EASA
European Union Aviation Safety Agency

Conformity assessment framework for ATM/ANS systems and ATM/ANS constituents, from the application to the approval

Cologne, 04/07/2023

Your safety is our mission.

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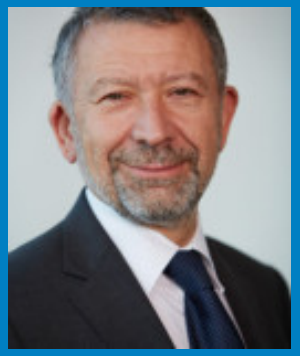
EASA
European Union Aviation Safety Agency

Welcome & Opening



Strategy & Safety Management Director

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SETTING THE SCENE: OVERVIEW OF THE NEW CONFORMITY ASSESSMENT FRAMEWORK

Overview

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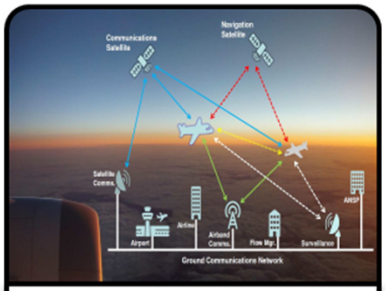
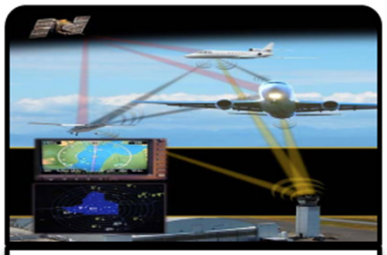
EU ATM/ANS RULES

ATCO Licensing



Provision of ATM/ANS

Standardised European Rules of the Air (SERA)



Airspace Usage Requirements (AUR)

ATM Ground Equipment

Regulatory framework on conformity assessment

- Streamlining the attestation of ATM/ANS equipment
- Single demonstration of compliance
- Manufacturing industry bringing fit-for-purpose solutions to the EU market
- Better use of resources by organisations and authorities
- Compliance throughout the full equipment lifecycle

Regulatory framework on conformity assessment

Subtask 1
Framework

NPA
2022-09

Subtask 2
IOP IR

NPA
2022-107

Opinion
01-2023

EASA COMMITTEE

EXPERT GROUP

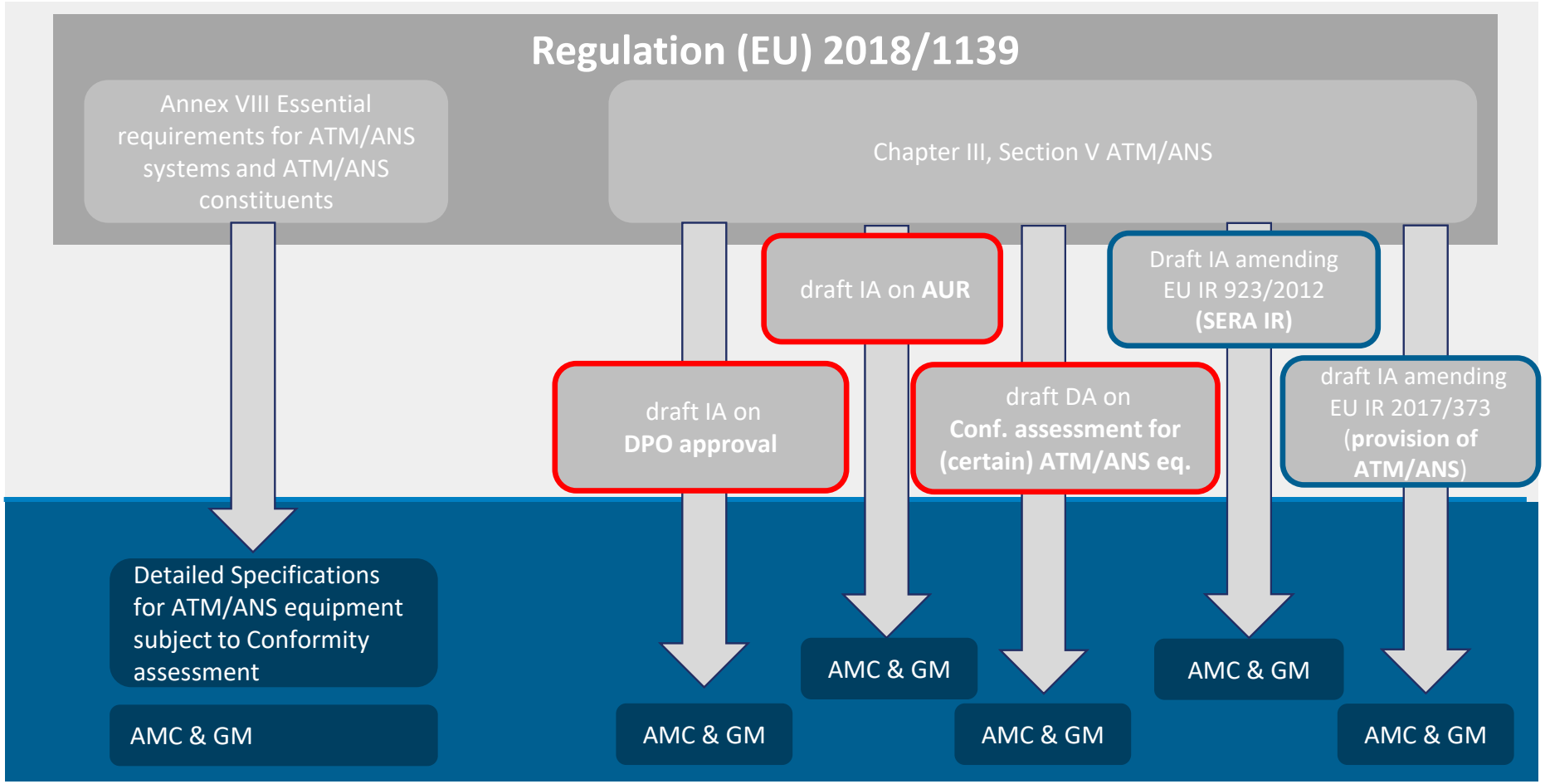
Positive vote
EASA Committee
28/06/2023

Subtask 3
Specs, AMC/GM

NPA
2023-05

Jun 2022 | Jul 2022 | Aug 2022 | Sep 2022 | Oct 2022 | Nov 2022 | Dec 2022 | Jan 2023 | Feb 2023 | Mar 2023 | Apr 2023 | May 2023 | Jun 2023 | Jul 2023 | Aug 2023 | 12 Sept. 2023+

Regulatory framework on conformity assessment



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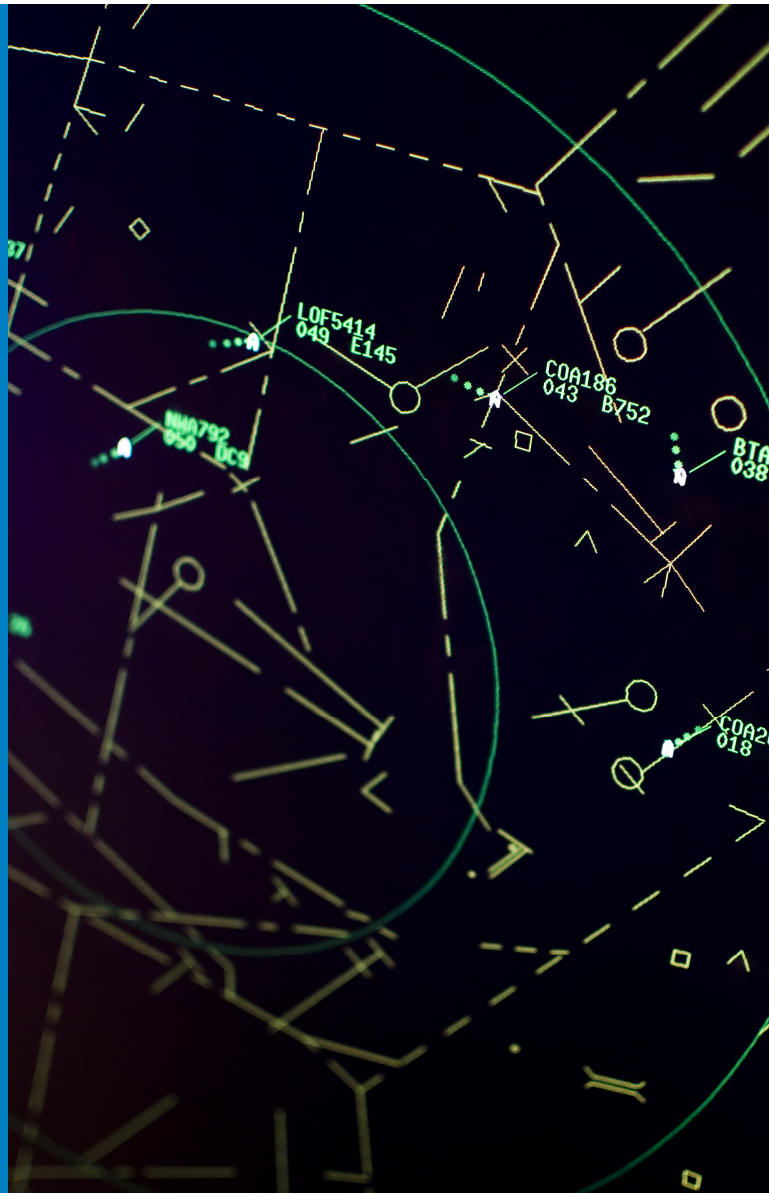
CERTIFICATION/DECLARATION OF ATM/ANS EQUIPMENT

EU rules
Detailed specifications and compliance demonstration
AMC/GM
Q&A incl. Slido



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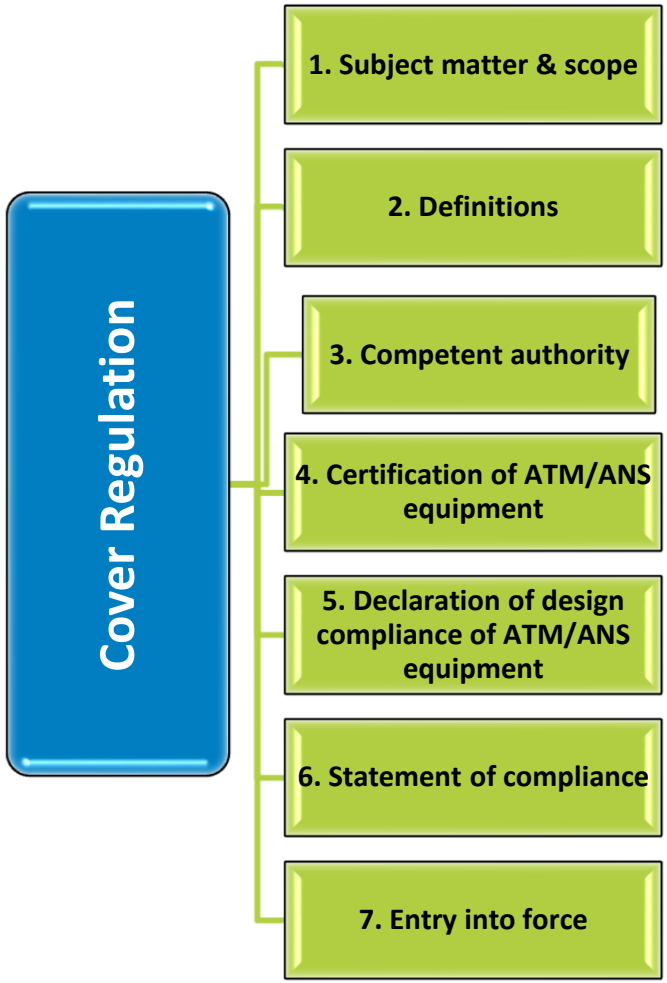
STRUCTURE



Annex I

REQUIREMENTS FOR THE AGENCY

(Part-ATM/ANS.EQMT.AR)

Annex II

ATM/ANS EQUIPMENT CERTIFICATES

(Part-ATM/ANS.EQMT.CERT)

Annex III

DECLARATION OF COMPLIANCE OF THE ATM/ANS EQUIPMENT DESIGN

(Part-ATM/ANS.EQMT.DEC)

2. Definitions

(1) ‘ATM/ANS equipment’ means ATM/ANS constituents as defined by Article 3(6) of Regulation (EU) 2018/1139 and ATM/ANS systems as defined by Article 3(7) of that Regulation, excluding airborne constituents, which are subject to Commission Regulation (EU) No 748/2012;

vs.

(4) ‘functional system’ means a combination of procedures, human resources and equipment, including hardware and software, organised to perform a function within the context of ATM/ANS and other ATM network functions.

(2) ‘ATM/ANS equipment directive’ means a document issued by the Agency which mandates actions to be performed by ATM/ANS providers on ATM/ANS equipment to address an unsafe and/or insecure condition that has been identified and restore the performance and interoperability of that ATM/ANS equipment when evidence shows that the safety, security, performance or interoperability of that particular equipment may otherwise be compromised;

(3) ‘European air traffic management network’ (EATMN) means the collection of systems, listed in point 3.1 of Annex VIII to Regulation (EU) 2018/1139, enabling air navigation services in the Union to be provided, including the interfaces at boundaries with third countries;

3. Competent authority

4. Certification of ATM/ANS equipment

5. Declaration of design compliance of ATM/ANS equipment

6. Statement of compliance

GM | Scope of ATM/ANS equipment subject to conf. assessment

4. Certification of ATM/ANS equipment

5. Declaration of design compliance of ATM/ANS equipment

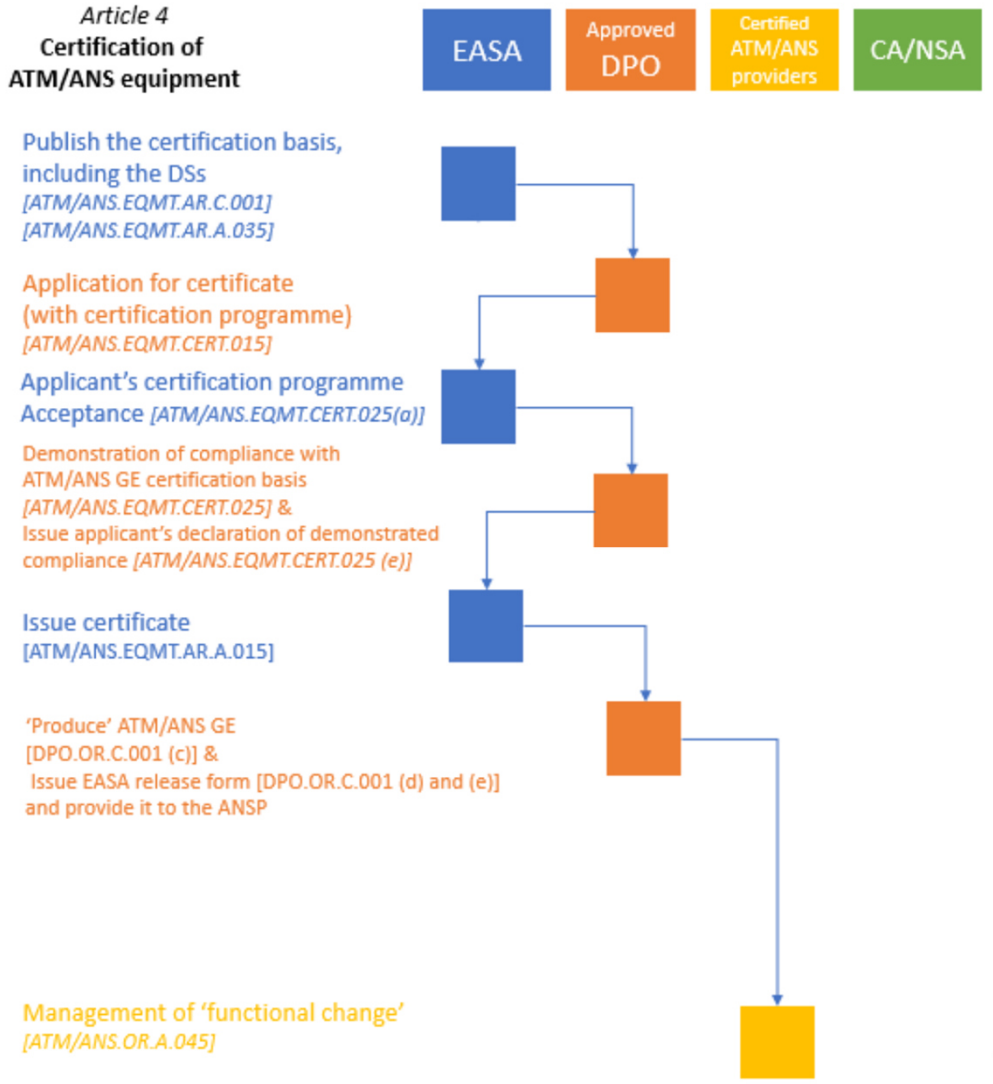
6. Statement of compliance

#	Point 3 of Annex VIII 'Essential requirements for ATM/ANS and air traffic controllers' to Regulation (EU) 2018/1139	Article 4 Certification of ATM/ANS equipment	Article 5 Declaration of design compliance of the ATM/ANS equipment	Article 6 Statement of compliance
	The *equipment* shall include in particular *equipment* required to support the following functions and services:			
1.	airspace management *(ASM)*			X
2.	air traffic flow management *(ATFM)*			X
3.	air traffic services *(ATS)*, in particular flight data processing systems, surveillance data processing systems and human-machine interface systems;			
	3a. controller-pilot communications	X		
	3b. air traffic control (ATC) services when enabling the separation of aircraft or the prevention of collisions	X		
	3c. other ATS equipment ~~supporting air traffic control (ATC) services when enabling the separation of aircraft or the prevention of collisions~~			X
4.	communications *(COM)* including ground-to-ground/space, air-to-ground and air-to-air/space communications			
	4a. ground-to-ground communications		X	
	4b. air-to-ground communications (i.e. controller–pilot communication)	X		
5.	navigation *(NAV)*		X	
6.	surveillance *(SUR)*		X	
7.	aeronautical Information services *(AIS)*			X
8.	meteorological services *(MET)*			X

4. Certification of ATM/ANS equipment

GM2 Article 4 Certification of ATM/ANS equipment; Article 5 Declaration of design compliance of the ATM/ANS equipment; Article 6 Statement of compliance

