CREATE project places together organizations and experienced institutions in the field of research and Air Traffic Management

Italian Aerospace Research Centre

UNIVERSITAT POLITÈCNICA DE CATALUNYA BARCELONATECH

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CREATE – project

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A European research project aiming at achieving innovative procedures in ATM to reduce climate and environmental impact, while becoming more resilient to weather phenomena.

cReate

Climate and weatheR modEls to improve ATM resiliencE and reduce its impacts

Air operations use weather information (visibility, wind, precipitation) to make the air traffic flow safe, continuous and efficient. Runway choice, arrival and departure routes are all affected by local weather. As climate changes are ongoing, with larger variability in local phenomena, available information on the weather on short and longer notice are increasing and technology is being improved to use this information.

CREATE studies and implements innovative procedures of ATM to reduce climate and environmental impact and to become more resilient to weather phenomena.

CREATE OUTPUTS

- Multi-scale multi-pollutant air quality system software
- Multi-aircraft environmentally-scored weather-resilient optimized 4D-trajectories in the flight execution phase
- CO2 and non-CO2 balanced Environmental Scores Module

CREATE BENEFITS

The project shows how environmental impacts of ATM operations can be reduced during different flights phases, in particular in TMA & en-route operations. Its results contribute to define recommendations and new climate/environmental assessment methodology to be considered in the future ATM.

CREATE OBJECTIVES

- Study ATM vulnerability with respect to weather phenomena to improve ATM procedures and reducing vulnerability
- Study the impact of aviation on the environment both on short and long term (climate)
- Propose ATM operational changes reducing such impact
- Study new meteo tools and methodologies, integrating their use in ATM
- Validate proposed ATM operational changes to reduce ATM environmental impact and improve ATM resilience with respect to weather