

IAF SPACE COMMUNICATIONS AND NAVIGATION SYMPOSIUM (B2)
Space-based PNT (Position, Navigation, Timing) Architectures, Applications, and Services (1)

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AFRICAN SBAS: AIRSPACE TRANSFORMATION FOR SAFETY AND SUSTAINABILITY

Abstract

Airports serve as crucial, indispensable transportation hubs in daily travel.

However, traditional precision measurement methods in Africa, are not ideal for continuous monitoring across large airport spaces, due to high costs and environmental factors.

Two decades ago, the Space-Based Augmentation System (SBAS) was established, allowing for Global Navigation with high precision, reliability, and continuous availability. Utilizing extra messages transmitted from Geostationary Earth Orbit (GEO) satellites, offering reliability information that benefit users at the continental level.

The Agency for Aerial Navigation Safety in Africa and Madagascar (ASECNA) is committed to the provision of SBAS services.

This research examines the influence of SBAS application in the African aviation industry, for business and general aviation aircrafts; Presenting commercial opportunities for airlines to add new routes; Improving regional integration and responsiveness.

Series of flight demos have already been conducted, and this paper analyses these demonstrations in several Nations; providing exclusive details of the advantages of SBAS for aviation in the African-Indian Ocean region.

It provides a critical assessment of the economic viability, enabling Financing institutions to understand and better aid Airlines in investments.

Furthermore, the paper suggests development approaches for the incorporation of SBAS in the Single African Air Transport Market (SAATM).