



Membrane scale up for chemical industries

FOCUS ON EVENTS ATTENDED AND PUBLICATIONS RELEASED

Over the past months, the MEASURED consortium has continued to strengthen its presence across the European research and innovation landscape, actively contributing to international conferences, workshops, scientific forums, and collaborative events dedicated to membrane technologies and sustainable industrial processes.

This edition of the newsletter highlights MEASURED's participation in key events where project partners showcased the latest advances in membrane distillation, gas separation, pervaporation, and process intensification. From scientific presentations and poster sessions to joint

workshops with sister projects, these activities have provided valuable opportunities to exchange knowledge, foster collaboration, and promote innovative solutions supporting Europe's transition towards a more sustainable and energy-efficient future.

In this issue, we also present the latest scientific publications and conference contributions produced by the consortium, reflecting MEASURED's ongoing commitment to advancing membrane research, accelerating industrial innovation, and bridging the gap between scientific excellence and real-world application.

We invite you to explore the highlights of our recent activities and discover how MEASURED continues to contribute to the development of next-generation membrane technologies for a more sustainable industry.

EVENTS PARTICIPATION

MEASURED at the Green Ammonia Energy Workshop



On April 1st, the FREE Technical Workshop on Green Ammonia Energy brought together six Horizon Europe-funded projects – AMBHER, ANDREAH, APOLO, CAIPIRINH3A, FASTER, and MEASURED – to explore the future of green ammonia technologies and their role in Europe's clean energy

transition. The workshop focused on innovative approaches to the intensified production, conversion, and separation of green ammonia, highlighting how advanced ammonia technologies can contribute to Climate Neutrality,

strengthen Energy Security, and accelerate Decarbonization across Europe. MEASURED was represented during the roundtable discussion by Valentina Cechetto from Eindhoven University of Technology, who contributed to the exchange of ideas on emerging solutions, technological innovation, and cross-project collaboration. Beyond the technical sessions, the event provided a valuable platform for knowledge sharing, expert insights, and networking among researchers, industry leaders, and key stakeholders working to shape the future of sustainable energy.

MEASURED Project at the International Conference on Sustainable Energy and Process Technologies (SEPTech 2025)

The MEASURED Project participated in the International Conference on Sustainable Energy and Process Technologies (SEPTech 2025), held from 21 to 23 October 2025 in Eindhoven, the Netherlands.

The conference brought together scientists, researchers, and industry experts from around the world to explore innovative pathways for sustainable energy and advanced process technologies. The event provided an important platform for sharing cutting-edge research, fostering collaboration, and addressing the challenges of building a more sustainable industrial future. As part of the conference programme, MEASURED was represented through several scientific contributions highlighting the project's advances in membrane materials, process development, and innovation strategies:

- *"Gas Permeation Studies of Multichannel Carbon Membranes"* – A. Zambon et al., TU Eindhoven & TECNALIA
- *"Study of the Performance in Air Gap Membrane Distillation of Superhydrophobic PVDF Membranes Prepared via Ceramic Dip Coating"* – M. Aquino et al., University of Calabria & CNR-ITM

- “*γ-Valerolactone (GVL) as a Next-Generation Platform Solvent for Sustainable PVDF Membrane Preparation*” – F. Russo et al., CNR-ITM
- “*Membrane Technology Market and Innovation Outlook*” – I. Panza, PNO Innovation Italy
- “*Microkinetic Modelling of Ammonia Decomposition*” – Zançat Elbruz Sahin, MODELTA

These presentations reflected MEASURED’s integrated approach, combining materials science, process engineering, and market intelligence to accelerate the adoption of membrane-based solutions that improve efficiency, reduce environmental impact, and support industrial sustainability. The conference also offered valuable opportunities for networking, knowledge exchange, and collaboration with experts and stakeholders from across the sustainable energy and process technology sectors.



