

Recognition for Defence Aviation; what, why and how

Leon Purton

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**International Military
Airworthiness Expert**

Outline

- Background – some motivation
 - Increasing awareness of requirements
- What is recognition?
- Why are we doing it?
- How is it being done?
- Closing comments



Background

- Militaries are not subject to the ICAO convention
- No oversight of the Authority– nobody checking the checker
- Reduced independence of Military Regulators – within the 'Command Chain'
- International Military Airworthiness
 - Working Groups, Collaborative Forums and Projects across most of the Western militaries
 - Why are there so many working on a similar thing?



EUROPEAN
DEFENCE
AGENCY

Article 3

Civil and state aircraft

(a) This Convention shall be applicable only to civil aircraft, and shall not be applicable to state aircraft.

(b) Aircraft used in military, customs and police services shall be deemed to be state aircraft.

(c) No state aircraft of a contracting State shall fly over the territory of another State or land thereon without authorization by special agreement or otherwise, and in accordance with the terms thereof.

(d) The contracting States undertake, when issuing regulations for their state aircraft, that they will have due regard for the safety of navigation of civil aircraft.

Increasing awareness of requirements

- Globally, awareness of the requirements to assure the safety of personnel on other Nations aircraft has dramatically increased.
- Initiated in 2003, following a NATO chartered Ukrainian troop transport from Afghanistan crashed in Turkey – killing all on board (UM 4230, YAK-42).
- 75 Spanish troops were killed and NATO this was the third Ukrainian crash in the the culmination of 105 total NATO deaths (years).
- Triggered establishment of NATO and ASIC airworthiness project groups and subsequently the US DOD Directive
 - Requires US DOD Authorities to validate the airworthiness oversight of the military nation prior to transportation of US DOD personnel





- The working groups are progressing on common themes
- NATO;
 - Established an Airworthiness Executive and are progressing an implementation plan for assuring that NATO personnel are safe on all aircraft.
- ASIC;
 - Produced a recognition process for characterising airworthiness frameworks – AIRSTD AW 2003. This working group provides integration of the three forums, allowing for development of a consistent approach.
- EDA;
 - The MAWA forum developed the EMARs and the EMAD-R (recognition) – largely stimulated by European Industry who were tired of many countries differing regulatory requirements
- Lastly, the US National Airworthiness Council were motivated for compliance with US DODD 5030.61 which dictates that US DOD personnel should be equally as safe on any other Nations military aircraft.

What is Recognition?

To Do List:

☐ Recognize someone today!



What is recognition?

- Recognition
 - The diligent assessment of another Airworthiness Authority
 - Upon satisfactory assessment they can be Recognised
 - Allows nations to utilise that recognition to facilitate utilisation of that Nations information and services subject to conditions and caveats.
 - Increases trust with the drive to decrease cost, particularly those driven by duplication
 - Globalisation of aviation
 - Confidence in the other system – different but competent

