ICAO
Global Reporting System and Format Creation

EASA

Implementation Workshop on the Global Reporting Format for Runway Surface Conditions

ICAO EUR Region

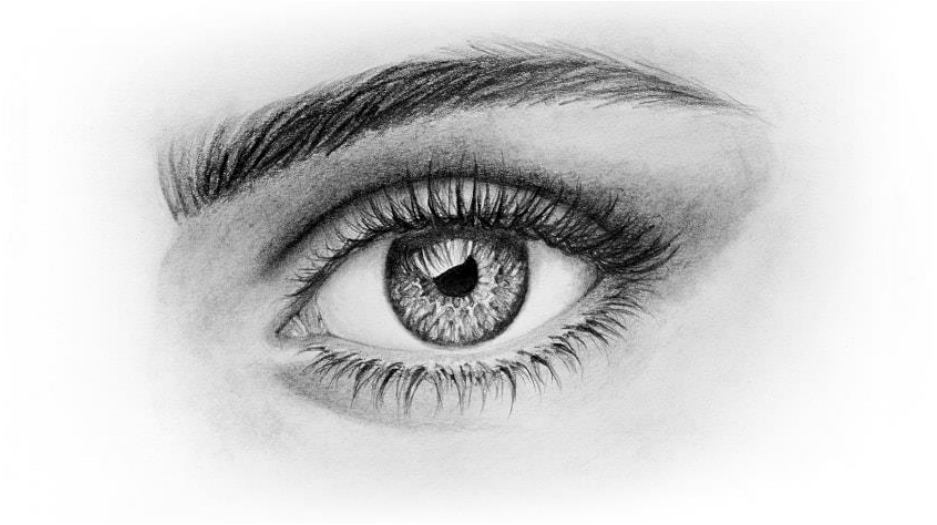
Virtual event via Webex, 10 March 2021

Armann Norheim

Rapporteur ICAO Friction Task Force

Creation of a global system and format

Need to standardise information to pilots



Operational need

Let there be no doubt.

- The ICAO global reporting system and format is developed based upon the operational need for information for the safe operation of the aircraft.

- Improved safety through performance-relevant reporting of runway conditions.

A global language.

A tool for making decisions.

Runway Condition Report (RCR)

A tool for making decisions

Three accidents

- 1958 – Munich, Germany (+ 1959 incident at Idlewild, New York, USA)
  - Brought the slush into sharp focus – ½ inch rule

- 1989 – Dryden, Ontario, Canada
  - exhaustive investigation ….., but also of the aviation system that allowed it to occur.'
  - JWRFMP

