiences.

Some examples of the ongoing activity on social networks are showed in ANNEX A.

2.1.3. Project press releases and newsletter

The project will generate a series of press releases to highlight key milestones and project-related events. The project coordinator will take the lead in disseminating these communications. The initial press releases focused on the project launch and the project website.

Project partners are encouraged to share press releases via their own channels and oversee the translation of the content to their countries official languages to pursue publication in local media.

Project partners should inform FHa if there are specific media contacts to be added to the distribution list.

The following link provides an example of a press release developed by FHa. (Annex C)

<https://hidrogenoaragon.org/en/hyprael-aims-to-reduce-energy-consumption-in-h2-production/>

So far, one media has published the press release: H2REVIEW in the link: [https://www.h2-](https://www.h2-review.com/story/project-hyprael-aims-to-cut-cost-and-improve-efficiency-in-hydrogen-production/2110085.article/)

[review.com/story/project-hyprael-aims-to-cut-cost-and-improve-efficiency-in-hydrogen-](https://www.h2-review.com/story/project-hyprael-aims-to-cut-cost-and-improve-efficiency-in-hydrogen-production/2110085.article/)

[production/2110085.article/](https://www.h2-review.com/story/project-hyprael-aims-to-cut-cost-and-improve-efficiency-in-hydrogen-production/2110085.article/). (Annex C.) Moreover, the online specialized platform, Fuel Cells Works,

posted one of latest news of the project: [https://fuelcellworks.com/news/breakthrough-in-green-](https://fuelcellworks.com/news/breakthrough-in-green-hydrogen-hyprael-achieves-near-zero-energy-loss-with-pressurized-alkaline-electrolysis/)

[hydrogen-hyprael-achieves-near-zero-energy-loss-with-pressurized-alkaline-electrolysis/](https://fuelcellworks.com/news/breakthrough-in-green-hydrogen-hyprael-achieves-near-zero-energy-loss-with-pressurized-alkaline-electrolysis/),

achieving significant outreach. (Annex C)

Publication of at least 10 articles in national and international professional magazines and high impact scientific journals must be published. 2 newsletters have been published since the start of the project (Annex D).

Registration to the newsletter is possible via the project website or upon e-mail request. Every user of the website can join. The platform selected for the newsletter was Mailchimp.

Regarding scientific articles, there are no scientific papers to be reported.

2.1.4. Project's Events and Public Engagement Activities

HYPRAEL project was presented at some events to date:

- 2 IN 1 WORKSHOP: Clean Hydrogen JU AEMEL Project Findings & JRC Testing Methodology on Electrolyser Degradation September 2023, FHa - Lecture
- European Hydrogen Energy Conference (EHEC) March 2024, FHa - Oral communication
- Hannover Messe 2024. Fraunhofer IFAM participant -
- International Thermal Spray Conference (ITSC) April 29 - 1 May 2024, Fraunhofer IWS - Oral communication

The project will be presented at relevant international forums and events such as:

- Euromembrane 2024 from 8-12 September in Prague. AGFA
- Exchange of experiences on thermal spraying from SLV Duisburg in Rostock 2024 from October 9th to 10th. Fraunhofer IWS.

- Hannover Messe 2025 from 31-03 to 04-04-2025 in Hannover. Fraunhofer IFAM.
- Pacific Rim Meeting on electrochemical and solid-state science from October 6th to 11th 2024. Fraunhofer IFAM.

On the other hand, contacts with target groups will also take form of workshops. HYPRAEL will organize 2 open workshops.

2.1.5. Project Materials

Graphic materials were developed to promote the project at the selected events providing general information and preliminary results, addressing both technical and non-technical public. Two versions of this material were released: one flyer and one dissemination poster. (Annex E) There is still a poster to be released. FHa will be responsible for this material.

3. WORK PLAN

The actions included in the work plan have been fulfilled and the partners have collaborated in the dissemination of the project. However, FHa will take into consideration sending to each partner all the news created so that, they can disseminate them internally and externally on their side.

The following figure (Figure 6) shows the editorial calendar of the project so that each partner can consider the month in which it is due to publish in the current year. The calendar will be updated every year FHa will send the calendar as a reminder to partners to share news developed about the project.

