

ANZSASI 2008

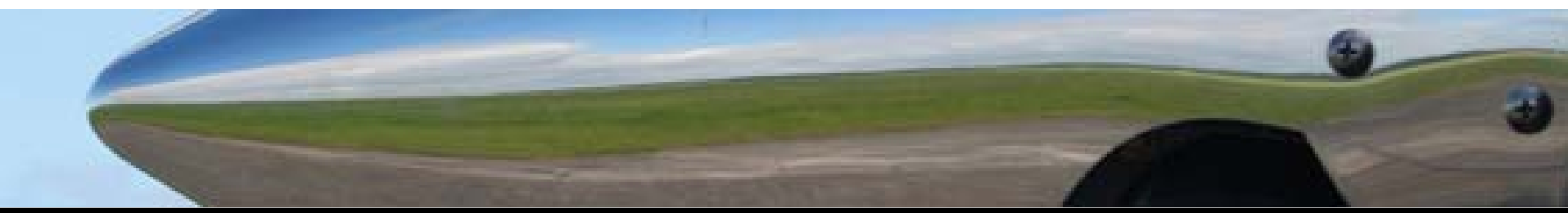
Challenges in Regulation

DEPUTY CEO - OPERATIONS - MICK QUINN



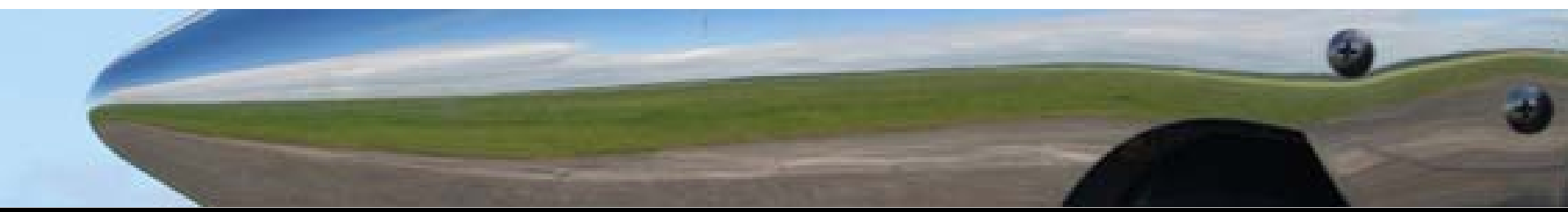
Australian Government

Civil Aviation Safety Authority



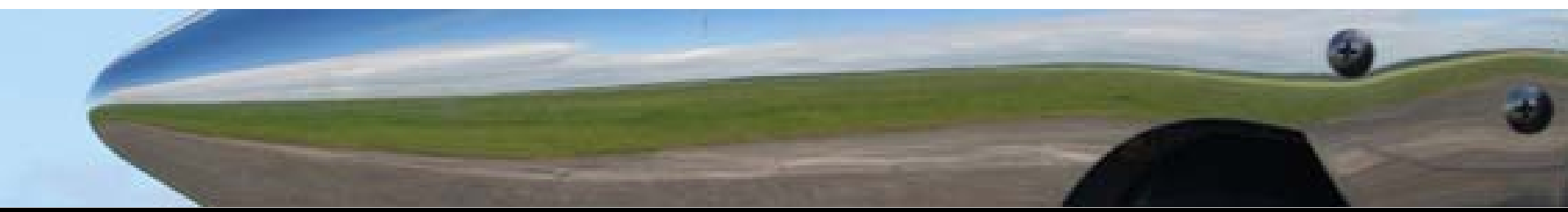
Context

- 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

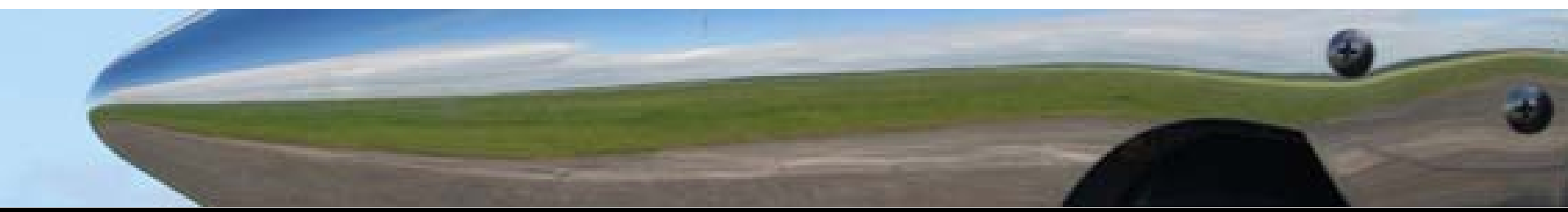
- Shared responsibility for safety
- Regulations do not ensure safety on their own
- Surveillance has limitations
- Education is a key influencer of behaviour
- Focus on air transport operations
- Training and decision making skills



