

# XII ICAO/ASPA REGIONAL SEMINAR

The Just Culture in Commercial  
Aviation Accident Prevention

Captain Gavin McKellar

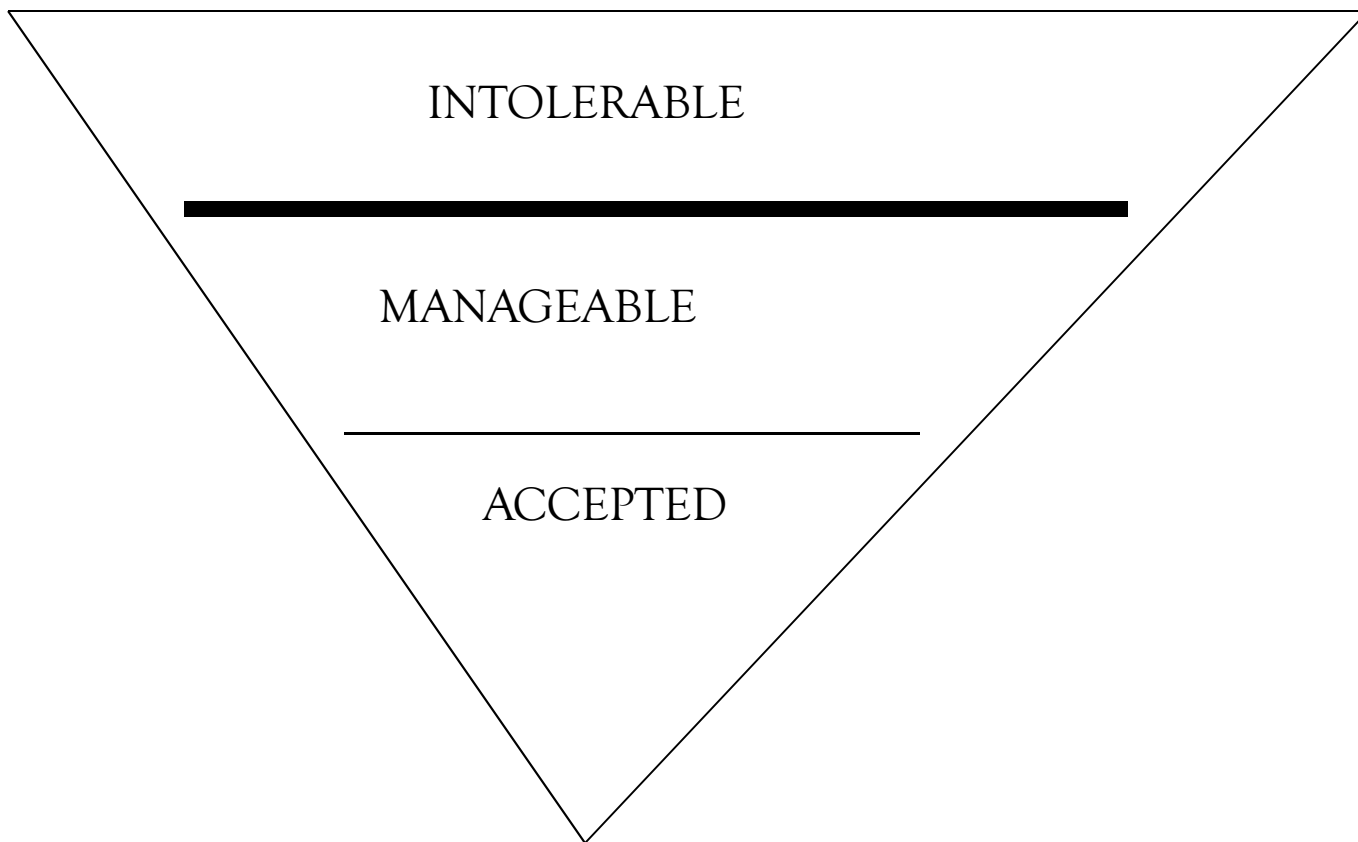
# SYNOPSIS

- To understand a aviation accident prevention
- we need to first look at how accidents are caused and prevented
- Human Performance Issues
- Then we will look at culture in aviation
- Then specifically at a Just Culture as part of a safety culture

# Is Aviation Safe?



LEVELS OF RISK  
DRAWING THE LINE







**Risk is meticulously and continually well managed by  
crews**

# Aviation is a high risk complex system

## Emirates passenger tells of terrifying emergency landing

Shanti Aboobaker  
and Barbara Maregele

PASSENGERS on Emirates flight EK773 to Dubai heard two bangs, and then a third, as the plane levelled out in the air and its landing gear failed to retract minutes out of Cape Town yesterday.

"We thought we were goners, to be quite honest. We didn't know what was happening. There were terrible crunching noises," British tourist Carol Ann Maxwell told the Cape Times.

Maxwell said she had wept and held her daughter, Kaley Ann's hand.

The flight left Cape Town for Dubai at 1.55pm and returned to Cape Town at 3.20pm after a technical problem developed



**DISTRAUGHT:** Carol Ann Maxwell thought she and her daughter were 'goners'.

with the aircraft's landing gear, Emirates regional manager Fouad Caunhye said. "At no point was the safety of the 243 passengers or crew at risk."

