



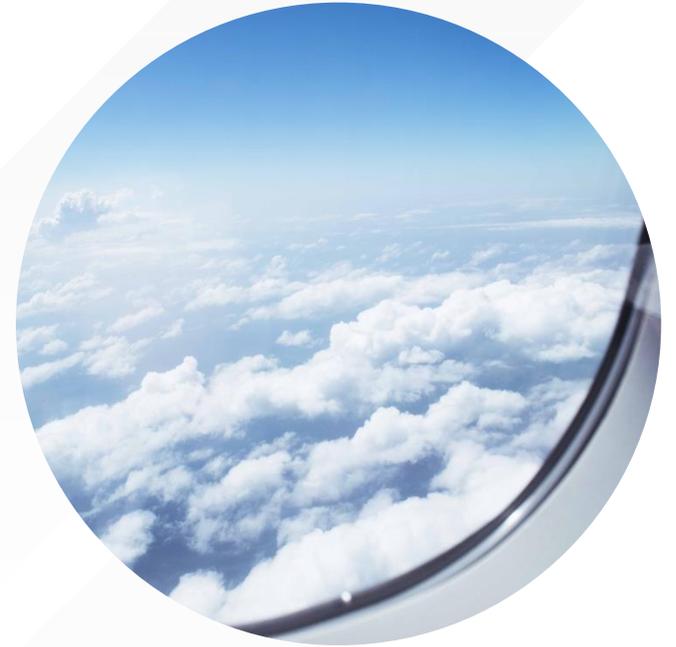
*CFIT Prevention in Africa to
Improve Safety Performance
towards Abuja Safety Targets –
Part 2 on 16 December 2021*

Gaoussou KONATE – Director, Technical and Operations

Better Skies for Africa

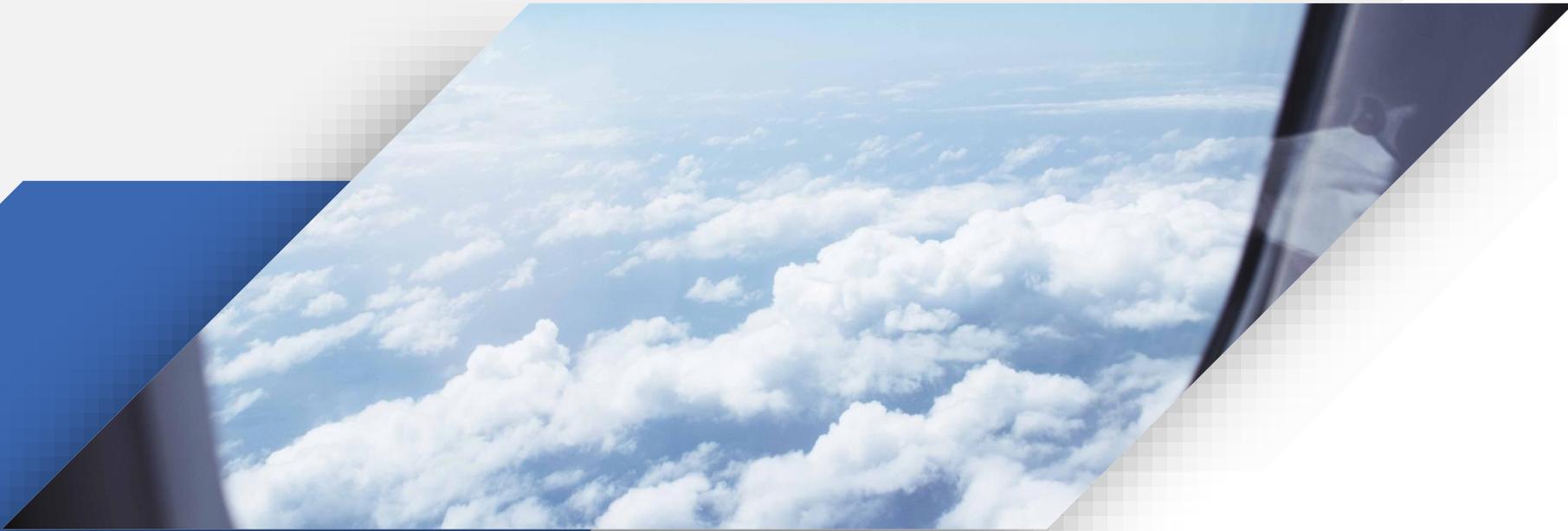
Agenda

1. AFI Safety Performance 2012 – 2019
 1. Runway Safety
 2. LOC-I
 3. CFIT
2. Contributing Factors to CFIT Results
3. CFIT Prevention through Training
4. FSF CFIT Checklist
5. Video
6. Commitment to Safety Improvement in Africa





