

EASA Workshop

Electronic Flight Bag (EFB) ETSO

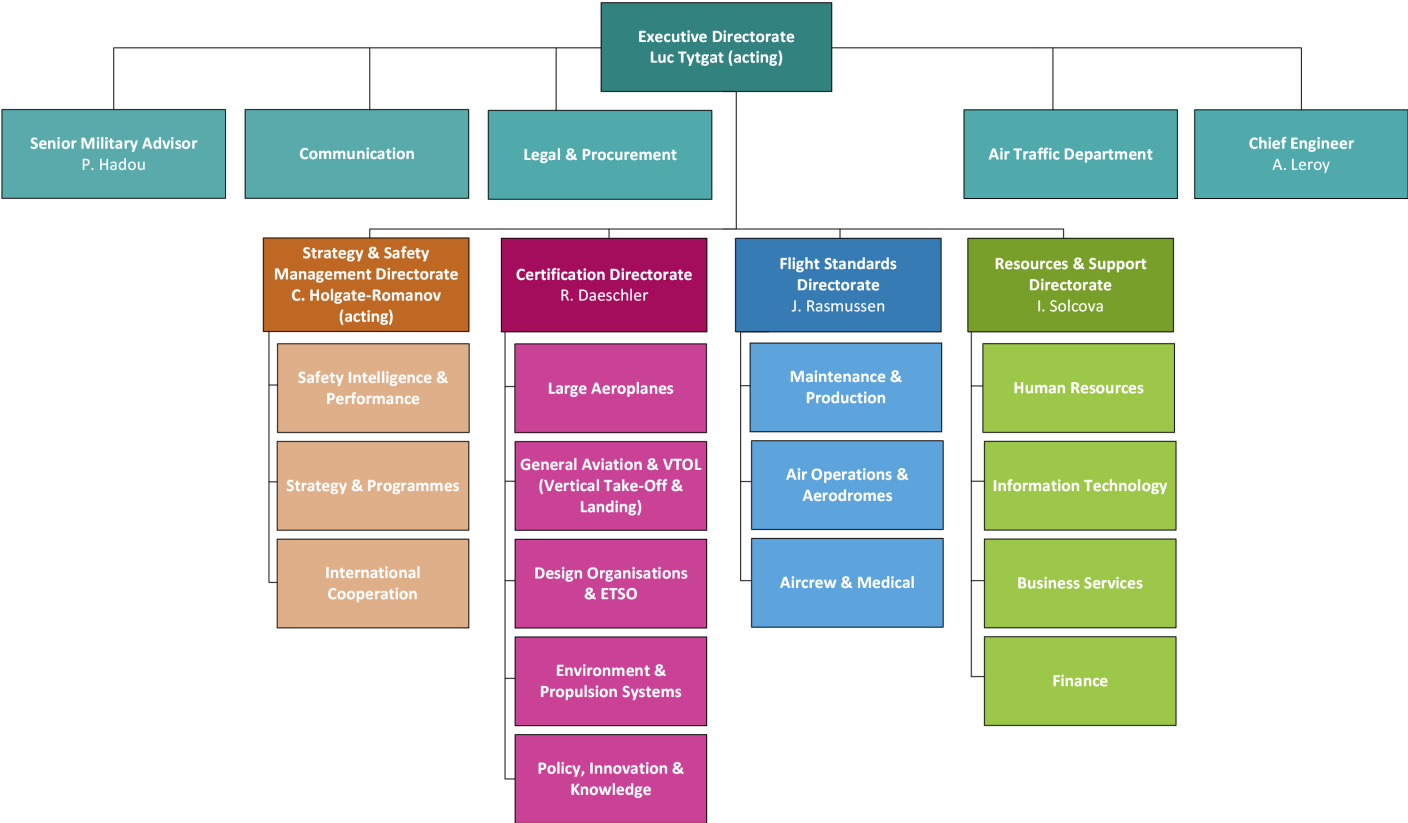
