

ANZSASI 2008

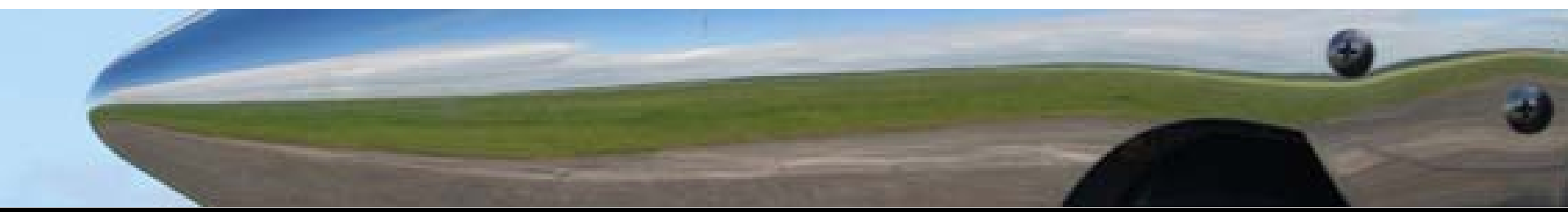
Challenges in Regulation

DEPUTY CEO - OPERATIONS - MICK QUINN



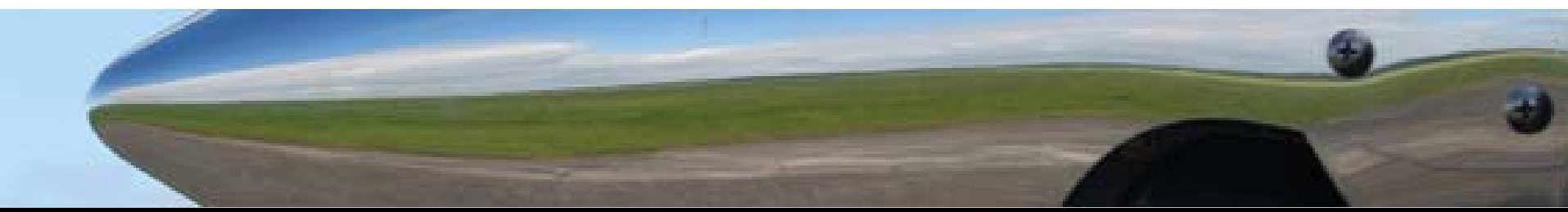
Australian Government

Civil Aviation Safety Authority



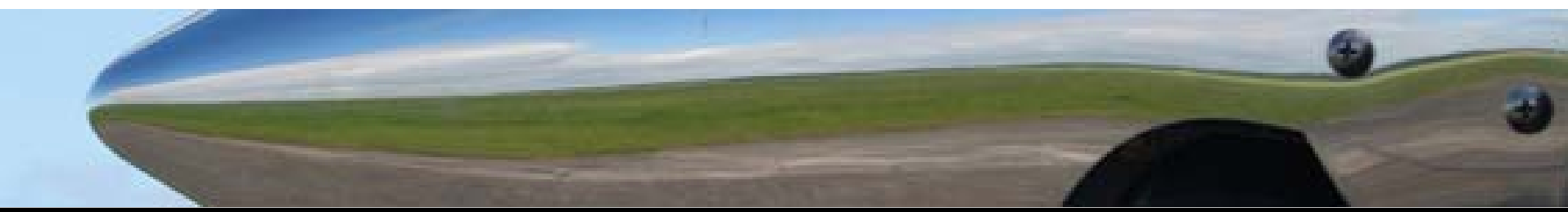
Context

- CASA is not in the business of managing safety risks for operators
- Safety management is a “hearts and minds” exercise
- Behaviour and attitude is key to success



Key Principles

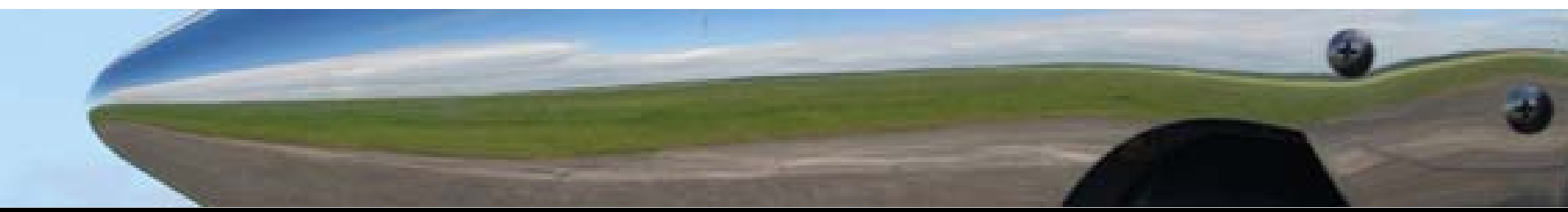
- Shared responsibility for safety
- Regulations do not ensure safety on their own
- Surveillance has limitations
- Education is a key influencer of behaviour
- Focus on air transport operations
- Training and decision making skills