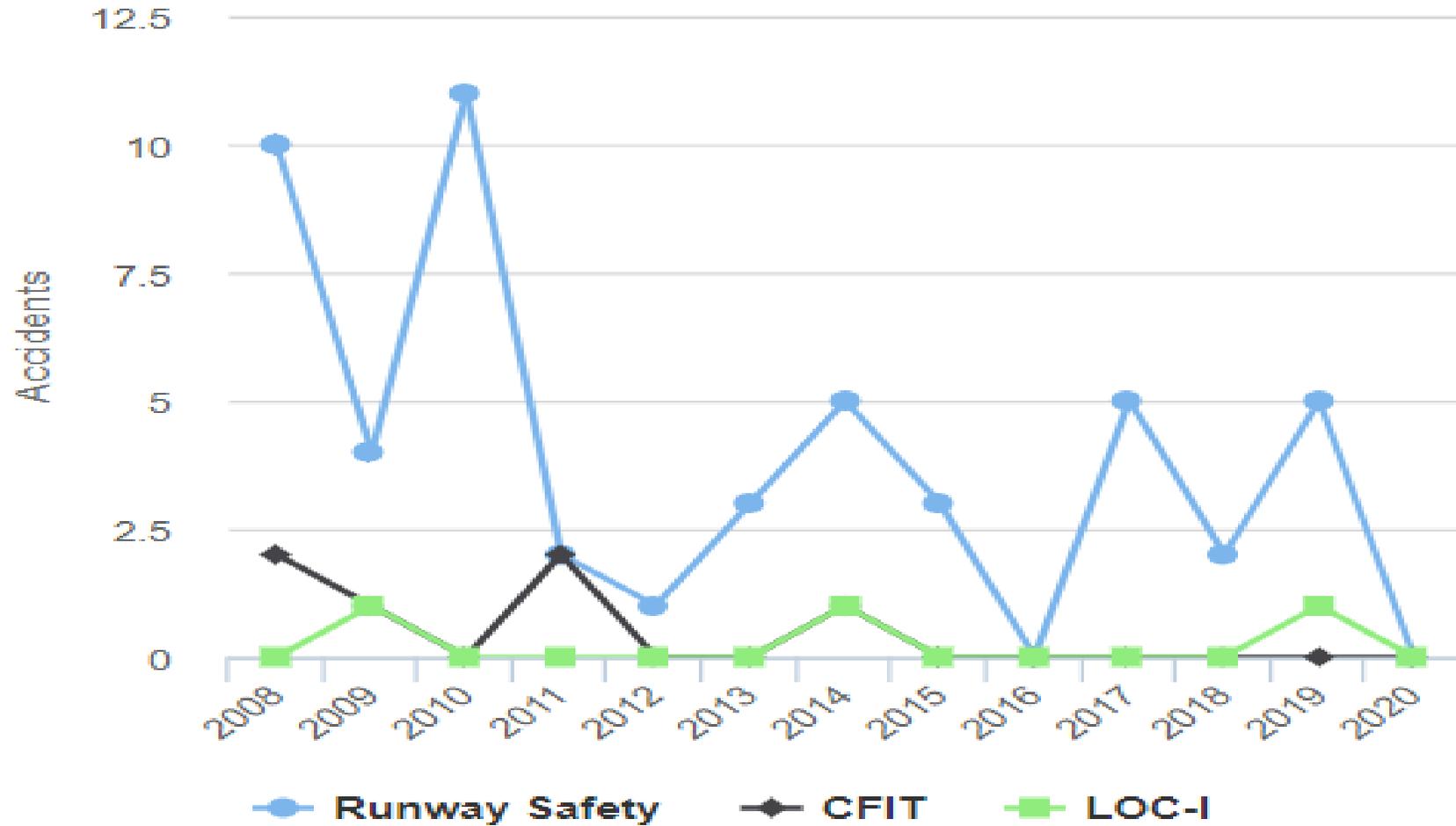
Since Abuja



Evolution of the Accidents Rates – RASG AFI

Accidents by Risk Category

Scheduled Commercial flights on airplanes above 5.7t only



Facts Contributing to lower CFIT rates in AFI

Zero CFIT Accidents from 2012 to 2019

- ❑ Commercial flight operations dominate air transports providing services from international airports.
- ❑ Most commercial aircraft fitted with GPS/EGPS/TAWS.
- ❑ The operational needs are met at these international airports equipped with precision landing aids:
