

Small and medium scale collaborative EU project (CP-STREP)

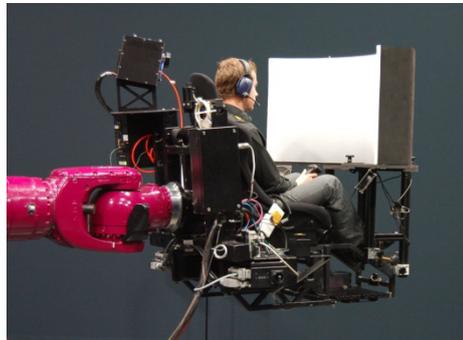
Project duration: 1.1.2011 - 31.12.2014 (4 years)
EU Programme: Aeronautics and Air Transport (AAT)
FP7-AAT-2010-RTD-1

Abstract

Considering the prevailing congestion problems with ground-based transportation and the anticipated growth of traffic in the coming decades, a major challenge is to find solutions that combine the best of ground-based and air-based transportation. The optimal solution would consist in creating a personal air transport system (PATS) that can overcome the environmental and financial costs associated with all of our current methods of transport.

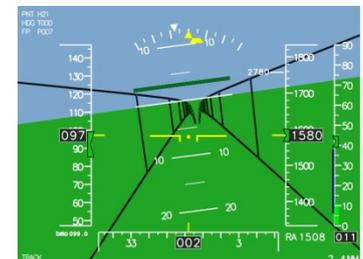


We propose an integrated approach to enable the first viable PATS based on Personal Aerial Vehicles (PAVs) envisioned for travelling between homes and working places, and for flying at low altitude in urban environments. Such PAVs should be fully or partially autonomous without requiring ground-based air traffic control. Furthermore, they should operate outside controlled airspace while current air traffic remains unchanged, and should later be integrated into the next generation of controlled airspace.



Simulators used during the project.

The myCopter project aims to pave the way for personal aerial vehicles (PAVs) to be used by the general public within the context of such a transport system. The project consortium consists of experts on socio-technological evaluation to assess the impact of the envisioned PATS on society, and of partners that can make the technology advancements necessary for a viable PATS. To this end, test models of handling dynamics for potential PAVs will be designed and implemented on unmanned aerial vehicles, motion simulators, and a manned helicopter. In addition, an investigation into the human capability of flying a PAV will be conducted, resulting in a user-centred design of a suitable human-machine interface (HMI). Furthermore, the project will introduce new automation technologies for obstacle avoidance, path planning and formation flying, which also have excellent potential for other aerospace applications. This project is a unique integration of social investigations and technological advancements that are necessary to move public transportation into the third dimension.





Unmanned aerial vehicles used during the project.

Consortium

- Max-Planck-Institut für Biologische Kybernetik, Tübingen (DE) - Co-ordinator
- The University of Liverpool (UK)
- Ecole Polytechnique Fédérale de Lausanne (CH)
- Eidgenössische Technische Hochschule Zürich (CH)
- Karlsruher Institut für Technologie (DE)
- Deutsches Zentrum für Luft und Raumfahrt - DLR (DE)

Contact

Prof. Dr. Heinrich H. Bühlhoff
Director of the Department "Human Perception, Cognition and Action"
Max-Planck-Institut für Biologische Kybernetik
Spemannstr. 38
D - 72076 Tübingen
Phone: +49-7071-601-601
E-Mail: heinrich.buelthoff@tuebingen.mpg.de

Project funded by the European Union under the Seventh Framework Programme