Regulatory Framework

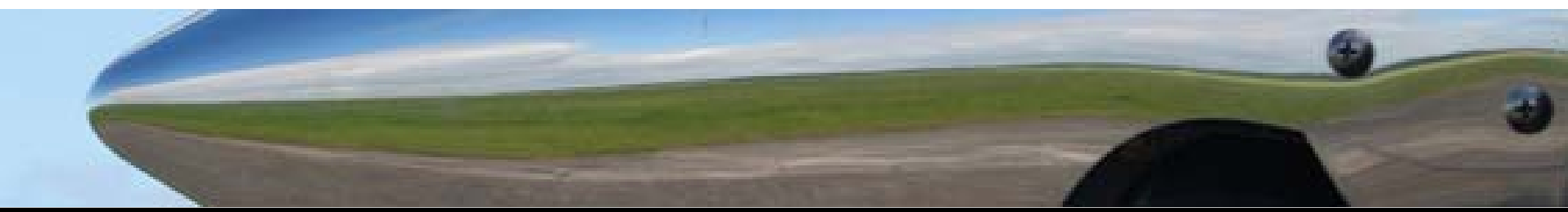
- **ICAO requirements**
 - State (Australia) – Safety Management Programme
 - Regulator (CASA) – Safety Management Programme
 - Design and Manufacture - SMS
 - Aircraft Operators - SMS
 - Service providers - SMS
 - ATS, Aerodromes, Airport Security, Nav Aids
 - Third party contractors - SMS
 - Maintenance, refuelling, ground handling, etc...

ICAO (2007)



Regulatory Framework

- **Proposal (passenger carrying ops)**
 - Phased approach (CASR 119 – 121,135 & 133A)
 - Civil Aviation Order (CAO) being finalised which mandates SMS and Non-Technical Skills Training (HF & CRM/TEM)
 - Short Term
 - CAO 82.3 Low Capacity RPT
 - CAO 82.5 High Capacity RPT
 - CASR 119 for all Passenger Transport Operations
 - Long Term (include CAO 82.1 operators)
 - Mandates SMS and Non-Technical Skills Training as part of the Exposition

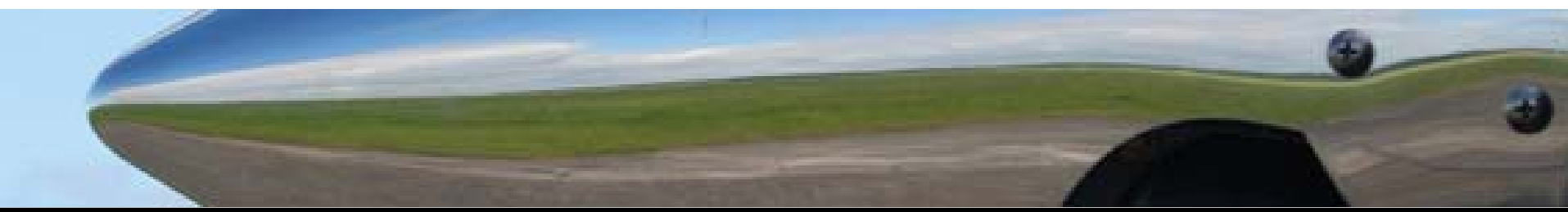


CASA Policy

The underpinning initiative for CASA's reform program has been reinforcement of industry sector priority policy with passenger-carrying operations taking priority.

(CASA Corporate Plan 2007-08)

*97% of all passengers (46 million)
were carried on 6 carriers!*



When and Why

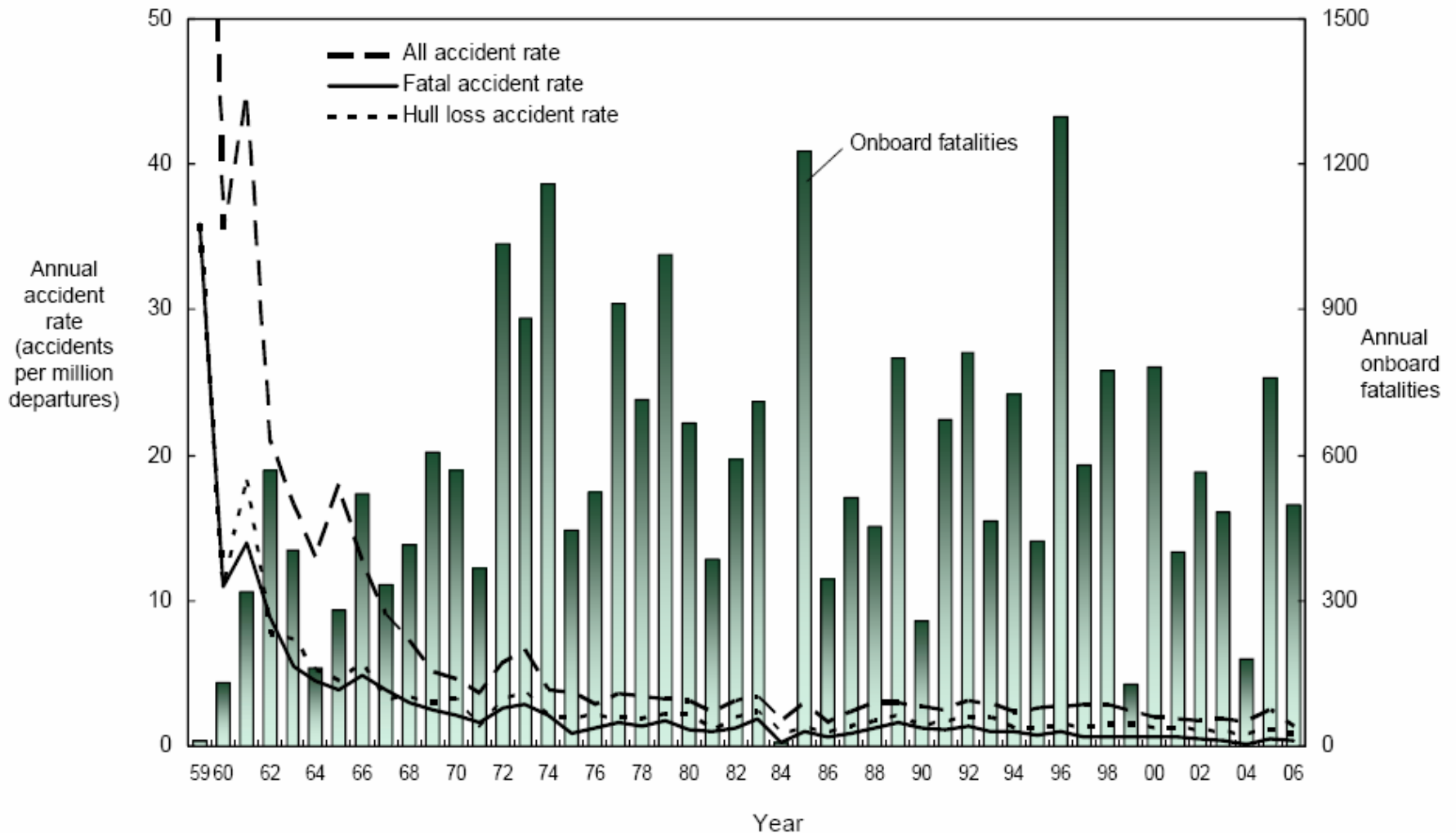
Aviation is often criticised for lagging in SMS implementation.

