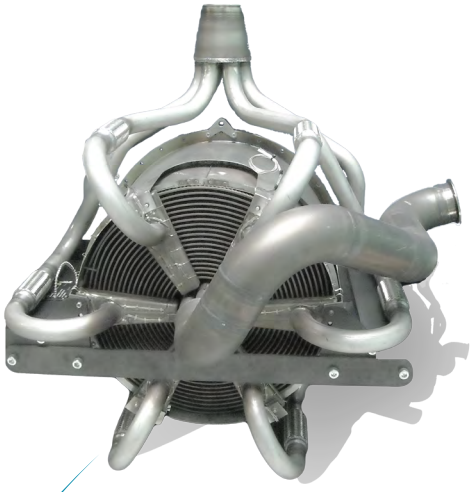
Use of a Heat Recuperator | Aircrafts and Aerospace test bench



Aeronautic Applications

www.cleansky.eu | The Clean Sky JTI aims to significantly increase the environmental performances of airplanes and air transport. Within this project ACTE was in charge of designing and manufacturing an air-to-air heat exchanger directly installed in a gas turbine exhaust nozzle. In the final application, the heat exchanger will withdraw the heat from the exhaust gases and it will heat up the "hot loop" of a secondary thermodynamic cycle (bottom cycle).

OVERVIEW

Date | 2014

Sector | Aircrafts

Challenge | Combine lightweight compactness and high effectiveness

Solution | Full tailored solution

Sector and Valorization Review

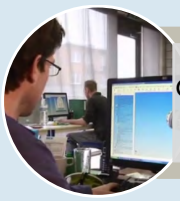
In aeronautic, a heat recuperator may be required for several uses. In this case, it was expected to bring the heat to a secondary thermodynamic cycle aimed at increasing the overall environmental performance of an aircraft.

In order to be effective, such an application implies major constraints:

- Resist to major thermal shocks during start up
- Achieve high effectiveness
- Enable optimum integration
- Guarantee low maintenance costs
- Fit with specific requirements of the transport field : compactness, weight...

Benefits offered by the solution

The full tailored solution has been designed to perfectly fit with the gas turbine



The strain resistance has been studied to ensure the design would match with the expected lifetime

The prototype design has been thought to be compatible with a high quality mass manufacturing

The lightweight maximizes the fuel consumption decreasing while the compactness allows floor space saving

For more details info@acte-sa.be