Passengers said airline staff

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“If anything can go wrong, It won’ t”  
Professor James Reason



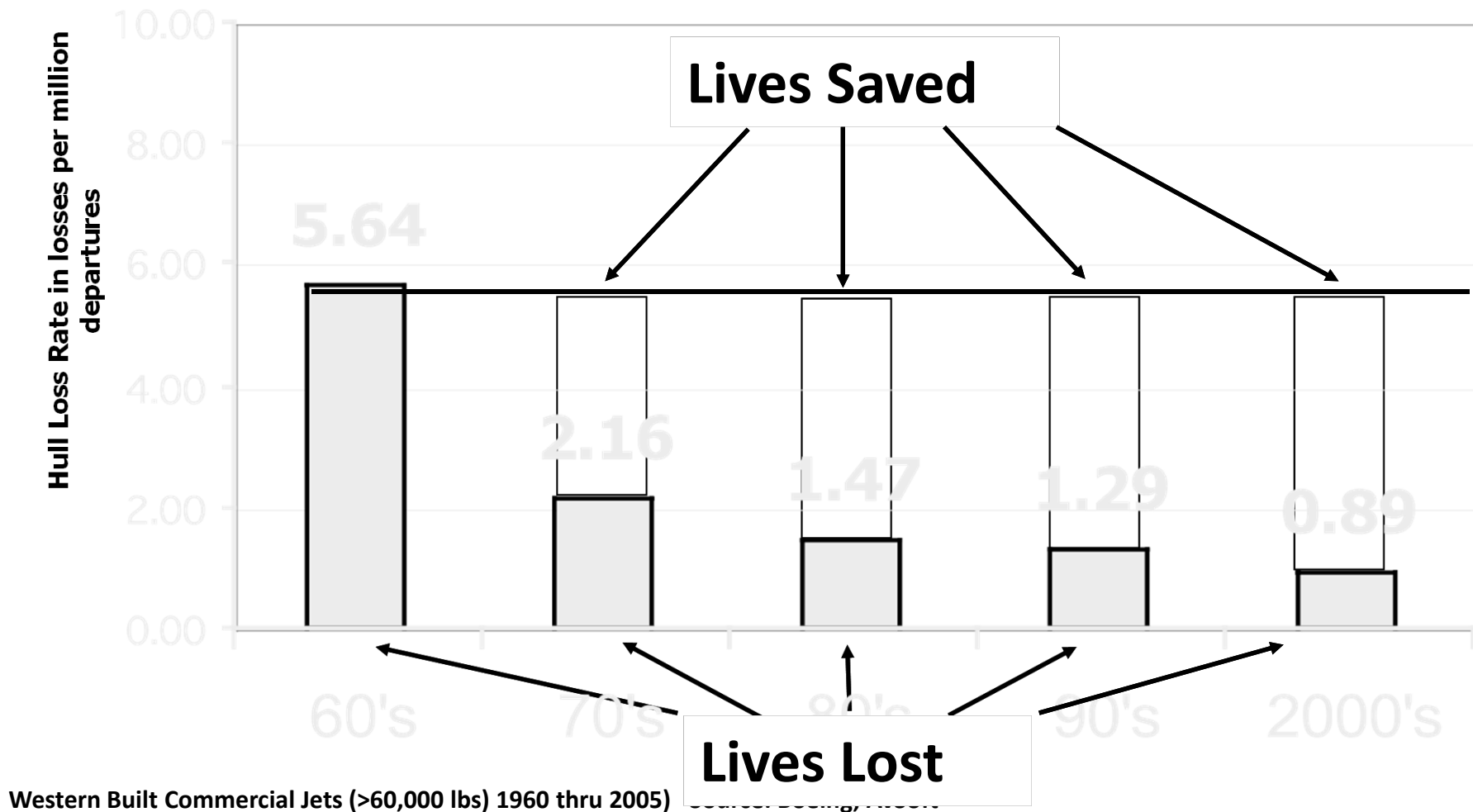
# 2013 IATA STATISTICS

- 2.4 accidents / million departures for the ICAO /IATA Global Safety Info Exchange
- Western Built Hull loss 0.41 / million departures= 1 accident for every 2.4 million flights
- Around 100 000 flights operate safely each day.
- Over 3 billion people travelled in 2013 in 36.1 million flights
- 5 year average is 19 accidents (all types)
- 5 year average is 519 fatalities per year

