ES2 – ANSP CEO Conference

Development of the Aviation Safety Index (ASI) & other Safety Dashboards

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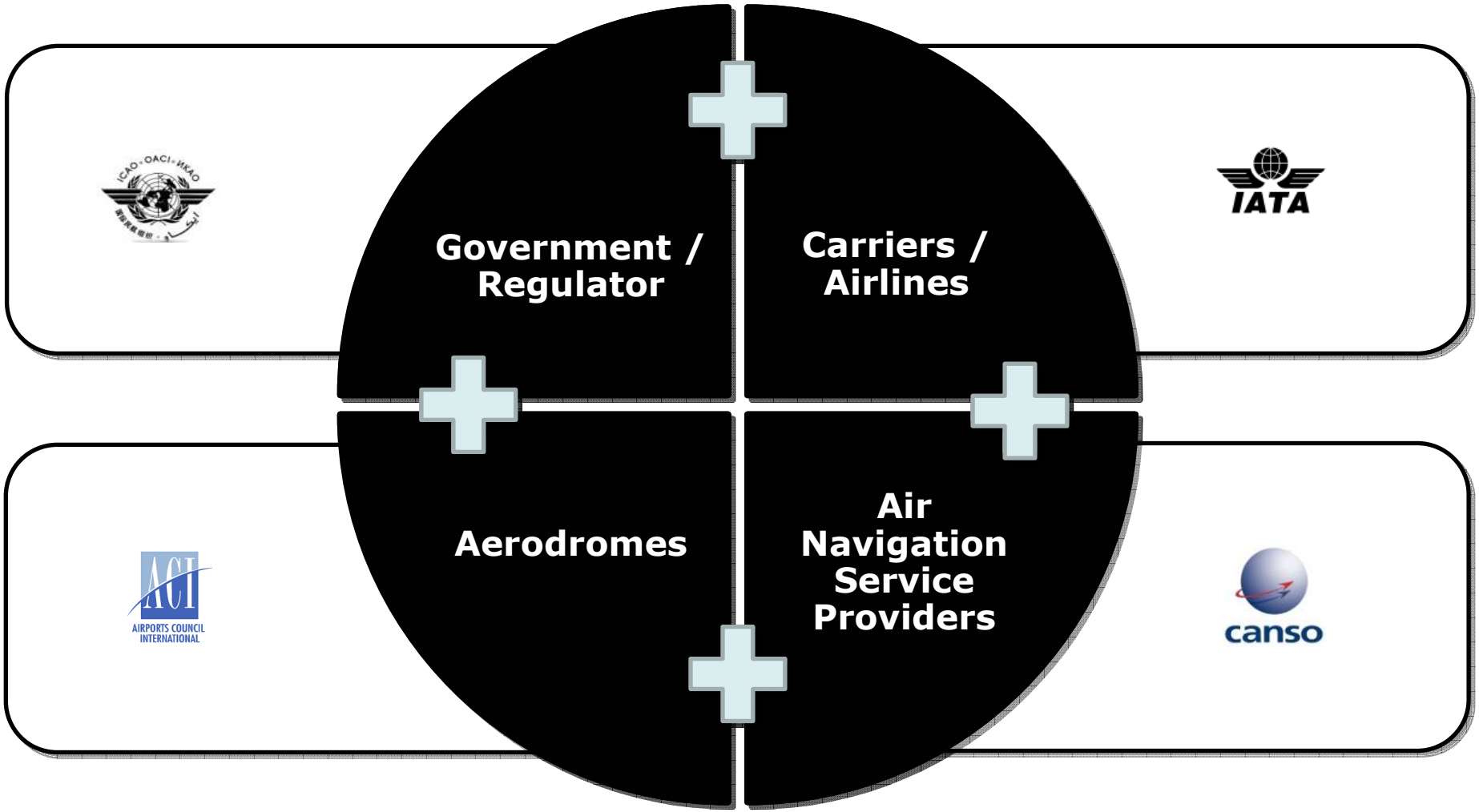
ASI Objective

