PRESS-RELEASE

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THE HYSTRAM CONSORTIUM IS APPROACHING A MAJOR MILESTONE: TURNING THE CONCEPT OF THE REACTOR INTO REALITY

The HySTrAm project aims to test the newly developed materials in a TRL5 pilot plant which enables this alternative process for the ammonia synthesis at low pressure and temperature, when compared with the conventional Haber-Bosch process. In this framework, the transition from conceptualising a new process to making it a reality entails a substantial journey, and that's precisely what AAU Energy and Casale encompasses.

At this stage, the scientist's vision takes shape in the form of a Process Flow diagram, which offers an initial visualisation of the core process elements. To further enhance this information, AAU Energy and Casale are consolidating these inputs along with the other findings centered on material development, to create a comprehensive documentation package. This documentation will serve as a valuable resource for acquiring individual components and effectively assembling them into a fully operational pilot plan.

Furthermore, to accomplish this, the engineers involved in this endeavor must address a list of questions to establish a set of engineering documents that will serve as the definitive guide for every individual component.

In this framework, the **reactor**, as a crucial component of the system, has been designed to facilitate efficient ammonia production thanks to the lower pressure and temperature compared to the conventional Haber-Bosch. **Their approach integrates both the catalyst and absorbent beds within the reactor, providing a streamlined and compact solution which in principle eliminates the use or the reactant recycling loop.**

It is worth noting that upon successful competition, this plant will represent a groundbreaking **milestone** as the world's inaugural plant of its kind. Vincenzo Liso, Coordinator of the HysTrAm project and Associate Professor at AAU Energy, highlights that "the HySTrAM project is poised to not only advance our understanding of low-temperature, low-pressure catalytic processes which had been previously proven only at lab scale, but also to make a profound impact on the field providing new possibilities in sustainable ammonia production".

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