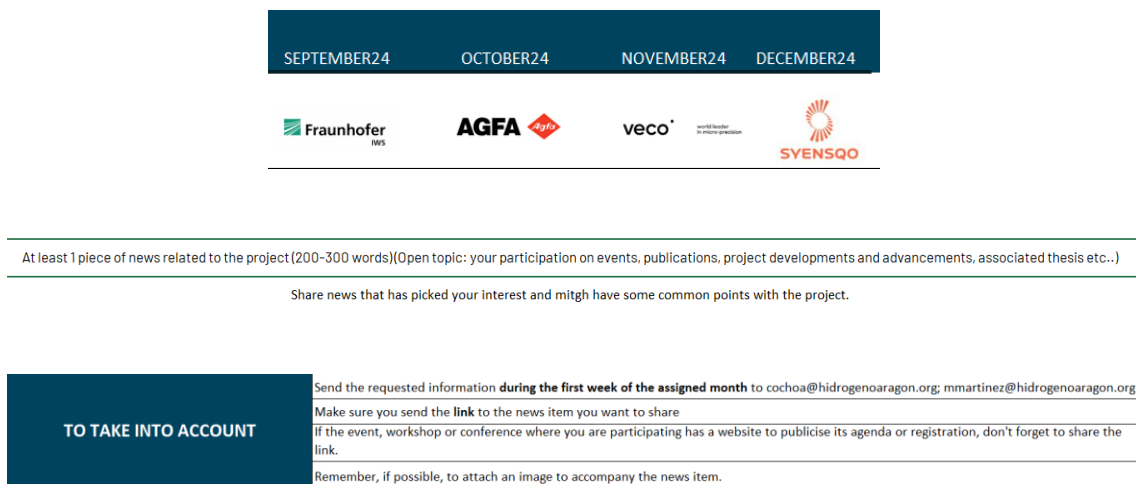


Figure 6. Editorial Calendar HYPRAEL

3.1. Key performance indicators (KPIs)

The progress of this plan is being measured according to the following Key Performance Indicators (KPIs):

- Rates regarding website and social media activities: Using web tools for analysing visitor traffic and giving a complete picture of the number of visitors, visited pages, geographical coverage.
- Number of external contact requests: a contact form on the HYPRAEL website will allow outside people to contact the consortium.
- Number of press releases published, and newsletters delivered, and the percentage rate of emails opened using the open rate analytic platform.
- Number of attendants to the project events and other events in which the HYPRAEL consortium partners might participate and communicate the project.

The target values provided in the following table (Table 1) reflect a minimum aimed by the project. These values will be reviewed based on the progress of the project and might be adjusted. All partners will be involved in achieving the KPIs.

Table 1. Key performance indicators

| KPI | 2023 | 2024 | 2025 | 2026 | TOTAL | SOURCE |
|---|---------|----------|------|------|-------|----------------------------|
| Nº of visits to the HYPRAEL website | 384/350 | 1.7K/650 | 1000 | 900 | >2900 | Web analytics provider |
| Nº of followers on HYPRAEL Twitter | 2/25 | 112/25 | 25 | 25 | >100 | Twitter Analytics |
| Nº of followers on LinkedIn | 32/80 | 75/50 | 50 | 50 | >230 | LinkedIn Analytics |
| Nº of Newsletters forwarded | 1 | 1/2 | 2 | 2 | 7 | Newsletter tool Mail Chimp |
| Nº of new subscriptions to the HYPRAEL Newsletter | 17/20 | 8/20 | 20 | 20 | >80 | Mailing list |
| Nº of Press Release | 3/6 | 7/6 | 6 | 6 | 24 | HYPRAEL records |
| Nº of Publications in national and international professional magazines and high impact scientific journals | 0/2 | 0/3 | 3 | 2 | 10 | HYPRAEL records |
| Nº of events or other public engagement activities organised by HYPRAEL | | 1 | | 1 | 2 | HYPRAEL records |
| Nº of attendees/audience reached in events or other public engagement activities organised by HYPRAEL. | | 15 | | 15 | >30 | Event monitoring |
| Nº of events or other public engagement activities where HYPRAEL partners participate. | 1 | 5/1 | 1 | 1 | 3 | Event monitoring |

| | | | | | | |
|--|----|---------|----|----|------|------------------|
| Nº of attendees/audience reached in events or other public engagement activities where HYPRAEL partners participate. | 10 | 2.3K/70 | 60 | 60 | >200 | Event monitoring |
|--|----|---------|----|----|------|------------------|

The HYPRAEL project has made significant progress in terms of communication and outreach activities during 2023 and 2024.

