



H2FLY and partners mark a significant step toward zero-emission commercial flight following developments of liquid tank integration



- The liquid tank has passed the vibration and LH2 leakage test at Air Liquide kickstarting the mechanical integration process
- Following the integration, the aircraft is planned to enter a rigorous programme of ground testing early in 2023
- Liquid hydrogen coupled with fuel cells mark another step closer to achieving higher aircraft ranges

Stuttgart, November 8, 2022 - H2FLY, the Stuttgart-based developer of hydrogen fuel cell technologies, is today announcing a new business milestone, as it has begun the integration of a liquid hydrogen storage system tank into its HY4 aircraft. The integration process commenced following the liquid hydrogen tank passing the vibration and LH2 leakage testing phase at Air Liquide in September.

The announcement marks a significant step forward for Project HEAVEN - an initiative which has set out to design, develop, and integrate a powertrain based on high-power fuel cell and cryogenic technology, into an existing aircraft for testing in-flight operation. The start of the mechanical integration process draws H2FLY closer to achieving higher aircraft ranges, which is critical in the pursuit of achieving true zero-emissions medium and long-haul flight.

H2FLY supplies the complete fuel cell system supporting the HY4 aircraft, along with the integration platform and the overall system architecture and controls of the fuel cell and hydrogen storage system. As the development lead, H2FLY plays a critical role in the complete coordination of the system implementation to guarantee each of the system parts is properly adapted, ensuring safe functionality.

The company is joined by the following partners for the HEAVEN project: Air Liquide Advanced Technologies, a cryogenic tank designer and supplier, Pipistrel Vertical Solutions, who will be supporting the integration and demonstration of the tank; DLR, who will support the operation and testing of high power fuel cell and system architecture.



Integration work is expected to be completed over the coming months. Following the integration of the new hydrogen storage system and fuel cells, the aircraft is planned to enter a rigorous programme of ground testing early in 2023 and is expected to be the world's first passenger aircraft to fly using liquid hydrogen.

Prof. Dr. Josef Kallo, co-founder and CEO of H2FLY says: "Passing the vibration and LH2-leakage tests marks a big step forward for delivering true zero-emissions flight with increased range - we have now been able to kickstart the mechanical integration process, drawing even closer to this next exciting flight test phase.

"For the past 10 years, at H2FLY we have been focused on developing and delivering new technology and now we look forward to completing the integration process so we can begin ground testing in preparation for the world's first commercial liquid hydrogen-electric aircraft."

The HEAVEN project has received funding from the Fuel Cells and Hydrogen 2 Joint Undertaking (JU) under grant agreement No 826247. The JU receives support from the European Union's Horizon 2020 research and innovation programme and Spain, France, Germany, and Slovenia.

For more than 10 years, H2FLY has been researching, testing, and refining, resulting in the development of the HY4, a four-seat aircraft with hydrogen-electric propulsion, that first took flight in 2016. There have been several key milestones across the past two years, including:

- In 2020 H2FLY was granted a permit to fly the latest generation of the HY4 aircraft, which featured a fully redundant powertrain architecture. Across more than 90 take-offs, the company successfully demonstrated the applicability of hydrogen-electric propulsion solutions in aviation
- In 2021 the company signed a strategic partnership with aircraft manufacturer Deutsche Aircraft that will see the companies work together to fly a CS25 class aircraft powered by H2FLY's hydrogen fuel cell technology. The climate-neutral regional aircraft, which is expected to fly for the first time as a prototype in 2025, is planned to have a 2,000 km range and seat up to 40 passengers
- Earlier this year, the company completed a cross-country flight, from Stuttgart, Germany to Friedrichshafen, covering 77 miles, marking the first time a hydrogen-powered passenger plane has flown between two commercial airports
- Also this year, the company set what is believed to be a world altitude record for a hydrogen-air-breathing aircraft, flying at 7,230 feet, confirming the company's position as a leader in this new category



About H2FLY:

H2FLY was founded by five engineers from the German Aerospace Center in Stuttgart and the University of Ulm and is working to deliver to market the first qualified, fully hydrogen-electric aircraft powertrain. By bringing hydrogen fuel cell technology to the next level, H2FLY will unlock the era of emission-free, sustainable air travel. The company develops hydrogen-electric propulsion systems for aircraft and is a global leader in the development and testing of such systems. The HY4, the world's first hydrogen-electric passenger aircraft, first took off in 2016, demonstrating both the feasibility and potential of this technology for the aviation of the future. H2FLY has a powerful network of partners in industry and science, and is currently working to accelerate its technology development and commercialization with the support of German and European partnerships. In just a few years, hydrogen-electric aircraft are expected to be able to transport 40 passengers over distances of up to 2,000 kilometres (1,240 miles).

For more information, please visit: www.H2FLY.de.

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