

# GNSS-SBAS

## IATA presentation

### **Protus Seda Otieno**

Assistant Director

Safety & Flight Operations-ATM Focus

Africa and Middle East.

Johannesburg, SA

[sedap@iata.org](mailto:sedap@iata.org)



# GNSS Implementation Workshop

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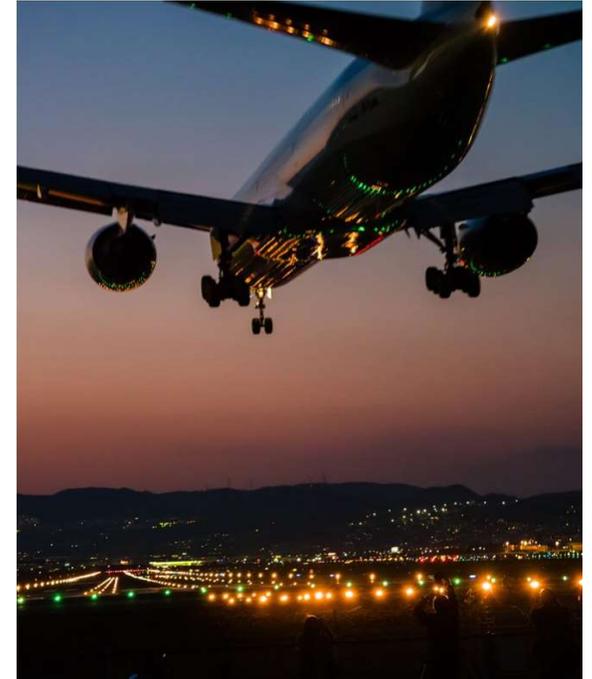
# GNSS | SBAS Implementation in AFI Region

## AFI ATM Master Plan (AAMP PMT) Strategy **APIRG/23 Decision 23/01**

- Global | Regional Harmonization | standardized regional framework
- Vision and CONOPS document CNS-ATM | Airspace
- National (State) Implementation Strategies
- APIRG Conclusion | Requirement for CBA

## Cost-Benefit Analysis | Data collection

- Support Cost-Benefit Analysis : **Safety | fuel | time | environment**
- Support Data Collection : **collaboration AFCAC in data collection**
- Support post analysis workshop : **Regional ownership**



# GNSS | SBAS Implementation in AFI Region : GNSS Architecture

## Augmentation: ABAS | SBAS | GBAS

### ✓ ABAS-Aircraft Based Augmentation System

- Maturity: Available now !
- Avionics equipage (GPS)
- Ground equipment: APV Baro-VNAV (Met report)

### ✓ SBAS-Space Based Augmentation System

- Maturity: A-SBAS program 2023 | 2030
- % airline avionics
- Ground equipment : Ground Stations + processing facility

### ✓ GBAS-Ground Based Augmentation System

- Maturity: Available now
- % airline avionics
- Ground equipment : Antenna + Ground stations



# GNSS | SBAS Implementation in AFI Region: IATA Position (Navigation)

## IATA 'Conditional Neutral' position (URATS)

Technology	Support	Maintain	Neutral	Do not support
PBN	X			
NDB				X
DME		X		
VOR		X		
TACAN				X
ILS	X			
MLS				X (See Note 3)
GNSS	X			
ABAS	X			
GBAS	X			
SBAS			X (See Note 4)	

Note 4: Airlines who are equipping with SBAS are doing so based upon their individual operational requirements and business case. IATA member airlines who are not planning to utilize SBAS are concerned that they may be adversely impacted by its implementation. Three essential requirements for SBAS implementation are:

1. no mandatory requirements by regulatory authorities to fit SBAS equipment to aircraft;
2. no unjustified restrictions to operations due to a lack of SBAS equipment; and
3. no costs related to SBAS being imposed directly or indirectly to airspace users who do not use such technology.



# GNSS | SBAS Implementation in AFI Region : Airline sustainability

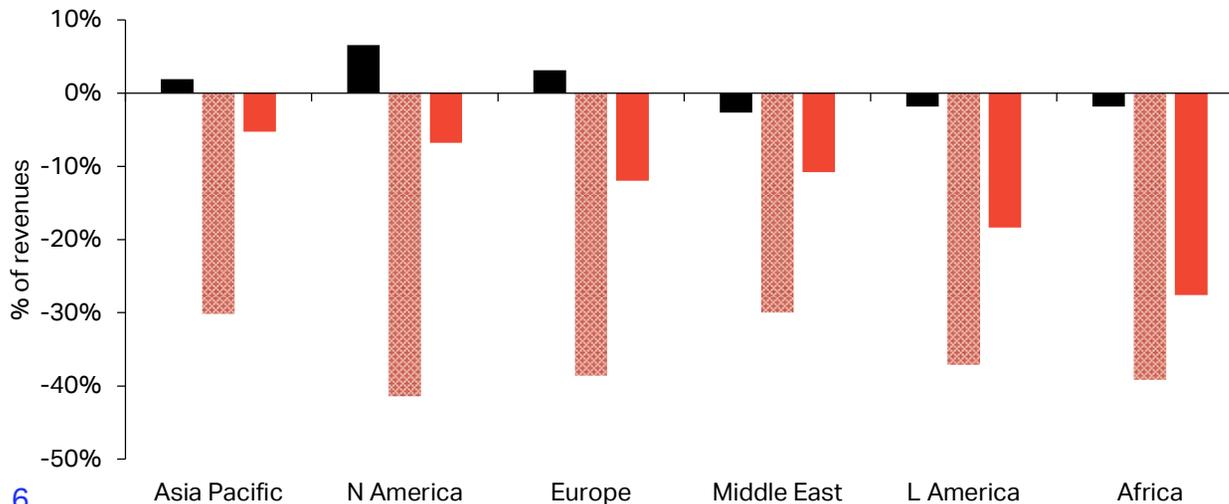
## User Charges | COVID-19 Re-Start & Financial resilience

- Current financial position
- Who will pay for the investment
- Airlines are yearning for relief measures

Cash burn continues in 2021. Developing country recovery suffers from a slower vaccine rollout

Post-tax profits (losses) as % revenues, region of registration

■ 2019 ■ 2020 ■ 2021



## Charges & Costs

- Postponement User charges payments
- Reduction User charges
- Freeze on User charges fees
- Cost reduction initiatives
- Review investment plans
- Operational improvements



# GNSS | SBAS Implementation in AFI Region

## The challenges

- Ionospheric errors | study
- Cost of investment | ROI
- User pay principle | non-aviation
- Regulatory certification
- Regulatory operational approval
- GNSS Interference



## The Concerns

- Aircraft equipage | readiness
- Additional crew training e.g., sim.
- Cost of investment
- User pay principle | User charges
- Airline financial position post-COVID
- Mandates

Thank you  
[sedap@iata.org](mailto:sedap@iata.org)