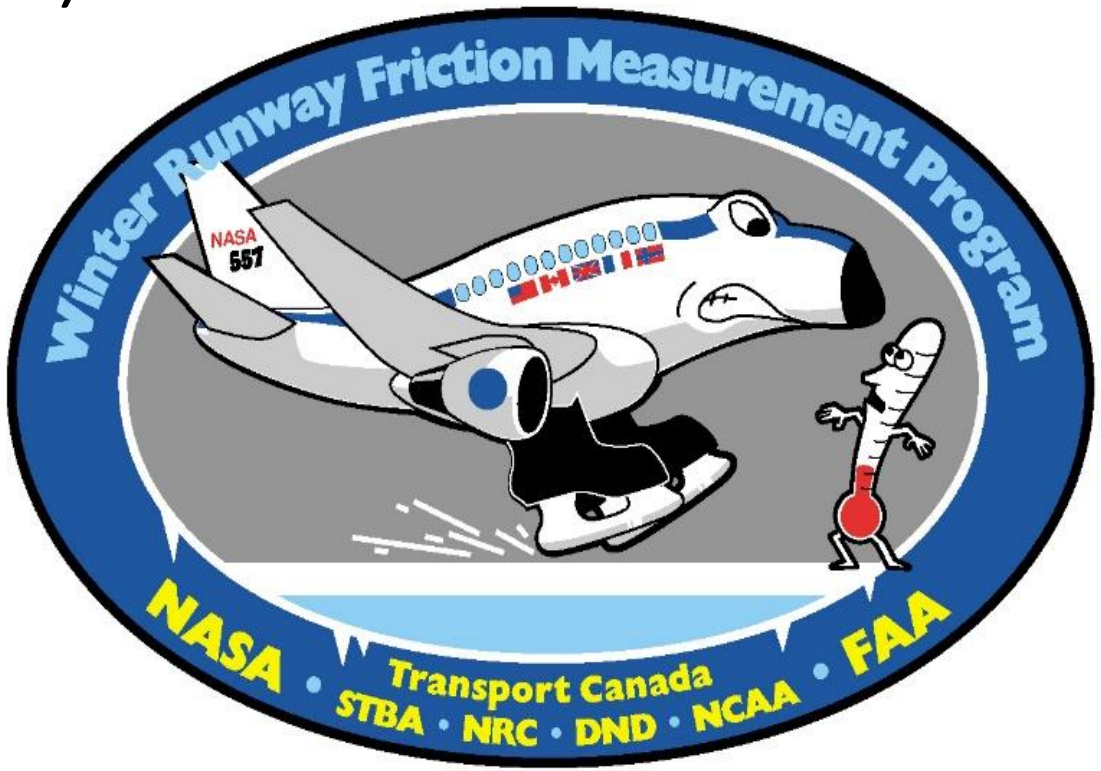
- 2006 – Midway, Chicago, USA
  - TALPA ARC

    This methodology communicates actual runway conditions to pilots
    in terms that directly relate to expected aircraft performance.

1960’s – IATA proposal – MOTNE - SNOWTAM

- 1963 - IATA addressed concern and proposed a new reporting system and format – Snow plan – MOTNE (only network available)
- 1968 – SNOWTAM pro-forma
- Report - Subjective judgement heavily based/supported by measured friction coefficient.
- Global application? - No

JWRFMP (1995 – 2004+)



Angelo Boccanfuso
1962 – 2016
Transport Canada Development Centre
Joint Winter Runway Friction Measurement Program 1995 – 2004 +

JWRFMP overall objective

- ….. device a better, more meaningful method for the pilot to determine landing and accelerated stopping distance requirements.

- Based upon, among others; recommendation (part of):

    - …. technically accurate means of defining runway surface conditions and their effects on aircraft performance.

IMAPCR ‘99

- Review of ICAO documentation presented at ICAO HQ , Montreal through 16 Safety Barriers with a clear message to address the concern expressed:

- …. that ICAO address the discrepancies outlined
- …. that ICAO needs to address and clarify the documentation

AOSWG/1 – June 2005

Need to standardise information to pilots

(Chicago Midway - December 2005)

ICAO State letter - May 2006 – Questionnaire

FAA Workshop - August 2006

Aerodrome Panel - 1 December 2006

FAA – TALPA ARC - October 2007

AOSWG/5 – April 2008

ICAO Friction Task Force - April 2008

TALPA ARC transmitted proposals to FAA in April/May 2009

TALPA ARC closed in Nov 2009

TALPA initiative

FTF Phase 1 (2008 – 2011)

- Annex 14 and (Annex 15)

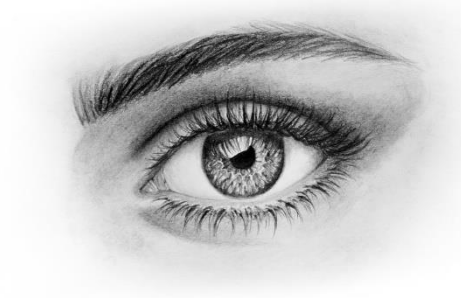
- Revised Reporting Procedure
- Revised SNOWTAM