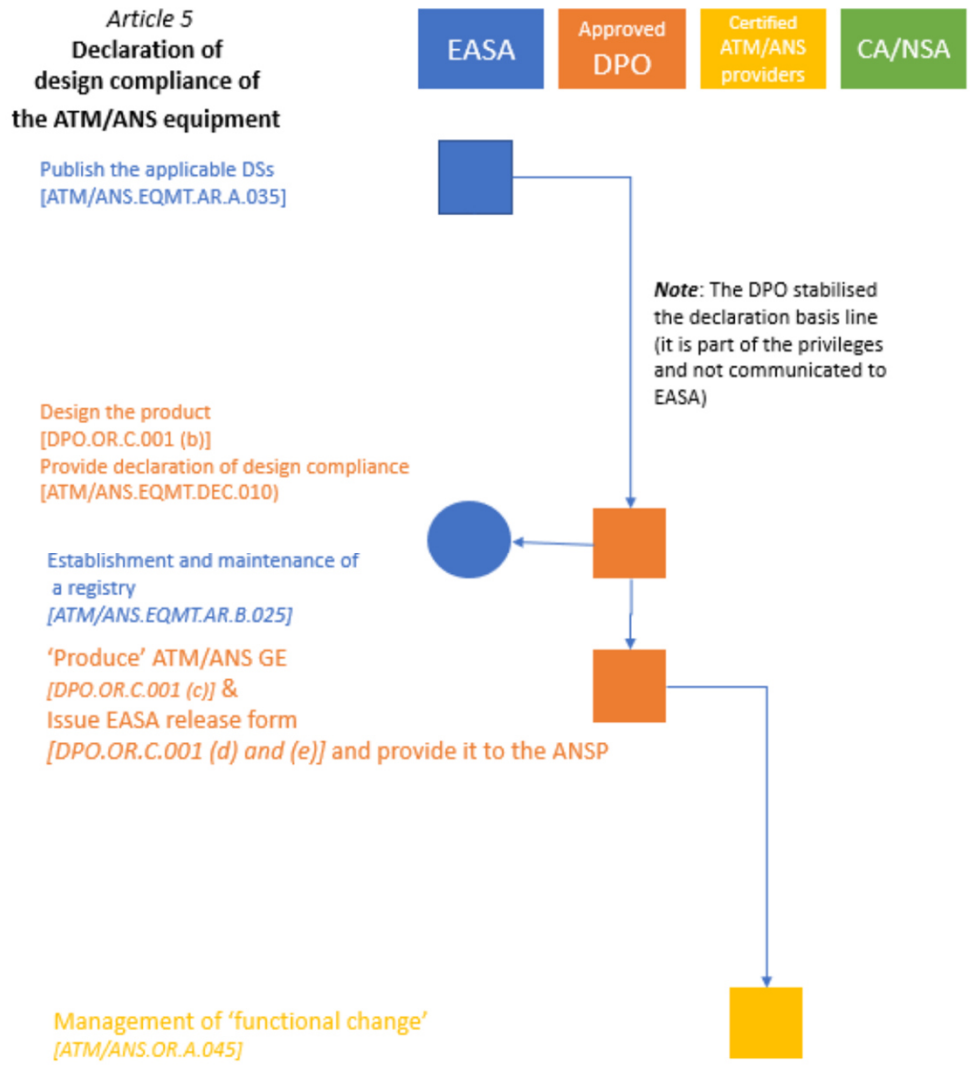
For ATM/ANS equipment subject to certification in accordance with Article 4 of this Regulation, the approved DPO shall, following the acceptance of the certification programme by EASA, demonstrate compliance with the ATM/ANS equipment certification basis before a certificate against the design is issued. The DPO produces ATM/ANS equipment against the design data and issues an EASA release form to be provided to the ATM/ANS provider. Figure 1 shows the interactions between the regulated parties when the ATM/ANS equipment is subject to certification.



5. Declaration of design compliance of ATM/ANS equipment

GM2 Article 4 Certification of ATM/ANS equipment; Article 5 Declaration of design compliance of the ATM/ANS equipment; Article 6 Statement of compliance

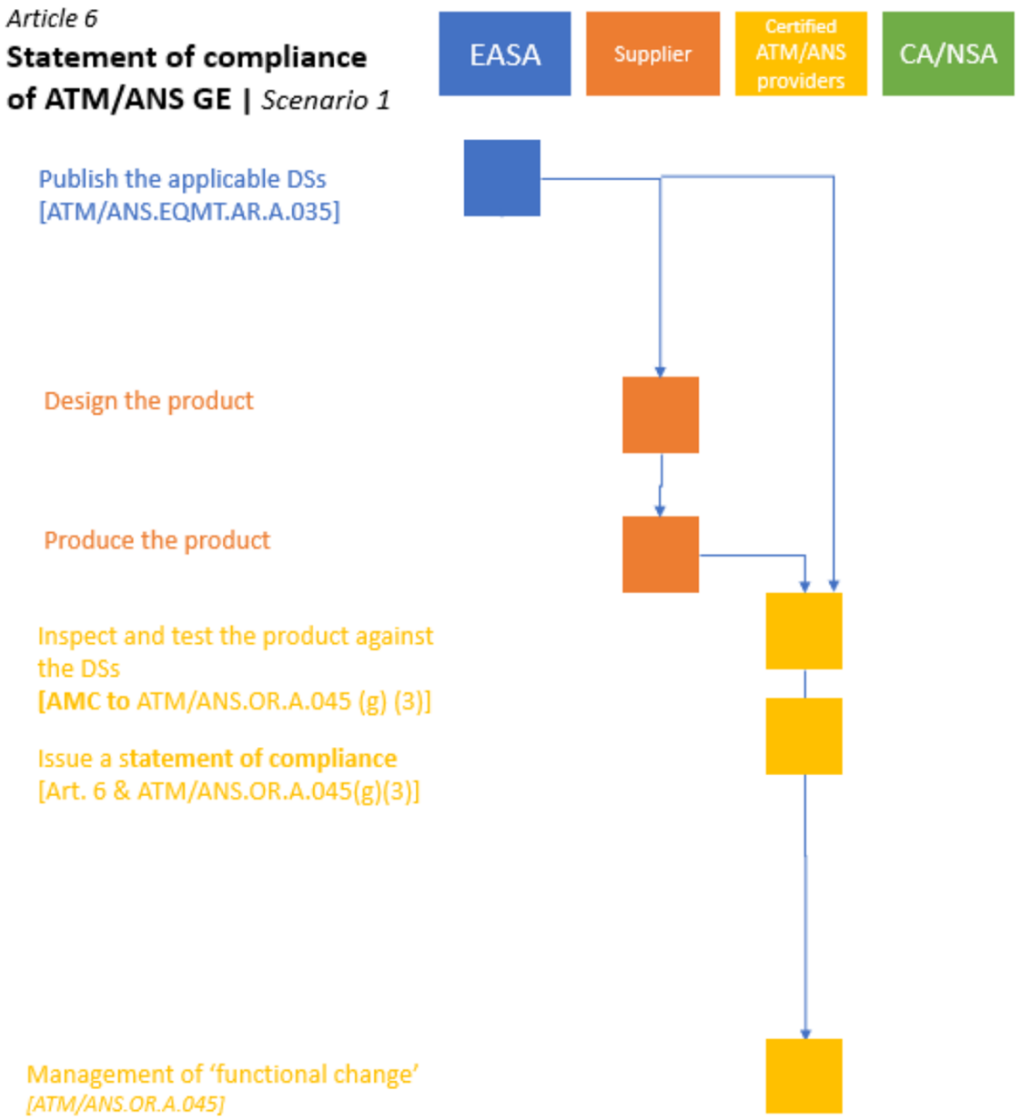
For ATM/ANS equipment subject to declaration of design compliance in accordance with Article 5 of this Regulation, the DPO is privileged to design and produce ATM/ANS equipment in accordance with the terms of the EASA approval. The test and verification activities leading to the issue of declaration of design compliance will be subject to continuous oversight by EASA. Figure 2 shows the interactions between the regulated parties when the ATM/ANS equipment is subject to declaration of design compliance.



6. Statement of compliance

GM2 Article 4 Certification of ATM/ANS equipment; Article 5 Declaration of design compliance of the ATM/ANS equipment; Article 6 Statement of compliance

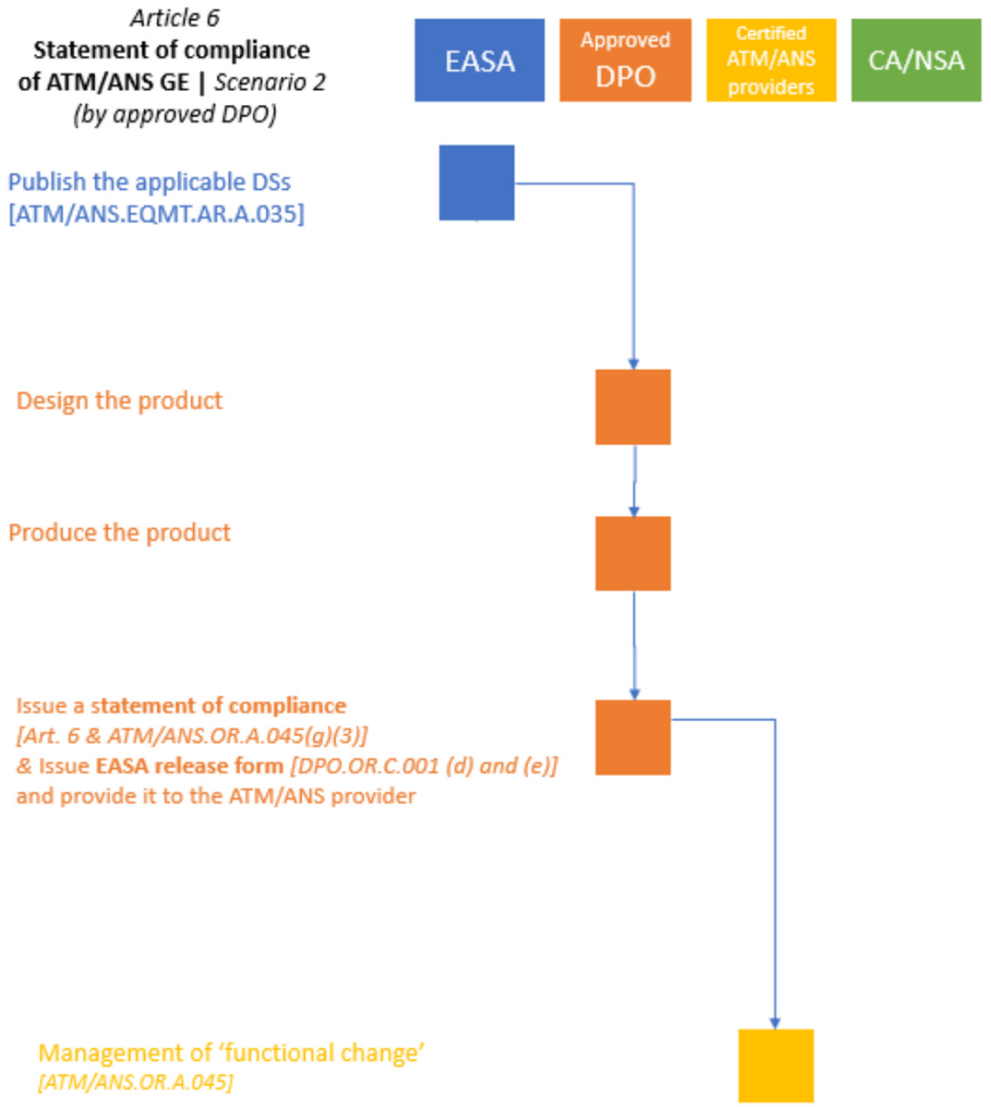
To issue a SoC for ATM/ANS equipment, the ATM/ANS provider performs the necessary verification and test activities, as required. The competent authority oversees the SoC as part of the continuous oversight and, as necessary, applies enforcement measures to the ATM/ANS provider(s). Figure 3 shows the interactions between the regulated parties when the ATM/ANS equipment is subject to a SoC.



6. Statement of compliance

GM2 Article 4 Certification of ATM/ANS equipment; Article 5 Declaration of design compliance of the ATM/ANS equipment; Article 6 Statement of compliance

A DPO can be privileged in accordance with the terms of the EASA approval to issue a SoC on behalf of an ATM/ANS provider. If during the continuous oversight of the ATM/ANS provider by the competent authority any non-compliances of the SoC are identified, that competent authority informs EASA whether any enforcement measures are required. Figure 4 shows the interactions between the regulated parties when the ATM/ANS equipment is subject to a SoC.



6. Statement of compliance

AMC1 Article 6 Statement of compliance

REISSUE

AMC1 Article 6(1) Statement of compliance

ISSUE

AMC2 Article 6(1) Statement of compliance

ACTIVITIES

AMC3 Article 6(1) Statement of compliance

RECORD-KEEPING

AMC4 Article 6(1) Statement of compliance

ISSUE BY APPROVED ORGANISATIONS INVOLVED IN THE DESIGN AND/OR PRODUCTION OF ATM/ANS EQUIPMENT (DPOs)

GM1 Article 6(1) Statement of compliance

RESPONSIBILITY WHEN PURCHASING ATM/ANS EQUIPMENT SUBJECT TO SoC

GM2 Article 6(1) Statement of compliance

DOCUMENTS

GM1 Article 6 Statement of compliance

ISSUE | STANDARD FORM

SoC No [internal numbering]

Issue No [version of this SoC[9]]

1. Name and address of ATM/ANS provider

2. Description, identification and scope of the ATM/ANS equipment(*)

Note: It should include e.g. type, SW/HW version number and master drawing record, as applicable.

3. Specification reference, i.e. EASA detailed specification No.

4. Reference to the qualification test report.

5. Service and instruction manual reference number.

6. SoC with the applicable EASA detailed specification, as far as applicable for the intended use, and any deviations therefrom.

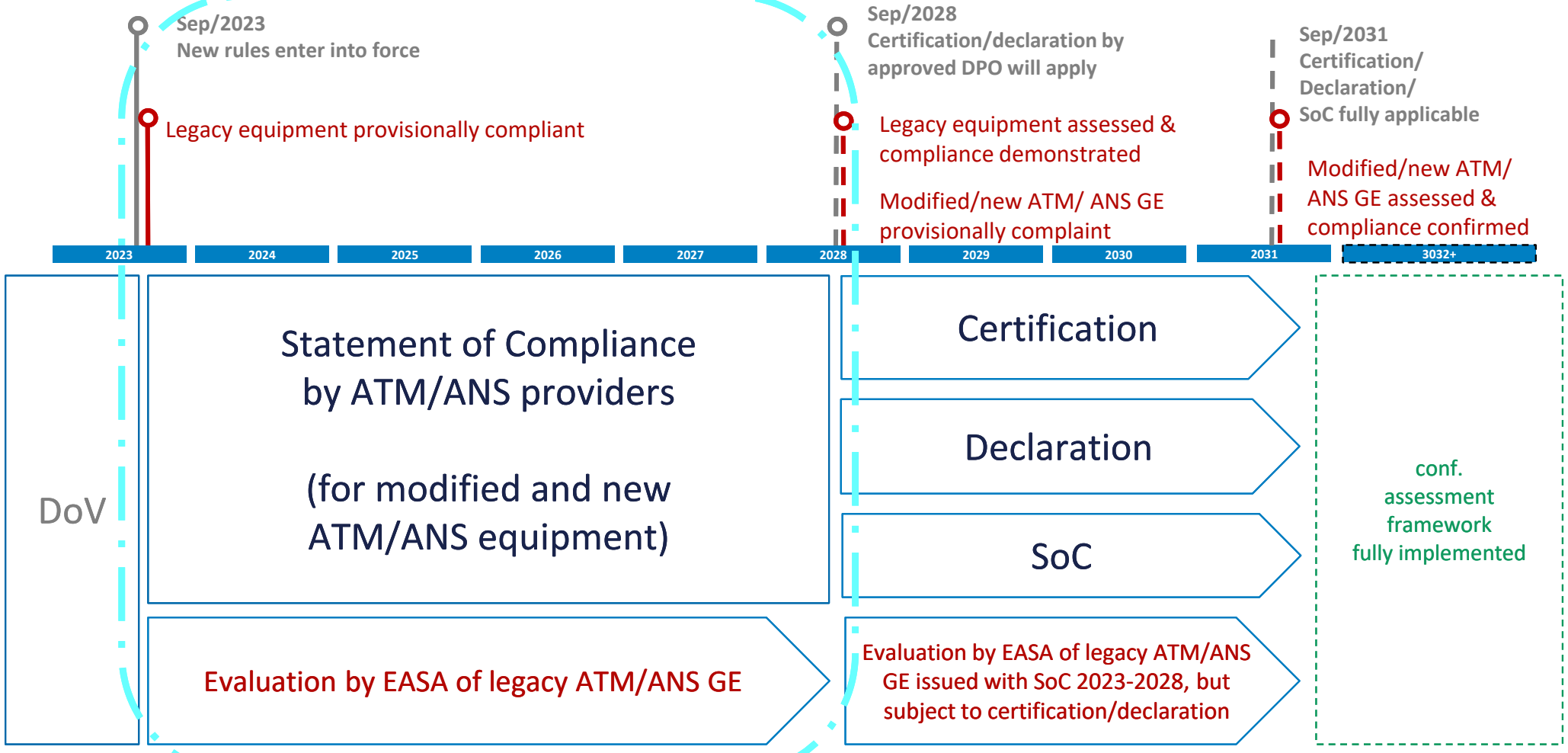
7. The declaration in this document is made under the authority of ..... (Name of ATM/ANS provider or approved DPO).

(ATM/ANS provider's or approved DPO's name) cannot accept responsibility for equipment used outside the limiting conditions stated above without their agreement.

Date: ..... Signed.....(ATM/ANS provider's or approved DPO's authorised representative)

Question
EASA requests the stakeholders' views as to whether the subject GM should be retained as a separate dedicated GM paragraph (as in the current proposal) or it should be integrated into AMC1 Article 6(1). EASA looks forward to stakeholders' feedback.

Article 7 Transitional provisions



Article 7 Transitional provisions

AMC1 Article 7(2) Transitional provisions

RELEVANT INFORMATION

For the purpose of the evaluation referred to in Article 7(2), the competent authorities responsible for the certification and oversight of the ATM/ANS providers referred to in Article 4(1) of Implementing Regulation (EU) 2017/373 should provide the following information to EASA upon request:

GM1 Article 7(2) Transitional provisions

SUBMISSION OF INFORMATION

The relevant information may be provided in a form of the DoV for the ATM/ANS system(s), including its technical file, issued by the ATM/ANS provider under the oversight of the competent authority.