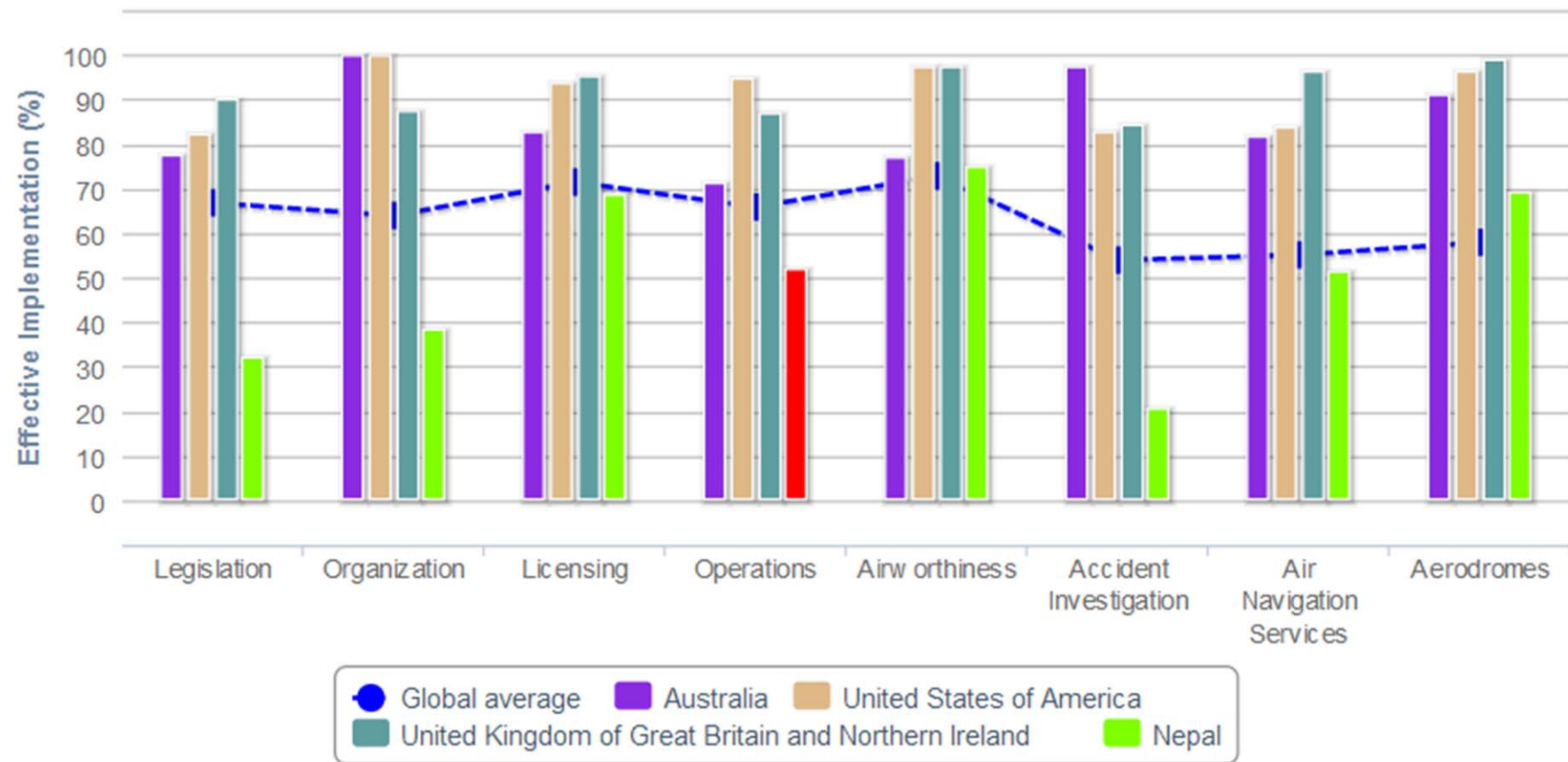


Civil vs Military

- Civil Airworthiness Authorities are audited by ICAO through a Continuous Monitoring Approach (CMA) under the Universal State Oversight Audit Program (USOAP)
- At any point in time you can check any of the 192 countries and compare to the global average or other countries



Effective Implementation



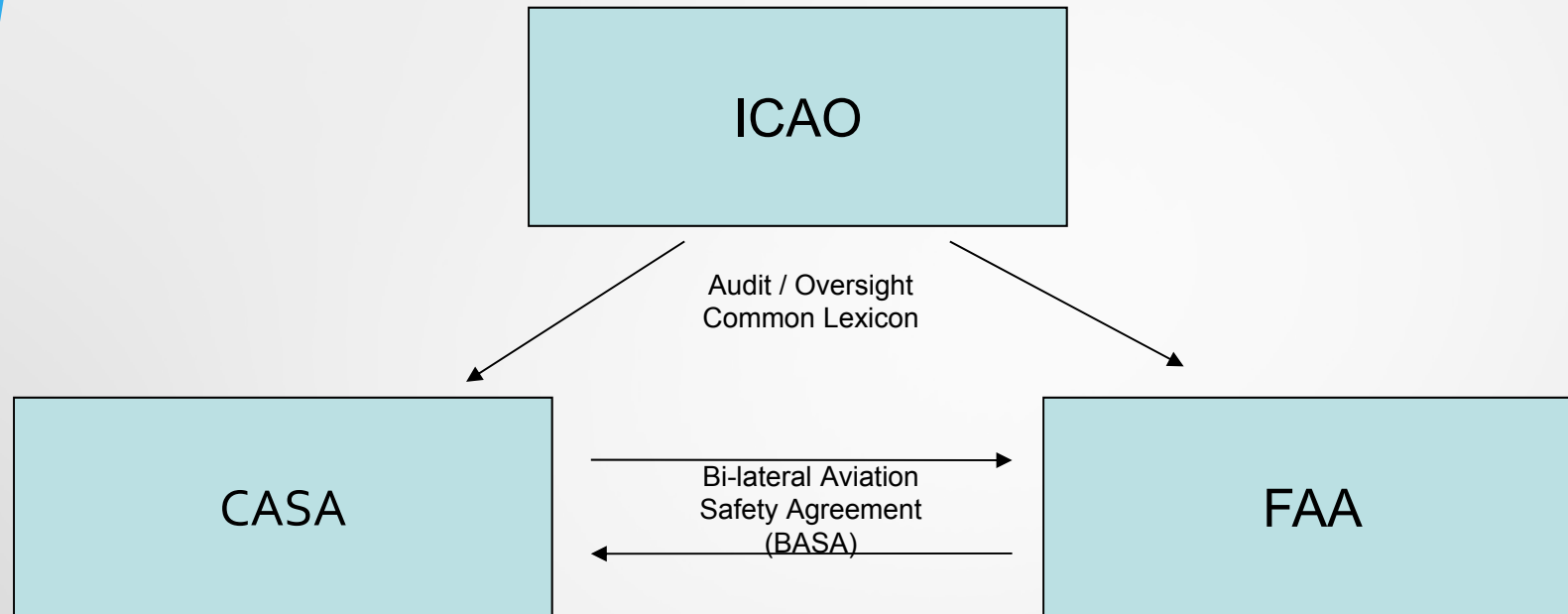
<http://www.icao.int/safety/Pages/USOAP-Results.aspx>

Civil vs Military

- Civil Airworthiness Authorities are audited by ICAO through a Continuous Monitoring Approach (CMA) under the Universal State Oversight Audit Program (USOAP)
- There is no Universal oversight of Military Organisations
- Recognition is the diligent assessment that satisfies the recognising Nation that they are competent for achieving the ICAO safety goals

