



# ICAO SYMPOSIUM ON LOSS OF CONTROL IN FLIGHT

## OPENING REMARKS

22 June, 2015

**DR. ELIJAH CHINGOSHO**  
**AFRAA SECRETARY GENERAL**



# INTRODUCTION

- ▶ It is a great pleasure and honour for AFRAA to participate in this important conference.
- ▶ Conference taking place at a time when the airline industry is growing significantly in terms of growing traffic levels although not necessarily in terms of profitability
- ▶ A safe and secure air transport industry has the potential to significantly increase the profitability and viability of African carriers





# WHAT IS AFRAA?



- ▶ AFRAA an air transport trade organization established in 1968 in Accra, Ghana.
- ▶ Headquartered in Nairobi, Kenya.
- ▶ Membership is open to all airlines registered and headquartered in African States.
- ▶ Current membership is 35 airlines representing over 85% of total international traffic carried by all African airlines.
- ▶ AFRAA Mission: To serve African airlines, promote and protect their common interests





# TRIBUTE TO THE STERLING WORK OF ICAO IN AFI



- My gratitude to ICAO for the sterling work it is doing to improve safety standards on the continent
- Safety standards in some of the states which had historically had high accidents rates have significantly improved during the past three years
- All these efforts go a long way towards improving the safety image of African aviation
- AFRAA would like to pay tribute to the close collaboration and personal friendship with the ICAO Regional Directors
- ICAO has facilitated AFRAA to express and articulate the needs and views of airlines with respect to the need for stringent safety and security oversight by states





# NEED FOR GLOBAL SAFETY STANDARDS



- Aviation on the continent will only develop to its fullest when African States attain and maintain global safety standards
- Safety standards on the continent are below global standards although they are improving significantly
- The EU has imposed a ban on 58 carriers from 16 states
- The Abuja Declaration of 2012 came up with safety targets for various stakeholders to be achieved by 2015
- Evident that a lot has been achieved but lot more needs to be done to reach global standards





# ABUJA TARGETS



The Abuja Summit of 2012 came up with following targets:

- ▶ Adoption and implementation of an effective and transparent regulatory oversight system;
- ▶ Implementation of runway safety measures;
- ▶ Training on preventing Loss of Control;
- ▶ Implementation of Flight Data Analysis (FDA);
- ▶ Implementation of Safety Management Systems (SMS).





# ACCIDENTS DUE TO LOSS OF CONTROL IN FLIGHT (LOC-I)



- ▶ LOC-I has been one of the most significant causes of fatal aircraft accidents for many years
- ▶ Loss of control usually occurs because the aircraft enters a flight regime which is outside its normal envelope
- ▶ Aircraft experiencing a loss of control depart from normal flight and can reach attitudes or situations from which it is impossible for them to be recovered.
- ▶ A study by the UK CAA on Global Fatal Accident in period 2002–2011 stated that almost 40 per cent of all fatal accidents involved some kind of loss of control, making this the most frequent type of accident.



# SOME CAUSES OF LOC-I

- ▶ Loss of Situational Awareness through distraction or complacency
- ▶ Low level wind sheer or higher level clear air turbulence
- ▶ Structural or multiple power plant damage caused by, e.g. bird strike, exposure to severe turbulence, or collision with another aircraft.
- ▶ Intended or unintended mishandling of the aircraft
- ▶ Attempted flight with total load or load distribution outside of safe limits
- ▶ An attempt to take off without ensuring that critical parts of the airframe are free of frozen deposits or previously applied ground anti-icing fluids





## SOME CAUSES OF LOC-I (Contd)

- ▶ The effects of high levels of airframe ice accumulation or a significant loss of power on all engines attributable to engine icing,
- ▶ Attempting to manoeuvre an aircraft outside its capabilities to resolve a prior problem
- ▶ In-flight fire
- ▶ Fuel exhaustion or starvation
- ▶ False instrument readings displayed to the flight crew
- ▶ Wake turbulence, especially if recommended spacing is not maintained
- ▶ Malicious interference