Is that realistic?

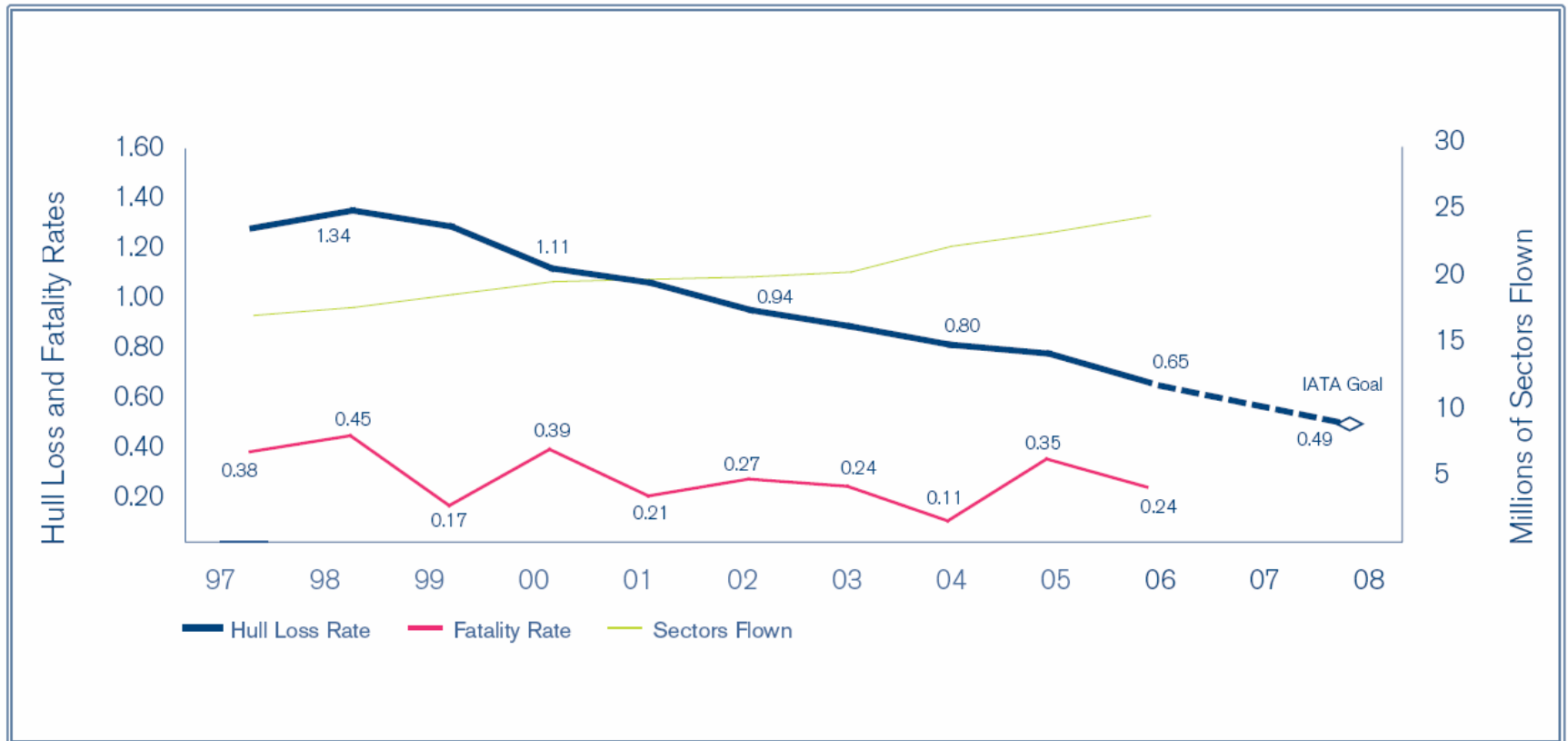
- Context – Risks – TEM?
- Regulations?
- Skill set?