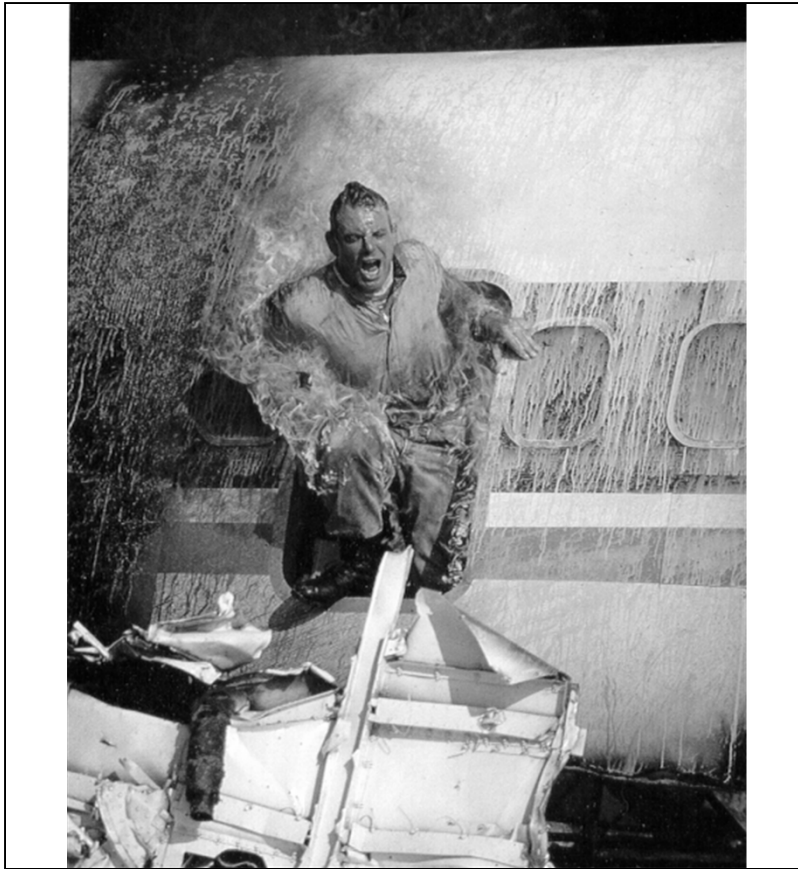
# A Comparison



# Lives Saved v. Lives Lost

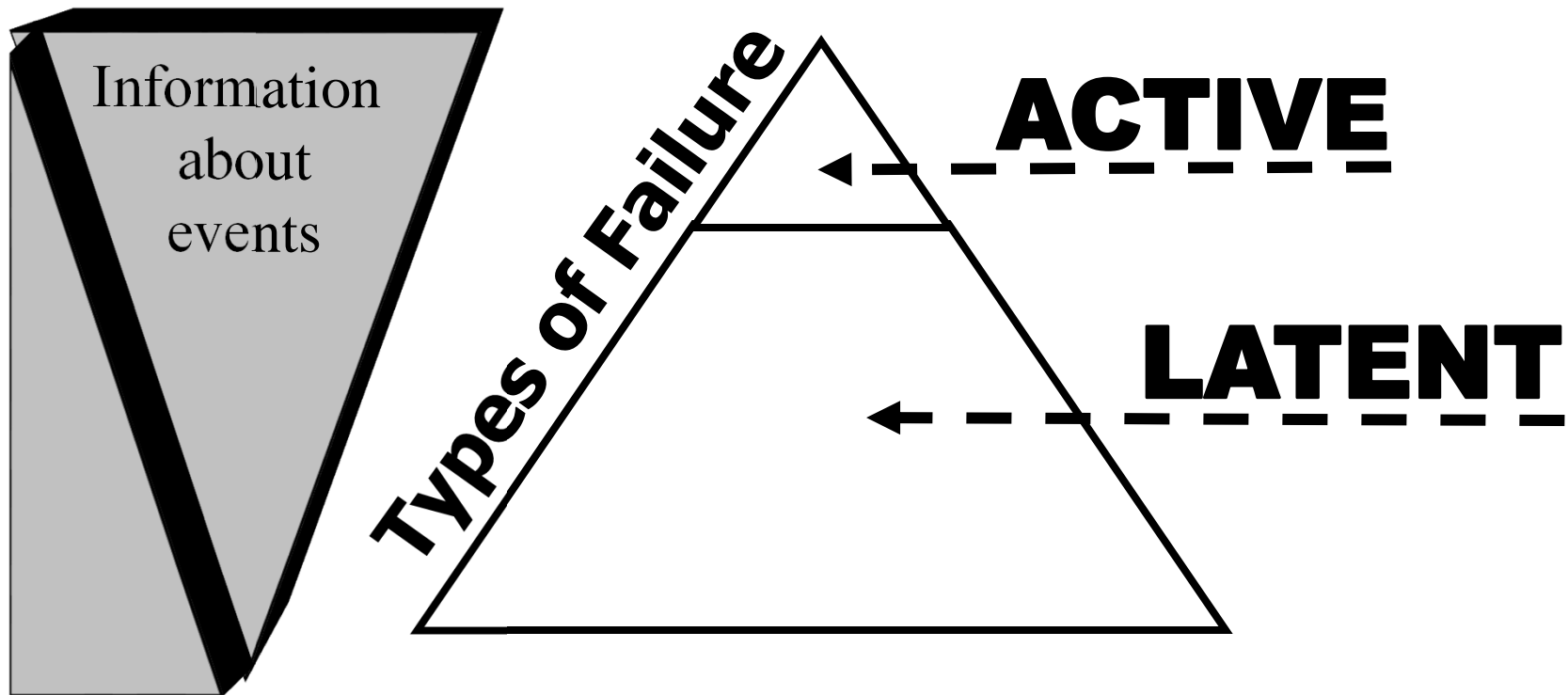


