

The background of the entire page is a photograph of an airport at sunset or sunrise. In the upper left, a large commercial airplane is in flight. In the lower left, the tail and wing of another aircraft are visible on the tarmac. In the center and right, a large airport terminal building and a control tower are visible. Overlaid on this scene is a complex digital network graphic. It consists of numerous white dots connected by thin white lines, forming a mesh that spans across the image. A prominent diagonal band of blue binary code (0s and 1s) runs from the bottom left towards the top right. Two white Wi-Fi signal icons are also present: one near the bottom left aircraft and another near the top right control tower.

**SIEMENS**

*Ingenuity for life*

# RUGGEDCOM WIN for AeroMACS

Aeronautical Mobile Airport  
Communications System

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# AeroMACS: Providing the next generation of Airport surface communication

The aviation industry has seen rapid growth in the last few decades, with thousands of passenger and cargo flights being handled daily by large airport hubs across the world. This has led to an exponential growth in the number and complexity of airport operations. However, the communication infrastructure supporting them has not evolved at the same pace.

AeroMACS, or Aeronautical Mobile Airport Communication System, is a wireless technology validated by the EUROCONTROL, the Federal Aviation Administration (FAA) and the International Civil Aviation Organization (ICAO), to support the growing need for secure, scalable and reliable high bandwidth ground communications for Airport Operation and Control, Air Traffic Controllers and Airline Carriers.

## Global standard

AeroMACS is based on the global IEEE 802.16e (2009) standard and operates in the private, licensed frequency band from 5091 – 5150 MHz. It provides up to 20 Mb/s broadband data connectivity and up to 12 km broad coverage range, amply supporting the high level of performance and bandwidth required for fixed and mobile applications on the airport surface.

## Tested and certified

AeroMACS certification for networking devices is awarded by the WiMAX Forum, an industry-led non-profit organization which certifies and promotes the interoperability of broadband wireless products based on the IEEE Standard 802.16e. The RUGGEDCOM WIN family of private wireless networking devices from Siemens are one of the first in the world to achieve the complete “WiMAX Forum Certified” status. This certification means that these products have passed rigorous testing to ensure that they meet or exceed the performance, conformance and interoperability requirements set for global AeroMACS deployment.

The following devices are certified:

- RUGGEDCOM WIN7251 Base Station
- RUGGEDCOM WIN5251 Fixed Subscriber Units
- RUGGEDCOM WIN5151 Vehicular Subscriber Units

## Essential to the future of air transport

The Siemens solution for AeroMACS using RUGGEDCOM WIN devices is already in use in major airports around the world. It has delivered significant time and cost savings, and improved operational efficiencies. Furthermore, it eliminates the need for a separate ASN GW (Access Service Network Gateway) in the standalone configuration ensuring that the network is secure and easily scalable. Airports can also unlock new revenue opportunities by commercializing high bandwidth connectivity, logistics support, runway condition monitoring, etc. as value-added services.

AeroMACS deployed on RUGGEDCOM WIN provides a fully certified and comprehensive connectivity solution that will transform airport surface communications and usher in new growth for aviation.

RUGGEDCOM WIN7251  
Base station

RUGGEDCOM WIN5151  
Vehicle subscriber unit



### Interoperable: Global standard

RUGGEDCOM WIN devices are one of the first to be fully certified to deploy the globally accepted AeroMACS standard, ensuring multi-vendor interoperability



### Scalable: Ready to grow

RUGGEDCOM WIN installations are scalable and easy to deploy allowing them to easily match the challenges of traffic growth, new application deployment and additional users.