Website Traffic: The project website experienced a substantial increase in visits, jumping from 384 in 2023 to 1.7K in 2024.

Social media: HYPRAEL has successfully expanded its social media following, with a notable increase in both Twitter and LinkedIn followers.

Newsletter Engagement: While the number of newsletters forwarded has slightly increased, there's room for improvement in new subscriptions.

Media Coverage: The project has secured 7 press releases in 2024, surpassing the initial target of 6. Additionally, two publications in prestigious journals have been achieved, exceeding the expected output.

Public Engagement: HYPRAEL has actively participated in events and outreach activities, reaching a total audience of over 2.3K people in 2024.

Overall, the project has demonstrated strong performance in enhancing its online presence and engaging with its target audience. There is potential for further growth in newsletter subscriptions and expanding public engagement activities.

4. CONTRACTUAL OBLIGATIONS AND REQUIREMENTS

The branding of any communication material (including website content, brochures, flyers, leaflets, posters, presentations, etc.), arising from the funding and results of HYPRAEL project needs to apply the following rules:

- 1) **Display the Clean Hydrogen Partnership logo.**
- 2) **Display the EU emblem “co-funded by the European Union.”**



When displayed in association with other logos (e.g. of beneficiaries or sponsors), the Partnership logo and emblem must be displayed at least as prominently and visibly as the other logos. The logos shall be used in its entirety without distorting, modifying or separating its component elements.

- 3) **Add the acknowledgment of funding.**

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



5. CONCLUSIONS

Update 1 Communication, dissemination, awareness Plan provides a clear picture of the project's communication success and areas for potential improvement. By collaborating effectively and implementing the suggested actions, HYPRAEL can solidify its presence and ensure its message reaches the widest possible audience.

The communication and dissemination activities have been highly successful in raising awareness of the HYPRAEL project.

Social media platforms, particularly LinkedIn, have been effectively utilized to engage with stakeholders and share project updates. While the newsletter has seen some growth in terms of forwards, increasing new subscriptions remains a focus area.

Thus, maintaining a communication strategy and collaboration with project consortium will give a stronger image to the project. Both participation in events and active communication through the project website are key to disseminating key messages and reaching the target audience.

6. ACKNOWLEDGEMENTS

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



Co-funded by
the European Union



7. Annex A. SOCIAL NETWORKS

HYPRAELProject

106 seguidores
2 meses · 🌐

⋮

🚀 **HYPRAEL: Pushing the Boundaries of Green Hydrogen Production**

💖 Our team of dedicated partners is laser-focused on their tasks, tackling the hurdles that come with developing advanced alkaline electrolysis technology for high-pressure green hydrogen production.

This innovative approach eliminates the need for separate compression stages, leading to significant benefits like:

- ✅ Reduced energy consumption
- ✅ Simplified infrastructure
- ✅ Lower costs

While specifics of the challenges haven't been revealed, the unwavering focus of each partner is a testament to our commitment.

Discover the challenges! 🗨️

[Ver traducción](#)

HYPRAEL Project Forges Ahead: Challenges and progress on the road to high-pressure green hydrogen - HYPRAEL

hyprael.eu

HYPRAELProject

106 seguidores
2 meses · 🌐

⋮

🚀 **Breakthrough in green hydrogen production: Pressurized alkaline electrolysis with near-zero energy loss**

🌱 **HYPRAEL: A Game-Changer**

Enter HYPRAEL, a European Union-funded project developing the next generation of advanced alkaline electrolyzers (AELs). These AELs aim to produce hydrogen gas at high pressures (at least 80 bar, ideally 100 bar), eliminating the need for separate compression stages.

