Regional Seminar on MMEL/MEL and Special Operations

[Airbus Amber]

Organized by ICAO Regional Office for Western and Central Africa (WACAF)

Dakar - Senegal - from 30 june to 5 july 2025

EFB (Electronic Flight Bag)
Ops Evaluation with EASA/FAA and EFB support&Assistance

Jean-Christophe GRANGIER, AIRBUS EFB Flight Ops & Regulations Expert

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Agenda

- Ops Evaluation with EASA/FAA
- Future Evaluation process

Agenda

- **Ops Evaluation with EASA/FAA**
- Future Evaluation process

EFB Regulatory Standards

Doc 10020
Manual on EFBs

Commission Regulation (EU)
N° 965/2012 (Air OPS)
AMC 20-25

Harmonisation
efforts

AC120-76E

EFB Regulatory Standards

ICAO	EASA	FAA
ICAO Annexe 6 Part I ICAO Annexe 6 Part II ICAO Annexe 6 Part III	Commission Regulation N° 965/2012 (Air OPS) AMC20-25	AC120-16E
ICAO Doc 10020 First edition published in 2016 Second revision expected in 2018.		

EFB References

Annex 6, Part 1: Operation of Aircraft

Chapter 1: Definitions

Electronic flight bag (EFB). An electronic information system, comprised of equipment and applications for flight crew, which allows for the storing, updating, displaying and processing of EFB functions to support flight operations or duties.

Section 6.25: Electronic Flight Bags (EFBS)

Doc 10020: Manual for Electronic Flight Bags (EFBs)

Second edition, 2018

Chapter 7. Operational evaluation process

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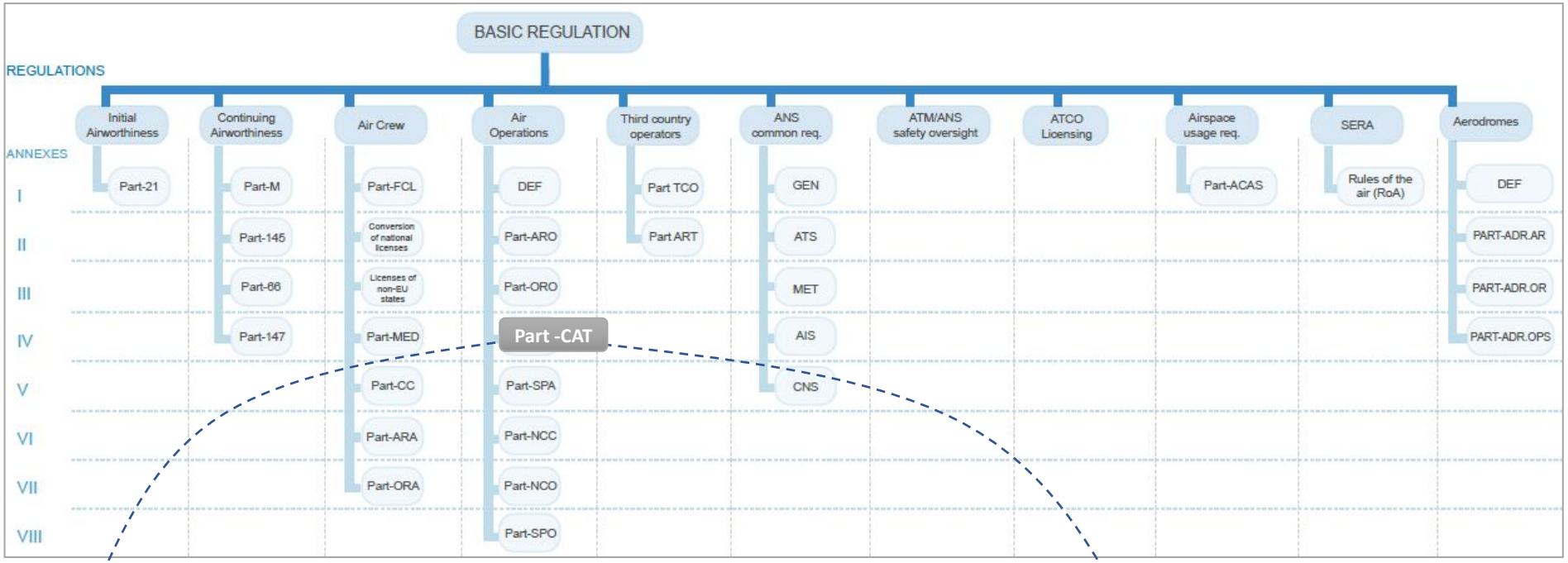
Examples of EASA regulations

