

Product brief: Quadrant

ADS-B & Multilateration solution

To boost efficiency, cut infrastructure costs and enhance safety, ANSPs and airports are looking at new surveillance solutions that out-perform traditional systems for both air and ground traffic. Quadrant is a forward-thinking solution for ADS-B and Multilateration on a single ground station platform. Quadrant uses advanced Multilateration algorithms to provide independent, high accuracy 3D position measurements. Lightweight ADS-B ground stations serve as a cost-efficient start to establish and extend coverage, or to replace legacy surveillance infrastructure.

Key features

ATM grade surveillance for enhanced safety

By supporting a more accurate and detailed surveillance picture at high update rate, Quadrant can enhance safety for both air and ground traffic. Quadrant's field-proven performance allows to maintain throughput even under severe weather conditions and low visibility.

Minimal dependencies, maximal resilience

Quadrant systems are designed for high availability, supporting redundancy at all levels. Innovative algorithms ensure unlimited continuation of Wide Area Multilateration (WAM) service even with permanent GPS failure. ADS-B position validation gives peace of mind, given the potential for spoofed targets and rogue avionics.

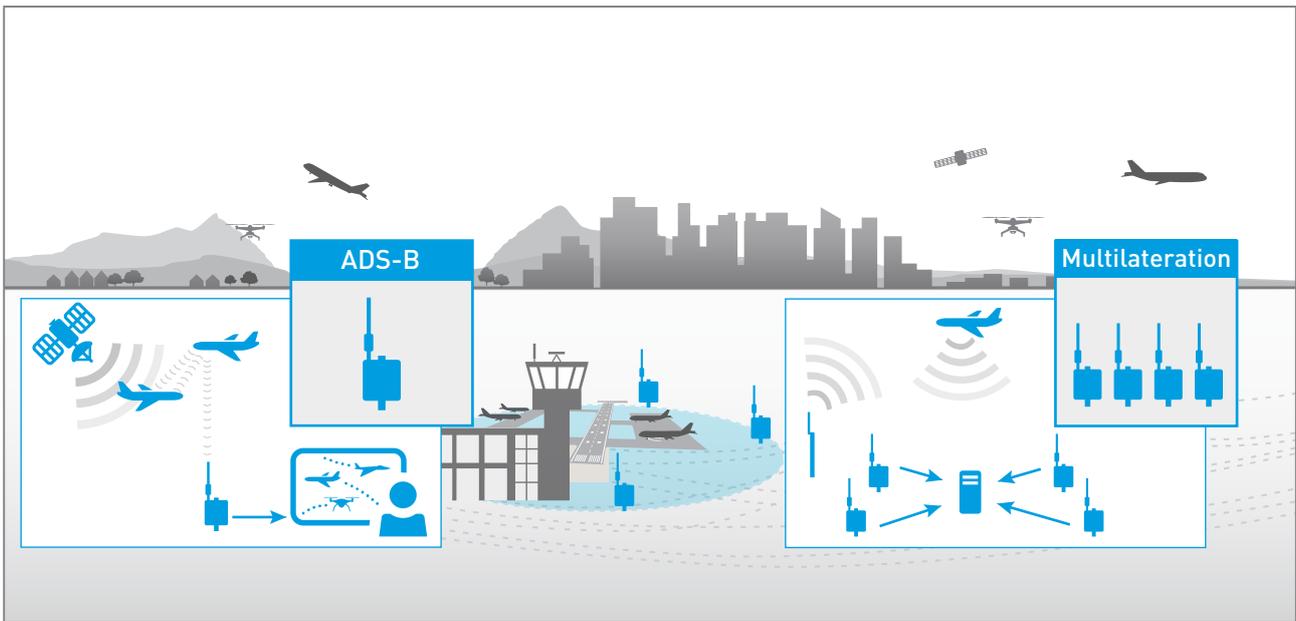
Reduced lifecycle costs

The robust yet compact Quadrant ground stations have no moving parts and can be easily installed on existing structures such as mobile network masts or roofs. With Quadrant's minimal need for maintenance, this leads to significantly reduced lifecycle cost.



Quadrant at a glance

- Modular and scalable ADS-B / Multilateration solution
- Proven operation in harsh environment including desert, ice and salt-spray
- Unlimited GPS outage resilience for WAM
- ADS-B position validation options ("anti-spoofing")
- Dynamic interrogation management for a minimal RF footprint and low transponder occupancy
- High system availability and low maintenance of ground stations



Benefits

Air/ground traffic surveillance at its best

Quadrant provides a precise and high-quality air/ground situation picture at a high update rate. With minimal investment, this makes Quadrant the perfect solution for busy and demanding airspaces. Quadrant Multilateration systems meet the requirements for reduced air traffic separation.

Quadrant ADS-B and Multilateration solutions can easily cover difficult terrain and airport shadow areas, with low infrastructure needs and cost-efficient redundancy.

Modular, scalable system design

Modular by design, Quadrant systems scale easily and rapidly. The Quadrant ground station is a standalone ADS-B sensor. In parallel, it can act as receiver for one or more integrated systems ranging from A-SMGCS to countrywide ADS-B and WAM.

The ability to transition seamlessly from ADS-B to Multilateration using the same ground station equipment provides an attractive upgrade path to total replacement of SSR legacy systems.

Facts and figures

Outstanding technical features	<ul style="list-style-type: none"> - Long-term synchronisation of WAM after loss of GPS (and other GNSS) - Multiple ADS-B position validation („anti-spoofing“) options - Dynamic interrogation management according to target capability, state and position for minimal RF footprint and low transponder occupancy - Extensive output filtering options at Central Processor
Data format	Eurocontrol ASTERIX for easy connection to trackers and display systems
Large installed base	500+ ADS-B / Multilateration ground stations in more than 20 countries worldwide

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