# CAUSES OF ACCIDENTS



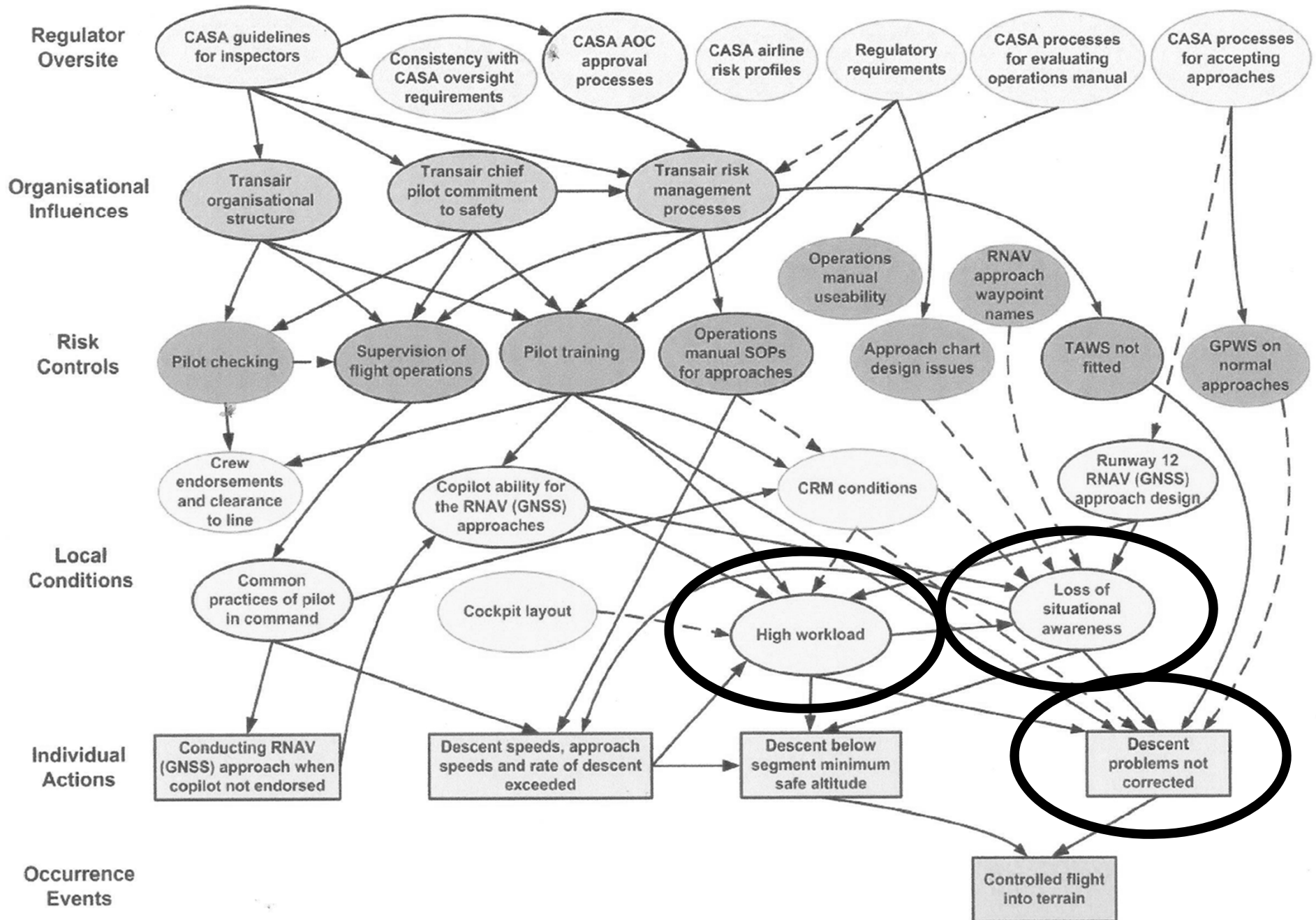
- Failures in the System
- Equipment Failures
- Human Limitations
- Pressures of the Environment
- Violations