EASA rules: EFB implementation (1/4)



CAT.GEN.MPA.141 Use of electronic flight bags (EFBs)

- EFB shall not affect the performance of the aircraft systems or equipment, or the ability of the flight crew member to operate the aircraft.
- Application type B shall be approved

Acceptable Means of Compliance and Guidance Material

- Application Classification (type A/ type B)
- Viewable stowage

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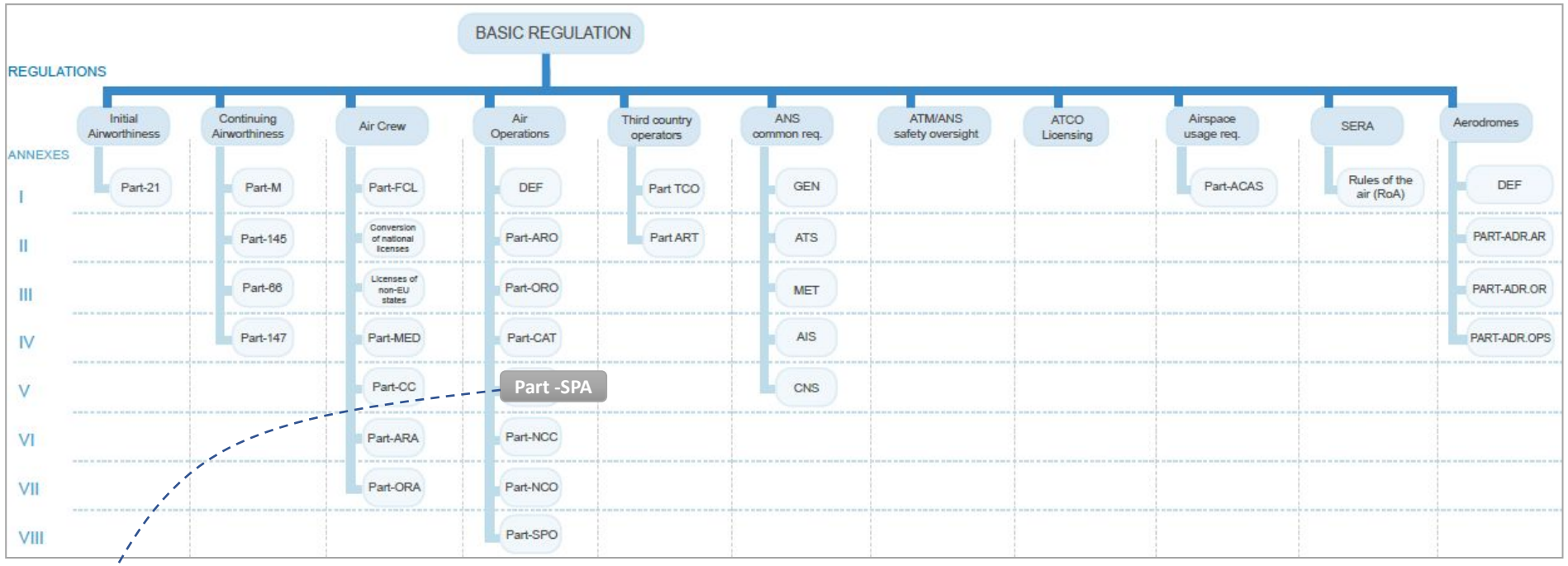
Examples of EASA regulations

EASA rules: EFB implementation (2/4)



SPA.EFB.100 Use of electronic flight bags (EFBs) – operational approval

- Application type B shall be approved
- Approval requires to provide evidences like risk assessment, Evaluation of HMI (including Human factors), EFB administration System, training for EFB administration and EFB use, EFB host Platform suitable

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Examples of EASA regulations