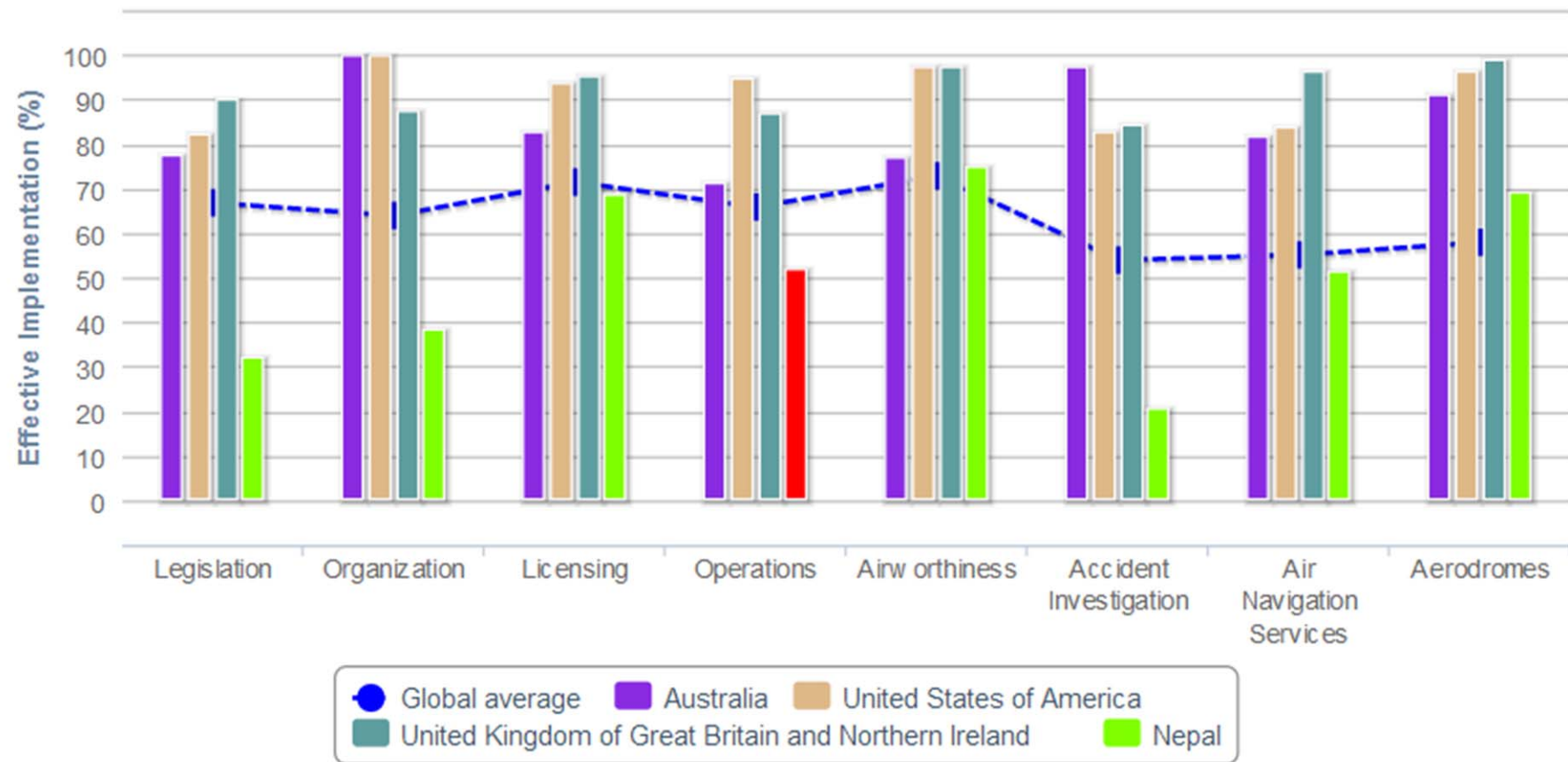


Civil recognitions



- Very different implementations, but with a defined common foundation recognition is possible and reasonably simple
- Most time is spent with legal reviews
- ICAO is already overseeing the Authority – generally, DGTA-ADF are not going to check them again, a level of effective implementation greater than 80% is competent


Effective Implementation




<http://www.icao.int/safety/Pages/USOAP-Results.aspx>


International agreements


Arrangement with China


 [Memorandum of Understanding](#) between CASA and the Civil Aviation Administration of China for the promotion of civil aviation safety.

 [Implementation Procedures](#) between CASA and the Civil Aviation Administration of China for the acceptance of airworthiness approval of aeronautical products.


Arrangement with Singapore


 [Technical Arrangement](#) on Airworthiness Certification between CASA and the Civil Aviation Authority of Singapore.

 [Memorandum of Understanding](#) between CASA and the Civil Aviation Authority of Singapore on aviation safety.

 [Technical Arrangement](#) on aviation maintenance between CASA and the Civil Aviation Authority of Singapore.

Arrangement with Korea

 [Memorandum of Understanding](#) between CASA and the Ministry of Land, Transport and Maritime Affairs, Korea for the promotion of aviation safety.


 [Implementation Procedures](#) between CASA and the Ministry of Land, Transport and Maritime Affairs, Korea for the acceptance of airworthiness approval of aeronautical products.


Agreement with EASA

 [Agreement with EASA](#)

Cooperative Agreement for Airbus A380

Arrangement with New Zealand

 [High Level Arrangement](#) between the Australian and New Zealand Governments on Mutual Recognition of Aviation-related Certification.

 [Operational Arrangement](#) between CASA and the Civil Aviation Authority of New Zealand in relation to mutual recognition of Air Operator Certificates.

The Australia-US Bilateral Aviation Safety Agreement

The Bilateral Aviation Safety Agreement (BASA) between Australia and the US came into effect on 28 November 2006 with an exchange of diplomatic notes. The BASA allows for the import to the US of certain aeronautical products designed and manufactured in Australia, and Australian acceptance of certain FAA approvals.