Regulatory Framework

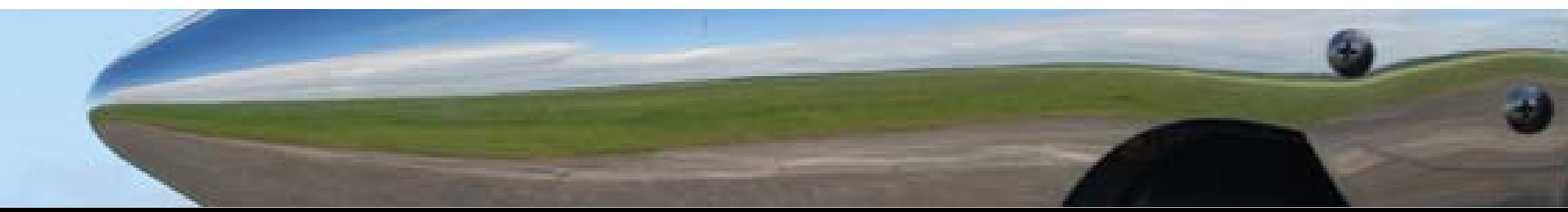
- **ICAO requirements**
 - State (Australia) – Safety Management Programme
 - Regulator (CASA) – Safety Management Programme
 - Design and Manufacture - SMS
 - Aircraft Operators - SMS
 - Service providers - SMS
 - ATS, Aerodromes, Airport Security, Nav Aids
 - Third party contractors - SMS
 - Maintenance,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