Discover the benefits of Pressurized Hydrogen Production below 🗨️🗨️🗨️
<https://lnkd.in/dwNBdFTw>

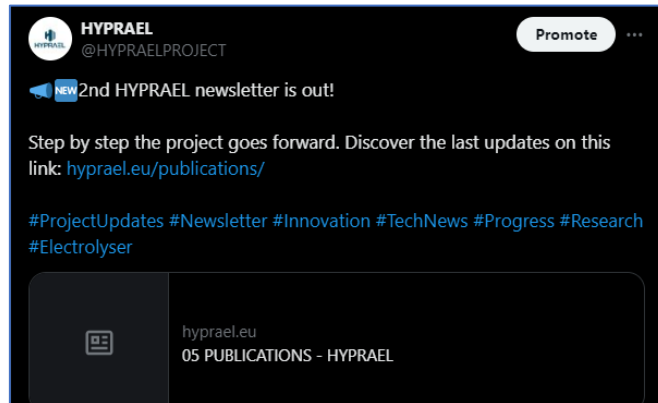
Fraunhofer-Gesellschaft
Fraunhofer IWS
Agfa
Veco Precision
Syensqo
Green Hydrogen Systems

#hydrogen #electrolysis #renewableenergy #sustainability #HYPRAEL #greentech

[Ver traducción](#)

Breakthrough in green hydrogen production: Pressurized alkaline electrolysis with near-zero energy loss - HYPRAEL

hyprael.eu



8. Annex B. PICTURES





9. Annex C. PRESS AND MEDIA

Project's website

HYPRAEL makes progress and plans ahead at Steering Committee Meeting
February 2024



HYPRAEL makes progress and plans ahead at Steering Committee Meeting. The HYPRÆEL project's **Project Steering Committee (PSC)** convened in Milan, Italy, on February 21-22nd, 2024. This meeting served two key purposes:

- Oversee and validate the overall direction and policy of the project.
- Foster collaboration and knowledge sharing among partners.

During the meeting, each partner presented their progress in fulfilling their assigned roles within the project. Additionally, the team discussed various challenges encountered so far and strategized solutions for addressing

[Read more →](#)



March 2024

HYPRAEL showcases advanced alkaline electrolysis at EHEC 2024: near-zero energy loss on the horizon

During the presentation of the HYPRÆEL project at the Energy Hydrogen Conference (EHEC) 2024, attendees learned more about our advanced alkaline electrolysis technology for the production of pressurised hydrogen with near-zero energy loss potential.

Vanessa Gil Hernández, **ARAID** researcher at Aragon Hydrogen Foundation (Head of R&D) as well as part of the coordinating team, during the Parallel Session 1: Alkaline Electrolyzers: Materials, Components & Stacks, had the opportunity to explain the objectives of the project and the impact it will have on cost and energy savings.

More than 30 people attended this specific session and had first-hand knowledge about the project partners and the contribution that each of them will give to HYPRÆEL.

In addition, Vanesa Gil took a few minutes to mention the European Union and the Clean Hydrogen Partnership as project funders.



HYPRÆEL at the European Hydrogen Energy Conference (EHEC)

February 2024

Don't miss our presentation at the European Hydrogen Energy Conference (EHEC) 2024

Don't miss our presentation at the European Hydrogen Energy Conference (EHEC).

EHEC, organized by the Spanish Hydrogen Association (AeH2), brings together the brightest minds in hydrogen – from researchers and experts to industry leaders. This esteemed platform provides a stage for sharing the latest advancements, innovations, and developments in hydrogen-based technologies.

AeH2, committed to promoting sustainable and clean energy solutions, plays a crucial role in advancing the adoption of hydrogen as a clean energy source across the globe.

Our HYPRÆEL project is perfectly positioned to contribute to this valuable event. That is why, Vanessa Gil Hernández, **ARAID** researcher at Aragon Hydrogen Foundation (Head of R&D) as well as part of the coordinating team is giving a presentation of HYPRÆEL.