EASA Roadmap for EFB and ETSO



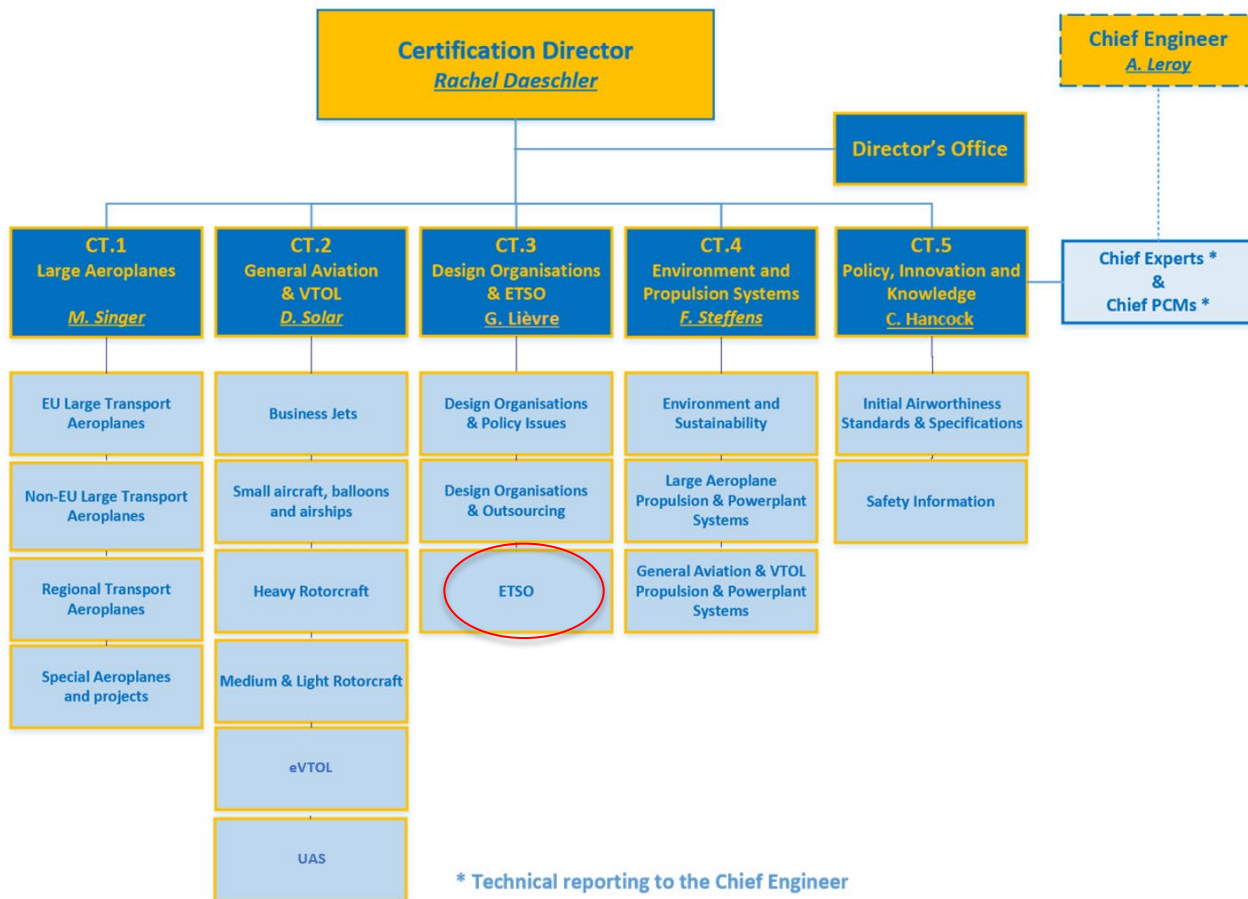
