

"navantia seanergies partners with h2site to develop commercial high-purity hydrogen generation systems onboard"

Madrid, XX July 2023- Navantia Seanergies, the green energy division of Navantia, and H2SITE, a pioneering hydrogen production technology company, have signed a strategic agreement to drive the development of onboard hydrogen-based power generation systems for commercial marine applications.

Navantia, which has already developed hydrogen-based power generation technology for S80 class submarines, aims to launch new marketable solutions based on green hydrogen-derived fuels such as ammonia and methanol, which are expected to be the solution for decarbonizing high-performance and long-range vessels.

H2SITE, on the other hand, has technology that transforms ammonia and methanol into high-purity hydrogen (which meets the requirements of fuel cell technology). This national technology achieves high conversion efficiency due to its reaction and separation in a single stage, representing a substantial improvement compared to other transformation technologies. These systems have already been tested in pilot-scale terrestrial and maritime applications. Currently, they are being scaled up for larger applications thanks to strategic collaborations like the one just signed.

This collaboration between H2SITE and Navantia Seanergies will enable the development of onboard membrane reactor systems capable of storing ammonia or methanol and generating hydrogen onboard from these elements, through processes known as "cracking" for ammonia and "reforming" for methanol. Both processes split these molecules to generate high-purity hydrogen, ideal for fueling a fuel cell. This onboard technology will contribute to cleaner propulsion for the maritime sector and the decarbonization process.

"We will leverage the experience gained from developing hydrogen propulsion for the S80 and foster alliances that make us a leading player in the hydrogen value chain," *stated Amós Fuentes, Director of Hydrogen at Navantia Seanergies.* "We aim to contribute to the decarbonization of the naval sector through the use of sustainable fuels and cutting-edge national technology".

"The collaboration with Navantia represents an opportunity for H2SITE to integrate our hydrogen production systems into the maritime environment," *said*

Andrés Galnares, CEO of H2SITE. "For H2SITE, it means acting in a sector responsible for 2% of global emissions, where we believe we can make a relevant contribution."

Navantia, combining its extensive experience in shipbuilding with the green energy knowledge of Navantia Seanergies, will be instrumental in integrating maritime systems, ensuring the safe use of onboard hydrogen, access to the maritime ecosystem, and expertise in developing hydrogen-based onboard generation units and fuel cell technologies.

About Navantia Seanergies:

Navantia Seanergies is the division created by Navantia to contribute to the development of green energy through the construction of elements for offshore wind energy parks and the advancement of hydrogen as an energy transport vector. Navantia Seanergies, born from the synergies with other divisions of the public naval construction and high-tech systems integration company, provides all kinds of solutions in foundations for offshore wind farms and substations, representing a strong industrial partner with demonstrated experience, innovative capabilities, modern facilities, and a consolidated value chain in service of the energy transition.

About H2SITE:

H2SITE is a deep-tech start-up that designs, builds, and develops membrane reactor technology to address the hydrogen transport problem through the conversion of hydrogen carriers with well-known supply chains and the separation of hydrogen gas mixtures into fuel cell-grade purity hydrogen."