GRF Information 2.0 *powered by SWIM*

Future Developments GRF

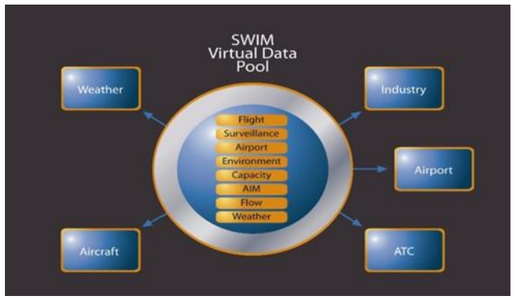
Dennis Hart

Head of Digitalisation and Information / DECMA

28/03/2019

What is SWIM?

- System Wide Information Management (SWIM)
  - Discussed for 2 decades, many perceptions
    - ‘Swimming in a pool of information’
    - ‘The intranet of Air Traffic Management’



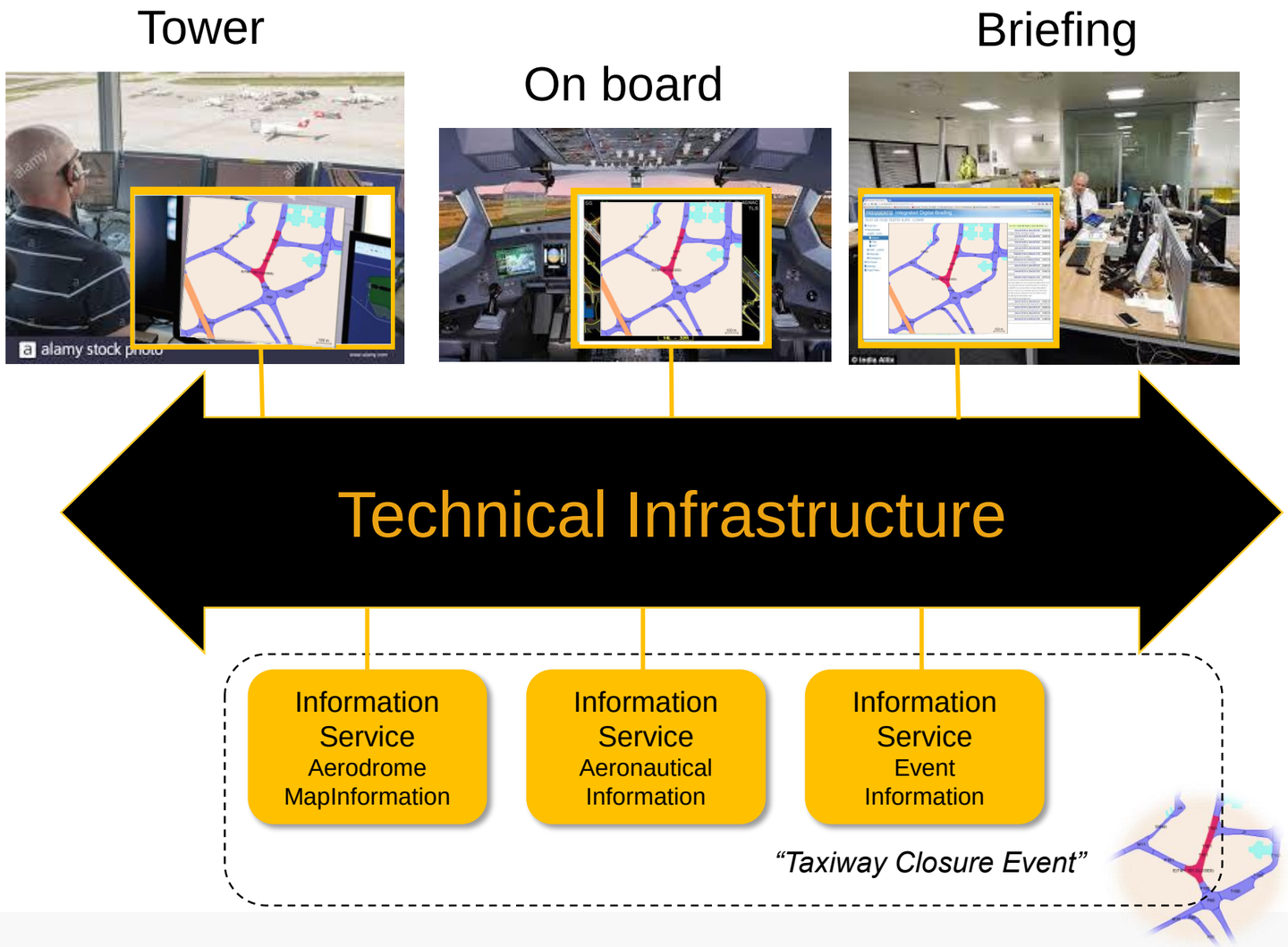
- Sometimes considered to be the ‘silver (*and may be magic*)’ bullet to all problems in aviation……..

