ICAO BANGKOK UNITING AVIATION

Asia/Pacific SAR Plan
- Introduction

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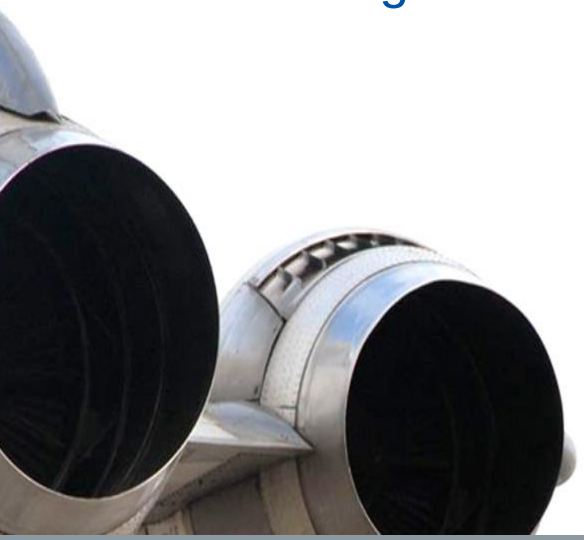
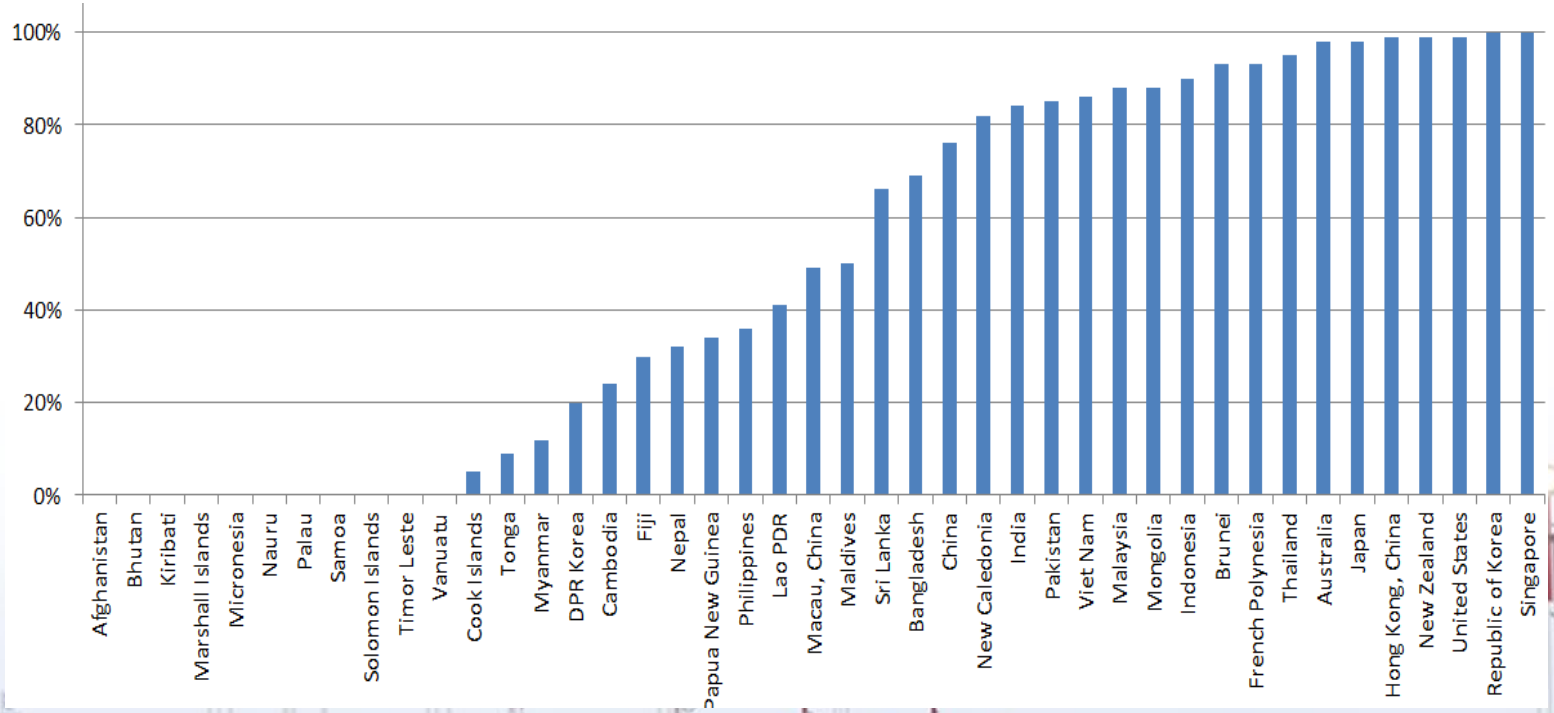
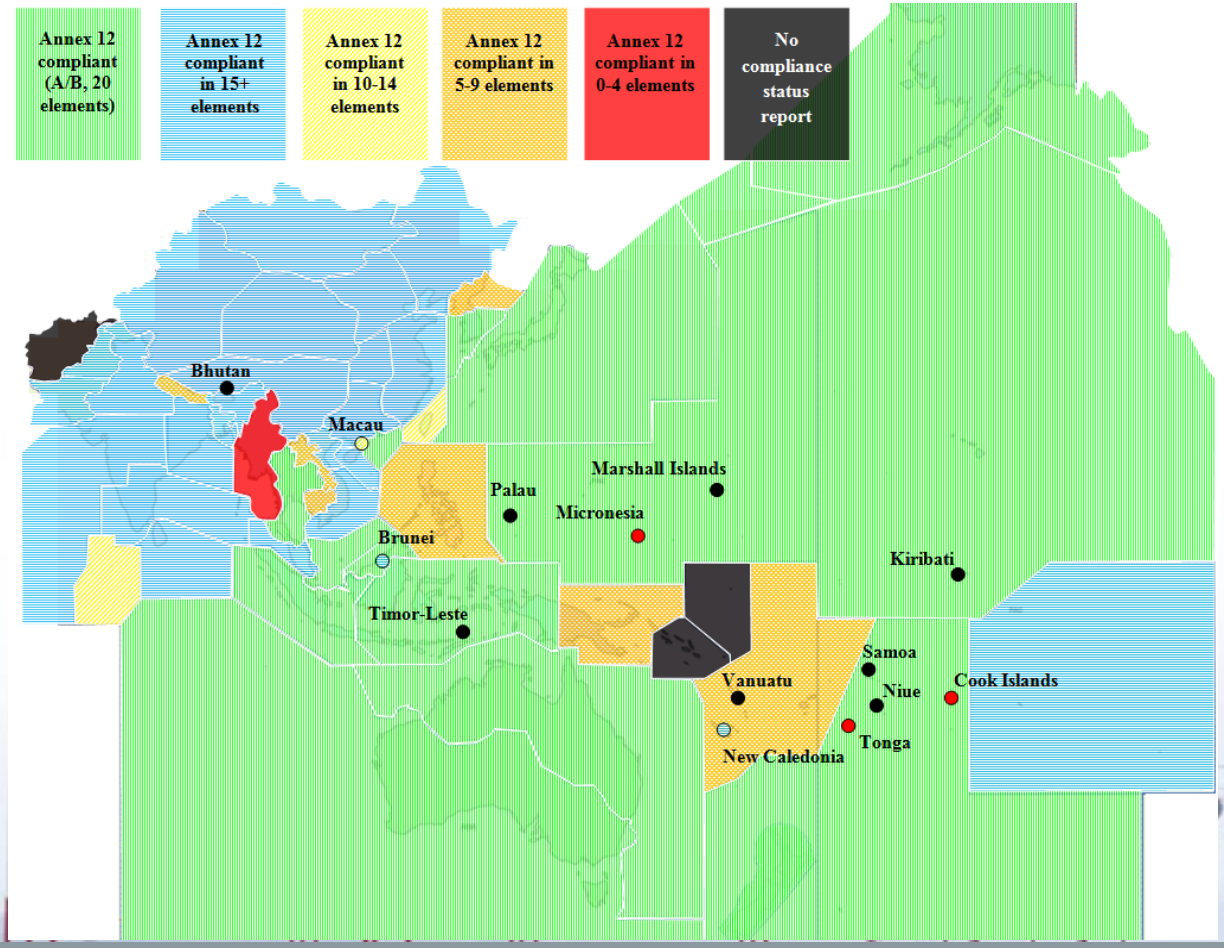