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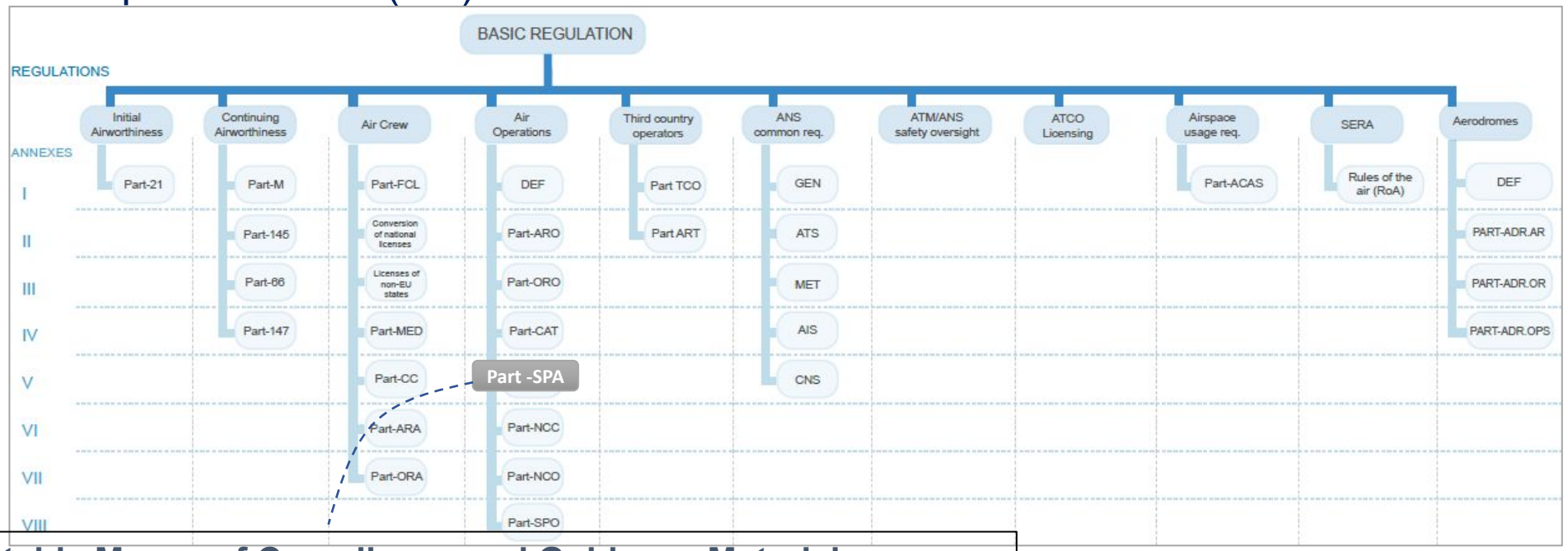
EASA rules: EFB implementation (3/4)



Acceptable Means of Compliance and Guidance Materials

- Operational approval
  - ✔ Suitability of the Hardware
  - ✔ Changes
  - ✔ Operational evaluation test
  - ✔ Risk Assessment
  - ✔ HMI Assessment and Human factors considerations
  - ✔ EFB Administration
  - ✔ EFB Policy and procedures manual
  - ✔ Procedures

- Operational approval
  - ✔ Flight Crew Training
  - ✔ Performance and Mass&Balance Applications
  - ✔ Airport Moving Map with Own-Ship position
  - ✔ Use of COTS position source
  - ✔ Charts application
  - ✔ In-Flight Weather application
  - ✔ Own-ship position in Flight

