

ROHDE & SCHWARZ

Make ideas real



AIRSPACE WORLD 2023

Join the ATC expert talks at Airspace World

March 08 to 10, 2023
Palexpo Conference Centre
Geneva, Switzerland
Booth E13



Resilient infrastructure to deliver an integrated airspace for the future

Wednesday, 8 March, 2023, 3:30 pm to 3:55 pm, Frequentis Theatre

Abstract:

Skills shortages, evolving cyber threats, the aftermath of a global pandemic and the aviation industry's commitment to be carbon neutral in 2050 pose great challenges for air navigation service providers. At the same time, safety and security are non-negotiable and operations needs to remain efficient and flexible in order to cope with continuous cost pressure. One possible answer to these challenges lies in rapid technological advances and ongoing digitalization of the aviation sector. In this panel discussion, industry experts will share best practices and explore how future technologies will increase the efficiency and resilience of airspace operations.

- ▶ Asia-Pacific: How a nationwide IP based voice communications system increases resilience against natural disasters
- ▶ Central Europe: How mobile ATC radio systems can be quickly deployed by helicopter in a challenging geographical environment / How virtual center technology improves the operational efficiency of air traffic control operations
- ▶ Northern Europe: How trusted partnerships with key technology providers can foster industry collaboration and overcome skills shortages in order to implement future operational concepts
- ▶ Rohde&Schwarz: How emerging technologies such as 5G, LDACS and UTM will further enhance critical infrastructure operations

Increasing air traffic safety through effective drone detection

Wednesday, March 8, 2023, 3:30 pm to 3:55 pm, Duration 25 minutes
Wing Theatre: Delivering an integrated airspace for the future

Speaker **Jan Link**
Product Manager C-UAS Solutions

Bio:

Jan Link is a graduate of RWTH Aachen University, Germany. During his studies, he focused on aeronautical engineering and astronautics and holds a degree in mechanical engineering. Since starting in 2010, he has worked continuously in the drone industry in various positions such as development, sales, support and product management. Since 2019, he has been responsible for product management in the area of Rohde & Schwarz counter drone solutions.

Abstract:

Drones that fly above prohibited areas are an increasing security risk. Remotely controlled drones repeatedly violate personal privacy, boundaries of protected areas and air traffic safety. Regardless of the drone pilot's intention, drones pose a serious safety risk.

A multisensor approach is imperative in nearly all counter-drone scenarios, but it is particularly important in the vicinity of airports. Radar technology is used especially to locate drones in the airspace. However, to locate the pilot, which is the only means to minimize costly downtimes, other technologies are needed. Learn more about remote control signal detection and in particular how to address the challenges encountered in an airport environment.



A future-proof solution: ATC voice quality assurance in IP networks

Thursday, March 9, 2023, 3:00 pm to 3:25 pm, Duration 25 minutes
Frequentis Theatre: Delivering technologies for a safer world

Speaker **Eyal Ullert**
Rohde&Schwarz Senior Development Expert

Bio:

Eyal Ullert is a business development expert for the Rohde&Schwarz advanced voice quality assurance system. He has more than 20 years of experience in telecommunications and international business development. He is regarded as a telecommunications expert in terms of the underlying technology as well as the market aspects. For many years now, he has worked to help companies and organizations migrate to full IP based voice networks.

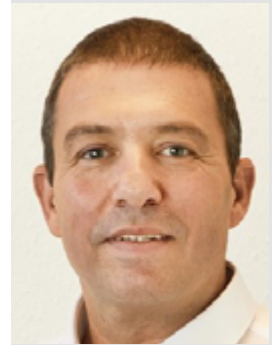
Abstract:

Rohde&Schwarz invests heavily in future technologies and technological advances such as quantum technology, the industrial internet of things, artificial intelligence, cloud technology and 6G.

This drive for innovation contributes to shaping the future of ATC. With a commitment to enabling safe and secure skies, we created the unique R&S®AVQA advanced voice quality assurance system – a non-intrusive IP and RF monitoring and analytics tool.

Voice over IP is increasingly used by ANSPs since old analog networks are becoming obsolete. Migrating communications to this modern infrastructure requires dependable voice quality in these networks. R&S®AVQA provides this assurance, combining powerful analytics and reporting capabilities to allow ANSPs to monitor their voice quality over IP networks.

In addition to quality assurance in the IP infrastructure, R&S®AVQA also provides solid RF infrastructure monitoring capabilities. This helps ANSPs to quickly spot hidden impairments and ensure trouble-free, high-quality communications. Learn more about how innovation helps to solve challenges in critical infrastructure such as ATC along with the benefits provided by the R&S®AVQA advanced voice quality assurance system when migrating to voice over IP.