Accident Rates and Onboard Fatalities by Year

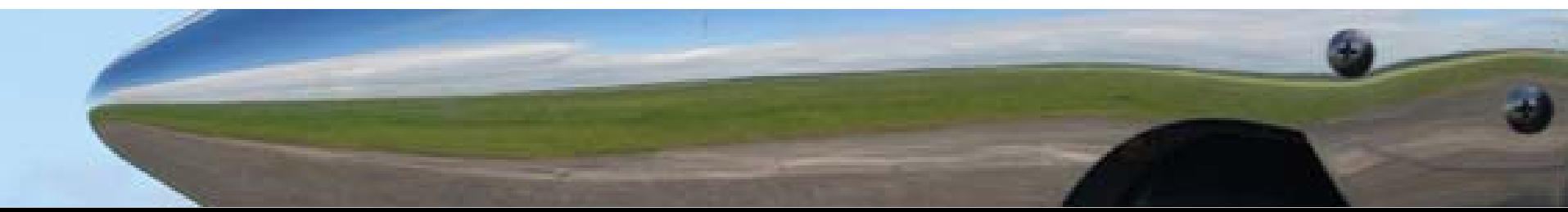
Worldwide Commercial Jet Fleet – 1959 Through 2006



Western-built Jet Traffic, Hull Loss & Passenger Fatality Rates 1997-2006

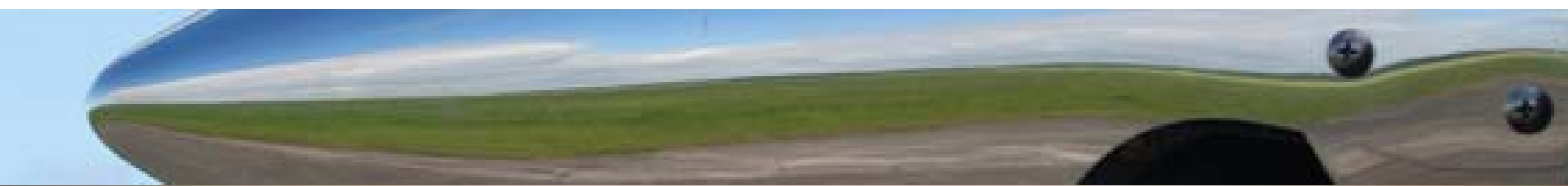


(IATA Safety Report 2007)



SMS – Risk Management

Understanding of practical and relative risk management is at the core of successful implementation of a safety management system, whether it be in the context of regulation, operations or accident investigation.



Identify hazards

- Do you understand the process from start to finish?
- What can cause things to go wrong?
- Consider who or what is at risk, and how.

Assess risks

- Assess the risk associated with each hazard assuring that the existing safety controls are in place.
- If one, or more, of the hazards materialise, how detrimental is the result?
- How likely is it to happen?



Analyse safety control measures

- What can you do about it? (see Priority of the Safety Controls)
- How much will it reduce the risk?
- How much will rectification cost?
- Are there manpower implications?

Make control decisions

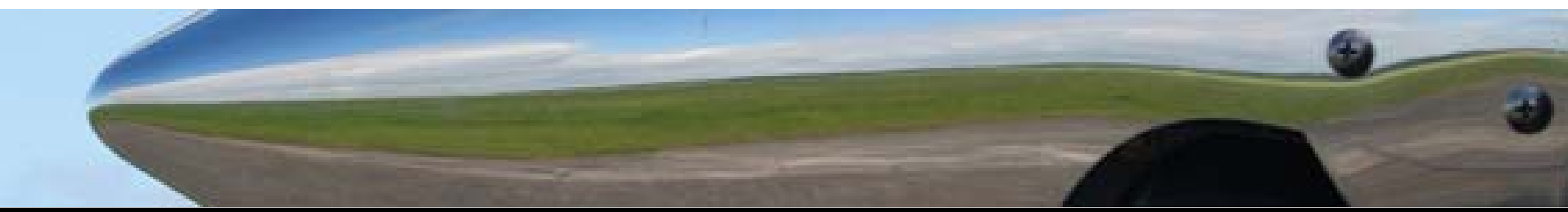
- What is the most effective option?
- Who decides which option to use?
- It is time for decision-makers to make decisions.

Monitor and review

- How well did it work?
- Is the risk tolerable?
- What improvements can be made?
- Communicate the status and ask for feedback.

Implement safety controls

- What do you need to make it work, training, communication, process/system?
- Who is doing each part?



