



## **ITQ researchers take part in the H2020 European project HIGFLY devoted to develop innovative technologies for sustainable aviation biofuels production from biomass.**

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### **ITQ researchers involved in the HIGFLY project.**

ITQ researchers, in cooperation with other European partners, Eindhoven Technical University (TUE, coordinator), TNO, SkyNRG, CSIC, Fraunhofer, Johnson Matthey, Heidelberg Institute for Energy and Environmental Research (IFEU), KNEIA and Boeing, take part in the H2020 Research and Innovation Action HIGFLY.

The major goal of the project is to develop the next generation of technologies for the production of advanced renewable jet fuels from abundant and sustainable biomass feedstocks. In a climate-neutral Europe 2050, flying will remain an important form of mobility. To still be able to meet the strict targets on CO<sub>2</sub> emissions of the aviation sector, the use of sustainable aviation fuels in EU, needs to sharply increase up to 2Mton by 2040 (according to IEA). This ambitious target urges the development of novel technologies able to convert abundant and sustainable resources into advanced bio jet fuels cost-effectively. HIGFLY proposed technologies comprise novel, robust and highly efficient catalytic conversions and separation processes for the production of bio-based precursors and jet fuel that will be demonstrated at TRL 3-4. In HIGFLY, second generation biomass, biogenic wastes and biorefinery effluents (i.e. C5 side-streams) will be transformed by means of innovative catalytic reactor technology into furanics and other bio-oxygenated compounds, which after separation will be catalytically condensed and finally upgraded to attain advanced bio-fuels for aviation. The project will advance the knowledge of its innovative technologies through evaluation of the entire value chain, from feedstock(s) to bio-derived jet-fuel, to demonstrate the advantages of the environmental, social and techno-economic performance of HIGFLY technologies and the prospect of regulatory compliance of HIGFLY's bio-fuel.



ITQ research team led by Dr. Marcelo E. Domine contributes to the development of novel and robust solid catalysts for the transformation of (C5 enriched side-streams) biomass feedstocks into furanics and other bio-oxygenated compounds by working in aqueous medium under mild operation conditions. Additionally, ITQ researchers participate in the downstream catalytic valorization of C1-C4 by-products present in aqueous residual fractions to produce H<sub>2</sub> and other products useful for processes integration in HIGFLY.

More information on the project as well as updates on developments and events at the project's website: <https://www.higfly.eu/>



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