Invited Talk  
CNS’13 & MMS’13 Joint Session, Invited Talk and Presentation 

Visions of the Future Aeronautical Data Network

Dr. Max Ehammer  
Department of Computer Science  
Salzburg University,  
Salzburg, Austria  
mehammer@cosy.sbg.ac.at

Abstract
Operations relevant for air traffic management are based on procedures communicated through speech commands. These procedures are human centric, thus un-automated. Following predictions of air traffic growth forecasts, air traffic will increase no matter which forecast model is taken into account. High density air traffic areas become inefficient to handle through un-automated procedures. As a result air traffic management requires support of automated and consequently data based processes. Such processes could only be supported if data communication services are offered homogeneously in relevant areas. That is, data link and network services have to be interoperable on a worldwide basis. Currently large scale industry consortia in Europe and the United States are focusing on increasing efficiency of air traffic management through advanced concepts based on data communication applications. These activities demand a lot of coordination amongst participating organizations in order to achieve technical, economical, and political consensus amongst all partners. This talk will address the status quo of aeronautical data communication services, visions of possible emerging aeronautical data links, and the integration of these data links into an all IP based communication system relevant for air traffic management and operations, respectively. The presented topics are based on recent studies showing not only simulation results but also results from flight trials.

Dr. Max Ehammer studied computer science at Bowling Green State University, Ohio, USA, where he received his MSc in 2004. In 2005, he joined the Aeronautical Digital Communication (ADC) group of the University of Salzburg, Austria, where he received his Ph.D. degree in 2012. His main research interests are the implementation, evaluation, and interaction of communication protocols for data link, network, security, and transport services. He is involved in several research projects conducted for the European Commission, the European Space Agency, or the SESAR Joint Undertaking.

http://www.aero.sbg.ac.at/