Flight Plan 2012
ICAO Workshop for the AFI Region
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Considerations for Implementation & Lessons Learnt

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EUROCONTROL

Content

Coordination & Planning

Safety Assessment

Standardisation & Flexibility

Way Forward

Impacted Participants

Aircraft Operator

- Flight Planning systems
- Aircraft Operations Centre staff awareness & procedures
- Pilot awareness & Terminology
- Aircraft & Pilot capabilities/qualifications
- (Electronic) Flight Bag ?
- FMS ?

Air Traffic Management

- FDPS / RDPS & MMIs
- Staff awareness & procedures
- AROs & related flight planning systems
- Military
- APP & Tower systems
- Airports

All others processing FPL Data

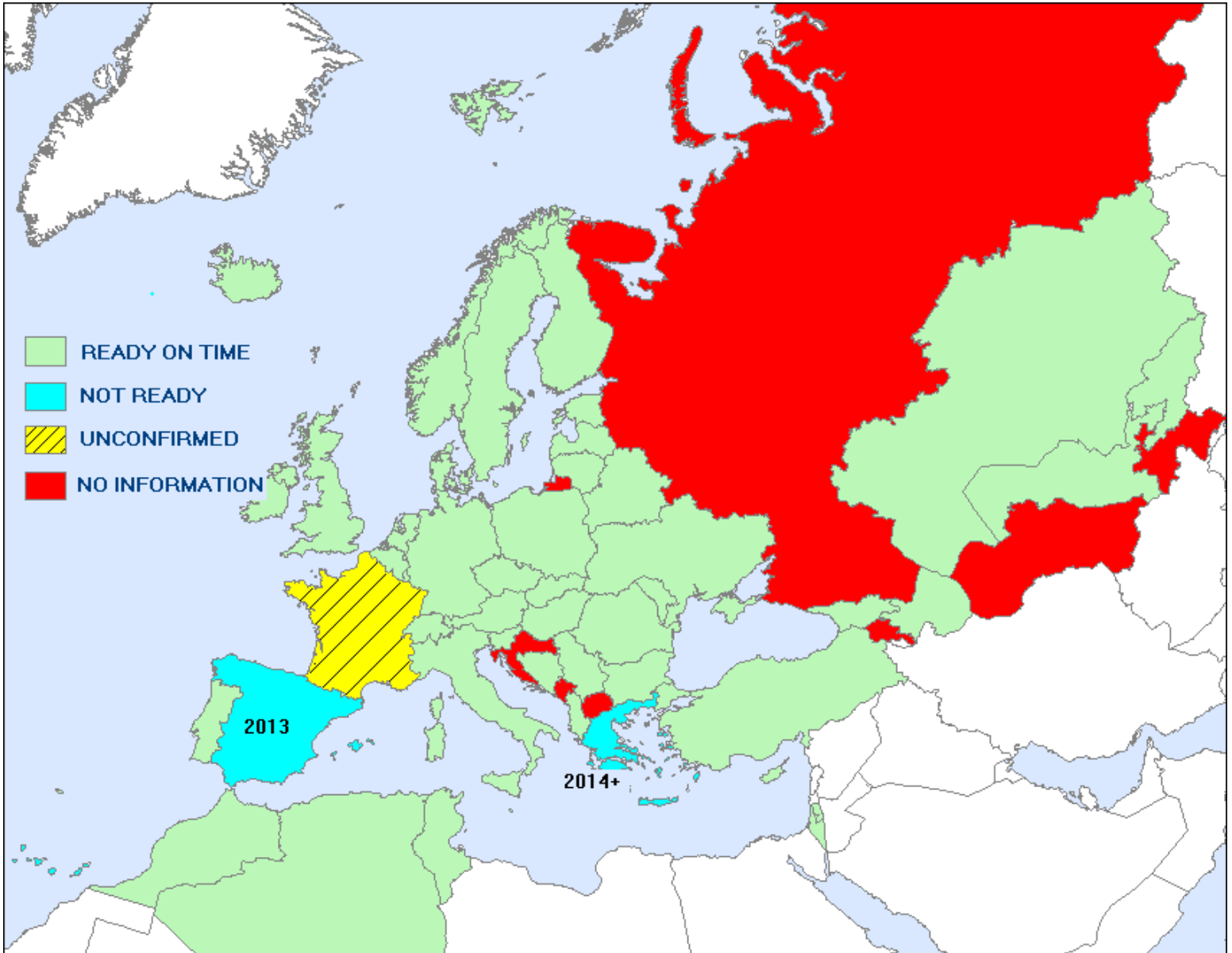
- Strategic Planning & Load Monitoring
- CRCO, Route Charges systems
- Archive systems, Statistics
- Simulators
- Research, Studies,
- Etc.

