



APIRG/27 and RASG-AFI/10, Joint Sessions

4 – 8 November 2024
Eastern Cape, South Africa

**AFRICAN AVIATION
TRANSFORMED**

**PROGRESS ON THE
IMPLEMENTATION OF
GNSS/SBAS IN AFRICA -
PHASE II SBAS CBA STUDY
OUTCOMES**



Structure of the presentation

- ❑ Introduction
- ❑ Specific objectives of the SBAS Phase II CBA study
- ❑ Study Outcomes - Organization and Institutionalization
- ❑ Study Outcomes - Technology Transfer and Risk
- ❑ Next steps
- ❑ Conclusion

INTRODUCTION

GNSS - SBAS Strategy, Policy Development & Stakeholder Consultation Roadmap

Various APIRG Decisions on AFI GNSS Strategy/ APIRG/14 decided to implement a GNSS SBAS operational system in the AFI Region as an extension of the EGNOS,

30th Ordinary Summit of the African Union (AU) Assembly of Heads of States and Government - Gave mandate for SBAS CBA

2nd SBAS CBA Study Stakeholder Validation Workshop

Before 2001

August 2010

APIRG/17 (Ouagadougou, Burkina Faso) requested a cost-benefit analysis to be conducted by independent experts

January 2018

January 2020

3rd SAATM Stakeholders' Meeting held, in Dakar, Senegal – gave impetus to CBA study

May 2022

1st SBAS CBA Study Stakeholder Validation Workshop.

October 2024

February 2023

2nd Outreach Event On SBAS Adoption In Aviation In Africa – Abuja, Nigeria.



AFCAC
African Civil Aviation
Commission



Specific objectives of the SBAS Phase II CBA study

Governance and organization – to define functions within the program and identify roles for key stakeholders

Regulation and oversight – to define the overall regulatory and standardization framework including certification