 - ❑ ILS Cat I (majority);
 - ❑ ILS Cat II or Cat III at few airports
- ❑ Increasing additional PBN procedures at:
 - ❑ International airports and;
 - ❑ Domestic secondary airports;
 - ❑ Based on CPT terrain risk environment ILS Cat III and RNP AR.



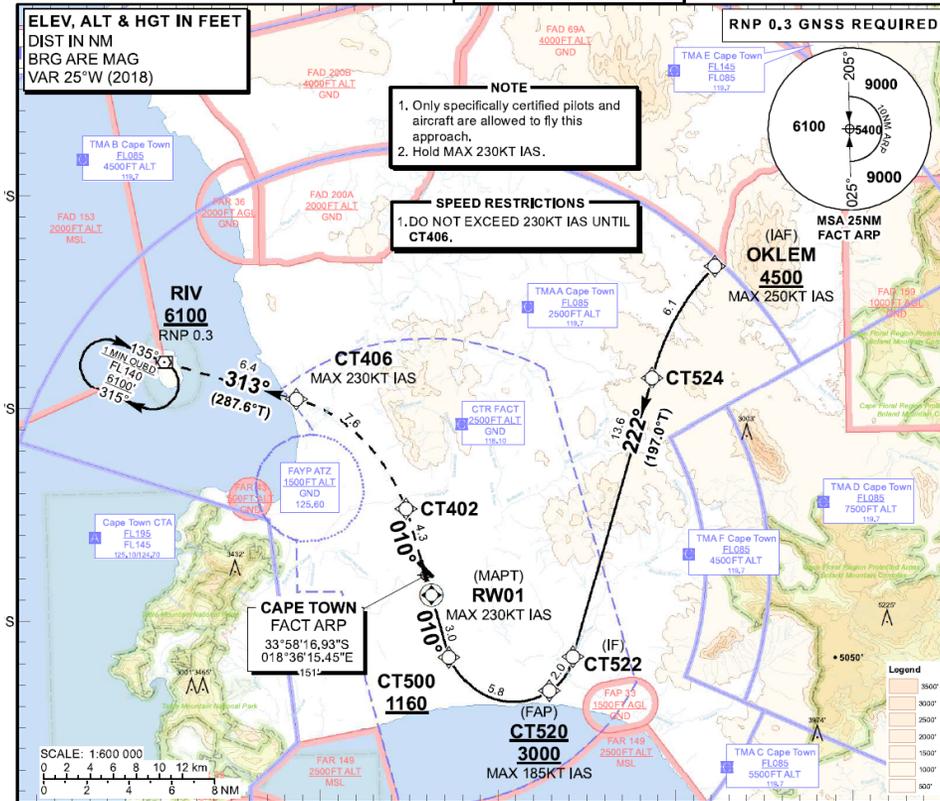
w w w . a f r a a . o r g

Cape Town RNP AR APCH

INSTRUMENT APPROACH CHART - ICAO AERODROME ELEV 151' HEIGHTS RELATED TO THR RWY 01 - ELEV 144'

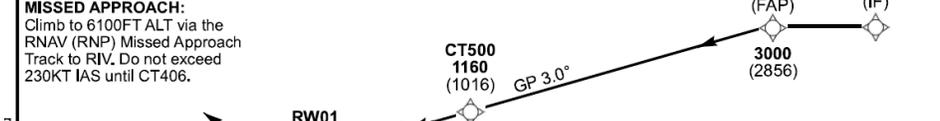
RADAR APP: 119,70 TWR: 118,10 ATIS: 127,00