CONSEQUENCES

LIKELIHOOD

NEGLIGIBLE

MINOR

MODERATE

MAJOR

CATASTROPHIC

Almost Certain

H

H

E

E

E

Likely

M

H

H

E

E

Possible

L

M

H

E

E

Unlikely

L

L

M

H

E

Rare

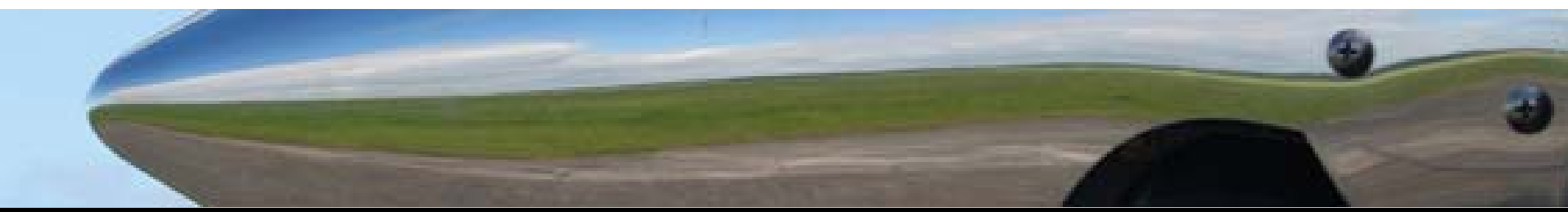
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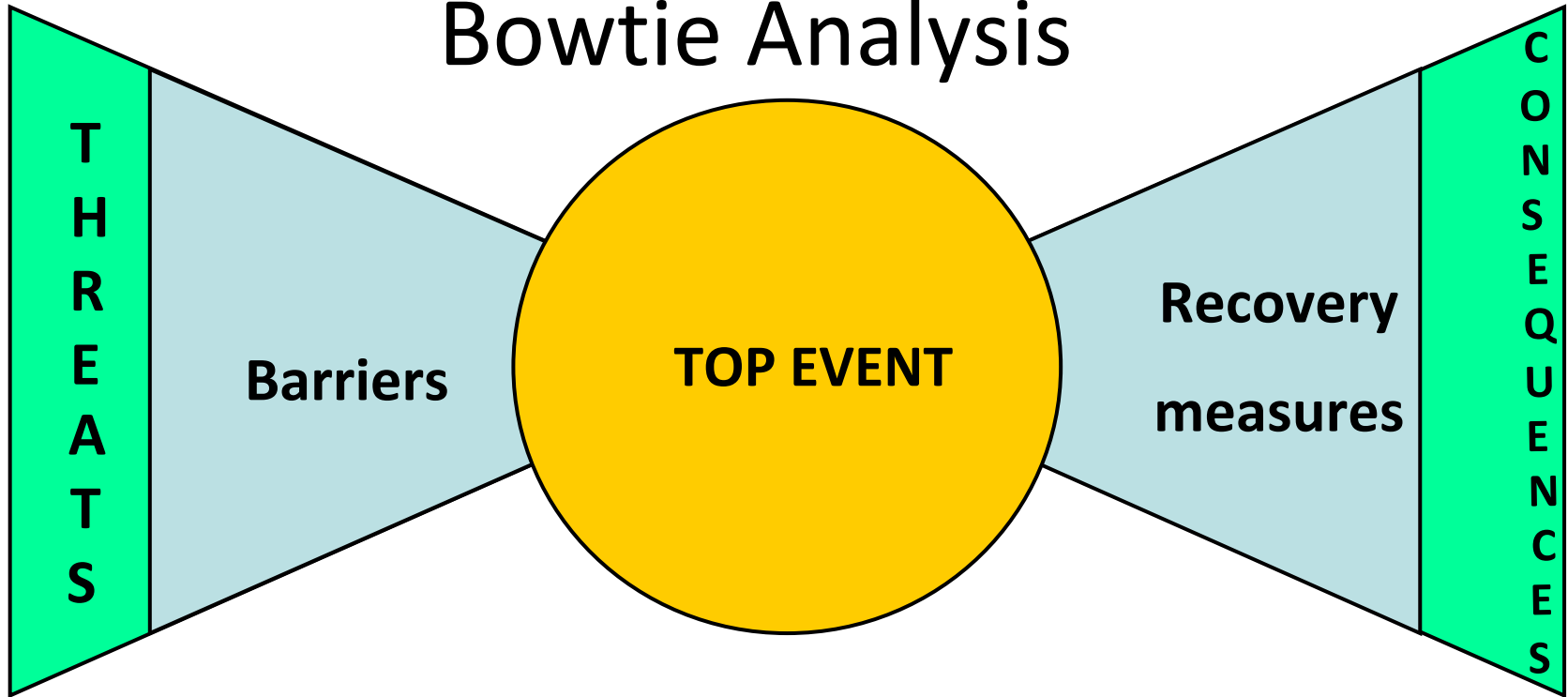
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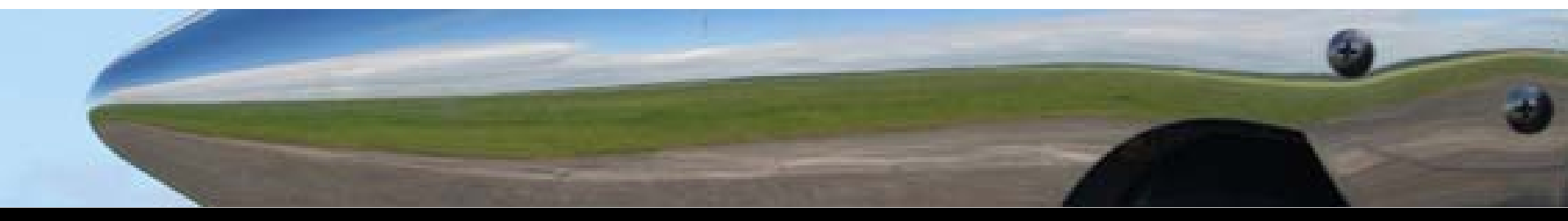
Bowtie Analysis



