



ICAO



**INTERNATIONAL CIVIL AVIATION ORGANIZATION
WESTERN AND CENTRAL AFRICA OFFICE**

**Twenty-eight meeting of the AFI Satellite Network Management Committee (SNMC/28)
(Abuja, Nigeria, 6 – 10 May, 2024)**

Agenda Item 2: Review of AFISNET operational and technical statistics of availability

(Presented by Nigerian Airspace Management Agency)

1.0 INTRODUCTION

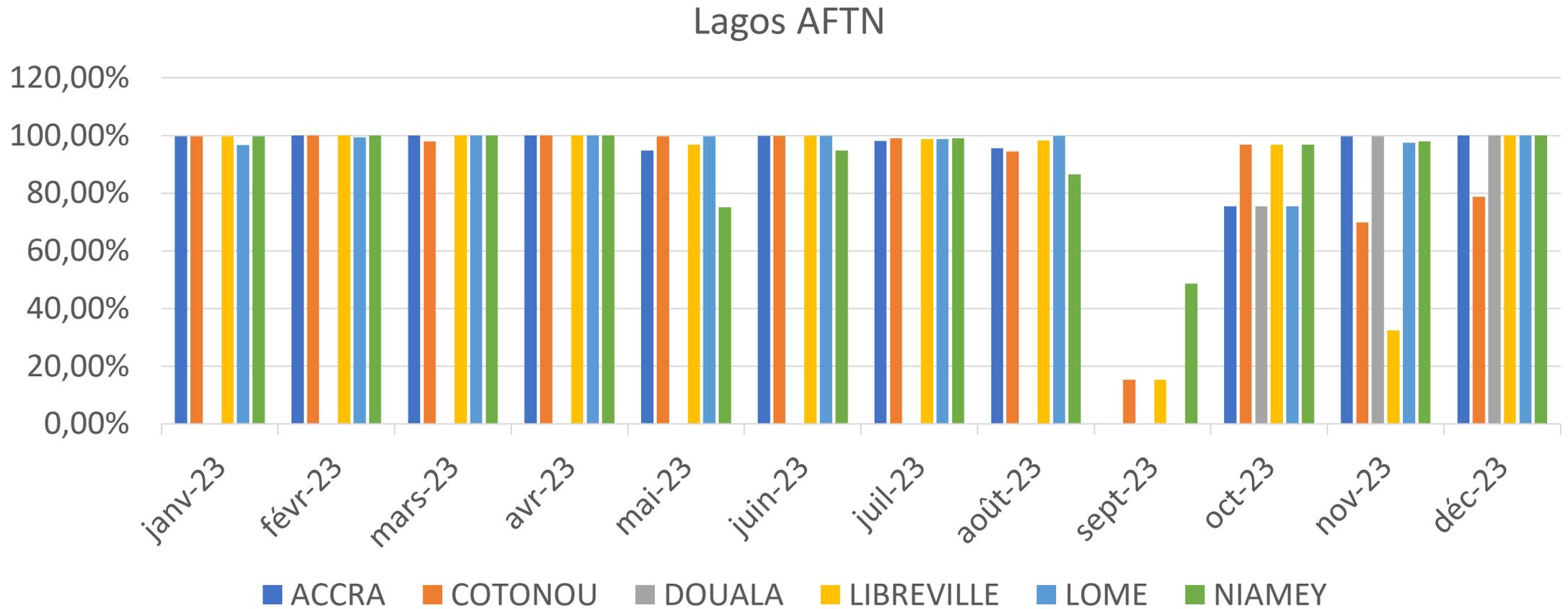
- This working paper reports on:
 - AFTN and ATS/DS circuit availability of Comms Centres in NAMA.
 - Implementation status of migration to AMHS in NAMA.
 - Implementation status of upgrade to Netperformer Multiplexer