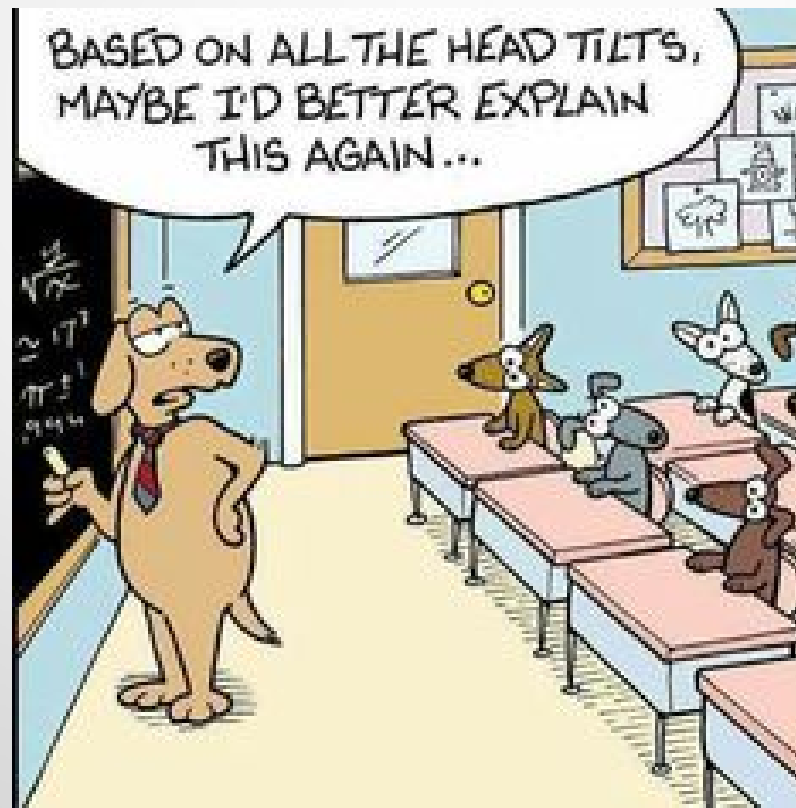
Enabling agreement

Arrangements for exchange

Recognition Scope

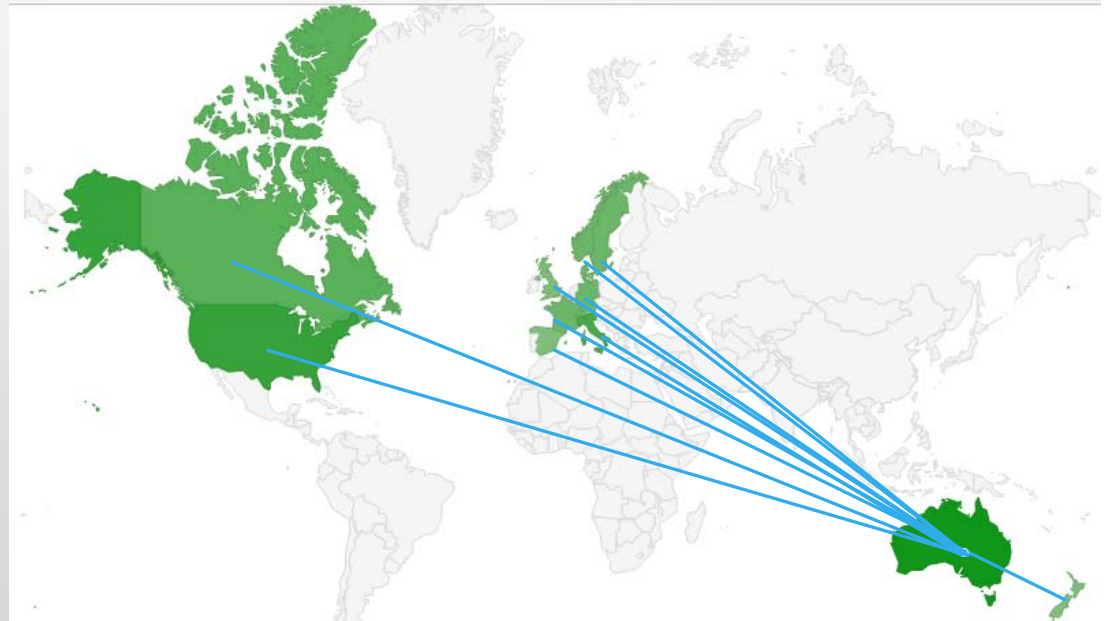
- Multi-faceted approach
 - Competence of the Authority for satisfying airworthiness goals
 - Carriage of personnel, operations in our airspace
 - Satisfaction of ICAO airworthiness manual requirements
 - **Enabling agreement**
 - Recognition of Organisational/Systems Approval
 - Verification of equivalence to DASR requirements
 - **Enables exchange** of information and services
 - Largely aircraft agnostic
 - **Confirmation of Suitability/Applicability** of the Services sought for a specific aircraft
 - Use of certification, design, production and maintenance for each aircraft
- These are hierarchical and the scope of a recognition is determined by the level of required interaction.

Why do recognition?