Extended ground inspection using drone technology for measurements of terrestrial navigation signals – Product launch of the new R&S®EVSD1000

Thursday, March 9, 2023, 3:30 pm to 3:55 pm, Duration 25 minutes
Wing Theatre: Delivering an integrated airspace for the future

Speaker **Klaus Theissen**
Software Economy Analyzer, Avionic Test

Bio:

Klaus Theissen is a product manager for air navigation analyzers at Rohde&Schwarz in Germany and has more than 20 years of experience related to measurement of terrestrial navigation signals. He holds a degree in electrical engineering (Dipl.-Ing., 1993) from the Technical University of Aachen (Germany). He started his career in software development and digital signal processing for NavAids analysis at Rohde&Schwarz in 1994. Besides product management, he became head of software development for economy spectrum analyzers and air navigation receivers in 2020. He has published several papers on terrestrial navigation signal measurements for diverse conferences between 2008 and 2022.

Abstract:

For over 20 years, Rohde&Schwarz has used its unrivaled experience with RF receivers to provide state-of-the-art testing solutions for ground based navigation installations. Rohde&Schwarz customers around the world use the R&S®EVSG1000 and R&S®EVSF1000 for fast, accurate and ICAO compliant measurements of ground and flight inspection applications.

ICAO DOC 8071 Volume I (Testing of ground based radio navigation systems, 5th edition, 2018) mentions RPAS and UAVs for ground inspection tasks. As drones become more and more powerful, there is growing interest in drone based measurement systems all over the world. It is obvious that drone based measurements have clear advantages and can be performed from any position and at higher altitudes than traditional ground based measurements. For example, drone solutions make it easy to perform far-field GP measurements with better reproducibility and improved correlation with flight inspections. Additionally, drone measurement systems are very cost-competitive relative to traditional GP mast solutions.

Drone inspection requires more than just a drone and a receiver: A small and light antenna, a permanent data link to the ground, very precise and lightweight GNSS, and robust immunity to RF interferers inside and outside the drone are also needed, along with low weight and reasonable battery life.

Based on experience with the R&S®EVSG1000 and R&S®EVSF1000, Rohde&Schwarz is now introducing a receiver for drone based measurements: the new R&S®EVSD1000. Even though it is much lighter, it still offers the same performance as the ground and flight inspection models for ILS, VOR and GBAS analysis. Integrated data and IQ recording enable even more detailed analysis, revealing more than just level and DDM values. GNSS and datalink solutions are also available, together with a drone-dedicated antenna and guidelines for smooth integration.

Challenges:

The traditional way of measuring terrestrial navigation signals will shift in the future towards much more flexible and cost-effective drone measurements. Nevertheless, the requirements for accuracy and reliability will remain the same or even become more stringent in the ICAO standards. Therefore, air navigation service providers are increasingly interested in ICAO compliant drone measurement solutions.



Sustainable design of ATC communications systems

Friday, March 10, 2023, 10:00 am to 10:25 am, Duration 25 minutes

Frequentis Theatre: Delivering technologies for a safer world

Speaker

Francesco Gualtieri

Product Manager for Air Traffic Control Radio Communications
at Rohde&Schwarz

Bio:

Francesco Gualtieri is an electronics engineer specializing in telecommunications. He has more than 20 years of experience in aeronautical radio communications. After holding several positions at different companies, he joined Rohde&Schwarz in 2011 where he played a key role in developing the breakthrough R&S®Series5200 VHF and UHF ATC radios.

With diverse experience ranging from product development through active participation in international standardization groups, he will highlight how Rohde&Schwarz is contributing to sustainability in aviation.

Abstract:

“Little drops make the mighty ocean.” An effective near- and mid-term contribution to minimize aviation’s environmental impact is based on many small details.

Rohde&Schwarz plays its role and presents a pragmatic way to contribute towards making aviation sustainable.

Besides strict implementation of established environmental regulations, a forward-looking product design can significantly contribute to minimizing the carbon footprint over the whole lifecycle of current communications systems.

Additionally, Rohde&Schwarz is deeply involved in developing future communications technologies like LDACS that will enable upcoming ATC transformations, i.e. the integration of CNS services.

This will make it possible to implement fuel-saving ATC procedures like 4D trajectories, thus contributing to a reduction in carbon emissions.

What challenges facing our industry are you addressing?

The presentation addresses concrete near- and mid-term solutions to allow ATC communications systems to directly and indirectly help to reduce aviation’s environmental footprint.