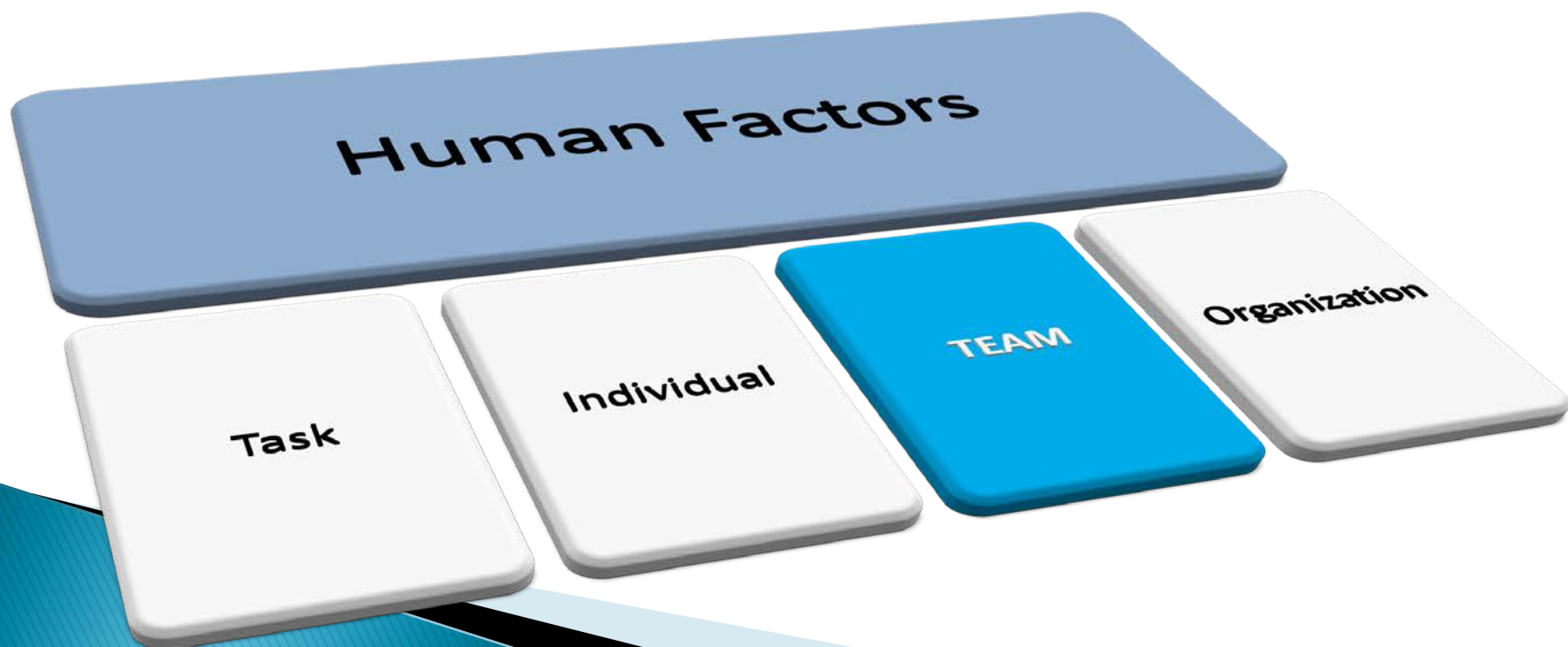
# GROUPING OF LOSS OF CONTROL

- ▶ All the above causes of loss of control can be grouped under human induced, system induced or environment induced.
- ▶ Studies by various entities have found that the most significant category contributing to loss of control is human-induced causal factors
- ▶ Means that an otherwise healthy aircraft experiences a loss of control due to inappropriate human action
- ▶ At a distant second and third place are causal factors related to systems-induced LOC and environmentally induced LOC.