Asia/Pacific SAR Capability

The overall SAR capability ranking of Asia/Pacific States according to the SAR Capability Matrix (20 core Annex 12 elements):



Asia/Pacific SAR Capability

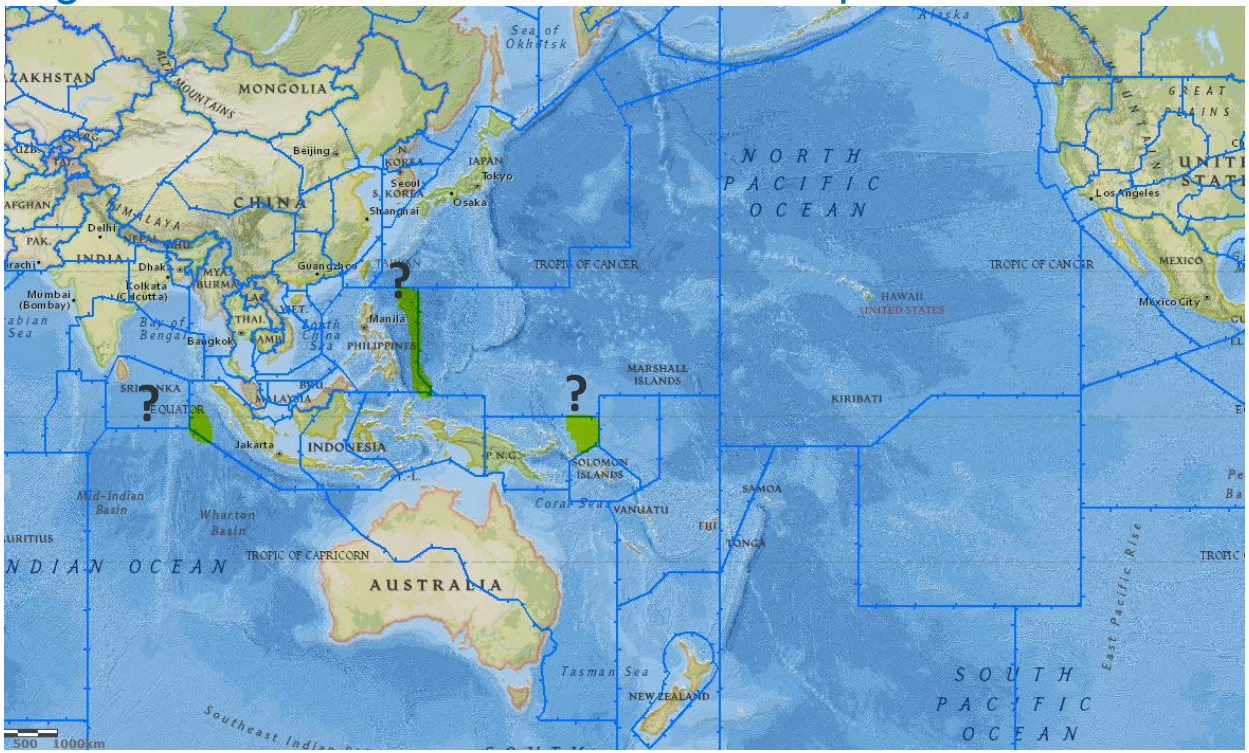


SAR Pacific SAR Capability

- SAR Task Force → SAR Workgroup
  - SAR Capability Table
  - SAR Letter of Agreement Matrix
- SAR Plan
  - SAR Plan is a critical part of the Asia/Pacific Seamless ATM Plan
  - SAR Elements will be part of the Seamless ATM Reporting and Monitoring System
  - SAR Air Navigation Report Form created
- SAR oversight as part of USOAP ANS field under the APAC CAT (Combined Action Team) assistance programme

Normal Flight Tracking

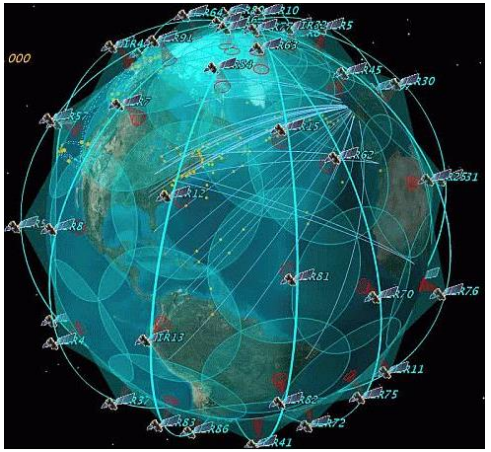
*Where doesn't ATC provide an equivalent 'normal flight' tracking service under Normal Aircraft Tracking Implementation Initiative (NATII) …using ADS-C in Asia/Pacific's remote airspace?



Normal Flight Tracking

Global Flight Tracking Mark II…

- ✓ Instead of HF or ADS-C reports used in NATII, the Aireon ADS-B service on 66 Low Earth Orbit (LEO) Iridium NEXT satellites by the end of 2017 is expected be capable of supporting global, near real-time surveillance with an 8 second update interval (UI) over 95% of global airspace
- ✓ Precise position data archival and reporting capabilities will enable a reduction in ATC separation standards and the detection of radar emergency transponder codes in 70% of the Earth's airspace where they are currently undetected, providing a global flight tracking capability and improving SAR response times
- BUT the system is not yet proven



Regional SAR Issues

Poor SAREX

– Choreographed events that do not demonstrate or test the SAR system (no search), participants are warned and demonstrate in front of senior officials where people are afraid to make mistakes, and it is really a crash fire exercise

