



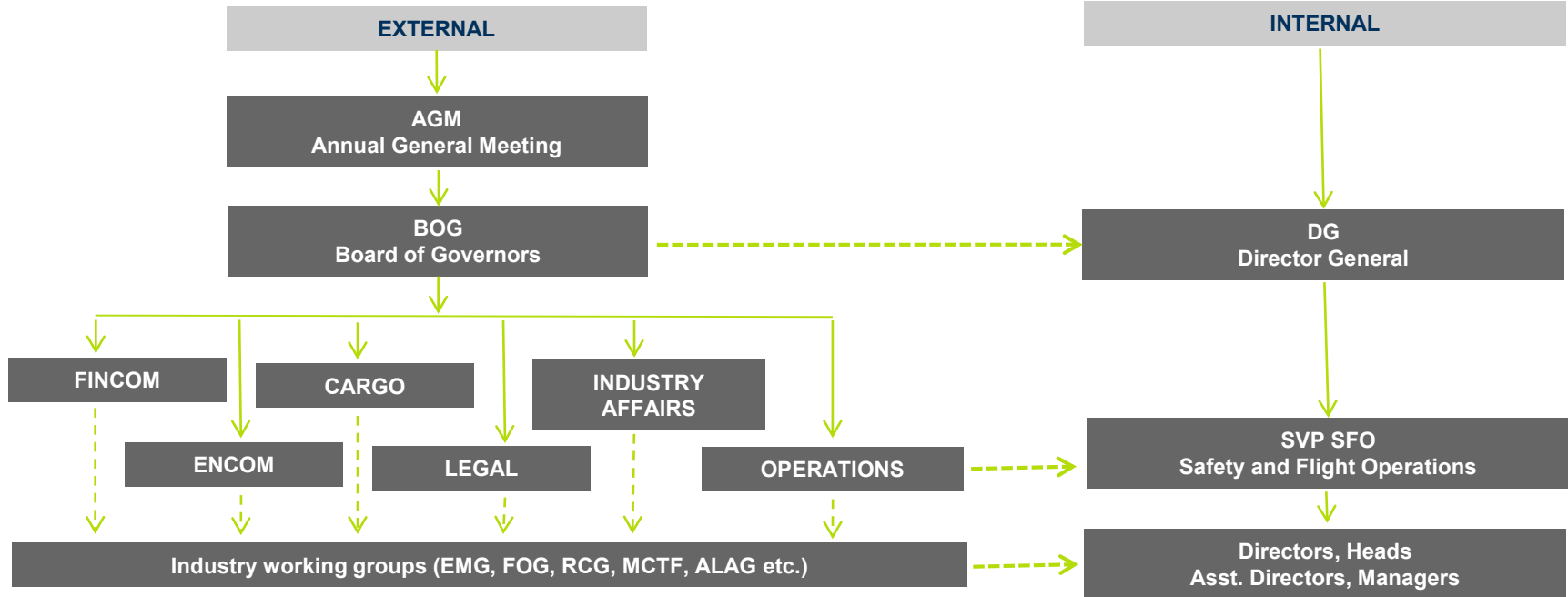
Scheduled Maintenance Data Standard Task Force @IATA

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About IATA



Governance Structure



Scheduled Maintenance Data Standard group

Objectives

- ↗ Define industry standard for electronic maintenance schedule data exchange using S1000D to include as a minimum all ICA

“Instructions for Continued Airworthiness - instructions and information that are necessary for the continued airworthiness of the aircraft, engine, propeller, parts and appliances, which must be developed and/or referenced by the Design Approval Holder in accordance with the applicable Certification Basis or Standard”

Note 1: EASA’s MDM.056 task for NPA 2018-01 to revise the definition of ICA “to mitigate the risks linked to the uncertainty of the status of instructions for continued airworthiness (ICA) and therefore to avoid there being too much room for interpretation in the rules”. Decision – 2019/Q3

Note 2: Note: Type Certificate Holders will provide SMDS-compliant maintenance requirements in other format, e.g. Excel, pdf, etc. to operators on request

Scheduled Maintenance Data Standard group

Other Objectives

- Identify required changes in S1000D data format and business rules to ensure that TCH ICA definition is compatible with S1000D
- Expedite regulatory approval process by using digital signature
- Synchronize ICA requirements with support data
- Streamline/harmonize approval process for scheduled maintenance requirements
- Define revision requirements using data modules and develop archiving rules
- In order to achieve a harmonized approach between TCHs to comply with these objectives industry and Regulatory Authority collaboration is required.
- Define compliance requirements for approved data revisions