GM2 Article 7(2) Transitional provisions

RELEVANT INFORMATION

For the purpose of the evaluation referred to in Article 7(2), the competent authorities responsible for the certification and oversight of the ATM/ANS providers referred to in Article 4(1) of Implementing Regulation (EU) 2017/373 may provide EASA with any certificate, approval, licence, authorisation, attestation, technical file or other document issued as a result of a process attesting compliance of the ATM/ANS equipment with the applicable essential requirements laid down in Regulation (EC) No 552/2004.

Annex I

REQUIREMENTS FOR THE AGENCY

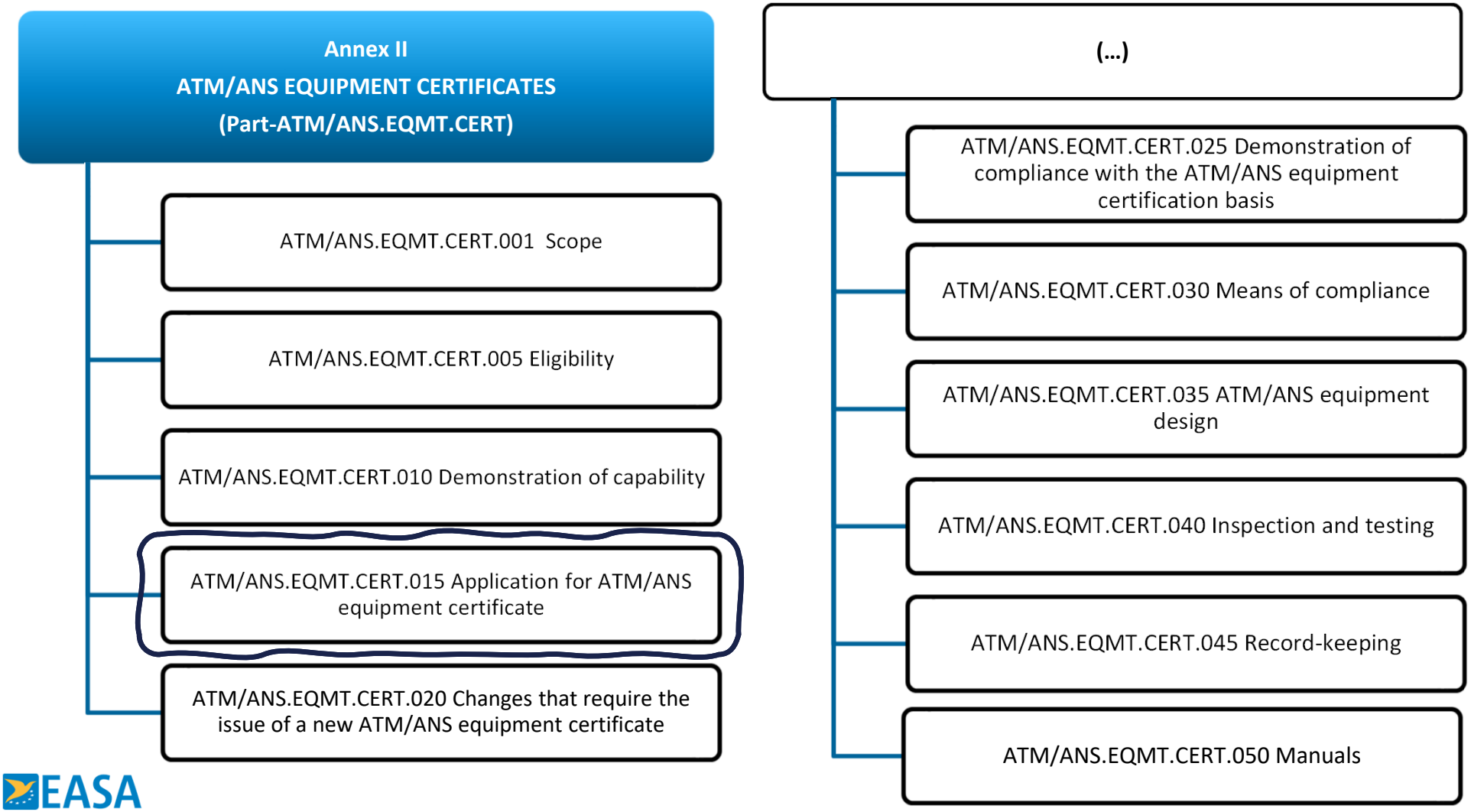
(Part-ATM/ANS.EQMT.AR)

SUBPART A — GENERAL REQUIREMENTS (ATM/ANS.EQMT.AR.A)

- ATM/ANS.EQMT.AR.A.001 Scope
- ATM/ANS.AR.A.020 Allocation of tasks to qualified entities
- ATM/ANS.AR.A.030 ATM/ANS equipment directive
- ATM/ANS.AR.A.035 Detailed Specs for ATM/ANS equipment

SUBPART B — CERTIFICATION, OVERSIGHT, ANS ENFORCEMENT (ATM/ANS.EQMT.AR.B)

- ATM/ANS.AR.B.001 ATM/ANS equipment certification basis
- ATM/ANS.AR.B.005 Special conditions
- ATM/ANS.AR.B.010 LoI
- ATM/ANS.AR.B.015 Issue of ATM/ANS equipment certificate
- ATM/ANS.AR.B.020 Initial oversight investigation of declaration of design compliance of ATM/ANS equipment
- ATM/ANS.AR.B.025 Registration of a declaration of design compliance of ATM/ANS equipment
- ATM/ANS.AR.B.030 Changes of declarations


Annex II
ATM/ANS EQUIPMENT CERTIFICATES
(Part-ATM/ANS.EQMT.CERT)
ATM/ANS.EQMT.CERT.001 Scope
ATM/ANS.EQMT.CERT.005 Eligibility
ATM/ANS.EQMT.CERT.010 Demonstration of capability
ATM/ANS.EQMT.CERT.015 Application for ATM/ANS equipment certificate
ATM/ANS.EQMT.CERT.020 Changes that require the issue of a new ATM/ANS equipment certificate
(…)
ATM/ANS.EQMT.CERT.025 Demonstration of compliance with the ATM/ANS equipment certification basis
ATM/ANS.EQMT.CERT.030 Means of compliance
ATM/ANS.EQMT.CERT.035 ATM/ANS equipment design
ATM/ANS.EQMT.CERT.040 Inspection and testing
ATM/ANS.EQMT.CERT.045 Record-keeping
ATM/ANS.EQMT.CERT.050 Manuals

Annex III

DECLARATION OF DESIGN COMPLIANCE OF ATM/ANS EQUIPMENT

(Part-ATM/ANS.EQMT.DEC)

- ATM/ANS.EQMT.DEC.001 Scope
- ATM/ANS.EQMT.DEC.005 Eligibility and demonstration of compliance
- ATM/ANS.EQMT.CERT.010 Declaration of design compliance of ATM/ANS equipment
- ATM/ANS.EQMT.DEC.015 Means of compliance

NO AMC/GM

- (…)
- ATM/ANS.EQMT.DEC.020 Changes to the declaration of ATM/ANS equipment design
- ATM/ANS.EQMT.DEC. record-keeping
- ATM/ANS.EQMT.DEC.030 Manuals
- ATM/ANS.EQMT.DEC.035 Maintenance instructions
- ATM/ANS.EQMT.DEC.ATM/ANS.040 ATM/ANS equipment directive
- ATM/ANS.EQMT.DEC.ATM/ANS.045 Inspections performed by the Agency

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European Commission

NETWORKING COFFEE BREAK

15min

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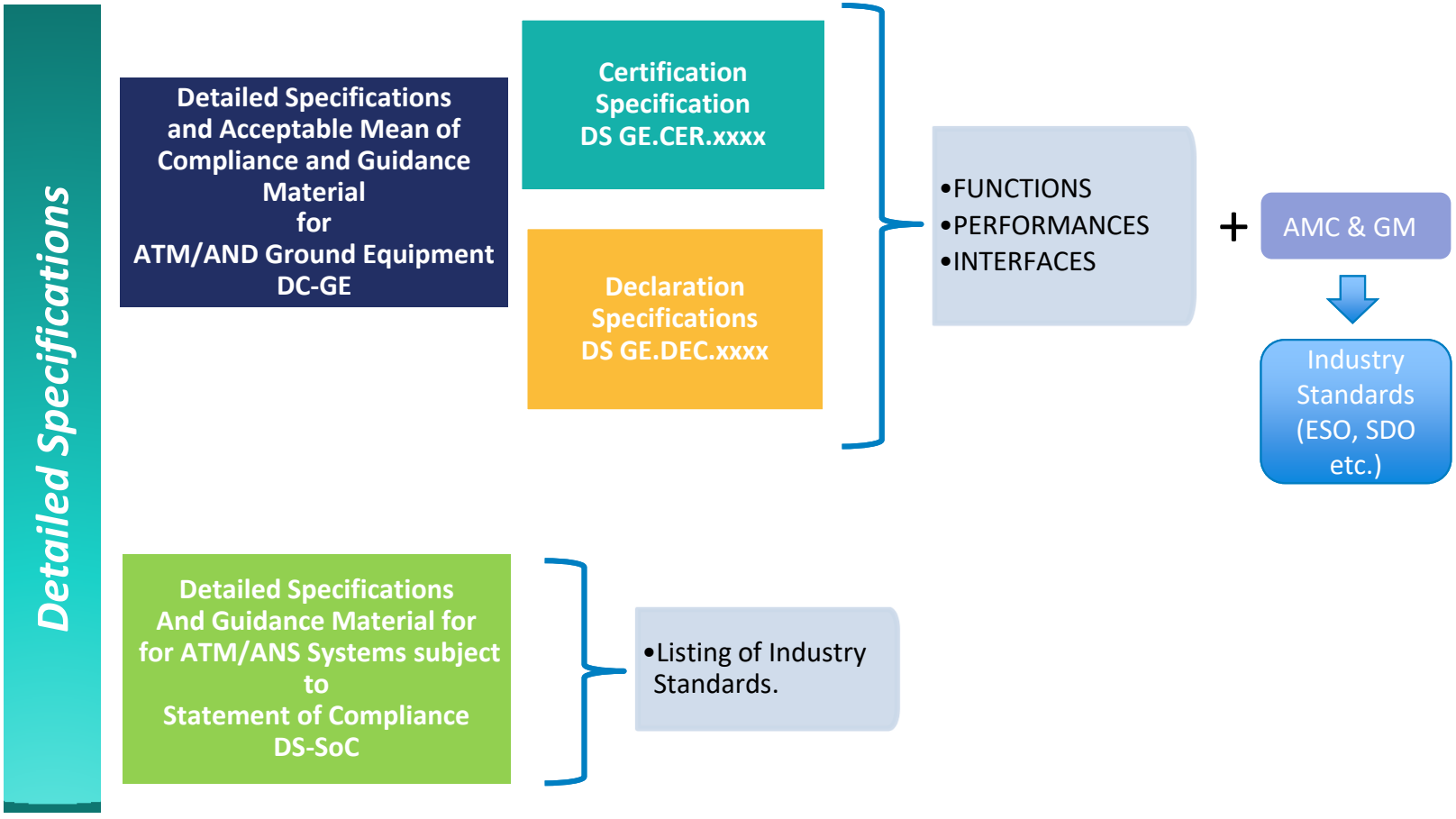
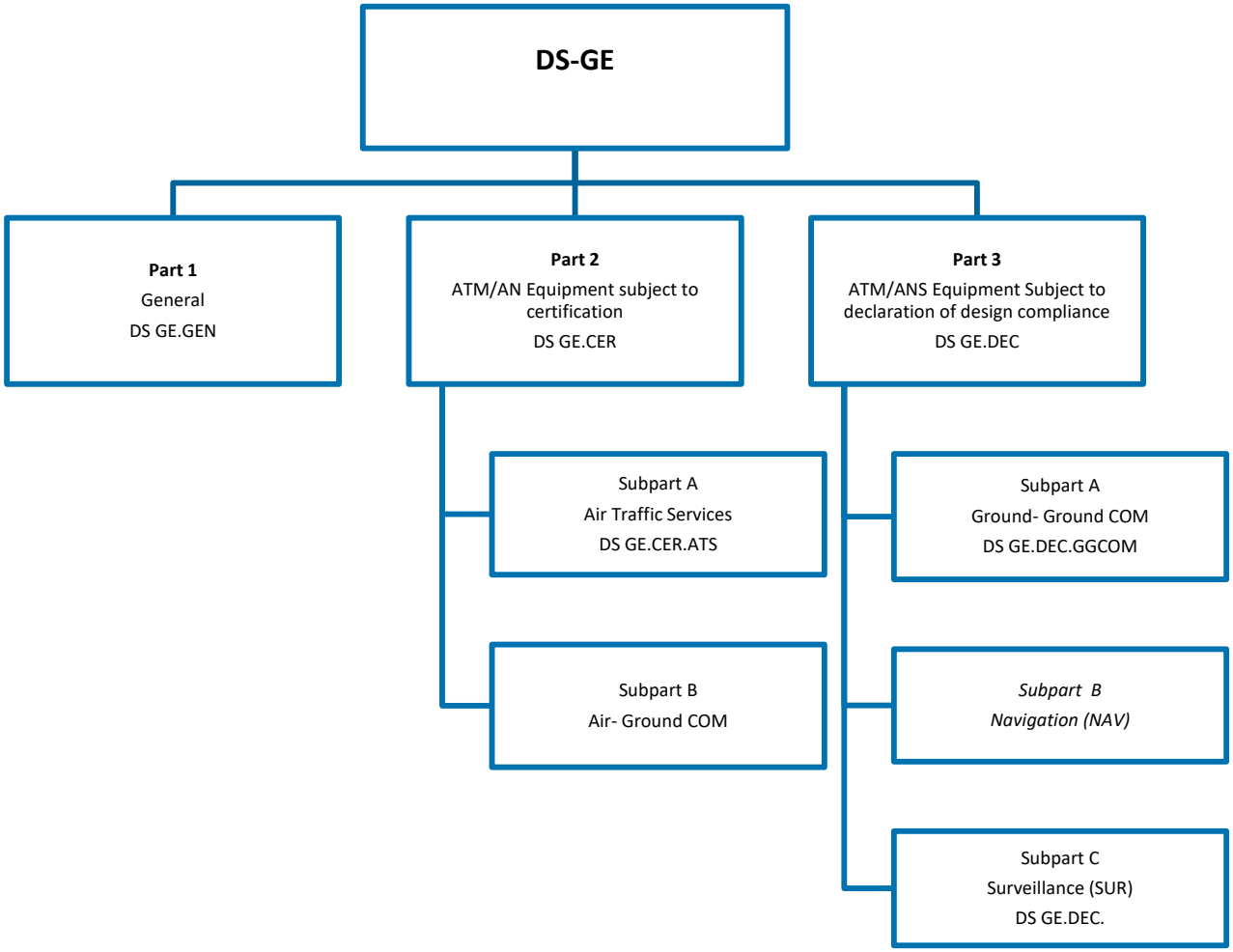
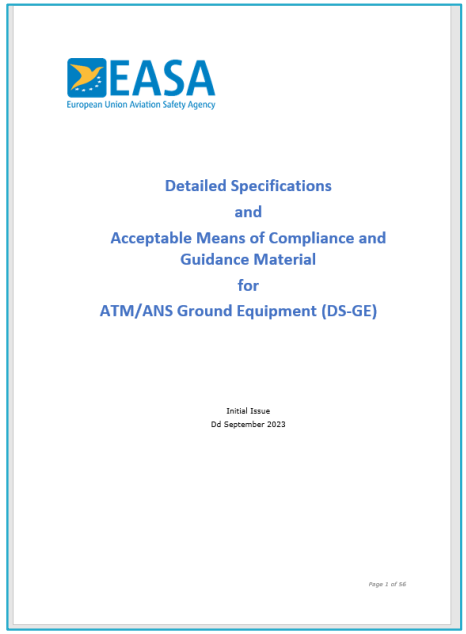
Structure and format of the detailed specifications