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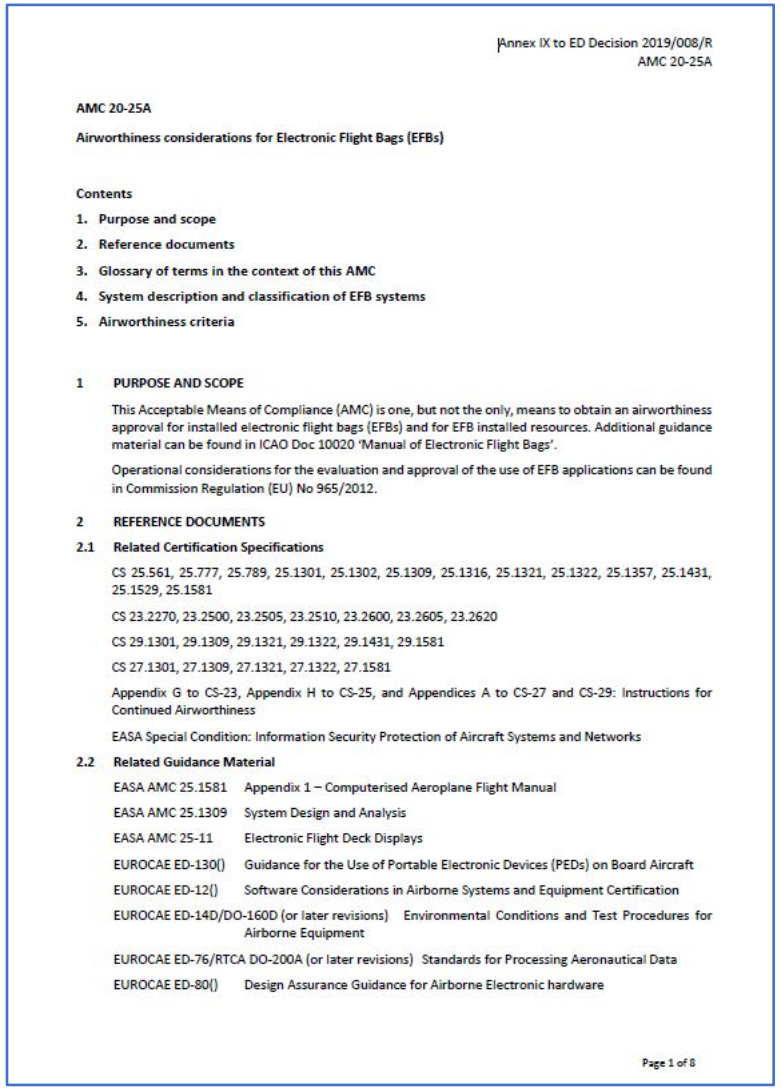
Examples of EASA regulations

EASA rules: EFB implementation (4/4)



Annex IX to ED Decision 2019/008/R
AMC 20-25A

AMC 20-25A

Airworthiness considerations for Electronic Flight Bags (EFBs)

Contents

1 PURPOSE AND SCOPE

This Acceptable Means of Compliance (AMC) is one, but not the only, means to obtain an airworthiness approval for installed electronic flight bags (EFBs) and for EFB installed resources. Additional guidance material can be found in ICAO Doc 10020 'Manual of Electronic Flight Bags'.

Operational considerations for the evaluation and approval of the use of EFB applications can be found in Commission Regulation (EU) No 965/2012.

2 REFERENCE DOCUMENTS

2.1 Related Certification Specifications

CS 25.561, 25.777, 25.789, 25.1301, 25.1302, 25.1309, 25.1316, 25.1321, 25.1322, 25.1357, 25.1431, 25.1529, 25.1581

CS 23.2270, 23.2500, 23.2505, 23.2510, 23.2600, 23.2605, 23.2620

CS 29.1301, 29.1309, 29.1321, 29.1322, 29.1431, 29.1581

CS 27.1301, 27.1309, 27.1321, 27.1322, 27.1581

Appendix G to CS-23, Appendix H to CS-25, and Appendices A to CS-27 and CS-29: Instructions for Continued Airworthiness

EASA Special Condition: Information Security Protection of Aircraft Systems and Networks

2.2 Related Guidance Material

EASA AMC 25.1581	Appendix 1 – Computerised Aeroplane Flight Manual
EASA AMC 25.1309	System Design and Analysis
EASA AMC 25-11	Electronic Flight Deck Displays
EUROCAE ED-130()	Guidance for the Use of Portable Electronic Devices (PEDs) on Board Aircraft
EUROCAE ED-12()	Software Considerations in Airborne Systems and Equipment Certification
EUROCAE ED-14D/DO-160D (or later revisions)	Environmental Conditions and Test Procedures for Airborne Equipment
EUROCAE ED-76/RTCA DO-200A (or later revisions)	Standards for Processing Aeronautical Data
EUROCAE ED-80()	Design Assurance Guidance for Airborne Electronic hardware