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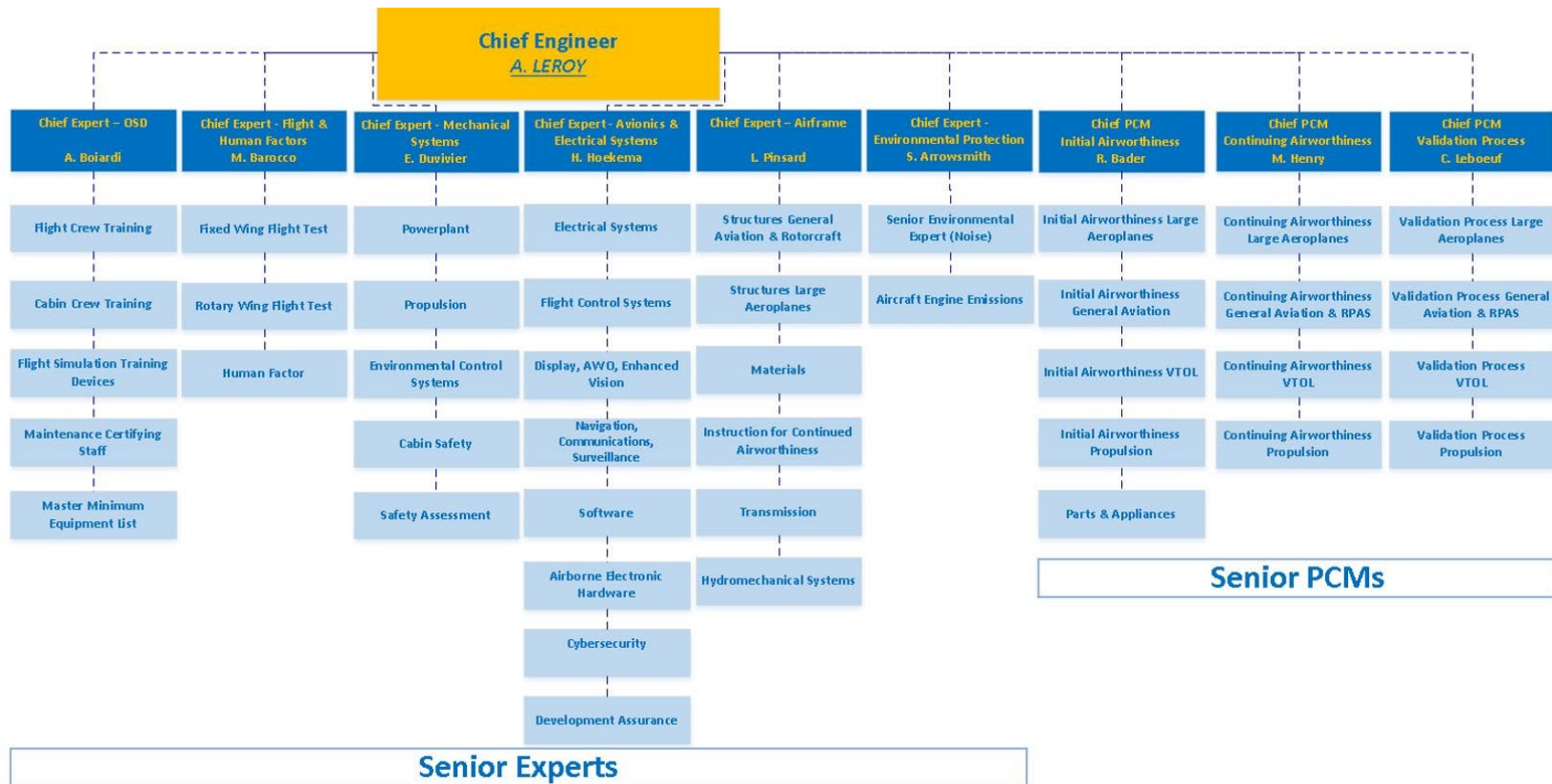
EASA UPDATE