SWIM is about services

Interfaces that exchange information

Information Service?

The means to standardise and perform information exchange



From the last 2 ½ days…….

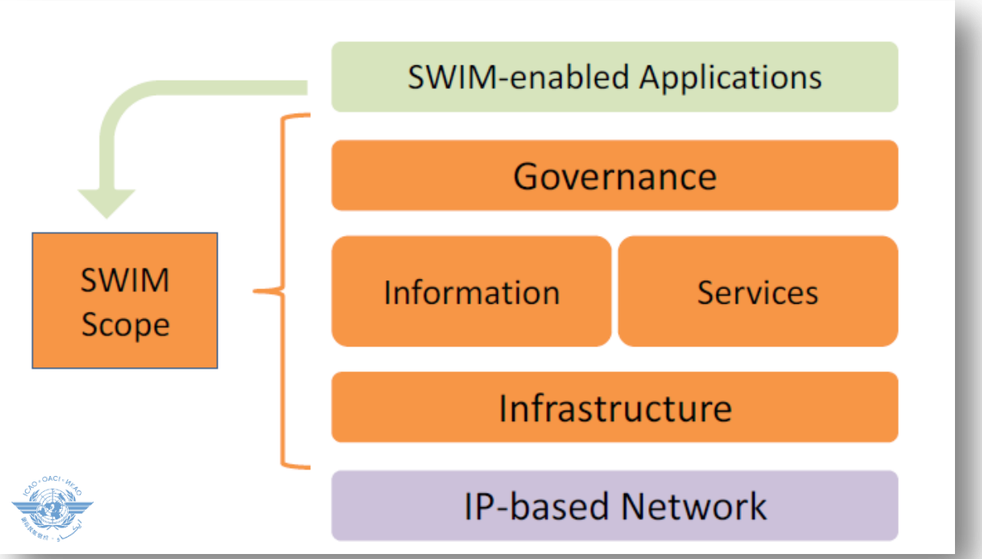
- Global standardization and harmonization
- Timely and reliable information
- When things change, we would like to be informed
- Are we sure that we all understand the same (semantics)
- We see limitations with the current system including NOTAM/SNOWTAM

SWIM

The Definition - The Principles

SWIM at ICAO

- SWIM Definition from ICAO Manual on SWIM Concept (Doc 10039):
  - *SWIM consists of **standards**, **infrastructure** and **governance** enabling the management of ATM information and its exchange between qualified parties via **interoperable services***



- Separation of information provision and information consumption
- Loose system coupling
- Using open standards
- Using Service Oriented Architecture