MEASURED OR CALCULATED COEFFICIENT	*or*	ESTIMATED SURFACE FRICTION		
0.40 and above		GOOD	—	5
0.3[illegible]		MEDIUM/GOOD	—	4
0.3[illegible]		MEDIUM	—	3
0.2[illegible]		MEDIUM/POOR	—	2
0.2[illegible] and below		POOR	—	1
9 — unreliable		UNRELIABLE	—	9

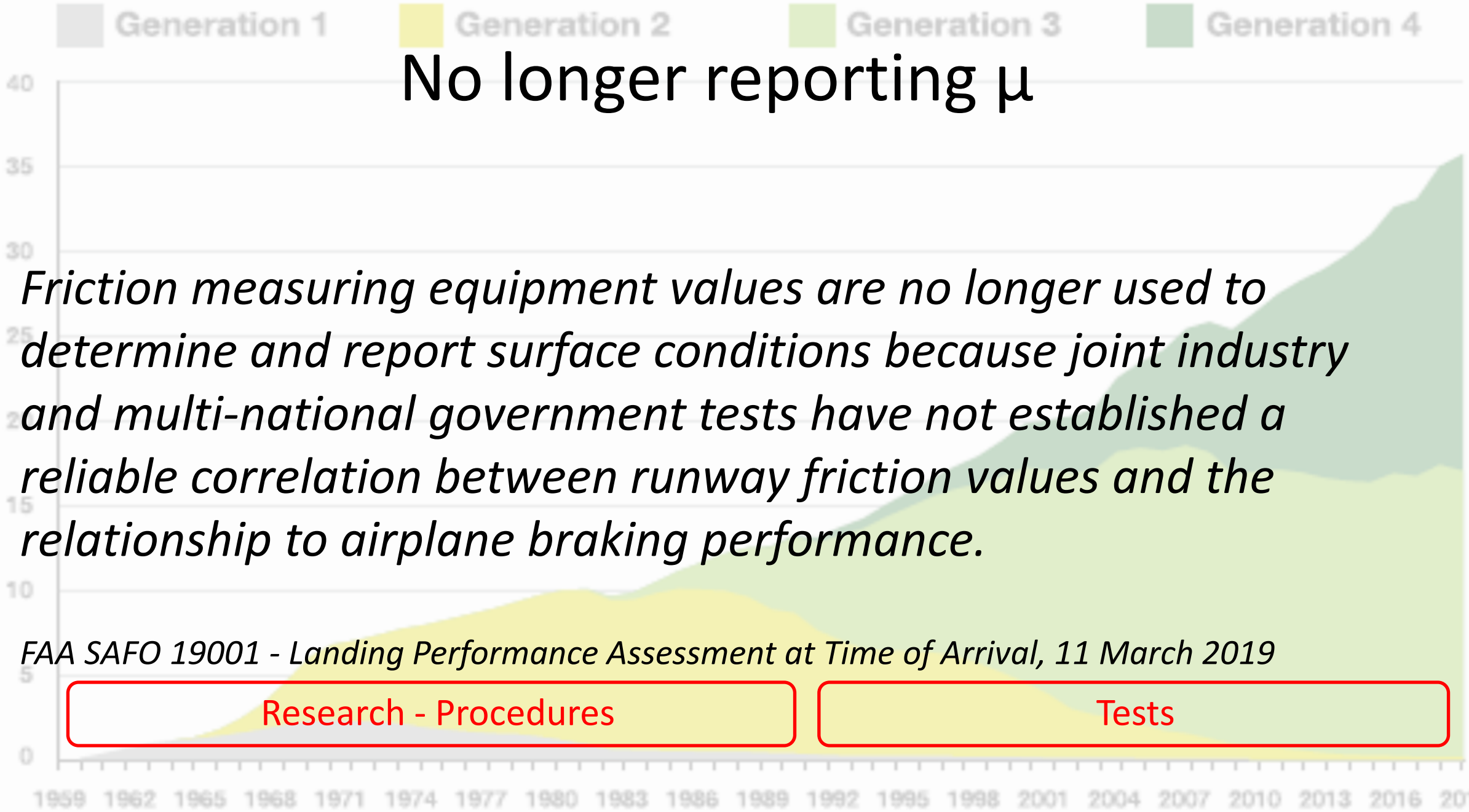
- Circular 329 – Assessment, Measurement and Reporting of Runway Surface Conditions