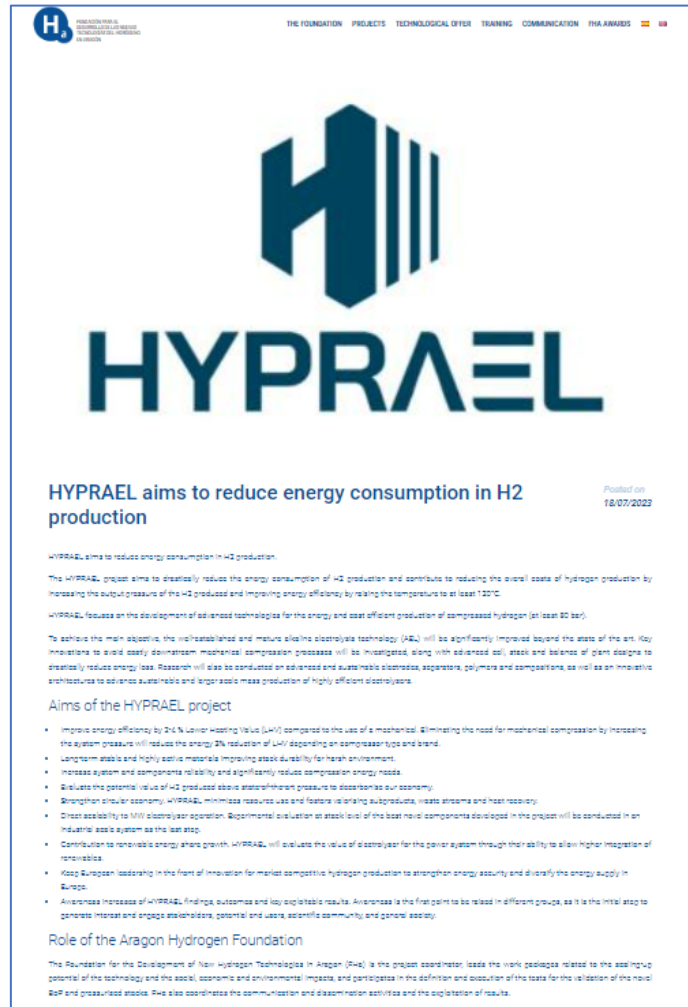
By attending our presentation, you'll gain insights into our advanced alkaline electrolysis technology for pressurized hydrogen production with near-zero energy loss potential.

This presentation is part of the [Parallel Session 1: Alkaline Electrolyzers: Materials, Components & Stacks](#).

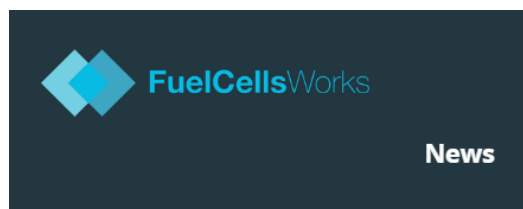
Parallel Session
March 8th
Room 4

15:50 » 16:30
Advanced alkaline electrolysis technology for pressurised H₂ production with potential for near-zero energy loss. Presentation of HYPRÆEL project
Vanessa Gil
ARAID researcher at Aragon Hydrogen Foundation.

FHa website



Appearance of HYPRAEL on another digital medias





News

Breakthrough in Green Hydrogen: HYPRAEL Achieves Near-Zero Energy Loss with Pressurized Alkaline Electrolysis

0 Comments | 3 | 0

By FuelCellsWorks | May 15, 2024 | 3 min read (499 words)






- Innovative Technology Poised to Revolutionize Hydrogen Production Efficiency
- Breakthrough in green hydrogen production: Pressurized alkaline electrolysis with near-zero energy loss

The race for clean energy solutions is on, and hydrogen is a frontrunner. But current methods of hydrogen production often come with drawbacks, like high energy consumption. A new project, however, is aiming to revolutionize the game with advanced alkaline electrolysis technology for pressurized hydrogen (H₂) production with the potential for near-zero energy loss.

Electrolysis: The Power of Splitting Water

Electrolysis is a process that uses electricity to split water (H₂O) into its constituent elements: hydrogen and oxygen. This green hydrogen can then be used in fuel cells to generate clean electricity, power vehicles, or fuel industrial processes.





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GO-HYDROGEN.

