Quadrant

ADS-B and Multilateration Solution

Quadrant is a forward-thinking surveillance solution able to provide ADS-B and Multilateration on one single hardware platform.

The Solution

With Quadrant ADS-B surveillance infrastructures can be increased without costly investments like radar. Quadrant uses advanced algorithms to provide independent, genuine 3D, position measurement using Multilateration (MLAT) techniques.

A single Quadrant sensor allows surveillance coverage to be extended to areas where surveillance was previously unavailable. Adding additional sensors can inexpensively extend coverage further until overlapping surveillance allows the option to move to MLAT.

User Benefits

Quadrant is flexible, modular and scalable with the ability to transition seamlessly from ADS-B to MLAT using the same ground station equipment. It therefore also offers an attractive upgrade path to total SSR replacement.

Its ability to provide a precise and high-quality air situation picture and high update rate with minimal investment, highlights it as a perfect solution for growing aviation demands.

MLAT meets the requirements for reduced separation, is suitable for surface-movement systems, and offers a level of redundancy due to its distributed network design.

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**Highlights**

- Expandable and modular solution
- Dynamic management of interrogation patterns according to aircraft capabilities and current states
- Interrogation Power, Direction and Repetition Rate is managed dynamically
- High performance receiver
- Long term synchronisation after loss of GPS signal
Key Features

**Flexible solution:** Identical hardware can be shared to support applications from A-SMGCS to countrywide Wide Area Multilateration.

**Improved coverage:** As an MLAT system it has an advantage for surveillance over difficult terrain, particularly mountain ranges.

**Low maintenance:** No moving or degradable parts, so only occasional external inspection for damage is required.

**Expandable solution:** Operating as a standalone ADS-B system, as a larger integrated solution, or as an MLAT network through the addition of further sensors, without upgrade or modification.

**High precision:** By providing more precise data, enhanced runway incursion alerts can be supported.

References