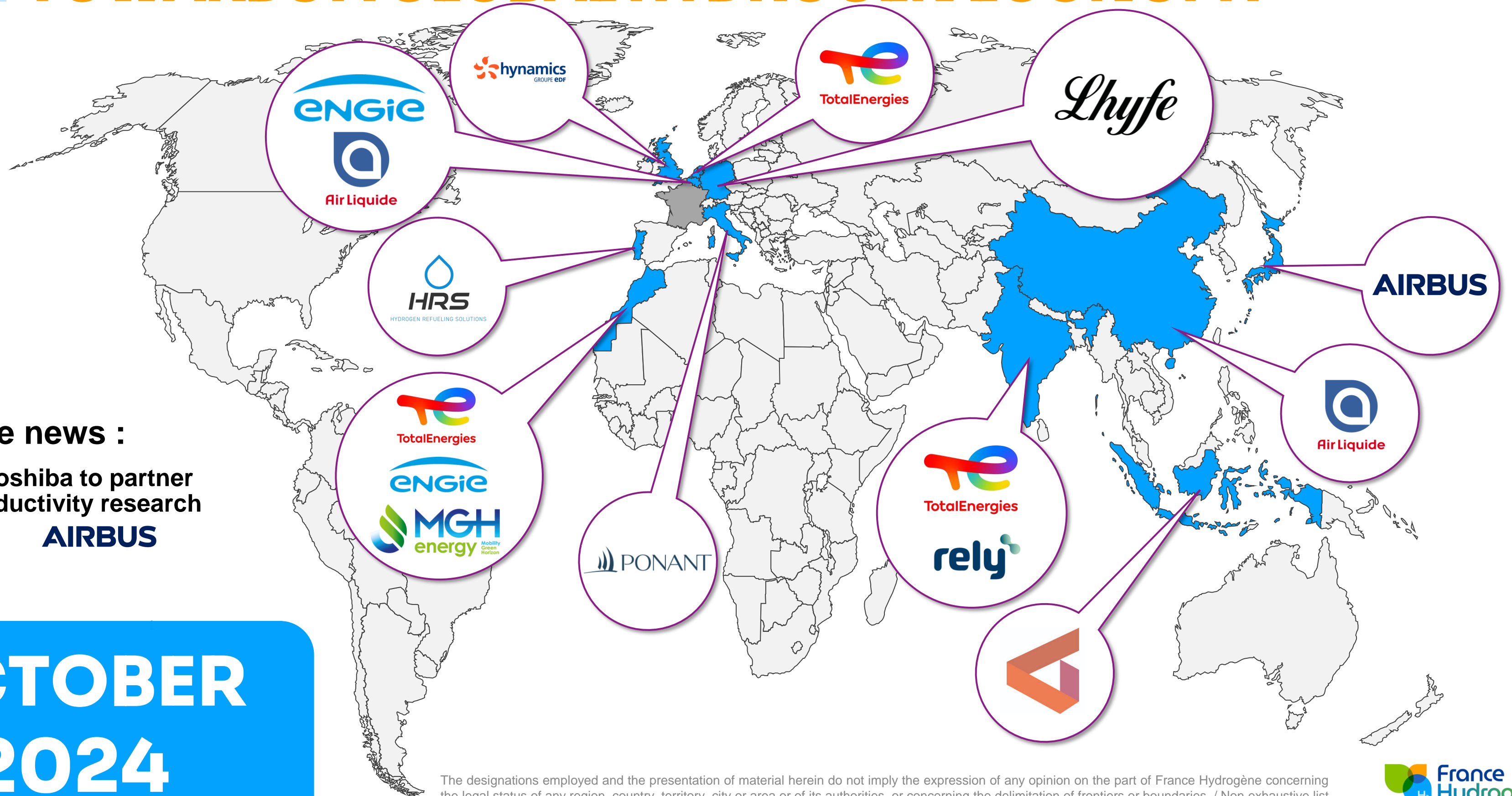


FRENCH H₂ COMPANIES' IMPULSE TOWARDS A GLOBAL HYDROGEN ECONOMY



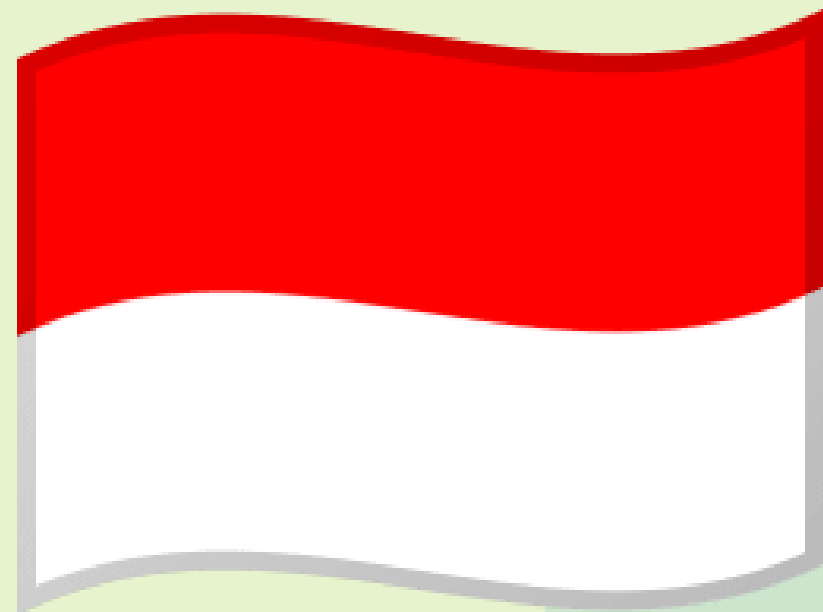
Also in the news :

Airbus and Toshiba to partner on superconductivity research

| October 16 **AIRBUS**

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2024**

The designations employed and the presentation of material herein do not imply the expression of any opinion on the part of France Hydrogène concerning the legal status of any region, country, territory, city or area or of its authorities, or concerning the delimitation of frontiers or boundaries. / Non exhaustive list of French companies' international business development in the hydrogen economy, made public during the corresponding month.



INDONESIA



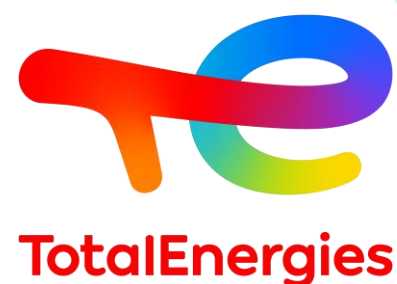
“PT Pertamina Power Indonesia (“Pertamina NRE”), PT Pertamina Geothermal Energy Tbk (“PGE”), and Genvia have signed memorandum of Understanding (MoU) to collaborate on developing green hydrogen production through the integration of advanced solid oxide electrolyzer (SOEL) technology with geothermal heat resources. The signing was conducted in the **Indonesia – France Business Forum on September 26th, 2024.”**

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Source: Genvia, Press Release, October 1



INDIA



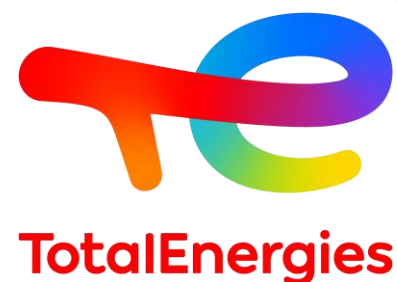
“We [**Adani Total Gas**, a joint venture between **Adani** and **TotalEnergies**] are thrilled to announce the successful commissioning of our Hydrogen Blending System and in-situ Hydrogen Generation at Adani Shantigram, **Ahmedabad [India]**. This project will provide uninterrupted hydrogen-blended natural gas to 4,000 domestic and commercial consumers.”

