



ALRIGHT2T

Press Release

**ALRIGHT2T drives innovation towards
future aviation with cutting-edge
refuelling technologies and processes**



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ALRIGH2T drives innovation towards future aviation with cutting-edge refuelling technologies and processes

- The Horizon Europe project aims to facilitate the transition to climate-neutral propulsion systems based on liquid hydrogen (LH2) by developing two pioneering ground-based refuelling solutions.

With funding close to 10 M€ and a duration of 48 months, ALRIGH2T project, "Airport-level demonstration of ground refueling of liquid hydrogen for aviation", aims to develop **innovative refueling technologies and processes that contribute to reducing the environmental impact of the aviation sector**, responsible for 2.5-3% of total greenhouse gas emissions.

[ENEA](#), the Italian National Agency for New Technologies, Energy and Sustainable Economic Development, leads this collaborative project funded by the European Union under the Horizon Europe program, which is intended to facilitate the transition to liquid hydrogen-based propulsion solutions with proven efficiency, safety and viability.

To that end, **ALRIGH2T brings together an international consortium of 21 partners from 7 European Union countries and Israel**: Italy ([ENEA](#), [Piaggio Aerospace](#), [Digisky](#), [SEA](#), [ATENA](#)), Austria ([AIT Austrian Institute of Technology](#), [LKR Leichtmetallkompetenzzentrum Ranshofen](#), [SAG](#), [Test-Fuchs](#)), Germany ([Linde](#), [Technical University of Munich](#)), Switzerland ([Linde Kryotechnik](#)), France ([TLD](#), [Universal Hydrogen Europe](#), [Group Europe Handling](#), [Amelia by Regourd Aviation](#), [Groupe ADP](#), [INERIS](#)), Norway ([SINTEF](#)), Spain ([Zabala Innovation](#)), and Israel ([Israel Aerospace Industries](#)). A diverse array of entities, ranging from companies and institutions to academic centers, all possessing specialized knowledge in the design and manufacturing of aviation equipment and liquid hydrogen.

Towards climate-neutral aviation: LH2-based propulsion

Hydrogen-based propulsion has the potential to be a significant part of the propulsion technology mix in the near future, aiming to achieve climate-neutral aviation by 2050. Combustion of hydrogen could reduce the climate impact by 50-75% per flight compared to kerosene-based engines, while fuel cell-based propulsion has an even greater estimated impact reduction (75-90%).

However, the development of innovative LH2-based solutions presents many new challenges related to hydrogen management and handling at airports, ensuring delivery timelines, and maintaining high levels of safety and operational protection. ALRIGH2T's deployment of refueling systems aims to address these significant challenges posed by LH2 use in aviation.



LH2 direct refueling and tank swapping tested at international airports

Innovative solutions addressed within the project, LH2 direct aircraft refueling and tank swapping, will be demonstrated at two European airports: Milan-Malpensa International Airport and a reference airport in Paris. This approach allows the ALRIGH2T project to cover various types of airports and inspire other airports or potential pathways to replicate the developed solutions.

Specifically, ALRIGH2T will develop and test full-scale hydrogen-powered aviation technologies with the ultimate goal of bringing these solutions to the market and realizing advancements crucial for the future deployment of LH2-powered aircraft.

Finding compromise solutions will be necessary to ensure the proper supply of hydrogen to aircraft, correct ground movements at the airport, and the establishment of new clauses and standardization policies governing the implementation and replication of these solutions in other airports.

Social Media:

LinkedIn: [@ALRIGH2T EU Project](#)

X: [@Alrigh2t_EU](#)

YouTube: [@ALRIGH2TProject](#)

Contact:

Press officer:

Mónica Pérez monicaperez@zabala.es

Phone number: M (+34) 663 553 764

Ana Báscones abascones@zabala.es

Phone number: M (+34) 673 744 543