# System Failures That Contribute to Accidents



**Addressing latent conditions offers the  
greatest potential for safety improvements**





# Violation/Willful ?/ Reckless?

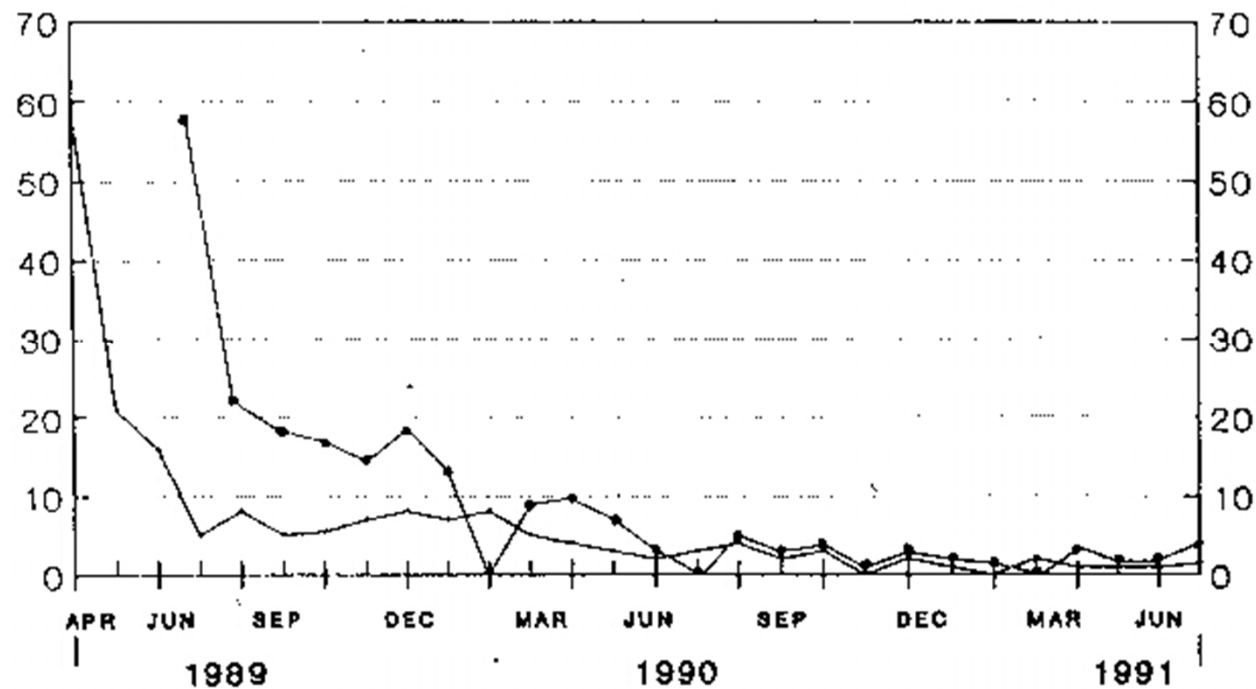


# SAA AIMS FDR MONITORING

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**AIRBUS 300**  
OPERATIONS EXCEEDENCES PER 1000 FLIGHTS

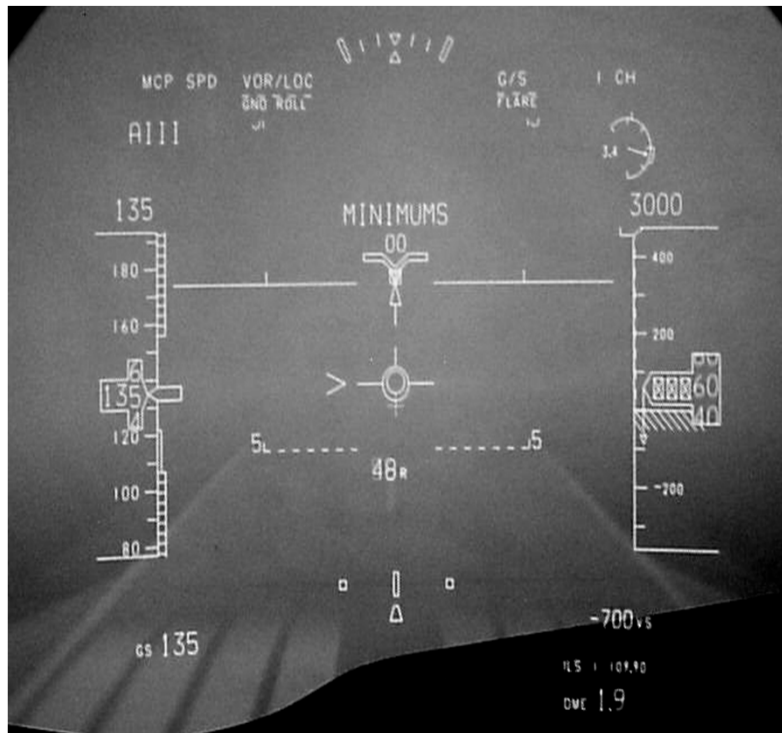
**BOEING 737**  
OPERATIONS EXCEEDENCES PER 1000 FLIGHTS





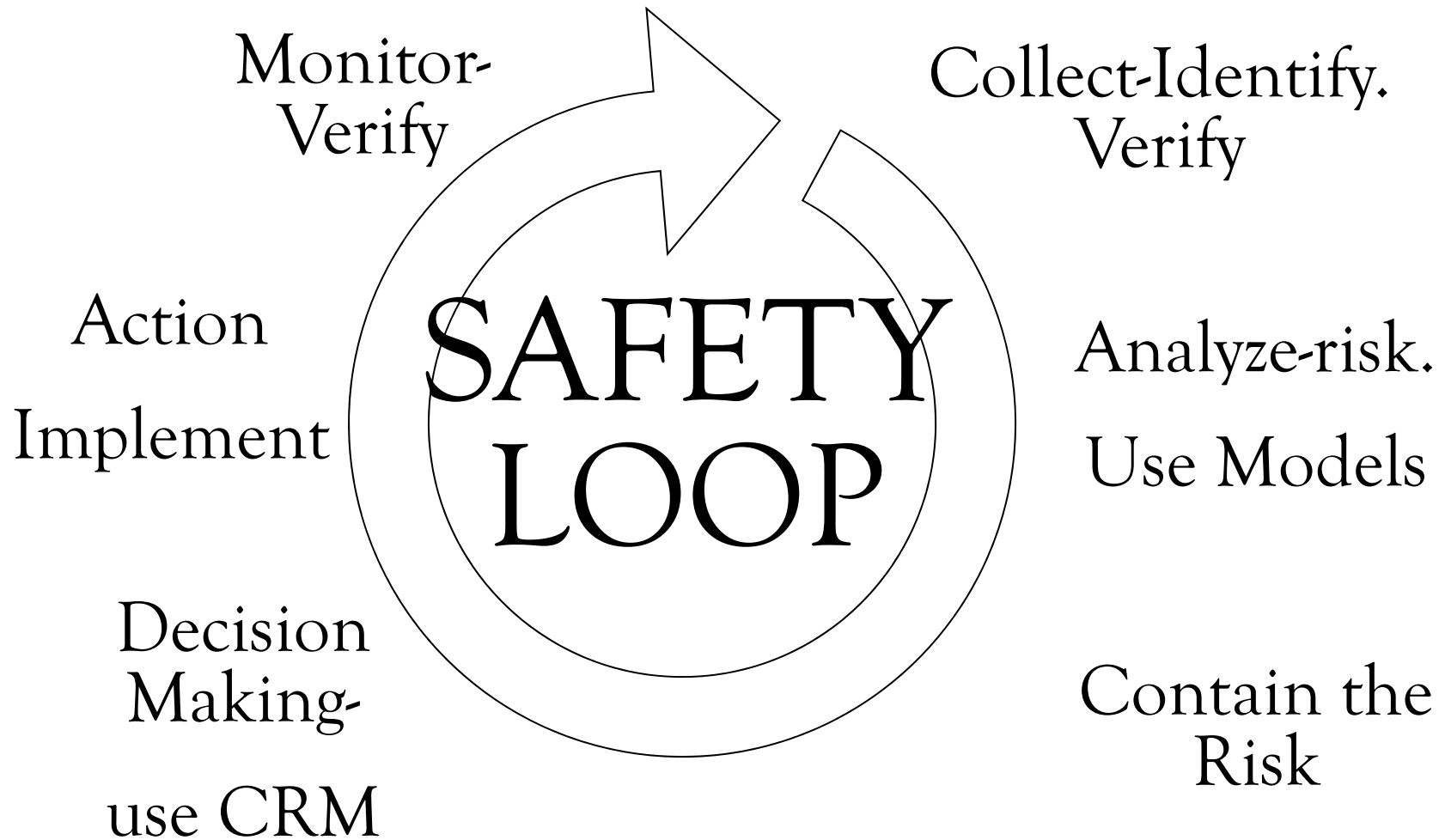


# ACCIDENT RATE REDUCTION



- Equipment & Technology
- Learning from Errors (info flow)
- Sharing Best Practice
- Human Factor Focus
- Pro-active Stance  
(reporting, FDA, IOSA, ASAP)
- Good Safety Oversight
- Co-operation between  
Government & Industry
- Legislation