No longer reporting μ

Since 14 November, 2013



No longer reporting μ



Friction measuring equipment values are no longer used to determine and report surface conditions because joint industry and multi-national government tests have not established a reliable correlation between runway friction values and the relationship to airplane braking performance.

FAA SAFO 19001 - Landing Performance Assessment at Time of Arrival, 11 March 2019

Research - Procedures

Tests

FTF Phase 2 (2011 – 2020+)

- Global reporting system and format

4. November 2021

- Co-operation across Annex’s and Panels

That what makes this work so valuable

Air Navigation Commission JOB CARD ADOP.001

- Problem Statement:

- Runway surface conditions have contributed to many safety events and investigations have revealed **shortfalls in the accuracy and timeliness of assessment and reporting methods** currently provided for in ICAO provisions and guidance material.

Air Navigation Commission JOB CARD ADOP.001

- **Pilots** of modern aircraft also **need reports that are directly related to the performance of the aircraft.**

AMENDMENTS

- Annex 3
- Annex 6, Part II
  - Aeroplane Performance Manual (Doc 10064) New (2020)
- Annex 8
- Annex 11
  - PANS ATM
- Annex 14, Vol I
  - PANS Aerodromes
  - Circular 329 – Revised → Circular 355 (March 2019)
- Annex 15
  - PANS AIM – (Doc 10066) New (2018) (AIS-AIMSG)

All changes are (and must be) coordinated!

Affects

- Aircraft Manufacturers (Aircraft Flight Manual)
- Aircraft Operators (Operations Manual)
- Aerodrome Operators (Aerodrome Manual)
- Aeronautical Information Services (SNOWTAM)
- Air Traffic Services (ATIS/VOICE)

ALL: One language

Defined concept

- Definitions of terms define the fundamental, conceptual part of the report and assessment of the runway surface conditions methodology.

- Based on the defined concept the RCR is a validated method that replaces subjective judgements with objective assessments that are directly tied to criteria relevant for aeroplane performance. These criteria have been determined by aeroplane manufacturers to cause specific changes in aeroplane braking performance.

Standardised information to pilots

Aeroplane performance calculation section

Information provided in standardised order.

Type of information identified by location in the information string.

Situational awareness section

Information provided in standardised order.

Each information ends with a . “full stop”

Operational need

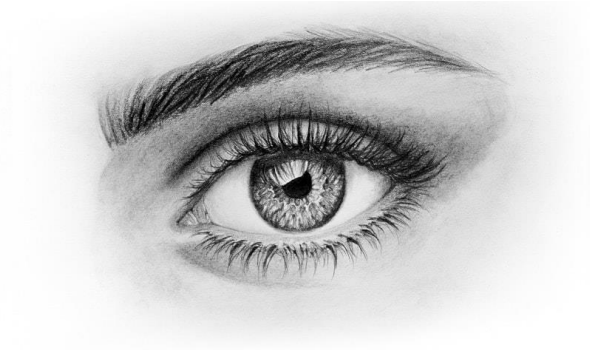
The information
is being generated
in a standardised format
in order to meet an
operation need.

