

ionysis and ReCatalyst achieve performance milestone in project ENABLER, from renowned European Innovation Council fund

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The Slovenian start-up ReCatalyst and the German spin-off ionysis GmbH are collaborating on the development of the next generation of fuel cells within the "ENABLER" project, funded by the "European Innovation Council". Together, the teams have now made significant progress in technical development. On the one hand, ReCatalyst has been able to develop a new generation of fuel cell catalyst materials based on mesoporous carbons, the production of which has also been filed as a patent. On the basis of these novel materials, the ionysis team has been able to develop full-format fuel cells (commercial cell platform with approx. 200 cm² active area), which have for the first time achieved the project performance target of > 2 A/cm² at 0.65 V. This is an important step in demonstrating the technological maturity of both ReCatalyst's platinum alloy catalysts and ionysis's hydrocarbon-based CCM technology.

"The collaboration with ionysis is exactly what makes the EIC Transition project very special – it enabled both start-ups to rapidly progress our respective technologies, but in a very commercially and goal orientated manner. We have been able to reach this significant performance target exactly because of our synergies as even a great catalyst product will perform only as great as the company producing the CCMs is able to utilize it." says Dr. Matija Gatalo, CTO ReCatalyst. "The timing was perfect: ReCatalyst has made huge progress in catalyst development, while at the same time we have significantly optimized the ink formulation and our direct CCM coating process. This enabled us to integrate both developments into our next generation of hydrocarbon-based CCMs," says Dr. Matthias Breitwieser, CTO of ionysis.

The next step for both companies is scaling: On the one hand, ReCatalyst is scaling up the synthesis of its new catalysts, and on the other hand, ionysis is currently installing the pilot plant for the production of CCMs in September 2024. "The synergies between us, such as the maturity stage as well as technological complementarity, enable us to thrive. We understand each other's needs and dynamics well and we know that only through such potent innovation we can tackle the challenge of exploiting our commercial potentials in the fast-developing global market with many established players.", Tomaž Bizjak, CEO of ReCatalyst. "EIC Transition offers a unique project setup where the commercialization of technological innovation is prepared from the very beginning. It is huge benefit for ionysis to have a sparring partner in ReCatalyst and push forward the complementary innovations to move ahead faster in the quest of bringing the next generation of fuel cells to market. ", adds Lisa Langer, CFO of ionysis.

About EIC Transition

The EIC is Europe's flagship innovation programme to identify, develop and scale up breakthrough technologies and game changing innovations. EIC Transition funds innovation activities that go beyond the experimental proof of principle in laboratory to support both the maturation and validation of your novel technology in the lab and in relevant application environments, as well as the development of a business case and (business) model towards the innovation's future commercialisation.

For more information, https://eic.ec.europa.eu/eic-funding-opportunities/eic-transition_en.

About ReCatalyst

ReCatalyst, d.o.o. is a spin-out company from the National Institute of Chemistry (Ljubljana, Slovenia) founded in early 2021. The company's mission is to provide customizable next-generation platinum-alloy catalyst solutions, enabling its customers' massive scalability of high power proton exchange membrane fuel cells with an optimized usage of platinum group metals. Since inception, the company has received multiple awards such as the Slovenian Start-up-of-the-year 2023 and 2nd place at the EIT awards in the Venture section. The foundations of the start-up have been developed within the frameworks of publicly funded projects such as the ERC 'Proof of Concept' StableCat as well as the EIT Raw Materials Accelerator. In addition to the EIC Transition project that started in June 2023, the company has also successfully raised an oversubscribed Seed round of 1.7M EUR co-led by international investors HTGF, OCCIDENT and xista science ventures.

About ionysis

ionysis GmbH develops highly efficient, emission-free and sustainable core components for fuel cells and electrolyzers. This includes the so-called "membrane electrode assemblies" with a significantly reduced content of perfluorinated substances. The aim is to further develop novel, more performant and environmentally friendly membrane electrode assemblies and to demonstrate their technical feasibility on a large scale. ionysis began operations in September 2022, and by September 2024, it has grown to a team of 26 people. The foundation for this spin-off from Hahn-Schickard and the University of Freiburg was established through several publicly funded research projects. The company secured seed financing by two strategic partners.

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More information about project ENABLER can be found on: <https://enabler-project.eu/>

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