# DECISION MAKING IN RISK MANAGEMENT - CLOSING THE LOOP



# Annex 19

## **5.2 Safety data analysis**

**ICAO para. 5.2.2** recommends that *each State should, following the identification of preventive actions required to address actual or potential safety deficiencies, implement these actions and establish a process to monitor implementation and effectiveness of the responses*

## **IFALPA POLICY**

This recommendation should be upgraded to a Standard.



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# SAFETY CULTURE



# PRO-ACTIVE SAFETY

## Needs to Know Risk Levels

- Risk Levels Unknown-Why?
- Because- Lack of data-Why?
- Because- No reporting. Why?
- Because- No Trust. Why?
- Because- Fear of Prosecution. Why?
- Because-Blame Culture / Experience
- Solution-Just Safety Culture

# The civil aviation safety system is established on the basis of feedback and lessons learned



# Safety Premise

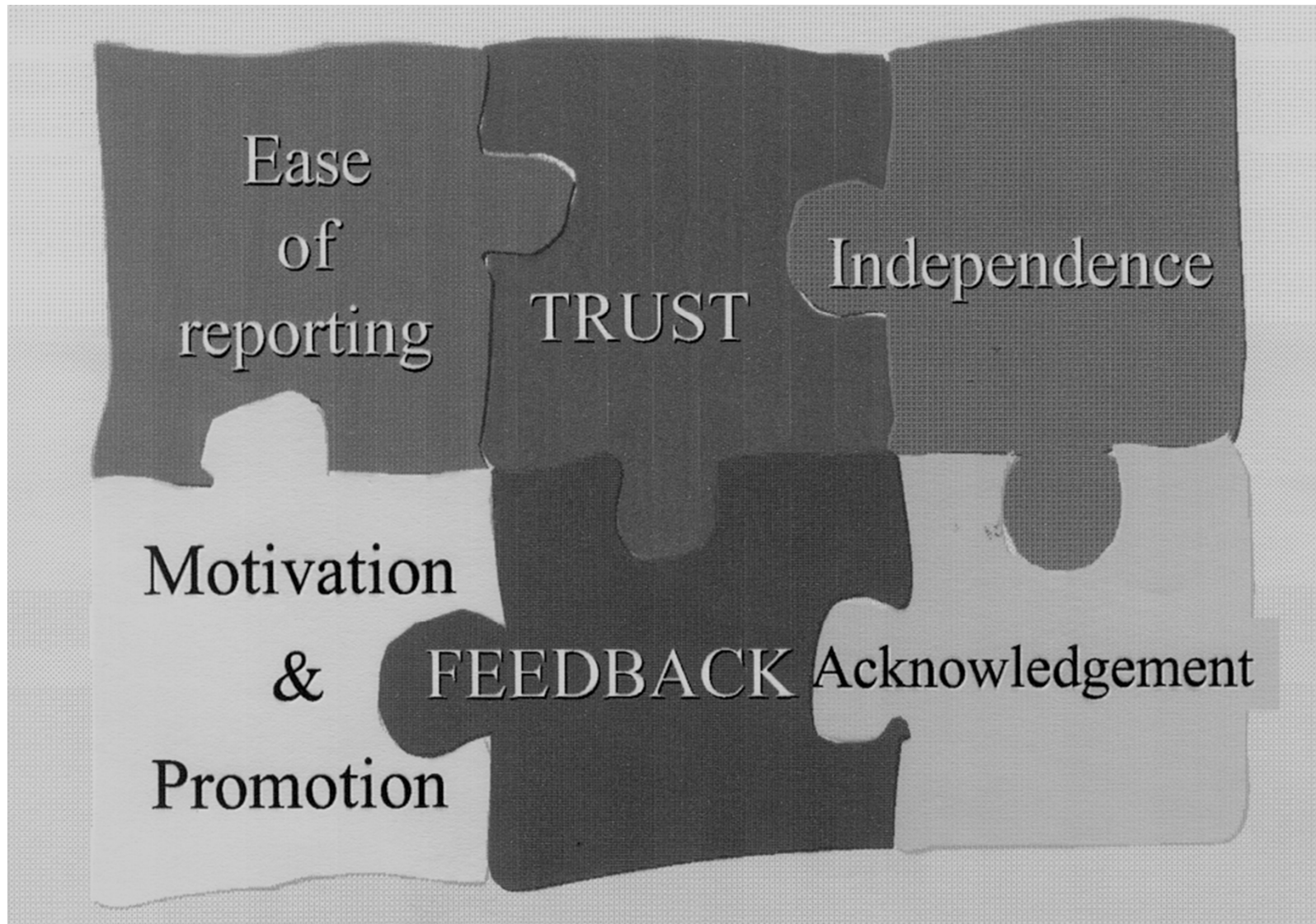
- 'Learn from mistakes'
- But if mistakes are prosecuted
- Information flow stopped
- Mistakes repeated, not prevented



IT IS VITAL THAT PILOTS  
SUBMIT TIMELY  
REPORTS, WRITTEN OR  
VERBAL ON ANY  
OBSERVED OR  
PERCEIVED AVIATION  
HAZARD.

