



INSPIRE

INNOVATIVE WING ICE PROTECTION SYSTEM FOR FUTURE REGIONAL AIRCRAFT

The EU CleanSky2 funded research project InSPIRe focusses on designing, developing and manufacturing a demonstrator for the wing ice protection system (WIPS) of the future Leonardo regional aircraft concept.

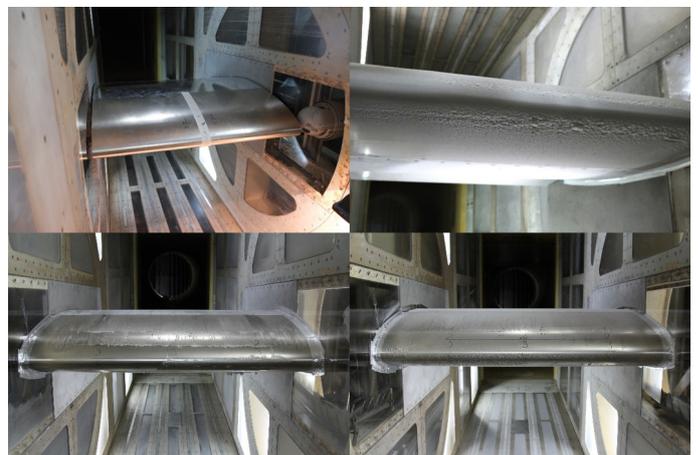
In the current development of the More-Electric Aircraft technological portfolio, a fully electric wing ice protection system plays the key role to eliminate current bleed air and pneumatic devices. The adoption of an electrothermal ice protection system allows easy integration with laminar wings and/or morphing leading edges, thus being more suitable for implementation in the future regional aircraft.

To meet the design and energy constraints, the solution proposed by InSPIRe is geared towards:

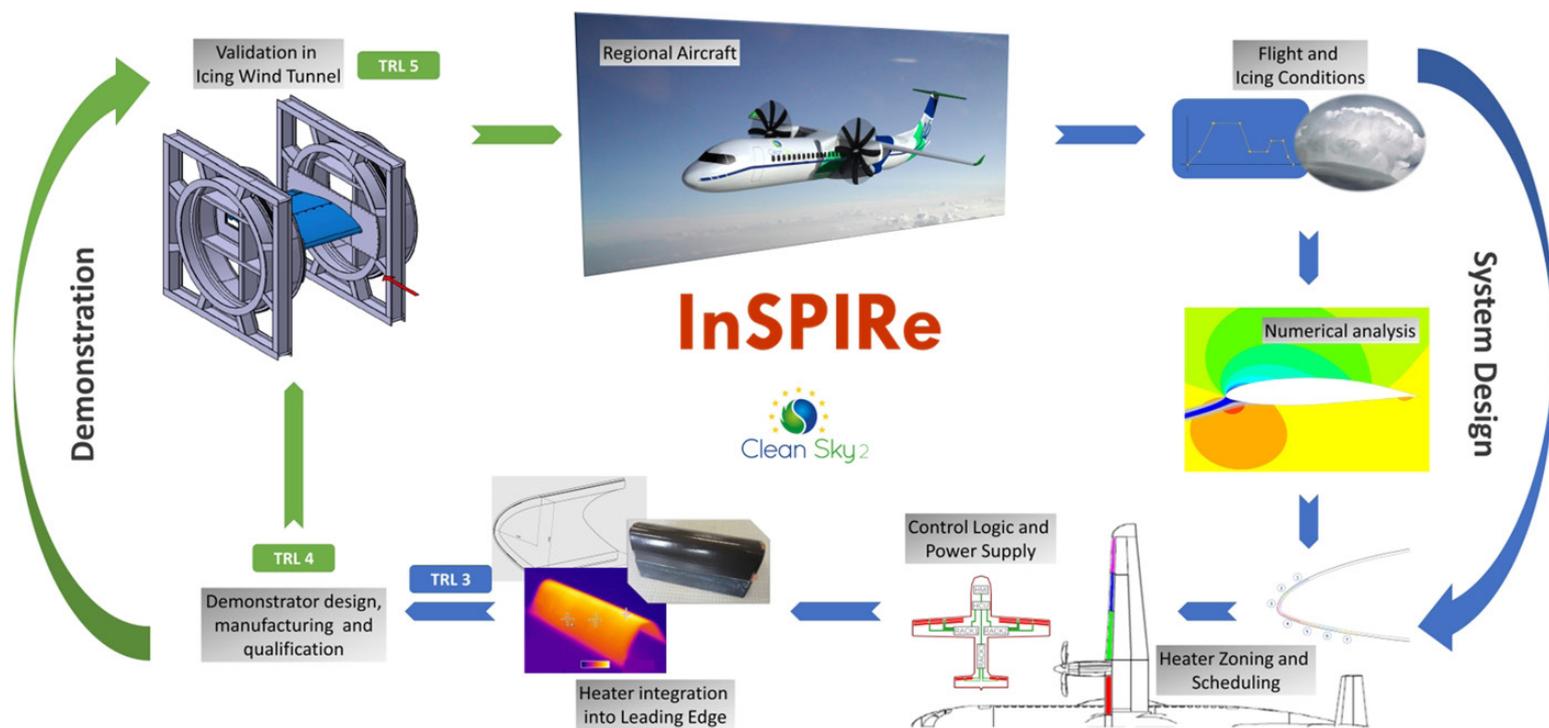
- optimizing the areas that are ice protected and their power distribution in the morphing leading-edge;
- optimizing the heater scheduling and the control logic;
- exploring the potential for removing the energy intense parting strip to minimize power consumption for a thermal de-ice system to be suitable for a Regional platform;

- applying an innovative, light weight, highly reliable and durable electrothermal technology integrated into the LE composite structure.

Performance verification is pursued by means of an Icing Wind Tunnel (IWT) test campaign to contribute to reaching TRL5 for the selected IPS technologies.

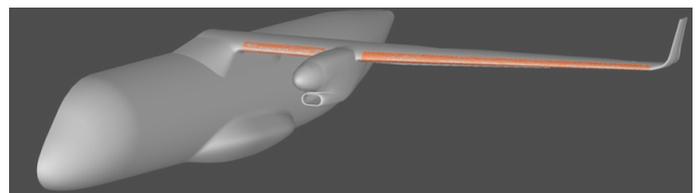


InSPIRe Tests



FACTS

- InSPIRe - Innovative Systems to Prevent Ice on Regional Aircraft
- Programme: H2020, CleanSky2, JTI-CS2-2017-CFP06-REG-01-09
- Funding agency: European Commission
- Duration of project: 03/2018 – 12/2022
- Project coordination: AIT Austrian Institute of Technology



PROJECT PARTNERS

- Villinger GmbH
- Peak Technology GmbH
- AeroTex UK LLP
- CEST Kompetenzzentrum für Elektrochemische Oberflächentechnologie GmbH



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