- The objective is to provide safety intelligence that can support strategic decisions regarding safety programmes undertaken by ICAO and its partner organizations.
- The domains covered include
  - State safety oversight capabilities
  - Flight operations
  - Airport operations
  - Air traffic management

Conceptual Framework



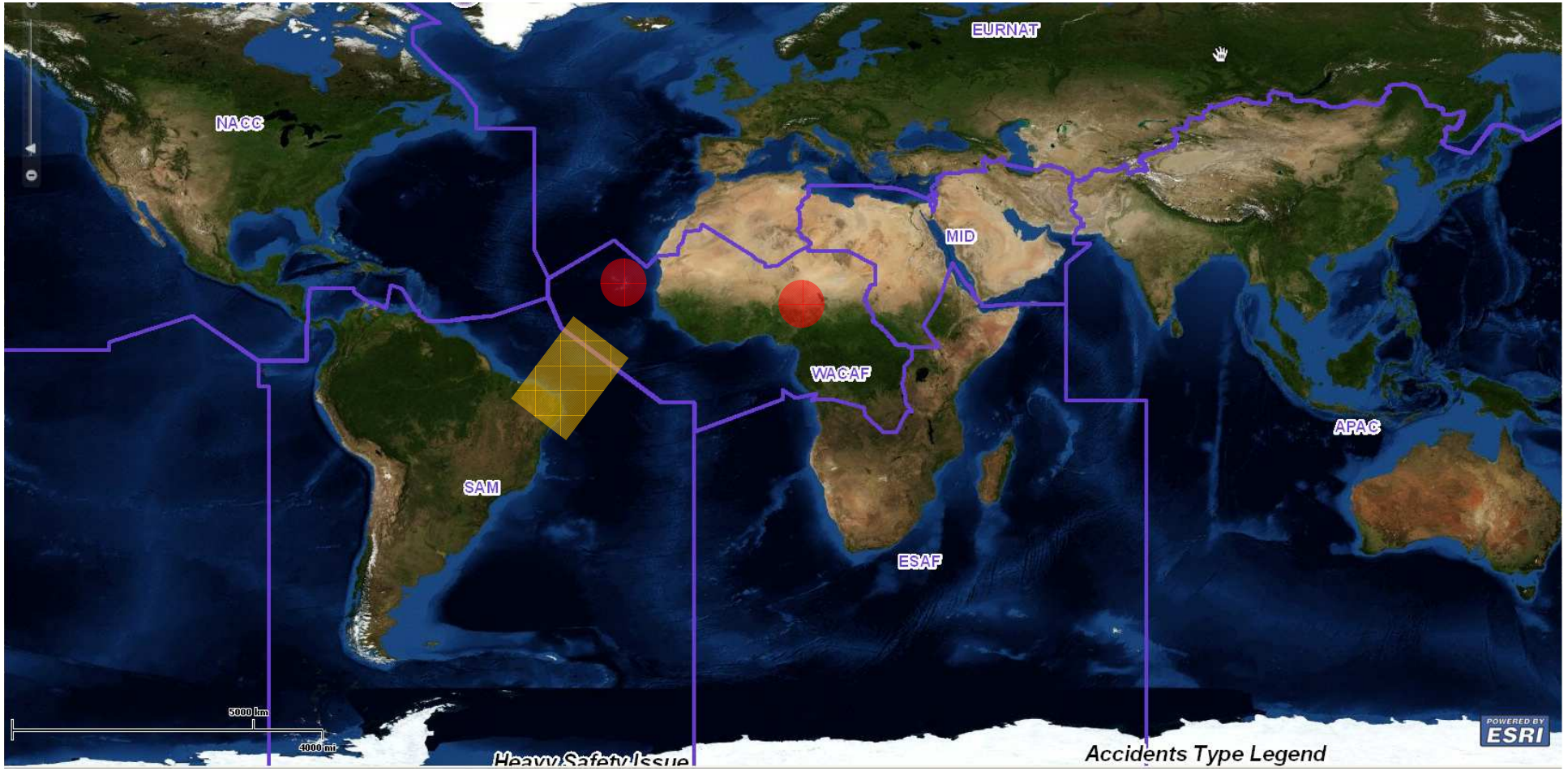
ASI Vision

- The ASI will provide a multi-dimensional assessment of safety risk through the use of indicators related to various domains within a State’s aviation system.
- Application of the ASI will lead to a measurable improvement in global aviation safety and reduce the risk of loss of life through better utilisation of limited resources and targeted assistance strategies.

ASI Vision

- It will provide an easy-to-read measurement of the overall health of the aviation system in a given State
