BROADBAND VHF AERONAUTICAL COMMUNICATIONS SYSTEM BASED ON MC-CDMA (B-VHF)

From 2004-01-01 to 2006-06-30

Project details

| Total cost: | EUR 2 933 939 |
| Topic(s): | AERO-2003-1.3.1.3b - Accident prevention |
| Coordinated in: | Austria |
| EU contribution: | EUR 1 840 172 |
| Funding scheme: | STREP - Specific Targeted Research Project |

Objective

Air transport has been identified as a dominant factor for sustainable economic growth of the European Union. The "Vision 2020" clearly points out the cornerstones of a future air transport system and the Advisory Council for ATM Research in Europe (ACARE) elaborates these requirements in depth in their "Strategic Research Agenda. The key element for achieving an Air Transport System that is capable of meeting future demands is A/G communication. Today, DSB-AM is used for aircraft separation and guidance, a VHF communications technology, which has been introduced in the '40s and utilises the available spectrum in a highly inefficient manner. Eurocontrol Communications Strategy indicates the need of alternative communications systems as the saturation point of the current system is reached around 2015 even with full VDL Mode 2 and 8,3kHz deployment. The B-VHF project conducts bottom up research on multi-carrier technology (MC) for aeronautical communications in the VHF band for a future MC broadband VHF (B-VHF) system. The baseline technology is MC-CDMA; a highly innovative, high capacity communications technology also discussed for fourth generation (4G) mobile communications systems. MC-CDMA has the potential to exploit the mobile aeronautical channel better than any currently discussed VHF communication alternative. It increases voice and data capacity and addresses security and safety issues with a service level unknown to the aeronautics user today. Moreover, MC-CDMA has the potential to preserve the excellent cost performance of the VHF band as it may be applied as an overlay system and co-exist with the existing VHF infrastructure, thus providing smooth transition and rollout scenarios. The B-VHF project aims at identifying MC-CDMA as the still missing European approach for the future ATM VHF communication system that supports Single European Sky and the Free-flight concept and leads far beyond 2015 into vision 2020'

Related information

Report Summaries

Final Report Summary - B-VHF (Broadband VHF aeronautical communication system based on MC-CDMA)
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