### Secure: Network protection

RUGGEDCOM WIN and other RUGGEDCOM products are secure by design as they use digital certificates based on strong authentication throughout the network



### Efficient: Maximum performance

Ease of installation and use, long MTBF, a rugged design and standalone mode are some of the key features of the RUGGEDCOM WIN family that directly improve operational efficiency



### Reliable: Stable and future-proof technology

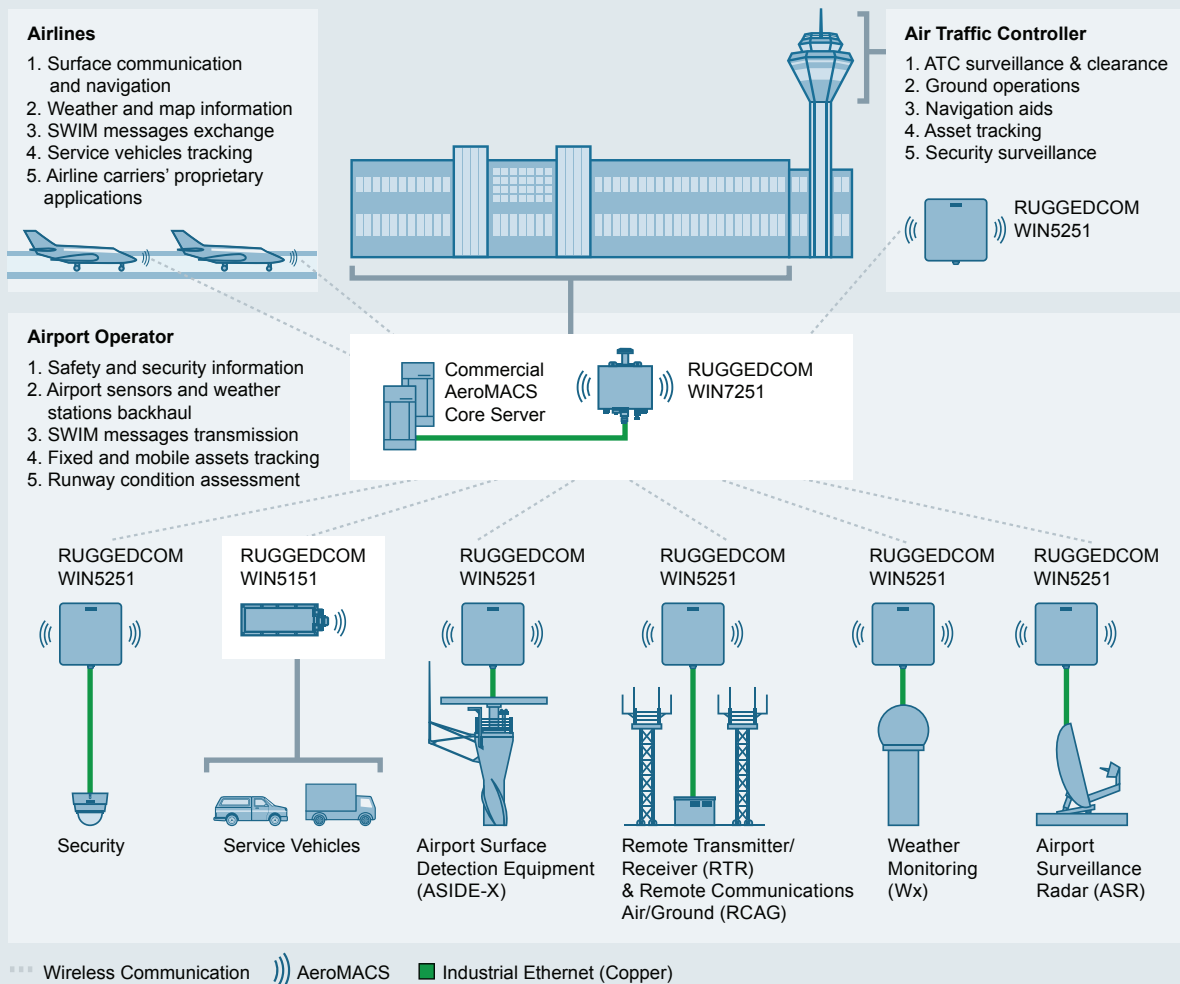
Based on the IEEE 802.16e standard, AeroMACS is suited to completely overhaul airport ground communications infrastructure





## Proven, certified and ready to deploy

The Siemens solution for AeroMACS consists of wireless products from the RUGGEDCOM WIN family, which is known for its unique Quality of Service and industry driven feature extensions.



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## Security information

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens' products and solutions only form one element of such a concept. For more information about industrial security, please visit **[siemens.com/industrialsecurity](https://www.siemens.com/industrialsecurity)**

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