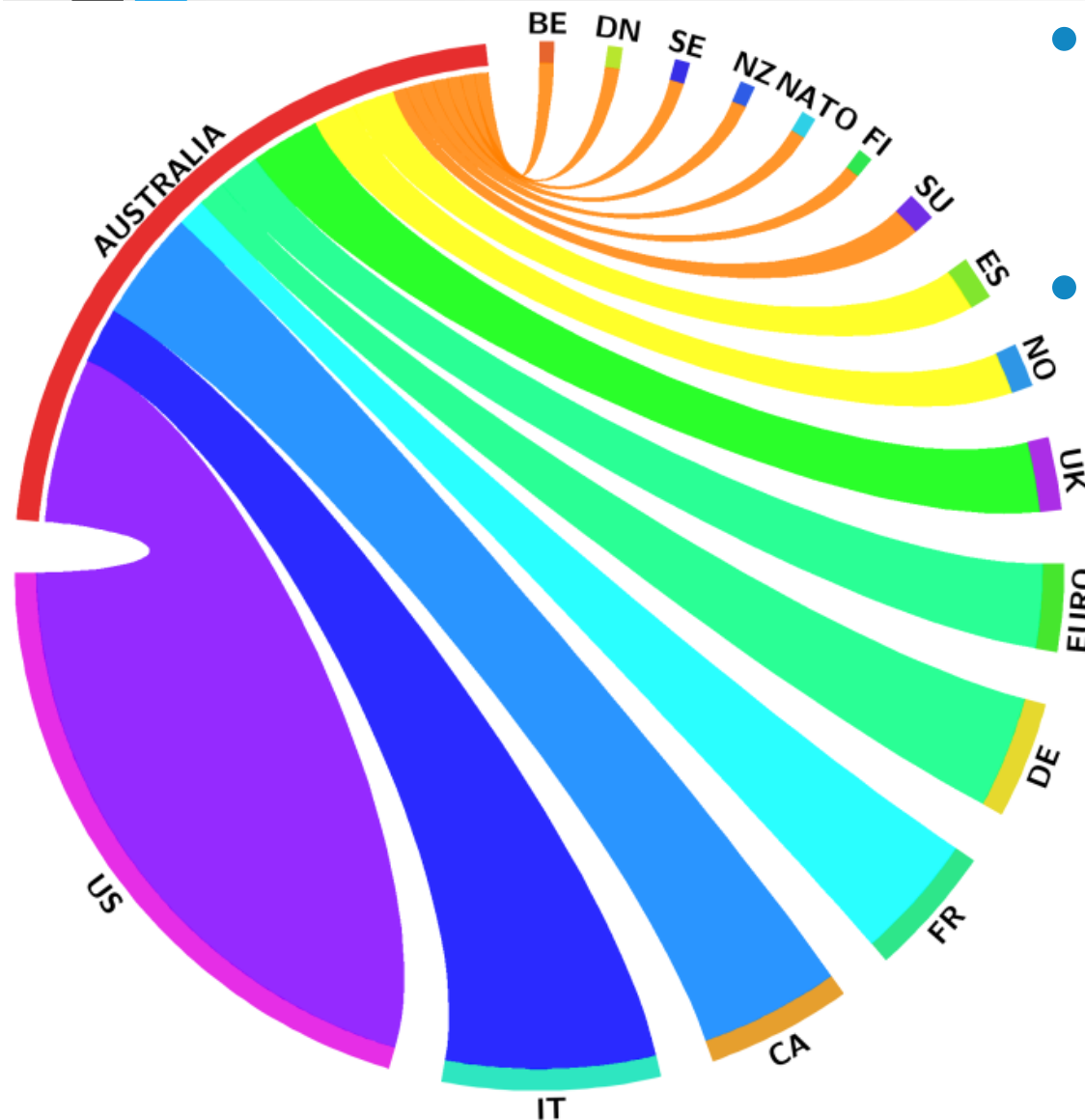


Small country reliance

- Australia (and many other Nations) rely on other Nations for aircraft acquisition, sustainment and support of their military aviation assets
- Current mechanisms for use of those Nations services and information requires re-validation for each aircraft
- There are numerous relationships being managed; Australia
- These relationships are identified in this figure, but this does not illustrate the strength of that reliance

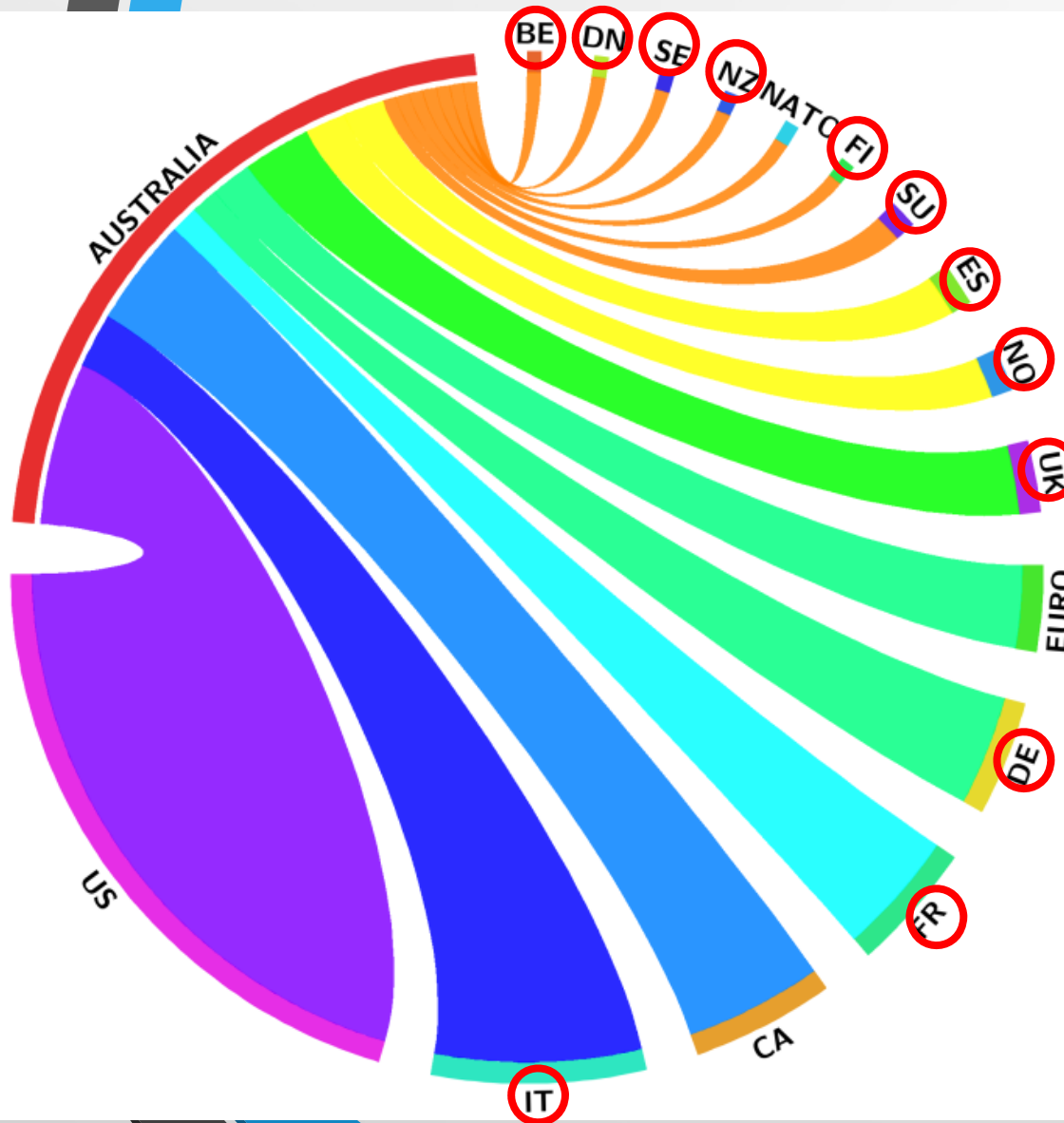


So who does the ADF interact with?



- This covers the breadth of Australian Military interactions.
- The width at the end of each chord illustrates the number of organisations;
 - Heavy reliance on the US understandable
 - Increasing reliance on European nations
 - ARH Tiger, MRH Taipan, KC-30A, PC-9 and C-130 common users

So who does the ADF interact with?