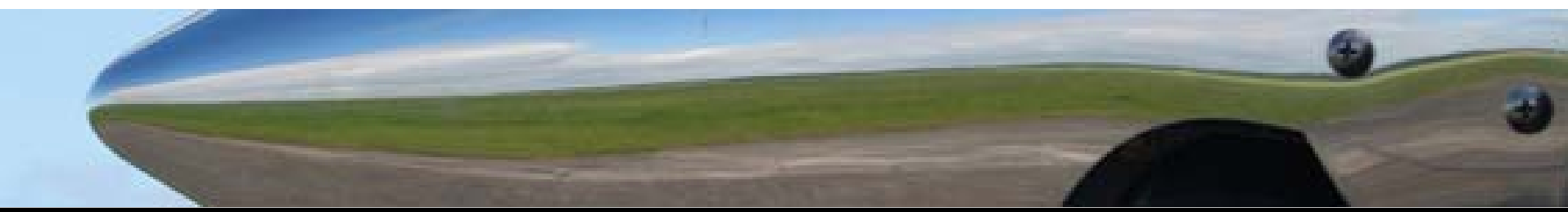


CASA Policy

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

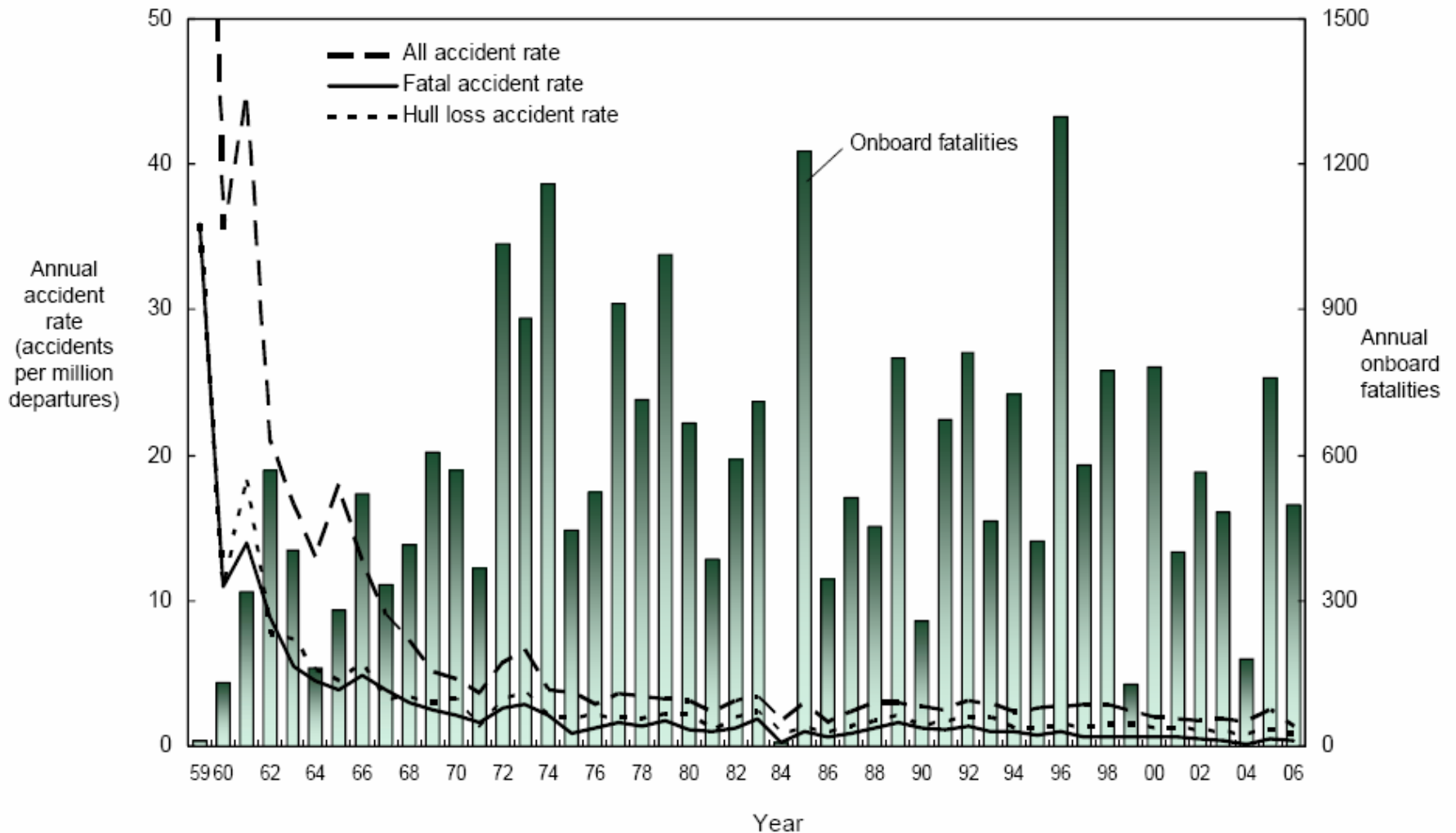
Aviation is often criticised for lagging in SMS implementation.

Is that realistic?

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

Accident Rates and Onboard Fatalities by Year

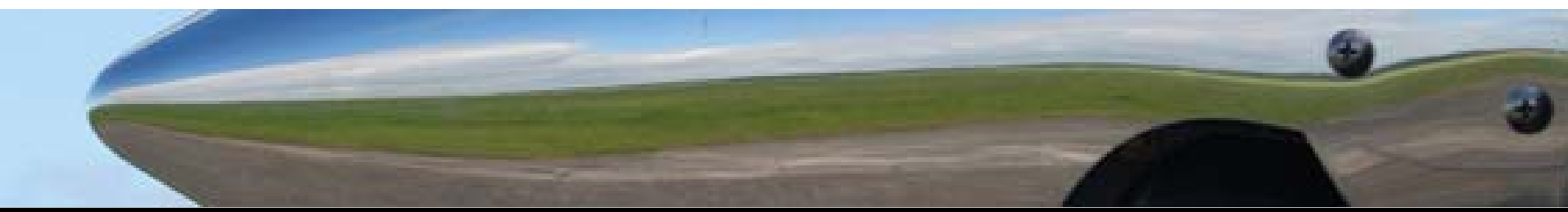
Worldwide Commercial Jet Fleet – 1959 Through 2006



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

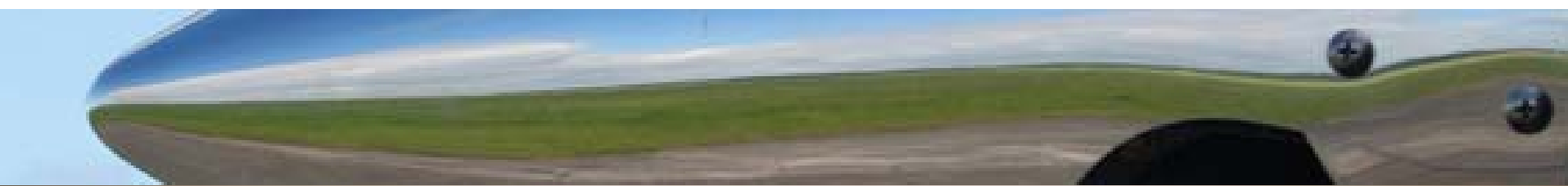


(IATA Safety Report 2007)