Directorate structure



Directorate structure



Summary

- Basic Regulation evolution: Part and Appliances → Parts&NIE
- Implementing Rules current status
- ETSO process pro's in general
- ETSO process main outlines
- NIE and ETSO Proportionality
- ETSO Proportionality possible Implications
- Closing Remarks

Basic Regulation (EC) No 216/2008 repealed by (EU) 2018/1139

→ Part and Appliances

→ Article 3 *Definitions*

(d) 'parts and appliances' shall mean any instrument, equipment, mechanism, part, apparatus, appurtenance or accessory, including communications equipment, that is used or intended to be used in operating or controlling an aircraft in flight and is installed in or attached to the aircraft. It shall include parts of an airframe, engine or propeller;

→ Article 5 *Airworthiness*

→ 2.(b) *parts and appliances may be issued with specific certificates when they are shown to comply with detailed airworthiness specifications established to ensure compliance with the essential requirements referred to in paragraph 1; (ref. to Article 4 Basic principles and applicability)*

Basic Regulation (EU) 2018/1139 (amended by Comm. Delegated Reg. 2021/1087), Parts&NIE

→ Part

- Art 3 (4): *'part' means any element of a product, as defined by that product's type design;*
- Art. 12 possibility for the separate certification of parts; but parts can also be certified as part of the certification of the product

→ Non-installed equipment

- Art 3 (29): *'non-installed equipment' means any instrument, equipment, mechanism, apparatus, appurtenance, software or accessory carried on board of an aircraft by the aircraft operator, which is not a part, and which is used or intended to be used in operating or controlling an aircraft, supports the occupants' survivability, or which could impact the safe operation of the aircraft;*
- Art 13 contains provision for the certification of the design of NIE

NIE poses a legal issue

- Objective is to resolve a legal issue: lack of implementing Rule
 - NIE concept introduced through EASA Basic Regulation (Regulation (EU) 2018/1139 and successive amendments) is currently not implemented in IAW and CAW regulations
- CAW regulation currently is not applicable to NIEs
 - Required changes to Regulation 1321/2014.
- Current ETSO process could be applicable to “Parts”, rather the extension to “NIE” seems not immediate
 - A first foreseen approach would be to include NIE in Subpart K of Part 21.
 - A gap analysis of Part21 will identify other affected provisions for NIE implementation.
 - Provisions in Part 21 will probably need to be specifically tailored for NIE

ETSO-A process strengths, in general

- ETSO would generally:
 - Allow direct use of compliance data as collected at ETSO level
 - For installation certification
 - For operation compliance demonstration
 - Facilitate installation certification by DOA/EASA or NAA and Operators assessment vs OPS.
 - Allow an agreed change management to the ETSO Holder
 - Eliminate/reduce subjectivity of evaluations
 - Enhance equal level playing field
 - Build a continued airworthiness record for the equipment through obligations for occurrence reporting (EU Rule 376/2014)

ETSO-A process strengths, in general

→ Additionally:

- The ETSO standard belongs to the industry and could evolve through consensus to easily accommodate enhancements (technology update, record from service, etc.)
- Current ETSO-A process requires APDOA & POA (Part 21.A.602(a)&(b))
- Concept of POA suppliers of main POA