Regional SAR Issues

Poor SAREX

– Ceremonies and glossy magazines,

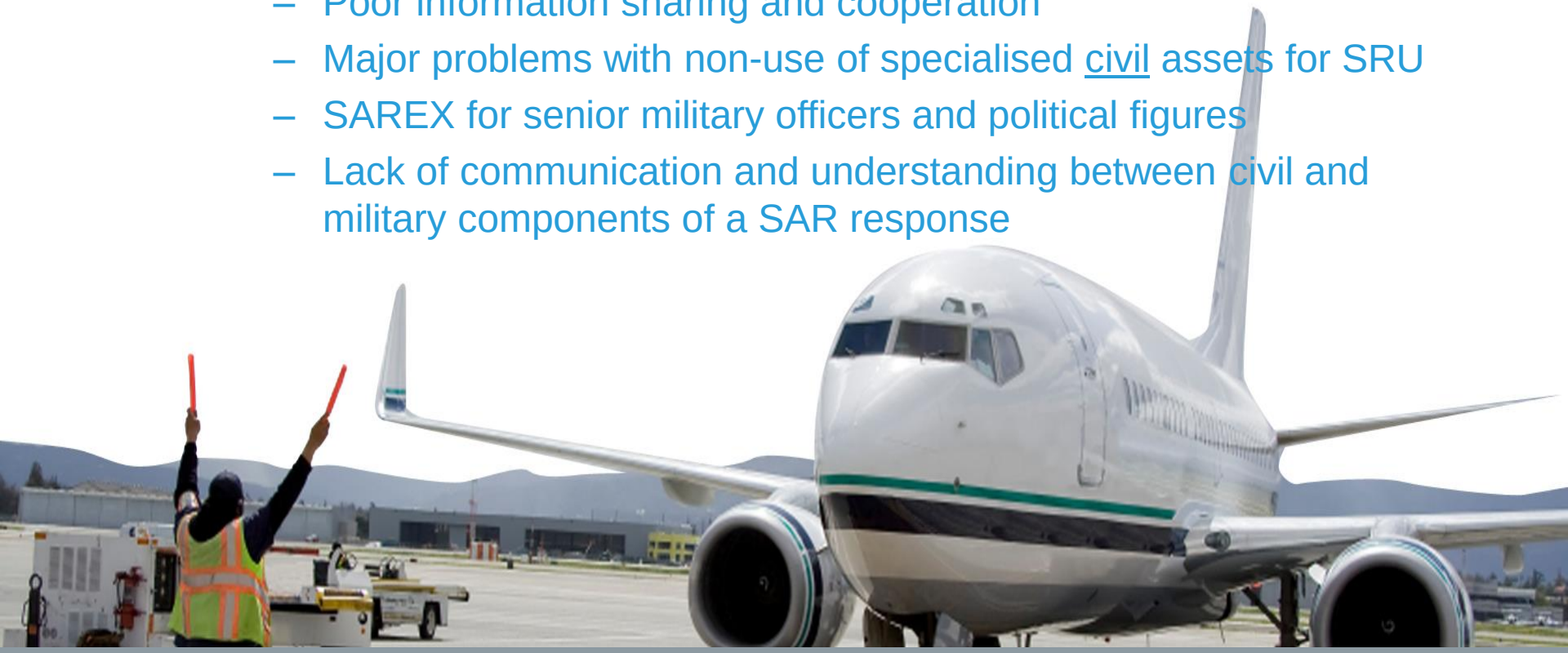
…but no (or poor) post-SAREX ‘lessons learnt’ debrief

Regional SAR Issues

- Poor project management change processes
  - non-compliance with Annex 15 promulgation requirements (advanced notice) when implementing changes to procedures and capabilities
  - Lack of understanding of SAR priorities
  - Appears to be largely caused by a lack of management skills and knowledge, and a ‘civil service’ government department paradigm

Regional SAR Issues

- Civil/military cooperation deficiencies
  - Poor information sharing and cooperation
  - Major problems with non-use of specialised civil assets for SRU
  - SAREX for senior military officers and political figures
  - Lack of communication and understanding between civil and military components of a SAR response



Regional SAR Issues

- SAR Agreements
  - States have problems with an inter-governmental SAR Agreement as they often have political involvement
    - (therefore we not insist that they are called ‘Agreements’…
    - we urge States to enact simple arrangements on a technical basis…, and to enact <u>something</u> rather than nothing (i.e.: in stages)!

