Project acronym: **CESAR**
Project name: **Cost-Effective Small AiRcraft**

The project of 6th Framework Programme supported by European Commission
Contract number: 30888

Number of participants: 39 organizations from 14 countries

Total budget (€): 33.7 million
EC subsidy (€): 18.1 million

Project abstract:

CESAR focuses on small-size commercial aircraft providing manufacturers with an enhanced ability needed to become fully competitive in the world market. The objective is to build up a new development concept for this aircraft category and to improve selected technologies enabling a significant reduction of the time-to-market and lowering the overall development, operation and maintenance costs, while considering safety, passenger comfort and environmental impact.

The project consists of five RTD areas sufficiently covering the complexity of the aircraft design process, namely aerodynamic and structural design, propulsion integration, aircraft system optimisation and design integration aspects. In particular CESAR aims at enhancing aerodynamic and structural design tools and structural evaluation methods. RTD work comprises development, validation and integration of design tools and methodologies to provide suitable environment for virtual aircraft simulation. Enhancement of design processes, knowledge management and collaboration tools is an essential part of the project.

Another important part of the project is technological development for aircraft subparts and systems. The CESAR aspires to provide technologies and knowledge for advanced wing, competitive and environmentally acceptable propulsion unit and new technologies for selected aircraft systems to reduce aircraft operating costs and improve safety.

The activities also include the integration of the latest technologies already applied to large commercial aircraft and their modified economical use within the category of small-size commercial aircraft, e.g. cost effective actuation, complex power-plant control system, competitive technologies for air systems, structural health monitoring and on condition maintenance systems.

Validation is carried out on two levels: a) on the task level (hardware platforms), b) on the project level (two baseline a/c configurations for assessment and trade offs).