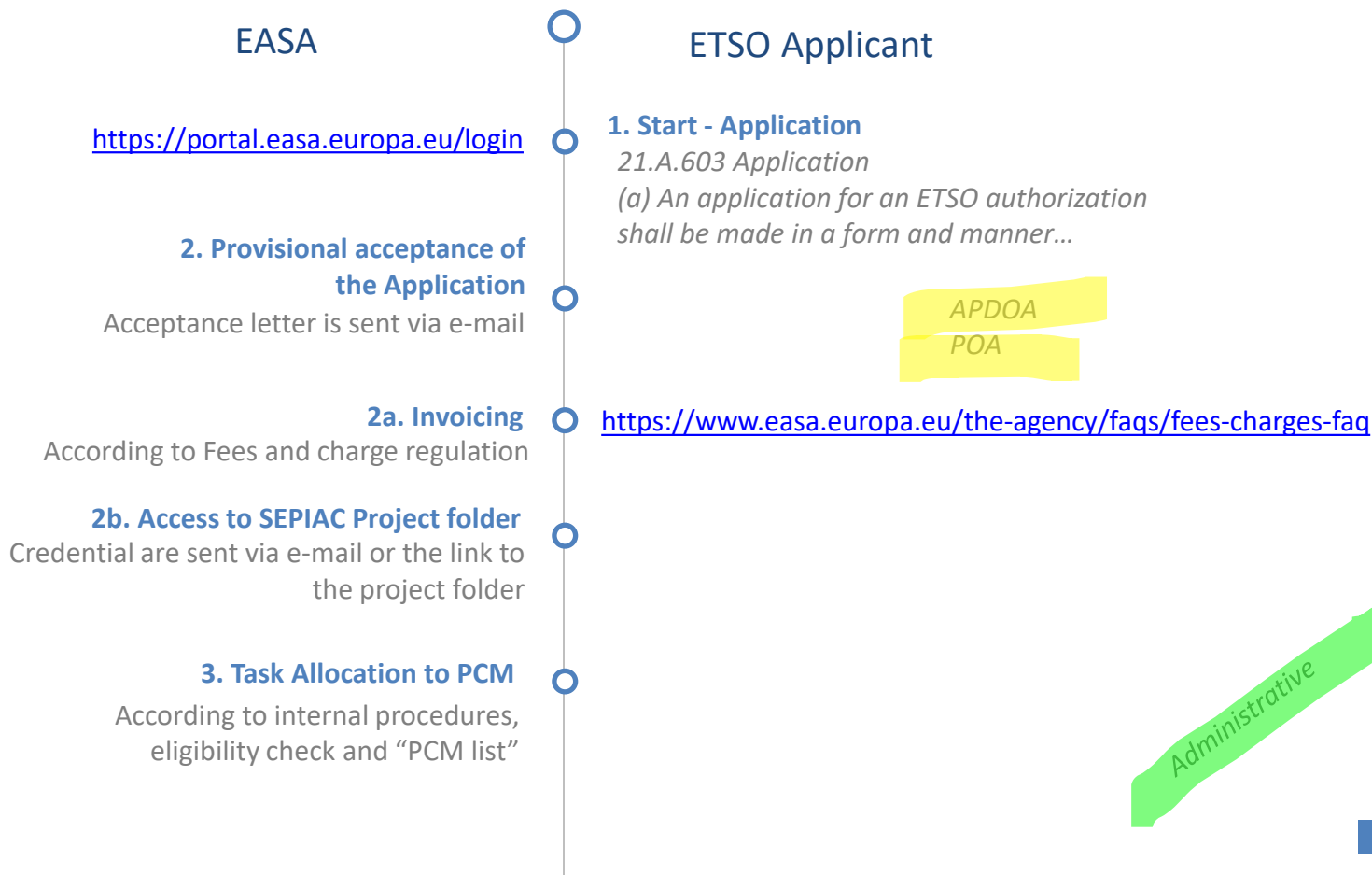
ETSO-A process advantages for EFB SW

- In addition to the above, ETSO will overcome OEB process limits:
 - EASA OEB only provides recommendation
 - Output from OEB gives limited support to NAA and Operators responsible for assessment
 - Lack of change management and of continued airworthiness record
 - Subjectivity of evaluation and limited Level Playing Field

ETSO Project work flow at glance

- Outline main steps in an ETSO Project Work flow
 - Inputs from the Applicant/Outputs for EASA and related legal basis
 - EASA Dpt./Actors dealing with the inputs received
 - Relevant Software/Tools supporting the workflow
- Possible tailoring for EFB

Workflow



4. Familiarization Meeting

Between EASA PCM and Applicant

Project Description, novelties,
intended functions and Certification
planning

Template for Certification Programme ETSO**5. Certification Programme
Submission**

21.A.605(a) 1. Data requirements

CCL to

- ETSO Subpart A
- ETSO-2C521
- ED-273

6. Deviation Request

21.A.610 Approval for deviation

During the work flow a
Deviation could be raised at any
instance

Today, a deviation to CS-
ETSO Subpart A § 2.2 is
always required to apply
the SW DA prescribed by
ED-273...