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Source: Adani Total Gaz, LinkedIn post, October 4



NETHERLANDS



“We [**TotalEnergies**] are excited to announce the opening of a new hydrogen refueling station in **Deventer, Netherlands!** This station, strategically located along the A1 motorway, strengthens the hydrogen corridor connecting the Netherlands to Germany, enabling sustainable mobility for both heavy trucks and light vehicles. This new station (...) offers 350 and 700 bar hydrogen refueling options.”

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Source: TotalEnergies Transport Solutions, LinkedIn post, October 4



UNITED KINGDOM



“**ESB and Hynamics UK** recently signed a memorandum of understanding (MoU) for the development of a green hydrogen production facility at the **Port of Barry, Wales**. Under the terms of the MoU, ESB and Hynamics UK will focus on formalising contractual agreements related to the co-development of the Barry Hydrogen Project by the end of 2024, with the intent to secure the necessary financing and development expertise for the projects development phase.”

Source: Hynamics, Press release, October 15

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INTERNATIONAL

AIRBUS

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“**Airbus UpNext**, a wholly-owned subsidiary of **Airbus**, and **Toshiba Energy Systems & Solutions Corporation** (Toshiba), Toshiba Group’s energy arm, will cooperate and mutualise experience on superconducting technologies for future hydrogen-powered aircraft. Superconducting technologies offer a unique advantage for these aircraft, using -253°C liquid hydrogen as a fuel but also to efficiently cool the electric propulsion systems.”