CAPE TOWN INTL RNAV (RNP) Y RWY 01 CAT C - D



DIST (NM) to THR 01	8.8	7	6	5	4	3	2	0
DIST (NM) to Next WPT	FAP	7	6	5	4	CT500	2	RW01
ADVISORY ALT (HGT)	3000 (2856)	2430 (2286)	2110 (1966)	1800 (1656)	1480 (1336)	1160 (1016)	840 (696)	

TRANSITION ALT 7500
TRANSITION LEVEL ATC
INA ALT: 6100 or higher MSA



RDH 61
THR ELEV 144
NM to/from THR RWY 01

MIN TEMP: -1°C	OCA (H)	C	D	GS	KT	80	100	120	140	160	
Straight-in Approach	RNP 0.3	5.1%	460 (316)	470 (326)	FAP to MAPT	M:S	6:36	5:16	4:24	3:46	3:18
		4.5%	1130 (986)	1130 (986)							
		3.5%	2230 (2086)	2230 (2086)							
		2.5%	3340 (3196)	3340 (3196)							

NOTE:
1. For A330, speed brake may be required to maintain the vertical profile.
2. Circle to land at the discretion of the pilot in command.

Facts Contributing to lower CFIT rates in AFI

Zero CFIT Accidents from 2012 to 2019

- CCOs and CDOs campaigns
- SIDs and STARs campaigns
- Stable approaches campaigns
- FDMA campaigns



Training to Improve CFIT Prevention Skills

- **The challenge to maintain zero CFIT**
 - Ensure recurrent training to improve CFIT prevention skills
- Make use of FSF training materials and other relevant training materials



CFIT Checklist

Evaluate the Risk and Take Action

Flight Safety Foundation (FSF) designed this controlled flight into terrain (CFIT) risk assessment safety tool as part of its international program to reduce CFIT accidents, which present one of the greatest risks to aircraft, crews and passengers. The FSF CFIT Checklist complements technological developments and the Foundation believes that its distribution to the worldwide aviation community has helped to reduce risk. Use the checklist to evaluate specific flight operations and to enhance pilot awareness of the CFIT risk. The checklist is divided into three parts. In each part, numerical values are assigned to a variety of factors that the pilot/operator will select to represent his/her own situation and to automatically calculate a CFIT Risk Score.

Note: Before using this worksheet, enable active content (macros) in Microsoft Excel.

In *Part I: CFIT Risk Assessment*, the level of CFIT risk is calculated for each flight, sector or leg. In *Part II: CFIT Risk-reduction Factors*, Company Culture, Flight Standards, Hazard Awareness and Training, and Aircraft Equipment are factors, which are calculated in separate sections. In *Part III: Your CFIT Risk*, the totals of the four sections in *Part II* are combined into a single value (a positive number) and compared with the total (a negative number) in *Part I: CFIT Risk Assessment* to determine your CFIT Risk Score.

Instructions for automatic calculation of CFIT Risk Score:

1. Choose the Part I worksheet tab below, then select applicable factors as instructed in each section.
2. Next, choose the Part II worksheet tab below and select applicable factors as instructed in each section. Results for Part I and Part II automatically will be calculated and displayed on these tabbed panels.
3. Choose the Part III worksheet tab to see the resulting CFIT Risk Score. A negative CFIT Risk Score indicates a significant threat.
4. If the result is a negative CFIT Risk Score, review the sections in Part II and determine what changes and improvements can be made to reduce CFIT risk.
5. If "Select one" appears in Part I, Section 2, or if any error message appears in the automatically calculated scores, verify that value(s) selected comply with the corresponding instructions.