# HUMAN-INDUCED LOSS OF CONTROL

- ▶ Accident and incident statistics indicate that when a loss of control event occurs, it is most often a result of human error
- ▶ Providing tools for training and aiding the pilot to avoid, detect, prevent, and recover from, loss of control is important in reducing loss of control events.



# SYSTEMS-INDUCED LOSS OF CONTROL

- ▶ Modern aircraft systems are very safe
- ▶ However, even with stringent reliability guidelines, systems failures of flight-critical systems do occur.
- ▶ System faults may be the direct cause of loss of control
- ▶ They may be a trigger which leads to a loss of control, or they may be a contributing factor

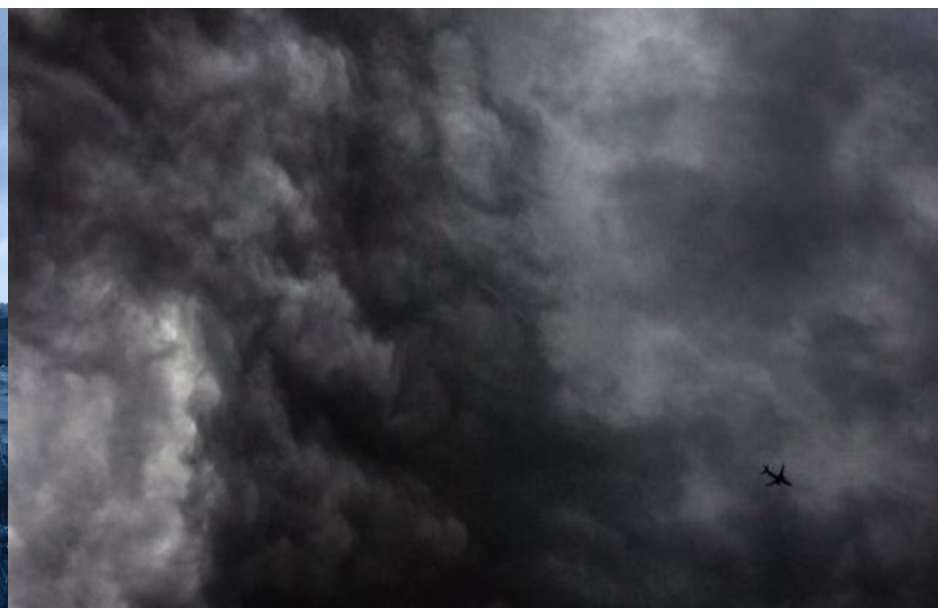




# ENVIRONMENTALLY-INDUCED LOSS OF CONTROL



- ▶ Factors external to the aircraft can cause loss of control accidents
- ▶ Very few accidents have a single cause. Typically, a number of causal factors must be lined up to cause a loss of control accident
- ▶ Very often the trigger that initiates an accident sequence is an external environmental factor
- ▶ The typical environmentally-induced loss of control causal factors includes icing, turbulence, degrading visibility, heavy rain, low-level wind shear, wake vortices or bird strikes



# PREVENTING LOSS OF CONTROL

- ▶ Avoidance and detection of loss of control events are important compared to recovery based mitigations
- ▶ Development of recovery-based mitigations also required to ensure complete coverage when breaking the chain of events in a loss of control scenario
- ▶ Onboard systems that eliminate, or protect the aircraft from entering a loss of control scenario are most effective
- ▶ Avoidance and detection of loss of control events should include data mining of incident reports, accidents reports, and flight operations quality assurance data to identify trends and conditions that lead to loss of control
- ▶ Off-board solutions should also include technologies to avoid weather and atmospheric related hazards e.g. icing & wake vortex encounters.





# CONCLUSIONS



- ▶ Aside from their frequency of occurrence, accidents resulting from loss of aircraft control seize the public's attention by yielding a large number of fatalities in a single event
- ▶ Therefore, prevention of loss of control will help in reducing the number of accidents on the continent.
- ▶ This conference is therefore very important as it addresses one of the major causes of accidents not only in Africa but worldwide.





**Thank You!**