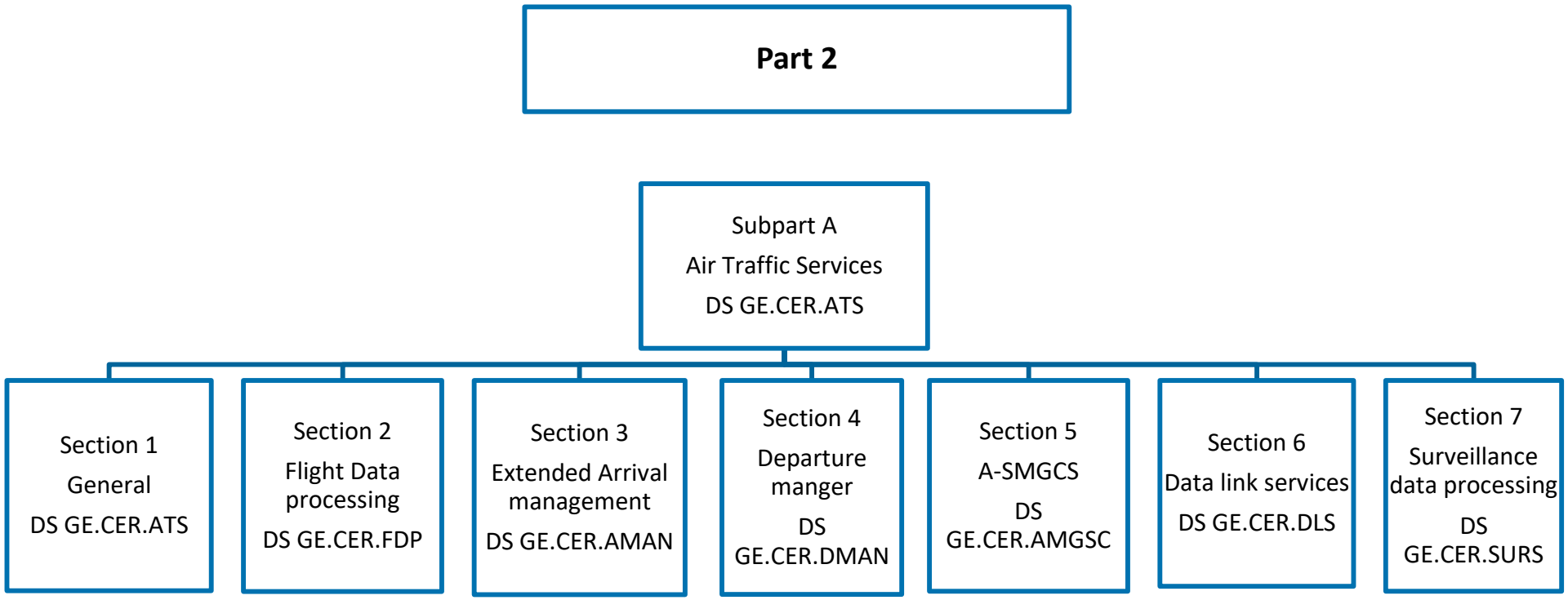


1st set of Detailed Specifications – Certification/Declaration

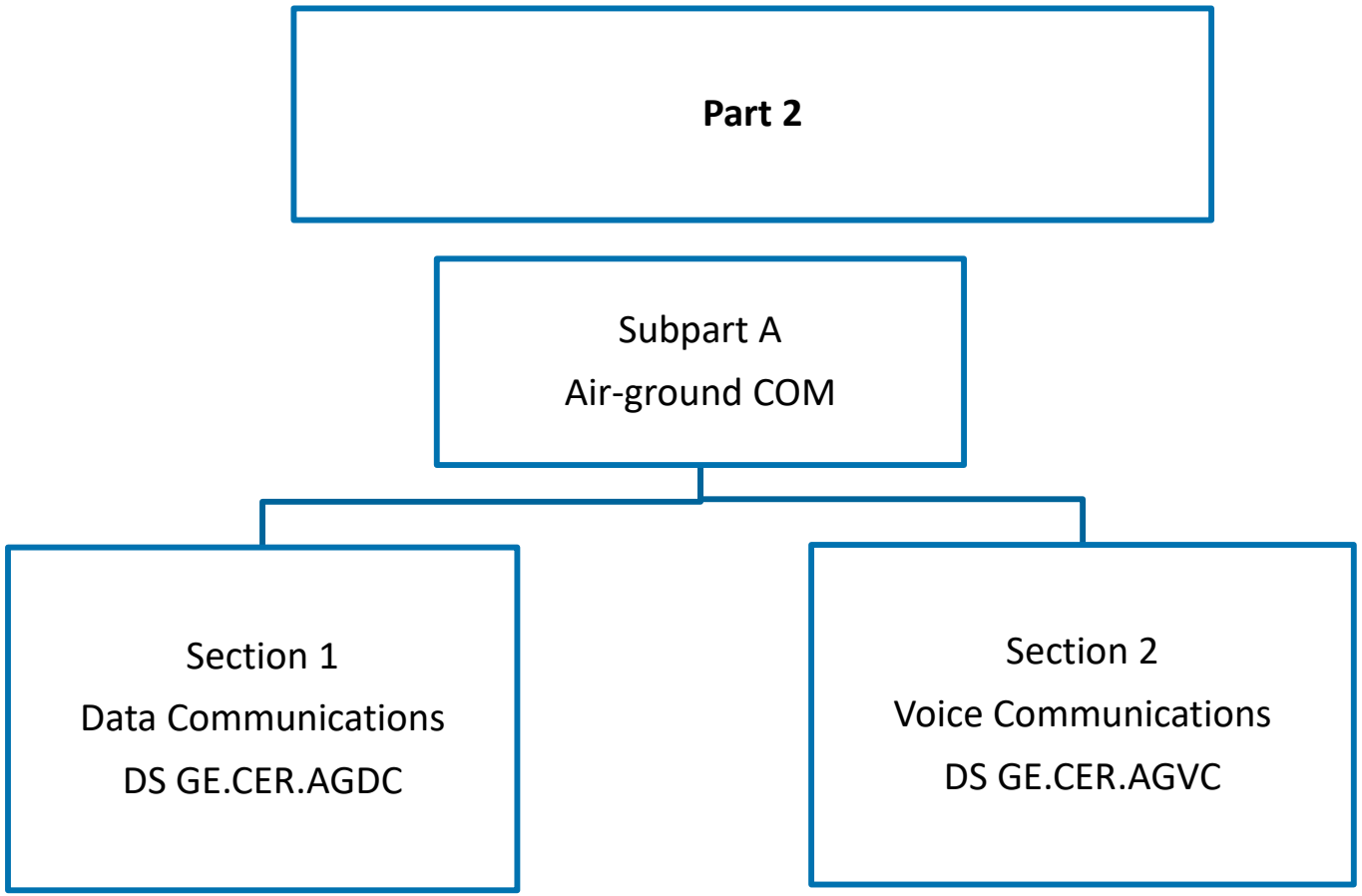




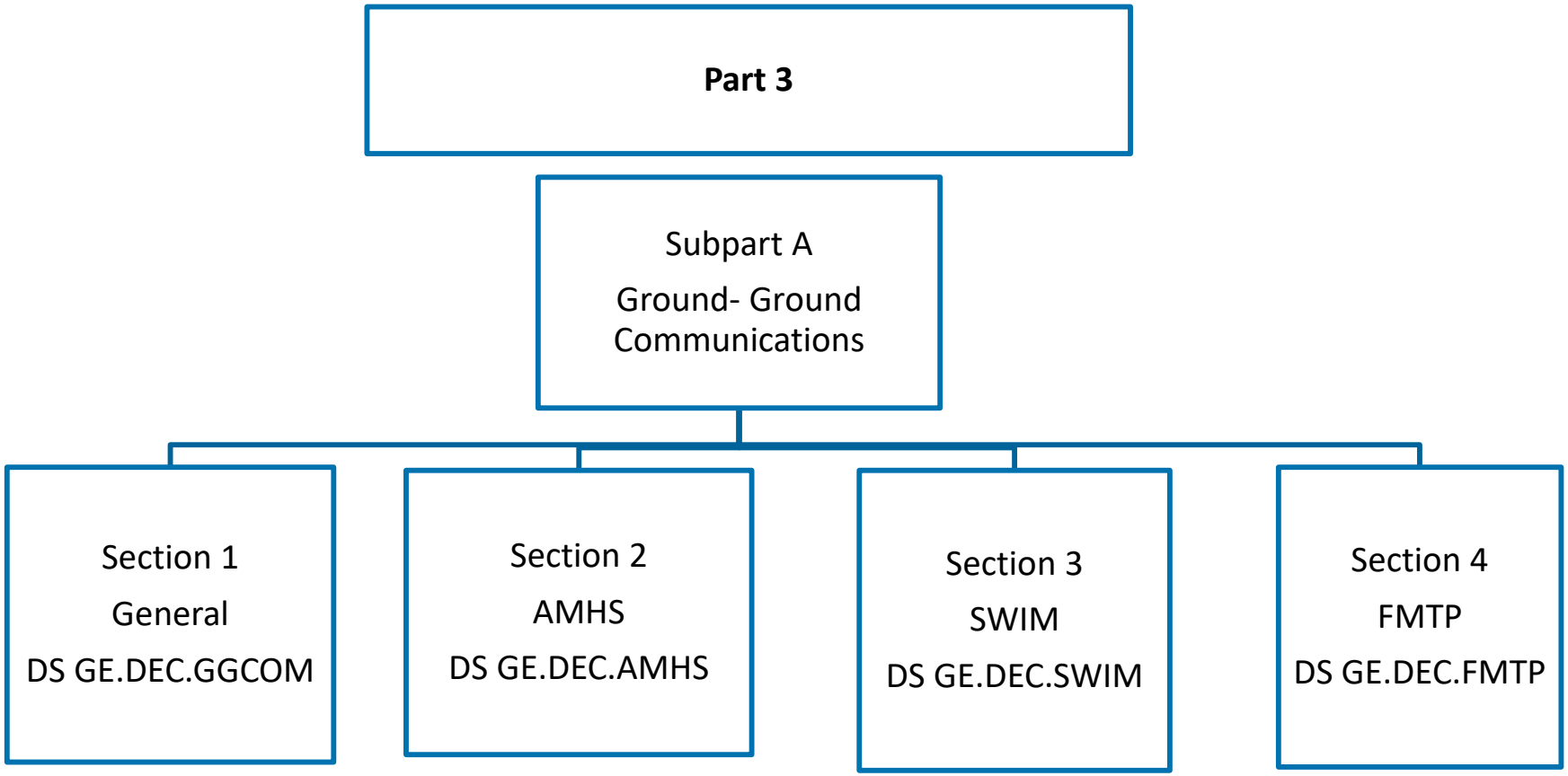
1st set of Detailed Specifications – Certification



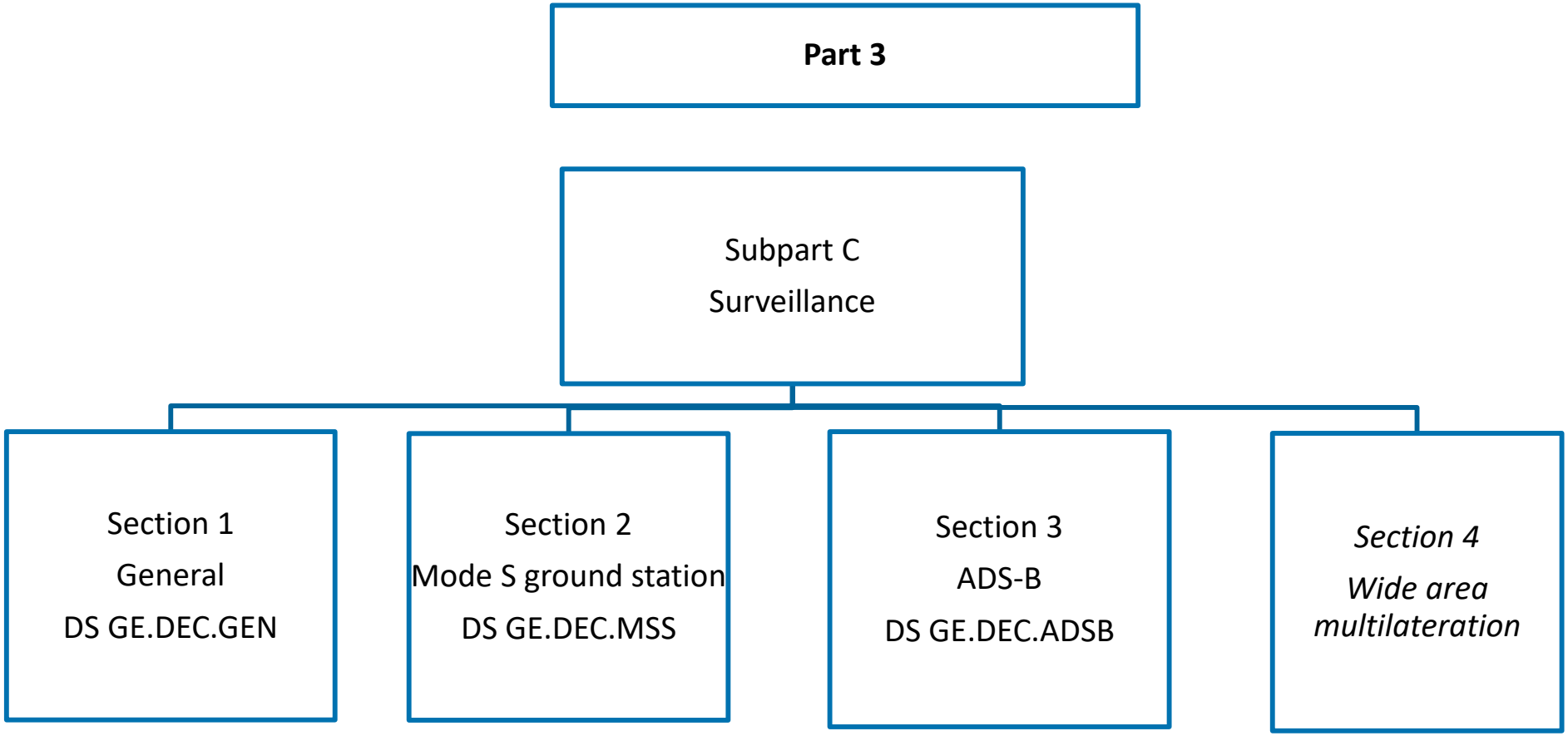
1st set of Detailed Specifications – Certification



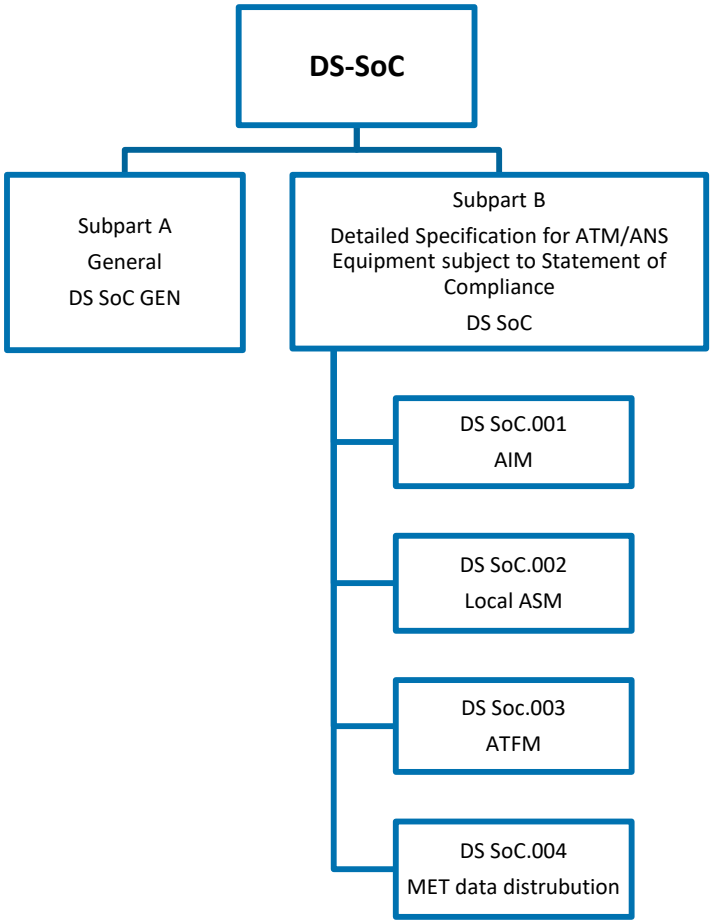
1st set of Detailed Specifications –Declaration

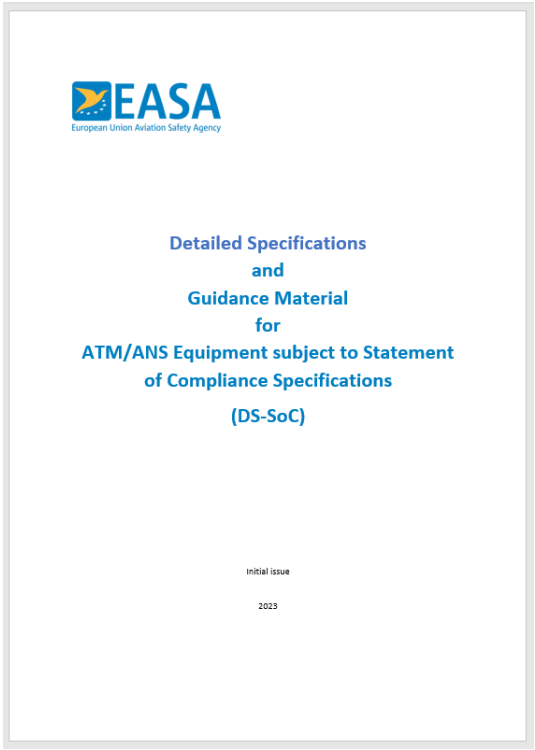


1st set of Detailed Specifications –Declaration



1st set of Detailed Specifications – Statement of Compliance

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Detailed Specifications
and
Guidance Material
for
ATM/ANS Equipment subject to Statement of Compliance Specifications
(DS-SoC)

Initial issue

2023

Certification/Declaration - General

DS GE.GEN.001 Scope

DS GE.GEN.002 Information Security

AMC1 GE.GEN.002 Information Security

GM1 GE.GEN.002 Information Security

DS GE.GEN.003 Software

AMC1 GE.GEN.003 Software

GM1 GE.GEN.003 Software

GM2 GE.GEN.003 Software

DS GE.GEN.004 Hardware

AMC1 GE.GEN.004 Hardware

GM1 GE.GEN.004 Hardware

DS GE.GEN.005 Human Machine Interface

GM1 GE.GEN.005 Human Machine Interface


EASA

CONTENTS

DS GE.GEN.006 Environmental Conditions

AMC1 GE.GEN.006 Environmental Conditions

GM1 GE.GEN.006 Environmental Conditions

DS GE.GEN.007 Risk Assessment

AMC1 GE.GEN.007 Risk Assessment

GM1 GE.GEN.007 Risk Assessment

GM2 GE.GEN.007 Risk Assessment

GM3 GE.GEN.007 Risk Assessment

GM4 GE.GEN.007 Risk Assessment

DS GE.GEN.008 ATM/ANS Systems and Constituents documentation

DS GE.GEN.009 Definitions

DS GE.GEN.010 Verification Method

GM1 GE.GEN.010 Verification Method

Certification/Declaration – General - Example

DS GE.GEN.003 Software

(See AMC1 GE.GEN.003, GM1 GE.GEN.003 and GM2 GE.GEN.003)

(a) The software is suitable for the intended purpose.

(b) A software portability specification or equivalent is provided.

AMC1 GE.GEN.003 Software

(a) Software should function as intended to support the intended purpose.

(b) Software should be developed with an assurance level that is commensurate with the severity of the effect of failure.

(c) The software portability specification or equivalent should provide the minimum features required by the target hardware to ensure that software can run correctly.

Note 1: The development assurance level for software supporting ATM/ANS functions is derived from the assurance level to be defined for these ATM/ANS functions.

Note 2: Software development assurance should be understood to ensure that the probability of development errors causing or contributing to ATM/ANS failures is minimised with an appropriate level of rigour. In this respect, assurance applies also to the selection and installation of commercial off-the-shelf (COTS) software.

GM1 GE.GEN.003 Software

Software includes different types of software such as COTS software, as well as previously and newly developed specific software. Firmware is considered as software.

GM2 GE.GEN.003 Software

(a) EUROCAE ED-153 - Guidelines for ANS Software Safety Assurance may be used to allocate software assurance level (SWAL) associated with the risk assessment as defined in DS GE.GEN.007.

(b) EUROCAE ED-109 - Software Integrity Assurance Considerations for CNS/ATM Systems may be used to allocate SWAL associated with the risk assessment as defined in DS GE.GEN.007.

