

COCOLIH₂T

COMPOSITE CONFORMAL LIQUID H₂ TANK



Project ID	101101404
PRR 2025	Pillar 3 - H ₂ End Uses - Transport
Call Topic	HORIZON-JTI-CLEANH ₂ -2022-03-07
Project Total Costs	8 726 769.50
Clean H ₂ JU Max. Contribution	8 726 769.50
Project Period	01-02-2023 - 31-01-2026
Coordinator Beneficiary	COLLINS AEROSPACE IRELAND, LIMITED, IE
Beneficiaries	Simmonds Precision Products Inc., a part of Collins Aerospace, GOODRICH AEROSPACE EUROPE SAS, UNIFIED INTERNATIONAL, UTC AEROSPACE SYSTEMS WROCLAW SPOLKA Z OGRANICZONA ODPOWIEDZIALNOSCIA, MICROTECNICA SRL, CROMPTON TECHNOLOGY GROUP LTD, NOVOTECH AEROSPACE ADVANCED TECHNOLOGY SRL, AVIONS DE TRANSPORT REGIONAL, TECHNISCHE UNIVERSITEIT DELFT, STICHTING KONINKLIJK NEDERLANDS LUCHT - EN RUIMTEVAARTCENTRUM

PROJECT AND GENERAL OBJECTIVES

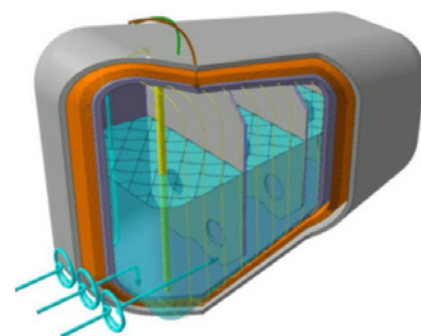
Improvements to existing state-of-the-art solutions include better utilisation of the available space for fuel storage, adequate insulation techniques to minimise heat leak, continued safe operations, and weight reduction through the use of low-weight materials, such as thermoset or thermoplastic composites, all while addressing those materials' inherent challenges (permeability, microcracking, thermal fatigue).

NON-QUANTITATIVE OBJECTIVES

The project aims to push the boundaries of the composite design of liquid hydrogen storage systems, and those of pressure management systems, cryogenic fluid controls, prognostic and structural health systems, hazard analyses, integration and systems testing, gauging sensors, leak sensors and much more.

PROGRESS, MAIN ACHIEVEMENTS AND RESULTS

- Completion of preliminary critical design and manufacturing readiness level reviews of the COCOLIH₂T liquid hydrogen storage system.



- TRL3 development cryogenic valves, prognostic health monitoring algorithms and liquid hydrogen fuel gauging technology.

FUTURE STEPS AND PLANS

A manufacturing readiness level review is planned, and the first demonstrator system is planned to be tested in the Netherlands Aerospace Centre in Q2. The second manufacturing demonstrator will be completed by Q4.

PROJECT TARGETS

Target source	Parameter	Unit	Target	Target achieved?
Project's own objectives	Maximum diameter	mm	< 1	
	Venting rate	%/ day	< 2	
	Dormancy	hours	> 24	
	Insulation vacuum	mbar	10 ⁻⁵	