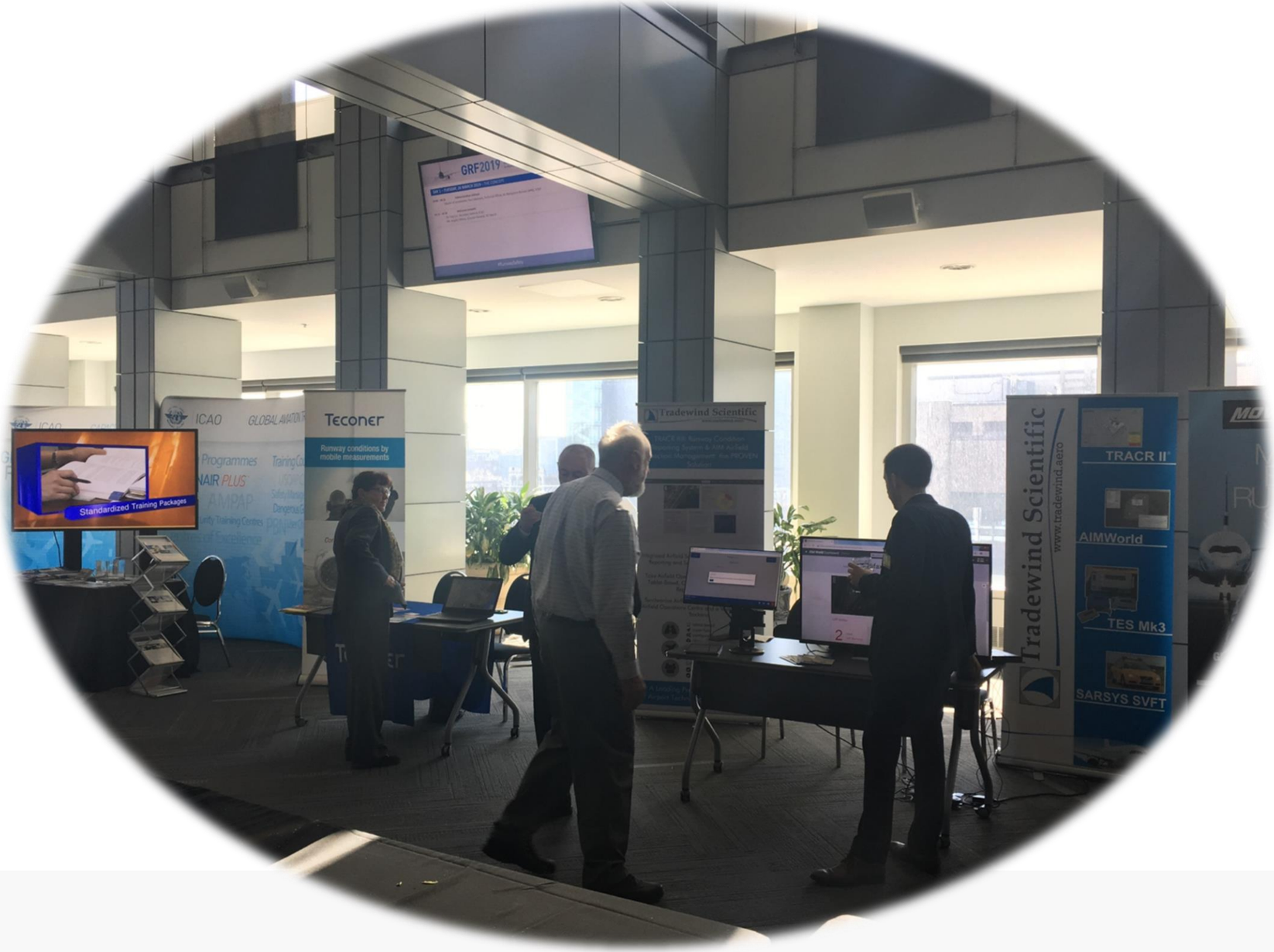
- SWIM Provisions and supporting implementation guidance planned to be available in 2020

- PANS-(SW)IM
- SWIM Manual rev. (Concept/Implementation)
- Supporting Industry specifications

