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CS-Colloquium

Critical Infrastructure Protection: An Aviation Cybersecurity Perspective

mit Prof. Dr. Olaf Maennel, MSc (Tallinn University of Technology, Estland)

Wann? 4. Juli, ab 09:00 Uhr
Wo? Hörsaal 2 (HS2), Fakultät für Informatik
Währinger Straße 29
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Abstract

The aviation industry has embraced a safety-oriented culture probably more than any other transport sector. However, from a cybersecurity perspective it is increasingly vulnerable. Previously separate systems are now being interconnected in order to enhance efficiencies, reduce costs and improve the customer experience. However, this exposes new vulnerabilities that may be exploited by a variety of threat actors. These range from nation states to cyber criminals who will see aviation as an attractive target for financial gain, invading privacy or just creating chaos. Airport systems running commercial software are also at risk from indiscriminate attacks targeting any insecure Internet connected network that can be remotely accessed.

The unique attributes of the aviation sector serve as a good example of how cybersecurity research needs to develop systems able to resist and counter multiple attack vectors. These have the potential to be also applied across a range of other critical national infrastructures with similar cyber risks that must be effectively and comprehensively mitigated. In our research we demonstrate that securing the aviation industry requires a holistic and wide-ranging approach incorporating aspects from both technical and social science disciplines. This will be illustrated by looking at some of the challenges encountered from a range of cybersecurity exercises & training programmes.

Bio

Olaf Maennel is a Professor of Cybersecurity at the Tallinn University of Technology (TalTech), Estonia. He graduated from the Technical University Munich in 2005 and subsequently held appointments at the

University of Adelaide in Australia and Loughborough University in the UK. In 2014 he joined the Centre of Digital Forensics and Cybersecurity at TalTech. His research interests include network security, network forensics, cybersecurity education (focusing on red-teaming and learning through exercises), cyber capability profiling & assessment, human factors aviation & maritime cybersecurity. He has been co-chairing ACM SIGCOMM 2015, ACM IMC 2017, and four Interdisciplinary Cyber Research workshops (ICR). He chairs working group 5.2 at the European Cyber Security Organisation (ECSO) on cyber education and professional trainings, and serves as EU expert evaluator and vice-chair for Horizon H2020 calls. He holds a commercial EASA pilots license with an instrument rating, a FAA certificate, and has a CASA license.