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

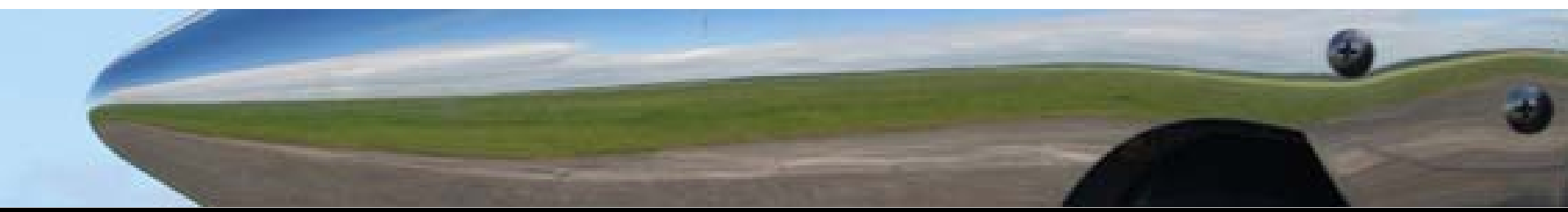
- What is the most effective option?
- Who decides which option to use?
- It is time for decision-makers to make decisions.

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

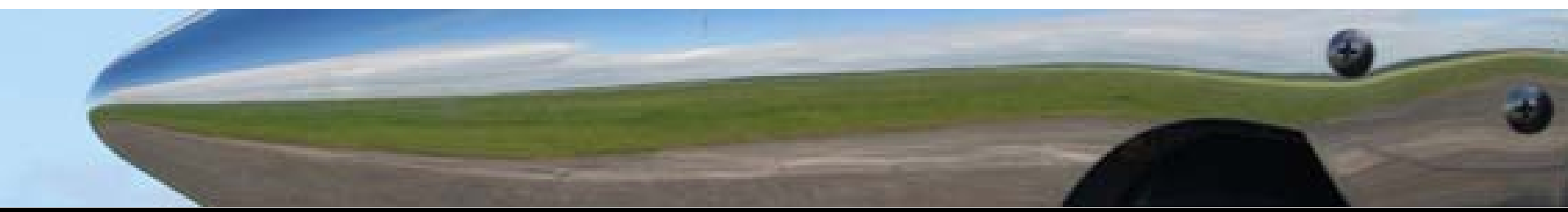
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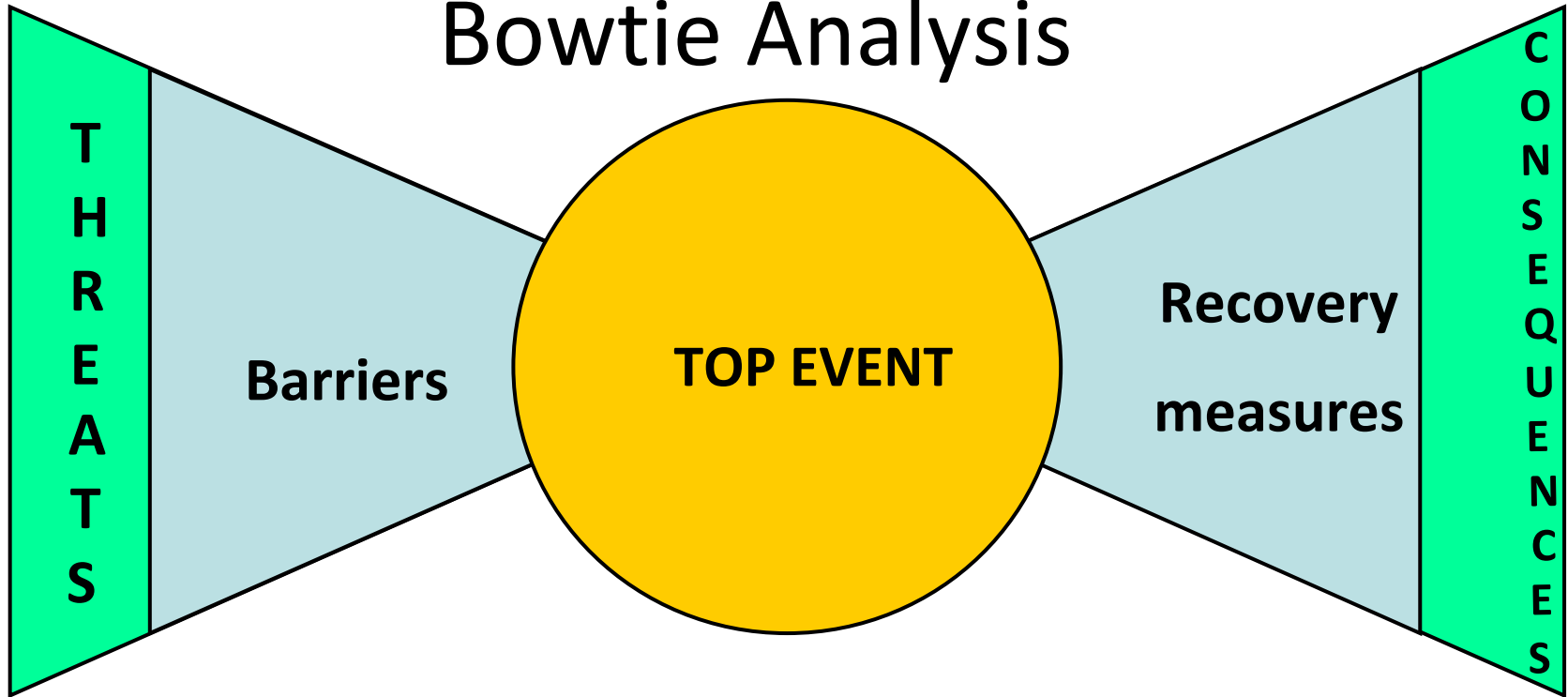
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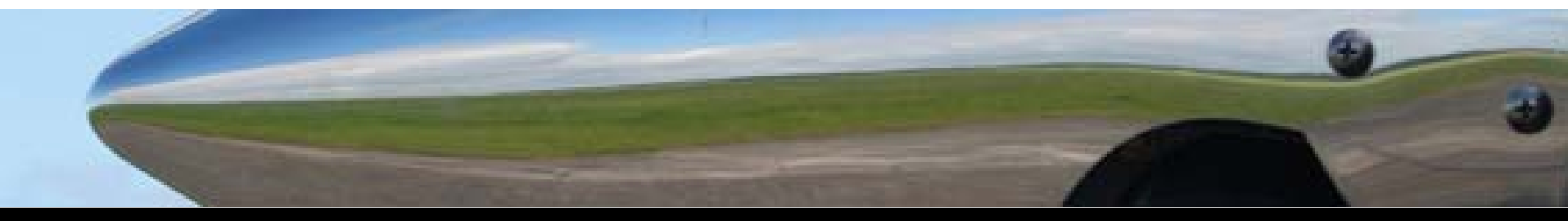
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Bowtie Analysis



