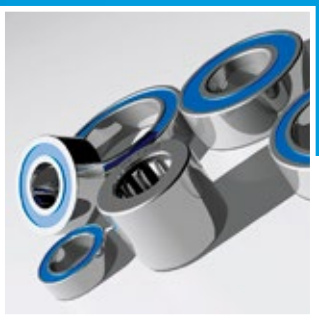
13 | CALL 03

SW_ICS

Skywin
Aerospace cluster of Wallonia

Intelligent Cooling System

2008-2013



Axe(s)

Embedded Systems
Modeling
& Simulation

Industries

Techspace Aero
EHP
Nanocyl

Research Bodies

Cenaero
Von Karman
Institute
ULg
ULB
ERM

Total Budget

6,5 M€

Type

R&D

This project will identify and develop cooling architectures and technologies to meet the needs of future engines. Efforts will be divided into three main areas, each corresponding to a major evolution of needs and constraints:

- thermal management: future engines evolutions will generate more heat sources whilst reducing the cold sources;
- recovery system: the revolution introduced by the arrival of sealed joints in bearings casing enables the removal of ventilation;
- power conditioning: engine evolutions will lead to change cooling requirements depending of the phase of flight.

Activities throughout the ICS project aim to:

- Quantify cooling needs evolution;
- Identify cooling architectures that meet new engines requirements,
- List and select the cooling technologies,
- Identify hard points / major risks associated with these technologies,
- Solve or eliminate hard points through studies and partial tests
- Develop CAE tools that fit test data related to these technologies.