Page 1 of 8

- AMC 20-25 Airworthiness considerations for Electronic Flight Bags (EFBs)
- Revision of AMC 20-25 in 2019 in order:
  - To keep only the AMCs to obtain an airworthiness approval for installed electronic flight bags (EFBs) and for EFB installed resources
  - To remove the operational considerations for the evaluation and approval of the use of EFB applications
- Operational considerations have been incorporated in Commission Regulation (EU) No 965/2012 (EASA Air Operations)

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EFB Ops Approval with Ops Evaluation

Operators

EFB Administrator

Pilots

Evaluation

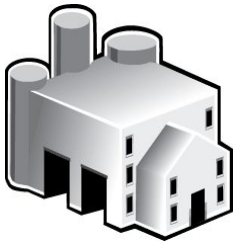
Oversight & Approval

NAA regulations

National Aviation Authorities

Report/Operational Suitability Letters

PED OEM



Aircraft Manufacturer

EFB App Developer

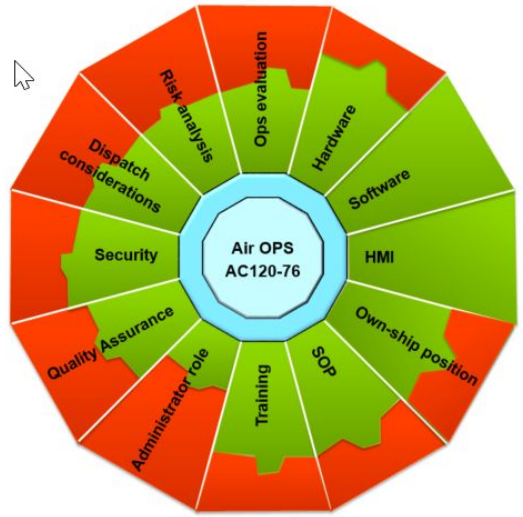
Industry

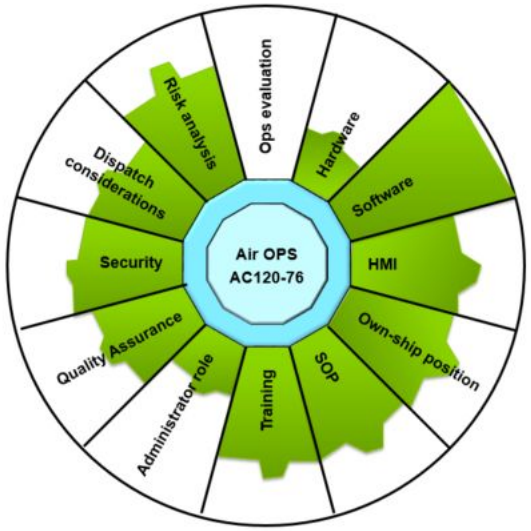
Voluntary Requests an Ops Evaluation under the OEB process

