


Rohde & Schwarz has built a strong reputation in this safety-critical sector based on the quality and performance of its solutions



## MAKING AIR TRAVEL SAFER

Today's world holds new challenges for air traffic control, now more than ever before

Constantin von Reden, vice president market segment ATC at Rohde & Schwarz

 Global health crises and natural disasters pose great challenges to ANSPs across the globe. Maintaining high levels of safety and security, especially in air traffic control, is needed, since passenger safety largely depends on the exchange between air traffic controllers and pilots.

Rohde & Schwarz understands that technology is imperative, but being a strong partner is just as important. The company successfully supports ANSPs and other critical infrastructure entities by upgrading their communications infrastructure from voice switching systems to IP-based solutions for safety- and security-critical requirements.

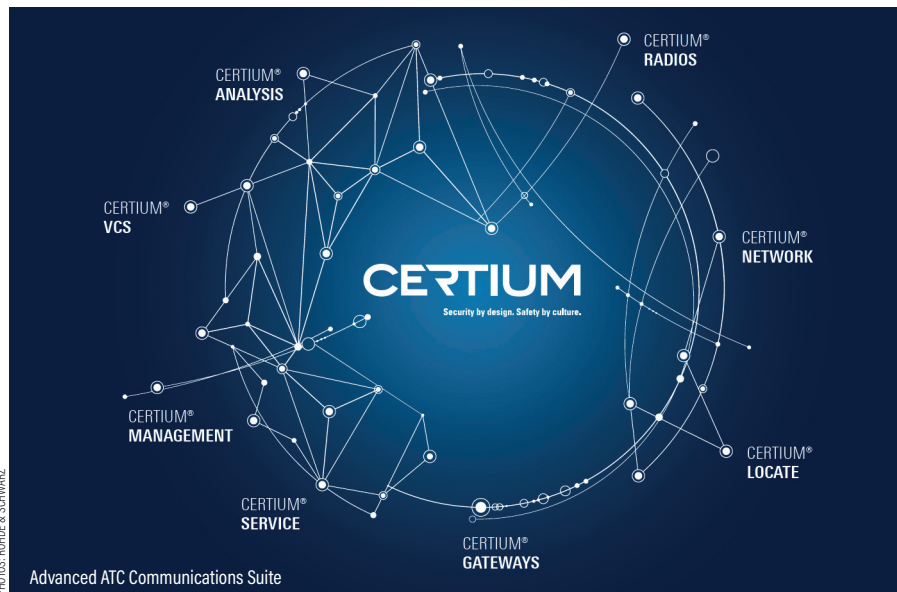
Over the last decade, more than 360 Rohde & Schwarz full VoIP systems in 230 projects in more than 60 countries have been ordered, most of them are deployed and operational today.

### Virtual centres and remote towers

Rohde & Schwarz has a complete portfolio for secure ATC communications under the CERTIUM brand, an advanced IP-based ATC communications suite from the microphone to the antenna. The company offers a one-stop-shop for an ATC communications system – from design, manufacturing, system integration to tailored services for the entire lifecycle.

CERTIUM VCS-4G can be deployed in a quad-redundant decentralized architecture, divided into main and contingency environments, providing maximum resilience and offering Virtual Centre and remote tower capabilities with neighbouring ACCs/RTCCs.

In order to optimise operations, for example the Irish (IAA) and Icelandic (ISAVIA) ATC authorities are using a virtual centre setup powered by Rohde & Schwarz, part of the CERTIUM ecosystem. It allows air traffic controllers at either control centre to fully or partially take over the duties of the



PHOTOS: ROHDE & SCHWARZ

other centre for communication between the aircraft and the controller and to flexibly shift the workload between them irrespective of which route the aircraft are taking.

As a central part of CERTIUM, the very compact R&S Series5200 radio combines a secure, redundant and flexible architecture with excellent RF performance for today's and tomorrow's ATC communications. It follows a strict security-by-design approach.

There is much more to CERTIUM than just communications. It also encompasses other technologies, like monitoring radio networks, helping to identify disturbances and interferences so they can be safely eliminated. Improved situational awareness is made possible by Rohde & Schwarz direction finder and location solutions, which report the precise position of a pilot talking to air traffic controllers.

### IP-based communications

Communications systems for flight operations are increasingly going digital because they ensure improved fault safety and relieve some stress on air traffic controllers. Ultimately, IP-based communications is secure only when it is

implemented correctly and adequately protected against manipulation and undesirable interference. CERTIUM protects ATC communications networks against cybersecurity threats and has been developed with "security by design" principles.

Rohde & Schwarz has built a strong reputation in this safety-critical sector based on the outstanding quality and performance of its solutions. However, cyber-attackers can exploit ATC systems. To stay successful in this market, Rohde & Schwarz' technological developments meet the challenge of cyber-threats and there has been significant investment in this key aspect of the ATC solution. To help meet this challenge the company develops quad-redundant systems. If one part of the system fails, another part automatically takes over, prioritising absolute safety and security for our customers.

### A long-term solution

As systems are in operation for long periods of time they have to be regularly updated and adapted to new technological developments. Rohde & Schwarz offers comprehensive services throughout all phases of the project



The R&S Series 5200 radio represents the next generation of VHF and UHF radios for ATC communication, increasing system security with a new security-by-design architecture

lifecycle. The company works closely with customers to regularly reflect innovations focused on the customer's needs.

The Rohde & Schwarz team provides on site assessments and concept development. The company's engineers provide detailed system design for all systems. For long-lasting, error-free operation, Rohde & Schwarz offers professional on site installation following its strong quality requirements. During system operation, Rohde & Schwarz also acts as single point of accountability for the business and technical elements of the in-service support program. ❖

**ROHDE & SCHWARZ**

Make ideas real



## SAFE AND SECURE ATC COMMUNICATIONS HAS A NEW STANDARD

CERTIUM® is an advanced ATC communications suite from a single source, increasing safety, security and efficiency beyond existing standards.

- ▶ A one-stop-shop solution with perfectly matched components
- ▶ Strict "security by design" philosophy for mission-critical components
- ▶ Flexible yet secure IP architecture
- ▶ Seamless integration and comprehensive maintenance concepts for cost-efficient operation

Discover CERTIUM®:

[www.rohde-schwarz.com/certium](http://www.rohde-schwarz.com/certium)

**CERTIUM**