MEASURED Presented at International Workshop on Membrane Distillation and Water Reuse

The MEASURED project was actively represented at the 4th International Workshop on Membrane Distillation and Innovating Membrane Operations in Desalination and Water Reuse, held in Ravello, Italy. The internationally

recognized event brought together leading researchers, industry representatives, and innovators to discuss the latest advances in membrane technologies for sustainable water treatment and reuse. As part of a dedicated joint session with the sister project MELODIZER, MEASURED contributed with three oral presentations showcasing the project's latest developments and industrial applications.

Fausto Gallucci from Eindhoven University of Technology (TU/e) opened the session with the presentation *"Membrane Scale-Up for Chemical Industries: MEASURED Project Overview"*, highlighting the project's objectives, technological approach, and expected impact in supporting industrial membrane innovation through an open testing and validation platform.

Davide Venturi from GVS S.p.A. then presented *"Challenges of Industrial Deployment of Membrane Distillation for Wastewater Recovery: A Case Study"*, focusing on practical industrial applications and the key challenges involved in scaling up membrane distillation technologies for wastewater recovery.

The third presentation, *"Pervaporation-Enhanced Esterification Reaction Using Acid Resistant Hybrid Silica (HybSi): From Laboratory to Large-Scale Multi-Channel Membranes"*, was delivered by Mahdi Nikbakht Fini from TNO. The talk explored the scale-up journey of acid-resistant HybSi membranes



for the intensification of esterification reactions through pervaporation processes.

Together, these contributions strengthened MEASURED's visibility within the membrane science community and demonstrated the project's commitment to bridging the gap between cutting-edge research and industrial implementation.

MEASURED at the CNR-ITM EU Project Seminar Day

On March 19th, 2025, the MEASURED project was presented during the CNR-ITM EU Project Seminar Day 2025 in Rende, Italy, organized within the framework of the NCP_WIDERA.NET project visit. As a partner of the MEASURED consortium,



CNR-ITM

introduced the project's vision, objectives, and innovative approach, highlighting its contribution to advancing more sustainable membrane distillation technologies and supporting the transition towards greener industrial processes. The seminar provided an excellent opportunity to showcase MEASURED within the wider European research and innovation community, while fostering dialogue and collaboration among researchers, institutions, and project stakeholders.

Second Winter School on Membranes and Membrane Reactors in Eindhoven

the Second Winter School on Membranes and Membrane Reactors was successfully held on January 27–28, 2025, at Eindhoven University of Technology (TU/e) in the Netherlands. Co-organized by the ANDREAH, APOLO,

and MEASURED projects, the two-day event brought together researchers, industry experts, and innovators to exchange knowledge and discuss the latest developments in membrane reactor technologies. The programme featured insightful presentations from leading experts covering a wide range of topics, including membrane preparation and characterization, scale-up strategies, catalyst development, and large-scale industrial demonstrations. The Winter School provided participants with valuable technical insights while fostering collaboration across academia and industry.



MEASURED and MELODIZER Joint Session at the 4th International Workshop on Membrane Distillation

The MEASURED and MELODIZER sister projects, both funded by the European Union under the Horizon Europe call “*HORIZON-CL4-2022-RESILIENCE-01-14: Membranes for Gas Separation – Membrane Distillation*”, jointly participated in the 4th International Workshop on Membrane Distillation and Innovating Membrane Operations in Desalination and Water Reuse. The event took

place from June 4th to 6th, 2025, at the Grand Hotel San Michele in Cetraro (CS), Italy, bringing together leading researchers, industry experts, and innovators working in the field of membrane technologies and sustainable water solutions. Continuing the long-standing tradition of Membrane Distillation (MD) workshops founded and organized by Prof. Enrico Drioli from the Institute on Membrane Technology of the National Research Council of Italy (CNR-ITM), this edition also featured a dedicated session honoring Prof. Drioli's visionary contribution to membrane contactors, water treatment, desalination, and process intensification. The workshop provided a platform to showcase the latest scientific advances, technological developments, and industrial applications in membrane distillation and related membrane operations. Participants benefited from a rich programme featuring internationally renowned speakers presenting cutting-edge technologies, innovative products, and emerging research directions in the field. Beyond the scientific programme, the event offered valuable opportunities for networking, collaboration, and partnership-building among researchers and professionals from diverse disciplines and sectors. MEASURED was proud to contribute to this important international forum and to strengthen collaboration with its sister project MELODIZER in advancing innovative membrane-based solutions for sustainable industrial and environmental applications.

