

## DARE2X at a crossroads

# Deciding on catalyst, reactor, materials and the demonstration plant

**Ljubljana, Slovenia – March 2024.** Kemijski inštitut – National Institute of Chemistry (NIC) - the top science institute on materials research and chemical engineering in Slovenia, member of DARE2X, hosted our third General Assembly on the 8<sup>th</sup> and 9<sup>th</sup> of March.

DARE2X is a European Union funded research project, which started 18 months ago and now has to make important decisions. The consortium has to select the catalyst and the sorption materials, decide the final design of the reactor and the sorption unit and the location of the demonstration sites to which guided visits are planned to take place in 2025.

Another crucial decision relates to the upscaling of the technology which involves ensuring the lowest possible environmental impact while meeting economic requirements. The exploitation of the project results and the communication strategy were also part of the discussion.



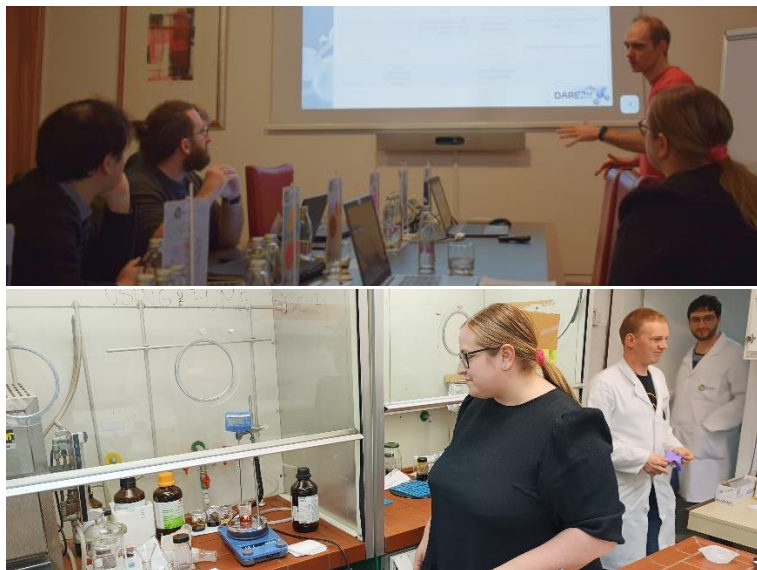
Representatives of DARE2X consortium: Danish Technological Institute, Hulteberg Chemistry & Engineering, National Institute of Chemistry (NIC), University of Liverpool, ENSO Innovation and LOMARTOV.

Launched in October 2022, the DARE2X project is working on developing novel and sustainable technologies for decentralised production of green ammonia ( $\text{NH}_3$ ) by using renewable energy instead of fossil fuels to produce hydrogen and power the  $\text{NH}_3$  synthesis.

$\text{NH}_3$  is a highly demanded chemical and has more usages besides agriculture, it has also been identified as a key substance for hydrogen storage and green fuel for the maritime sector. The technology DARE2X is developing is based on a non-thermal plasma catalytic system.

To develop this technology, a screening and modelling study of materials that could enhance the overall performance was required. In parallel with the screening experiments, the operating parameters and mass and energy balance model were evaluated. These research and development results provided an optimistic initial pathway, including the preliminary environmental impact assessment and lifetime costs of the new technology.

DARE2X project is led by the Danish Technological Institute – project coordinator - Hulteberg Chemistry & Engineering, the National Institute of Chemistry (NIC), the University of Liverpool, ENSO Innovation, and LOMARTOV.



A guided tour of Kemijski inštitut laboratories showing cutting-edge equipment used for their research.

For further updates and information on the DARE2X project, visit [www.dare2x.eu](http://www.dare2x.eu).



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