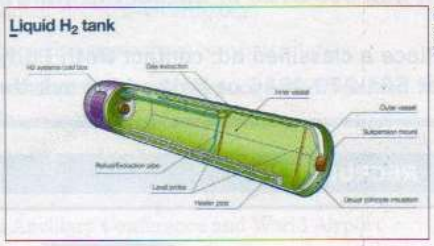
France Advances Hydrogen Tank Manufacturing

A three-year project to develop manufacturing technologies for liquid-hydrogen tanks in commercial aircraft is attracting aerospace players in France.



AIRBUS

France's Nomade project targets the development of manufacturing technology for aircraft LH_2 tanks.

With €5 million ($5.4 million) in funding, the IRT Jules Verne research and technology (R&T) institute in Nantes is coordinating a team that includes Airbus, steel supplier Aperam and the CEA energy research center, as well as aerostructures and aircraft manufacturer Daher.

The Nomade project also involves automotive equipment specialist Faurecia, additive manufacturing expert Fives, airship startup Flying Whales, R&T institute IRT Saint Exupery, the LHEEA hydrodynamics and energetics research laboratory in Nantes, warship manufacturer Naval Group, and Rafaut, a supplier of military equipment such as external tanks for fighter aircraft.

The project centers on creating manufacturing methods suitable for an industrial environment. This includes developing an automated laying process for insulation materials and an assembly process for metallic tank walls that ensures airtightness. Nondestructive procedures will be conceived for inspecting the insulation before and after the double wall has been closed.

Nomade includes thermodynamic modeling of the tank, development of more efficient insulation materials—especially targeting weight—and optimizing the insulation's architecture. The project is a follow-on to the IDHYL feasibility study in 2021.

—Thierry Dubois in Lyon