Source: Airbus, Press release, October 16



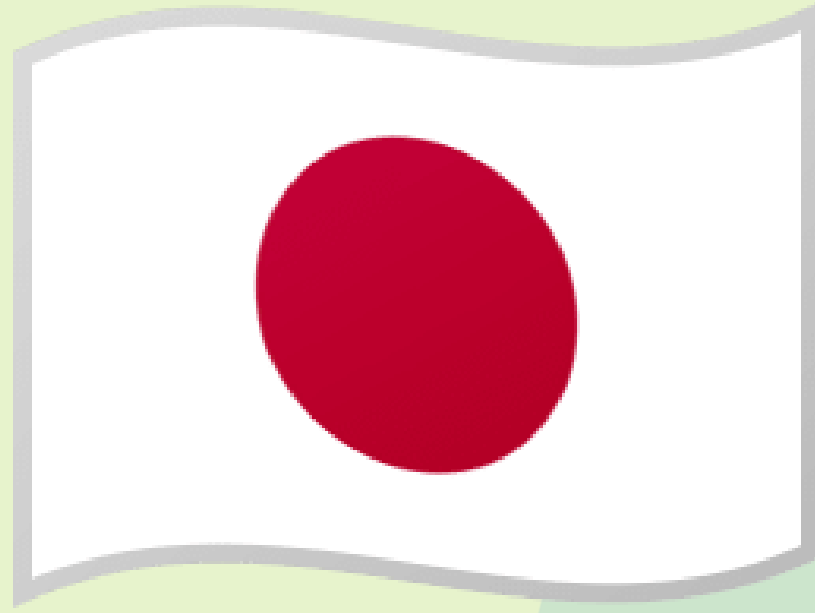
GERMANY

Lhyfe

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“**Lhyfe**, a world pioneer in the production of renewable hydrogen, and **KEYOU**, a recognised technology leader in the development of hydrogen combustion engines, have signed a Memorandum of Understanding (MoU) to develop hydrogen mobility in **Germany** and Europe. With the production capacity planned by Lhyfe in the **Schwäbisch Gmünd** region, KEYOU would be able to put up to 100 vehicles into operation between 2026 and 2030 (...).”

Source: Lhyfe, Press release, October 17



JAPAN

“Airbus, Kansai Airports, and Kawasaki Heavy Industries (Kawasaki) have signed a Memorandum of Understanding (MoU) to study the feasibility of hydrogen infrastructure at three airports operated in the Kansai region [Japan] - Kansai Int. Airport, Osaka Int. Airport, and Kobe Airport. With this MoU, (...) [they] will conduct an initial feasibility study for the introduction and operation of hydrogen aircraft as part of the “Hydrogen Hub at Airports” programme and strengthen collaboration.”

Source: Airbus, Press release, October 18

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AIRBUS



NETHERLANDS-CHINA



Air Liquide

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“The world’s longest ever shipment of liquid hydrogen [20,665km] was completed today, travelling from the Dutch port of **Rotterdam** to the Chinese port of **Yantian** as part of a demonstration project by French industrial gases giant **Air Liquide** and the **China National Offshore Oil Corporation (CNOOC)**. The liquefied H₂ was transported (...) in insulated tanks the size of shipping containers, on a Singaporean-flagged container vessel called **Cezanne**.”

Source: Hydrogen Insight, Press article, October 22



EUROPEAN UNION



Air Liquide

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"On 22 October 2024, the Innovation Fund selected 85 projects to receive €4.8 billion in grants, [with several French hydrogen companies, including]:

- **Compagnie du Ponant**

- | Swap2Zero project (**Italy**): "Hybrid passenger cruise ship powered by a combination of wind, liquid hydrogen (LH2) and bio-liquified natural gas (bio-LNG)"