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H₂ HYDROGEN Technology EXPO EUROPE The World's Largest 800+ EXHIBITORS 300+ SPEAKERS



Project HYPRAEEL aims to cut cost and improve efficiency in hydrogen production

By Edward Laity on May 15, 2024 | Translate

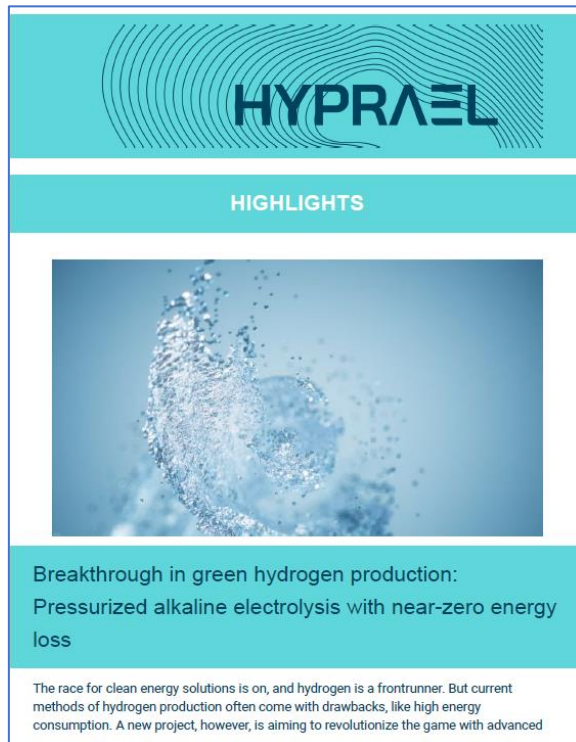
NEWS | TECHNOLOGY

Aragon Hydrogen Foundation will lead a consortium to deliver an advanced alkaline electrolysis project for pressurised hydrogen production.

Project HYPRAEEL aims to decrease the energy consumption of hydrogen production and contribute to reducing the overall costs of the process by increasing the output pressure of the produced fuel. The energy efficiency will be improved by raising the temperature to at least 120°C.

Laura Abadía Albás, Aragon Project Coordinator, understands the challenges the consortium could face during the project. "One of the key challenges we face is the technical complexity of conducting alkaline water electrolysis at a minimum pressure of 80 bars. It's going to require a significant enhancement in the performance of the stack and components, as well as the entire system."

10. Annex D. NEWSLETTER



11. Annex E. FLYER AND POSTER

HYPRAEL tackles 4 of the 17 existent Sustainable Development Goals (SDGs):

It indirectly contributes also to:

www.hyprael.eu

HYPRAEL
Advanced alkaline electrolysis technology for pressurized H₂ production with potential for near-zero energy loss.

What is HYPRAEL?

HYPRAEL is focused on developing advanced technologies for energy and cost-efficient compressed hydrogen production by looking at key developments to avoid expensive downstream mechanical compression processes along with cutting-edge cell, stack, and balance of plant designs.

Objectives:

| | | |
|--|---|---|
| <p>01 Improve energy efficiency.</p> | <p>02 Long-term stable and highly active materials.</p> | <p>03 Increase system and component's reliability.</p> |
| <p>04 Evaluate the potential value of H₂ produced.</p> | <p>05 Strengthen circular economy.</p> | <p>06 Direct scalability to MW electrolyser operation.</p> |
| <p>07 Contribution to renewable energy share growth.</p> | <p>08 Keep European leadership in the front of innovation.</p> | <p>09 Awareness increases of HYPRAEL findings, outcomes and key exploitable results.</p> |

HYPRAEL will achieve these goals and move beyond the SoA by performing research from the design and the advanced assessment of electrocatalysts and polymers to the engineering and process intensification of an innovative cell design in 4 phases:

- 01**
Materials development for pressurized electrolysis with elevated temperature.
- 02**
Screening of materials for applicability in pressurized electrolysers – both phases will be performed at lab scale/single cell 10 cm², 7-80 bar, 80-120° C.
- 03**
Upscaling of the most promising developed materials in Phase 1 and 2.
- 04**
Upscaling of developed materials and integration into an advanced stack validated first at pilot scale and demonstrated later at industrial scale (50 kW).

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