The HAZARD is the release of the THREAT; it is prevented by

BARRIERS and the CONSEQUENCES are mitigated

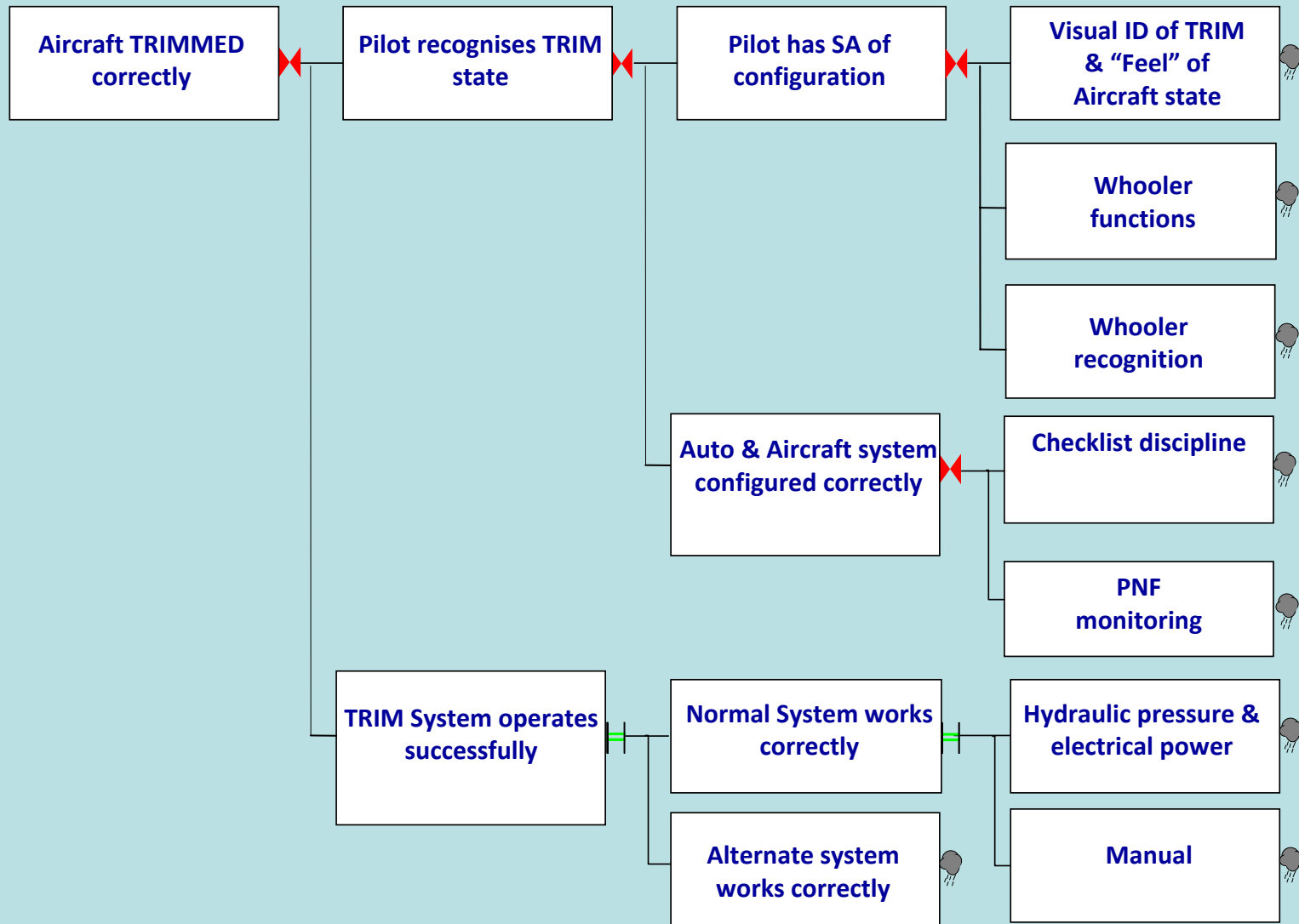
by RECOVERY MEASURES.