- It will also allows for the ability to drill-down into each domain of the States aviation system, and then further into each identified indicator, as may be required to identify and address specific problems in a State, region or across groups of States.

Visualizing exposure risks



Notional Depictions

Safety Intelligence inputs

Certification

- USOAP
- IOSA
- CANSO SMS Effectiveness

Exposure

- Departures
- Leasing Activity
- Over-flights
- Fleet Growth

Occurrences

- Loss of separation
- Runway incursion
- Runway excursion
- Airspace infringers

Technology

- Fleet Age
- CNS Infrastructure
- PBN Implementation
- Aircraft Equipage

Ops Environment

- Airspace complexity
- Terrain
- Weather
- Remote area ops

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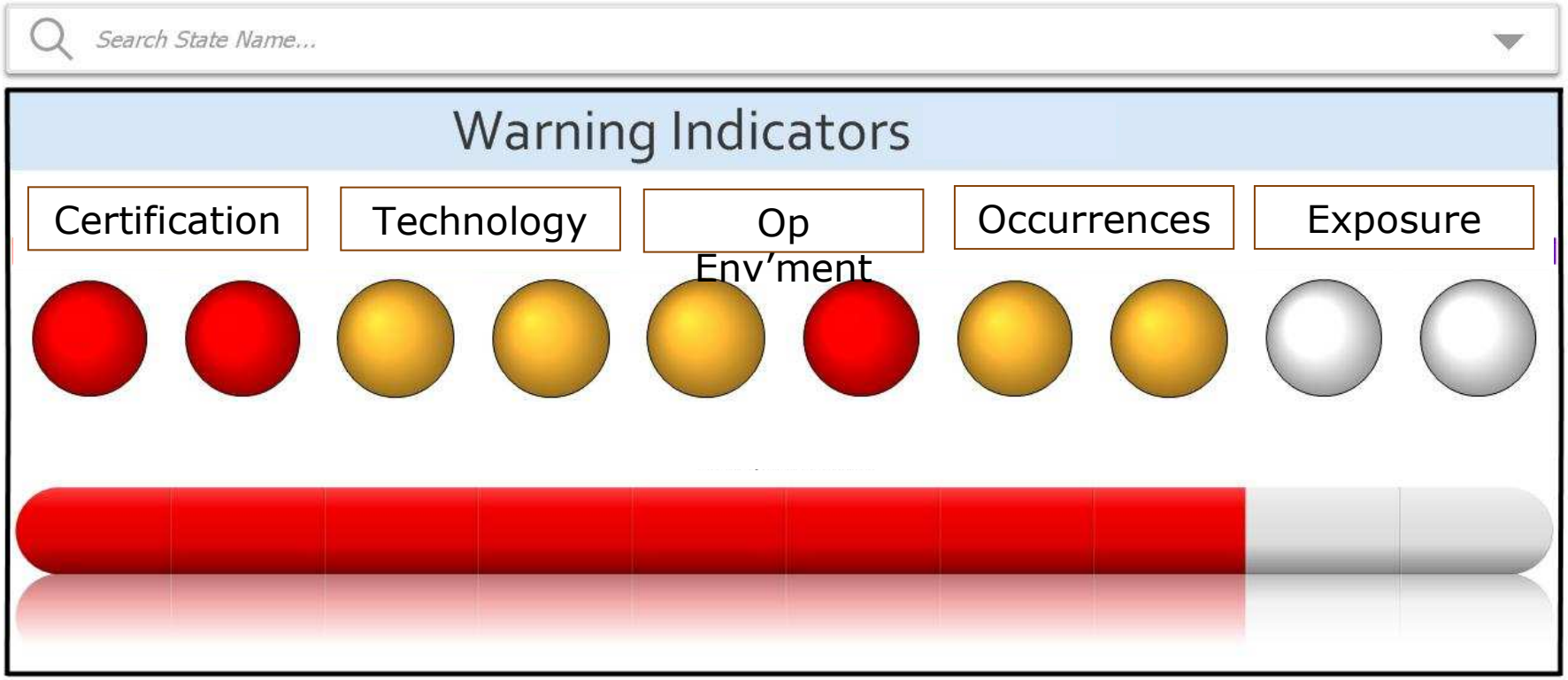
Safety Dashboard Prototype