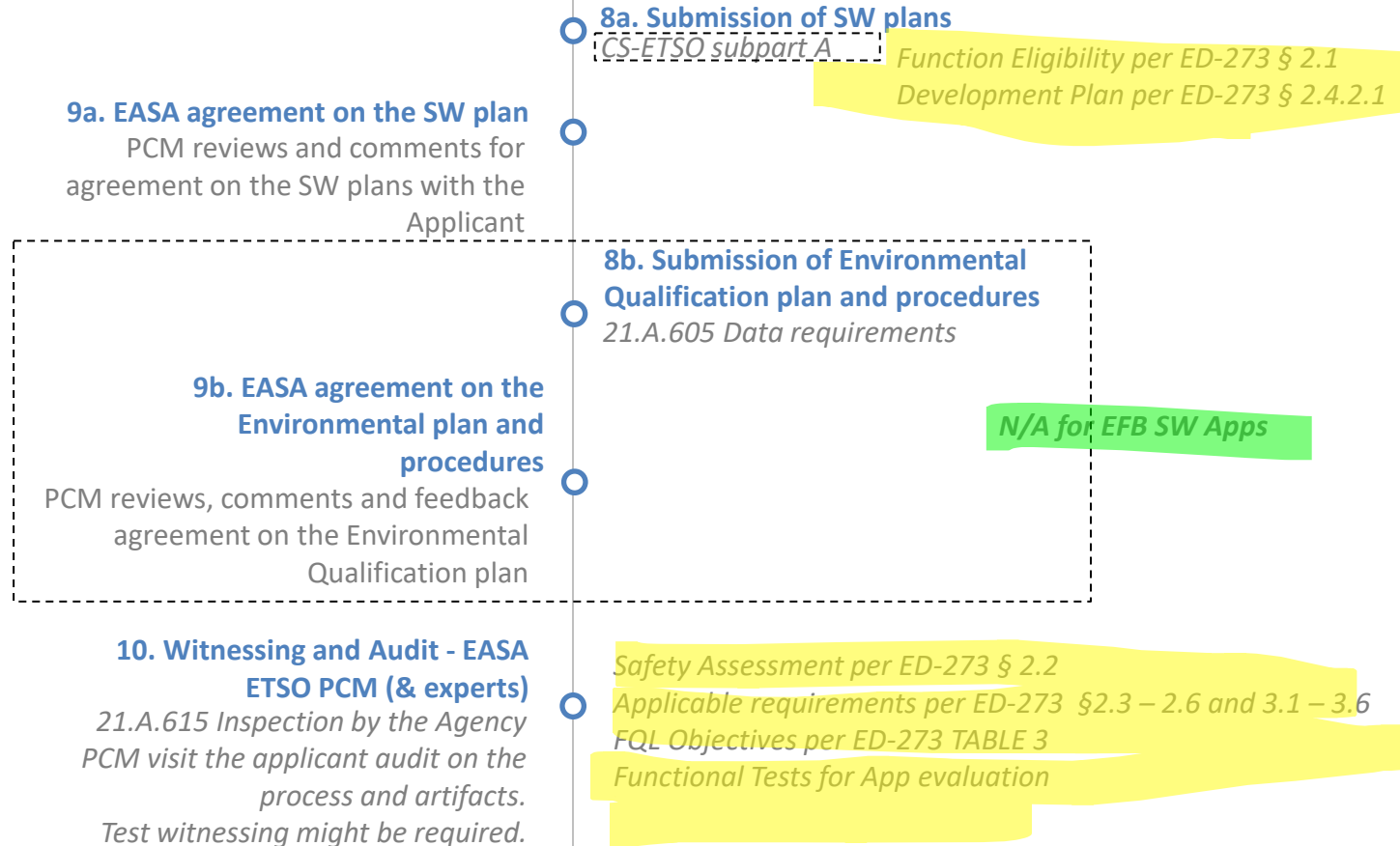
**7. Lol Determination - EASA
ETSO PCM**