Standard Maintenance Data Standard group

Scope

- Include all ICAs related to Scheduled Maintenance process

Out of Scope

- SMDS implementation of changes in TCHs', Regulatory Authorities' and operators' internal processes
- Conversion of legacy aircraft maintenance requirements to S1000D standard

Deliverables

Development of SMDS process standard covering:

- Single source electronic data repository by aircraft program with standardized input
- Defined business process covering regulatory approval by digital signature, revision process, archiving revision history

Current Problems

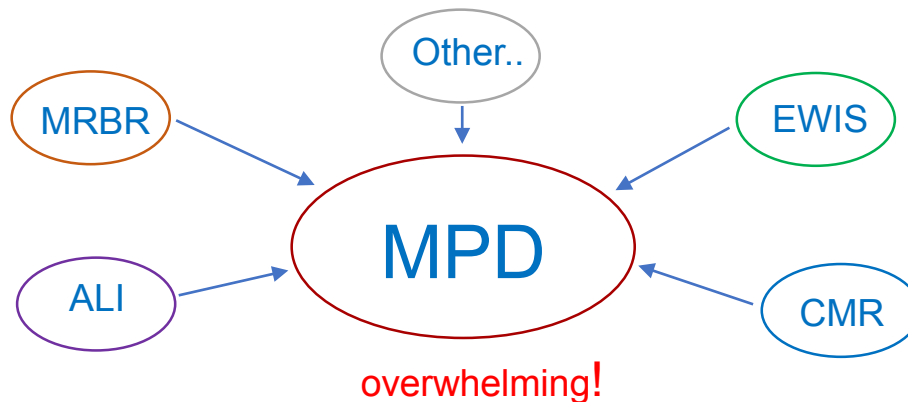
missing out a specific maintenance requirement



different revision cycle between approved documents and MPD



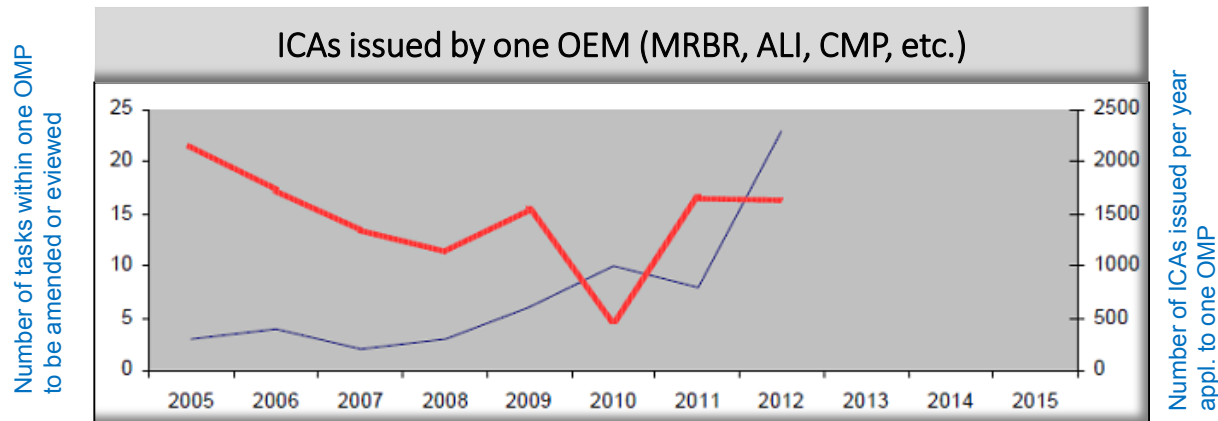
out of compliance!



+ Lack of harmonization between TCHs

- MRBR – Maintenance Review Board Report
- ALI – Airworthiness Limitation Instructions
- EWIS - Electrical Wiring Interconnection System
- CMR - Certification Maintenance Requirements