IFALPA ANNEX 13

# “Reporting Culture”

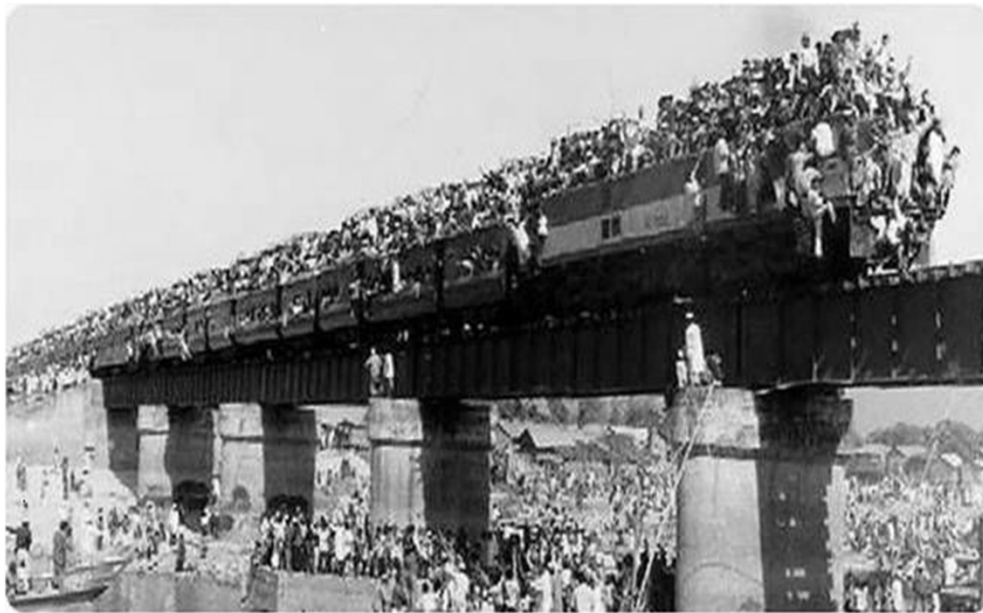


# Principles

- Information collected shall be adequately protected from unauthorized use or disclosure
- Confidentiality allows availability
- Reporters are to be protected
- Safety information not to be used to apportion blame nor liability



# CULTURE



‘NORMS AND VALUES  
THAT AFFECT  
BEHAVIOUR’

REACHES INTO ALL AREAS  
OF LIFE

‘THE WAY WE DO IT  
AROUND HERE’

# CULTURE



- MISMATCHES AT THE (CULTURAL) INTERFACES  
=
- POSSIBLE BREEDING GROUNDS FOR HUMAN ERRORS
- CONFLICT
- MISCOMMUNICATIONS
- MISUNDERSTANDINGS

# CULTURE

- NATIONAL
- CORPORATE
- PROFESSIONAL
- SAFETY CULTURE  
(ACCIDENT  
PREVENTION)



# NATIONAL CULTURE

## “The Hardest to Change”



# CORPORATE CULTURE

“Workers Behave the way  
Managers Manage-  
Positively or Negatively”