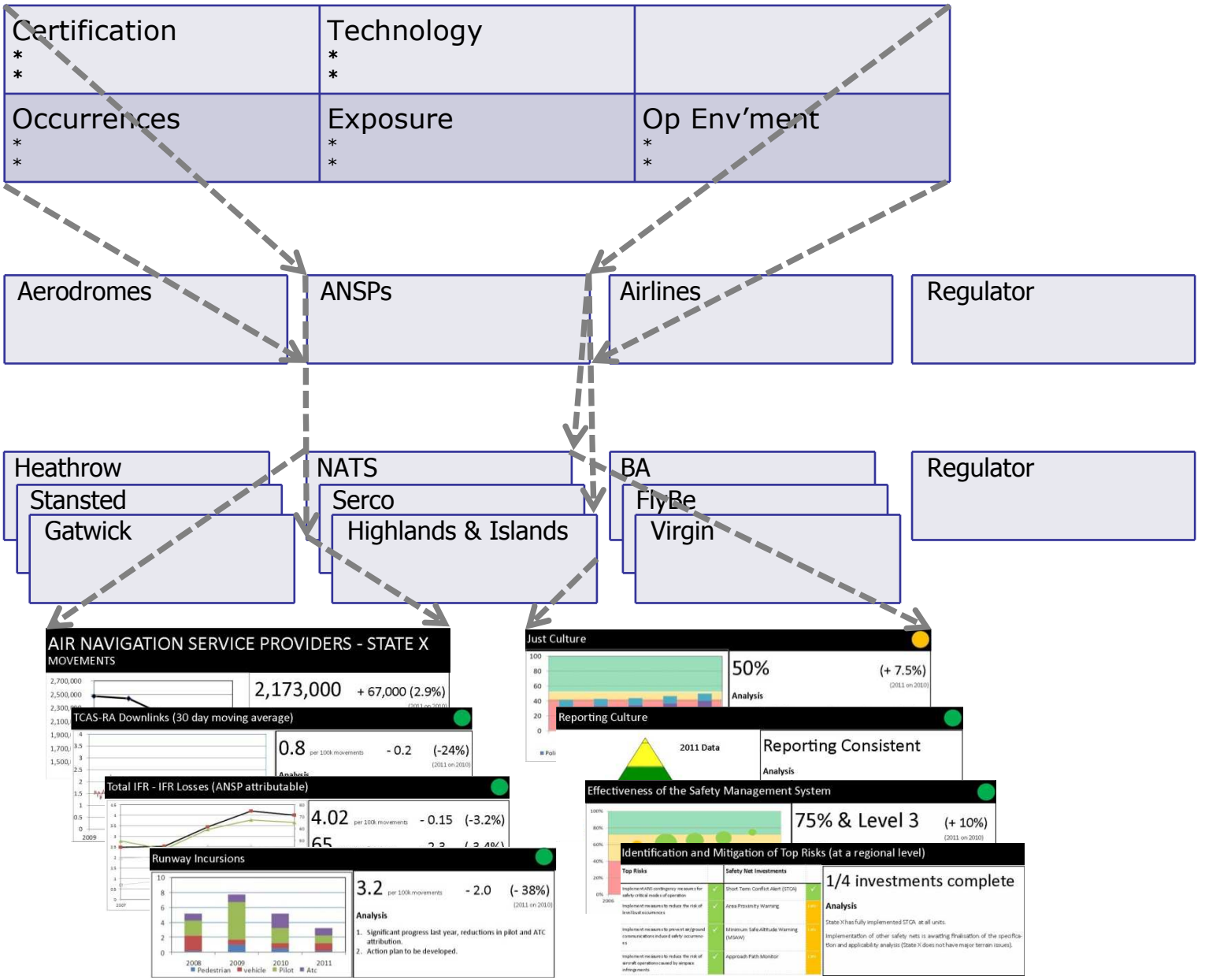
A Dashboard Approach…

Level 1 State

Level 2 Domain

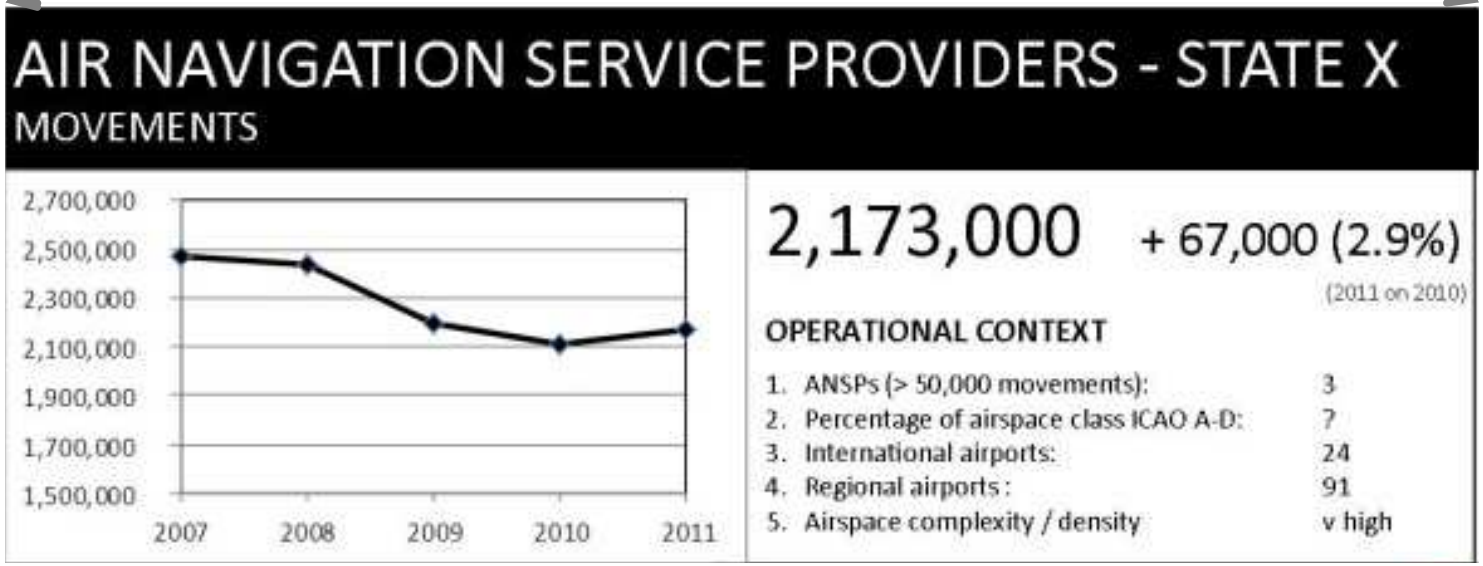