Funding: to identify funding requirements

Service provision – to define the service provision and liability schemes



Study Outcomes - Organization and Institutionalization

Public Ownership approach



Political entities

- Government representatives
- Ministries of transport
- AU / AUC

Regional Entities

- ECOWAS
- SADC
- EAC
- COMESA
- CEMAC
- IGAD
- ECCAS
- UMA
- CEN-SAD
- ICAO WACAF and ESAF



Regulatory Entities

- AFCAC
- National CAAs



Other multilateral institutions

- AUC
- African Space Agency
- SatNav JPO



STAKEHOLDERS

Single or Dual organizational approach

Private Space Industry Players

- AVANTIS
- Thales Alenia Space UJ
- Pildo Labs
- NSL
- GMV
- NigComSat



Airspace Users

- IATA
- AFRAA
- ACI-Africa
- CANSO



ANSPs

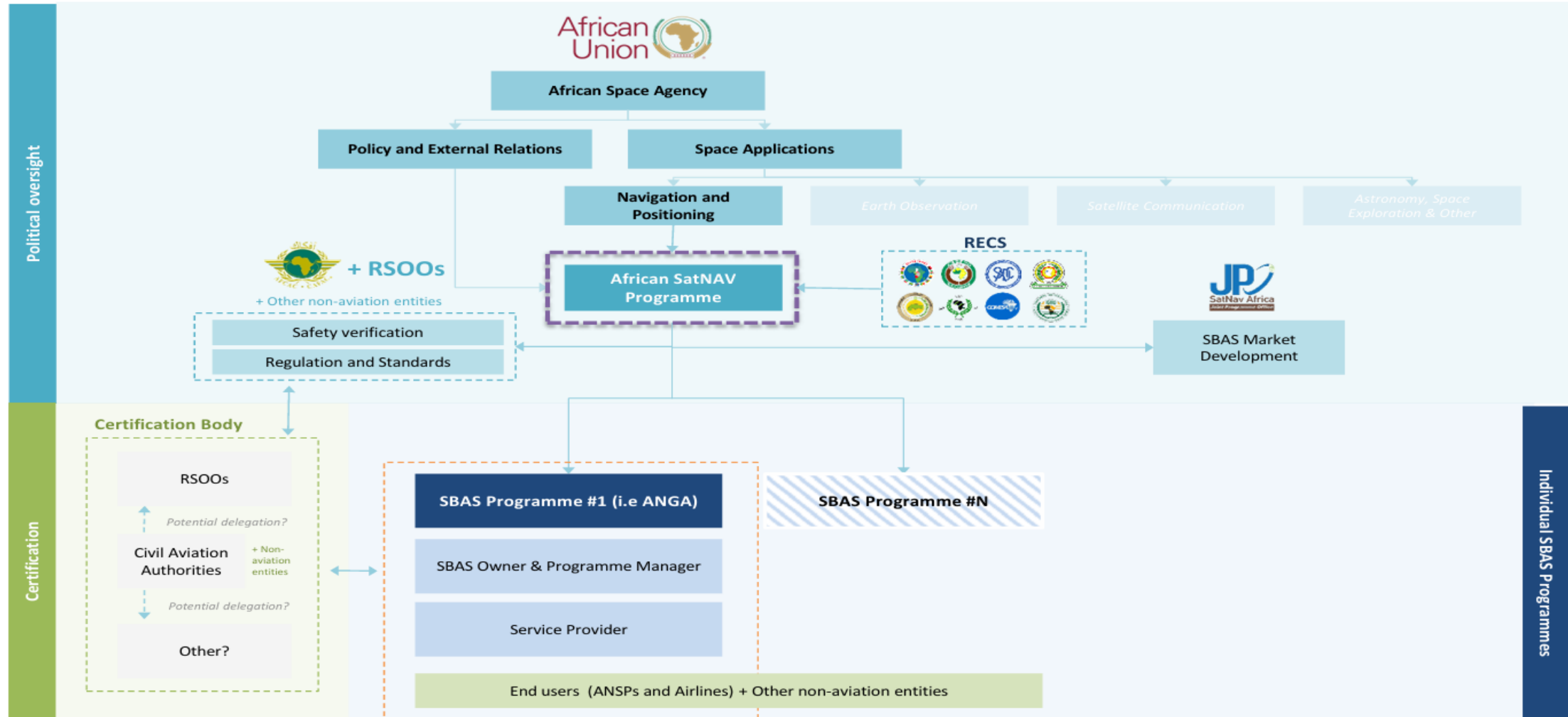
- ASECNA;
- ATNS and others



Hybrid Centralization Approach - preferred option – a central entity provides a common policy and governance platform, a unified regulatory framework, and service levels defined in the form of strategic direction, oversight, regulation, and market development.

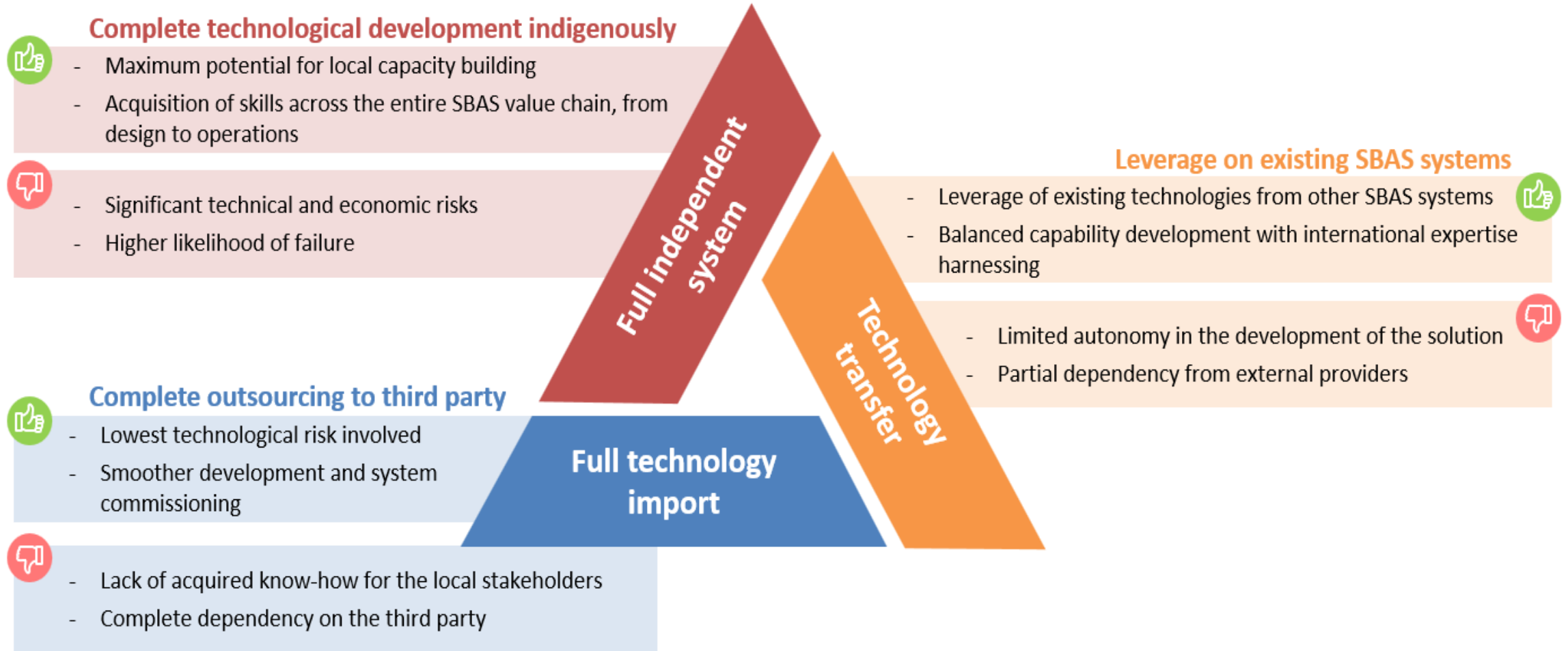
Study Outcomes - Organization and Institutionalization

Recommended a **Continental Policy Body** – with single policy-making body within the AU – sets general policies and an overall African SBAS Program roadmap, providing oversight over individual SBAS programs.

