

PRESENTATION TITLE (OPTIONAL)

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1. Your organization and capacities

Spanish Institution for Aerospace Research, INTA Composite Materials Area

Active in cryogenic testing since 1996 in projects such as ESA-FESTIP, CRYOFOS, AIRBUS-ZeroE and CA-FASTERH₂

Expertise and equipment

Gas flow Cryostat for standard mechanical test specimens

- from 4K to 340K
- max. 100kN

Fiber optic cryogenic temperature[®] and strain sensor

- from 4K to >500K
- 15pm/K sensitivity at 20K

Cryogenic temperature cycling

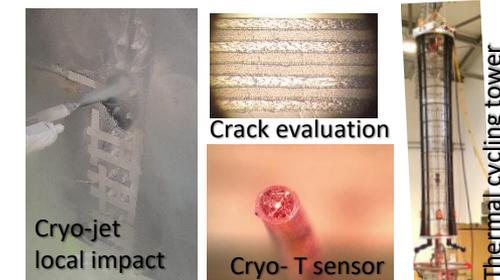
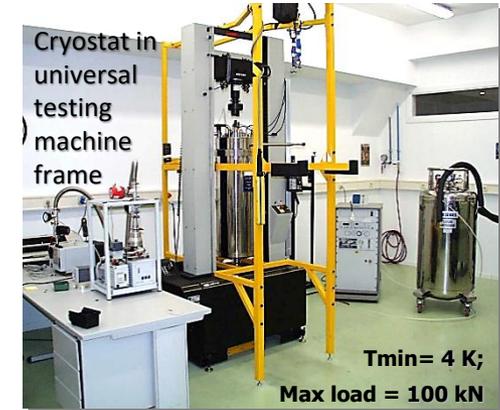
- 700 cycles/days 20-70K (small sensors) with cycling tower
- 400 cycles/day 20-70K (standard specimens) with electric cycling system

Permeability testing devices

- RT and cryogenic,
- with or without load (rectangular or membrane specimen)

Cryo-jet local structural impact under flexural load

- N₂ and He jets



2. Topics of interest in call 2026

Past projects	Experience and Contribution
<p>FASTER-H2 — HORIZON-JU-Clean-Aviation-2022-01: <u>F</u>uselage, Rear Fuselage and Empennage with Cabin and Cargo <u>A</u>rchitecture <u>S</u>olution validation and <u>T</u>echnologies for <u>H2</u> integration</p>	<ul style="list-style-type: none"> * Experience: Material characterization in cryogenic conditions and H2 exposure * Contribution: Dedicated cryogenic test facilities

Topic	Project idea and partners sought
<p><i>HORIZON-JU-CLEANH2-2026-03-02: Components Development and Experimental Testing for an Onboard Liquid Hydrogen Supply and Conditioning System in HighPower Fuel Cell Aviation Applications</i></p>	<ul style="list-style-type: none"> * Project idea: Characterization of materials for tank and distribution lines at 20K. Permeability measurements at 20K. Cryogenic fiber optic strain and 20K temperatur sensor * Partners sought: Industry and RTOs