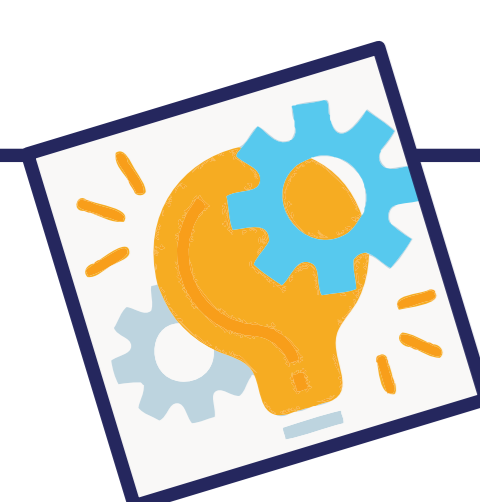


DAM4CO₂

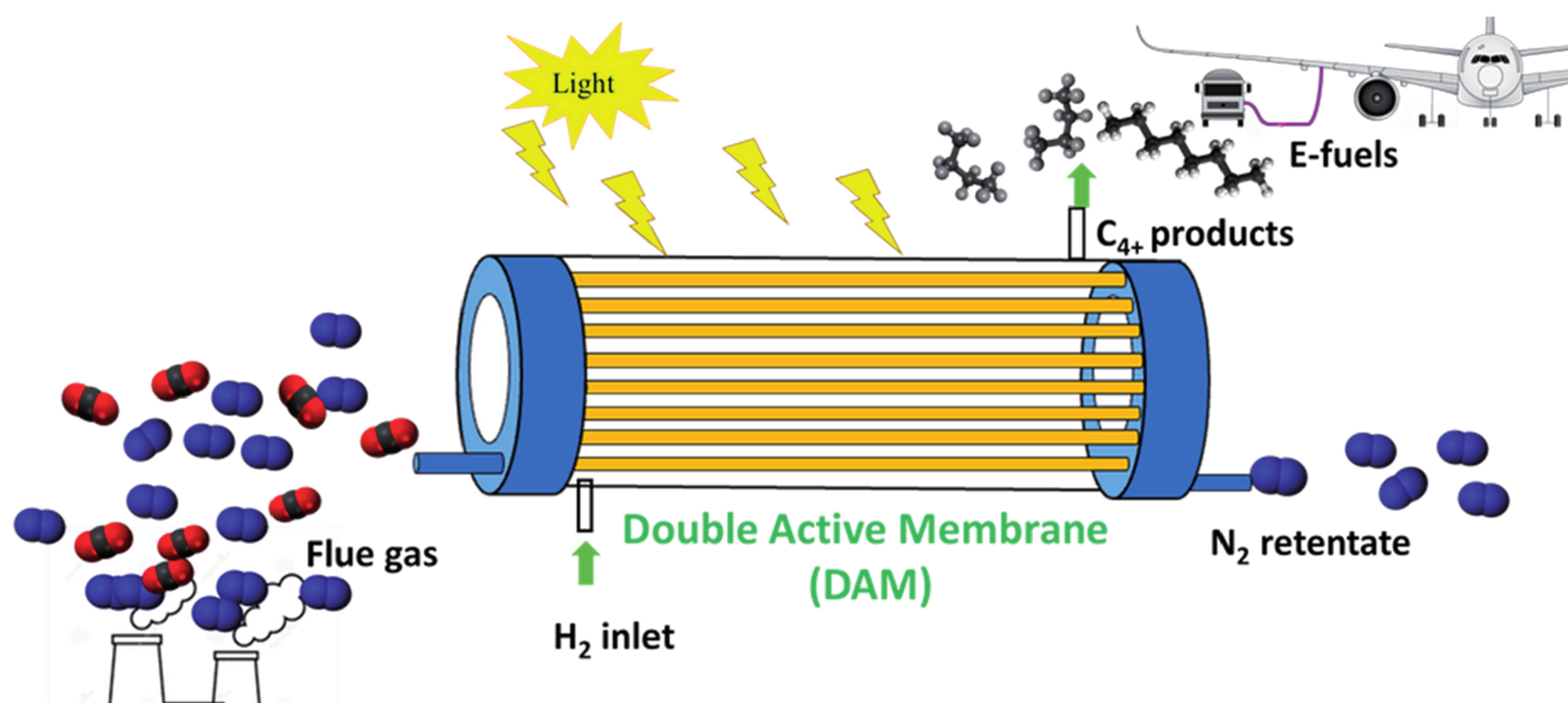
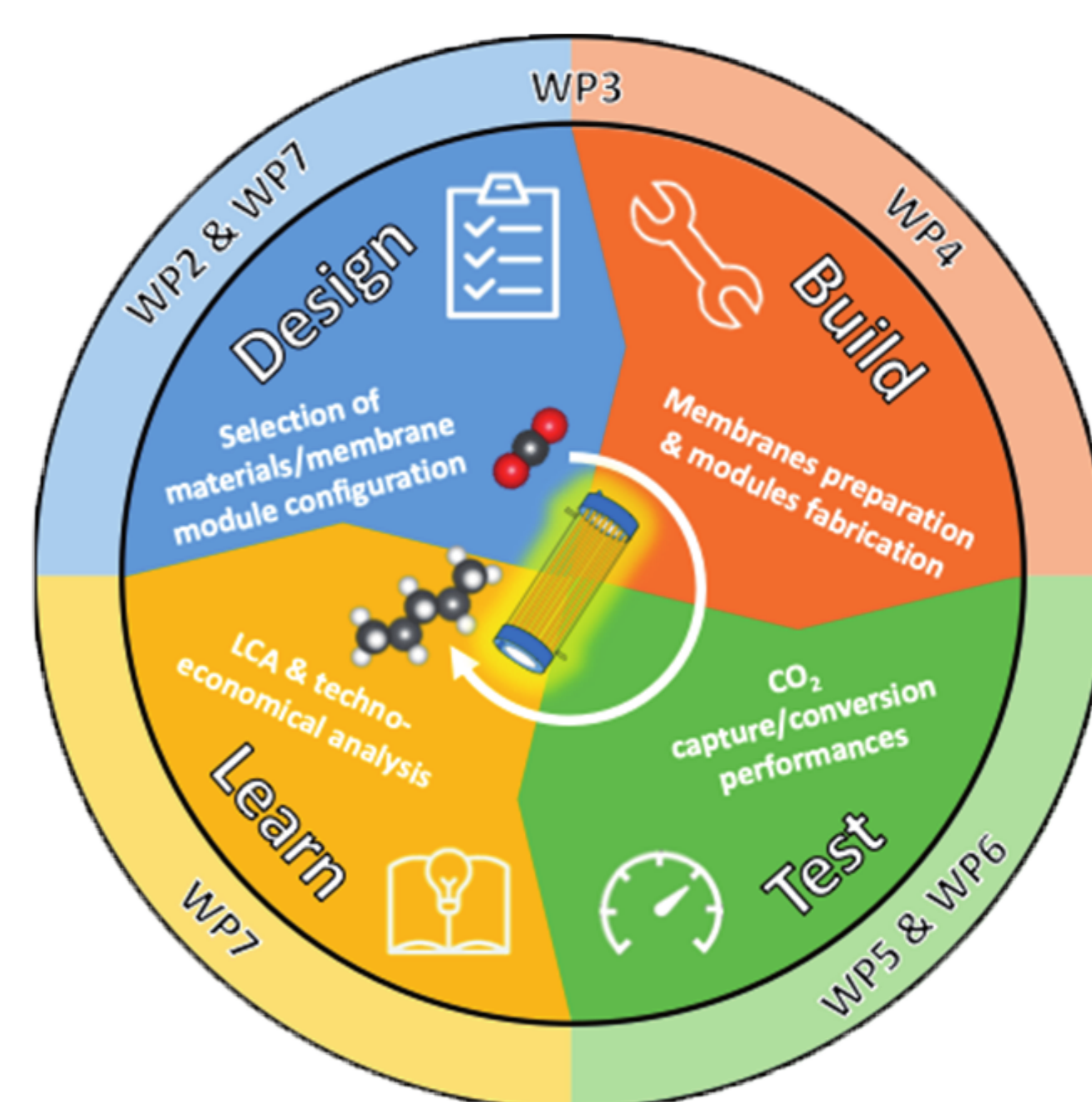
Double-Active Membranes for a sustainable CO₂ cycle



The Project:

DAM4CO₂, responding to the call "EIC Pathfinder Challenge: Carbon dioxide and nitrogen management and valorisation", aims at changing the existing paradigm within separation and utilization of CO₂ by coupling membrane and catalytic technologies.

