HEXAFLY-INT
Project ID: 620327
Funded under: FP7-TRANSPORT

High-Speed Experimental Fly Vehicles - International

From 2014-04-01 to 2019-03-31, closed project

Project details

<table>
<thead>
<tr>
<th><strong>Total cost:</strong></th>
<th>Topic(s):</th>
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<tbody>
<tr>
<td>EUR 11 544 935,40</td>
<td>AAT.2013.8-2. - International cooperation on civil high speed air transport research</td>
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<tr>
<th><strong>EU contribution:</strong></th>
<th>Funding scheme:</th>
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<tr>
<td>EUR 5 000 000</td>
<td>CP-FP - Small or medium-scale focused research project</td>
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<th><strong>Coordinated in:</strong></th>
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<tr>
<td>France</td>
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Objective

The HEXAFLY-INT project aims to flight test an experimental vehicle above Mach 7 to verify its potential for a high aerodynamic efficiency during a free-flight while guaranteeing a large internal volume. The feasibility for a 3m long vehicle was demonstrated during the European L0 precursor project HEXAFLY. Its realization will now be enabled on an international scale underlining the need for global cooperation in case of a future deployment of a high-speed cruiser.

This flight opportunity will increase drastically the Technology Readiness Level of developments realized in previous high-speed EC projects such as ATLLAS I & II and LAPCAT I & II. The different technologies and methodologies which need experimental flight testing at high speed are grouped around the major axes of HEXAFLY-INT:

1. High-Speed Vehicle Concepts
2. High-Speed Aerodynamics
3. High-Temperature Materials and Structures
4. High-Speed Flight Control
5. High-Speed Environmental Impact

To realize this experimental flight test, different consecutive steps are planned each followed by a critical review together with international partners:

- updated of the mission profile based upon the feasibility study
- a detailed design of a high-speed experimental flight vehicle
- selection and manufacturing of ground-tested technologies and systems
- assembly, integration and testing of the experimental flight test vehicle
- identification and procurement of the most promising flight platform(s)

The design of the experimental high-speed cruise vehicle will be the main driver and challenge in this project with following scientific objectives:

- an aerodynamic balance at a cruise Mach number higher than 7
- an integrated conceptual design demonstrating a combined volumetric and aerodynamic efficiency
- making maximum use of developed advanced high-temperature materials

Related information

<table>
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<tr>
<th><strong>Report Summaries</strong></th>
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<tr>
<td>Periodic Report Summary 1 - HEXAFLY-INT (High-Speed Experimental Fly Vehicles - International)</td>
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<tr>
<td>Periodic Report Summary 2 - HEXAFLY-INT (High-Speed Experimental Fly Vehicles - International)</td>
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</table>
Coordinator

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