

ABOUT US

Our Mission

Design and validate a GNSS-independent ATC surveillance system by integrating space-based ADS-B and Enhanced LEO - Multilateration (E-MLAT). We aim to enhance air traffic security, efficiency, and safety, ensuring resilient and innovative solutions.

Our Vision

Build a robust ATC ecosystem leveraging LEO satellites to optimize air operations in remote areas.

By advancing ADS-B and E-MLAT integration, we aim to increase capacity, reduce emissions, and enhance safety, setting a global standard for secure and sustainable air traffic management.

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Space-based composite ADS-B
and multilateration system
validation through scalable
simulation

Exploratory Research
July 2024–December 2026

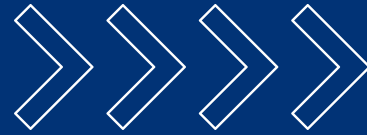
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JOINT UNDERTAKING



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✦ Every day, 100,000 aircraft fly overhead, guided safely by ADS-B technology.

✦ Aircraft broadcast their GNSS-derived position to the ground

✦ Radars guarantee a position redundancy check over continental areas...

✦ Radars and ground-based ADS-B receivers are not available in remote areas

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SATERA designs and validates a GNSS independent surveillance system

- ▶ LEO Satellites receive the Aircraft ADS-B messages
- ▶ The messages are transmitted to the ground along with MLAT measurements
- ▶ On the ground, MLAT-derived positions are computed in the CPS for redundancy check



Solution ?



SATERA Outcomes

1. Functional requirements of a space-based composite ADS-B + EMLAT
2. Evaluation tool of space-based composite ADS-B + E-MLAT surveillance system
3. Space-based E-MLAT systems' performance prediction tool
4. Simulators of MLAT receiving stations, Communication network, and central processing station