Multi-State Implementation Planning

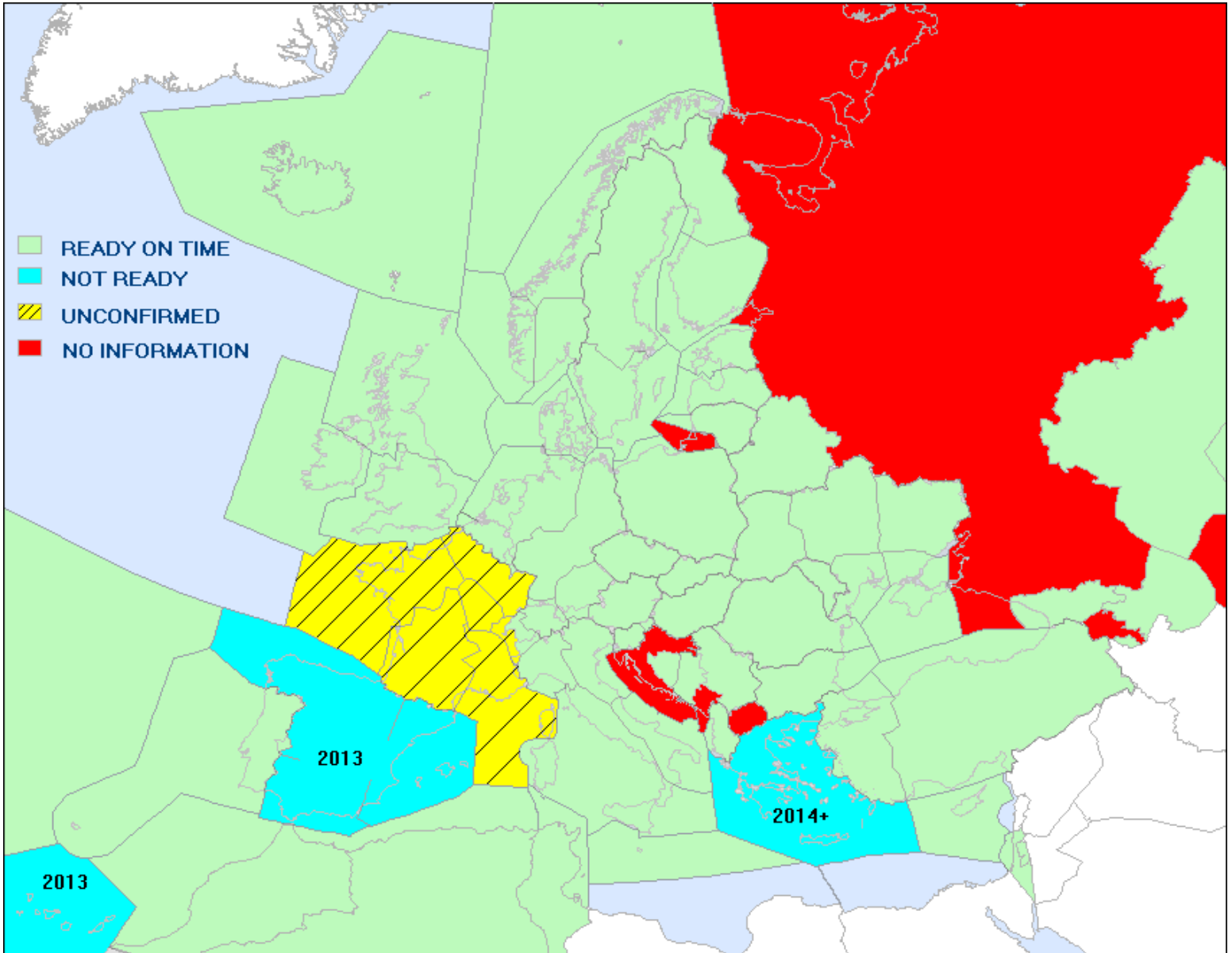
- Co-ordinated Implementation Plan
  - Regional Implementation Policy
    - Timeline
    - Submission / Acceptance of New
    - Test Plan
  - Identify Actions
  - Ensure harmonised approach
  - Monitor & Report progress
    - Points of Contact
    - Impacted systems and Planning statements per State
    - Gather early and update regularly
  - Identify Risks / Mitigation