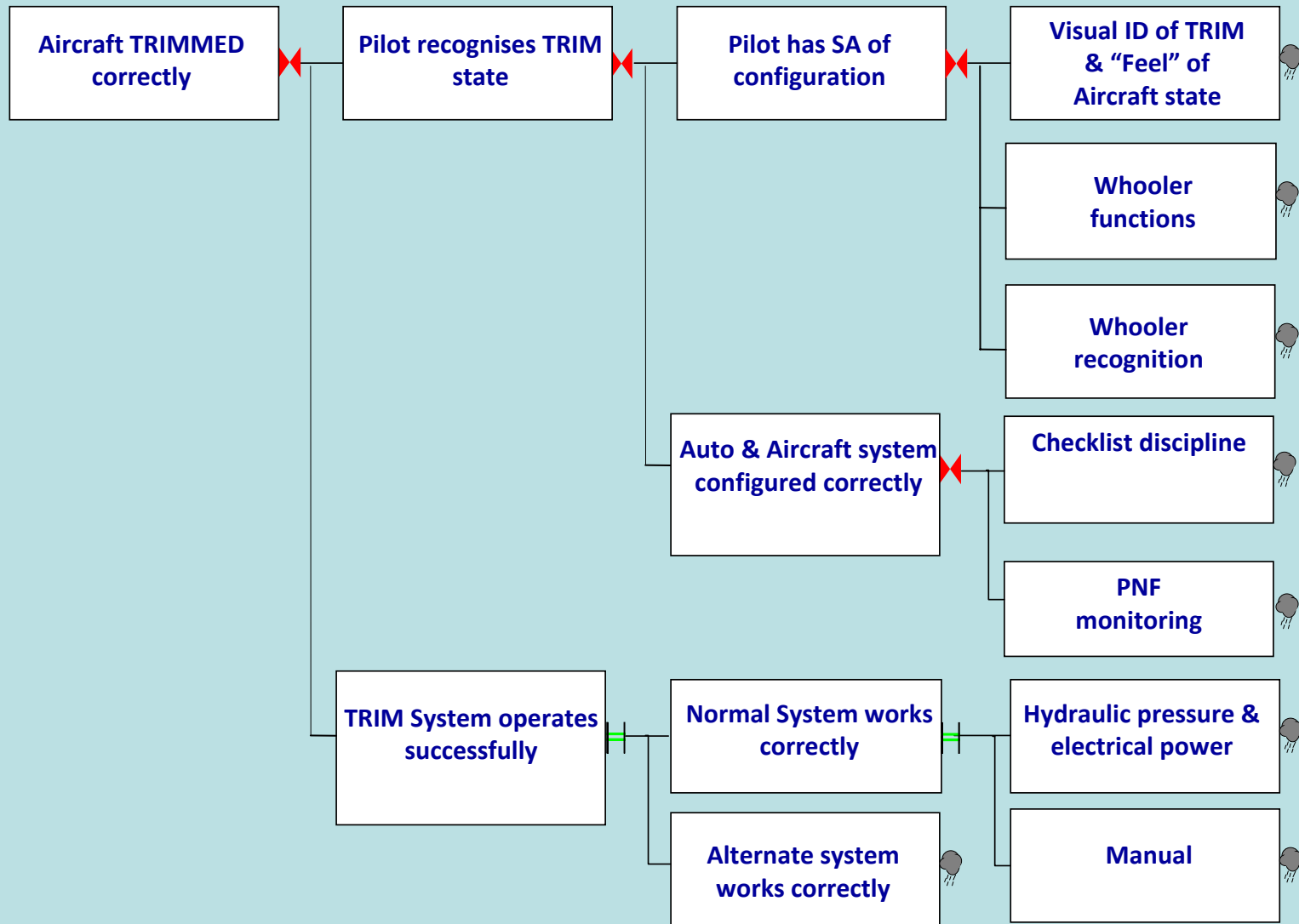
The HAZARD is the release of the THREAT; it is prevented by BARRIERS and the CONSEQUENCES are mitigated by RECOVERY MEASURES.