EASA European Aviation Safety Agency

FEDERAL AVIATION ADMINISTRATION

Can address H/W, Apps, generic ops data and installation guidelines





PED = Portable Electronic Device

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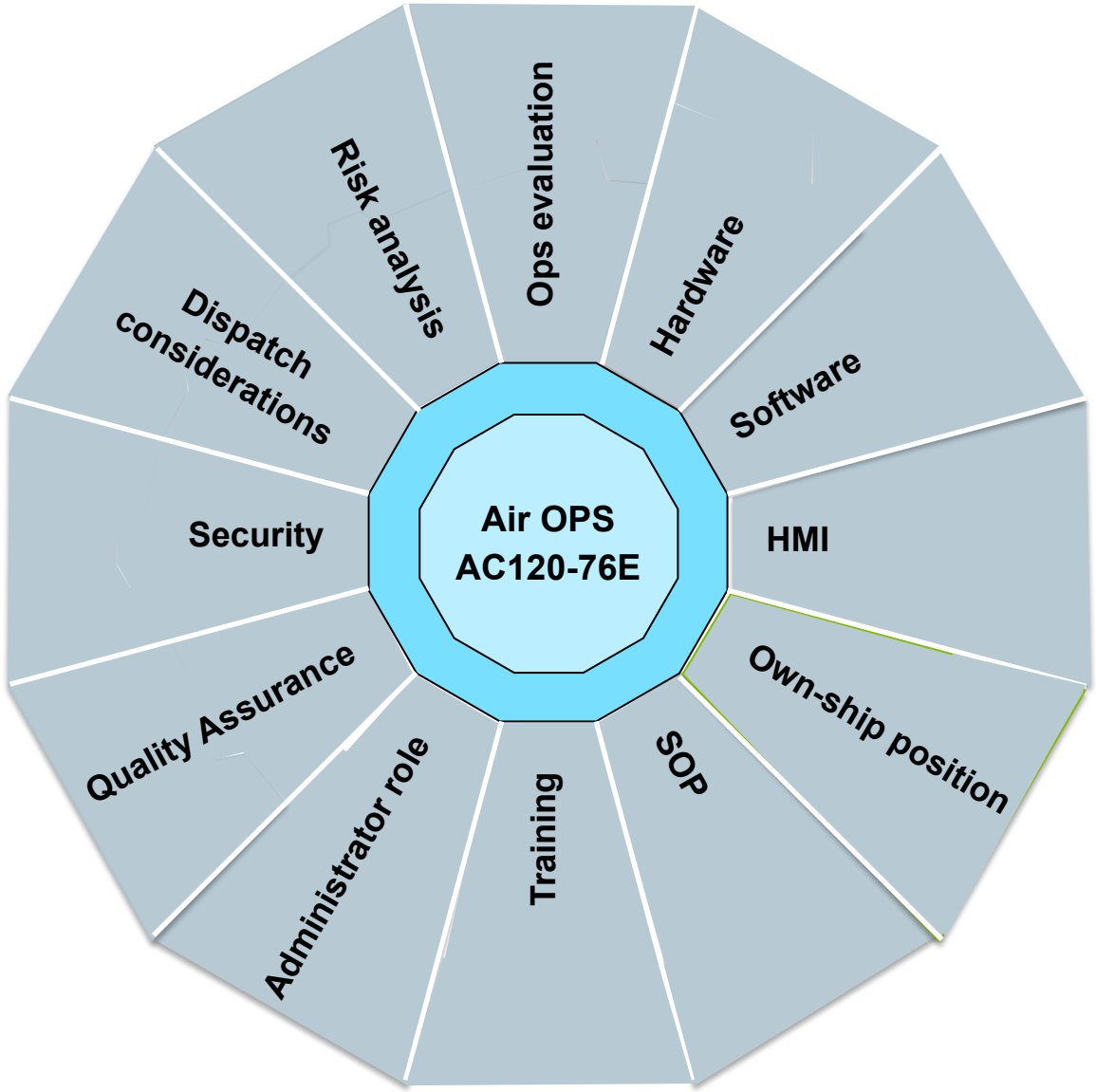
EFB Regulatory Standards

EASA
European Aviation Safety Agency

Air - OPS

FEDERAL AVIATION ADMINISTRATION

AC120-76E



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NAA EFB regulations = Requirements for operator's EFB Ops Approval

Most of NAAs endorse EASA & FAA regulatory standards

EASA
European Aviation Safety Agency
Air OPS

FEDERAL AVIATION ADMINISTRATION
AC120-76E

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EFB Operational evaluation - Principles

Objective?

Successful operational approval for EFB application customers

When?

Voluntary basis
New EFB application or major evolutions

Who?