Certification/Declaration - Structure

APPLICABILITY	FUNCTION	PERFORMANCE	INTERFACE
• Score of the equipment subject certification/declaration	• Contains the function requirements of the DS GE.CER or DS GE.DEC	• Contains the performance requirements of the DS GE.CER or DS GE.DEC	• Contains the interface requirements of the DS GE.CER or DS GE.DEC

Acceptable Means of Compliance
- to comply with the stated requirement

Guidance material
– for a better understanding

Certification/Declaration – Example

Section 6 – Data link applications

Section 6 — Data link services

APPLICABILITY

DS GE.CER.DLS.601 Applicability

This Section provides the functional and performance standards applicable to data link services equipment supporting ATS B2 and ATN B1.

Certification/Declaration – Example

Section 6 – Data link applications

FUNCTION

DS GE.CER.DLS.610 DLS equipment

(See AMC1 GE.CER.DLS.610 and GM1 GE.CER.DLS.610)

DLS equipment provides capabilities to:

(a) establish CPDLC and ADS-C transactions;

(b) exchange operational CPDLC and ADS-C messages;

(c) transfer CPDLC authority;

(d) terminate CPDLC and ADS-C transactions;

(e) forward ADS-C data.

AMC1 GE.CER.DLS.610 DLS equipment

DLS equipment should comply with:

(a) EUROCAE ED-228A - Safety and Performance Requirements Standard for Baseline 2 ATS Data Communications (Baseline 2 SPR Standard), Sections 3.1, 3.2, 3.3, 3.4, 3.9, 4, 5.1, 5.2, 6.1 and 6.2;

(b) EUROCAE ED-229A - Interoperability Requirements Standard for Baseline 2 ATS Data Communications (Baseline 2 Interop Standard), Sections 2, 3, 4, 5.1 and 5.3;

(c) EUROCAE ED-231A - Interoperability Requirements Standard for Baseline 2 ATS Data Communications and ATN Baseline 1 Accommodation (ATN Baseline 1 - Baseline 2 Interop Standard), Sections 4 and 5;

(d) ICAO Doc 9880 - Technical Specifications for ATN using ISO/OSI Standards and Protocols – Part I – Air-Ground Applications, Second edition, 2016;

(e) EUROCONTROL-SPEC-106, Edition 5.1, EUROCONTROL Specification for On-Line Data Interchange (OLDI), Chapter 10.

GM1 GE.CER.DLS.610 DLS equipment

The ATS B2 referred to in this Section supports the services ATC communications management (ACM), ATC clearances (ACL) and ATC microphone check (AMC) through the CPDLC application and the downlink of extended projected profile (EPP) through the ADS-C application.

Through the ATS B2 / ATN B1 backward compatibility, the ATN B1 referred to in this Section supports the data link services ACM, ACL and AMC.

The context management (CM) application and supporting datalink initiation and capability (DLIC) service are prerequisites for the initiation of CPDLC and ADS-C applications and consequently are part of this Section.

Certification/Declaration – Example

Section 6 – Data link applications

PERFORMANCE

DS GE.CER.DLS.620 DLS equipment performance

(See AMC1 GE.CER.DLS.620)

The performance of DLS equipment supports the intended purpose.

AMC1 GE.CER.DLS.620 DLS equipment performance

(a) DLS equipment should comply with EUROCAE ED-228A - Safety and Performance Requirements Standard for Baseline 2 ATS Data Communications (Baseline 2 SPR Standard), Sections 5.3 CPDLC Safety and Performance Requirements, and 6.3 ADS-C Safety and Performance Requirements.

(b) Additional performance conditions applicable to the intended purpose of DLS may be defined as required. Such potential additional performance conditions may be derived from activities related to DS GE.GEN.002, DS GE.GEN.003, and DS GE.GEN.004, for which the possible effects of the severity of the effect of failure on safety should be assessed.

Certification/Declaration – Example

Section 6 – Data link applications

Interface

DS GE.CER.DLS.630 DLS equipment interfaces

(See AMC1 GE.CER.DLS.630)

(a) DLS equipment interfaces support the functions and levels of performance as required in DS GE.CER.DLS.610 and DS GE.CER.DLS.620.

(b) A clear and unambiguously means is provided to the air traffic controller to:

(1) initiate and to terminate the data link services and ADS-C contracts;

(2) know in real time the identifiers of the connected aircraft;

(3) prepare and transmit uplink messages (UM);

(4) inform when downlink messages (DM) are received;

(5) inform that pending or open messages are waiting for a response;

(6) display all messages (UM and DM), with minimal human action, in a format that is easy to comprehend and distinguishable from each other;

(7) determine the status of the data link system.

(c) A means is provided to the air traffic controller to prohibit the deletion, confirmation, or clearance of a message until the entire message is displayed.

AMC1 GE.CER.DLS.630 DLS equipment interfaces

DLS equipment should comply with:

(a) Part 2, Subpart B, Section 1 'Data Communications' of this DS; and

(b) Part 3, Subpart A, Section 4 'FMTP' of this DS.

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European Union Aviation Safety Agency

European Commission

NETWORKING LUNCH BREAK

60 min

An Agency of the European Union

EASA
European Union Aviation Safety Agency

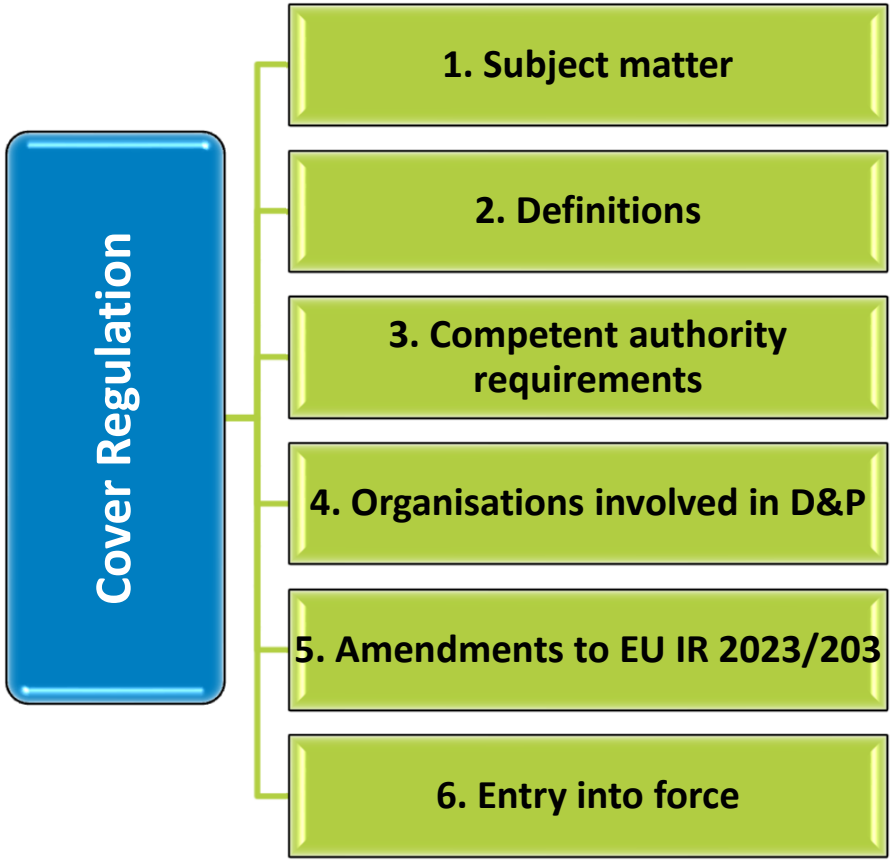
European Commission

TERMS OF APPROVAL FOR ORGANISATIONS INVOLVED IN THE DESIGN OR PRODUCTION OF ATM/ANS EQUIPMENT (DPO)

EU rules
AMC/GM
Q&A incl. Slido

An Agency of the European Union

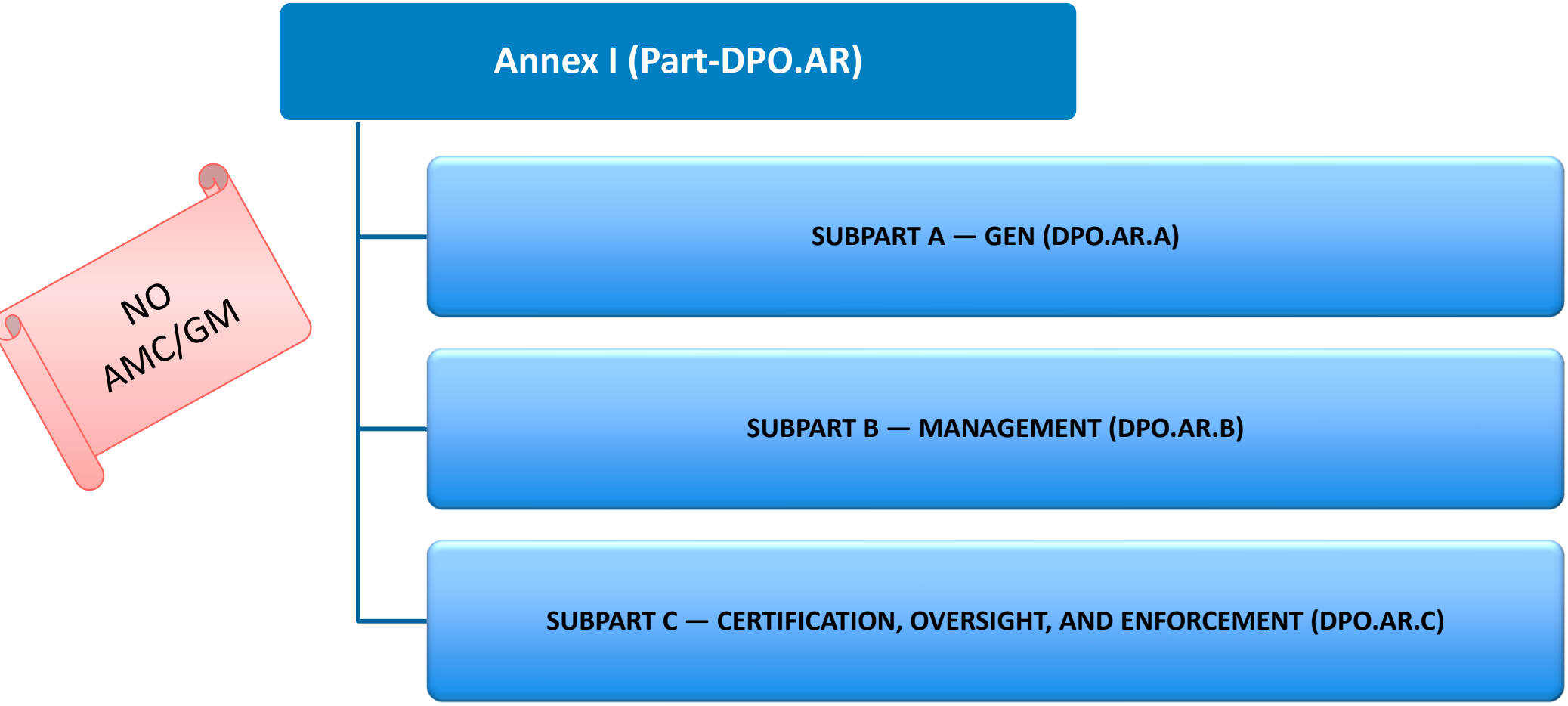
Implementing Act on approval of ATM/ANS equipment manufacturers



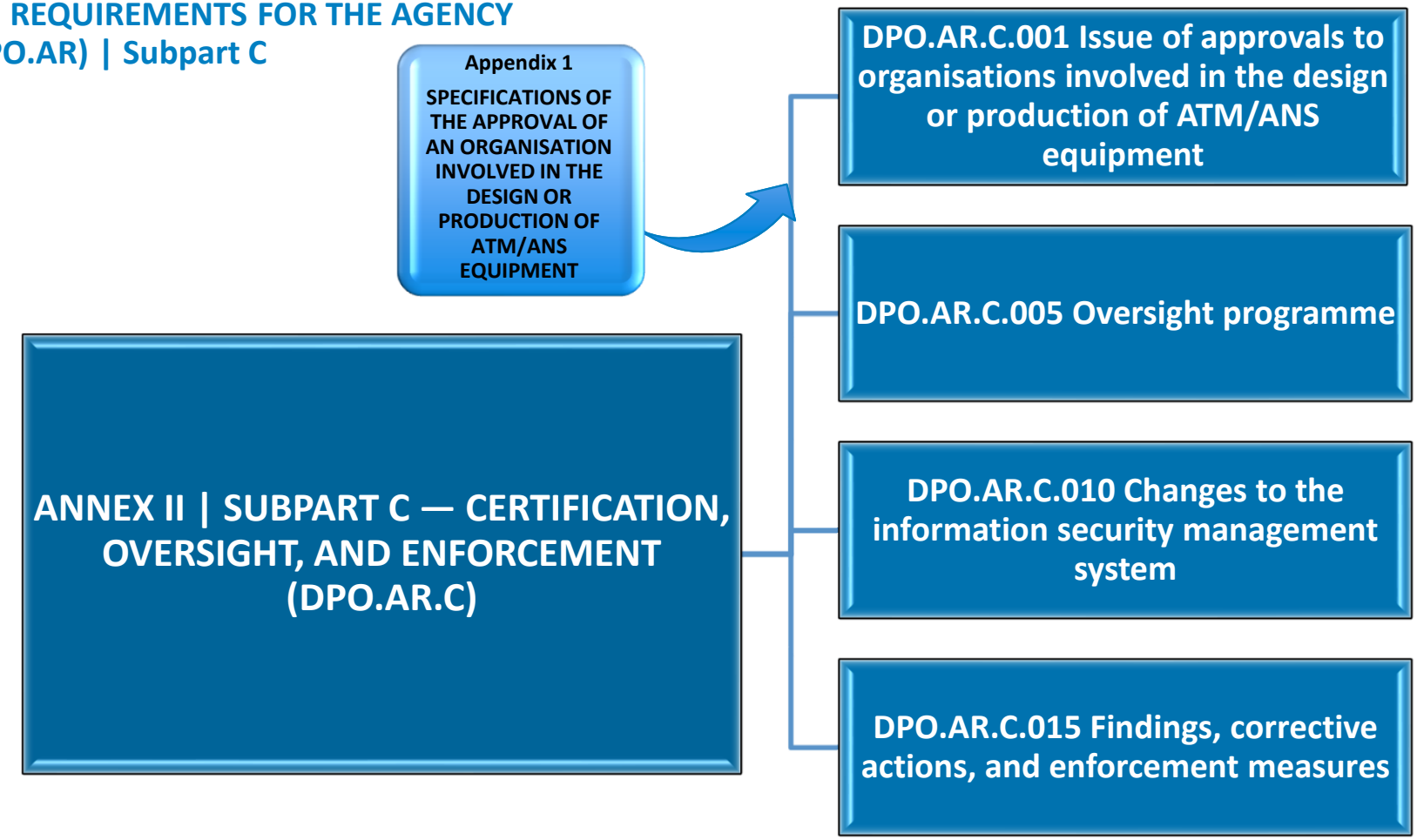
ANNEX I
REQUIREMENTS FOR THE AGENCY
(Part-DPO.AR)

ANNEX II
REQUIREMENTS FOR ORGANISATIONS INVOLVED IN THE DESIGN OR PRODUCTION OF ATM/ANS EQUIPMENT
(Part-DPO.OR)

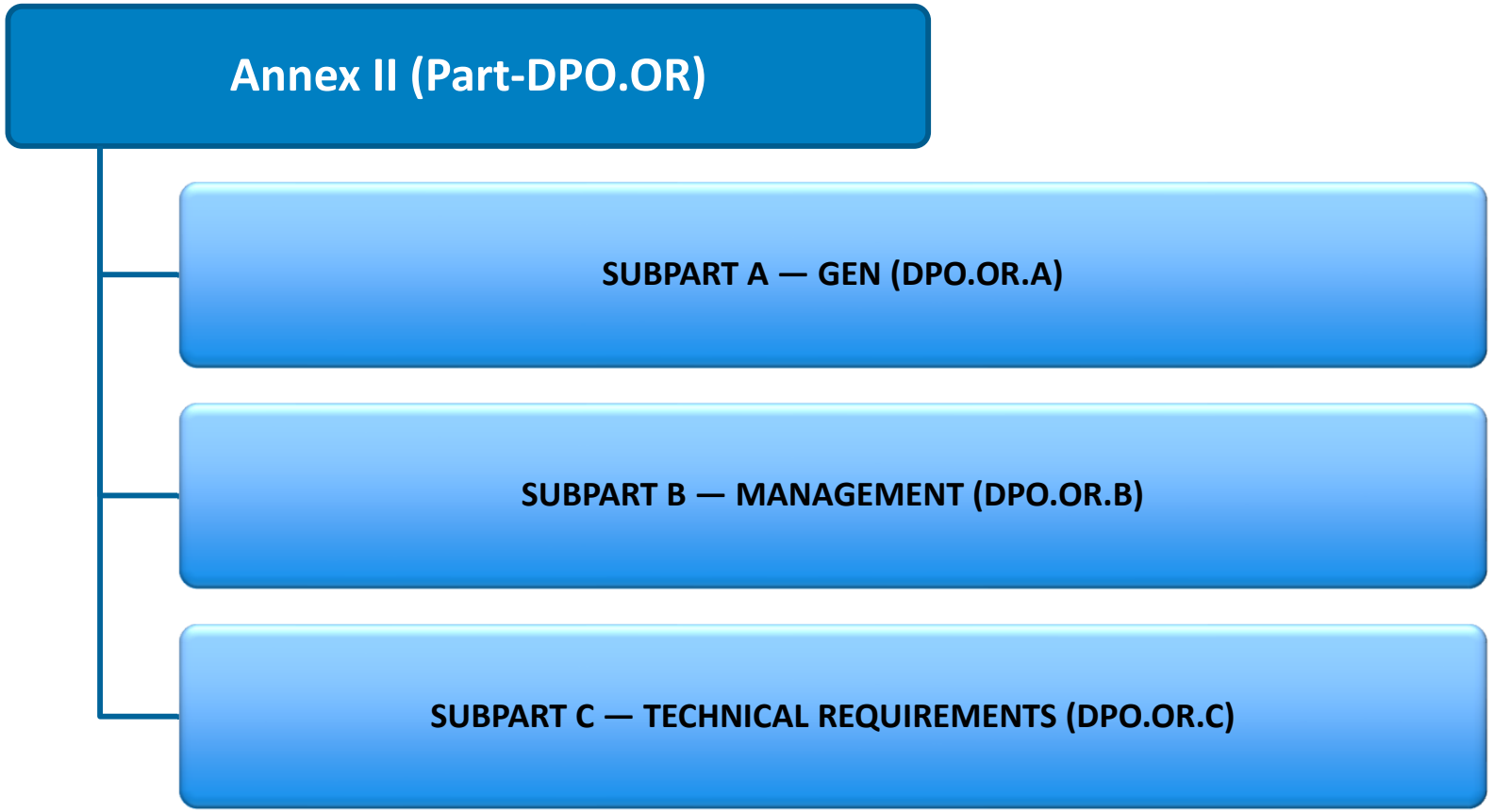
ANNEX I REQUIREMENTS FOR THE AGENCY (Part-DPO.AR)