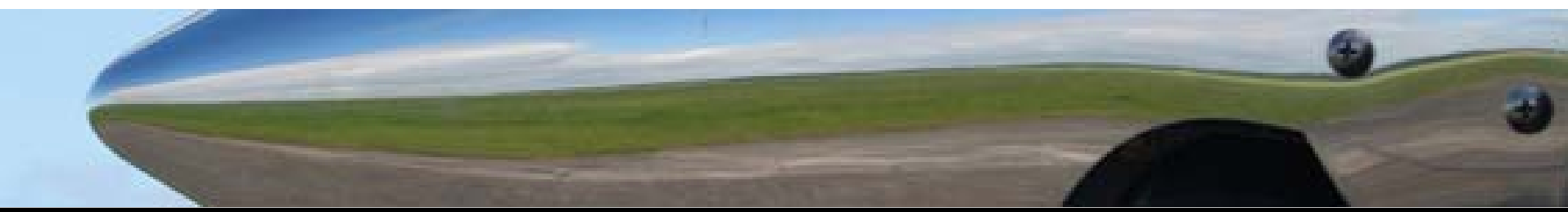


DFDR Animation

A310 Multiple Stall on approach

Dependency Model





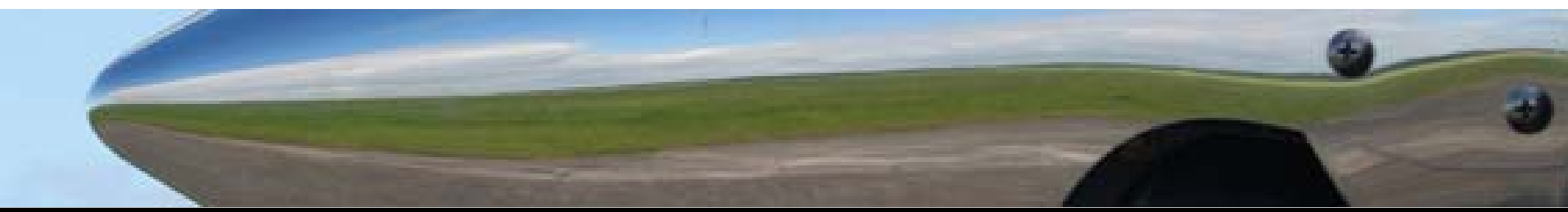
The Way Forward

Significant mind shift within industry

Regulatory

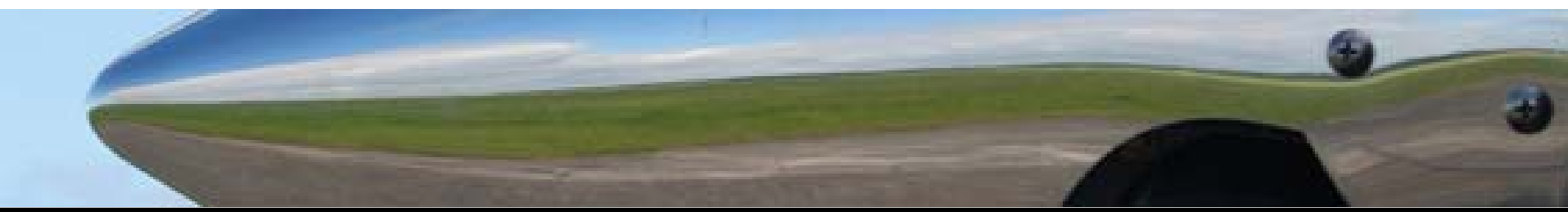
Prescription → Oversight → Compliance → Enforcement.

Education → Monitoring → Validation → Enforcement.



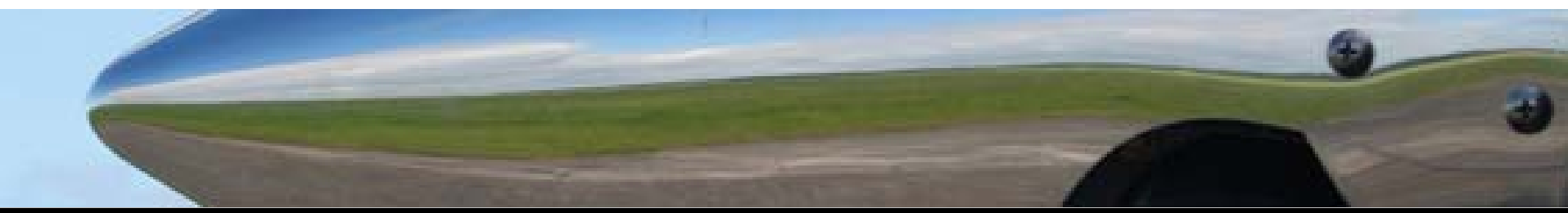
The Way Forward

- One size doesn't fit all
- Major regulatory challenge – risk based approach required
- Major challenge for accident investigation – particularly in terms of operator systems and regulatory context



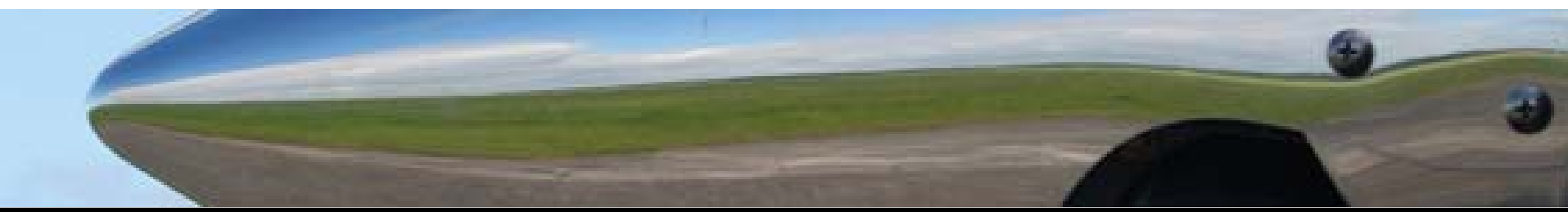
Australian Government
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An assessment of
trends and risk factors
in passenger air transport



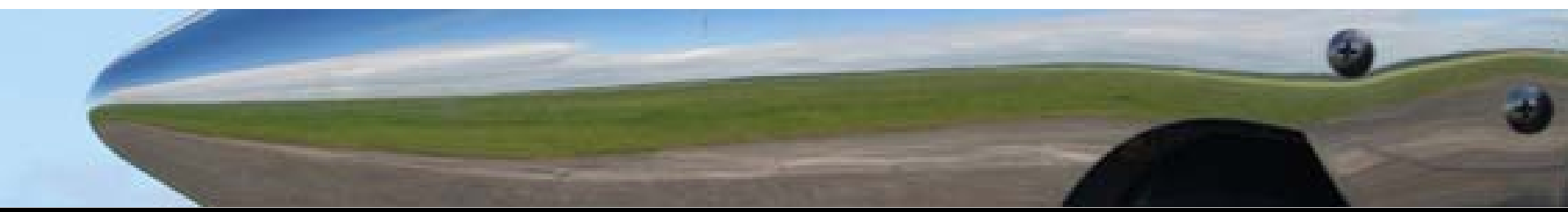
Global Trends

- Demand for aviation services
- Environmental change awareness
- New aircraft, systems and technology
- International instability and security