- Awareness & Training
  - Aircraft Operators – Airlines, Business, Private operators
  - Airports
  - Military

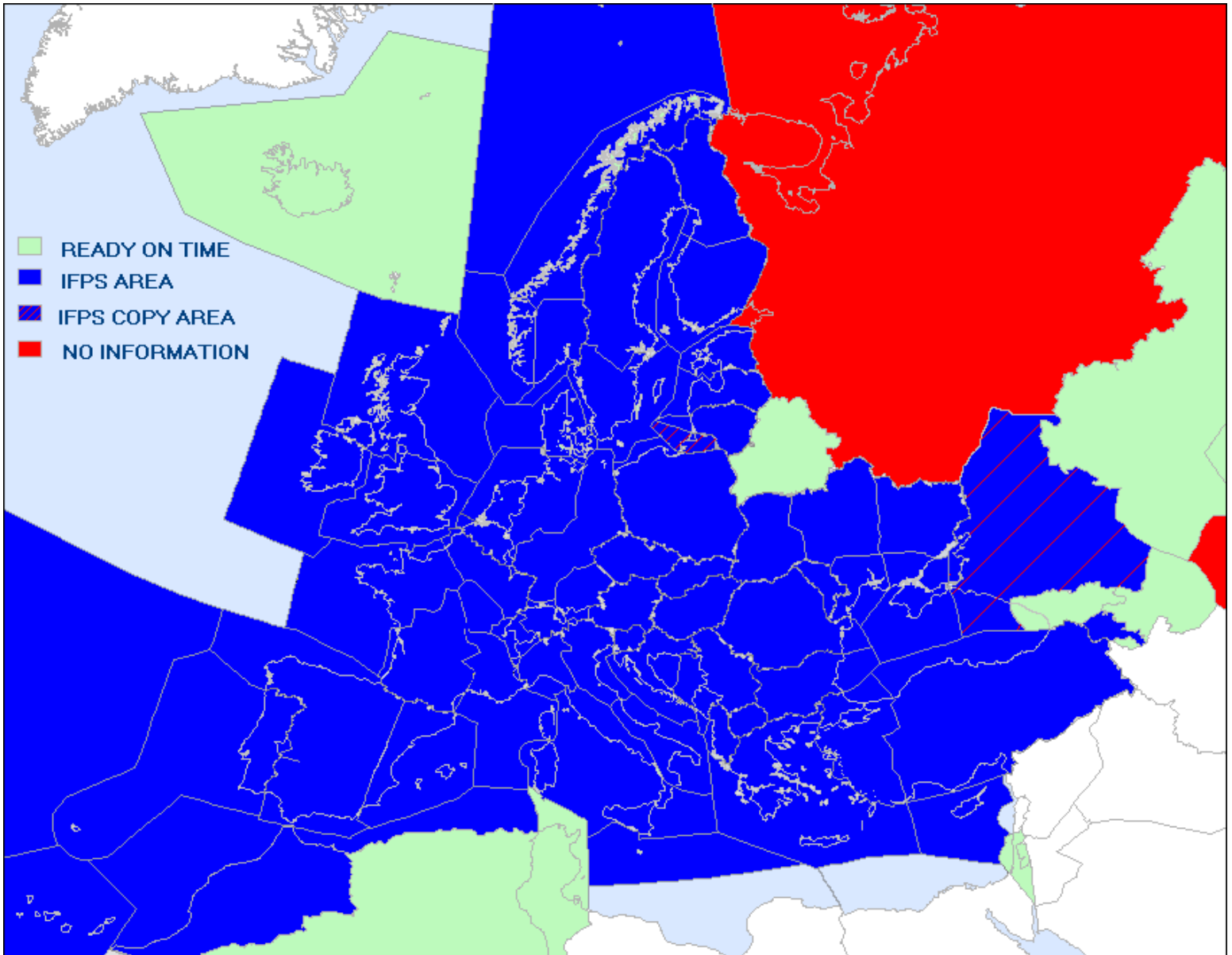
EUR Status - State



EUR Status - FIR



IFPS Coverage



Current Status

- 57 EUR/NAT States in total :
  - 50 Points of Contact
  - 35 Impact Statements
  - 43 indicate readiness (at least by 13 Apr 2013)
  - 2 indicate not ready until after Apr 2013
  - 12 no feedback

- Process began over a year ago !

- EUR Implementation Plan

Lessons Learnt

- As far as possible agree upon a regional specification the detailed changes to be applied and do so in close coordination with other regions
- Be aware of other States/Regions intents and requirements