Airbus / Navblue
EASA / FAA

Outcomes

Recommendations & Generic means of compliance

User and
Compliance
Manual

EASA and FAA Operational Suitability Letters

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EFB Operational evaluation - Objectives

Operational Recommendations

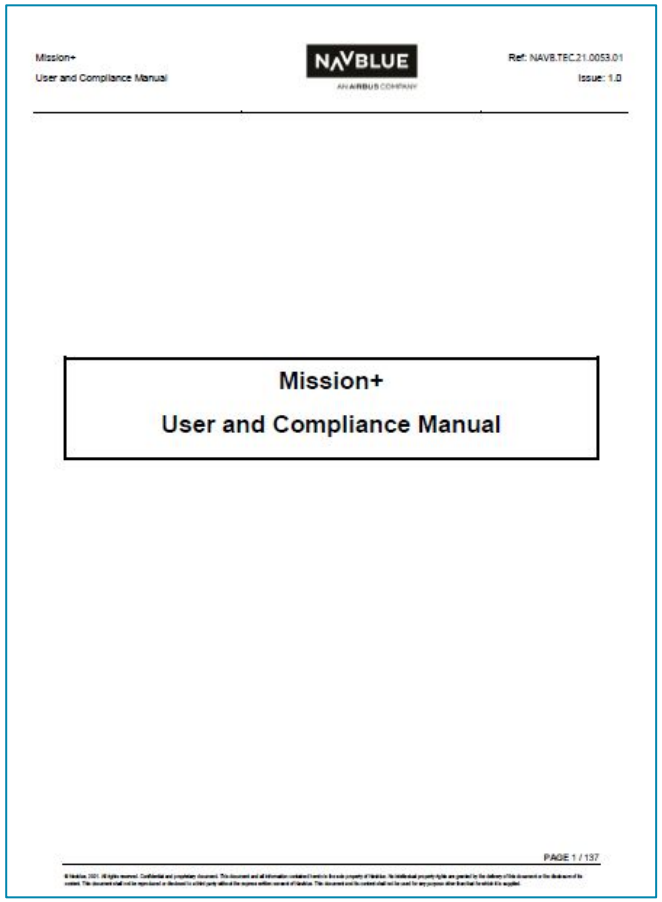
- Procedures and Training recommendations
- Administration recommendations
- Risk assessment & Dispatch recommendations
- Etc...

Generic Means of Compliance

- **EASA Air Operations**:
  - Annex IV (Part-CAT) - CAT.GEN.MPA.141
  - Annex V (Part-SPA) - Subpart M
- **FAA Advisory Circular (AC) 120-76E**

Validation by EASA and FAA

EFB Operational evaluation - User and Compliance Manual (UCM)



Specific considerations and **recommendations** for the use and administration of Mission+.

Generic **means of compliance** to EASA and FAA EFB regulations.

Update:

- in case of changes to the EFB applications,
- in-service feedback,
- EASA/FAA requests,
- any other valid reasons.

Should be **tailored and completed** by each operator in accordance with the applicable **local regulation**.

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EFB Operational evaluation - EASA and FAA OSL

Operational Suitability Letters (OSL)

- Regulatory baseline
- Main assumptions
- Reference to User and Compliance Manual (UCM)
- Recommendations
- Status on operational suitability

U.S. Department of Transportation
Federal Aviation Administration

North
Color
Orego
Wyom

July 30, 2021

Ms. Julie Heniqui
Operational Suitability Manager
Airbus S.A.S.
1 Rond-Point Maurice Bellonte
31707 Blagnac Cedex, France

Dear Ms. Heniqui:

Application was made, by Airbu
Evaluation Division (AED), for
developed Mission+ software ap
Order 8900.1 Volume 4, Chapte

Mission+ is an Electronic Flight
function (with own-ship depictio
map (with own-ship depiction),
provide flightcrew with access t
enroute map, route guide and co
operations.

Airbus (NAVBLUE) publishes t
NAVB.TEC.21.0053.01, Issue 1
recommendations for the use of
operations and commercial trans
hardware, verification and valida
procedures and training.

The AED analyzes and assesses
verify that the user is provided v
usable and understandable forma

The AED finds the NAVBLUE
has no technical objection to the
applicable) of the applications c

Individual air carriers and comm
approval (as applicable) from th
application. The AED recommer
Circular (AC) 120-76D, Author

EASA
European Union Aviation Safety Agency

Mission+ v1.0 for iPadOS – EASA EFB Evaluation Letter

Date: 23.07.2021

To whomever it may concern,

Airbus has applied to EASA for an operational evaluation of the Mission+ software application developed by Navblue for iPadOS. The application Mission+ provides the flight crew with the following functions: flight mission data (OFP, NOTAMs, NOTOC, Pre-flight calculations, etc), enroute moving map (with own-ship depiction), terminal charts, and airport moving map (with own-ship depiction).

