Bifunctional Zeolite based Catalysts and Innovative process for Sustainable Hydrocarbon Transformation

BiZeolCat

New and innovative methods for the conversion of alkanes to olefins and aromatics

Joint Webinar, April 13th, 2021

Ana Villacampa, Eurecat

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 814671.

The project

"Bifunctional zeolite-based catalysts and innovative process for sustainable hydrocarbon transformation"

48 months
January 2019 to December 2022

13
partners

9
countries

6.5 M€
Eu funding

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Motivation

What's the challenge?

There is a need for lowering the carbon footprint of the refining industry in EU since it's one of the most polluting ones.

The atmosphere is polluted with compounds such as hydrocarbons and sulfur dioxide.

Catalysts as enablers of waste minimization.

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Concept

What's our vision?

Bizeolcat consortium works towards using hydrocarbons as feedstock for speciality chemical industry(not for fuel) to drive the transition to a sustainable economic system.

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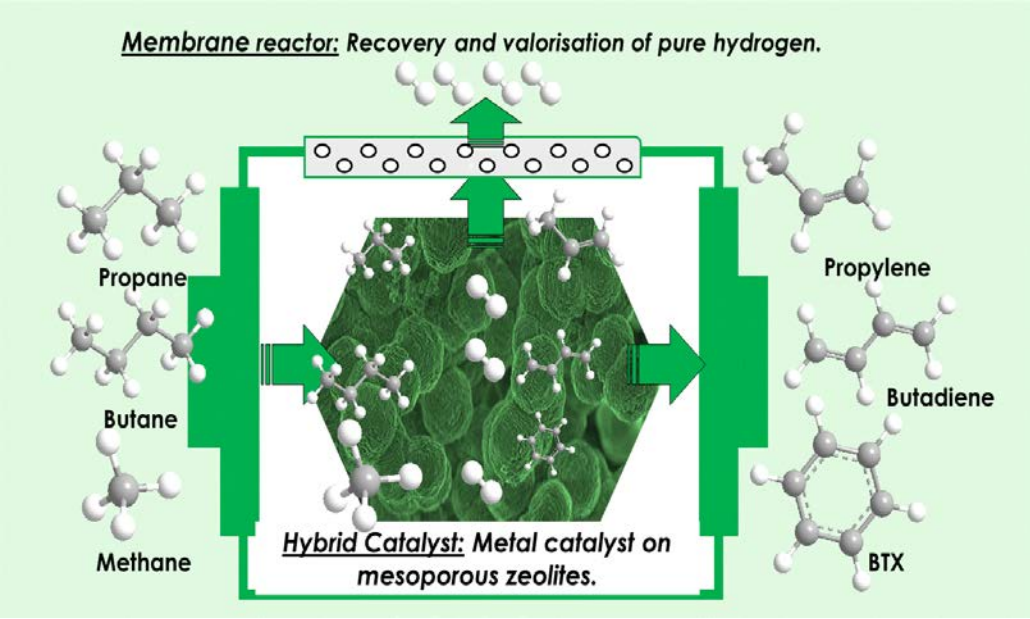
Our goals are:

- To implement and demonstrate new procedures, involving innovative catalyst synthesis methodologies and novel reactor design and processing

- To obtain light olefins and aromatics using light hydrocarbons (C1,C3, C4)



- Significant improvement in sustainability and economic scalability compared to existing industrial processes

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Impact on industry and environment

- Assessment of environmental impact, HHR and Hazop ongoing
- Significant reduction in OPEX and CAPEX
- Significant reduction in GHG emissions
- Socio-economic impact in ENP
- Market study

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RESULTS so far

- Patent application filed on February ‘21 about new process for catalyst synthesis
- New results under patentability study
- Preliminary process design and techno-economic analysis finished
- Micro and macro kinetics for PDH process using experimental data
- 3 Published articles available in www.bizeolcat.eu

