

Second DARE2X General Assembly in Liverpool

Last March 28-29, the DARE2X consortium gathered for the 2nd project General Assembly at the University of Liverpool, England.



DARE2X consortium gathered during the 2nd General Assembly at the University of Liverpool, in March 2023.

Liverpool (England) – March 2023. The DARE2X consortium gathered for a two-day meeting on the 28th and 29th of March. The meeting was hosted by the University of Liverpool (England), one of our project partners, and marked the first General Assembly meeting in which partners provided **updates about the project's progress** in both management and research activities to further advance its main objectives and push a sustainable pathway for the production of ammonia.

At the meeting, the **DARE2X** partners exchanged the project achievements during the last six months, highlighting very positive advancements in catalyst and sorption materials development, as well as plasma catalytic ammonia synthesis testing. Transversal actions focused on Life Cycle Sustainability Assessment (LCA), dissemination, communication, and exploitation were also discussed to support the scientific outputs in reaching a valuable impact.

During the first day, each Work Package leader gave an overview of the status of their work and provided key aspects to be considered for further technical progress. Regarding the **catalyst for the plasma reactor**, the initial non-sorption testing support (alumina) for the metal catalyst was found to be more complex to analyse than expected, and so partners presented alternative supports for the testing in the plasma catalytic reactor. Furthermore, different natures of nickel and cobalt metal active sites were presented, it included their oxide form rather than metallic. Regarding the **sorption materials**, the partners presented their conclusions on three different sorption materials and further explained their testing development on the sorption/desorption cycles. The **reactor testing and development** is progressing fast and have already tested the first sorption materials developed by the partners. In addition to material testing the partners are focusing on the modelling of different gas ratios and ammonia flow rates to better understand the plasma process. The **environmental, economic, and social readiness assessment** started with the preliminary data collection inventories for the LCA and LCC of the technology, and the updates regarding **communication, dissemination, and exploitation**, materials, metrics, and clustering activities were shared and discussed together with the consortia.

The first-day meeting ended up with a visit to the Materials Innovation Factory, and the University of Liverpool provided an insightful tour of their laboratory.

On the second day, partners had the opportunity to discuss the progress and next steps concerning each Work Package, especially about the **further synthesis design and samples analysis** to be shared among the technical developers, including discussions about the operating conditions to efficiently uptake the DARE2X technology.



DARE2X consortium during their visit to the University lab.

In these first active months of the project the consortium prepared the expected deliverables on the project management plan, data management plan. Month 6 further marked the first technical milestone of the project, MS2, prototype at lab-scale of plasma reactor ready for test. The upcoming milestones were discussed and will be achieved on time, such as the sending of the first catalysts materials for testing in the plasma reactor.

Stay connected to the project and visit the website www.dare2x.eu.



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Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union.



UK Research
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DARE2X consortium: Danish Technological Institute (DTI), Hulteberg Chemistry & Engineering (HB), National Institute of Chemistry (NIC), University of Liverpool (UoL), ENSO INNOVATION (ENSO), and Lomartov (LOM).



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