Level 3 Sub-domain

Level 4 Detail example



Level 4 Detail Example

Certification * *	Technology * *	
Occurrences * *	Exposure * *	Op Env'ment * *



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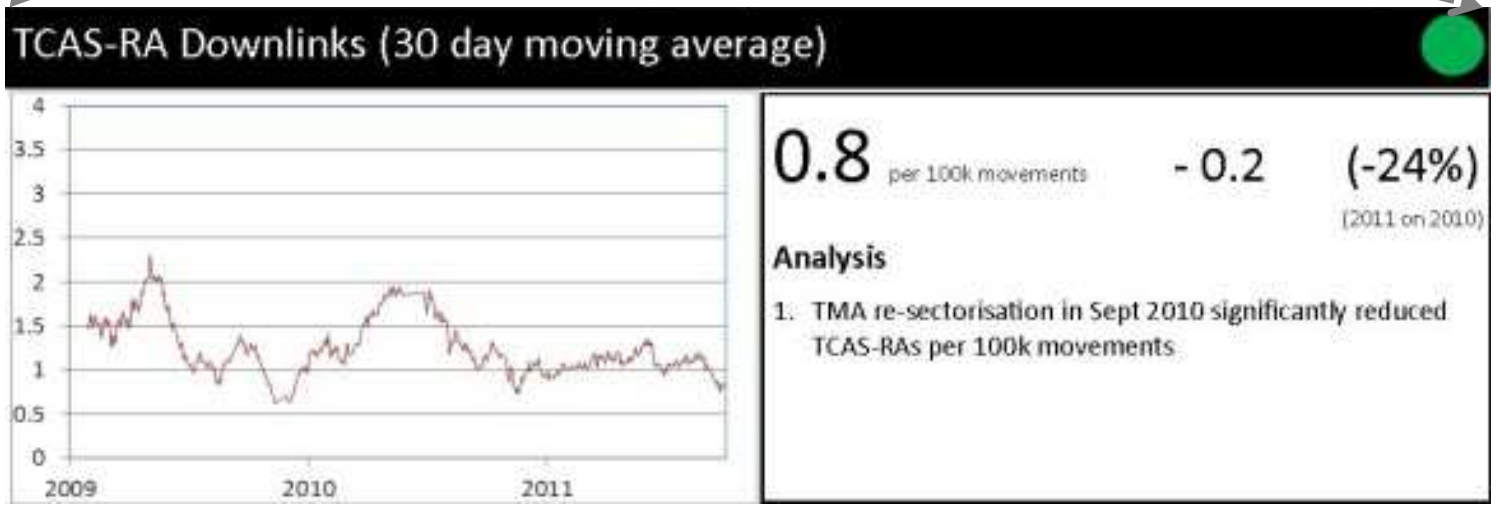

