

STS01: MULTI-PHYSICS GREEN CHALLENGES IN AERONAUTICS: THE EC GRAIN2 EU-CHINA NETWORKING PROJECT

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OBJECTIVES

The rapidly growing air transport in China and the high air transport density already today in Europe stimulate both, Europe and China to undertake joint effort in research and innovation for greener aviation in order to reduce the impact of Emissions, CO₂ and Noise on the environment..

In order to achieve significant progress towards the identified targets, efforts in green technologies will be directed to three major lines: Air vehicle, Air Traffic Management System and Sustainable Energies.

In this STS Greening Technologies will be addressed in the following three critical areas:

- i) Greening technologies for aircraft and aero-engines;
- ii) Greening the operational environment;
- iii) Reducing the carbon footprint of aviation via sustainable alternative fuels

GRAIN2, a Networking green leverage EC project in the new context of the Flight Path 2050 Vision for Aircraft, aims to identify innovative RTD methods, design tools and a high-performance computer (HPC) based simulation environments in the different Key Green Technology (KGTs) areas according to the needs of the aeronautics industry:

The lectures delivered by European and chinese GRAIN2 experts will review the technologies each partner is already developing to promote **greener aeronautics**, while linking the presentations with the most promising developments which will maximize benefits and minimize impact on the environment .

Presentations will be delivered in the four following major multi-physics disciplines.

- Propulsion related technologies
- Flight physics and aero-acoustics
- Environmentally friendly materials and advanced structures
- Advanced CNS/ATM systems for sustainable air transport