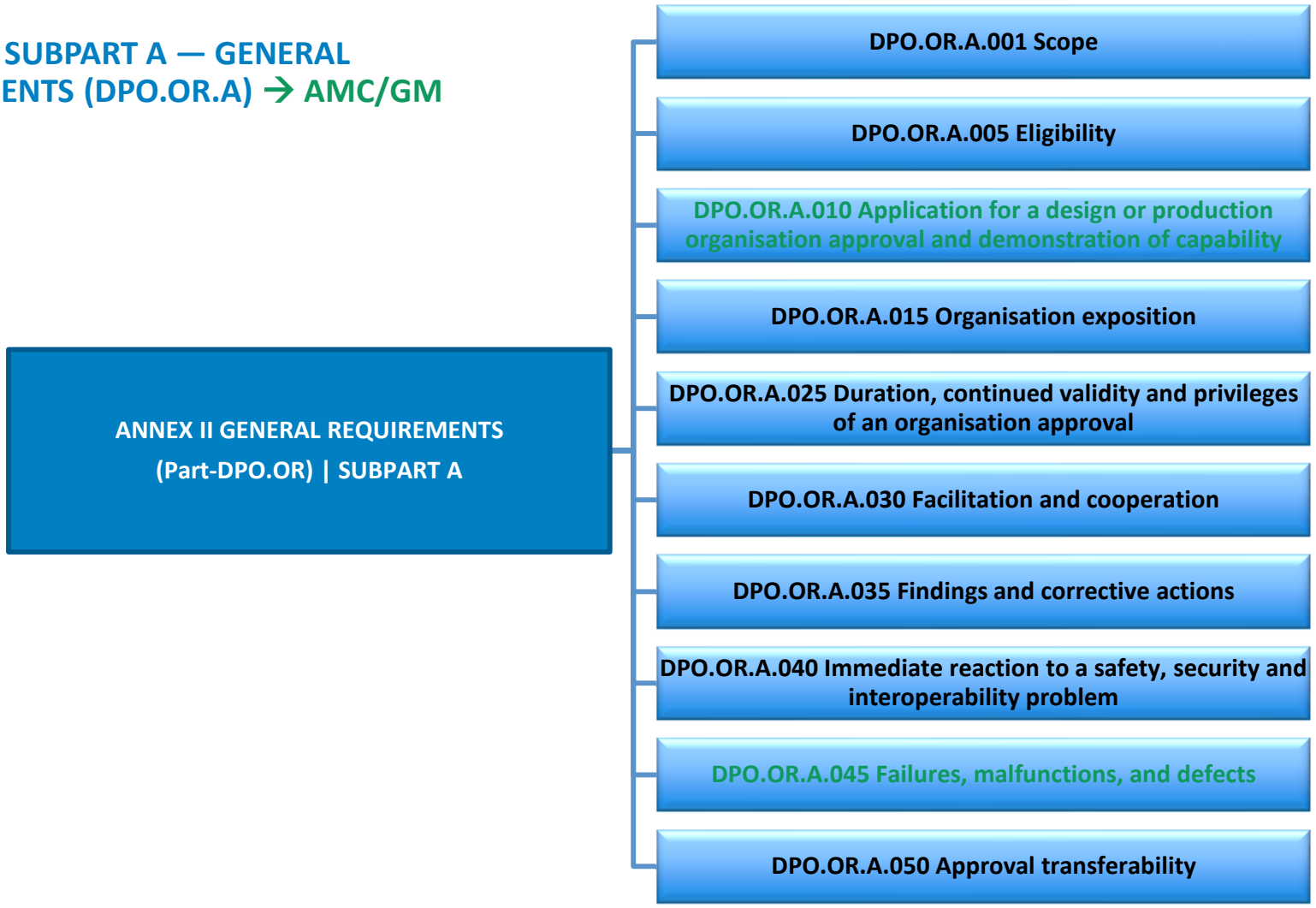
ANNEX I REQUIREMENTS FOR THE AGENCY (Part-DPO.AR) | Subpart C



ANNEX II REQUIREMENTS FOR ORGANISATIONS INVOLVED IN THE DESIGN OR PRODUCTION OF ATM/ANS EQUIPMENT (Part-DPO.OR)



ANNEX II | SUBPART A — GENERAL REQUIREMENTS (DPO.OR.A) → AMC/GM



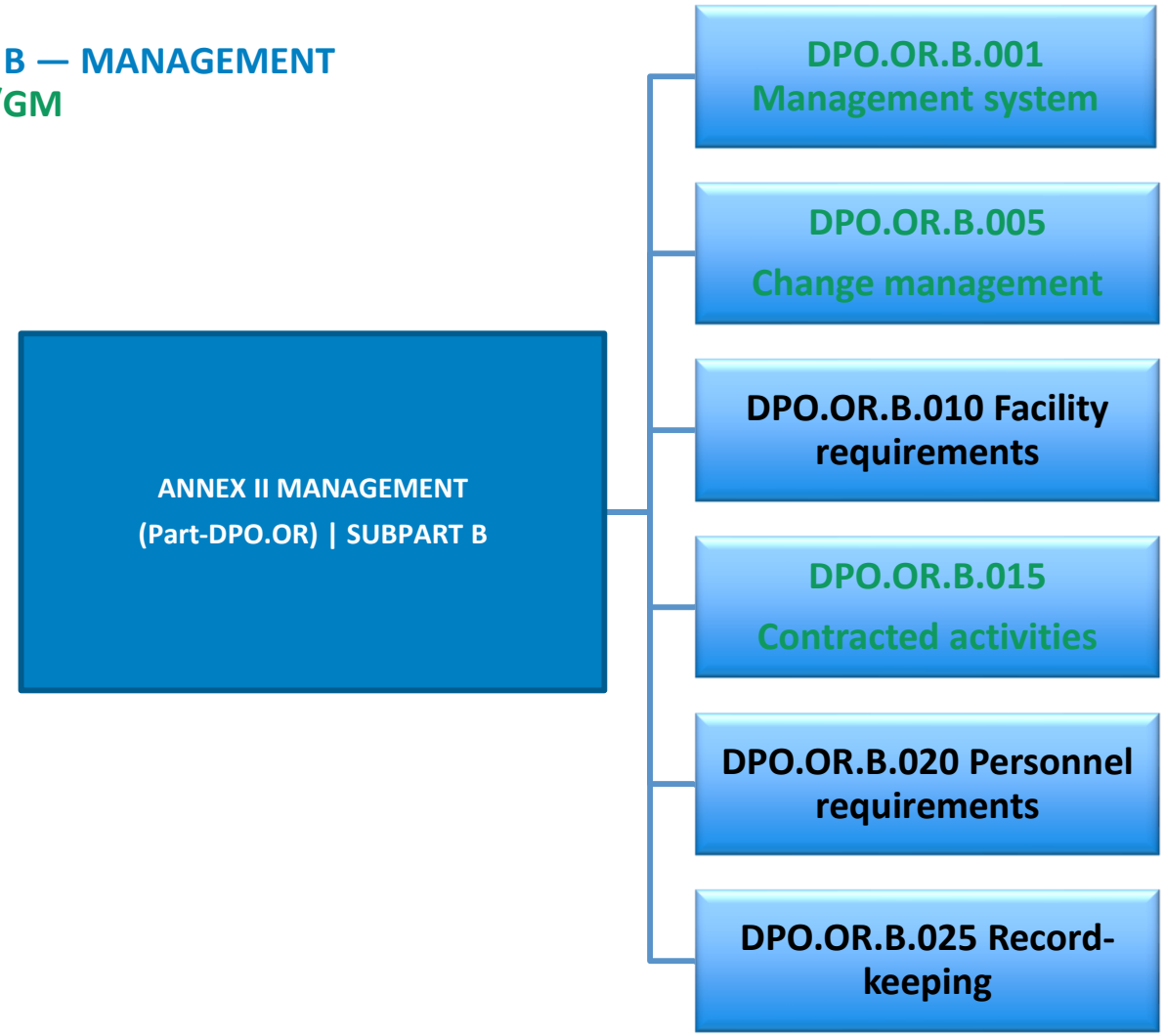
Example(s):

AMC1 DPO.OR.A.010(a) Application for a design and/or production organisation approval and demonstration of capability

FORM

The dedicated EASA Form should be obtained from the EASA website and completed and signed by the accountable manager of the design and/or production organisation (DPO). The completed form should be submitted to EASA, accompanied by a copy of the organisation exposition and the company's registration.

ANNEX II | SUBPART B — MANAGEMENT (DPO.OR.B) → AMC/GM



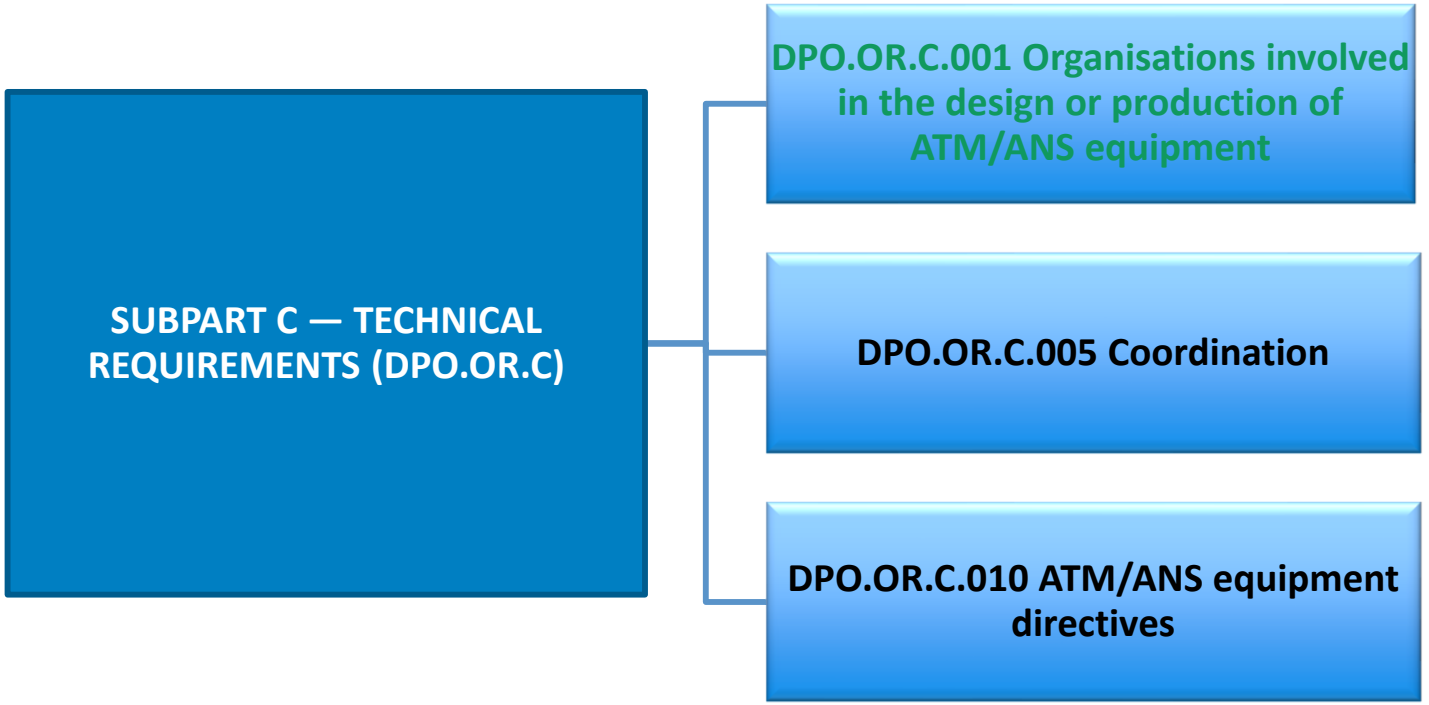
Example(s):

Example(s): major vs. minor changes

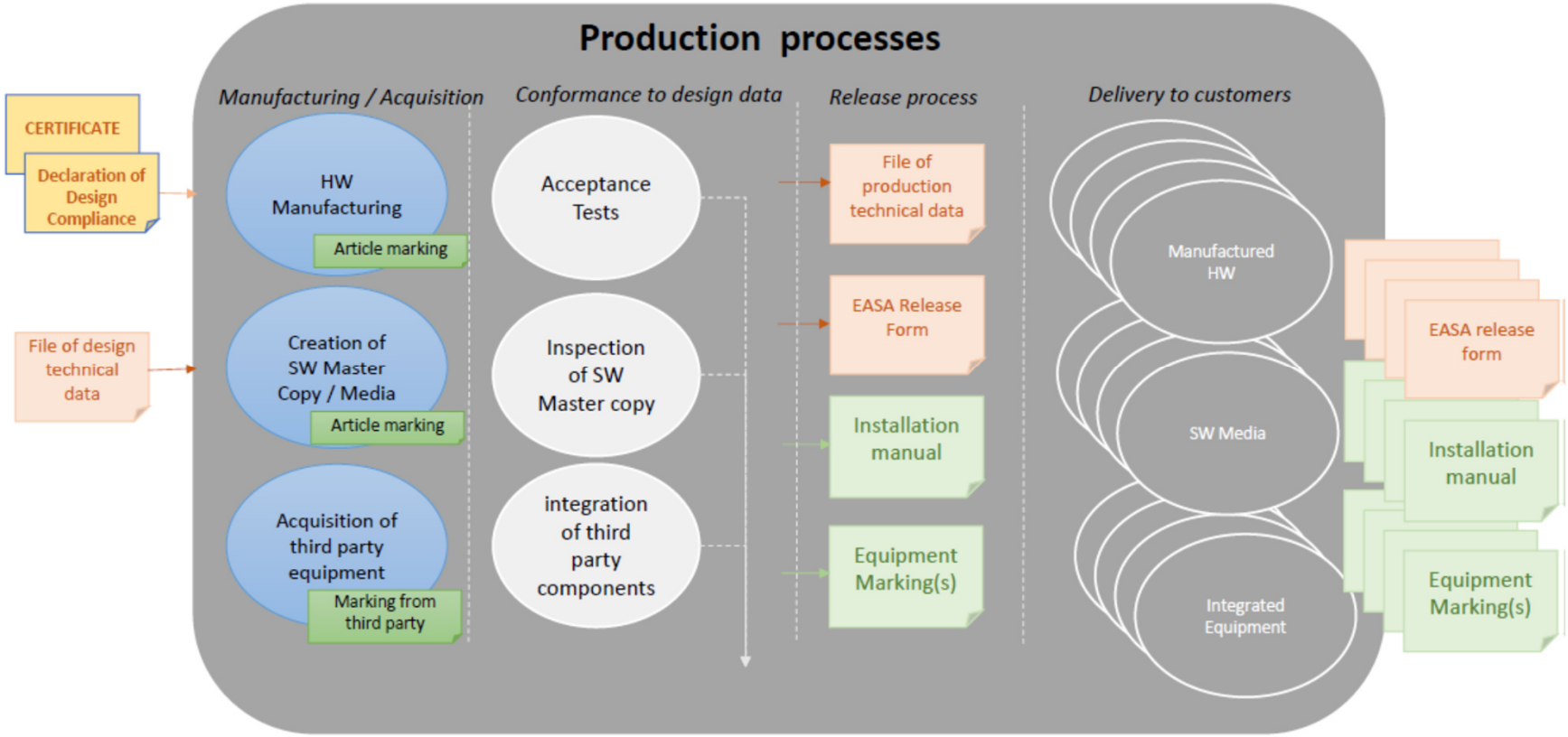
	Minor change to 'certified' functionality or any change to client functionality	Major change to 'certified' functionality
Notification of a change to EASA prior to implementation	No	Yes
Authorisation to proceed	No — DPO privilege	Yes
Notification of a change to EASA after completion	Yes, in accordance with the approved change management procedure(*)	Yes
Reissue Certificate/Declaration	N/A	EASA

(*) The frequency of the notification will be defined in the change management procedure.

ANNEX II | REQUIREMENTS FOR DPO (Part-DPO.OR) | Subpart C → AMC/GM



Example(s): PRODUCTION ACTIVITIES



Example(s): EASA Release form

AMC1 DPO.OR.C.001(e) Organisations involved in the design and/or production of ATM/ANS equipment

EASA RELEASE FORM

(a) An EASA release form should be issued for ATM/ANS equipment produced by the DPO as per the organisation's scope of work relevant to the terms of approval.

(b) Each organisation involved in the production of ATM/ANS equipment subject to conformity assessment under this Regulation should issue a statement of conformity, an EASA release form XX (see Appendix XX). This statement should be signed by an authorised person involved in the production of the ATM/ANS equipment.

(c) An EASA release form should contain a statement that:

(1) the ATM/ANS equipment conforms to the approved design data of the ATM/ANS equipment subject to certification or declaration in accordance with Article 4 or Article 5 of Regulation (EU) 2023/XXX respectively;

(2) the ATM/ANS equipment has been manufactured in compliance with Regulation (EU) 2023/xxx [DPOs approval].

GM1 to AMC1 DPO.OR.C.001(e) Organisations involved in the design and/or production of ATM/ANS equipment

EASA RELEASE FORM

The term 'produced' should be considered as 'released' for ATM/ANS software equipment.

