Reducing Emissions from Aviation by Changing Trajectories for the benefit of Climate

From 2010-01-01 to 2014-04-30, closed project

Project details

<table>
<thead>
<tr>
<th>Total cost:</th>
<th>Topic(s):</th>
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<tbody>
<tr>
<td>EUR 4 166 717,68</td>
<td>AAT.2008.1.3.1. - Flight and Air Traffic Management</td>
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<tr>
<th>EU contribution:</th>
<th>Call for proposal:</th>
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<tr>
<td>EUR 3 195 555</td>
<td>FP7-AAT-2008-RTD-1</td>
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| Coordinated in: | Funding scheme: |
|-----------------|-----------------
| Germany         | CP-FP - Small or medium-scale focused research project |

Objective

The collaborative project REACT4C (Reducing Emissions from Aviation by Changing Trajectories for the benefit of Climate) has the objectives: (1) to explore the feasibility of adopting flight altitudes and flight routes that lead to reduced fuel consumption and emissions, and lessen the environmental impact; (2) to estimate the overall global effect of such ATM measures in terms of climate change. For a set of typical weather situations, 4D (location and time) cost functions will be determined that reflect the environmental and climate impact of aviation emissions. Current operational flight planning tools will be extended to account for environmental effects via these cost functions. Flight trajectories will be calculated for several optimisation targets: operational, economic and environmental. The associated impacts on the environment will be calculated. Practical rules for an environmentally friendly flight planning will be deduced. Concepts of future (green) aircraft that will be adapted and optimised for the new environmentally compatible flight routing will be developed and the associated mitigation gain of such aircraft will be estimated in terms of environmental and climatic impact. Finally, the results will be disseminated to stakeholders in the aviation sector, the science community and the general public, and the results will be prepared for further exploitation.

Related information

<table>
<thead>
<tr>
<th>Result In Brief</th>
<th>Optimising flight trajectories for greener skies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Report Summaries</td>
<td>Final Report Summary - REACT4C (Reducing Emissions from Aviation by Changing Trajectories for the benefit of Climate)</td>
</tr>
</tbody>
</table>
Coordinator

DEUTSCHES ZENTRUM FUER LUFT - UND RAUMFAHRT EV

Linder Hoehe
51147 KOELN
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**EU contribution:** EUR 1 339

<table>
<thead>
<tr>
<th>Country</th>
<th>EU contribution</th>
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<tr>
<td>Germany</td>
<td>EUR 1 339</td>
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</tbody>
</table>

**Activity type:** Research Organisations

**Administrative contact:** Rita Lais
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Contact the organisation

Participants

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**EU contribution:** EUR 197

<table>
<thead>
<tr>
<th>Country</th>
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<td>France</td>
<td>EUR 197</td>
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</table>

**Activity type:** Private for-profit entities (excluding Higher or Secondary Education Establishments)

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**EU contribution:** EUR 496

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<td>Norway</td>
<td>EUR 496</td>
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**Activity type:** Research Organisations

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EU contribution: EUR 332 721,61

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EU contribution: EUR 322 682,83

Activity type: Higher or Secondary Education Establishments

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EU contribution: EUR 72 000

Activity type: Public bodies (excluding Research Organisations and Secondary or Higher Education Establishments)

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Activity type: Higher or Secondary Education Establishments

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Subjects

Aerospace Technology

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