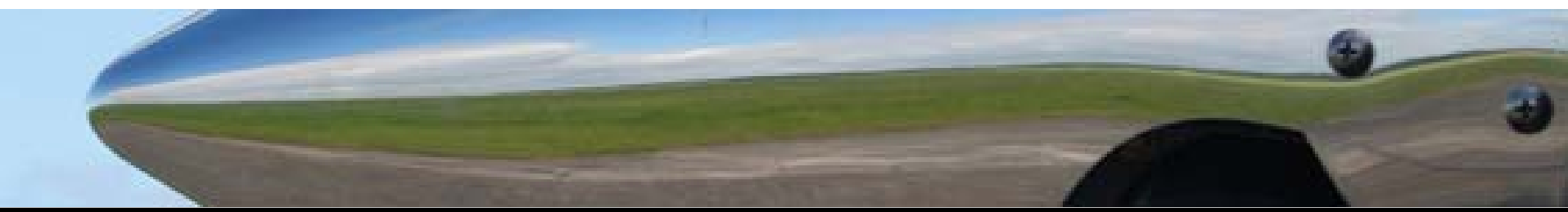


DFDR Animation

A310 Multiple Stall on approach

Dependency Model





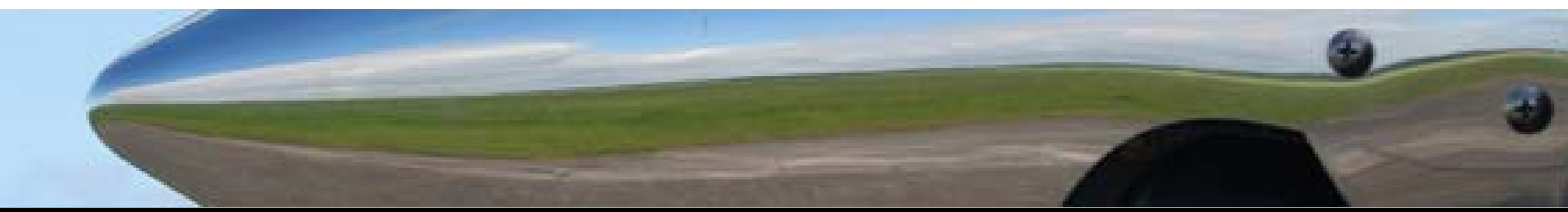
The Way Forward

Significant mind shift within industry

Regulatory

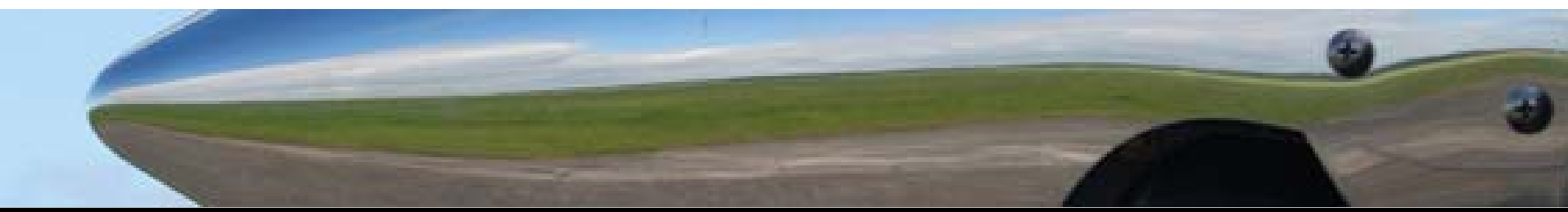
Prescription → Oversight → Compliance → Enforcement.