PDH with Cr; https://doi.org/10.1016/j.jcat.2020.03.037

BDH with Pd membranes; https://doi.org/10.3390/membranes10100291

Multiscale modelling https://doi.org/10.1021/acscatal.0c03197

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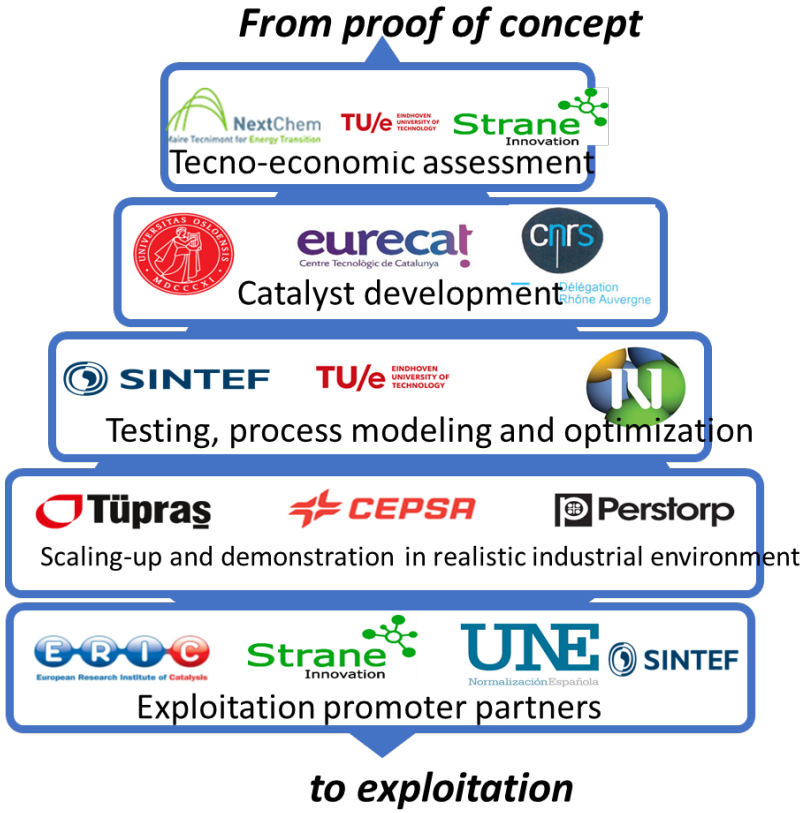
Who we are?



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Take away messages

- Strong focus on giving alternatives for reducing CO_2 in the petrochemical industry
- 13 partners committed on RIA with high expectations!
- Open to collaborate, to grasp the opportunities to innovate, align to the actual needs and make a tangible impact on european refining industry

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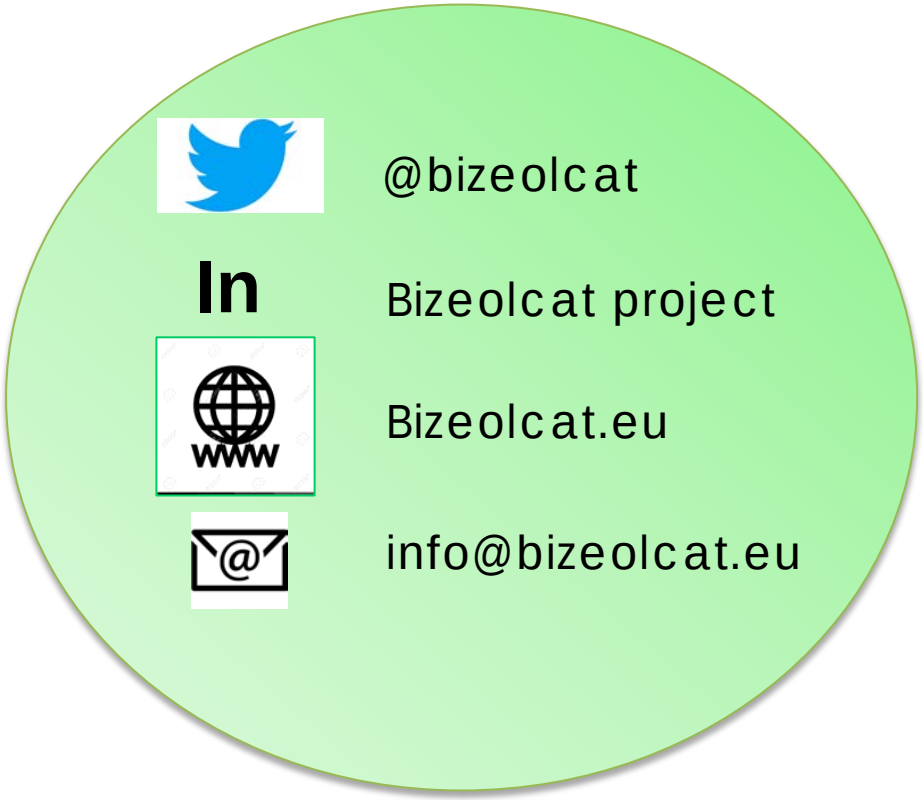
Stay connected with us



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Thank you for your attention

Ana Villacampa, Project Coordinator

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