MEASURED presented at the AMK Conference

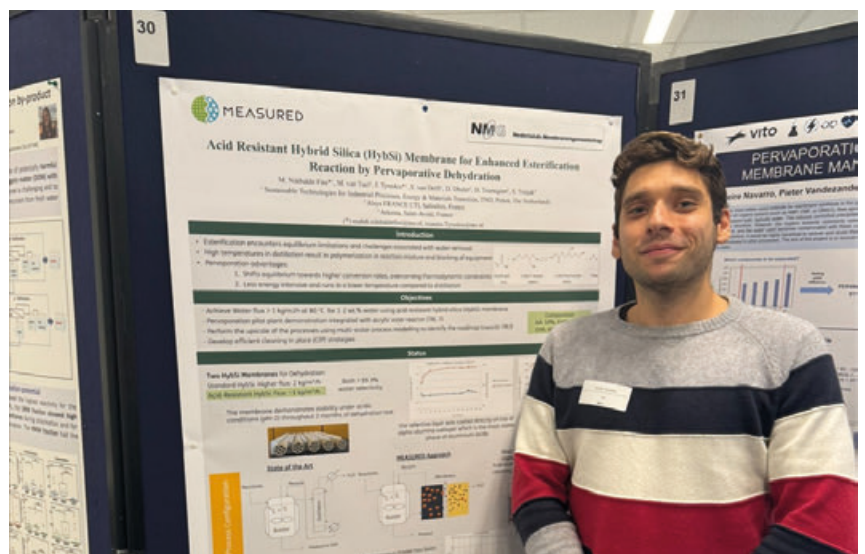


In December 2024, the AMK Conference - renowned as the premier stage for groundbreaking membrane technologies - brought together suppliers, customers, and end-users to explore the future of the field. TNO's Yvonne Vandeft took center

stage to showcase MEASURED with the captivating presentation, *“Advanced Membranes for Membrane Distillation, Gas Separation, and Pervaporation.”* This collaborative work, co-authored with Alessandra Criscuoli (CNR-ITM), Margot Llosa Tanco (TECNALIA), and Mahdi Nikbakht Fini (TNO), highlighted innovative solutions and the project’s remarkable strides in membrane technology. MEASURED’s presence at the AMK Conference underlines its pivotal role in driving advancements in the membrane industry.

MEASURED presented at the NMG membrane symposium

In October 2024, the Dutch Membrane Society (NMG) once again provided an excellent platform for professionals, researchers, academics, and students to exchange knowledge and discuss the latest developments in membrane science and technology. During the NMG Membrane Symposium held on Friday, October 11th, Ioannis Tyraskis from TNO presented a MEASURED project poster as part of the event’s poster session. The presentation showcased MEASURED’s work on the *“Acid Resistant Hybrid Silica (HybSi) Membrane for Enhanced Esterification Reaction by Pervaporative Dehydration”*, highlighting the project’s latest advancements in membrane development and process intensification. The symposium offered a valuable opportunity to increase the visibility of the MEASURED project, engage with the membrane research community, and exchange ideas with experts and stakeholders working on innovative membrane technologies.