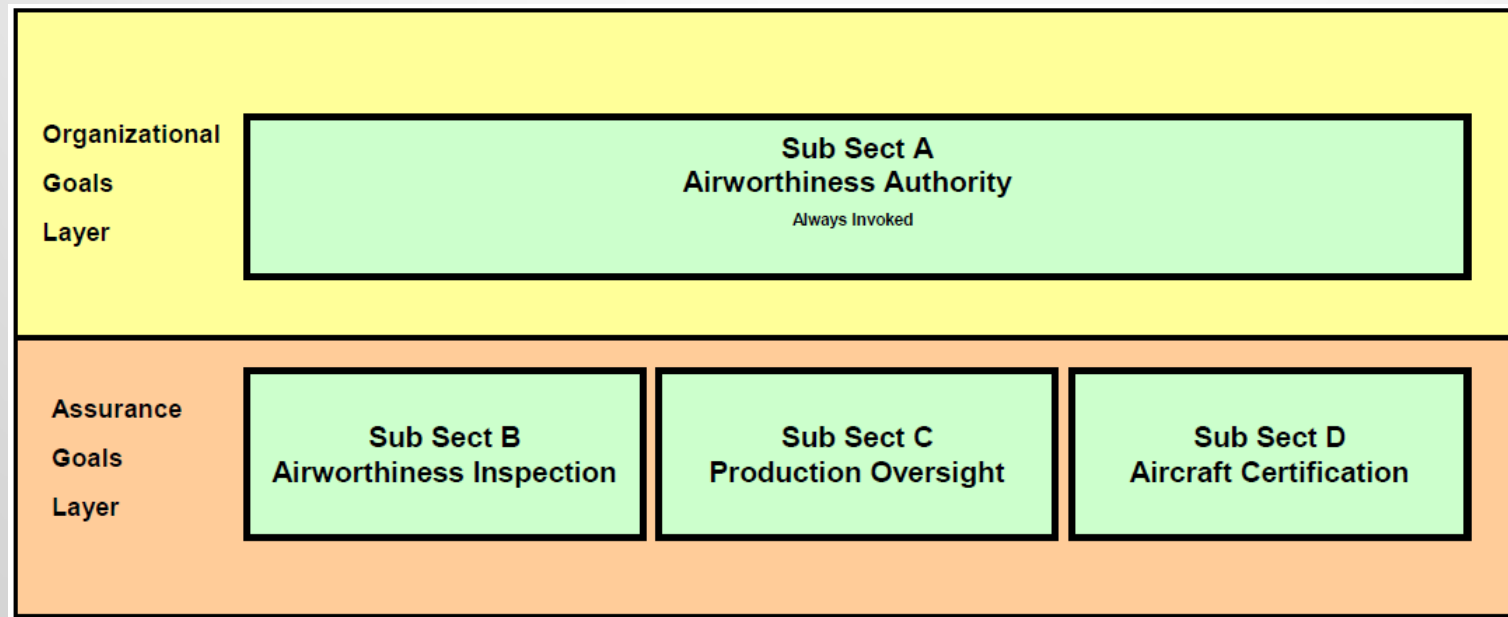


- If you examine the countries.... All but the US and Canada are adopting EMARS
- Australia can see great benefit from adoption of the EMARs (adopted as DASRs)
- May be able to influence US lexicon
- Canada very similar to TAREGs

Safety, Services and Information

- Safety of personnel on their aircraft (US DOD focus)
- Exchange of services (benefits realisation);
 - Design / Certification
 - Minor Modification / Repair
 - Production Oversight
 - Maintenance
- Information pertaining to the above
- Not a transfer of liability, but if we do it right, the liability is primarily retained by the Authority rather than by the end user

How will we do it?



Exchange of homework

- EMAR document suite contains a process for recognition
 - European Military Airworthiness Document for Recognition (EMAD-R)
 - Contains a set of questions for exchange
- Military Airworthiness Requirements Question-set (MARQ) used as a translator between Nations
 - Based on the ICAO SARPs
 - Each Nation completes the same questions (self-description of how), can be used for comparison – or translation of lexicons
 - Normally followed by a face-to-face audit/review to enhance comprehension and understanding

EMAD R - RECOGNITION

MARQ Sub-Section A - Airworthiness Authority					Completing RP			Reviewing RP
Unique Identifying Reference	Goal Level	Airworthiness Safety Goal	Status of Goal	Cross Reference to Guidance Material	How Does The RP Meet This Goal? <i>Provide a Statement, Including How the Air Safety Goal is Met by the RP. Complete All Boxes and Insert 'N/A' if the Goal is not in the RP's remit.</i>	Key References	Significant Changes Since Last Completion (Y/ N)	Comments (Steps 12 & 13) and Actions Required (Step 14)
		still achievable.						
1.1.5.4	3	The Authority has an effective record keeping system to keep track of key airworthiness correspondence to/from the public, industry and certificate holders.	New	1.1.5.4.a 1.1.5.4.b				
Critical Element Number 6 (CE 6) - Licensing, Certification, Authorisation and Approval Obligations								
1.1.6	2	An airworthiness assurance system has been established, according to the level and scope of aviation activity.	In MARQ Ed 1					
1.1.6.1	3	The Authority conducts type certification (See MARQ sub-set D for further details).	In MARQ Ed 1					
1.1.6.2	3	The Authority oversees production (See MARQ sub-set C for further details).	In MARQ Ed 1					
1.1.6.3	3	The Authority	In					
Edition Number : 2.0			Edition Date : 08 Sep 2015			Status: Draft		

