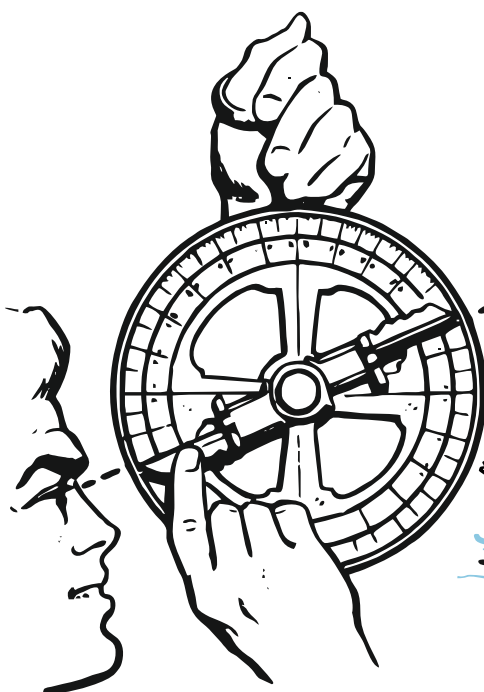




Łukasiewicz  
Institute of Heavy  
Organic Synthesis  
BLACHOWNIA



HORIZON  
europe

TOPIC ID:  
HORIZON-JU-CBE-2025-IA-01

Sustainable macroalgae systems for innovative, added-value applications: cultivation and optimised production systems.

Sustainable aviation fuels

Type of project: IA

Call opening date: 4 April 2025

Call deadline: 17 September 2025

## ABOUT US

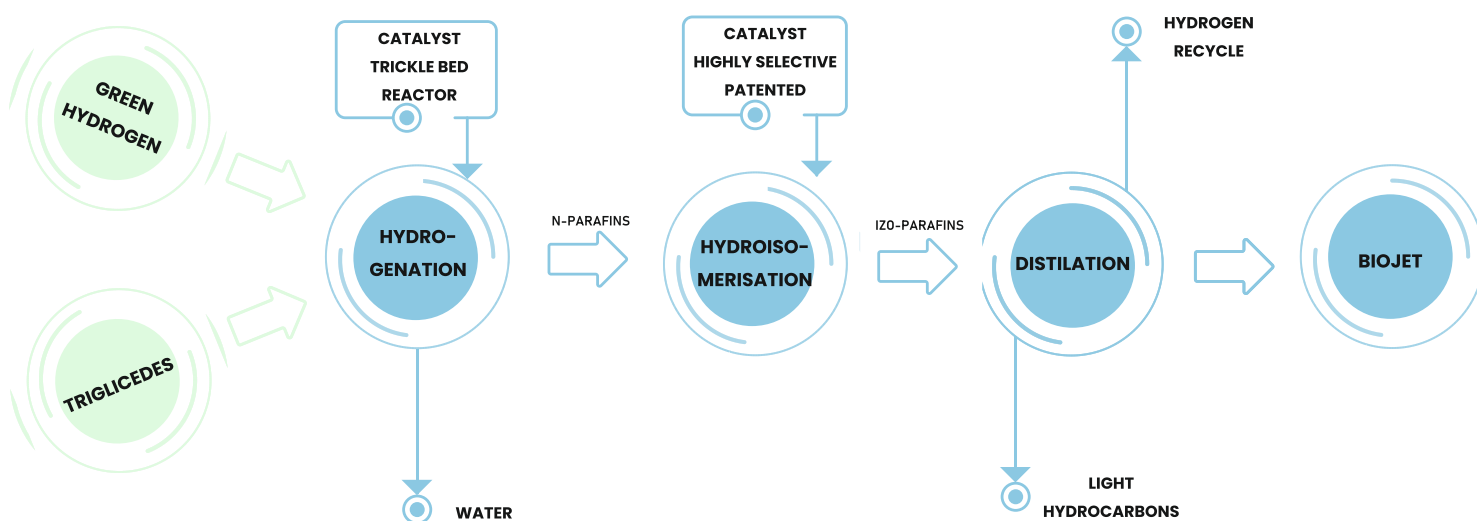
Since early 2000s Łukasiewicz - ICSO "Blachownia" has been working on various technologies to replace fossil-based chemicals with bio-based or waste-based alternatives. The feedstocks that we are working on include plant oils, wood oil, starch, bio-based alcohols, lignin, cellulose, and organic acids. Our offer can be divided into the following segments: fuels, specialty chemicals, polymers, solvents, cosmetic additives and waxes.

Łukasiewicz - ICSO "Blachownia" offers the cooperation in area of:

- development of technology for the hydroprocessing of bio-based feedstocks into valuable fuel additives
- long-term catalytic tests
- development of tailor made catalysts
- process upscaling
- design and construction of tailor-made pilot plant
- analytical methods and on-line process control.

## OUR IDEA

In this project, Łukasiewicz-ICSO offers to develop processes and novel catalysts for converting algae oil into JET A-1 and/or Diesel components. Additionally, Łukasiewicz-ICSO will prepare the technical documentation required for constructing a pilot-scale installation. The development of proprietary catalysts for this innovative technology will enable the optimization of reaction pathways and improve process efficiency. The proposed technology demonstrates significant implementation potential, adaptable for deployment at various scales—ranging from large-scale integration into existing oil refineries to small-scale, distributed energy systems coupled with hydrogen electrolysis. To validate the produced fuels, testing will be conducted in compliance with ASTM D7566 for JET A-1 components and EN 590 standards for Diesel, ensuring their conformity with industry requirements. These evaluations will include key parameters such as thermal stability, density, freezing point, cetane number, and lubricity, providing comprehensive performance characterization





"Sustainable aviation fuel – comprehensive study on highly selective isomerization route towards HEFA based bioadditives"  
<https://doi.org/10.1016/j.renene.2023.119696>

Highly Efficient Process for Producing a Jet-A1 Biofuel Component Through Hydroprocessing Soybean Oil over Ni and Pt Catalysts  
<https://doi.org/10.3390/en17236195>



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