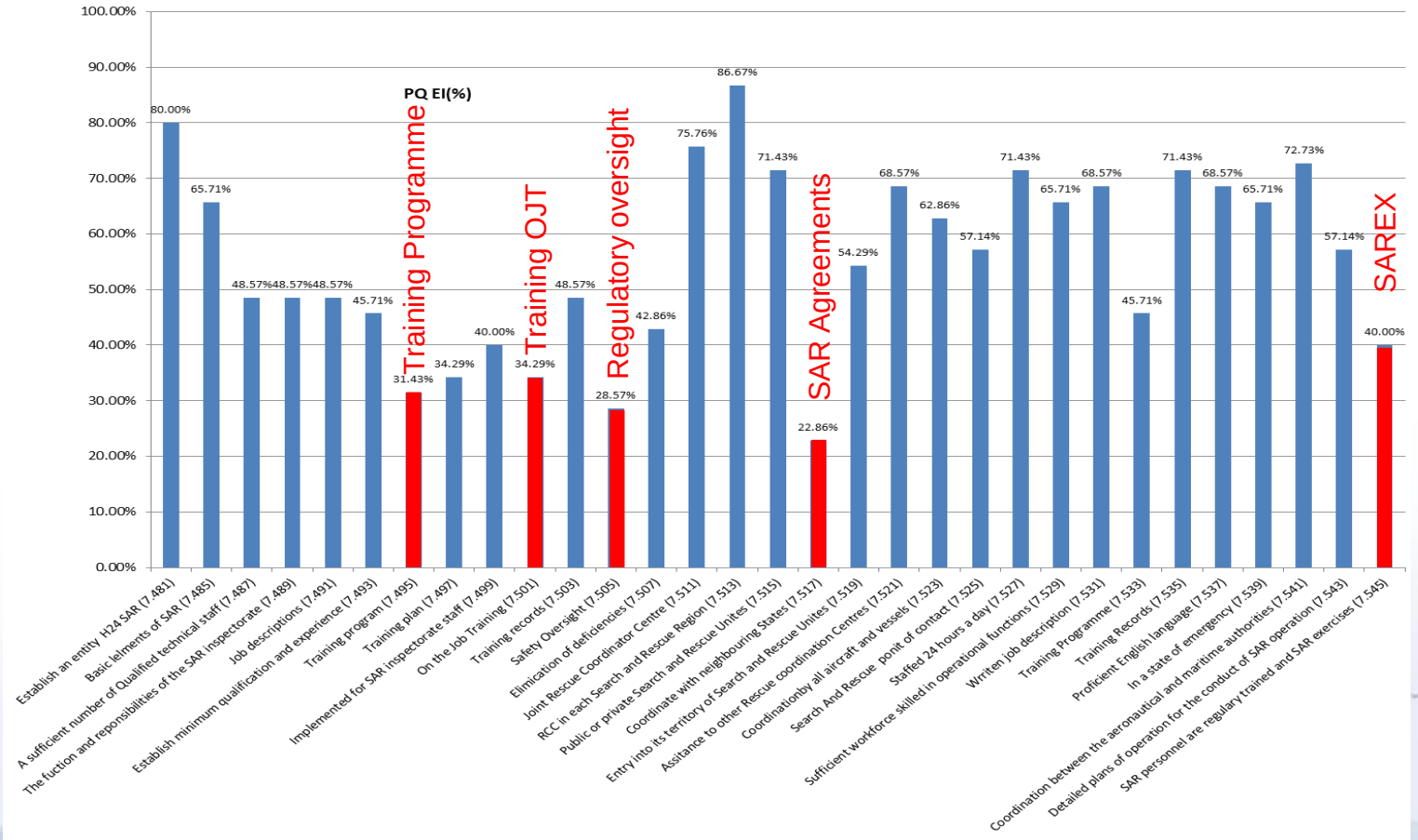
Regional SAR Issues

- USOAP CMA
  - Misunderstanding about the Universal Safety Oversight Audit Programme (USOAP) ANS ‘Inspectorate’ requirements
  - Poor external oversight (potential conflict of interest with the senior managers not being held accountable to anyone but themselves)

Regional SAR Issues

- An analysis of the 35 USOAP SAR-related Protocol Questions (PQs) in 2015 indicated an overall Effective Implementation (EI) of only **50.7%** for the Asia/Pacific. The14 SAR-related questions that are the focus of priority correction action plans:
  - 23% - PQ 7.517 (SAR coordination with neighbouring States);
  - 29% - PQ 7.505 (effective SAR safety oversight);
  - 31% - PQ 7.495 (SAR inspectorate training programme);
  - 34% - PQs 7.497, 7.501 (SAR inspectorate periodic training plan and OJT);
  - 40% - PQs 7.499, 7.545 (SAR inspectorate training implemented; and SAR personnel regular training and appropriate SAR exercises arranged);
  - 43% - PQ 7.507 (elimination of deficiencies identified by SAR inspectors);
  - 46% - PQs 7.493, 7.533 (SAR inspector minimum qualifications and experience and RCC and RSC training programme); and
  - 49% - PQs 7.487, 7.489, 7.491, 7.503 (sufficient SAR safety oversight staff, functions and responsibilities of the SAR inspectorate, SAR inspector job descriptions and SAR inspectorate training records system).

Regional SAR Issues



Regional SAR Issues

- English Language Proficiency (ELP) issues
  - Particularly regarding ‘non-normal’ situation like emergencies
- Use of Personal Electronic Devices (PED) in operational areas
  - Potential for interference with electronic systems
  - Distraction of operational personnel
- Lack of Aviation Culture