Photo Copyright Jeremy Chiou

AIRLINERS.NET

# PROFESSIONAL CULTURE

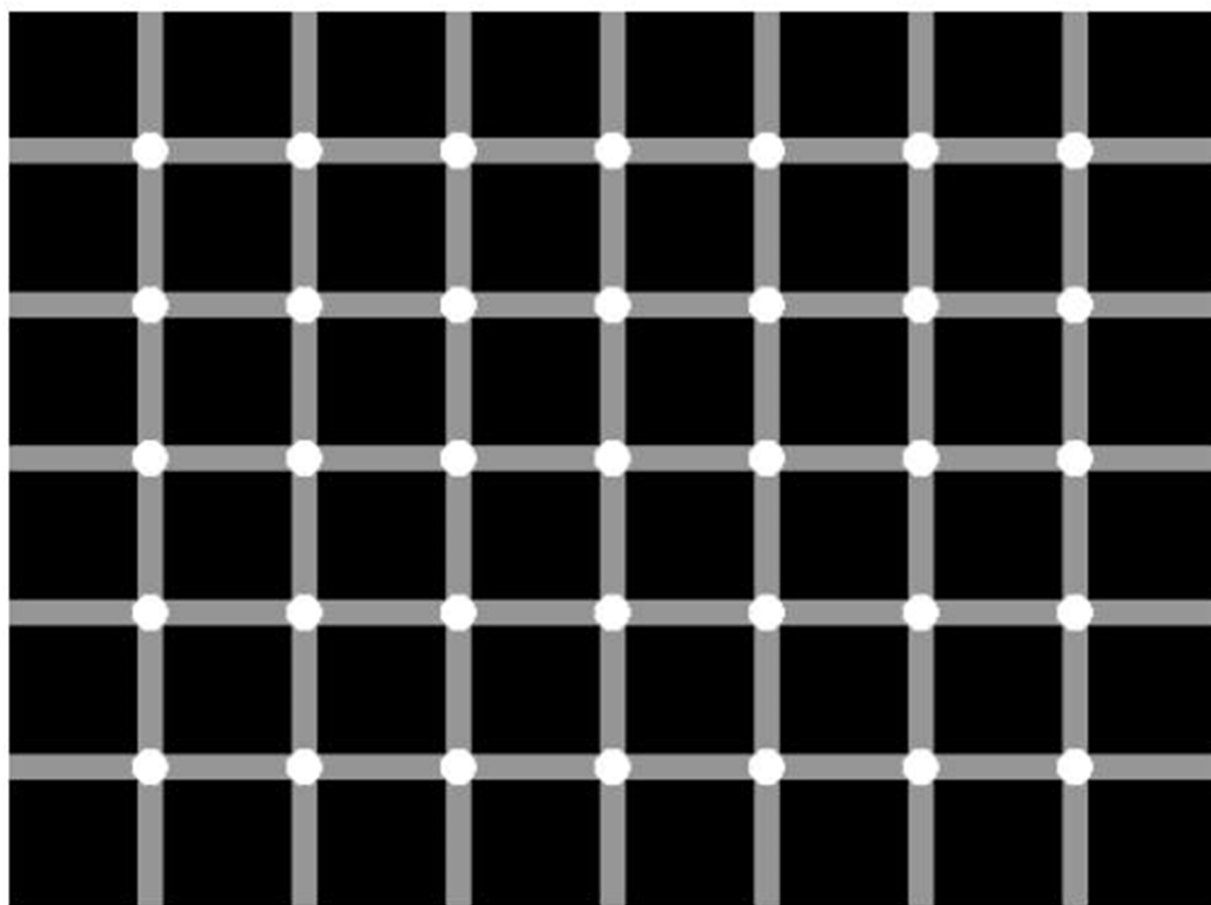
## Pilot Invulnerability



# **To Err is Human**

- **Error is normal part of human behavior**
  - People can and do make mistakes
- **Most errors are inadvertent**
  - People do not intend to commit errors

**Human error is a symptom, not a  
cause of accidents**



Count the black dots! :o)



# PILOTS OFTEN INHERIT DEFECTS IN THE SYSTEM



Bussiness Times – Nigerian Airport botch-up  
costs SA cargo carrier millions

# POINT

- What is an error?
- *“An act, assertion, or belief that **UNINTENTIONALLY** deviates from what is correct, right or true”*

American Heritage Dictionary

# **Management Also Makes Errors**

- They make few ACTIVE errors**
- Mostly LATENT (hidden) errors**
- Latent errors can lie dormant for long periods**

**Latent and Active errors combine to  
create an accident**

- We used to say you are well trained, well paid, have good equipment. So if you make an error you are to blame
- We now say, you are human and we understand that you will make errors.
- We want to know about them so we can error proof the system
- We can now welcome error! Not hide it

# OBJECTIVE

- **Constantly adjust the system**
- **Error proof all aspects of the operation**
- **Account for humans acting as humans**
- **Fault / Error tolerant system**

## ***ISASI 2001-Dick Wood***

“Making a mistake whilst trying to comply with the law is not a crime, and punishing that mistake isn’t going to prevent anyone from making the same mistake in the future”

# POINT

- **Punishment cannot deter an unintentional deviation (an error)**
- **The actor believes the action is correct and so without adverse consequences**

# Accident or Crime?

- “The damage done to aviation safety by prosecution undertaken when there is no clear intention to commit a crime does not justify the marginal benefit that might result from such prosecutions.”
- *Journal of Air Law and Commerce op cit. pg 923*





# POINT

- An Intentional [*bad*] act is NOT an error
- It is an intentional act



# POINT

- The Just Culture is NOT an attempt to put any group / profession above the Law
- The Just Safety Culture looks to balance improving safety for the public and the need for justice.
- A safety culture needs to identify risk, to understand threat and error management as well as learn lessons and be aware

# JUST SAFETY CULTURE



“ A culture with norms and values in which front line operators are not punished for actions or errors. Information leads to safety management and continual improvement of the system....

# Just Safety Culture

- “... Punishment may be appropriate when there is evidence that the occurrence was caused by an act considered, in accordance with the law, to be conduct with intent to cause damage, or conducted with knowledge that damage would probably result, equivalent to reckless conduct, gross negligence or wilful misconduct.”

## **IFALPA POLICY**

The following definition should be added:

Non-punitive environment.- An employee-trusted environment where clear and known criteria are established within the framework of a State Safety Program in order to ensure that any errors or unintentional non-compliance with regulations or approved operating procedures, whether reported or not, will not lead to sanctions or disciplinary action but be treated in a fair and confidential manner, with full consideration of all contributing and mitigating factors.

Reckless behavior is deliberate and unjustifiable. It concerns a disregard for visible significant risk





# SAFETY INITIATIVES THAT NEED A JUST CULTURE TO SUCCEED

- CRM
- Training
- LOSA
- FOQA/ FDA
- Reporting Systems/ASAP
- Investigations
- Discipline Policy

A SUCCESSFUL SAFETY CULTURE RELIES ON A JUST  
CULTURE

# JUST CULTURE CONCLUSION

- **Punishment in error cases is contrary to air safety principles**
- **Use Annex 13, Attachment E Annex 19 appendix**
- **Criminalization of Error is counterproductive for public safety**
- **Blame for certain acts as defined, is encouraged.**

# Safety Challenges

- Criminalization of error and accidents
- Different understandings and interpretations of a just culture
- Lack of implementation
- Competing interests. Profit, safety, legal, prosecution, security, environment, public
- Acceptance of risk

# Safety Challenges

- Poor safety oversight
- Lack of trust
- Lack of political will
- Lack of legislation
- The appendix to Annex 19 and attachment E to Annex 13 are written for States to comply with, not their legal systems. Laws may have to change

# Safety Challenges

- For different organizations and disciplines to work together to formulate a united understanding of a just culture
- For national legislation to reflect and protect the just culture
- To inform the public and change public opinion with regards the importance of aviation safety and a just culture

# Questions?