- Address at regional level, as far as possible, issues such as DOF support, not forgetting VFR
- Obtain feedback from all States concerning their planning and enpower them to update it regularly
- POC should ensure they reach all concerned parties within their country, i.e. all airports etc.
- Involve the aircraft operators, airlines, local operators, etc.
- Start early !!

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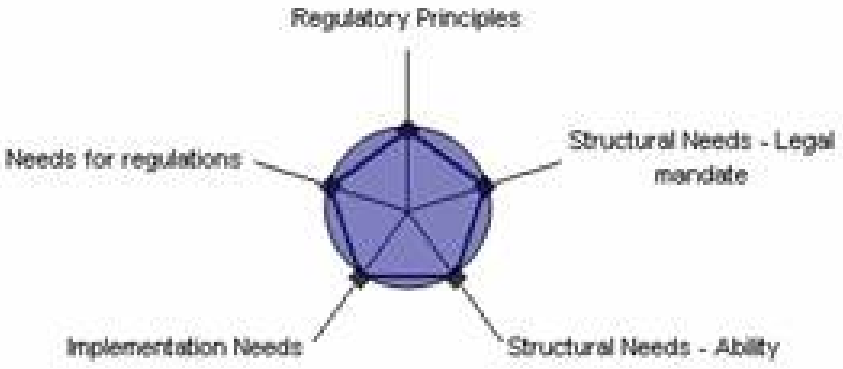
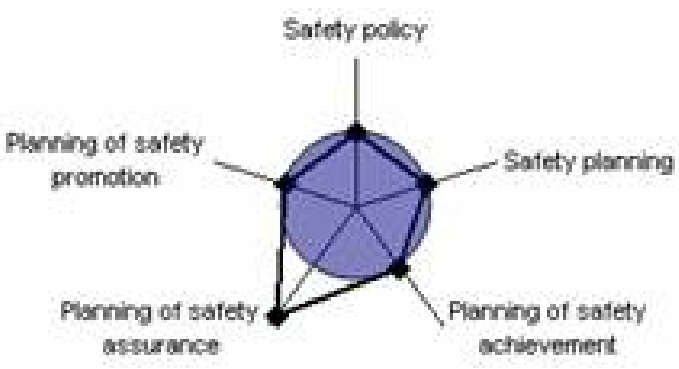
Safety Assessment

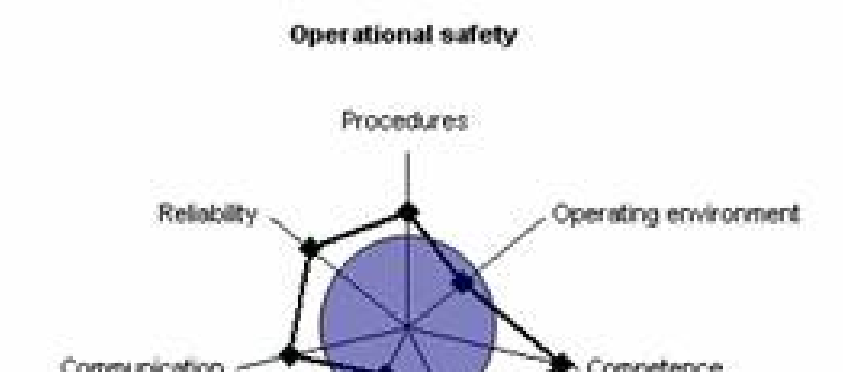
- Safety Fundamentals cover 4 main areas which are considered as relevant for safety;
  - (Safety) Regulation
  - Safety Management Systems (SMS)
  - Operational Safety
  - Safety Architecture