ATM/ANS EQUIPMENT RELEASE FORM

EASA FORM XXX

1. DPO reference	2. Statement Ref No:
3. ATM/ANS equipment Identification No	
4. ATM/ANS EQUIPMENT NAME	5. Certificate/Declaration Refs:
6. Design changes, if any	
7. ATM/ANS equipment directives	
8. (unintended) Deviations	
9. Exemptions, waivers or derogations	
10. Remarks	
11. Statement of Conformity It is hereby certified that this ATM/ANS equipment conforms fully to the certificated design/the declaration of design compliance and to the items above in boxes 7, 8, 9 and 10. The ATM/ANS equipment is manufactured in compliance with Regulation (EU) 2023/xxx [DPO approval].	
12. Signed	13. Name / 14. Date (d/m/y)
15. DPO Approval Reference	

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ATM/ANS PROVIDERS' RESPONSIBILITIES AND THEIR OVERSIGHT IN THE NEW CONFORMITY ASSESSMENT FRAMEWORK

Speakers:
Giuseppe Graniero (ENAV) & Michael Rued (BAF)

EU rules
AMC/GM
Q&A incl. Slido

An Agency of the European Union

Conformity Assessment for ATM/ANS System & Constituents

from the application to the approval

Cologne – 04/07/2023

Main Milestones

- The new conf. assessment framework applicable to ATM/ANS providers.
  - COMMISSION DELEGATED REGULATION (EU) …/... of XXX laying down detailed rules for the certification and declaration of ATM/ANS systems and ATM/ANS constituents
  - COMMISSION IMPLEMENTING REGULATION (EU) …/... of XXX amending Implementing Regulation (EU) 2017/373 as regards ATM/ANS systems and ATM/ANS constituents
  - COMMISSION IMPLEMENTING REGULATION (EU) …/... of XXX amending Implementing Regulation (EU) No 923/2012 (SERA) as regards the operating rules related to the use of ATM/ANS systems and constituents in the SES airspace

- NPA 2023-05 (AMC/GM and DSs supporting the new regulatory framework)
  - AMC/GM associated to SoC (Art. 6 of the Delegated act)
  - DSs and AMC/GM for ATM/ANS (ground) equipment – DS.GE.CERT | DS.GE.DEC | DS SoC
  - AMC/GM to EU IR 2017/373

Some definitions

'functional system' means a combination of procedures, human resources and equipment, including hardware and software, organised to perform a function within the context of ATM/ANS and other ATM network functions *[Annex I, point 56 to EU IR 2017/373]*

vs.

'ATM/ANS system' means the aggregation of airborne and ground-based constituents, as well as space-based equipment, that provides support for air navigation services for all phases of flight *[Art. 3(7) of Reg. (EU) 2018/1139 (EASA BR)]*

Some definitions (2)

'ATM/ANS system' means the aggregation of airborne and ground-based constituents, as well as space-based equipment, that provides support for air navigation services for all phases of flight *[Art. 3(7) of Reg. (EU) 2018/1139 (EASA BR)]*

'ATM/ANS constituent' means tangible objects such as hardware and intangible objects such as software upon which the interoperability of the EATMN depends *[Art. 3(6) of Reg. (EU) 2018/1139 (EASA BR)]*

'ATM/ANS equipment' means ATM/ANS constituents as defined by Article 3(6) of Regulation (EU) 2018/1139 and ATM/ANS systems as defined by Article 3(7) of that Regulation, excluding airborne constituents, which are subject to Commission Regulation (EU) No 748/2012 *[Art. 2(1) of DA]*

(key) Re-arrangements

- Discharging the responsibilities in terms of equipment compliance with ERs in Annex VIII to the BR enabled by the adoption of DS (=detailed specifications) issued by EASA
  - Sharing of responsibilities among ATM/ANS providers and DPOs

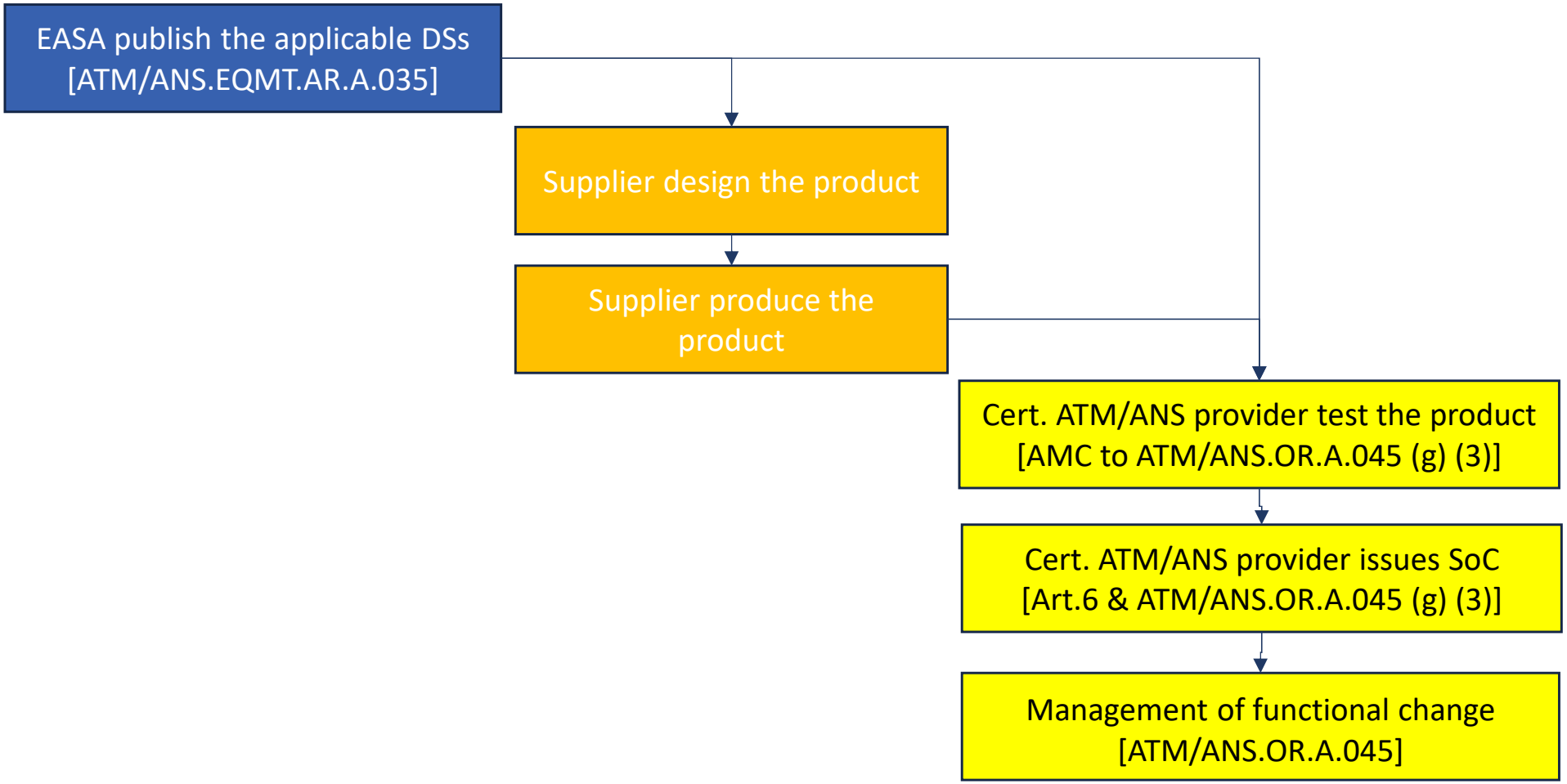
- Flexible approach
  - If already in service → DoV still valid but subject to EASA evaluation
  - Put in service from e.i.f. until 12 Sep 2028 → SoC from ATM/ANS provider
  - Put in service after the TP → GE to be attested according to the new framework

- Overall responsibilities of the ATM/ANS providers in terms of change managements and safety (support) assessment remains unchanged (= under the scope of EU IR 2017/373)
  - Installation, operational integration and recurrent maintenance according to ATM/ANS provider's change Management procedures; i.e. remains under ATM/ANS provider's responsibility
  - The AMC/GMs from NPA 2023-05 address how the new type of evidences for compliance demonstration should be used by ATM/ANS provider when consolidating the safety evidence

Novelties

- Management of Legacy GE
  - Conformity assessment on the basis of based on Reg. (EC) No 552/2004 continue to be valid, unless a (major) change is introduced
  - Routine maintenance will be still possible until the end of the GE lifecycle
- ATM/ANS Equipment change management
  - Procedures allowing categorization of changes (minor/MAJOR)
  - Only Major changes will require reissuance of attestations
- Initial attestation process
  - SoC will be the main attestation process until September 2028
  - SoC subject to CA's oversight and not to approval

SoC of ATM/ANS GE – Scenario 1



Some enablers for the SoC from NPA 2023-05

- Standard template form included as GM
- Requires ATM/ANS provider's compliance with the applicable req. before SoC issuance
- Supplier (even if not approved) should support ANSP to:
  - Ensure the GE is designed according to the EASA DS
  - Manufactured, verified and tested according to the intended use
  - It might require a DSU like approach to be put into the contract
- Minor changes to the SoC do not require its reissuance.
  - No need of notification prior to change implementation
  - Notification of the change to the CA after completion (iaw change management procedure)
- Unplanned changes are also possible to cover urgent needs
- SoC are to be recorded by ATM/ANS providers and made available upon CA request

Question mark (?)

- The transitional provisions allow the issuance of SoC by ATM/ANS provider for all type of ATM/ANS equipment (until Sep 2028). However, during the TP we might have ATM/ANS equipment certified/declared by Approved DPO
  - Q: Would there be the possibility of receiving an SoC?
  - *A: No need for SoC to be issued by ATM/ANS providers for ATM/ANS equipment subject to certification/declaration*

- Some events to be collected and investigated by DPO lie in the sphere of ATM/ANS provider's competences rather than DPO (e.g. Hazard, near miss, etc.). So, the system for collecting events should be supported by management procedure allowing DPO/ANSP interactions.
  - Q: are the available AMC/GM to ATM/ANS.OR.A.065(c) enough?
  - *A: TBD*

Some Insight on ED Decision 2017/001/R

- Introduction of new ConOps, technologies etc. are considered to be novelty, as such should be included as new attribute in the decision to review the change
  - Already in GM1 ATM/ANS.AR.C.035(b)
  - Q: should it be now more evident, i.e. at AMC level? *A: TBD*

- Before putting GE into service, the ATM/ANS provider should establish deployment procedure to ensure satisfaction of condition/limitation of use and impartiality of the staff

- Before the issue of a SoC: a process to ensure that the design of ATM/ANS equipment, or the changes to its design comply with the applicable specifications, including independent checking function of the demonstration of compliance

- Compliance procedure for SoC issuance should be approved by CA

Preliminary Conclusions

- The set of new Regulations on Conformity Assessment - DPO approval, AUR, and amendment to existing IRs well enable the implementation of the EASA BR requirements.

- Compliance to the EASA detailed specs is beneficial for interoperability and performance purpose, but it does still question the improvement of safety of operations as it depends on the operational context where the GE will be used.

- There are grounds for a reduction in efforts, but this reduction may not be significant since some verification activities remain ATM/ANS provider's responsibility.

- Concepts like severity of effects, risk assessment, safety assessment; SWAL Allocation etc. might not be performed at this level as they strongly depends on the operational usage. To be effective, contribution of ATS providers seems necessary.

Federal Supe
for Air Navig

Federal Supervisory Authority
for Air Navigation Services

Oversight in the new conformity assessment framework

EASA Workshop on the implementing measures for the conformity assessment framework

Cologne 04th July 2023

What‘s new for NSAs?

Focus on timeline

- Until September 2023
  - ANSP issue DoV
  - **NSA has to oversee DoV**

- September 2023 – September 2028 (transitional period)
  - DoV issued from ANSP until September 2023 remain valid
  - Until DPO (design and producing organisation) are certified and ATM/ANS equipment is certified/declared:
    - ANSP issue SoC (statement of compliance) **for all ATM/ANS equipment**
    - DPO may issue SoC on behalf of ANSP
  - **Oversight over SoC for all ATM/ANS equipment by NSAs**
  - **NSA shall provide EASA with information about SoC/DoV in case of EASA evaluation**

- After September 2028 (full applicability of conformity assessment)
  - ATS, COM, SUR, NAV equipment is certified by EASA or declared by certified DPO
  - ANSP issue SoC only for AIM, ASM, ATFM, MET
    - **SoC for AIM, ASM, ATFM , MET overseen by NSAs**

What‘s new for NSAs? Focus on change management

- ANSP integrates new/modified ATM/ANS equipment into a functional system
  - ANSP has to ensure that equipment is certified by EASA or declared from certified DPO
  - ANSP has to establish procedures to create SoC
    - verify functionalities of ATM/ANS equipment to be compliant with detailed specifications
    - create SoC
  - ANSP has to establish deployment procedures for putting ATM/ANS equipment into service
    - perform testing and inspections to ensure ATM/ANS equipment is usable in its deployment environment

- **NSAs tasks**
  - Change management procedures have to be updated by ANSP and approved by NSA
  - NSA oversees ANSPs conformity assessment
    - Verification of compliance (SoC)
    - Deployment procedures
  - NSA may participate in compliance activities

What‘s new for NSAs?

Focus on certifying activities

- Article 3 (2) of Regulation on DPO approval

  The Agency may seek administrative support from national competent authorities for the performance of its tasks related to certification, oversight and enforcement when executing its functions under this Regulation.

- **Opportunity for NSA to support EASA**

Conclusion:

- Lot‘s of new material (Regulations and AMC/GM) to get familiar with
- Learning process for all: DPO, ANSP, NSA and EASA

Aims and implementation of CA? Focus on NSA perspective

IOP-Regulation suffered:

- No further development or improvement of regulation since setting into force
- Development was necessary because:

- Problems to distinct EATMN (Which equipment has to be declared in DoV?)
  CA: Certification/declaration/SoC only for ATM/ANS equipment

- Assignment of system type (To which of the 8 systems fits the DoV)
  CA: Assignment of system type via detailed specifications

Aims and implementation of CA? Focus on NSA perspective

- Evidences against essential requirements (Essential requirements are to “essential”)
  - Difficult to deliver evidences

  CA:
  - Evidences against detailed specifications
  - Detailed specifications contain mostly recognised (technical) standards

- Effort for creating DoV, TF

  CA:
  - Effort for ANSP will probably be reduced because substitution DoV trough Certification/Declaration
  - Cost reduction?

    => DPO will hand over Certification Cost/ Declaration cost to ANSP

    => careful development of detailed specs to balance effort for DPO and benefits for ANSP

Aims and implementation of CA? Focus on NSA perspective

- Tests, functional checks, structured deployment instead of ANSPs paperwork to create DoV

  CA:

  - ANSPs need processes to perform tests (test equipment, measuring devices) and inspections (function is there and works)
  - ANSP have to perform tests and inspections
  - Tests and inspections have to be done in an impartial manner
  - Covered in
    - AMC1 ATM/ANS.OR.A.045 (h) Changes to a functional system
    - GM1 ATM/ANS.OR.A.045 (h) Changes to a functional system
    - GM2 ATM/ANS.OR.A.045 (h) Changes to a functional system

Contact

Federal Supervisory Authority for Air Navigation Services (BAF)
Division Technology Safety Oversight
Head of Unit Interoperability, Flight Calibration, Type Certification
Robert-Bosch-Straße 28
From 24th of July: Monzastraße 1, 63225 Langen
63225 Langen (Germany)

BAF is moving! Please note our new contact details.

Contact person
Hr. Michael Rüd
michael.rued@baf.bund.de
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Tel. +49 6103 8043-314 new: -310
Fax +49 6103 8043-250

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NETWORKING COFFEE BREAK

15min

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AIRSPACE USAGE REQUIREMENTS

EU rules
AMC/GM
Q&A incl. Slido

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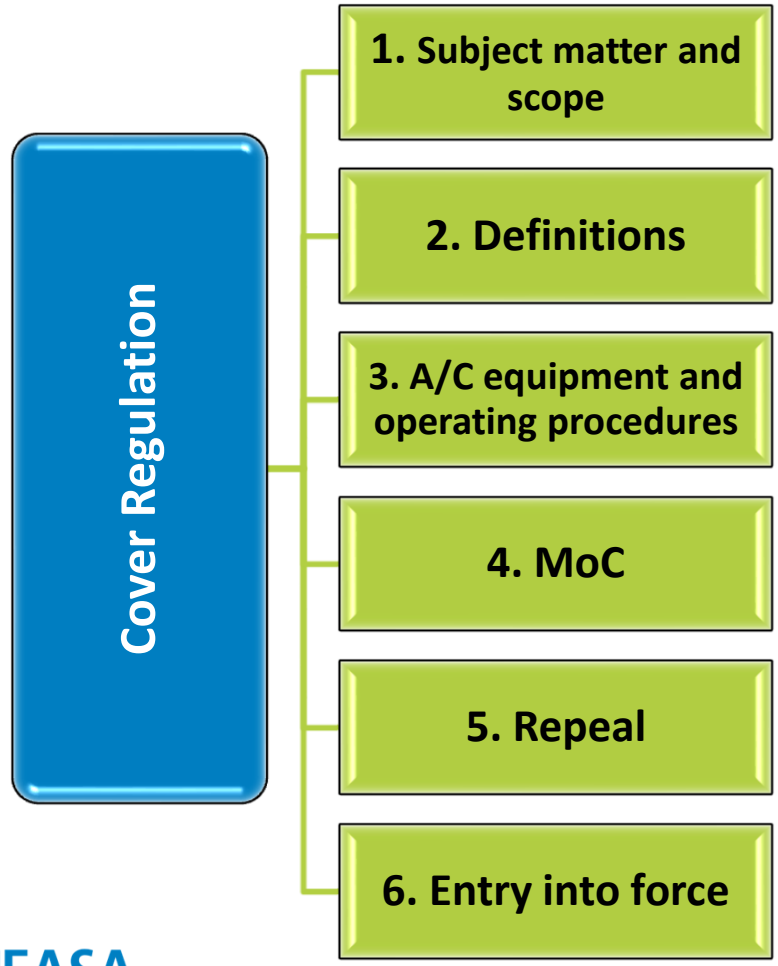
Implementing Act on Airspace Usage Requirements (AUR)



ANNEX I Communication (Part-COM)