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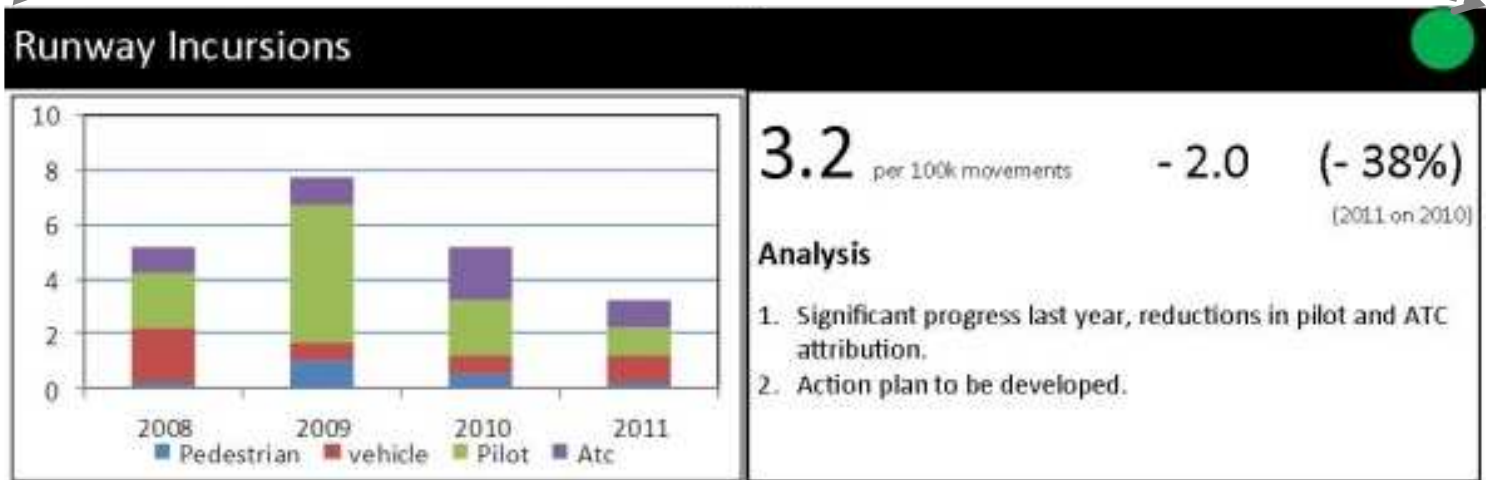

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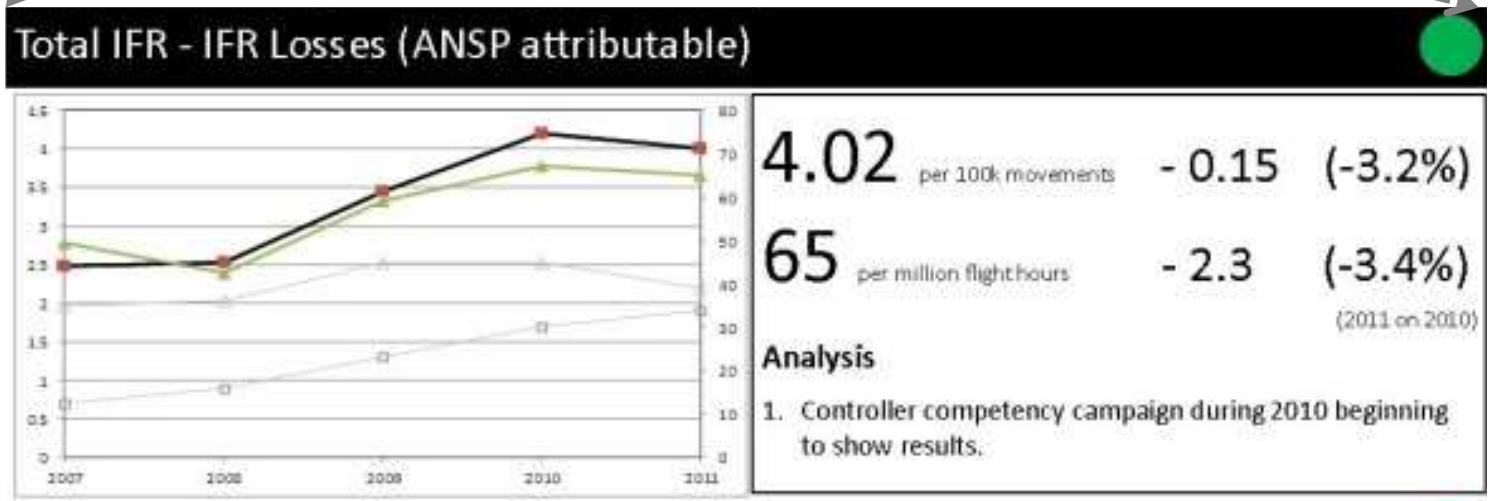

