Challenges for the Communication Environment and Communication Concept for Remote Airport Traffic Control Centres

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Abstract:

In cooperation with experts of the German air traffic control service provider Deutsche Flugsicherung GmbH, researchers of the chair of cognitive psychology and cognitive ergonomics at Berlin Institute of Technology are currently working on the development of a communication environment and a communication concept for the simultaneous remote control of several regional airports during times of marginal traffic. One of their main research questions deals with the identification of factors contributing to the preservation of the required safety level for the new communication environment. For example, it is investigated how the spatial arrangement of different communication media influences the accuracy and celerity of mapping acoustic signals to different airports. The paper presents a summary of the ongoing research project, including a presentation of selected results obtained during an analysis of today's tower communication. In addition, an overview of relevant theoretical aspects from the area of cognitive psychology for a first empirical study is given.

Keywords: remote airport traffic control centre, communication environment, attention allocation, divided attention, acoustical localisation, situation assessment, situation awareness.