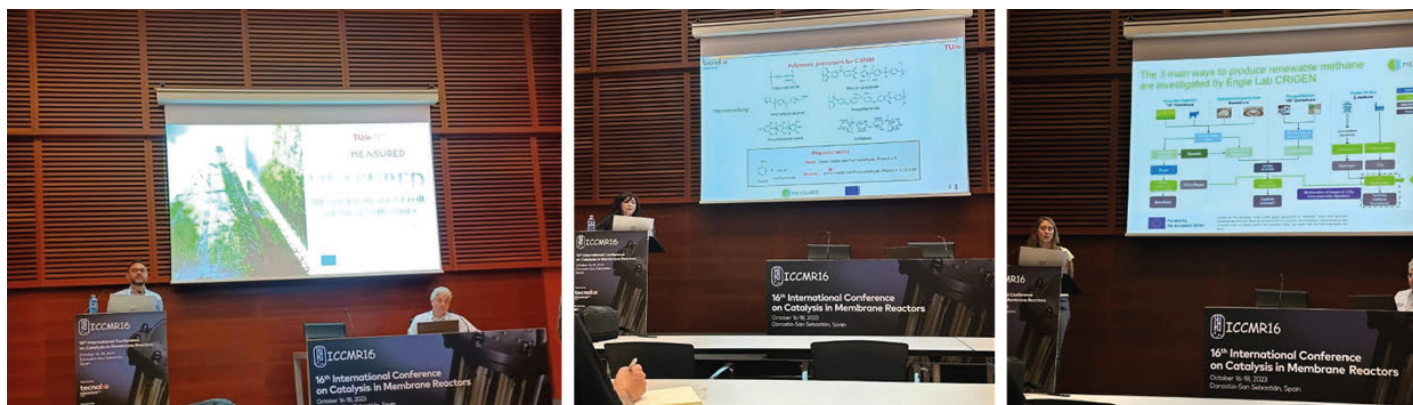


MEASURED showcased at the ICCMR16

MEASURED was successfully showcased at the 16th International Conference on Catalysis in Membrane Reactors (ICCMR16), organised by Tecnalia to promote research and innovation in catalytic membrane systems. The conference brought together leading academic researchers and industry professionals working across the fields of membranes, catalysis, and process engineering. On October 18th, the ICCMR16 programme featured several presentations from members of the MEASURED consortium within the session “European Research Projects 2”, highlighting the project’s latest developments and technological advancements. The presentations included:

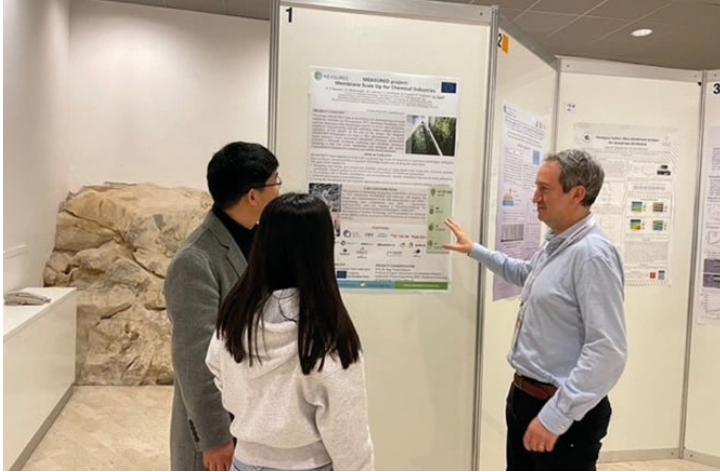
- *“Membrane Scale-Up for Chemical Industries”* by Luca Di Felice, Eindhoven University of Technology
- *“Membrane Scale-Up for Gas Separation”* by Mathilde Jégoux, ENGIE Lab CRIGEN
- *“Polishing CH₄ from a Mixture Product of the Methanation of CO₂”* by Margot Anabell Llosa Tanco, TECNALIA Research & Innovation

The conference provided an excellent opportunity to showcase the MEASURED project and present its work on the development and demonstration of advanced membrane materials and technologies for industrial applications. Participation in ICCMR16 also enabled the consortium to engage with the international membrane and catalysis community,



exchange knowledge, and strengthen collaboration with key stakeholders in the field.

MEASURED showcased at MD Sorrento 2023



The Institute on Membrane Technology organized the 3rd International Workshop on Membrane Distillation and Innovating Membrane Operations in Desalination and Water Reuse, held in Sorrento, Naples (Italy) on April 23–26, 2023, with the aim of share the latest research works

and technological advances in the field and its application areas. In this scenario, CNRITM also showcased the MEASURED poster and presented the project aim and objectives to scientists and researchers coming from different areas of expertise.