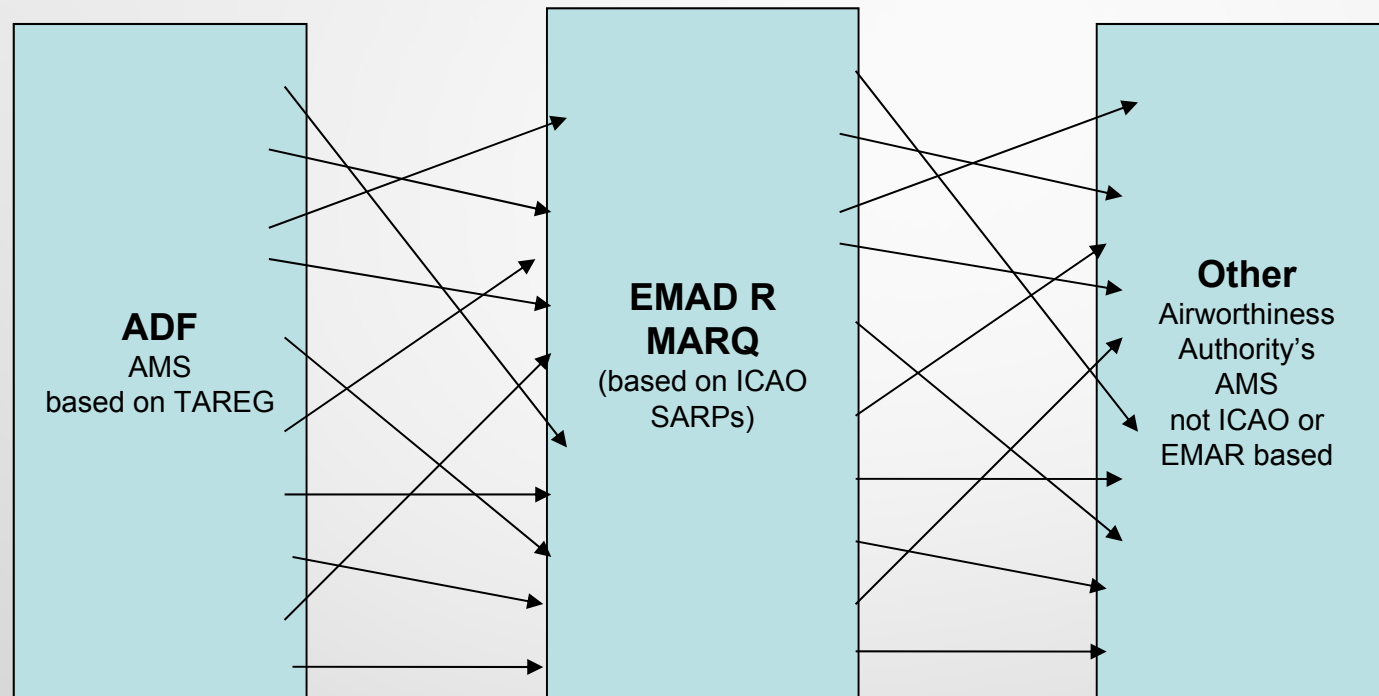
EMAD R - RECOGNITION

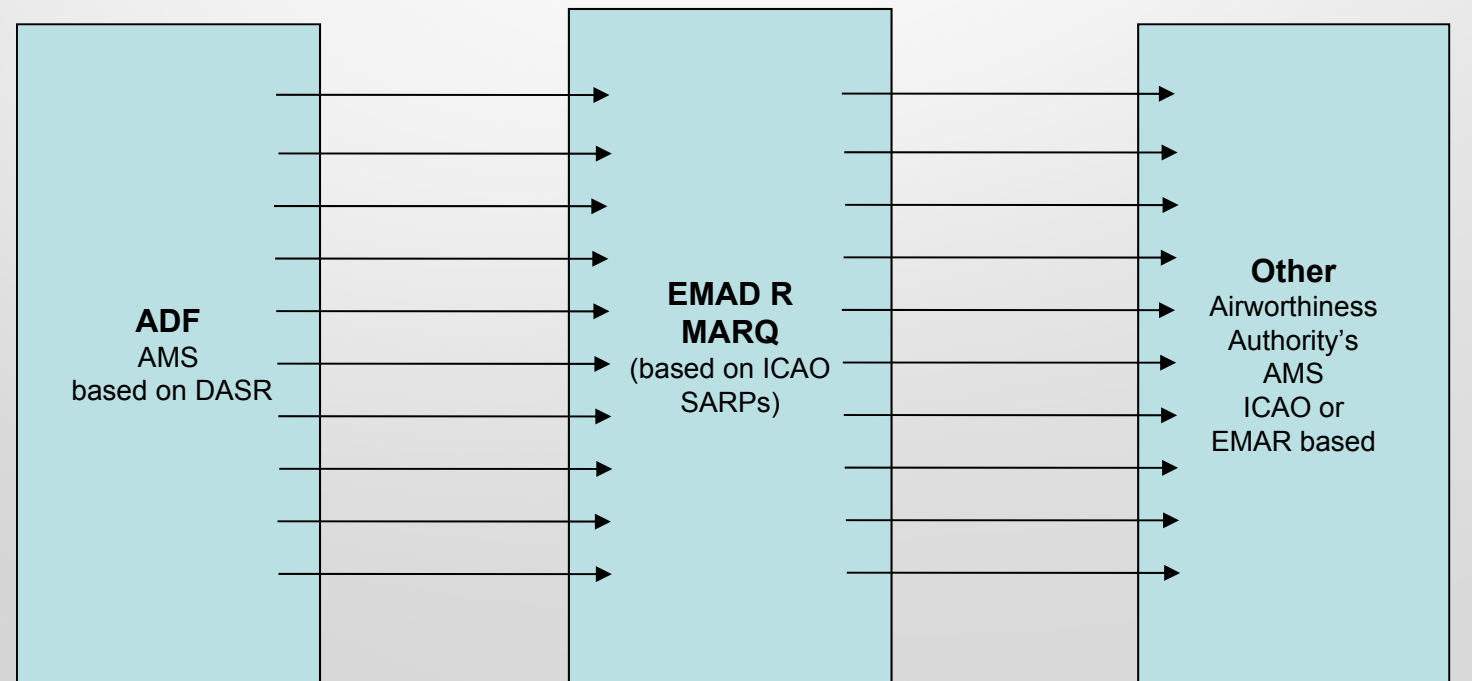
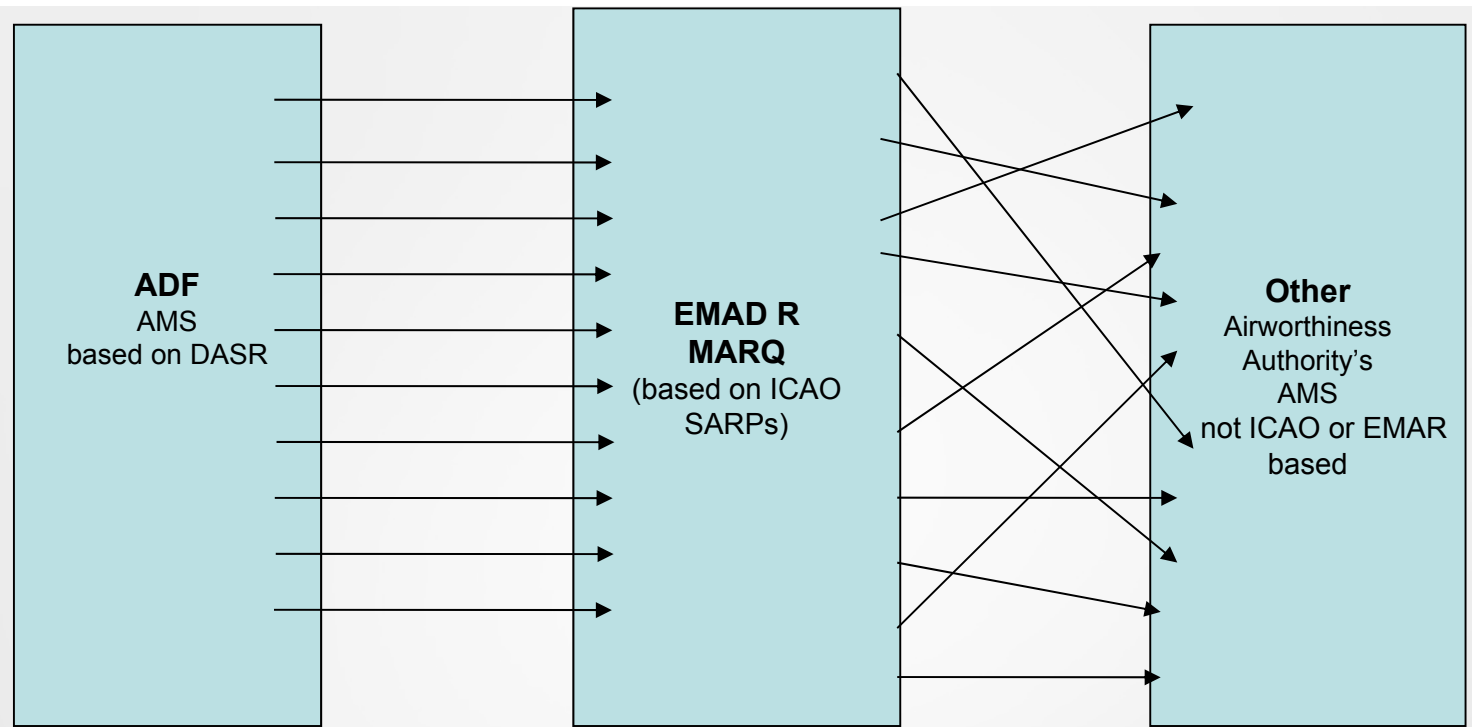
MARQ SUB-SECTION A - AIRWORTHINESS AUTHORITY - GUIDANCE MATERIAL