SWIM is about services

Interfaces that exchange information

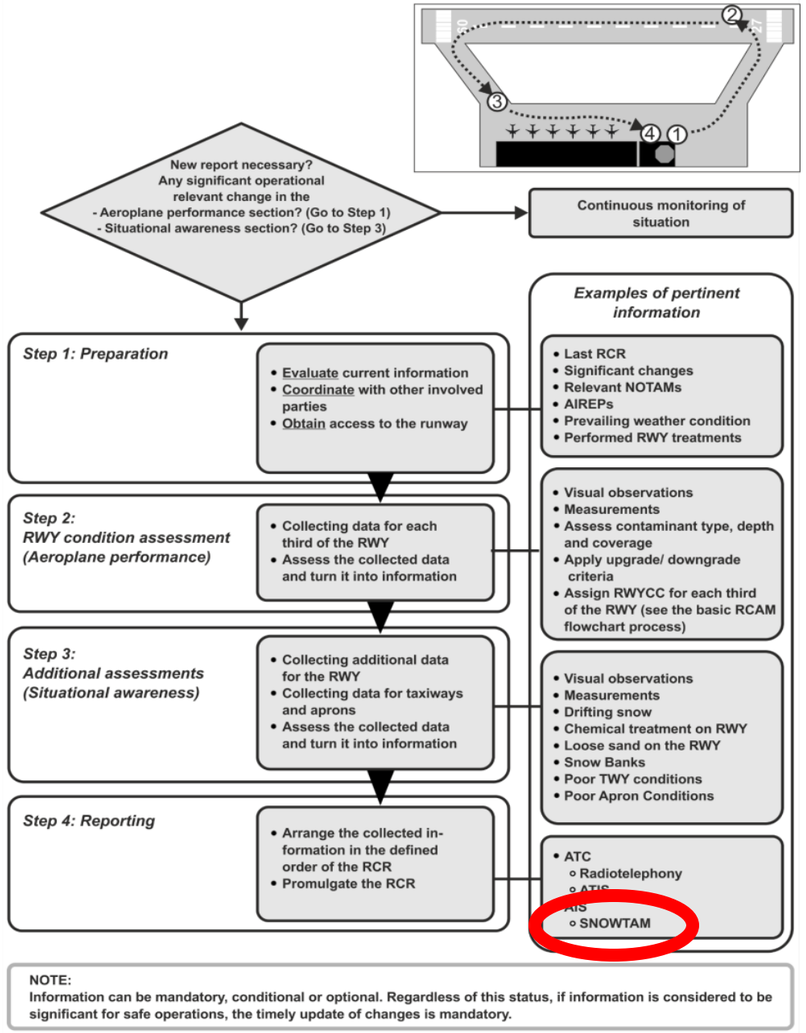
Is this new, is this rocket science…….?