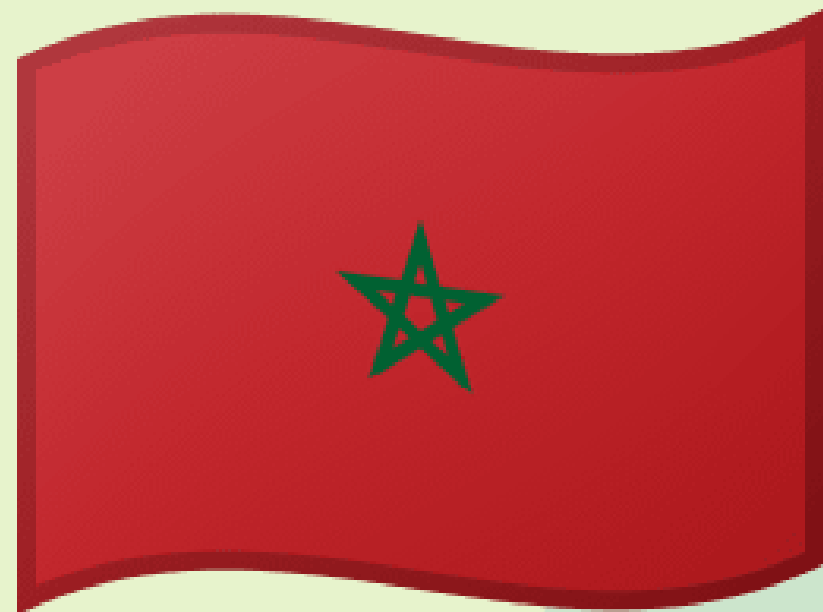
- **Electrabel (Engie) and Equinor**

- | H2BE project (Ghent area, **Belgium**): "The first 1GW low-carbon H2 production facility to enable and accelerate industrial decarbonisation, critical H2/CO2 infrastructure realisation and H2 market development in Northern Europe"

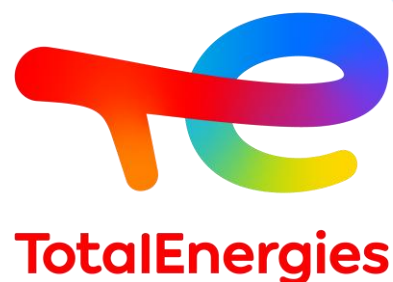
- **Air Liquide**

- | ENHANCE project (Antwerp, **Belgium**): "European Network for Hydrogen and Ammonia Carbon-Neutral Energy - Gateway for Hydrogen"

Source: European Commission, Innovation Fund projects, October 22



MOROCCO



“(...) the government of the Kingdom of **Morocco** and **TE H2** [a joint venture between **TotalEnergies** and the **EREN Group**], along with its partners [**Copenhagen Infrastructure Partners** and **A.P. Møller Capital**], signed a preliminary contract for land Reservation for the ‘Chbika’ project (...) to build 1 GW of onshore solar and wind capacities that will power the production of green hydrogen and its transformation into 200,000 tons per year of green ammonia for the European market.”

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Source: TotalEnergies, Press release, October 28



MOROCCO

“**OCP Group** and **ENGIE** have signed a strategic partnership aimed at accelerating OCP Group’s energy transition and contributing actively to **Morocco’s** energy transformation. This Joint Development Agreement is a major step towards launching several ambitious projects in renewable energy, energy storage, green hydrogen and ammonia, power infrastructure and sustainable desalination, alongside a Research & Innovation (R&I) agenda focused on these areas.”

Source: OCP, Press release, October 29

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MOROCCO



“(...) **MGH Energy** and **PETROM**, a leading distributor of fuels and lubricants in **Morocco**, have today signed a strategic agreement to combine their efforts in response to Morocco’s Green Hydrogen Initiative. (...) The two companies aim to closely collaborate (...) on renewable synthetic fuel markets, current regulations, production and distribution infrastructure (...), and particularly the Janassim project, which aims to produce 500,000 tons per year of decarbonized fuel.”

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Source: MGH Energy, LinkedIn Post, October 30



PORTUGAL



HRS

HYDROGEN REFUELING SOLUTIONS

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“**HRS** (...) announces the first order in **Portugal** for the supply and installation of an HRS14 hydrogen station for **HYCHEM**. This strategic move strengthens HRS's presence on the Iberian Peninsula and marks a significant step in the expansion of its international footprint. The latest-generation HRS14 station will be installed at HyChem's industrial site near Lisbon, in **Póvoa de Santa Iria [Portugal]**, and will be used to refuel cars and heavy vehicles for public and private use.”

Source: HRS, Press release, October 29



INDIA

rely

OCTOBER
2024

“**Rely** [a joint venture between **Technip Energies** and **John Cockerill**] has been awarded an engineering, procurement services, construction Management (EPsCm) contract by **AM Green India Pvt Ltd.** for its 2 x 1500 tons per day (TPD) Green Ammonia Complex at **Kakinada, Andhra Pradesh, India.** The project, which reached FID in August 2024, includes 2 x 640MW Pressured Alkaline Electrolysers for the production of green hydrogen (...).”

Source: MGH Energy, LinkedIn Post, October 30