COLORADO WAM/ADS-B

The Challenge:
During each winter season, Colorado’s high country airports experience a dramatic increase in activity when visitors travel via commercial and general aviation aircraft to mountain communities. Peak holiday travel periods produce an even greater amount of ski travel, creating a “traffic jam” in the skies over Colorado. This situation becomes increasingly difficult during periods of inclement weather, resulting in diversions, delays and denied service for aircraft en route to mountain airports that lack radar coverage.

In Colorado’s areas of rough and extreme terrain, existing en route radar experienced coverage gaps below 13,000 feet, resulting in procedural-based, one-in/one-out ATC operations during instrument weather conditions. Such mountainous environments made the deployment and operation of traditional gap-filler radars cost-prohibitive. The combination of high-volume traffic and intermittent radar coverage resulted in the need for an accurate surveillance system that would work in a demanding environment.

Saab Sensis Corporation
Solutions at Work:
To meet this challenge, the Colorado Department of Transportation’s Division of Aeronautics selected Saab Sensis Corporation to provide Wide Area Multilateration (WAM) and Automatic Dependent Surveillance – Broadcast (ADS-B) for Yampa Valley Regional, Garfield County Regional, Steamboat Springs, and Craig-Moffat County Airports. Saab Sensis WAM provides FAA controllers at the Denver Air Route Traffic Control Center with high accuracy, high availability surveillance of the airspace surrounding the four airports in the region. Multilateration sensors were installed at sites located on the airport and in the surrounding mountains providing long-needed surveillance coverage over the mountainous terrain and in valleys not covered by existing en route radar. Additionally, the ADS-B system prepares Colorado for the future nationwide ADS-B deployment. Air traffic “radar-like” position information is displayed on existing air traffic control screens in the Denver Control Center, which provides radar separation for all air traffic in portions of nine western states.

AT A GLANCE:
• Improved air traffic control surveillance in all weather conditions
• Increased airspace capacity
• Accuracy: +/- 210 ft.
• Coverage: Up to 17,000 ft. asl for 4,800 sq. mi.
### FEATURE:

- Better accuracy and higher update rate than existing radar systems
- Adaptable coverage
- Low maintenance, low power consumption
- Tracks all transponder types: Mode S, Mode A/C, ADS-B

### BENEFIT:

- Enhanced safety from more precise positional information
- Surveillance in challenging environments with no coverage gaps
- Little environmental impact
- Transitions technology from currently equipped aircraft to those of the future

Saab Sensis multilateration is a reliable and tested surveillance solution that is modernizing aviation surveillance worldwide. Saab Sensis is a leader in WAM, fielding the industry’s first commissioned multilateration system for WAM at Innsbruck, Austria in 2005. In addition to Rifle and Hayden, Colorado, Saab Sensis WAM was selected for Tasmania, Australia; North Sea oil platforms, United Kingdom; Fort St. John and Vancouver, Canada; Juneau, Alaska; Yuma Proving Ground, Arizona; Patuxent River Naval Air Station, Maryland; Twentynine Palms Marine Corps Air Ground Combat Center, California and nationwide in Austria, Kyrgyzstan and Sweden.

![Colorado WAM Coverage Area](image-url)