21.B.100 (b) Level of involvement

AMC No 2 to 21.B.100(b) Level of involvement (Lol) in
ETSOA projects

8. Documents submission

21.A.605 Data requirements



12. EASA assessment of ETSO compliance demonstration

21.A.615 Inspection by the Agency

<https://www.easa.europa.eu/downloads/120813/en>

14. Signature of the Technical Visa

EASA PCM reviews the DDP and signs the Technical Visa, and rates Applicant's performance on the project.

15. ETSO Authorization signature and release

ETSO Section Manager – Applicant
Services upload to SEPIAC
21.A.606 Requirements for the issuance of an ETSO authorization

11. Documents submission for Final ETSO compliance demonstration

21.A.605 Data requirements

SEPIAC

Application Release per ED-273 § 2.4.2.5

Quality Assurance per ED-273 2.4.2.6

Installation and Operational Manual

13. DDP submission

21.A.608 Declaration of Design and Performance

DDP Template could be simplified



Evolution of ETSO-A process: “Proportionality” 1/2

- There is currently limited proportionality in the ETSO process;
- Organisational requirements are the same for most articles (except APUs).

APU ETSO

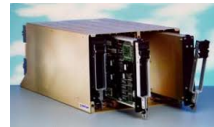


Design Organisation
Approval Required



Production Organisation
Approval Required

All other ETSO articles

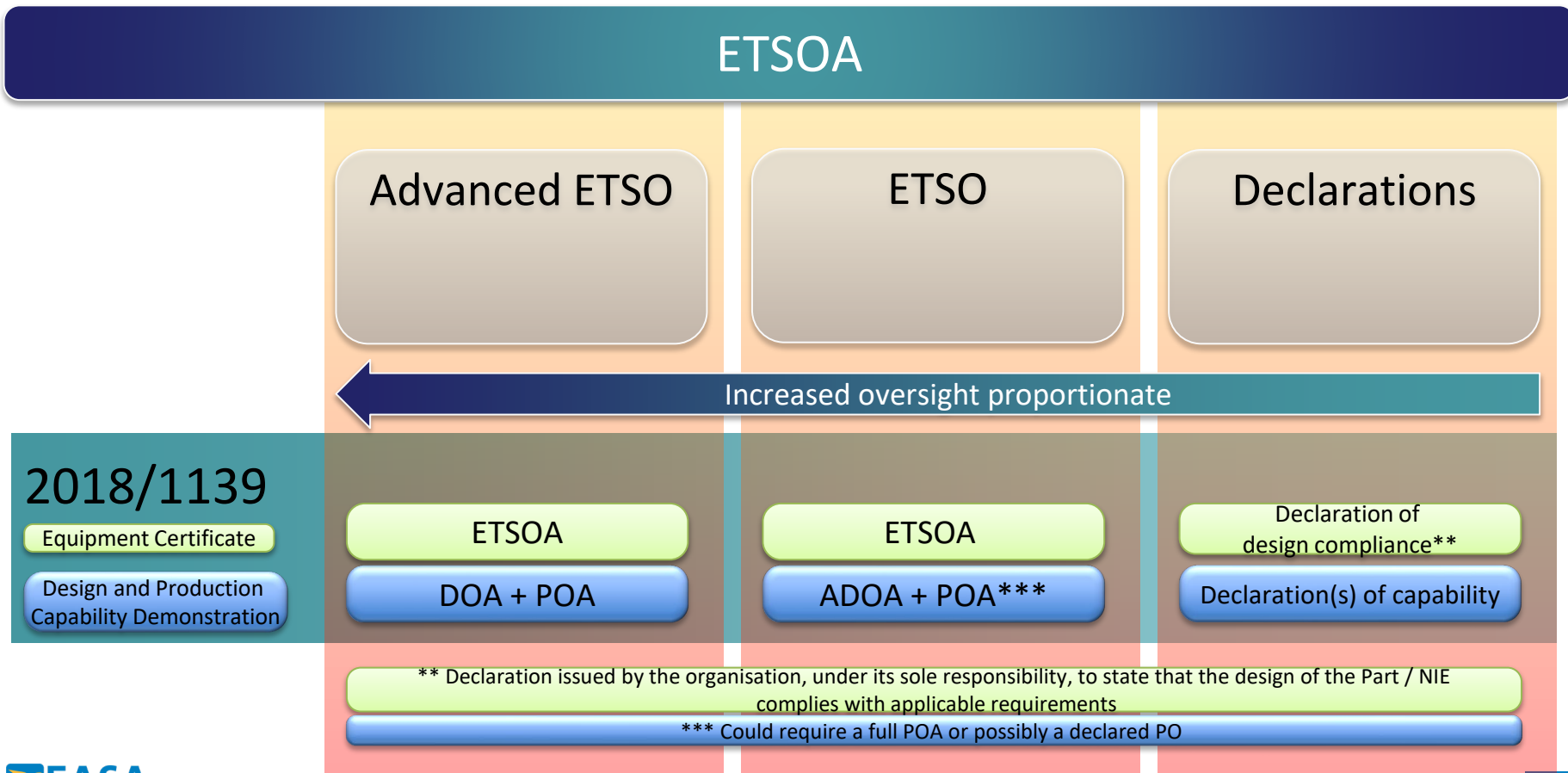


Alternative procedures to a Design
Organisation Approval



Production Organisation
Approval Required

Evolution of ETSO process: “Proportionality” 2/2



Proportionality: key is the discussions with stakeholders

- ETSO Industry
 - Different consultation options are being considered, including “direct consultation” with stakeholders (i.e. through Workshops, advisory bodies etc.) in order to progressively evolve the process.
 - A schedule for the related rulemaking task still needs to be defined (actually included in the EPAS for 2025)
- NAAs (P&CA TeB)