Latent Safety Issues Affecting SAR

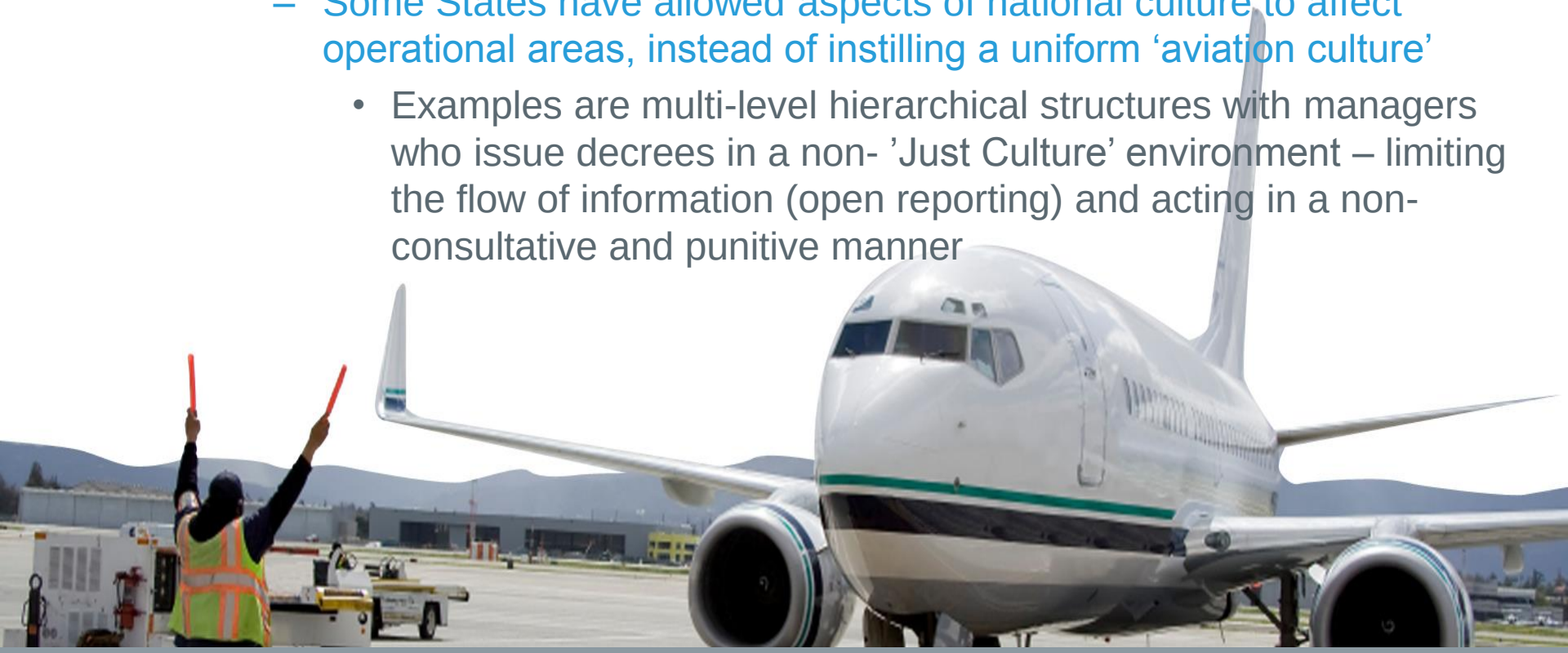
- Widening gap between advanced States and lesser developed administrations
  - The No Country Left Behind (NCLB) programme is trying to address this but NCLB is focussed on the State regulator and ASBU Block 1, 2 and 3 may exacerbate the gap without established regional safety bodies

Latent Safety Issues Affecting SAR

- Widening gap between advanced States and lesser developed administrations
  - Safety regulation is of variable quality from USOAP results, many with an inappropriate safety culture, poorly remunerated staff or lack of resource compared to ANSPs, and potential conflicts of interest
  - Collaboration and joint service provision/research & development in accordance with Seamless ATM thinking is more vital than ever!