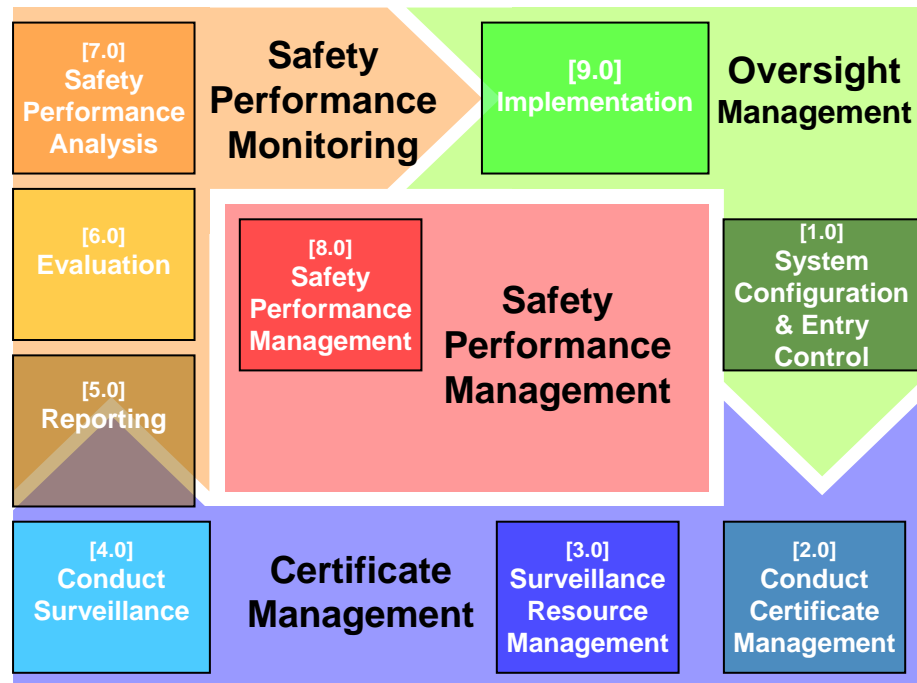


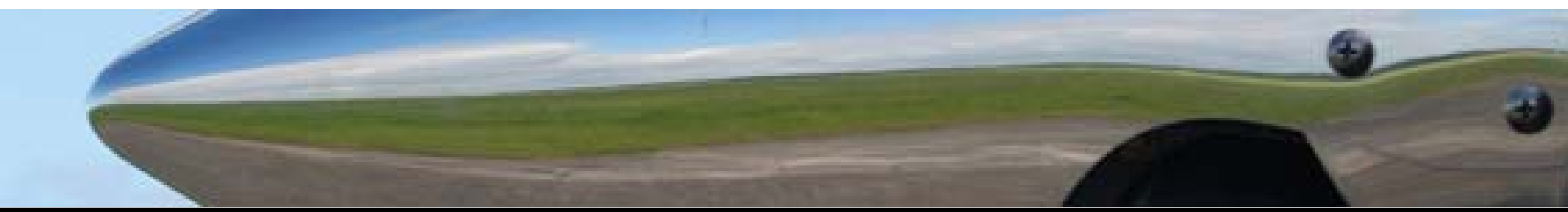
Challenges and emerging risks

- New and ageing aircraft
- Airports and infrastructure
- Airspace and air traffic management
- Personnel – crew, maintainers, management
- Regulators and administrators



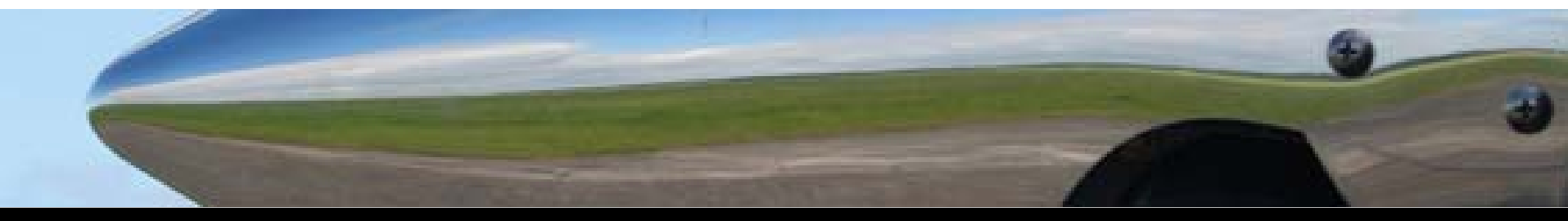
Industry Oversight Project





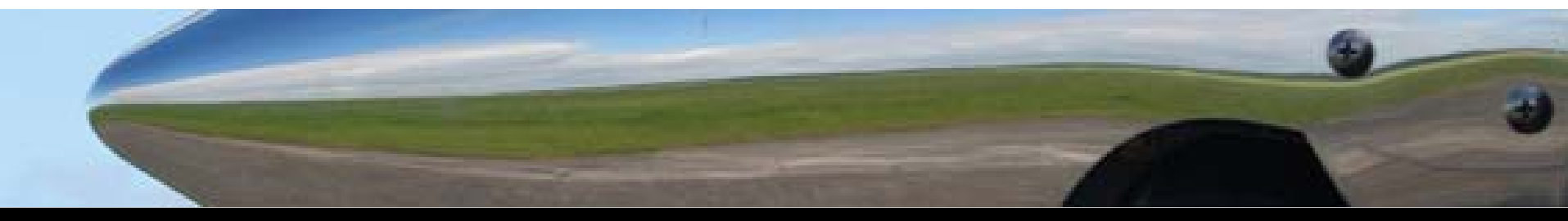
CASA Structural Considerations

- Accident Investigation Report Review Board (AIRRB)
- Strategic Safety Unit
- Parallel investigations?
- Personnel – training – cooperation?



In the search for ways to prevent accidents, “everyone is a player, not just the flight crew, this next advance in aviation safety requires no new technology, only new attitudes”.

Paul Russell, Chief
Product Safety, Boeing



Thankyou