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

Fact Sheet

Project Information

REACT4C
Grant agreement ID: 233772
Status
Closed project
Start date
1 January 2010
End date
30 April 2014

Funded under
FP7-TRANSPORT
Overall budget
€ 4 166 717,68
EU contribution
€ 3 195 555
Coordinated by
DEUTSCHES ZENTRUM FUR LUFT - UND RAUMFAHRT EV
Germany

This project is featured in...

RESEARCH*EU MAGAZINE
Water of life: desertification, access to clean water

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.

Field of science

/engrégineering and technology/mechanical engineering/vehicle engineering/aerospace engineering/aircraft

Programme(s)

Topic(s)

Call for proposal

FP7-AAT-2008-RTD-1

Funding Scheme

CP-FP - Small or medium-scale focused research project

Coordinator

DEUTSCHES ZENTRUM FUR LUFT - UND RAUMFAHRT EV

Address

Linder Hohe
51147 Koln

Activity type

Research Organisations

EU contribution

€ 1 339 117,74
Participants (7)

**AIRBUS OPERATIONS SAS**  
France  
EU contribution  
€ 197 373,15  
Address  
Route De Bayonne 316  
31060 Toulouse  
Activity type  
Private for-profit entities (excluding Higher or Secondary Education Establishments)

**CICERO SENTER KLIMAFORSKNING STIFTELSE**  
Norway  
EU contribution  
€ 496 250,20  
Address  
Gaustadallèen 21  
0349 Oslo  
Website  
Contact the organisation

**EUROCONTROL - EUROPEAN ORGANISATION FOR THE SAFETY OF AIR NAVIGATION**  
Belgium  
EU contribution  
€ 332 721,61  
Address  
Rue De La Fusée 96  
1130 Bruxelles  
Activity type  
Research Organisations
THE MANCHESTER METROPOLITAN UNIVERSITY
United Kingdom
EU contribution
€ 322 682,83
Address
Oxford Road All Saints Building
M15 6BH Manchester
Website
Contact the organisation
Administrative Contact
Burkhart Von Erlach (Mr.)

MET OFFICE
United Kingdom
EU contribution
€ 72 000
Address
Fitzroy Road
EX1 3PB Exeter
Website
Contact the organisation
Administrative Contact
David Jones (Dr.)

UNIVERSITA DEGLI STUDI DELL'AQUILA
Italy
EU contribution
€ 223 200,40
Address
Piazza Santa Margherita 2
67100 L Aquila
Contact the organisation
Administrative Contact
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**Website:** [Contact the organisation](#)

**Administrative Contact**

Adam Bell (Mr.)

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**Last update:** 1 August 2019  
**Record number:** 93557  

**Permalink:** [https://cordis.europa.eu/project/id/233772/](https://cordis.europa.eu/project/id/233772/)

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