

**ROHDE & SCHWARZ**

Make ideas real



# THE SOVERON AIRBORNE RADIO FAMILY AND THE C-390 MILLENNIUM

Assuring command and control (C2)  
superiority

## AT A GLANCE

- ▶ **Customer:** Embraer Defense & Security
- ▶ **Task:** Development of secure airborne communications for the C-390 Millennium military transport aircraft
- ▶ **Challenge:** As part of the C-390 Millennium program, the aircraft's airborne communications need to fit all Brazilian Air Force (FAB) and international market needs
- ▶ **Solution:** The SOVERON airborne software defined radio (SDR) family was developed to meet modernization needs and is widely used over a variety of platforms
- ▶ **Key benefits:** The SOVERON airborne SDR family ensures interoperability through joint all-domain command and control (C2)



### The platform

Embraer Defense & Security's C-390 Millennium military transport aircraft has been procured by the Brazilian Air Force (FAB). FAB will ultimately receive 28 KC-390s and received its fourth C-390 in December 2020. In addition to serving its home market in Brazil, the company has signed contracts with Hungary and Portugal. The C-390 is fully NATO compatible.

### Customer situation and requirement

The Embraer Defense & Security C-390 Millennium is a new generation multi-mission transport aircraft. It is capable of transporting and launching cargo and troops and performing a wide array of missions: aerial refueling (fighters and helicopters), resupply, firefighting, medical evacuation, search and rescue, and humanitarian aid, all in a single unique multi-mission platform.

### Rohde & Schwarz solution

The C-390 Millennium aircraft can be equipped with two state-of-the-art SDRs of the SOVERON family including frequency hopping and encryption capability. The R&S®MR6000R VHF/UHF airborne transceiver comes with R&S®SECOS waveform to achieve information superiority for command and control (C2). The application ranges from secure voice to tactical data covering all scenarios of airborne platforms and for seamless connectivity with ground based defence and units. The waveform is extremely robust against hostile jamming and optimized for secure communications in a fast-moving, harsh environment.



For more information, visit  
[www.rohde-schwarz.com](http://www.rohde-schwarz.com)



## Results and achievements

In January 2012, the aircraft manufacturer signed a framework agreement with Rohde & Schwarz. Under this agreement, the R&S®MR6000R VHF/UHF airborne transceiver, will be standard equipment for the C-390 Millennium. Each aircraft will be equipped with two of these radios. Rohde & Schwarz has delivered the first VHF/UHF airborne transceivers for the C-390 Millennium prototype in 2013.

Embraer Defense & Security has already installed SOVERON SDRs in its A-29 Super Tucano, in operation since 2003 as part of Sistema de Vigilância da Amazônia (SIVAM), a project to protect the Brazilian rain forest.

Rohde & Schwarz was furthermore selected by FAB to equip its modernized Embraer E-99M aerial early warning and surveillance (AEW&C) aircraft with modern and secure communications based on the SOVERON radio architecture.

## Product

The R&S®MR6000R, part of the SOVERON family of SDRs, is designed for installation in the avionic bay and is remotely controlled. Despite weighing less than 4 kg, the R&S®MR6000R offers outstanding reception and transmission performance, and a choice of frequency hopping methods: HAVE QUICK II/SATURN or HAVE QUICK II, SATURN and R&S®SECOS in a single device, as well as highly secure embedded R&S®SECOS encryption.

Almost 8500 SDRs from the SOVERON airborne radio family are in use worldwide on over 70 different platforms.

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 The SOVERON Airborne Radio Family and the C-390 Millennium  
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The five pillars of true independence.

1 Meets both civil and military avionic standards.

2 Designed for ease of integration.

3 Assured command and control (C2) superiority.

4 Customized national data link solutions.

5 Independent privately owned manufacturer.

“In an environment driven by digitalization and networking, command and control in the future will look different than today. This is why we will continue to provide our customers with future-oriented solutions that will enable them to maintain air superiority in the post-2030 world.”

Igor Luvizeto, Head of Secure Communications at Rohde & Schwarz Brazil