SWIM is about **the right** services

In its context

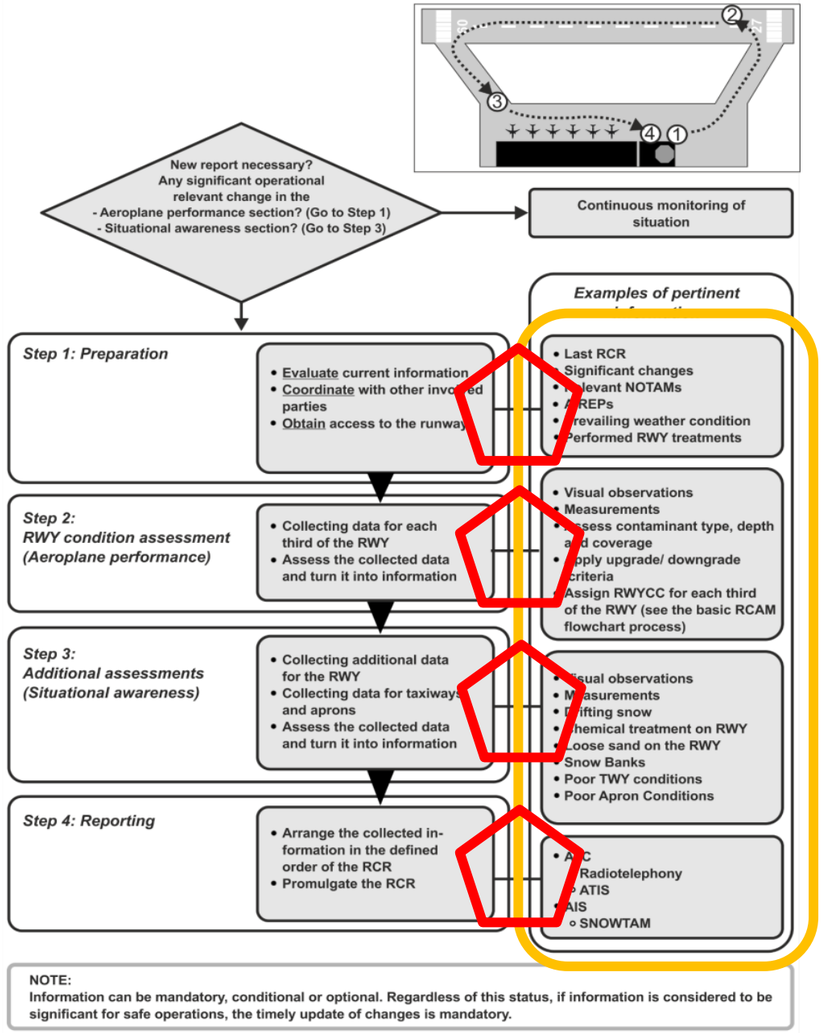
Services for the **Assessment, Measurement and Reporting of Runway Surface Conditions**



- What is the global standardization and/or harmonization need
  - What is the operational context and business need?
  - What are the information exchange requirements?
- What is the obvious candidate service: NOTAM/SNOWTAM
  - Information Management Panel and its Working Group on Aeronautical Information are working on it
    - Digital NOTAM (infrastructure event service)
  - Regional initiatives used as catalyst for global provision development
  - Global provisions >2022

Ref: draft Circular 355 AN/211 Figure 4-2

Services for the **Assessment, Measurement and Reporting of Runway Surface Conditions**