Unique Identifying Reference	Guidance Material	Cross-Reference to Goals
Critical Element Number 1 (CE 1) - Primary Aviation Legislation		
1.1.1.5a	Primary legislation should stipulate the need for the Authority to perform surveillance of its regulated community.	1.1.1.5
Critical Element Number 2 (CE 2) - Specific Operating Regulations		
1.1.2a	The airworthiness regulations developed, adopted or accepted by the Authority should include provisions for mandatory registration of all aircraft.	1.1.2
1.1.2b	The airworthiness regulations developed, adopted or accepted by the Authority should include provisions for all aircraft on the Authority's aircraft register to meet relevant airworthiness criteria approved or adopted by the Authority.	1.1.2
1.1.2c	The airworthiness regulations developed, adopted or accepted by the Authority should include provisions for the issuance, validation or acceptance of the type certificate for aircraft intended to be entered on the Authority's aircraft register.	1.1.2
1.1.2d	The Authority should ensure the development and promulgation of national regulations regarding the design of aeronautical products.	1.1.2
1.1.2e	The Authority should ensure, if applicable, development and promulgation of national regulations for validation of type certificates for which the State of Registry is not the State of Design.	1.1.2
1.1.2f	The airworthiness regulations developed, adopted or accepted by the Authority should include provisions for the issuance of production certificates or approvals of manufacture organizations when applicable.	1.1.2
1.1.2g	The Authority should ensure the development and promulgation of national regulations regarding the manufacture of aeronautical products.	1.1.2
1.1.2h	The airworthiness regulations developed, adopted or accepted by the Authority should include provisions for the issuance, renewal, validation or acceptance of aircraft certificates of airworthiness.	1.1.2
Edition Number : 2.0		
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Moving to DASRs helps AU

- MARQ as a translator





Responsible

- Competence of the Authority for satisfying airworthiness goals
 - Responsibility of Authority (DGTA-ADF)
- Recognition of Organisational/Systems Approval
 - Responsibility of Authority (DGTA-ADF)
- Confirmation of Suitability/Applicability of the Services sought for a specific aircraft
 - For initial airworthiness the acquisition office is responsible
 - For sustainment the aircraft CAMO (and Pt 21/MTCH if required) is responsible

Recognition and the use of approvals

CAMO or Acquisition Office
Airworthiness Interaction

received from

Civil Authority

Military
Authority

Requirement for
Services and Information

LEI – 80%

Y

N

Approved

Not Approved

Approved
Authority

Not Approved

DGTA-ADF Responsibility

Approved
equivalency

No approved
equivalency

Request
Recognition

Suitability
and
Applicability
Checklist

Additional
reviews required
(PT21/MTCH)

Receiving Organisation
Responsibility

In Closing

- Military airworthiness is a current global topic
- There is a requirement for making this momentum work for us
- Europe realised this and developed a civil aligned military standard and process for exchanging services through recognition
- Process allows for use of civil and military services and information



Questions?

International Military Airworthiness Conference

Melbourne, Australia. 14-15 November 2016



<http://www.defence.gov.au/DASP/IMARC/>