DAM4CO₂ develops a novel membrane technology for the simultaneous CO₂ separation and its photocatalytic conversion to C₄-C₉ molecules, as renewable fuels. The project will deliver a prototype, designed using the design-build-test-learn approach, for a proof-of-concept validation that will be tested in lab-conditions. The DBTL approach is inherent in each scientific/technological WP of the project.



Our objective:

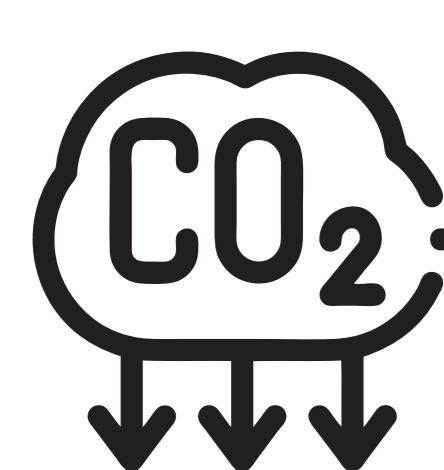


- Use of non-critical raw materials at any stage of the project
- Greener material and protocols for membrane production

- Development of the next generation membranes for CO₂ capture using advanced polymers and MOFs
- Development of photocatalytic membranes using mono and bi-functional catalysts for CO₂ conversion into C₄-C₉ molecules

- Integration of the CO₂ management and valorisation processes into a single device
- Design of novel membrane modules

Impact:



DAM4CO₂ will make real the concept of "waste-to-valuable" for CO₂ emission.

Drastic reduction of plant size, construction costs and energy requirements for CO₂ capture and conversion processes.



The development of viable CCU processes will also enable emissions-intensive industries to become environmentally sustainable without losing profitability and jobs.



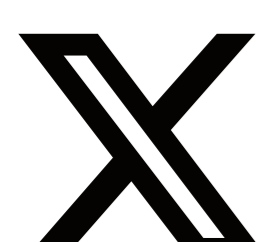
https://www.youtube.com/@DAM4CO2_EIC



<https://www.instagram.com/dam4co2/>



<https://www.linkedin.com/company/dam4co2/>



<https://x.com/dam4co2>



<https://zenodo.org/communities/dam4co2/>

Partners:



UK

PL

ES

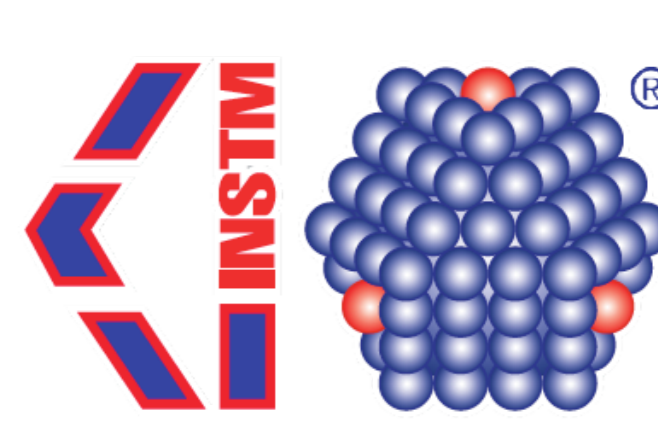
IT



UPV - ITQ



CNR



INSTMI

Project number: 101115488

Project title: Double-Active Membranes for a sustainable CO₂ cycle

Project Acronym: DAM4CO₂

Granting authority: EISMEA and UKRI

Start date: 01/11/2023

Duration: 36 months

EU Contribution: 2 975 275.00 €

UK Contribution: 823 176.00 £

CONTACT:

PROJECT COORDINATOR

Dr. Alessio Fuoco, CNR – ITM

E-mail: alessio.fuoco@cnr.it

Website: www.dam4co2.eu

E-mail: dam4co2@itm.cnr.it

European
Innovation
Council



Funded by
the European Union



UK Research
and Innovation

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101115488. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Innovation Council and SMEs Executive Agency (EISMEA). Neither the European Union nor the granting authority can be held responsible for them. This project was funded by UK Research and Innovation (UKRI) under the UK government's Horizon Europe funding guarantee [grant numbers 10083164 and 10091537]