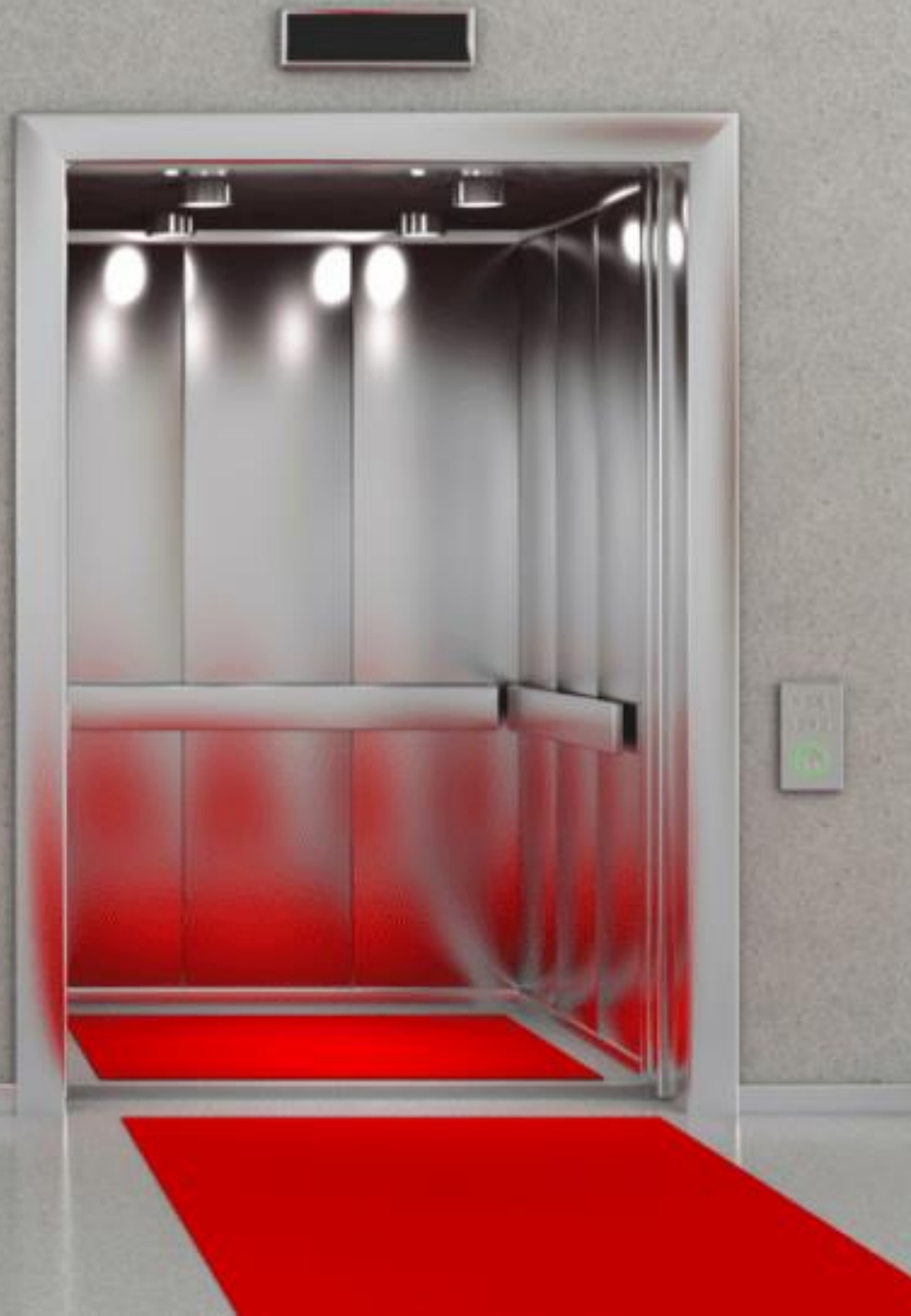
- Is this enough; what do we need?

- In the processes described many interfaces and many types of information are identified
  - Why a SNOWTAM, is a **RCR Information Service** not sufficient?
  - Should the pilot have a **Runway Braking Action Filing Service** to its disposal? Information available after a push of the button to subscribed stakeholders, no intermediaries required
  - Should it be possible to ‘mix & match’ all observations and measurements and have a **RCR Generation Service.** All information unified in terms of semantics and processed according to the business rules given (RCAM, RWYCC, etc.)