PUBLICATIONS COLLECTED

The MEASURED consortium actively disseminated its research results through a wide range of conference proceedings and scientific publications, highlighting the project's progress in sustainable membrane technologies and process intensification. The following scientific contributions were presented and published by project partners:

- **M. C. Carnevale, F. Russo, A. Corozzi, M. Raimondo, R. Conti, M. Aquino, S. Santoro, E. Curcio, A. Figoli, A. Criscuoli**

"Study of the Performance in Membrane Distillation of PVDF Membranes Prepared with Green Solvents and Specific Coatings" - presented at **EUROMEMBRANE 2024**.

- **F. Russo, F. Galiano, A. Gordano, M. Aquino, S. Santoro, E. Curcio, A. Criscuoli, A. Figoli**

"Sustainable PVDF Membranes Preparation Using γ -Valerolactone (GVL) as a Green Solvent" – presented at **EUROMEMBRANE 2024**.

- **A. Corozzi, M. Caruso, F. Russo, F. Galiano, M.C. Carnevale, A. Gordano, R. Conti, F. Gallucci, E. Curcio, A. Criscuoli, A. Figoli, M. Raimondo**

"Ceramic Biomimetic Coatings to Boost PVDF Membrane Performance in Treating Low Surface Tension Wastewater Streams" – presented at **EUROMEMBRANE 2024**.

- **M. Nikbakht Fini, M. van Tuel, Y. van Delft, D. Dhaler, D. Tournigant, S. Tretjak**

"Acid Resistant Hybrid Silica (HybSi) Membrane for Enhanced Esterification Reaction by Pervaporative Dehydration of Acrylic Ester Reaction Mixture" – presented at **EUROMEMBRANE 2024**.

- **F.-T. Lo, S. Clercq, E. Gout, P. Moulin, E. Carretier**

"Integration of Pervaporation in Organic Compounds Dehydration Processes" – presented at **EUROMEMBRANE 2024**.

- **M. Nikbakht Fini, M. van Tuel, I. Tyraskis, Y. van Delft, D. Dhaler, D. Tournigant, S. Tretjak**

"Acid Resistant Hybrid Silica (HybSi) Membrane for Enhanced Esterification Reaction by Pervaporative Dehydration of Acrylic Ester Reaction Mixture" – presented at **CHISA 2024**.

- **Ivan Panza**

"Membrane Technologies Driving Industrial Sustainability" – published in the **Project Repository Journal**.

- **M. C. Carnevale, F. Russo, A. Gordano, A. Corozzi, M. Raimondo, D. Venturi, M. Aquino, S. Santoro, E. Curcio, A. Figoli, A. Criscuoli**

"Enhancing Membrane Distillation with Sustainable PVDF Membranes: The

Role of Green Solvent and Functional Coating” - presented at the **Giornate Scientifiche di Dipartimento – Area della Ricerca CNR di Bologna, Bologna (Italy)**, 21–23 October 2025.

- **F. Russo, M. C. Carnevale, A. Gordano, F. Galiano, A. Criscuoli, A. Figoli**
“ γ -Valerolactone (GVL) as a Next-Generation Platform Solvent for Sustainable PVDF Membrane Preparation” - presented at the **SEPTech Conference**, Eindhoven (The Netherlands), 21–23 October 2025.

- **A. Figoli, F. Russo, M. C. Carnevale, A. Gordano, A. Criscuoli**
“Sustainable Membrane Fabrication Using Non-Toxic Solvents: Case Study on the Use of γ -Valerolactone (GVL)” - presented at the **8th International Symposium on Membrane Technologies and Applications (MEMTEK 2025)**, izmir (Türkiye), 12–14 November 2025.

These publications and conference contributions reflect the MEASURED consortium’s strong commitment to advancing membrane research, promoting sustainable industrial solutions, and fostering collaboration within the scientific and industrial communities.



PARTNERS



Want to know more about MEASURED?



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