2.0 DISCUSSION

2.1 Table of Lagos AFTN circuit availability January – December, 2023

| CIRCUIT/ MONTH | ACCRA | COTONOU | DOUALA | LIBREVILLE | LOME | NIAMEY |
|-------------------|--------|---------|--------|------------|-------|--------|
| JAN 2023 | 99.7% | 99.7% | 0% | 99.7% | 96.7% | 99.7% |
| FEB 2023 | 100% | 100% | 0% | 100% | 99.3% | 100% |
| MAR 2023 | 100% | 98% | 0% | 100% | 100% | 100% |
| APRIL 2023 | 100% | 100% | 0% | 100% | 100% | 100% |
| MAY 2023 | 94.7% | 99.7% | 0% | 96.9% | 99.7% | 75.1% |
| JUNE 2023 | 99.8% | 99.8% | 0% | 99.8% | 99.8% | 94.7% |
| JULY 2023 | 98.03% | 99.08% | 0% | 98.8% | 98.8% | 99.1% |
| AUG 2023 | 95.5% | 94.5% | 0% | 98.2% | 99.8% | 86.6% |
| SEP 2023 | 0% | 15.3% | 0% | 15.3% | 0% | 48.6% |
| OCT 2023 | 75.4% | 96.9% | 75.4% | 96.9% | 75.4% | 96.9% |
| NOV 2023 | 99.7% | 69.9% | 99.7% | 32.4% | 97.5% | 97.9% |
| DEC 2023 | 100% | 78.7% | 100% | 100% | 100% | 100% |

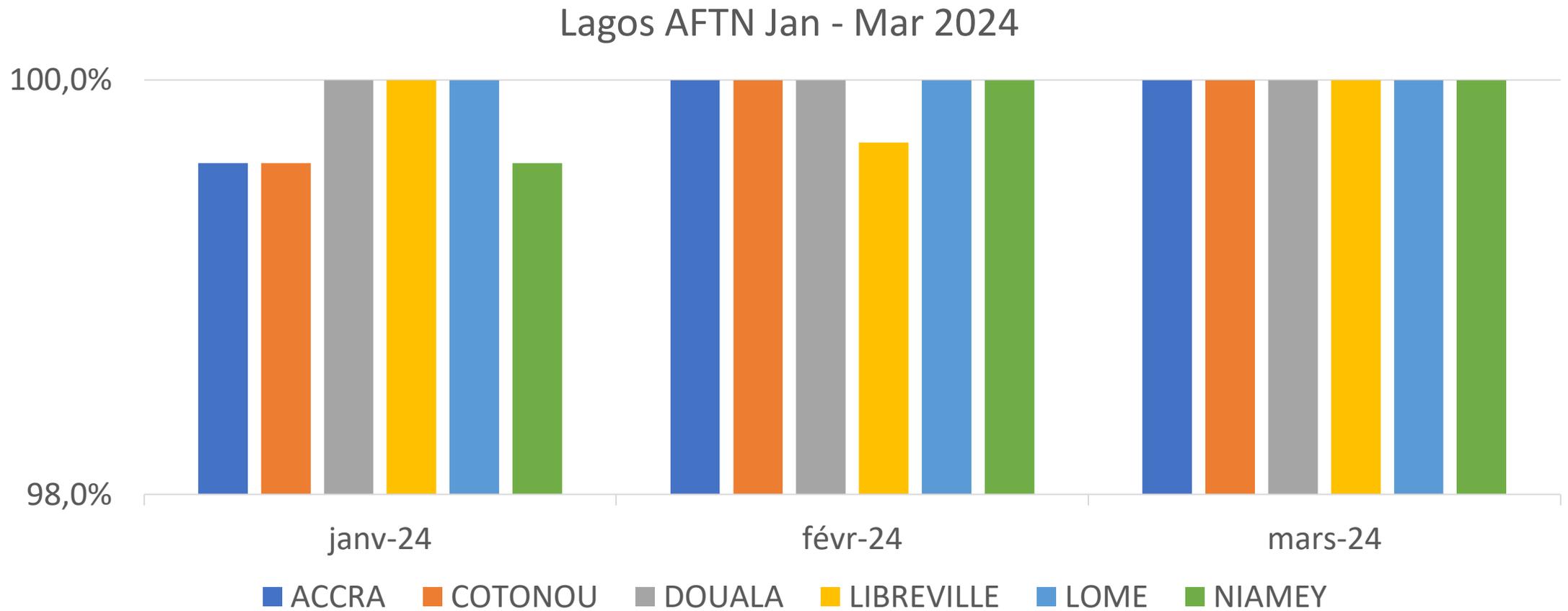
2.2 Lagos AFTN circuit availability chart January – December, 2023