 - Essential that only approved maintenance organizations keep on repairing critical equipment (e.g. emergency parachutes);
 - Amendment of Regulation 1321/2014 (CAW) necessary
- Coordination with CMT Bilateral Partner Authorities
 - E/TSO harmonisation coordination group meeting regularly
 - Concept Paper for E/TSO Proportionality and mutual recognition

ETSO EFB Organisational Requirements

- Current ETSO-A Process requires APDOA & POA (Part 21.A.602(a)&(b) and related AMC):
 - DOA for APU, and AP to DOA for any other article
 - POA according to Subpart G or Subpart F
 - “SW only POA” could be addressed in updated Part21
 - Could be tailored and straightforward to obtain in the future
- Future NIE & ETSO Proportionality in Part21
 - NIE Task is planned for 2024, proportionality for 2025
- Proportionality may allow self-design declaration for lower risk EFB Apps:
 - APDOA / POA (declared?) /ETSO-A for EFB Apps including Residual Risk / Type B functions
 - Declared Certificate (DO (declared?) / PO (declared?)) for EFB Apps **only** including non safety effect (NSE) / Type A functions

Closing Remarks

- Basic regulation includes definition for NIE
- Current Implementing Rules do not contain tailored process for NIE
- ETSO-A process strengths are well established and recognized and could extend to EFB removing also OEB limits
- ETSO-A process can include EFB provided that implementing rules are updated

Closing Remarks

- Rulemaking is necessary to update IAW and CAW rules to endorse NIEs and ETSO Proportionality
- ETSO Proportionality definition would be possible only with contribution from all the stakeholders (EU NAAs/Industry/Bilateral Partners etc.)
- Proportionality in ETSO could lead to tailored organizational requirements for NIE and EFB (e.g.: “POA for SW”, declared “PO”, etc...)

Thank you for your attention!

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