Some examples



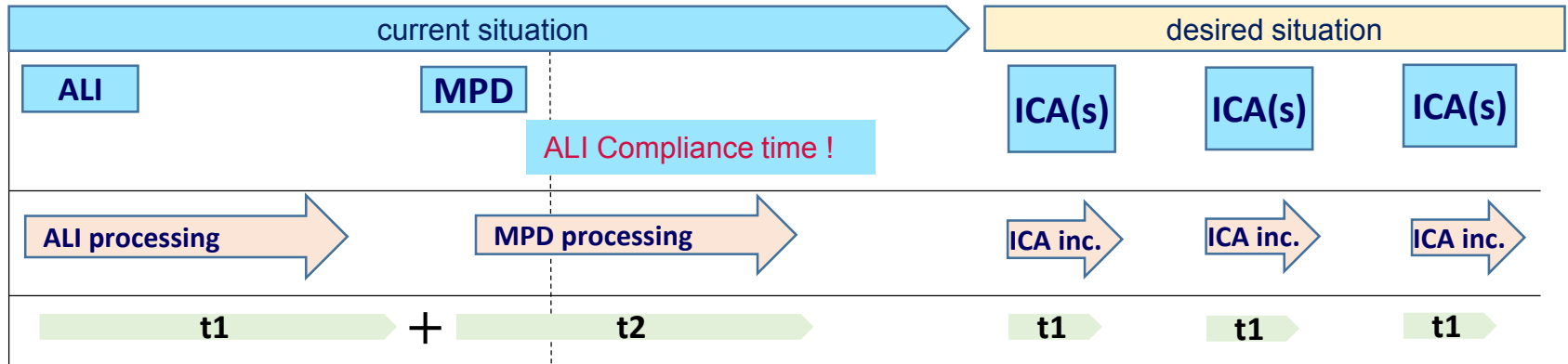
Operators are busy with processing multiple OEM revisions instead of tailoring their OMPs based on operational experience

Imagine 3 MPD revisions/ 2 MRBR revision/ 2 ALS documents per year – some of which are waiting for the AMM/CMM update:

... to handle this workload within the regulatory timescales you have to have a team for ICA revision incorporation. Shared responsibilities combined with crossing amendments – and multiple conflicting sources for one task – increase the risk of errors. There are cases where three consecutive revisions of ICAs revise the same task and examples of incorrect NeverExceedPeriod incorporation as a direct result of this issue.

Some more examples

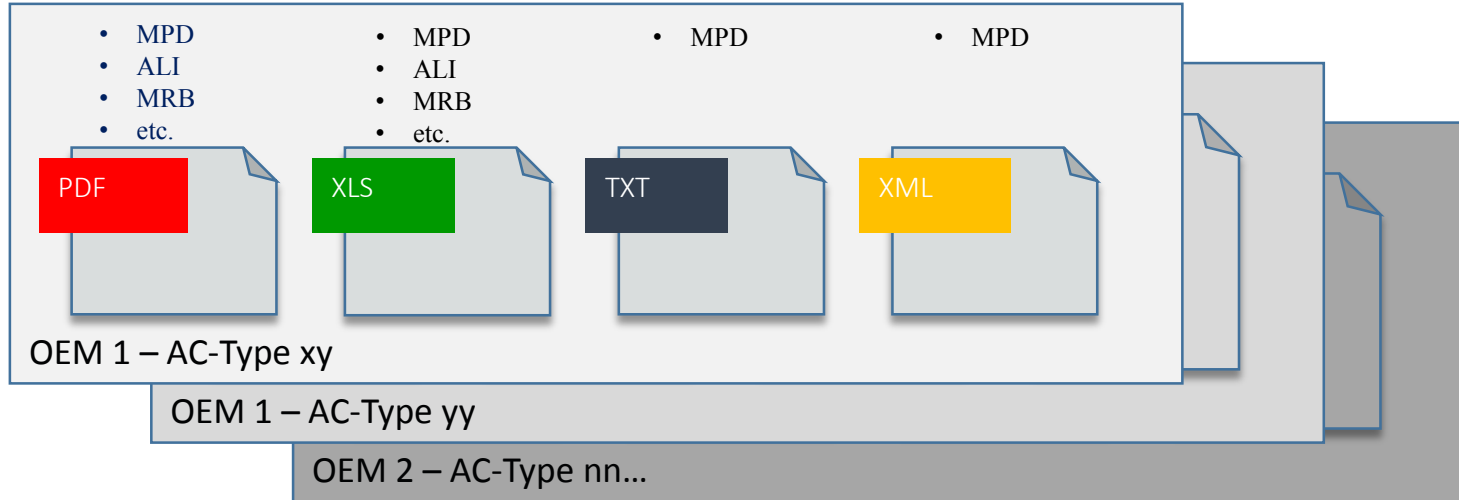
- The due date of source documents' special compliance times are often earlier than the subsequent MPD Revision – MPD cannot be used.
- To meet the approved documents' compliance time (MRB, CMR, ALI, etc.), operators have to process source document revisions without waiting for the next MPD
- These source documents do not contain the full set of data, required to complete a maintenance task (eg. Zones, Panels, AMM-reference, etc.).
- Consequently the missing data have to be investigated by the operators (with the risk of errors) and have to be validated after MPD publication.