Education → Monitoring → Validation → Enforcement.



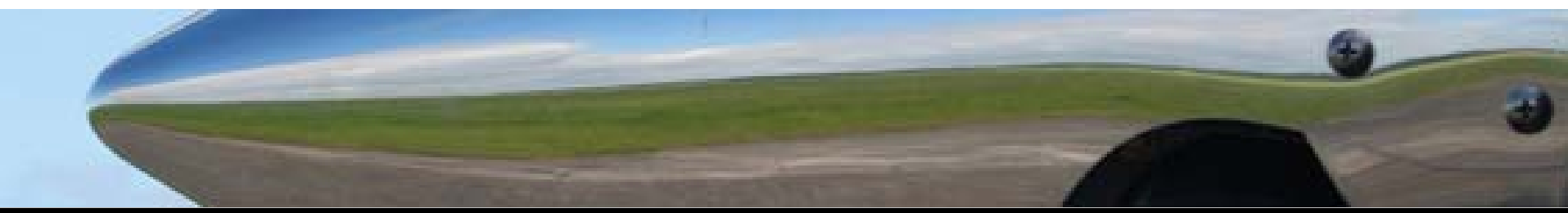
The Way Forward

- 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

The cover of a report from the Australian Government Civil Aviation Safety Authority. The top section features the Australian Government crest and the text "Australian Government Civil Aviation Safety Authority" on a light blue background with white line art. The middle section shows a photograph of an airplane cabin with blue seats and passengers. The bottom section is a light blue background with white line art. The title "An assessment of trends and risk factors in passenger air transport" is centered in the middle section.

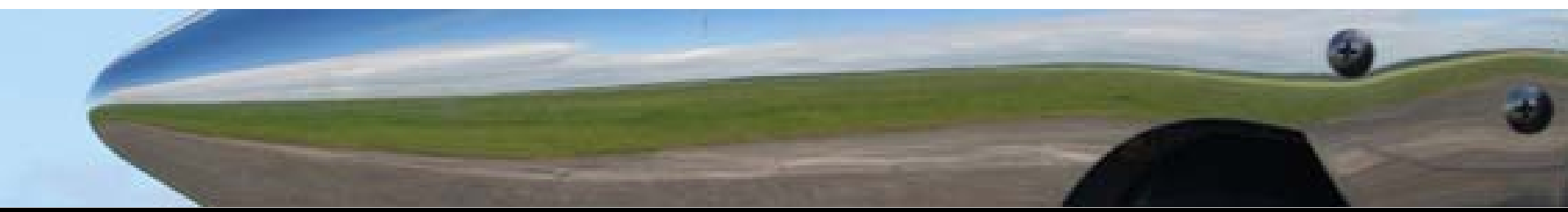
Australian Government
Civil Aviation Safety Authority