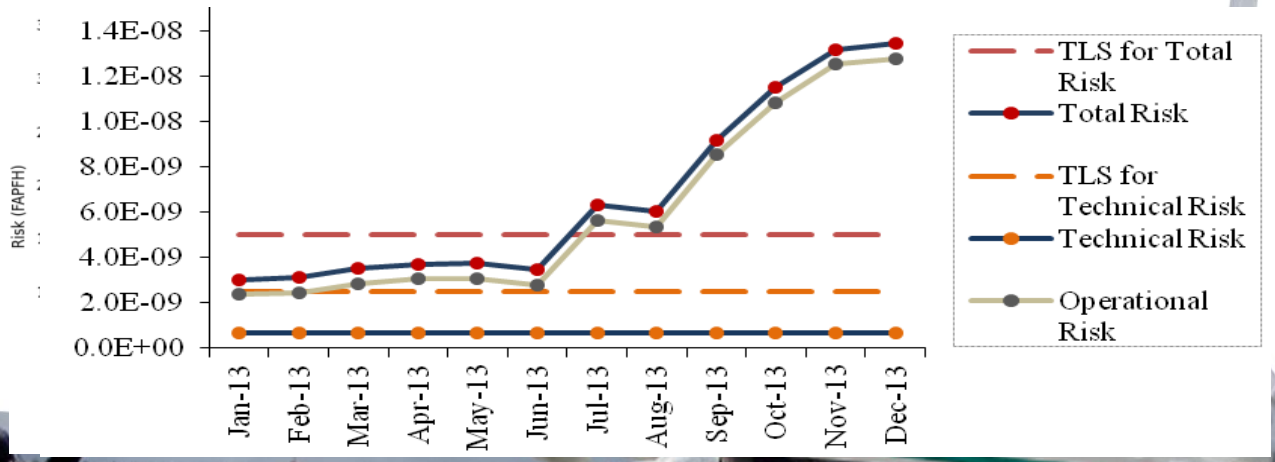
Latent Safety Issues Affecting SAR

- Looking Closer at Safety Culture
  - Some States have allowed aspects of national culture to affect operational areas, instead of instilling a uniform ‘aviation culture’
    - Examples are multi-level hierarchical structures with managers who issue decrees in a non- ’Just Culture’ environment – limiting the flow of information (open reporting) and acting in a non-consultative and punitive manner



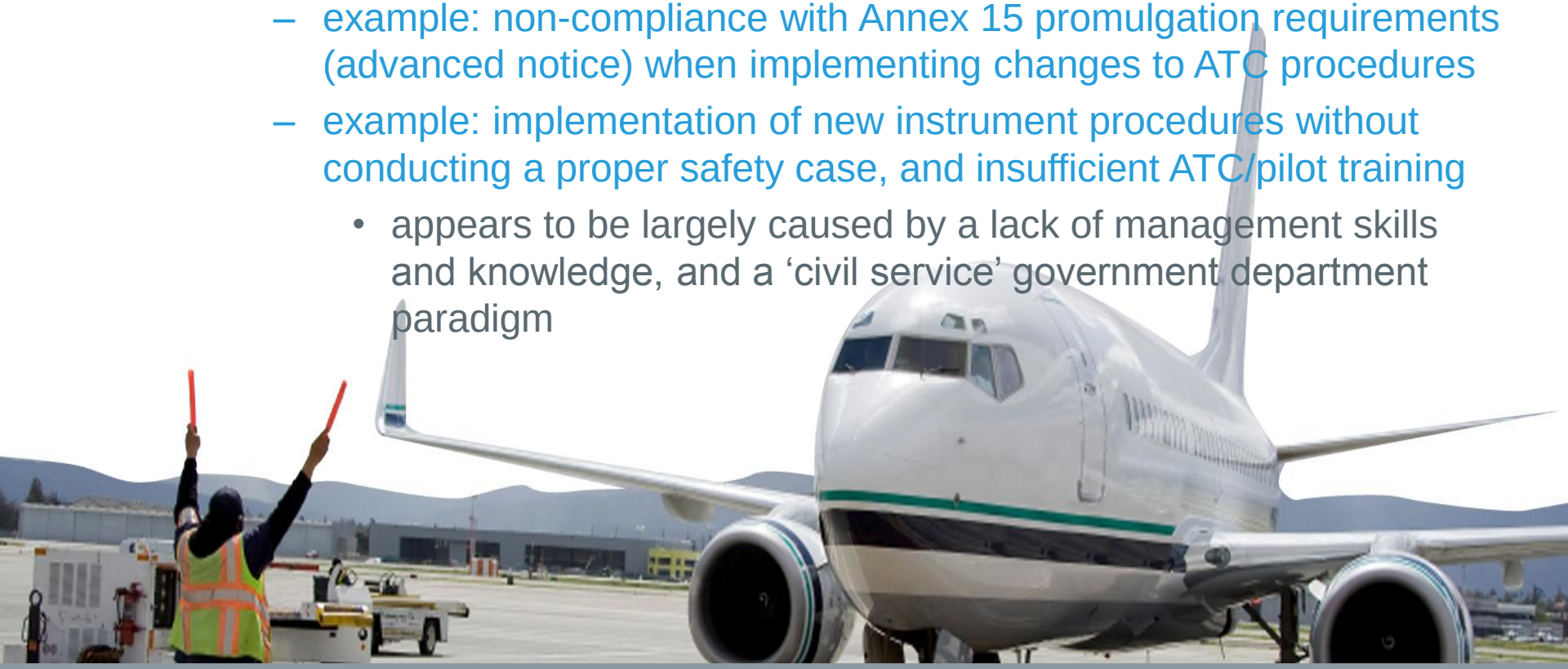
Latent Safety Issues Affecting SAR

- Looking Closer at Safety Culture
  - Safety issues are sometimes hidden (reporting) and corrective (short-term) action is taken to fix problems instead of preventive (systemic) actions



Latent Safety Issues Affecting SAR

- Poor ATM project management change processes
  - example: non-compliance with Annex 15 promulgation requirements (advanced notice) when implementing changes to ATC procedures
  - example: implementation of new instrument procedures without conducting a proper safety case, and insufficient ATC/pilot training
    - appears to be largely caused by a lack of management skills and knowledge, and a ‘civil service’ government department paradigm



