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| Press ReleaseCatalyst development in ICO2CHEM *Fischer-Tropsch catalyst developed by EU H2020 funded project has reached a milestone.*March 2020 – ICO2CHEM, the EU funded project that aims at recovering the industrial CO2 streams into added value products, is ready to display developments thanks to the results coming from the Atomic Layer Deposition (ALD) technology for producing nanocoating applied to a Fischer-Tropsch catalyst. Renewable energy production technologies have improved considerably during past decades. Although energy production capacity is increasing drastically, storage possibilities are lacking behind. The Fischer-Tropsch (FT) synthesis is one possible route to store renewable energy in a form of hydrocarbon products. In order to fit well-known FT process into this new environment, catalyst development plays an important role. New catalysts are required for novel microchannel reactors suitable for decentralized renewable energy storing at distant locations. In addition to renewable energy storage, microchannel FT could be used to convert emission carbon dioxide into fuels or valuable chemicals. Therefore, novel catalysts are required to meet the demanding environment of CCU applications.The catalyst developed within the ICO2CHEM project utilized Atomic Layer Deposition (ALD) technology for producing an innovative Fischer-Tropsch catalys with nanocoating. It was shown, that produced nanocoating could increase the catalyst activity and prevent deactivation mechanisms. Increase in activity enables higher production rate and prohibited deactivation could prolong catalyst life-time. The results have been proven in laboratory scale and the target is to scale up the developed catalyst into pilot scale in upcoming experimental campaign at Höchst industrial park.**\_Project info:**ICO2CHEM focuses on a new production concept where industrial streams of waste CO2 are converted into value-added chemicals and fuels – a circular economy application that will contribute to decarbonise the chemical industry. The technological core of the project is the combination of a Reverse Water Gas Shift reactor (RWGS), coupled with an innovative modular (FT) Fischer-Tropsch reactor inside a transportable container. The process synthesises raw materials that are ready to replace their fossil-based counterparts and to be used as additives of several consumer products such as paints, inks, solvents and coatings. The partnership involves Finnish, German and Italian top level industries, academic and research centres. VTT (Finland), the project coordinator, successfully fabricated a Fischer-Tropsch catalyst that has been tested jointly with Politecnico di Torino (Italy). The containerized pilot plant provided by VTT is going to be installed at the Industriepark Höchst in Frankfurt (Germany). The reactors responsible for the synthesis of the products are designed and manufactured by INERATEC (Germany), who will also demonstrate on the field the robustness and reliability of the proposed micro-reactor technology. ALTANA (Germany), will utilize white oils and wax emulsions as a raw material for targeted chemical products, demonstrating the effectiveness of the process as an alternative-to-fossil source at an industrial level. The economic and business analysis will be provided by Provadis Hochschule (Germany). | Torino,17 March 2020**Contact**ICO2CHEM Dissemination managerAndrea LanziniAndrea.lanzini@polito.it Politecnico di Torino, ItalyICO2CHEM Project CoordinatorJaana Laatikainen-Luntamajaana.laatikainen-luntama@vtt.fi VTT Technical Research Centre of Finland, Espoo**Web**[www.spire2030.eu/ico2chem](http://www.spire2030.eu/ico2chem)  |
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