An assessment of
trends and risk factors
in passenger air transport



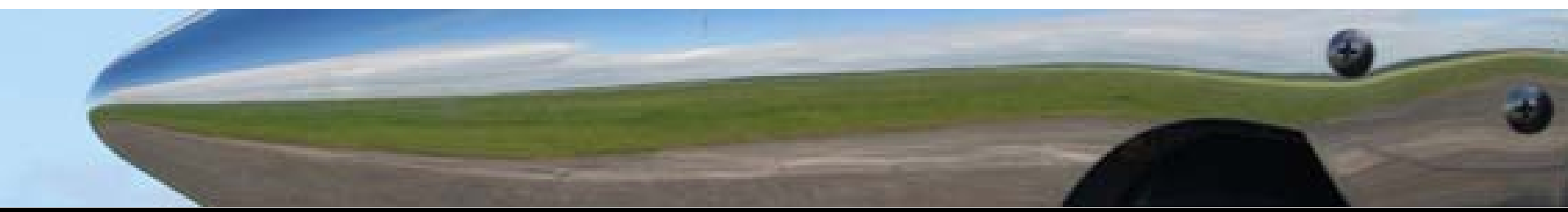
Global Trends

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

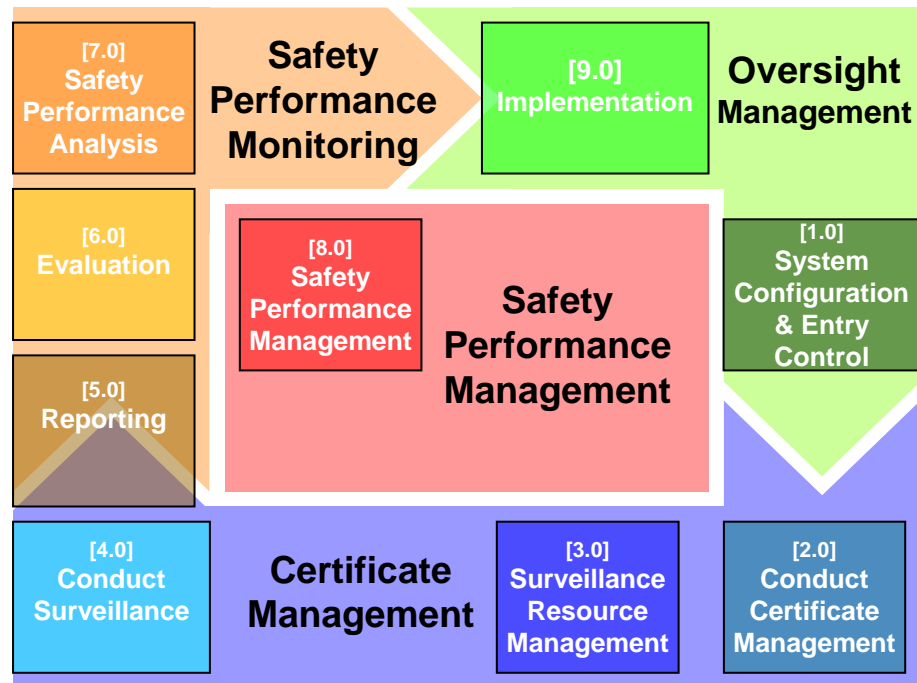


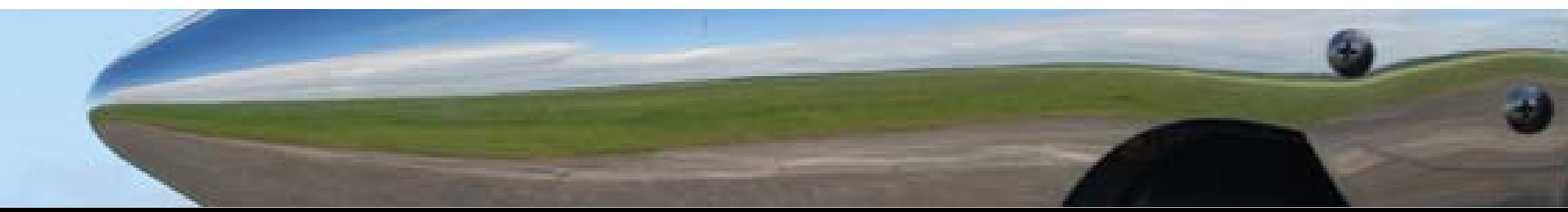
Challenges and emerging risks

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



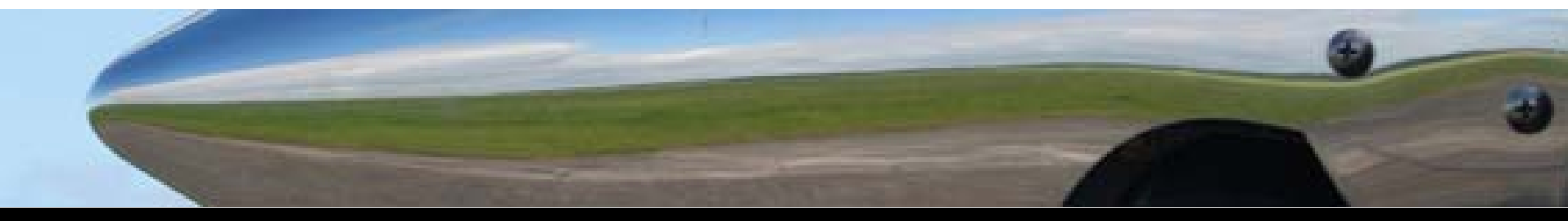
Industry Oversight Project





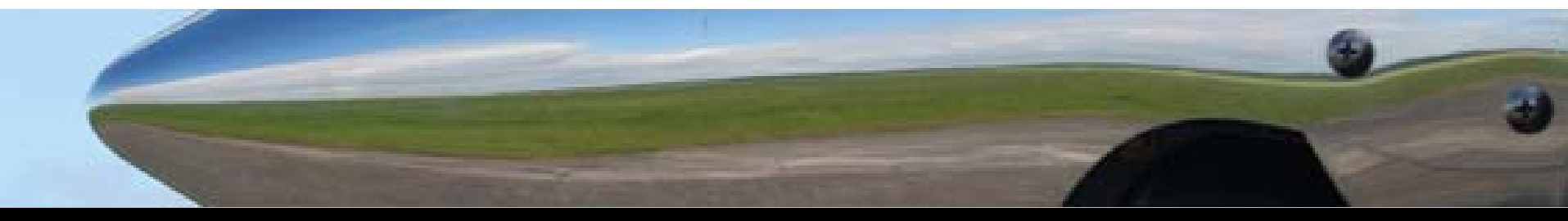
CASA Structural Considerations

- 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