Clear All Values Selected

Part I: CFIT Risk Assessment

Section 1 - Destination CFIT Risk Factors

Total: 0

Airport and Approach Control Capabilities: (select applicable values)

	Value	Score
<input type="radio"/> ATC approach radar with MSAW	0	
<input type="radio"/> ATC radar only	-10	
<input type="radio"/> ATC radar only with coverage limited by terrain masking	-15	
<input type="radio"/> No ATC service or no radar coverage available (out of service/not installed)	-30	
<input type="checkbox"/> ATC minimum vectoring altitude charts or radar display	0	

Expected Approach: (select applicable values)

<input type="checkbox"/> Airport located in or near mountainous terrain	-20	
<input type="radio"/> ILS	0	
<input type="radio"/> VOR/DME	-15	
<input type="radio"/> Nonprecision approach with the approach slope from the FAF to the runway TDZ shallower than 2 3/4 degrees	-20	
<input type="radio"/> NDB	-30	
<input type="checkbox"/> Visual night "black-hole" approach	-30	

Part II: CFIT Risk-Reduction Factors

Section 1 - Company Culture

Company Culture Total: 0

Score Indicates: High CFIT risk

Corporate/company management: (select applicable values)

	Value	Score
<input type="checkbox"/> Places safety before schedule	20	
<input type="checkbox"/> CEO signs off on flight operations manual	20	
<input type="checkbox"/> Maintains a centralized safety function	20	
<input type="checkbox"/> Fosters reporting of all CFIT incidents without threat of discipline	20	
<input type="checkbox"/> Fosters communication of hazards to others	15	
<input type="checkbox"/> Requires standards for IFR currency and CRM training	15	
<input type="checkbox"/> Places no negative connotation on a diversion or missed approach	20	

Section 2 - Flight Standards

Flight Standards Total: 0

Score Indicates: High CFIT risk

Part III: Your CFIT Risk

CFIT Risk Score = Part I CFIT Risk Assessment Factors Total **Error**
+ Part II CFIT Risk-reduction Factors Total **0**

CFIT Risk Score = **Error**

A negative CFIT Risk Score indicates a significant threat; review the sections in Part II and determine what changes and improvements can be made to reduce CFIT risk.

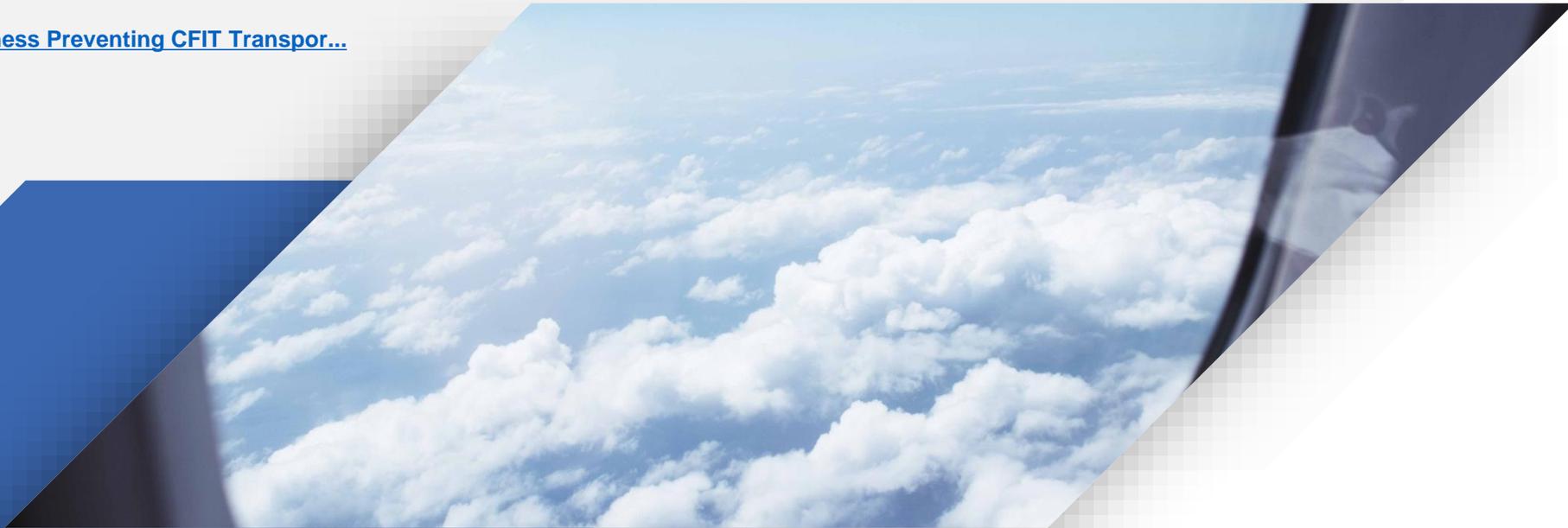
The Flight Safety Foundation (FSF) CFIT Checklist worksheet was developed as a collaborative effort by employees of the U.S. Federal Aviation Administration (FAA) and the Foundation. William L. McNease, an FAA flight standards inspector, and Gerald H. Pijl, an FAA aircraft certification engineer, initiated the project while discussing how personal computer software could help prevent controlled flight into terrain. Wording and calculations in the FSF CFIT Checklist worksheet correspond to the print version of the FSF CFIT Checklist, except for changes required to take advantage of Microsoft Excel functions.