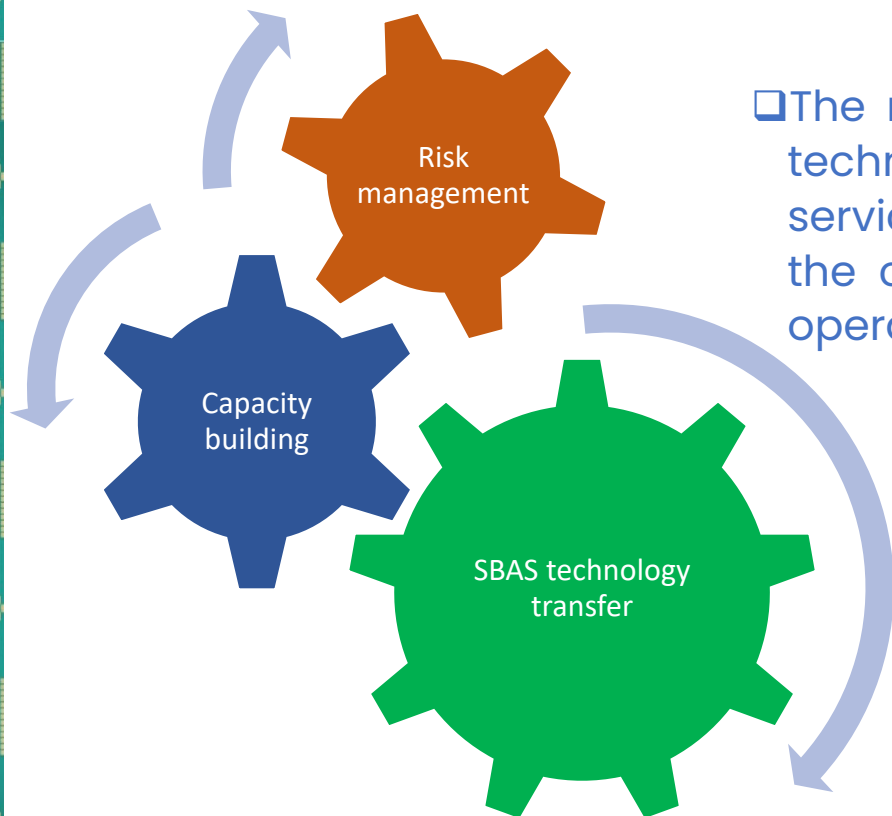


Study Outcomes - Technology Transfer and Risk

There are several development options for a SBAS system, each implying different levels of technological involvement for African stakeholders and specific technical and economic risk and dependencies



- ❑ The report highlighted risks associated with SBAS technology transfer and recommended setting up a Technical and Programme Management Committee with the task of identifying, assessing, and monitoring the main program risks, with the participation of all key stakeholders.
- ❑ Risk associated with establishing SBAS technology required setting up Technical and Program Management Committees with the task of identifying, assessing, and monitoring the main program risks, with the participation of all key stakeholders.



- ❑ The report also highlighted the need for investment in local talent and technology as this is crucial for the long-term sustainability of SBAS services in Africa. Developing a skilled workforce within Africa ensures that the continent is not perpetually dependent on external experts for the operation and maintenance of its SBAS.

NEXT STEPS

African SatNAV Programme

- Creation of the African SatNAV Programme under AfSA

- Drafting of common policies
- Drafting of a common services roadmap
- Development of a harmonized regulatory framework
- Develop oversight capabilities
- Integration of the JPO into the African SatNAV Programme

Oversight activities

2025

2026

2027

2028

2029-2034

Individual SBAS initiatives

Development of current SBAS initiatives (ANGA, EGNOS v3 and others)

ANGA and EGNOS v3 operational

- Programme evolutions
- Potential expansion of existing programmes into other regions
- Potential development of new initiatives

CONCLUSION

- A technology transfer arrangement is the most suitable system development alternative for African SBAS program.
- African stakeholders should gain capabilities and expertise in the area, as they will lead the conceptual design, procurement, and testing of the system.

- A single policy-making body within the AU, set up under AfSA would set general policies and an overall African SBAS Program roadmap, providing oversight over individual SBAS programs.

- Presentations at AU Policy Organs, - Q4 of 2024,
- Set up the African SatNav Program under AfSA, before the end of 2024, in order to start conducting the main tasks regarding SBAS policies, services roadmap, regulatory framework and market development activities.



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Thank You

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 Dakar, Senegal

