About HERA

Aviation has, slowly but steadily, taken the path of decarbonization toward sustainable sources of energy. In addition, there is a considerable increase in the use of regional AirCrafts (A/Cs) providing effective connections on essential routes without discontinuity. For these reasons, regional aviation is expected to form the foundation of future aerial mobility which is about to change unprecedently.

To achieve 50% of GHG reduction by 2035

Passenger number 50-100 Typical distances < 500 km

HERA aims to identify and trade off the concept of a regional A/C, serving the need for sustainability. The high-level goals are, first, to develop the required A/C-level technologies and, second, to integrate the required enablers to meet the 50% less technology-based Green House Gas (GHG) emissions. The HERA A/C will include hybrid-electric propulsion based on batteries or fuel cells, as energy sources, supported by Sustainable Aviation Fuels (SAF) or hydrogen burning for the thermal source, to reach up to 90% lower emissions.

Our TEAM

LEONARDO, AIRBUS, CIRA, DLR, DEE FIND, easn, Fraunhofer, Avio Aero, hit09, AERTEC, Collins Aerospace, Honeywell, IAI, INCAS, MTU Aero Engines, nlr, ONERA, PIAGGIO AEROSPACE, Politecnico di Torino, Rolls-Royce, SIEMENS, TU Delft, Università degli Studi di Napoli Federico II, Politécnica, University of Patras, SAFRAN, Łukasiewicz Institute of Aviation, inegi, almadesign, AERnnova, iSQ, THALES, protom, AEROMECHS, UNIFIED INTERNATIONAL, ISAE SUPAERO, institute IMdea, POLITECNICO MILANO 1863, ATR, University of Nottingham UK | CHINA | MALAYSIA

Connect with HERA

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- 48 months
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Design by: EASN-TIS

"Designing the third-era of Aviation"

HERA

HYBRID-ELECTRIC REGIONAL ARCHITECTURE

CLEAN AVIATION
Co-funded by the European Union

HERA Objectives

- To define the potential **hybrid-electric regional (HER) A/C concept** targeting 2035 Entry Into Service (EIS) including **key performance**, **architectures**, systems enabling **hybrid-electric propulsion**, and new power sources.
- To provide the real-scale **demonstrators -in-flight and on-ground-** to be performed after 2025 in Clean Aviation supporting the hybrid-electric **validation at high Technology Readiness Levels (TRL)** of the widest set of solutions useful to support the next development of an actual regional A/C.

HERA Methodology

HERA will perform two main parallel and complementary technical activities:

1 Phase — **Definition of the HER A/C concept targeting 2035 EIS**

2 Phase — **Definition and assessment of real-scale demonstrators in - flight and on - ground to be performed after 2025.**

The combination of the two technical activities will result in the typical A/C design steps to select the HERA configuration for 2035 EIS.

ROADMAP
toward a Hybrid-Electric Regional Aircraft for 2035 EIS