2.3 Table of Lagos AFTN circuit availability January – March, 2024

| CIRCUIT/ MONTH | ACCRA | COTONOU | DOUALA | LIBREVILLE | LOME | NIAMEY |
|---------------------------|--------------|----------------|---------------|-------------------|-------------|---------------|
| JAN 2024 | 99.6% | 99.6% | 100% | 100% | 100% | 99.6% |
| FEB 2024 | 100% | 100% | 100% | 99.7% | 100% | 100% |
| MAR 2024 | 100% | 100% | 100% | 100% | 100% | 100% |

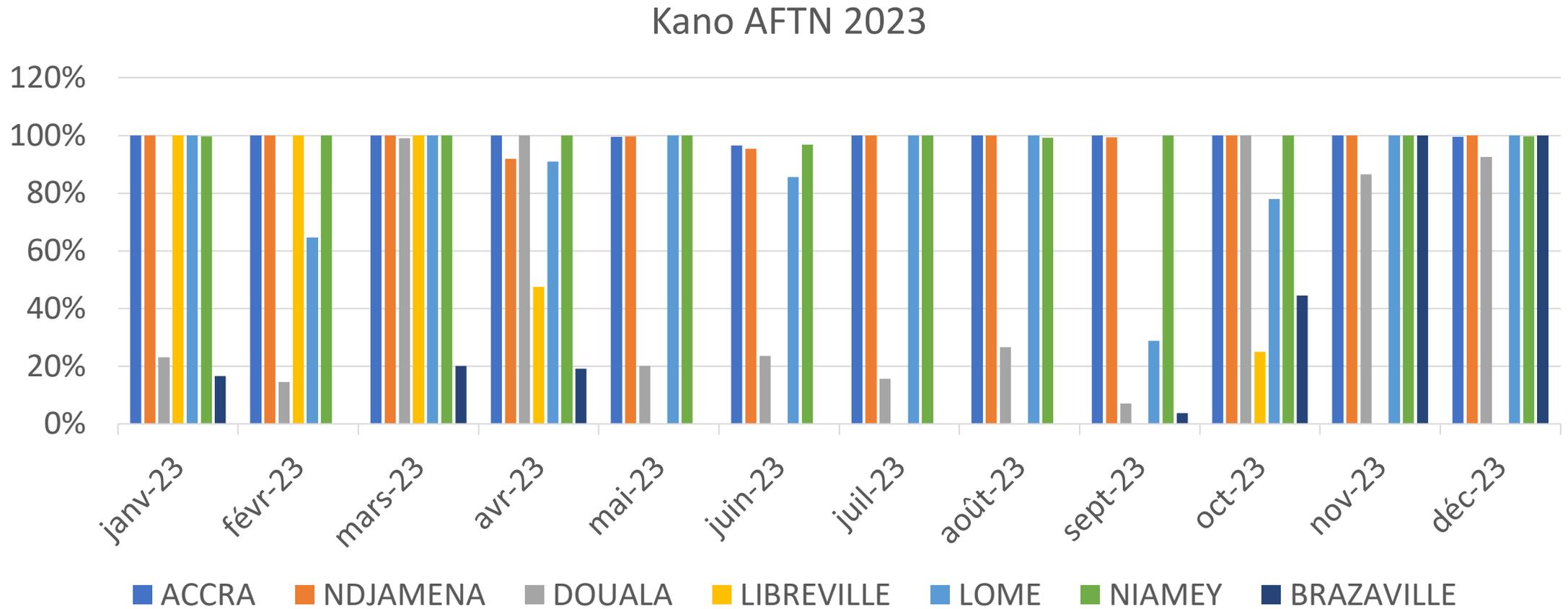
2.4 Lagos AFTN circuit availability chart January – March, 2024



2.5 Table of Kano AFTN circuit availability January – December, 2023

| CIRCUIT/ MONTH | ACCRA | NDJAMENA | DOUALA | LIBREVILLE | LOME | NIAMEY | BRAZAVILLE |
|-------------------|--------|----------|--------|------------|--------|--------|------------|
| JAN 2023 | 100% | 100% | 23.00% | 100% | 100% | 99.73% | 16.60% |
| FEB 2023 | 100% | 100% | 14.50% | 100% | 64.6% | 100% | 0.00% |
| MAR 2023 | 100% | 100% | 99.00% | 100% | 100% | 100% | 20.00% |
| APRIL 2023 | 100% | 91.94% | 100% | 47.50% | 91.00% | 100% | 19.16% |
| MAY 2023 | 99.46% | 99.73% | 20.00% | 0% | 100% | 100% | 0% |
| JUNE 2023 | 96.50% | 95.43% | 23.5% | 0% | 85.5% | 96.77% | 0% |
| JULY 2023 | 100% | 100% | 15.55% | 0% | 100% | 100% | 0% |
| AUG 2023 | 100% | 100% | 26.50% | 0% | 100% | 99.19% | 0% |
| SEP 2023 | 100% | 99.44% | 7.00% | 0% | 28.8% | 100% | 3.73% |
| OCT 2023 | 100% | 100% | 100% | 25.00% | 78.00% | 100% | 44.50% |
| NOV 2023 | 100% | 100% | 86.50% | 0% | 100% | 100% | 100% |
| DEC 2023 | 99.46% | 100% | 92.50% | 0% | 100% | 99.73% | 100% |

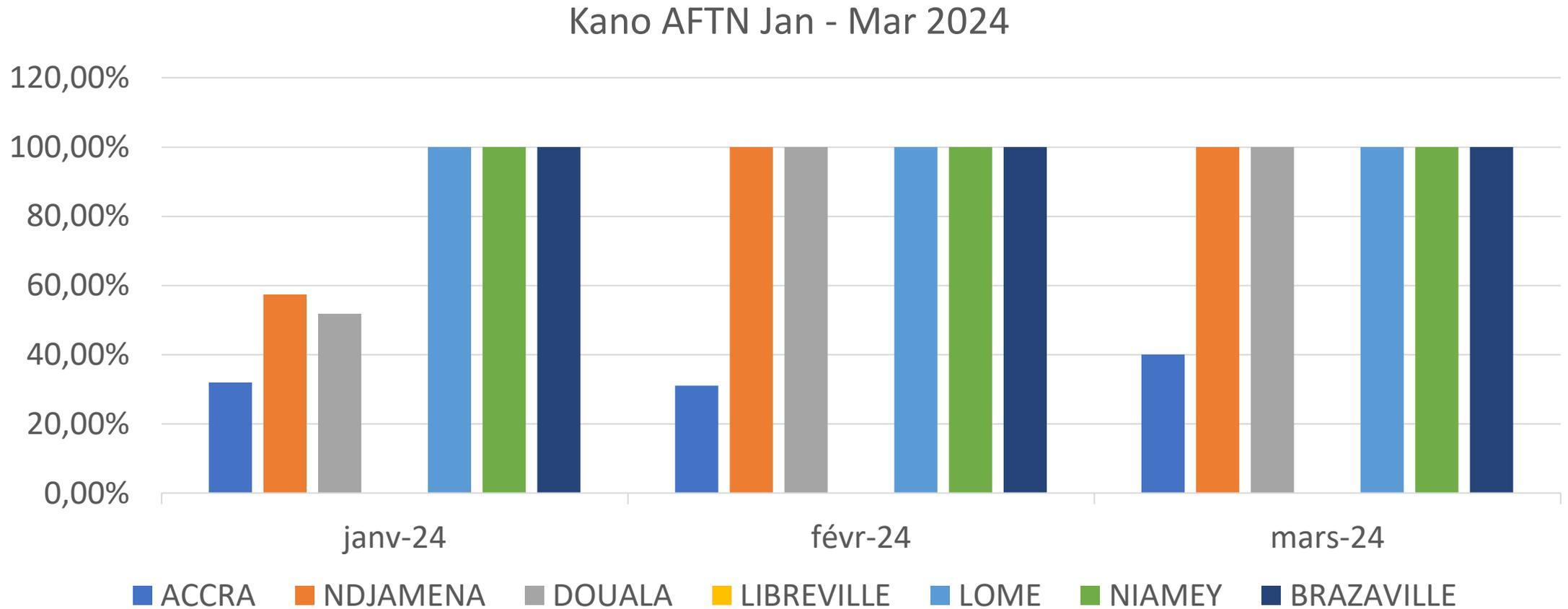
2.6 Kano AFTN circuit availability chart January – December, 2023



2.7 Table of Kano AFTN circuit availability January – March, 2024

| CIRCUIT/ MONTH | ACCRA | NDJAMENA | DOUALA | LIBREVILLE | LOME | NIAMEY | BRAZAVILLE |
|-------------------|---------|----------|--------|------------|--------|--------|------------|
| JAN 2024 | 100 % | 99.86 % | 100% | 0% | 100% | 100 % | 100% |
| FEB 2024 | 99.71 % | 72.41% | 100% | 0% | 88.90% | 100 % | 100% |
| MAR 2024 | 100 % | 83.87% | 100% | 0% | 100% | 72.80% | 20.00% |

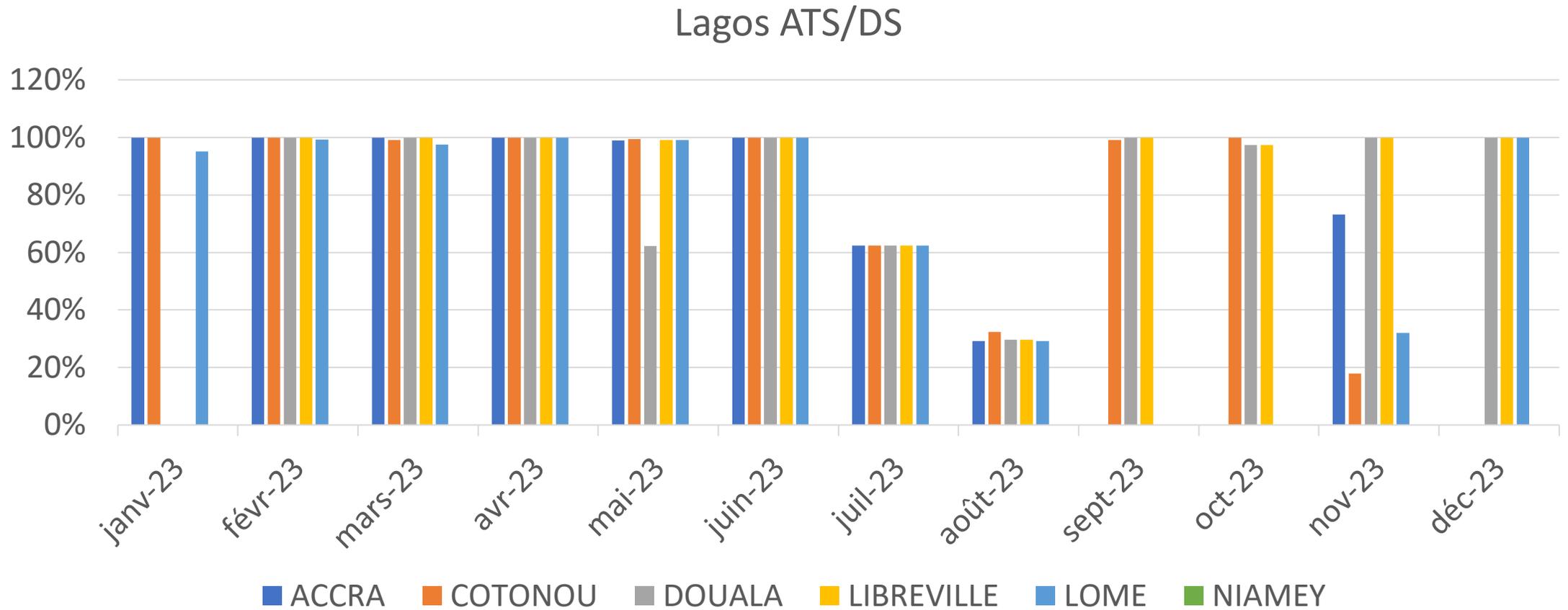
2.8 Kano AFTN circuit availability chart January – March, 2024



2.9 Table of Lagos ATS/DS availability January – December, 2023

| CIRCUIT/ MONTH | ACCRA | COTONOU | DOUALA | LIBREVILLE | LOME | NIAMEY |
|-------------------|--------|---------|--------|------------|--------|--------|
| JAN 2023 | 100% | 100% | 99,96% | 99,96% | 95.13% | |
| FEB 2023 | 100% | 100% | 100% | 100% | 99.3% | |
| MAR 2023 | 99.99% | 99.19% | 99.99% | 99.99% | 97.58% | |
| APRIL 2023 | 100% | 100% | 100% | 100% | 100% | |
| MAY 2023 | 99.08% | 99.47% | 62.29% | 99.22% | 99.22% | |
| JUNE 2023 | 100% | 100% | 100% | 100% | 100% | |
| JULY 2023 | 62.5% | 62.5% | 62.5% | 62.5% | 62.5% | |
| AUG 2023 | 29.2% | 32.4% | 29.7% | 29.7% | 29.2% | |
| SEP 2023 | 0% | 99.19% | 99.99% | 99.99% | 0% | |
| OCT 2023 | 0% | 100% | 97.4% | 97.4% | 0% | |
| NOV 2023 | 73.2% | 17.9% | 99.9% | 99.9% | 32.1% | |
| DEC 2023 | 0% | 0% | 99.9% | 100% | 100% | |

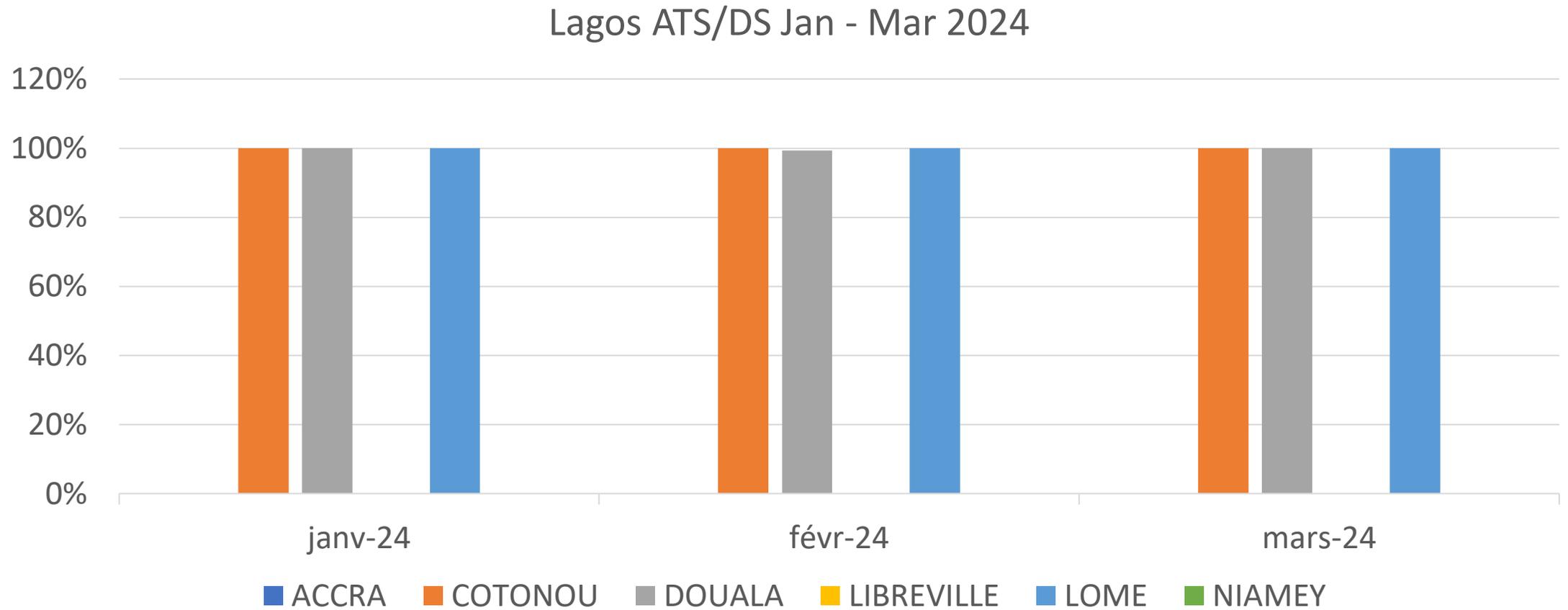
2.10 Lagos ATS/DS availability chart January – December, 2023



2.11 Table of Lagos ATS/DS availability January – March, 2024

| CIRCUIT/ MONTH | ACCRA | COTONOU | DOUALA | LIBREVILLE | LOME |
|---------------------------|--------------|----------------|---------------|-------------------|-------------|
| JAN 2024 | 0% | 0% | 100% | 100% | 100% |
| FEB 2024 | 0% | 0% | 100% | 99.3% | 100% |
| MAR 2024 | 0% | 0% | 100% | 100% | 100% |

2.12 Lagos ATS/DS availability chart January – March, 2024



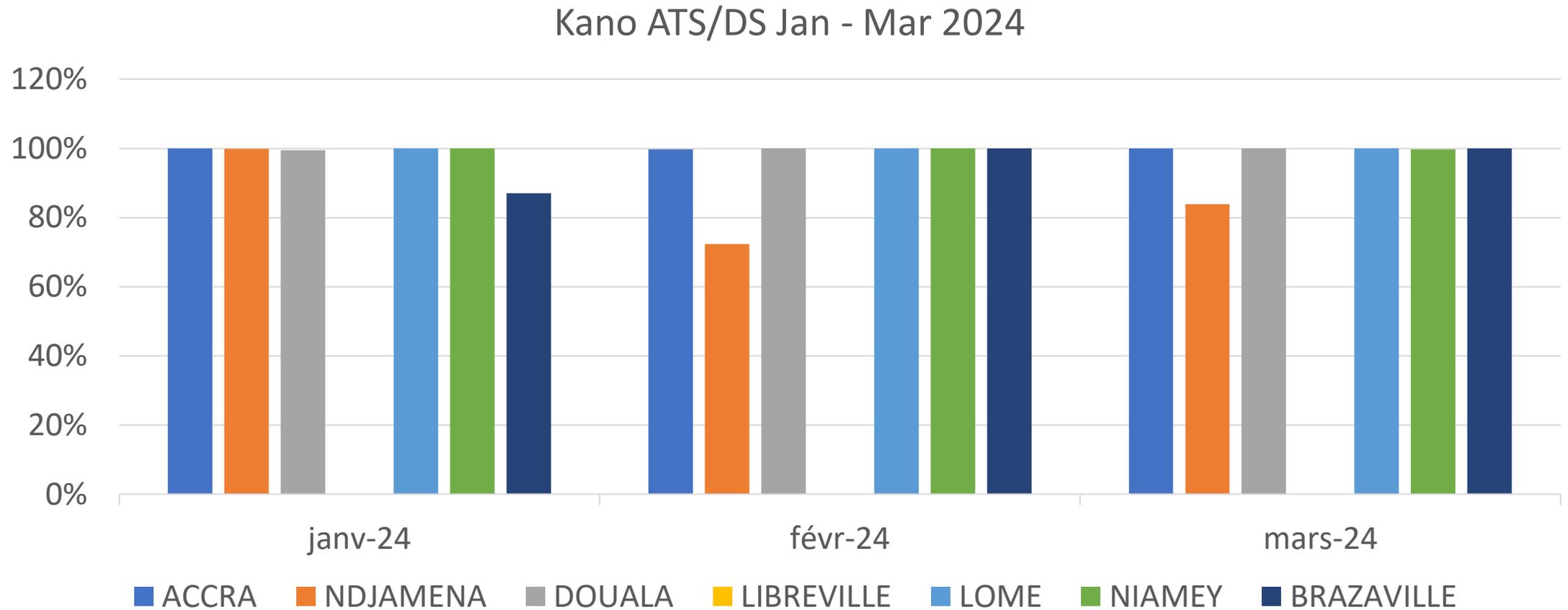
2.13 Table of Kano ATS/DS availability January – December, 2023

| CIRCUIT/ MONTH | ACCRA | NDJAMENA | DOUALA | LIBREVILLE | LOME | NIAMEY | BRAZAVILLE |
|---------------------------|--------------|-----------------|---------------|-------------------|-------------|---------------|-------------------|
| JAN 2023 | 100% | 100% | 100% | 100% | 100% | 99.73% | 100% |
| FEB 2023 | 100% | 100% | 100% | 100% | 99.7% | 100% | 100% |
| MAR 2023 | 100% | 100% | 100% | 99.59% | 100% | 100% | 100% |
| APRIL 2023 | 100% | 91.94% | 95.83% | 100% | 100% | 100% | 83.33% |
| MAY 2023 | 99.46% | 99.73% | 100% | 54.83% | 100% | 100% | 90.05% |
| JUNE 2023 | 96.50% | 95.43% | 96.77% | 0% | 96.77% | 96.77% | 96.77% |
| JULY 2023 | 100% | 100% | 100% | 0% | 100% | 100% | 100% |
| AUG 2023 | 100% | 100% | 83.87% | 0% | 100% | 99.19% | 95.96% |
| SEP 2023 | 100% | 99.44% | 100% | 0% | 100% | 100% | 100% |
| OCT 2023 | 100% | 100% | 100% | 0% | 100% | 100% | 100% |
| NOV 2023 | 100% | 100% | 99.58% | 0% | 100% | 100% | 100% |
| DEC 2023 | 99.46% | 100% | 99.73% | 0% | 100% | 99.73% | 70.96% |

2.15 Table of Kano ATS/DS availability January – December, 2023

| CIRCUIT/ MONTH | ACCRA | NDJAMENA | DOUALA | LIBREVILLE | LOME | NIAMEY | BRAZAVILLE |
|-------------------|------------|----------|--------|------------|------|--------|------------|
| JAN 2024 | 100% | 99.86% | 99.46% | 0% | 100% | 100% | 87.09% |
| FEB 2024 | 99.71 % | 72.41% | 100% | 0% | 100% | 100% | 100% |
| MAR 2024 | 100% | 83.87% | 100% | 0% | 100% | 99.73% | 100% |

2.16 Kano ATS/DS availability chart January – March, 2024



3.0 COMMENTS

- On average some ATS/DS and AFTN circuits performed below the ICAO recommended level
- The performance of the ATS/DS link was impacted by the transition from the Alcatel Satcom System to VSAT in August 2023. Additionally, the performance of the AFTN circuit was affected by a fire incident that damaged Satcom System equipment at DNMM in September 2023.
- Enhancing coordination among comm centres is necessary to enhance circuit performance

4.0 AMHS IMPLEMENTATION IN NAMA

- Implementation of AMHS in NAMA is 80% completed. In preparation for migration and transition into operation, NAMA will be requesting AFI Comm Centres with existing AFTN links with Kano and Lagos to provide names and contact details of technical focal points in order to establish IP connectivity and AMHS links.

5.0 UPGRADE TO NETPERFORMER MULTIPLEXER IMPLEMENTATION IN NAMA

- NAMA signed the contract for the procurement and installation of NetPerformer Multiplexer with Aeronav in 2022.
- Factory Acceptance Test was conducted in February 2024 and installation in Kano, Lagos and Maiduguri centres is anticipated to be completed within six weeks.

6.0 CONCLUSION

- The meeting is invited to:
- Note the information provided in this WP
- Improve cooperation and coordination between AFI Comms Centres to improve performance and strategize on mitigation action against the noticeable under performance of some circuits.