



16th SADC VSAT II SUPERVISORY BOARD MEETING



Future of the SADC VSATII
Post 2022

12-13 JULY 2021



transport
Department:
Transport
REPUBLIC OF SOUTH AFRICA





Background



Current status of the network



Post 2022 Roadmap



Actions for the meeting

Background – Technical



- ATS/DS connectivity (FXS/FXO 2w with ACELP-CN 8Kx2) –
 - AFTN connectivity (serial RS-232 with 9.6 kbps)
 - ATN backbone connectivity (Ethernet IP with 64kbps)
 - ATN tributary connectivity (Ethernet IP with 9.6kbps)
 - Engineering speech [EOW] (FXS/FXO 2w with ACELP-CN 8Kx2)
 - Data circuits for Engineering data implementation (serial V.35 with 64 kbps)
- VSAT Network Configuration
 - a. Mesh
 - b. MF-TDMA
 - c. Satellite : IS1002, 359^o East
 - d. SADC (6MHz), NAFISAT (3MHz)
 - 2016 Network Upgrade (2017)
 - a. ODU : RFT capacity ↑ RFT5060
 - b. IDU : Skywan 5000 → 7000
 - c. MUX: (FAD92x0 / FAD8400)
 - d. Extended NMS : local monitoring & generation of traffic statistics

Current Status of the Network



As a result of the upgrade, the network continues to operate at the agreed service levels.

Member States now have access to a platform that is enabled to deliver traditional services in a more efficient way without additional costs.

Improvements in the interoperability between the SADC, NAFISAT and AFISNET networks are currently underway between ATNS and Asecna.

The network is ready for the full-scale implementation of modern services such as AMHS. The following AMHS trials have been conducted:

- Johannesburg – Gaborone
- Johannesburg – Cairo



Interoperability with AFISNET



Link	Operational Status	Service	Future service
Addis-Niamey	Active	AFTN	AMHS
Tripoli-Niamey	Active	ATS/DS & AFTN	ATS/DS & AMHS
Tripoli-Ndjamena	Active	ATS/DS & AFTN	ATS/DS & AMHS
Nairobi-Brazza	Active	AFTN	AMHS
Kinshasa - Brazza	Active	ATS/DS & AFTN	ATS/DS & AMHS
Khar - Niamey	Active	ATS/DS & AFTN	ATS/DS & AMHS
Khar- Ndjamena	Active	ATS/DS & AFTN	ATS/DS & AMHS
Khar-Brazza	Active	AFTN	AMHS
Luanda - Brazza	Active	ATS/DS & AFTN	ATS/DS & AMHS
Luanda - Abidjan	Active	ATS/DS & AFTN	ATS/DS & AMHS
Luanda - Accra	Active	AFTN	AMHS
Luanda - Dakar	Active	ATS/DS & AFTN	ATS/DS & AMHS



Post 2022 Roadmap – Objectives



The SADC VSATII roadmap is aimed at providing technically feasible response to current economic difficulties that the aviation industry finds itself and ensuring the that the network remains sustainable, operationally and financially.

Medium Term Goals (2021-25)

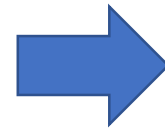
- Network Technology Life Extension
- Service Innovation – Migration of services to IP and new services



- Replacement of RFTs
- Upgrade of FAD interfaces
- Replenishment of FAD spares
- Deployment of cybersecurity measures
- Enhanced SLA with OEMs for LRU repairs
- AMHS, VoIP trials
- CAD, Space-based ADS-B

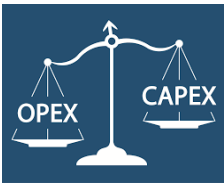
Long Term Goals (2021-25)

- Satellite Technology Evolution
- Satellite-Terrestrial Fiber convergence (MPLS networks)



- Satellite communications contingencies – CRV as a back-up to VSAT
- Bandwidth efficiency –advanced satellite modem technology which will result in efficient use of scarce satellite resources.
- 5G impacts on the VSAT network.
- SADC VSAT Network Replacement





Post 2022 Roadmap – Implications

Proposed Investment

Investment Forecast	2022/2023	2023/2024	2024/2025	
Potential Network Investment (2022-2024): Critical Hardware Replacements				
				Totals
SADC	\$ 42 500	\$ 42 500		\$ 85 000
NAFISAT	\$ 42 500	\$ 42 500		\$ 85 000
				\$ 170 000
Enhanced Maintenance & Support: Improved SLA for LRU repairs				
SADC	\$ 35 000	\$ 36 050	\$ 37 132	\$ 108 182
NAFISAT	\$ 35 000	\$ 36 050	\$ 37 132	\$ 108 182
				\$ 216 363



Post 2022 Roadmap – Implications



Preliminary analysis indicates that the network has sufficient capacity to carry additional services, without the need for additional bandwidth.

The key assumptions for the analysis:

- Progressive uptake of new services by Member States between 2021 and 2024
- Availability and readiness of end-user infrastructure
- No FIR crossing tariff increase up to 2024

Actions for the Meeting



It is requested that:

- The meeting to take note of the current developments in the SADC network.
- The Supervisory Board endorse the proposed short to medium term roadmap and share their readiness plans to deploy modernised and value-added services;
- The Supervisory Board endorse the proposed short to medium term roadmap and provide a mandate the network service provider to proceed with detail planning and implementation thereof.
- The Supervisory Board endorse the proposed long-term roadmap goals and provide inputs in the identified areas of study and research.







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