Runway Condition Report (RCR)

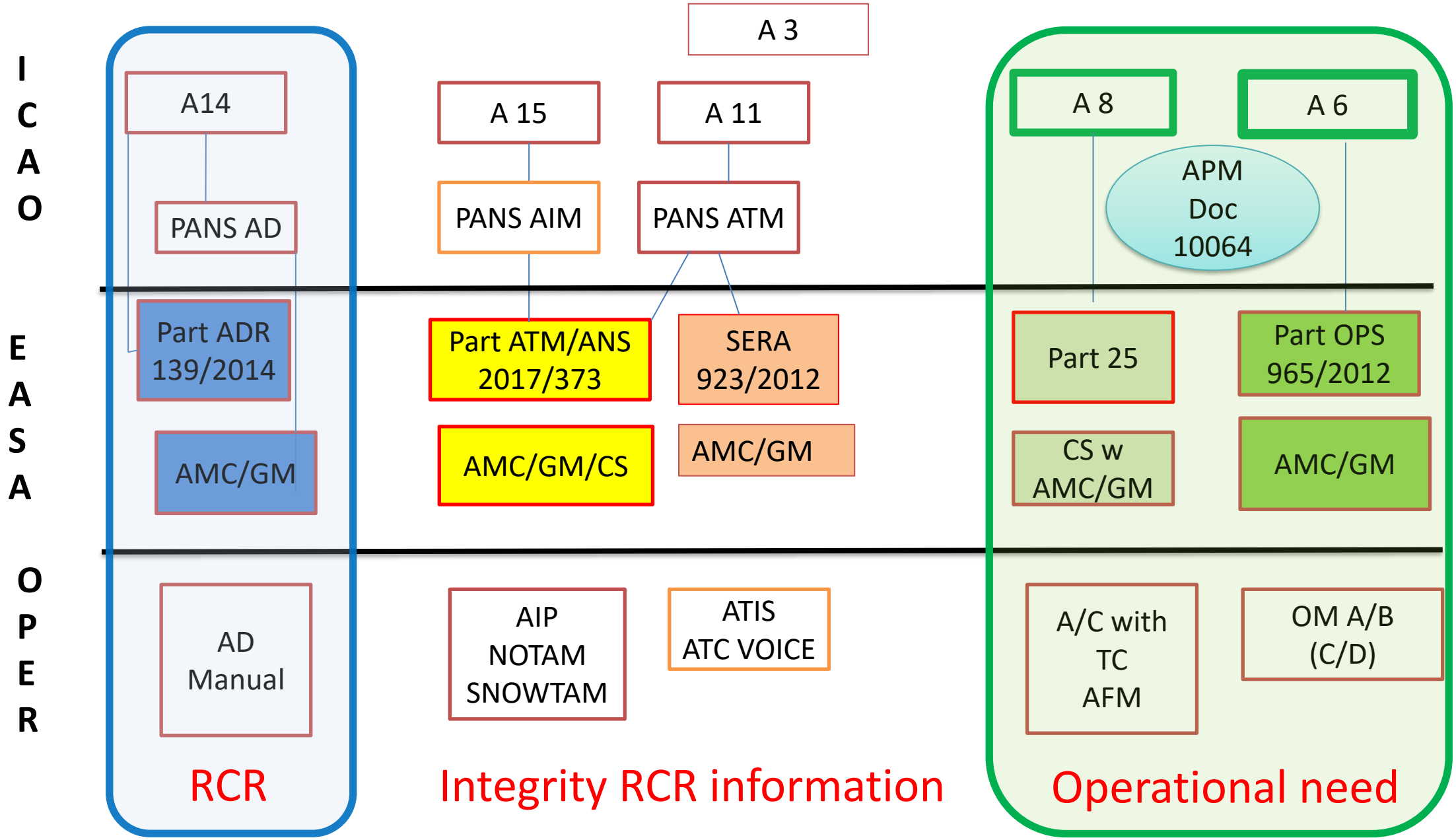
Challenges

- Implementation
- Training
- Technical issues/Programming

Willingness to change



Doc Hierarchy Europe



The information in the RCR – Why?

SAFE OPERATION

OF

THE

AEROPLANE