Title 1 DLS

Title 2 VCS

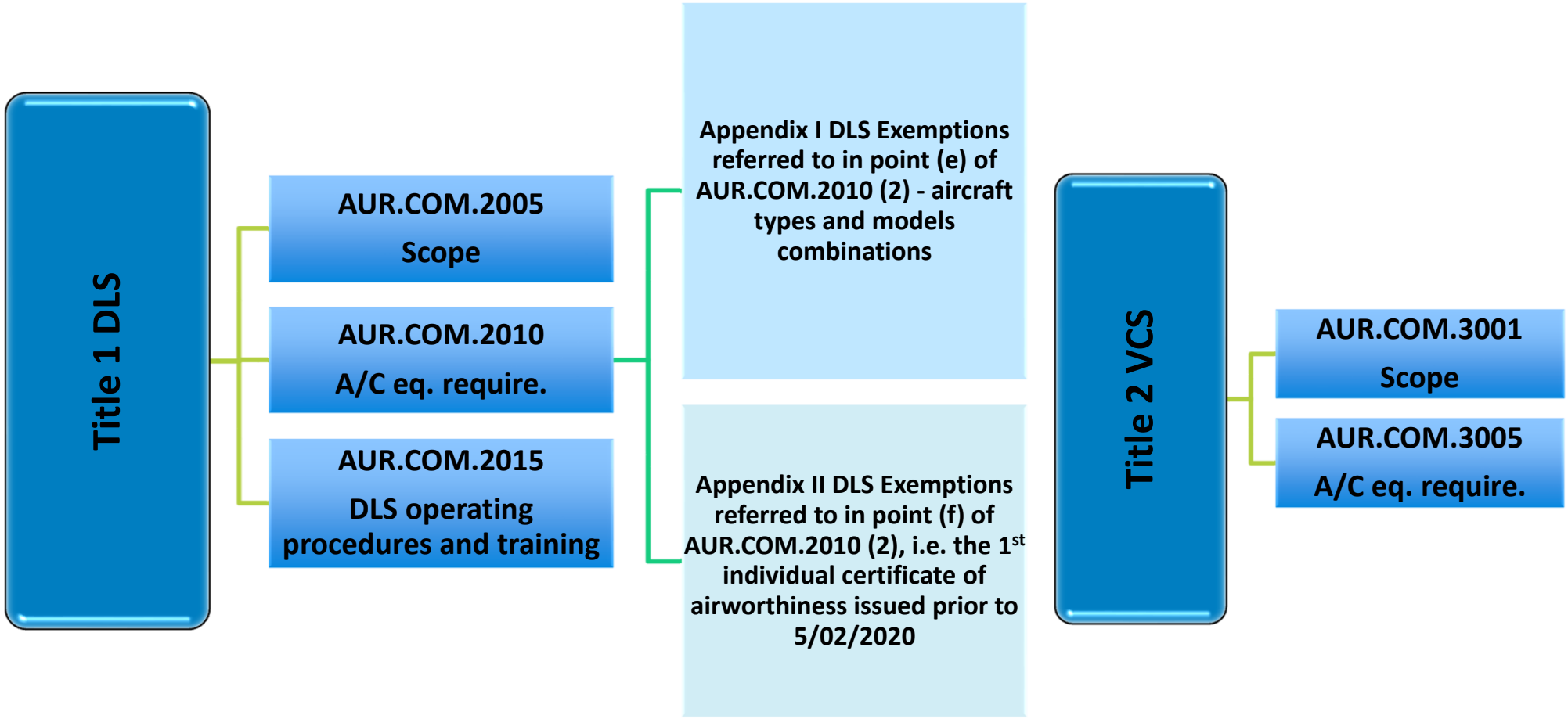
Appendix I DLS Exemptions referred to in point (e) of AUR.COM.2010 (2), i.e. for certain operations

Appendix II Exemptions referred to in point (f) of AUR.COM.2010 (2), i.e. the 1st individual certificate of airworthiness issued prior to 5/02/2020

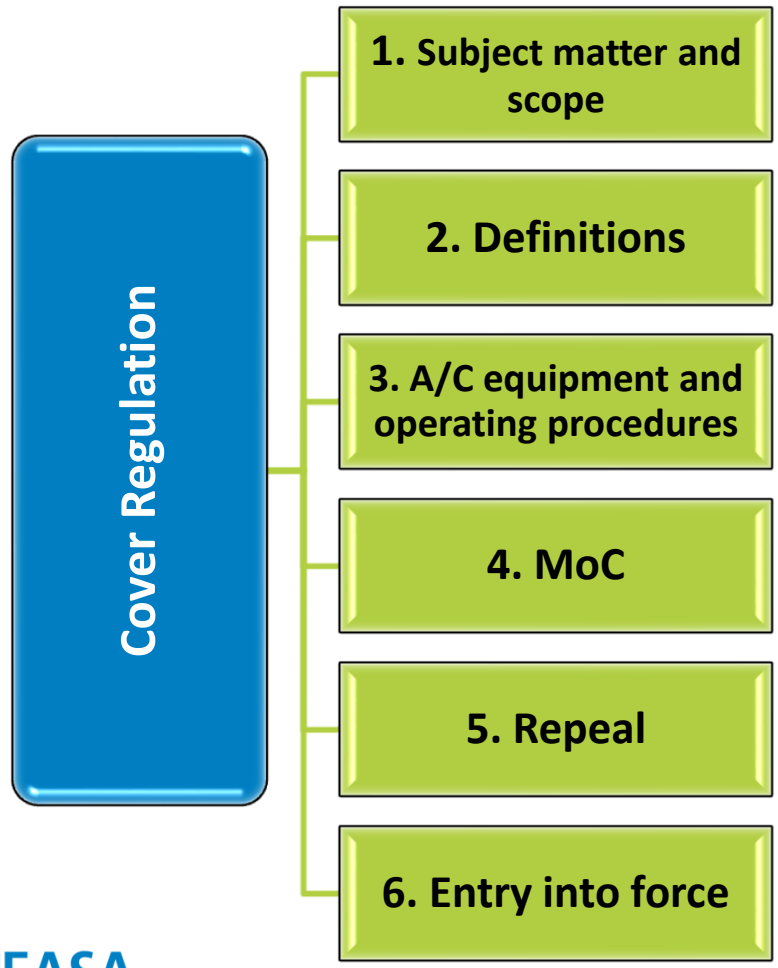
ANNEX II Surveillance (Part-SUR)

Title 1 DEPENDENT COOPERATIVE SURVEILLANCE

Implementing Act on Airspace Usage Requirements (AUR) #2 | Annex I (Part-COM)



Implementing Act on Airspace Usage Requirements (AUR)



ANNEX I Communication (Part-COM)

Title 1 DLS

Title 2 VCS

ANNEX II Surveillance (Part-SUR)

Title 1 DEPENDENT COOPERATIVE SURVEILLANCE

Appendix I DLS Exemptions referred to in point (e) of AUR.COM.2010 (2), i.e. for certain operations

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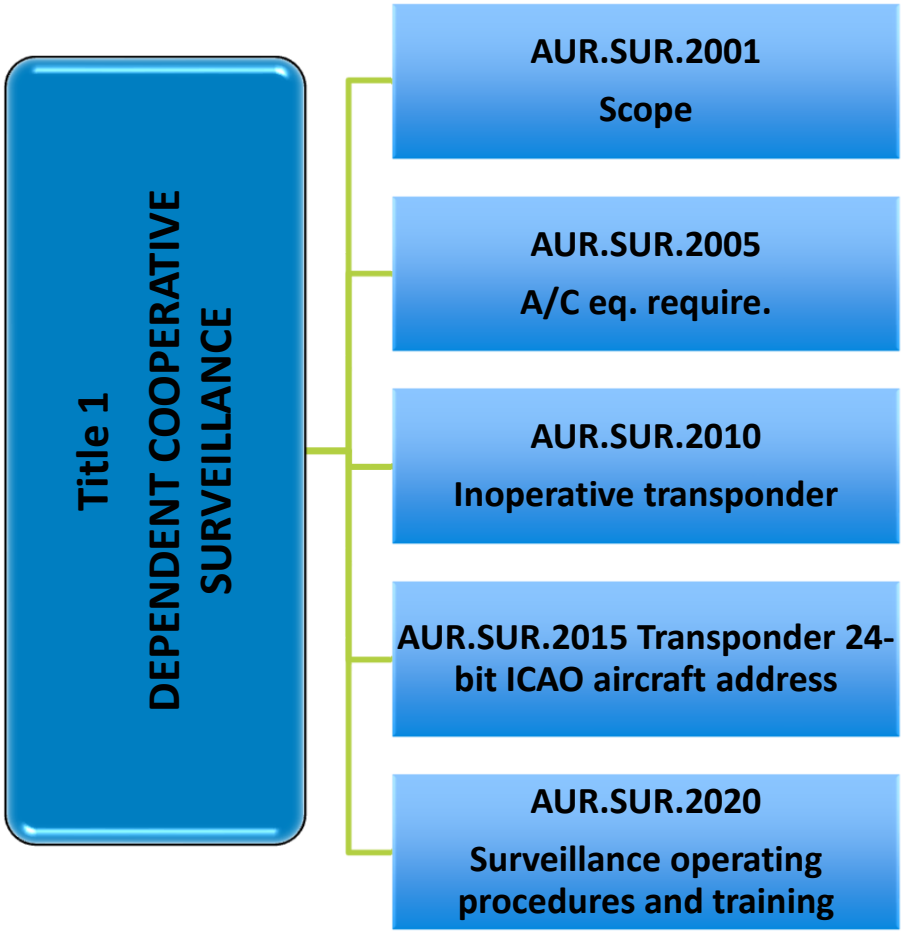
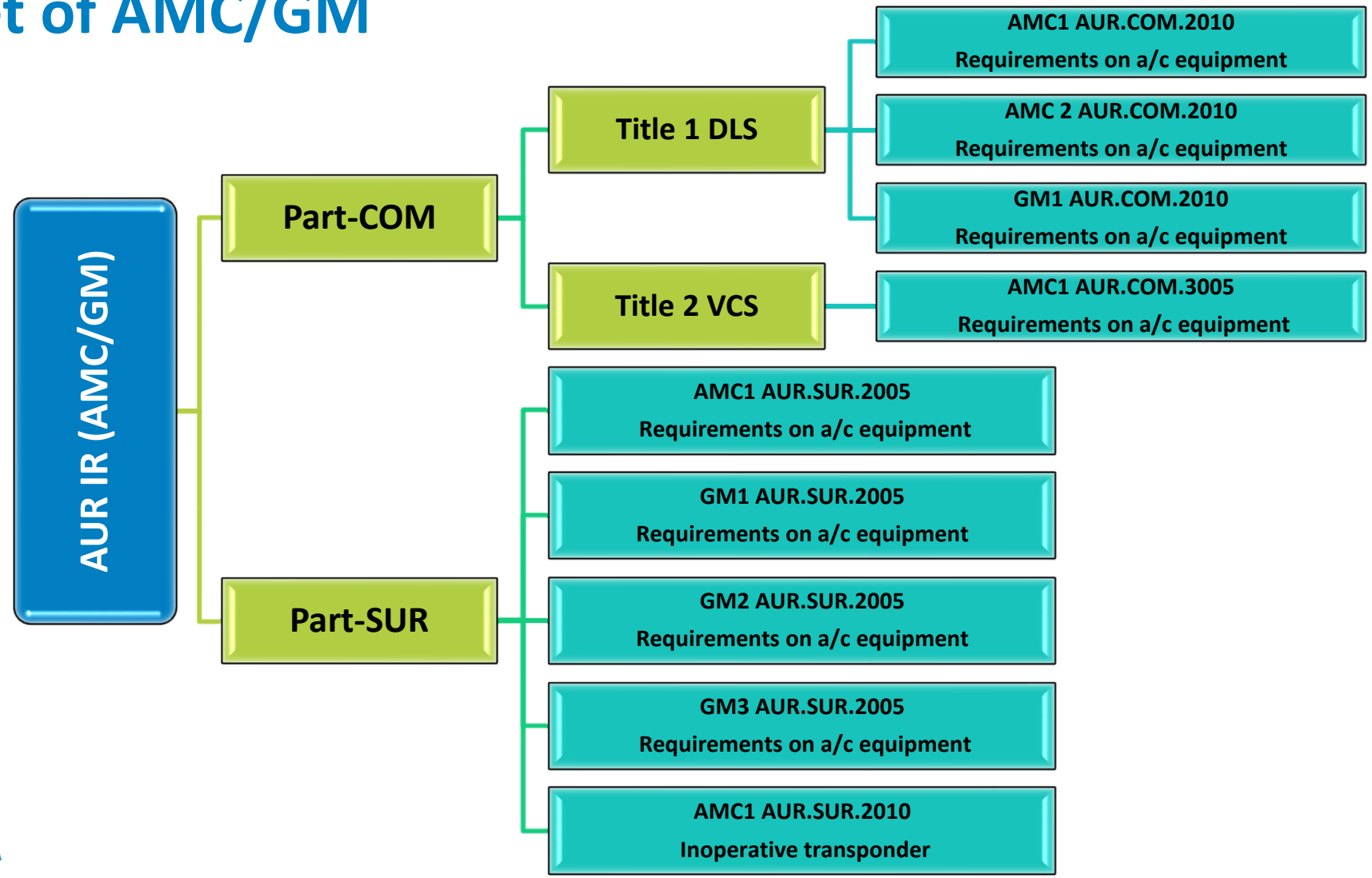
Implementing Act on Airspace Usage Requirements (AUR) #2 | Annex I (Part-SUR)



1st set of AMC/GM



AMC - AUR.COM

AMC 1 AUR.COM.2010 Requirements on aircraft equipment

DATA LINK EQUIPMENT

EASA Certification Specifications for Airborne Communications, Navigation and Surveillance (**CS-ACNS), SUBPART B — COMMUNICATIONS (COM) — SECTION 2 – DATA LINK SERVICES (DLS).**

AMC 1 AUR.COM.3005 Requirements on aircraft equipment

EASA Certification Specifications for Airborne Communications, Navigation and Surveillance (**CS-ACNS), SUBPART B — COMMUNICATIONS (COM) — SECTION 1 – VOICE CHANNEL SPACING (VCS).**

AMC 2 AUR.COM.2010 Requirements on aircraft equipment

For data link capability, the letter code **“J1”** should be used to reflect CPDLC ATN VDL Mode 2 capability in item 10 ‘Equipment and capabilities’, furthermore, the l**etter “Z” should be used in item 18 preceded by “DAT”.**

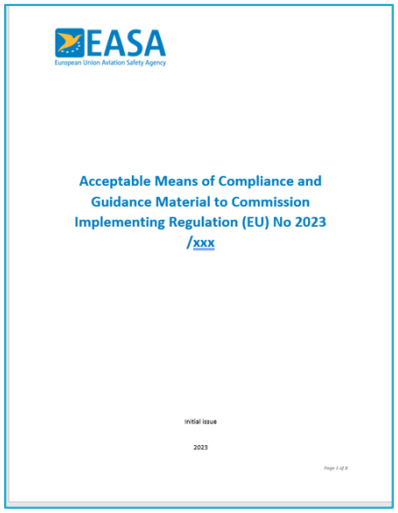
Aircraft to which Commission Implementing Regulation (EU) xxx/2023 **does not apply or are equipped with data link capability that is temporarily inoperative**, should insert the designators “**DAT/CPDLCX” in Item 18 of the flight plan**

AMC - AUR.SUR

AMC1 AUR.SUR.2005 Requirements on aircraft equipment

EASA Certification Specifications for Airborne Communications, Navigation and Surveillance (**CS-ACNS), SUBPART D — SURVEILLANCE (SUR),** and particularly:

— SECTION 2 – MODE S ELEMENTARY SURVEILLANCE; — SECTION 3 – MODE S ENHANCED SURVEILLANCE; and — SECTION 4 – 1090 MHZ EXTENDED SQUITTER ADS-B,



AMC1 AUR.SUR.2010 inoperative transponder

Information on the equipage and the operational status of Mode S and/or ADS-B capability as specified in **SERA.4005 and SERA 4010**.

Aircraft to which Commission Implementing Regulation (EU) xxx/2023 **does not apply** r are equipped with Mode S EHS and/or ADS-B that are temporarily inoperative, should insert the designators **'SUR/EUADSBX' or 'SUR/EUEHSX', or a combination of them, in Item 18** of the flight plan.

GM2 AUR.SUR.2005 Requirements on aircraft equipment

SERVICEABLE SECONDARY SURVEILLANCE RADAR TRANSPONDERS

A secondary surveillance radar transponder is **considered serviceable** when it **transmits all the data and parameters required by CS-ACNS, Subpart D**

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WRAP-UP & CONCLUSIONS

Way forward

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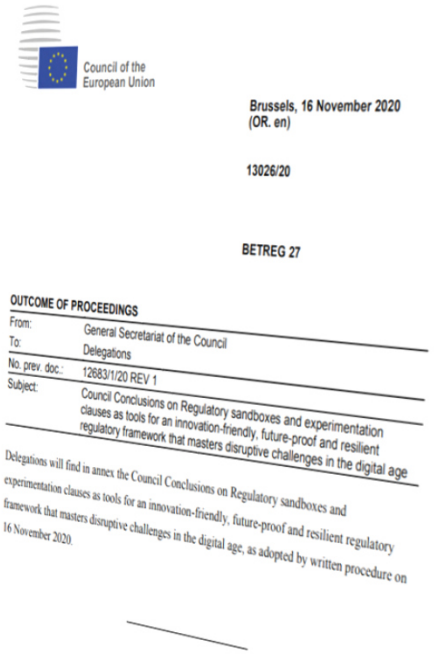
Sharing of experience and implementation support

- EASA engages periodically with its advisory bodies - Stakeholder Advisory Body (SAB), Member State Advisory Body (MAB), ATM/ANS Technical Advisory Board (States) and Community (Stakeholders) and other aviation domain specific bodies - In particular (but not limited to) the following areas of mutual interest are covered:
  - to provide updates and share experience gained on the implementation of regulatory acts, based on relevant elements, proposals and data collected from States and Stakeholders
  - to provide interpretation (technical opinion) and assistance with the rule implementation
  - to provide feedback from the Standardisation activity (compliance monitoring)
  - to assist on the Exemptions and Alternative Means of Compliance processes
- EASA engages on regular basis with representatives from the States & Stakeholders & Professional staff organisations in the domain of ATM/ANS
- EASA available for updates at the EASA Committee



Council of the European Union

Brussels, 16 November 2020
(OR. en)

13026/20

BETREG 27

OUTCOME OF PROCEEDINGS

From:	General Secretariat of the Council
To:	Delegations
No. prev. doc.:	12683/1/20 REV 1
Subject:	Council Conclusions on Regulatory sandboxes and experimentation clauses as tools for an innovation-friendly, future-proof and resilient regulatory framework that masters disruptive challenges in the digital age

Delegations will find in annex the Council Conclusions on Regulatory sandboxes and experimentation clauses as tools for an innovation-friendly, future-proof and resilient regulatory framework that masters disruptive challenges in the digital age, as adopted by written procedure on 16 November 2020.

Rulemaking task - RMT.0161 Planned timelines

Subtask 1
Framework

NPA
2022-09

Subtask 2
IOP IR

NPA
2022-107

Opinion
01-2023

EASA COMMITTEE

EXPERT GROUP

Positive vote
EASA Committee
28/06/2023

Subtask 3
Specs, AMC/GM

NPA
2023-05

Jun 2022 | Jul 2022 | Aug 2022 | Sep 2022 | Oct 2022 | Nov 2022 | Dec 2022 | Jan 2023 | Feb 2023 | Mar 2023 | Apr 2023 | May 2023 | Jun 2023 | Jul 2023 | Aug 2023 | 12 Sept. 2023+