Latent Safety Issues Affecting SAR

- Civil/military cooperation deficiencies
  - example: major problems within Chinese airspace (affecting large parts of the Asia/Pacific Region) which may result in increased ATC workload and traffic complexity

Latent Safety Issues Affecting SAR

- English Language Proficiency (ELP) issues
  - Particularly regarding ‘non-normal’ situation like emergencies
- Use of Personal Electronic Devices (PED) in operational areas
  - Potential for interference with ATC electronics
  - Distraction of operational personnel

Aviation Culture

Responsible Management

- Proactive, Safety Priority
- Informed, Open Communication
- Team Management Approach

Just Culture

- Open Reporting to Management
- Non-Punitive
- Focus on Preventive, not Corrective Action

AVIATION CULTURE

Organisational Culture

- Effectively Driven by Management
- Imbedded Safety Review and Assessment Teams
- Organic: Responding to the Environment to Learn and Improve

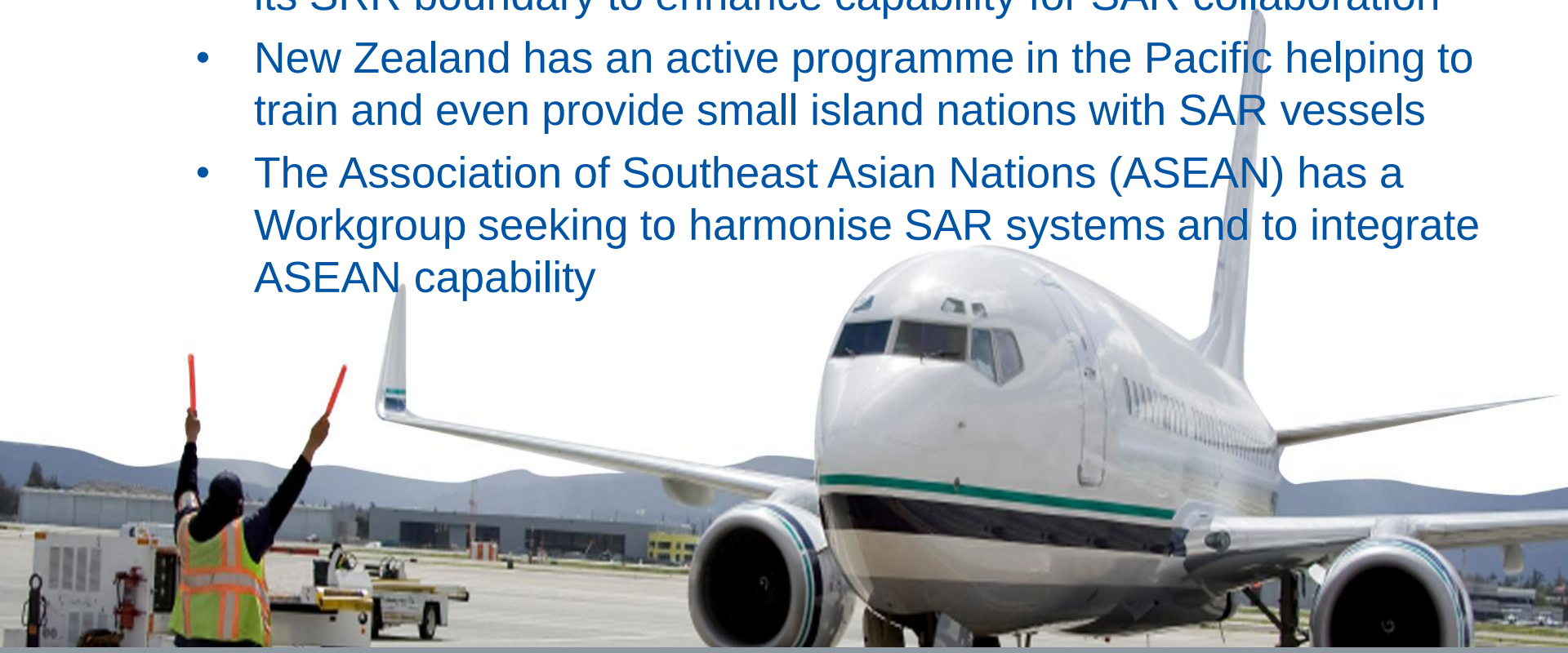
Human Factors

- Ergonomic Designs, Human-in-the-Loop Systems
- Fatigue Management
- Training and Use of Simulators
- Safety Nets and Contingency Planning

Aviation Culture

Regional SAR Initiatives

- Australia has an Indian Ocean programme assisting States on its SRR boundary to enhance capability for SAR collaboration
- New Zealand has an active programme in the Pacific helping to train and even provide small island nations with SAR vessels
- The Association of Southeast Asian Nations (ASEAN) has a Workgroup seeking to harmonise SAR systems and to integrate ASEAN capability



ICAO

THANK YOU

Aviation is safe because it has the culture to learn and react

http://www.icao.int/safety/globaltracking