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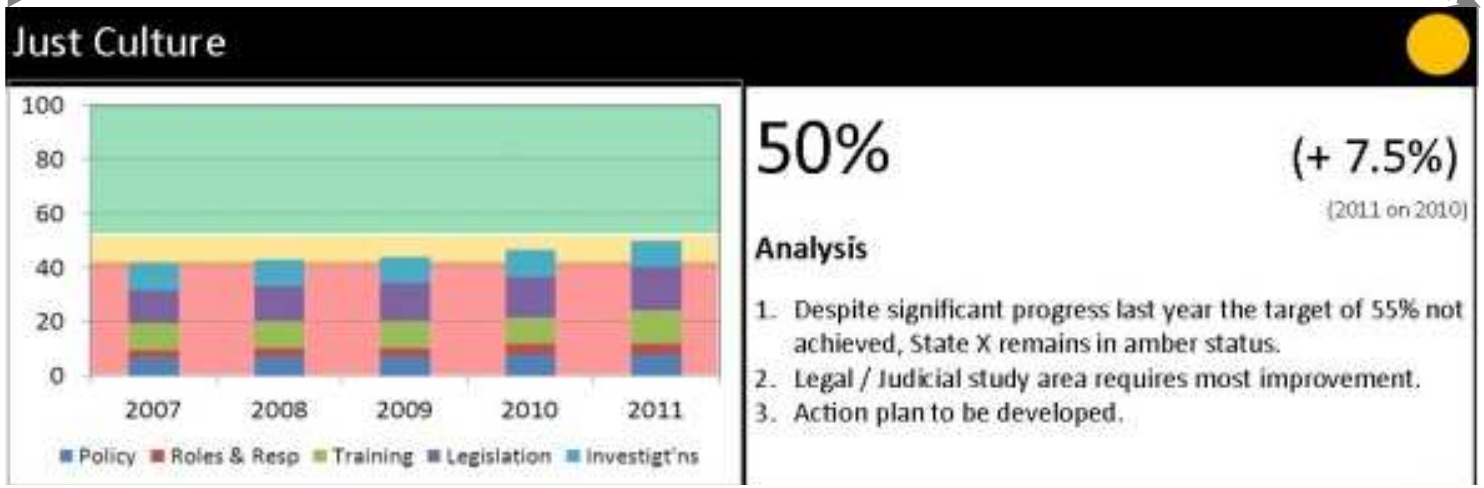

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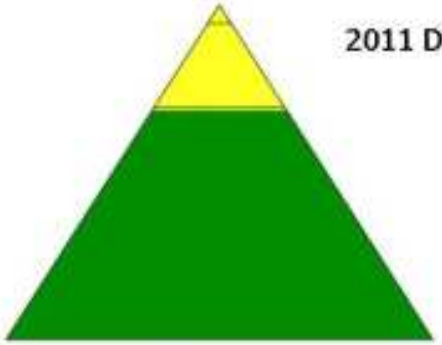
Reporting Culture



Reporting Consistent

Analysis

1. Reporting of severities is consistent with Heinrich's Triangle analysis.

Level 4 Detail Example

Certification * *	Technology * *	
Occurrences * *	Exposure * *	Op Env'ment * *

Joint Challenges:

- Data supplied through the States
- Scope (Military, GA traffic)
- (Independent) verification of submissions
- Will the ASI drive the right behaviours?
- Minimising inconsistencies between the ASI domains
- Maintaining the ASI
- Increasing participation
- Aggregation of the four domains

ASI – The Current Position

- The Aviation Safety Intelligence initiative is still very much in its development stage
- CANSO SSC is playing a significant part helping shape the initiative
- It will generate more data input for CANSO and hence improved benchmarking
- It will drive continuing improvement in data quality and consistency

Predictive / leading indicators

Now

- Hot spot maps of STCA & TCAS alerts
- Day-2-Day observations
- Minimum separations analysis (SMF)
- RT sampling and occupancy
- Visual scanning behaviours

In the future

- Extent to which separation assistance tools are used
- Timeliness with which red interactions are interrogated
- Number of a/c probed prior to issuing clearance vs number probed after issuing clearance
- Frequency with which CFL and SFL do not align

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