The FSF CFIT Checklist worksheet incorporates the FSF CFIT Checklist, an element of the copyrighted FSF Approach-and-Landing Accident Reduction (ALAR) Tool Kit, Version 5.0. The FSF ALAR Tool Kit is a self-contained product of the FSF ALAR Task Force and includes a variety of information to help prevent approach-and-landing accidents, including those involving CFIT. This information is not intended to supersede operators' /manufacturers' policies, practices or requirements, or to supersede government regulations.

In the interest of aviation safety, the FSF CFIT Checklist worksheet may be displayed, printed, photocopied and/or distributed for noncommercial use. Except as specifically permitted above, the worksheet must not be offered for sale directly or indirectly, or used commercially without the prior written permission of Flight Safety Foundation. All uses of the FSF CFIT Checklist worksheet must credit Flight Safety Foundation. Contact the FSF director of publications for more information.

Video

[Situational Awareness Preventing CFIT Transpor...](#)

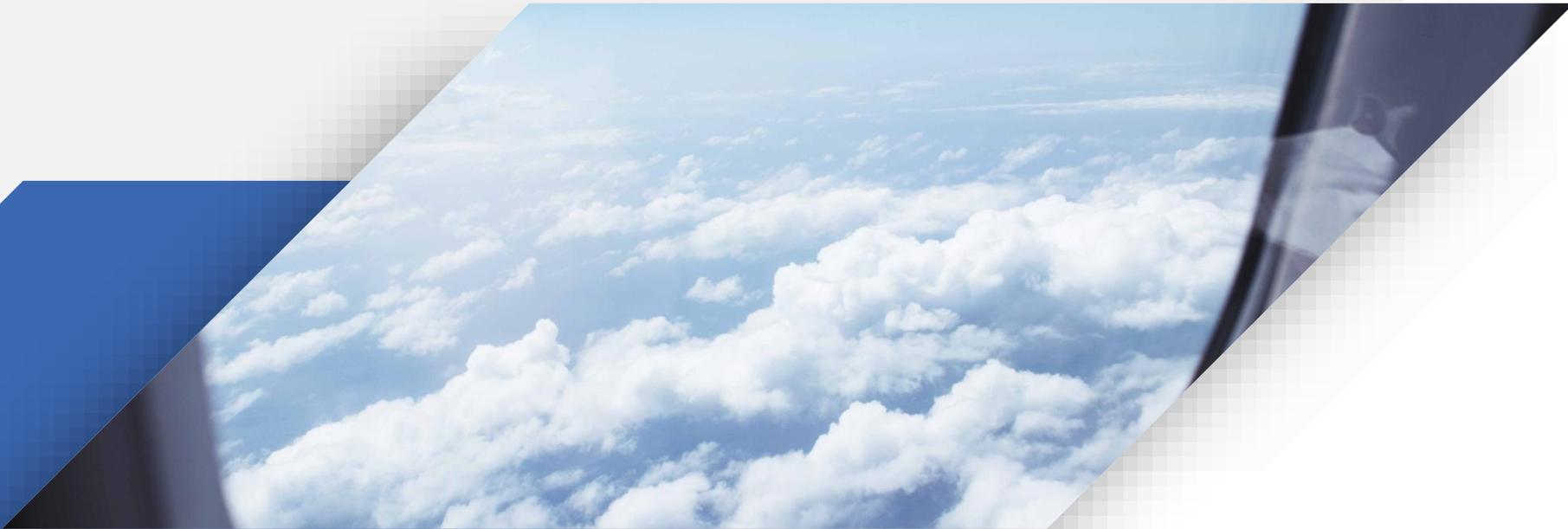


On 19 July 2003

- Probable cause: The pilots' failure to maintain horizontal and vertical situational awareness of the aircraft's proximity to the surrounding terrain, resulting in inadequate clearance, and controlled flight into terrain.
