



GLycerol to Aviation and Marine prOducts
with sUstainable Recycling

GET TO KNOW THE GLAMOUR NETWORK!

GLAMOUR has started an intensive work for clustering with other European, national and international projects working on sustainable aviation fuels, marine fuels, biofuel conversion, new and advanced technology for biomass and bio-waste conversion, with the aim to connect with similar initiatives to boost its visibility. The objective is to conduct networking activities to establish links with the key actors of other EU funded projects to further increase the impacts of the project.

The projects joining the **network** are already collaborating by supporting our activity on social media channels and promoting GLAMOUR on their official website and newsletters. Other activities already discussed among the network to be implemented in the coming months are the exchange of public documents and main outcomes with the participants of other projects, providing feedback on the respective initiatives and the organization of joint activities, such as workshops and webinars.

GLAMOUR SISTER PROJECTS

The identification and selection of key projects and initiatives in synergy with GLAMOUR has been carried out by **CiaoTech**, partner leader of the Dissemination & Exploitation, in 3 steps:

- Selection of ongoing relevant projects in which GLAMOUR partners are participating.
- Identification of other funded projects per call topic and programme (i.e. LC-SC3-RES-23-2019 - Development of next generation biofuel and alternative renewable fuel technologies for aviation and shipping; H2020-EU.3.3.3. - Alternative fuels and mobile energy sources).
- Research and selection of other funded projects in Cordis or other R&D projects databases by using the innovation platform and search tool **Wheesbee**.

As a result of this systematic research and the direct engagement of the identified consortia, the following projects have joined the GLAMOUR network:



ALTERNATE project is dealing with Environmental Sustainability and Climate Impact of Air Transport and Aviation.

ALTERNATE intends to enlarge the aviation sustainable fuel framework, starting with the possible use of more feedstocks and sustainable production pathways. ALTERNATE has brought together a consortium of world leading, interdisciplinary experts in the field of air transport, engine certification and alternative fuels both from Europe and China, to provide synergy of the potential climate change mitigation strategies based on the use of alternative jet fuel pathways. Main objective can be summarized as 1) Improve models, 2) Develop Life-cycle Analysis approach, 3) Reduce certification costs of drop-in fuels, 4) Define guidelines for introduction to the aviation sector.

Twitter: <https://twitter.com/Alternatebiofu1>

LinkedIn: <https://www.linkedin.com/in/alternate-project-3606871a0>



CLARA is a five-year Horizon 2020 research project aiming at the development of a concept for the production of biofuels based on chemical looping gasification of biogenic residues. Through cutting-edge research

and interdisciplinary cooperation, the CLARA consortium, consisting of thirteen international members including universities, research institutes and industrial partners, aims to investigate the complete biomass-to-fuel chain and bring the suggested process to market maturity.

Here, the advantages of utilizing locally available biogenic residues and the economy of scale are combined, through decentralized feedstock pre-treatment facilities and a centralized fuel production plant in the scale of 100-300 MWth. The fuel production plant itself consists of a chemical looping gasifier for the production of a syngas, a gas treatment train to provide the required syngas composition for the subsequent synthesis, a Fischer-Tropsch (FT) reactor to convert the syngas into liquid transportation fuels, and a hydrocracking unit for the production of drop-in fuels from FT-wax.



The **FLITE** (Fuel via Low Carbon Integrated Technology from Ethanol) consortium is an EU H2020 programme that aims to build the first-of-its-kind LanzaJet™ Alcohol to Jet (ATJ) facility, led by SkyNRG and with

LanzaTech as the technology provider. The facility will convert waste-based ethanol to sustainable aviation fuel (SAF) at a scale of at least 30,000 tons/yr. This is a major milestone on the path to a net zero emission for the aviation industry.

To meet sustainable aviation fuel targets proposed as part of the European Green Deal 'Sustainable and smart mobility' policy and the new legislative initiative 'EU ReFuelEU Aviation' in the years to come, it is essential that we diversify feedstock and technology options for SAF production. This pre-commercial AtJ production plant will pave the way to implementing SAF production across Europe and around the globe, producing commercially relevant quantities of SAF to support future aviation's climate targets. The consortium consists of leaders from their respective industries. SkyNRG, a global market leader for SAF solutions, is acting as the project coordinator and managing downstream supply chain development; carbon recycling company, LanzaTech, will be responsible for plant design, construction and operations using the LanzaJet™ ATJ technology; Fraunhofer, Europe's largest applied research organization, will oversee and distribute communications about the project; energy and sustainability strategy consultancy E4tech, will conduct the life cycle assessment; and the world's most trusted, valued and peer-reviewed standard for the bio-based economy, the Roundtable on Sustainable Biomaterials (RSB), will support the project through guidance on RSB certification of the facility.

LinkedIn: <https://www.linkedin.com/company/flite-h2020>

Twitter: https://twitter.com/FLITE_h2020

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GreenFlexJET's innovative process combines SABR technology for the refining of biodiesel from organic waste fats with the TCR® technology for the production of biocrude oil from organic solid waste.