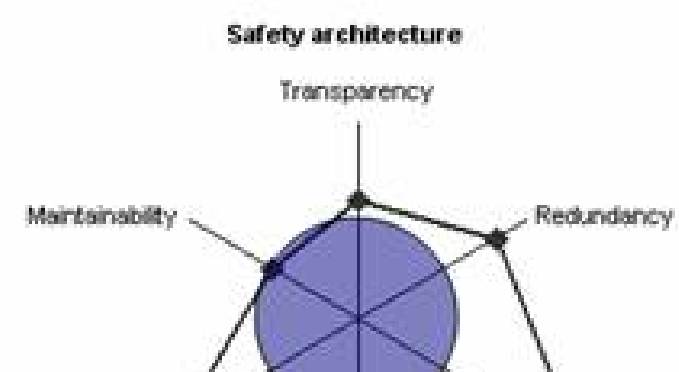
- Register

Safety Scan Overview









Lessons Learnt

- Early execution of a similar ‘safety scan’ activity is recommended. It helps to:
  - Provide a checklist of activities or areas of concern;
  - Give an early indication of where improvements may be made or where effort is required
  - Eases the classic SMS activities to be performed later – no surprises!
  - Increases confidence

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Standardisation + Flexability

- Standardisation needs to be accompanied by a means to evolve
- Amendment 1 has provided a strict standardisation within Field 18 but in doing so it has removed our means to satisfy new requirements in a satisfactory manner
- A requirement for a new item of data can only be introduced via free text fields (RMK/, NAV/, COM/, etc.)
  - Use of free text fields for the provision of data:
    - Extraction of data from within free text is unreliable, leading to missing, incorrect or spurious results
    - Inconsistencies between ANSPs is inevitable
    - Lack of oversight – use of free text fields, by definition, does not require prior coordination
    - Expensive to implement & maintain

Use of Free Text - Data Integrity

- Extraction of data from within free text
  - Spurious recognition of a syntactically correct ‘value’
    e.g. RMK/ IS THIS FPL SUPPOSED TO BE PROTECTED OR NOT
  - Failed recognition of a syntactically incorrect indicator
    e.g. RMK/RNAV EXMT 833EXM GPS INOP
- In a field which allows only specified descriptors erroneous indications will generate errors

  EUR/CPDLC INOP
  EUR/CDCLCX = syntax error
  EUR/833EXM

- In a field which allows free text erroneous indications will not be detected

  RMK/CPDLC INOP
  RMK/CDCLCX = text !!
  RMK/833EXM

Use of Free Text - RMK/ Examples

Some long RMK/ examples from 13-16 August 2010.

RMK/REG XV102 ZD709 FORMATION FLIGHT MARSA WITH RRR9711 DIC BAHRAIN AT 110067B EGYPT76308 RRR9301 UAE CON 7585 SAUDI 2626GACA77248 RRR9711 UAE CON7594 SAUDI 2626GACA77111 VOICE CALL SIGN ASCOT 9301 FLIGHT

RMK/DIPLO CL SWEDEN S10 5816 GERMANY MDCN PER 10 404 0140 UK 7 1 7 01 NORWAY COMJAOC B222 POLAND POL DK 2010 MARINE POLLUTION PATROL OPERATIONAL AOB FL050 OPERATIONAL AIR TRAFFIC POLLUTION ROUTE X RAY

RMK/PERMISSIONNUMBERS 03 10 PE AND 4 10 RVL PHOTOSURVEY FLIGHT BETWEEN FL230 AND FL250 EAST OF KAJAANI WILL OPERATE IN ADIZ AND R28 BUT NOT CROSS BORDER WITH RUSSIA ADIZ0030 1000

RMK/MDCN OM CON 7582 OJ US10 1150 HAWK10 LL US110872 REMOTELY PILOTED AIRCRAFT GLOBAL HAWK PILOT TELEPHONE NUMBER 1 530 634 0947 OR 1 530 634 0727 RQST BLOCK ALTITUDE FL510B600 PPR KNHK AO 14 01

Use of Free Text
- Consistency between ATC Units

Extraction from free text by different ATC units will inevitably result in different results and inconsistencies between the units

Example:

The United States require an indication such as RNAVD2E2A1 in NAV/

If in EUR region we require RNAVX in NAV/ (to indicate an RNAV exemption)

then consider what the results will be in the US and Europe if the following is received:

NAV/ RNAVX2E2A1 (the X is next to the D on the keyboard!)

