



### LESAF PROJECT

The aim of LESAF project is to propose low-profile and highly efficient electronically steerable antenna solutions for the next generation of **In-Flight Connectivity** services in the horizon 2022-2025.

This will be achieved through the definition of requirements, system analysis, technology assessment, prototyping and validation of the proposed electronically steerable antenna approach. It will be demonstrated that this type of antennas can meet the stringent requirements imposed by the aviation market while bringing superior benefits over their alternative technological solutions.



[WWW.H2020-LESAAF.EU](http://WWW.H2020-LESAAF.EU)

### PROJECT COORDINATOR

Mr. Manuel J. González  
[mjgonzalez@ttinorte.es](mailto:mjgonzalez@ttinorte.es)

The project leading to this application has received funding from the Clean Sky 2 Joint Undertaking under the European Union's Horizon 2020 research and innovation programme under Grant Agreement No. 887197



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for Research & Innovation



**Disclaimer.** The present work reflects only the LESAF Consortium view and the European Commission and Clean Sky 2 JU are not responsible for any use that may be made of the information contained in this paper.

Ver. 092022



**LOW-PROFILE/DRAW ELECTRONICALLY STEERABLE  
ANTENNAS FOR IN-FLIGHT CONNECTIVITY**

# LESAF

## CONSORTIUM

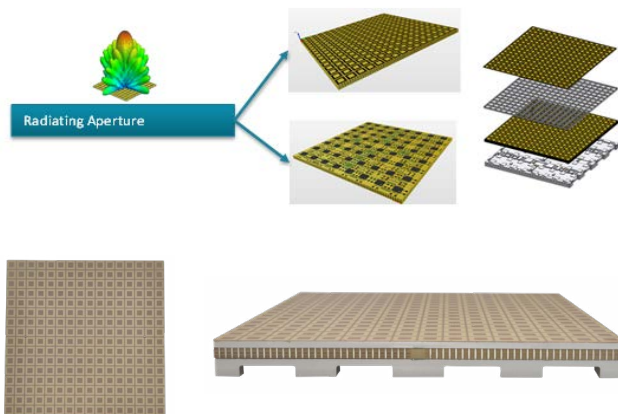
According to the structure defined in Clean Sky initiatives, LESAF consortium is comprised by TTI (project leader) & Celestia UK (project partner) with the participation of a Topic Manager (Thales UK).



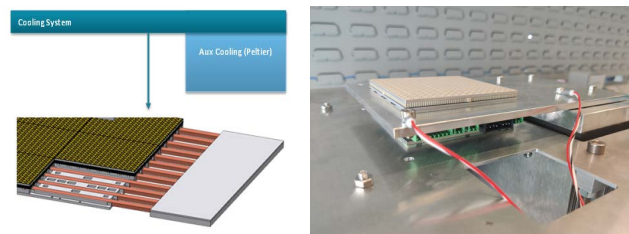
## FROM DESIGN TO TILE DEMONSTRATOR

LESAF approach is an electronically steerable antenna (ESA) based on a flat phased array panel with RF beamformers. The modular construction enables a flexible integration and high reconfigurability of the aperture.

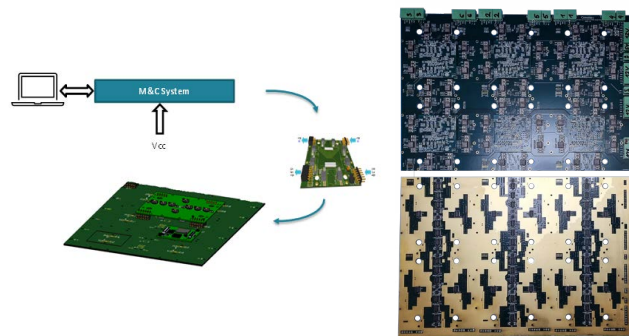
Radiating aperture (beam former integrated):



Cooling system:



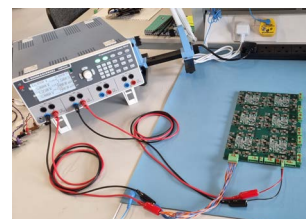
Monitoring & Control:



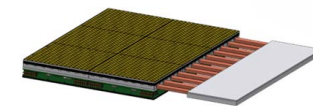
## TILE TESTING & DEMONSTRATOR

Tile validation and calibration stages are completed. Integration into demonstrator and final validation soon.

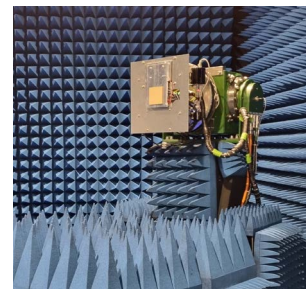
M&C system validation:



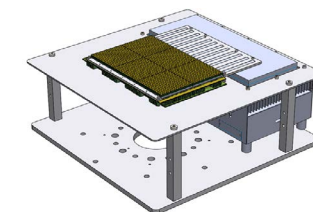
Tx demonstrator:



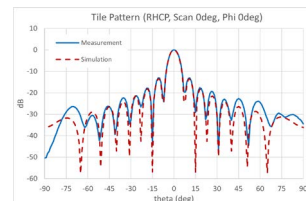
Tile testing in anechoic chamber:



Tx demonstrator:



Tile pattern:



LESAF terminal:

