

**MENASASI 2023**

**‘Aviation Safety Perspectives, Safety Lessons Learnt &  
Aviation/Investigation Future Technology’**

# Evolution of Safety Investigation in Nigeria



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# Nigerian Safety Investigation Bureau (NSIB)

## Introduction

The Nigerian Safety Investigation Bureau (NSIB) is an independent organisation established under the NSIB Act 2022 by the Federal Government charged with the responsibility of investigating accidents and serious incident occurrences in **Air, Rail, Marine and other modes of transportation** in Nigeria and anywhere else Nigeria interest is affected, with the aim of enhancing safety in the transportation sector.

The fundamental objective of the Bureau is to improve transportation safety by determining the circumstances and causes of **Air, Rail, Marine and other modes of transportation** accidents as well as proffering recommended solutions and engaging in activities that promote transportation safety in Nigeria.

The NSIB is primarily to enable the segregation of investigative activities and promote safety through the conduct of transparent, independent and objective investigations in all cases of serious incidents and accidents involving any of the current modes of Transportation in Nigeria.

It is not intended for apportioning of blame or liability, but to provide technically accurate appropriate and timely information which could be used by Transportation stakeholders and the general public to implement measures to prevent a future reoccurrence, and potentially mitigate any damage occasioned therefrom.

The Bureau in addition;

- i. Makes safety recommendations;
- ii. Gathers and analyses **Air, Rail, Marine and other modes of transportation** safety data for accident and incident prevention purposes; and monitor implementations of safety recommendations by carrying out accident prevention monitoring programs.
- iii. Collaborates and cooperates with other relevant Agencies, bodies (local and international) in any transportation occurrence, to forestall a recurrence



The NSIB is a newly established organisation. Its Act of establishment, NSIB Act 2022, replaces the establishment Act of the Accident Investigation Bureau (AIB) under the Civil Aviation Act 2006 whose scope of operation involved investigating civil air accidents only.

Nigeria is the first in Africa to have our investigation agency cover Maritime and Railway transportation in addition to Aircraft Accident Investigation.



# Air Investigations

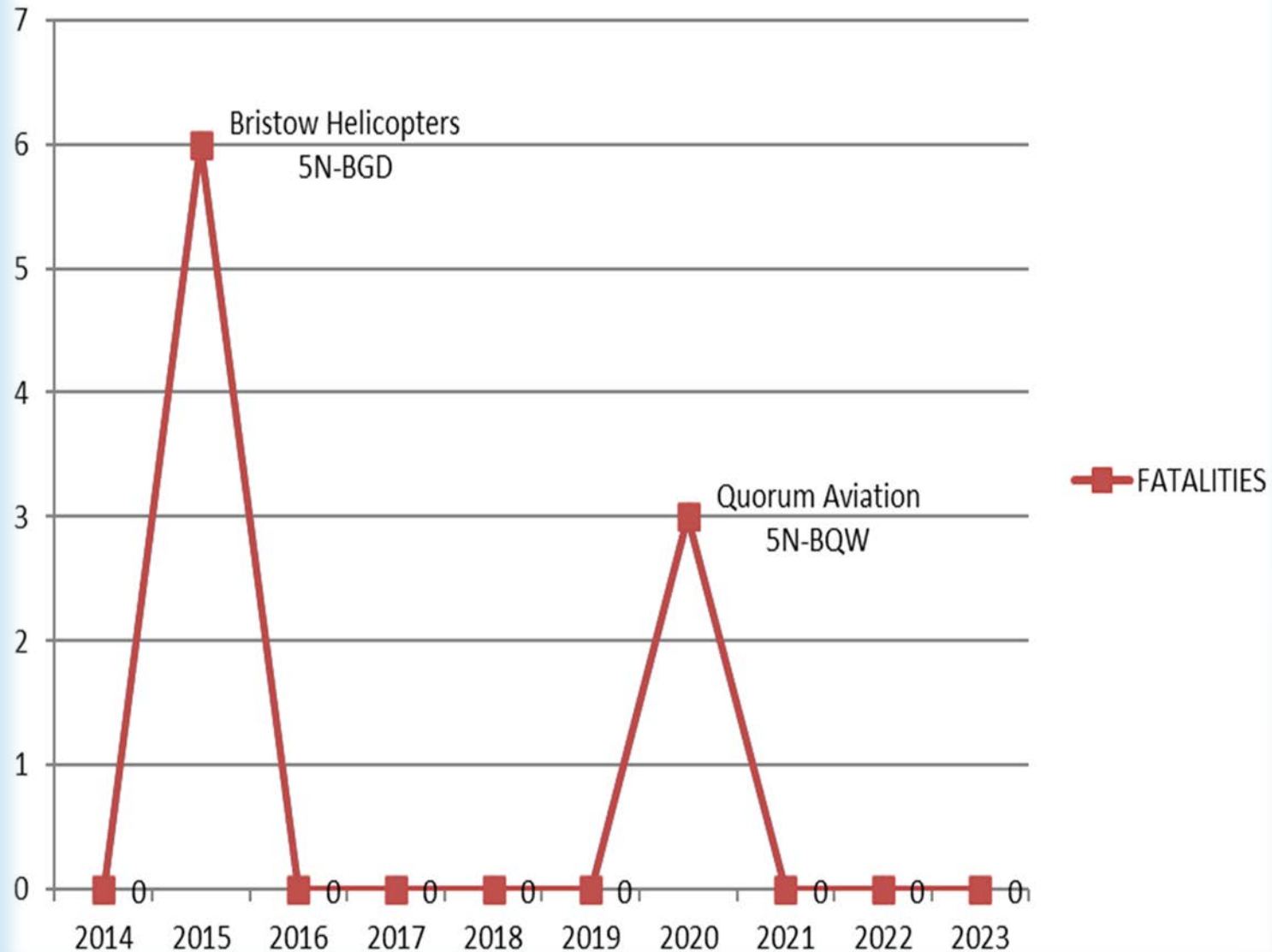
## *Final Reports & Safety Recommendations*

The Bureau has now published a total of 82 reports and issued 272 Safety Recommendations since inception in 2007.

**84% of all the Bureau's Final Reports and 78% of Safety Recommendations since 2007 were released in the last 5 years!**

	FINAL REPORTS RELEASED
	Total
Accidents/Serious Incidents	78
Incident (Safety Bulletin)	4
Total	82
	SAFETY RECOMMENDATIONS ISSUED
Accidents/Serious Incidents	260
Incident (Safety Bulletin)	12
Total	272

## FATALITIES



**In the last 10 years there have been 2 fatal CIVIL accidents leading to the unfortunate loss of 9 souls.**



These numbers haven't been realized per chance but through consistent commitment to improving our processes and technological innovation at every point of the investigation process.

The Bureau in the last few years has placed a lot of importance in reviewing and streamlining its processes. Every step has allowed us achieve our objective to improve safety through our investigations.

This has involved making changes and improvements to existing structures in order to ensure efficiency and effectiveness of all processes. It is imperative that all investigations follow ICAO standards with reports released timely in order for the Safety Recommendations to be effected and thereby prevent recurrence.

There has certainly been a positive impact as Nigeria has had its best safety records in the last 6 years.





# Investigation

There are several measures at the Bureau which ensure quick and efficient turn around on investigations which enables the stakeholders to review and implement Safety Recommendations timely.

These include:

- Team led Investigations- Every occurrence is handled by a team of investigators with an Investigator-in-Charge (IIC) as team lead. No more individual handling of investigations which leads to its own problems once said person is unavailable
- Increase in number of investigators has also brought about team work and rapid delivery on accident and serious incident reports
- All Investigators have now received adequate training
- Inter agency & International collaborations allows easier & willing participation of stakeholders in investigations

## Occurrence Reporting

Once an Accident/Incident occurs, we have greatly eased reporting of occurrences by stakeholders. Gone are the days when you would have to physically visit one of the Bureau's office to make a report.

This makes it more convenient for eyewitnesses to alert the Bureau on accidents and incidents as well as provide coverage (pictures and videos which can be easily uploaded on the app)

- 24/7 phone lines,
- Email
- The Mobile app

We are improving  
Aviation Safety through  
Innovative technology.



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Google play

[www.aib.gov.ng/app](http://www.aib.gov.ng/app)



## Monitoring of flights- **Command & Control Centre**

We have eased this is through our process of getting firsthand information on occurrences that happen anywhere within the Nigerian airspace.

The Centre is aimed at;

- monitoring all flights within the Nigerian airspace;
- Timely notification and responses
- Easy deployment of investigators directly to the crash site.



## **Training**

Agreements (MOUs) and cooperation with several institutions and airline operators have greatly helped in human development particularly on-the-job-trainings (OJTs) for our Investigators

- The Transportation Safety Board (TSB) of Canada
- UK Air Accidents Investigation Branch (AAIB)
- US National Transportation Safety Board (NTSB)
- Bristow Helicopters

## Training School

The Bureau recently completed construction of its Training School, located in Abuja. It would enable us to internalize trainings and cut down costs.

This will be the first of its kind in Africa with support from Cranfield University, UK, Singapore TSB and NCAT. This institution will serve as a source of internal generated revenue for the Bureau with

- an enabling study environment;
- a four-star accommodation of 30 hotel rooms;
- training rooms;
- an auditorium of 250 capacity auditorium.





## **Equipment**

The Bureau has invested heavily in its equipment and tools. This has given us an undoubtable advantage in our investigations.

Our equipment and laboratories have been ranked among the best in the world allowing us to assist several African countries with their investigations- most recently Camerouns investigation of the fatal Caverton helicopter crash.

For the very first time in Africa, data has been retrieved from a burnt black box.

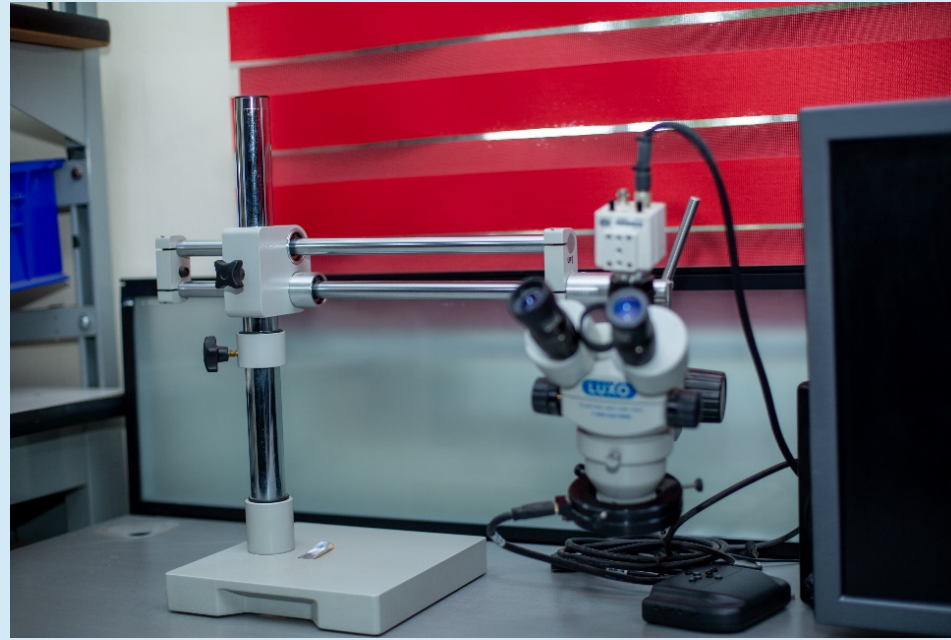
**Flight Safety Laboratory-** This is where data from Cockpit Voice Recorders (CVR) and Flight Data Recorders (FDR) are downloaded. AIB's flight safety lab has the capacity to download data from majority of the CVR and FDR's available today.

- The Bureau's FSL is the first to be accredited in Africa,
- It is ranked one of the best in the world in terms of capability
- Can create simulations of occurrences giving an animated rendering of any accident or serious incident





- The FSL has capability to download from large range of undamaged recorders models and some damaged recorder models.
- The FSL contributes greatly to our seamless investigative process with its ability to recreate simulations in animations based on data from the Flight Data Recorders (FDR) and Cockpit Voice Recorder (CVR).



# Equipment

## *Drones*

NSIB has also incorporated the use of drones to assist in investigations. Drones are one of many of the ever involving techniques in accident investigation. They can assist in Crash site assessment and hazards identification, Aerial photography and mapping and serve as a guide to access difficult terrain.



## ***Accident Investigation Mobile Site***

Emergency mobile satellite office will help the investigators to create a mobile office at the crash site and download the FDR & CVR right there at the crash site without having to delay the process.

It is currently situated at our Abuja office ready for deployment as needed.

## ***Handheld Accident Investigation Tool***

Handheld investigation equipment; these device will help our investigators to carry out on the spot analysis of evidences at the crash site and also download of the FDR & CVR through the handheld device.





## **Final Reports & Safety Recommendations**

- We ensure that all investigations are thoroughly carried out and Final Reports released timely to all Safety Recommendations to be implemented by stakeholders
- All Reports follow a standardized format and are reviewed before release by a certified proof-reader. Our Reports are now used as a case study in top Universities
- We invite members of the Press and Media outlets to our Report releases in order to raise awareness on our findings and improve public perception of the industry
- All Reports are available on our website- [www.nsib.gov.ng](http://www.nsib.gov.ng) giving the Public access
- A Safety Recommendations Committee was commissioned in 2018, in collaboration with NCAA, to review and evaluate all the safety recommendations issued by the Bureau since inception and measure the level of effectiveness.

## **Others**

- Establishment of regional offices in Enugu and Kano to improve nationwide coverage
- Review of AIB manuals- Investigation Policy & Procedures Manual (IPPM), Investigation Training Manual, Bureaus Regulations and Conditions of Service
- Staffing- adequate staffing across all Departments allows for proper implementation of processes

# Relationships

The Bureau has several collaboration and cooperation agreements with several countries and institutions in areas of Human Capacity development such as the

- Nigerian Air Force (NAF),
- Republic of Benin,
- US National Transportation Safety Board (NTSB),
- Singapore Transport Safety Investigation Bureau (TSIB),
- Bureau d'Enquêtes et d'Analyses pour la sécurité de l'aviation civile (BEA- France),
- Aviation Investigation Bureau of the Kingdom of Saudi Arabia (AIB-KSA)
- University of Ilorin (UNILORIN),
- University of Lagos (UNILAG)
- Lagos State Emergency Management Agency (LASEMA)

# Relationships and Assistance

The Bureau has offered technical assistance to the **Sierra Leone** Government for the setup of Sierra Leone Aircraft Accident and Incident Investigation Bureau (SL-AAIIB) and also offered similar support to **The Gambia** in establishing its accident investigation agency.

The Republic of Benin has ceded all its investigations to the Bureau.

The Bureau plays a principal role in the **Banjul Accord Group Accident Investigation Agency (BAGAIA)** with one of our Safety Investigators currently serving as BAGAIAs Commissioner. We also provide technical support to the agency.



# Relationships and Assistance

We released our first international accident investigation report in **Sao Tome and Principe** involving Cavok Airlines CVK 7087 AN-74TK-100 aircraft. The investigation which was handed over by BAGAIA.

The Bureau has also been called up by the **Cameroon Accident Investigation team** to assist with our facilities and expertise in the download and reading of the CVR and FDR of the Havilland DHC-6-400 Twin Otter operated by Caverton which was involved in an accident in May 2022.



**Thank  
You!**