Ref: draft Circular 355 AN/211 Figure 4-2

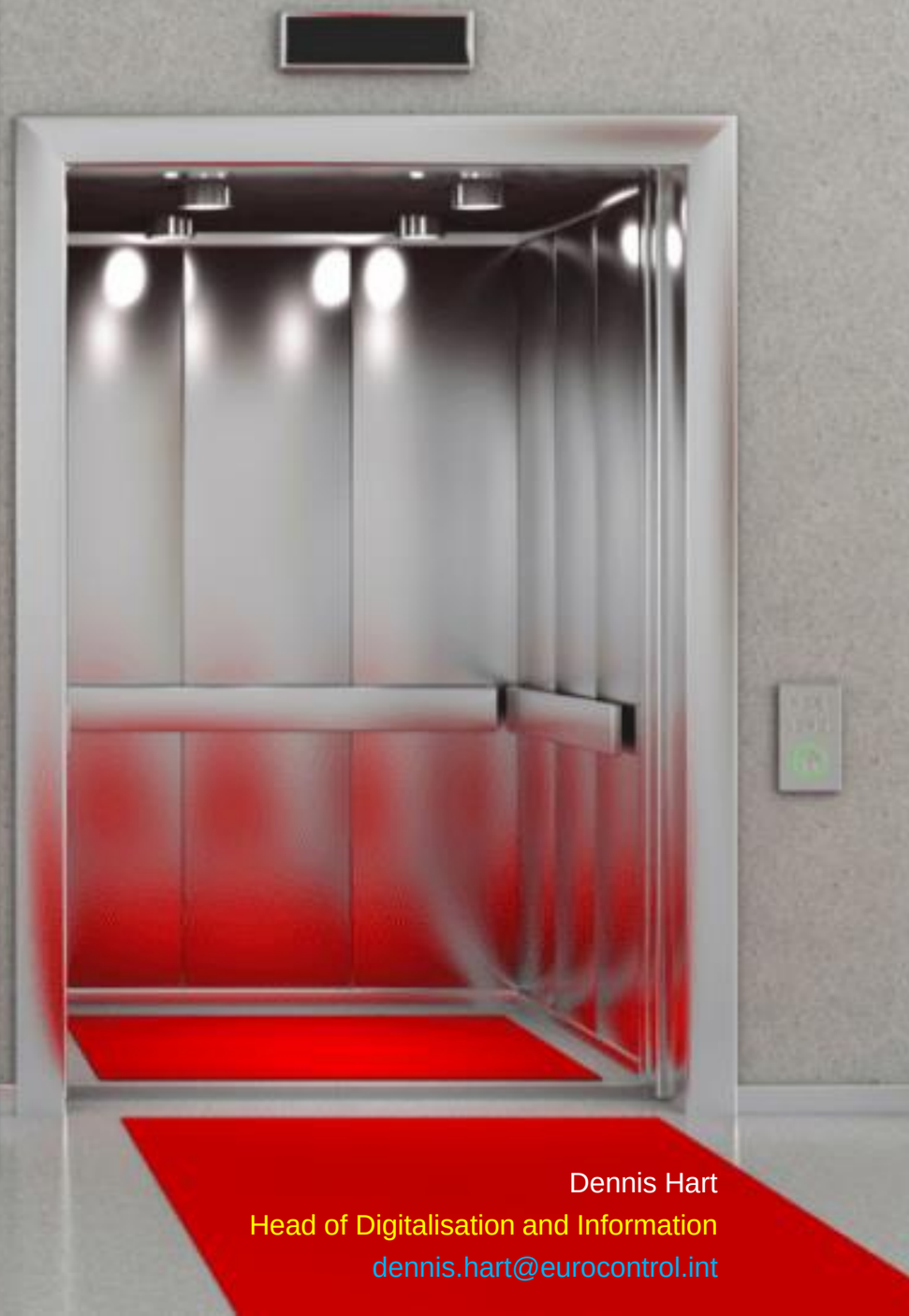
©Trilogy Web Solutions

- SWIM is about **interoperable (information) services**
- SWIM is about applying **service orientation** to aviation (international air navigation)
- SWIM is about **removing** all the technical **excuses why information could not be shared**
- All together it enables the existing operational business to become more agile, flexible, cost effective, etc…
- The real added value, enabling:
  - Agile and customer oriented system
  - More parallelized and connected environments
  - Increased virtualization
  - Evolution towards a seamless and smart system
  - Business transformation when and where needed



©Trilogy Web Solutions

- We can make the ‘GRF’ even better by applying SWIM from information ‘origination’ to ‘publication’
  - Standardised and harmonised exchanges of assessed and measured data
  - Tooling based on standardised interfaces
  - User-oriented information exchange
  - Data needed for GRF could be easily re-used when useful for other ‘operational and business’ processes
  - Services can be link agnostic, could work for G/G & A/G
- The community shall start to think ‘SWIM’ when considering improvements



Dennis Hart
Head of Digitalisation and Information
dennis.hart@eurocontrol.int

©Trilogy Web Solutions