- Contributing factors:
 - Unfamiliarity with the airspace and the route in particular and the existence of high ground on the planned flight route.
 - Inadequate flight planning by the pilots and distraction of their attention when they were instructed to contact Nanyuki.
 - Poor pilot briefing by the Wilson ATC briefing office.
 - Poor communication between the air traffic control units.
 - Failure of the radar controller to advise the pilot of termination of radar service.
 - Lack of a radar system minimum safe altitude warning to the radar controller
 - Poor civil military coordination during transit through the military airspace.

Source Aviation Safety Netwo

The Abuja Safety Targets



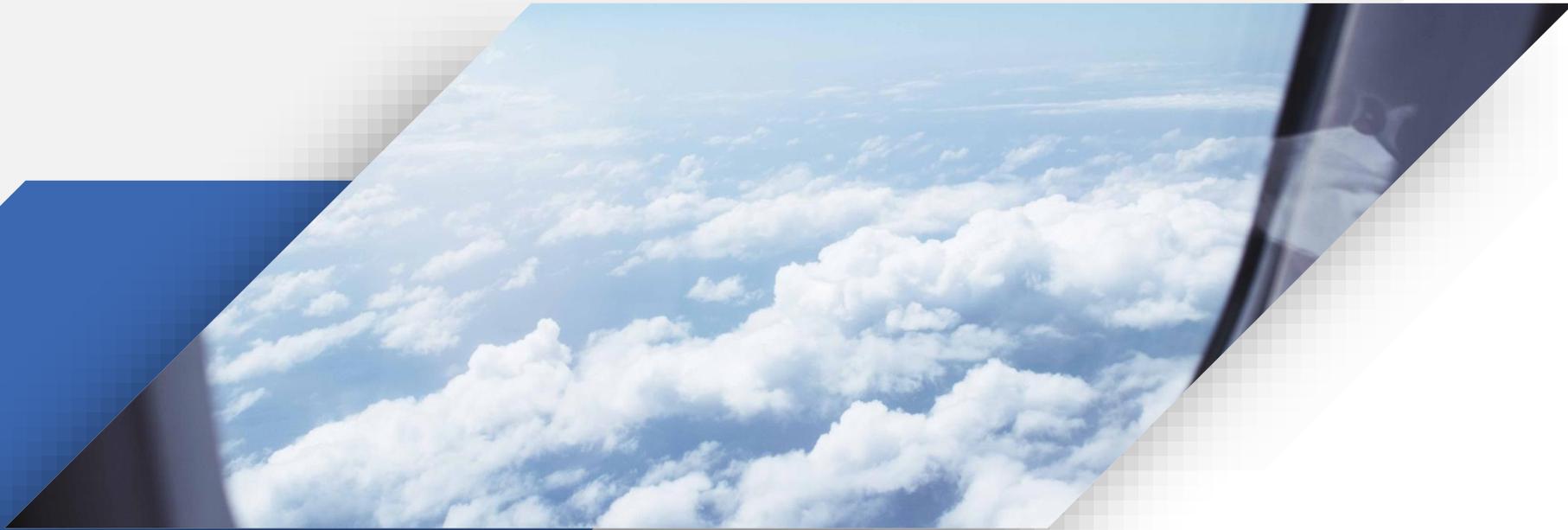
Commitment to Improve Safety towards Abuja Safety Targets

- **Engage to improve CFIT prevention skills through training**
 - To maintain zero CFIT accident in the Region
- **Engage to reduce LOC-I accident rates through trainings**
- **Establish or contribute to increase effectiveness of Runway Safety Teams at all international airports**
 - To accelerate the down trend of accident rates in Africa





Thank You



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