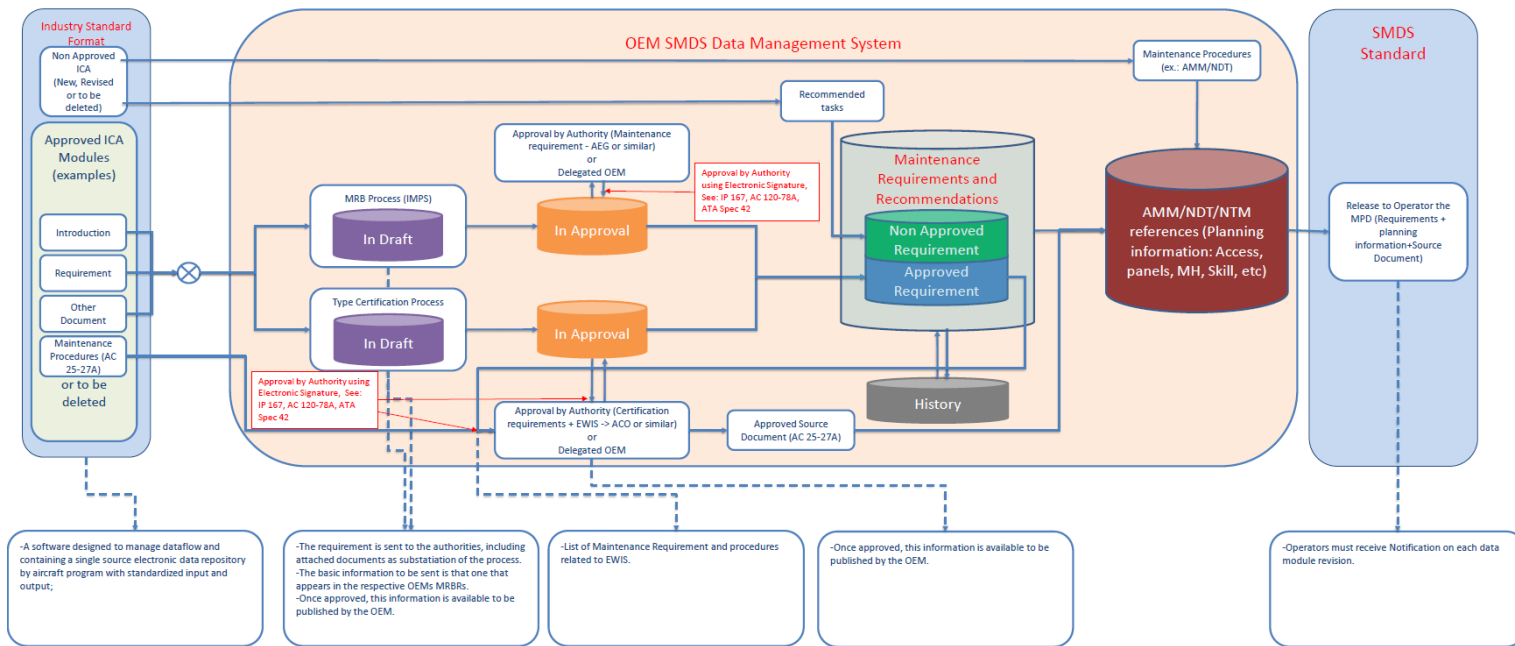
Data Formats vary

Various file formats and different contents between document-types and OEMs- (and AC-types) prevent common standards to process document-revisions on operator's side (procedural & IT).

Various documents are available in PDF only and require manual transfer to operators IT.



Flow chart



Work in the group

IATA SMDS

- ↗ Provides insight from the operator's side
- ↗ Defines business rules to S1000D
- ↗ Provides input on regulator's local requirements
- ↗ Collects and verifies the type of the sources across OEMs
- ↗ Performs the mapping of ICA requirements to S1000D schema
- ↗ Included operator's MIS systems into the process

A4A TDWG

- ↗ Takes care of XML technical expertise
- ↗ Contacts S1000D committee when necessary
- ↗ Identifies and applies the changes proposed by SMDS group into S1000D schema and Business Rules

Groups meet twice a year

Challenges

OEMs & TDWG

- ↗ Knowledgeable on MPD structure and S1000D
- ↗ Lack big picture of MPD process on operators side
- ↗ S1000D is a military standard and all changes are slow and difficult

OPERATORS

- ↗ Know all the “pains” of MPD implementations
- ↗ Have little knowledge of S1000D schema and OEM internal processes on ICA creation
- ↗ Want to see the end result, have little influence on IMPS* procedures

*IMPS – International MRB/MTB
Process Standard

Next steps

- Continue mapping exercise on S1000D schema and existing requirements
- Involve regulators and discuss with them the revision cycle approach the prospect of digital signature implementation for ICA approval process
- Involve MIS and ERP providers to get their prospect on XML standard implementation within their home systems
- Get more support from airline community and increase awareness about the work being done
- Involve engine manufacturers

*IMPS – International MRB/MTB
Process Standard

Thank you!