The primary ambition of this project will be to demonstrate and validate the technical and economic viability of the integrated SABR-TCR® technology approaches, together with their environmental and social sustainability, as well as the cost-competitiveness, at commercial scale through the construction of a demonstrator that will also serve as an exemplar to facilitate rapid uptake and significantly de-risk subsequent commercial exploitation. GreenFlexJET will achieve the following overarching objectives: 1) Demonstrate technical viability and cost-competitiveness of the production of aviation fuels; 2) Validate logistical advantages through analysis of regional/local integrated supply and demand strategies and evaluate environmental and social sustainability; 3) Contribute to the Renewable Energy Directive targets for renewable energy; 4) Facilitate the commercial availability and medium term market penetration of advanced biofuels. The GreenFlexJET project will deliver 1200 ton of jet fuel that meets the ASTM D7566 standards produced in an integrated SABR-TCR® demonstrator plant. This demonstration site will provide clear technical and economic validation and will serve as an exemplar supporting a comprehensive dissemination and exploitation program to facilitate rapid uptake of the technology. Data from the plant will be utilized to validate social and environmental sustainability of this approach, whilst proving that it is cost competitive at commercial scale. The project will be a showcase of the medium to long-term impact on the aviation industry in Europe and beyond.

Twitter: [@GreenFlexJET](#)
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HyMethShip system innovatively combines a membrane reactor, a CO2 capture system, a storage system for CO2 and methanol as well as a hydrogen-fueled combustion engine into one system.

HyMethShip system innovatively combines a membrane reactor, a CO2 capture system, a storage system for CO2 and methanol as well as a hydrogen-fueled combustion engine into one system. The proposed solution reforms methanol to hydrogen, which is then burned in a conventional reciprocating engine that has been upgraded to operate with multiple fuel types and specially optimized for hydrogen use. The drastic CO2 reduction is the result of using renewable methanol as the energy carrier and implementing pre-combustion CO2 capture and storage on the ship. The renewable methanol fuel bunkered on the ship is ideally produced onshore from the captured CO2, thus closing the CO2 loop of the ship propulsion system. The HyMethShip project will undertake risk and safety assessments to ensure that the system fulfills safety requirements for on-board use and that its safety is at least equivalent to that of conventional ship fuel and propulsion systems. It will also take

into account the rules and regulations under development for low flashpoint fuels and is expected to contribute to regulatory development in this area. The cost effectiveness of the system for different ship types, applications and use cases will also be assessed. For medium and long-distance waterborne transportation, the HyMethShip concept is considered to be the best approach available that achieves this level of CO2 reduction and is economically feasible. Developing this solution can help the European shipping industry maintain its global advantage as a producer of technically advanced ships and equipment.

LinkedIn: <https://www.linkedin.com/company/2testversuch>

Facebook: <https://www.facebook.com/HyMethShip-1770959659656553>



IDEALFUEL aims to develop an efficient and low-cost chemical pathway to convert lignocellulosic biomass into a Biogenic

Heavy Fuel Oil (Bio-HFO) with ultra-low sulphur levels that can be used as drop-in fuel in the existing maritime fleet.

LinkedIn: <https://www.linkedin.com/company/idealfuel>

CINEA 5TH H2020 BIOFUELS WORKSHOP

A great opportunity to get in touch with other projects focused on biofuels was represented by the 5th H2020 Biofuels Workshop, organized and virtually hosted by CINEA, the European Climate, Infrastructure and Environment Executive Agency, the 14th-15th of October 2021. The event brought together all on-going projects in the area of biofuels to exchange experiences and information, present their project to relevant European Commission and DG staff and explore the possibility of collaborating and exploiting synergies.

CiaoTech attended the event together with The University of Manchester, which had the chance to present GLAMOUR in front of other 33 projects on biofuels and further promote the network activity.



Vincenzo Spallina, the project coordinator, provided an overview on GLAMOUR aims and objectives, the progresses already achieved and its ideas for collaborative activities, synergies and opportunities.

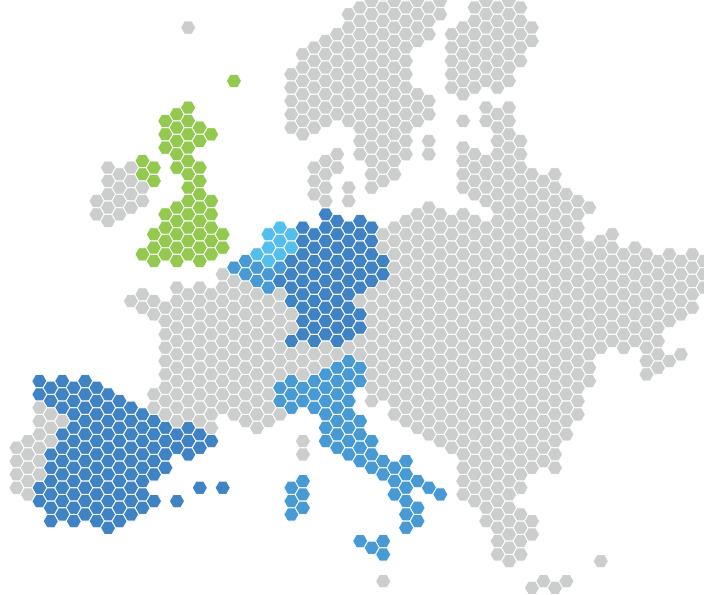
Would like to join our network for collaborative Dissemination and Communication activities?

Contact our designated team below:

- Vincenzo Spallina (UNIMAN): vincenzo.spallina@manchester.ac.uk
- Manuela Guiducci (CTECH): m.guiducci@ciaotech.com

Subscribe to our newsletter and follow Glamour on LinkedIn and Twitter to be always updated on the latest news and the project progress!

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CONTACT US PROJECT COORDINATOR

 Vincenzo Spallina,
- Lecturer in Chemical Engineering Department
of Chemical Engineering and Analytical Science
- School of Engineering
- The University of Manchester
 vincenzo.spallina@manchester.ac.uk



[linkedin.com/company/glamour-horizon-2020](https://www.linkedin.com/company/glamour-horizon-2020)



twitter.com/GlamourH2020



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 884197