Use of Free Text - Conclusions

- The use of free text fields for the provision of data required systematically by ATC systems is:
  - unreliable leading to missing or spurious data
  - will lead to inconsistencies between ATC units
  - uncontrollable, no oversight as a State is not obliged to coordinate a new indication within a free text field;
- The use of free text fields is not considered by European States to be an acceptable method of addressing data needs
- The European region will continue to require the RVR/ and RFP/ indicators and may introduce the EUR/ indicator

Software Implementation

There is a difference between rules for FPL creation i.e. what is accepted at FPL creation/submission, and what the end user (ATC) system will accept

- Flexibility in end user ATC system software design in order to:
  - Ease implementation of future data requirements
  - Reduce costs

Examples:

- Accept Field 18 indicators in any order
- Lookup table for Field 18 indicators

Requirement

- The ability to implement new data requirements in such a way that:
  - the data can be extracted, if required, by automated systems in a reliable and consistent manner;
  - the data can be easily ignored by systems that don’t require it;
  - a PANS-ATM modification is not required for every change;
  - a simultaneous worldwide software update is not required for every change;
  - all regions are consulted during the elaboration process to ensure interoperability and avoid redundancy or duplication

- The ability to represent the regional nature of exemption criteria

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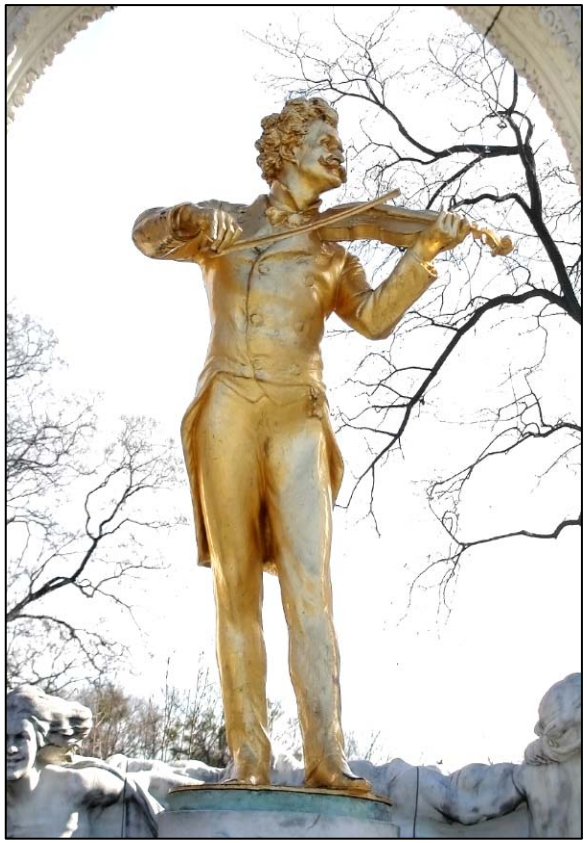
- Regular and early inter-regional coordination at expert level to discuss and formulate region-wide new requirements
- Oversight and clarity concerning flight plan content through use of PANS-ATM complimented by SUPPS

Lessons Learnt

- Flexible software design
  - If you can, then extract what you need, ignore what you don't need
  - Don't handcuff yourself by including unnecessary constraints in your software (e.g. Field 18 order)
  - Design your software to be flexible, allowing incorporation of future data requirements in a clear and reliable manner without the need for significant and expensive software modifications…every time!

The Choice

The Statue



Both maintain their format.

One thrives on rejuveniation and constant change.

One is very robust but can never change and will only decay from the moment of its creation.

Which one best represents our systems and processes?

The Fountain

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