EASA evaluation was based on data provided by Airbus as well as sample trials on an EFB. The requirements contained in Commission Regulation (EU) N° 965/2012 of 5 October 2012 (air operations rules), as amended to this date, have been considered.

The main objective of the evaluation was to assess compliance with the applicable guidance, guidelines and limitations, and evaluate the associated compliance data proposed by Airbus and agree on recommendations to the operators in terms of EFB training, procedures, and administration.

Airbus publishes the Mission+ User and Compliance Manual (Ref.NAVB.TEC.21.0053.01, issue 1.0 dated 9 July 2021), which contains important considerations and recommendations for the use of the Mission+ application in compliance with air operations rules and AMC. The manual covers in particular considerations on the EFB hardware, backup means, V&V process, administration, security, flight crew procedures and training, and risk assessment.

EASA recommends operators to take into account the considerations and recommendations provided in the user and compliance manual. In particular, EASA recommends paying attention to any customisation of the application by the operator and to ensure that the training highlights that performance data shown in the flight briefing module is for post-flight report use only.

Based on the verifications conducted, EASA has no technical objection to the grant by the national authorities of an operational approval for the use of the Mission+ application, for all functions mentioned above, or a subset thereof as selected by the operator, and provided that the recommendations mentioned in this letter are considered.

This letter does not constitute an operational approval and operators remain responsible for demonstrating compliance with the air operations rules and corresponding AMC to their competent authorities through the establishment of a detailed compliance checklist. EASA recommends for this purpose to consider chapter 11.4 of the user and compliance manual, which proposes means of compliance elements and highlights areas of operator responsibility.

Sincerely,

Special Aeroplanes & Projects section manager
Stefan Ronig

cc.: EASA: Dimitri Garbi

An agency of the European Union

TE.GEN.00101-004

Postal address: Postfach 10 12 53, 50452 Cologne, Germany
Visiting address: Konrad-Adenauer-Ufer 3 50668 Cologne, Germany

Tel.: +49 221 89990 4107
E-mail: stefan.ronig@easa.europa.eu
Web: www.easa.europa.eu
ISO 9001:2008 Certified

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Management of the changes

Categorization of change

Based on:

- guidance from EASA (AMC2 SPA.EFB.100(b) of Regulation (EU) 965/2012 on air operations) and
- guidance from FAA (AC 120-76E)

Recommendation to categorize the change to the application at either MINOR or MAJOR

Management of the changes

The correspondence of this criterion MINOR/MAJOR with EASA and FAA criteria for EFB changes is shows below:

Change	Regulation (EU) 965/2012 on air operations	FAA AC120-76E
MAJOR	The Operator **should apply** the change management procedure approved by the competent authority	**Significant** (to be determined in accordance with AC 120-76E 13.1) Required formal FAA review
MINOR	The Operator **does not need** to apply the change management procedure approved by the competent authority	**Minor,** without FAA review or assessment

Continued validity of the operational suitability

Subsequent changes

For each new version of EFB application, Airbus/ Navblue determines the need of an evaluation by the EASA and FAA:

→ If yes : update of the OSL published by EASA and FAA.

Continued validity of the operational suitability

Release note

- Description of the changes introduced in the new version.
- Reference to the applicable UCM and EASA/FAA OSLs.
- List of the changes with their categorization (Minor/Major).
- Recommendation on the need of operator’s notification to their NAA.

Airbus Ops Evaluations – Flysmart+ applications

- Each major version of EFB applications has been **evaluated** by **EASA & FAA**

- Airbus evaluations conducted on Flysmart with EASA and FAA:
  - LPC Classic Windows Class 1 (2003)
  - A380 Class 3 EFB (2004)
  - LPC-NG Windows Class 1 (2009)
  - FlySmart v2.0 iPad portable EFB (2013)
  - FlySmart L5.1.4 Windows for portable EFB (stand alone and A350) (2015)
  - eQRH v1 for portable EFB (iPad and Windows) (2017)
  - FlySmart L6.1.6 Windows for portable EFB (stand alone and A350) (2017)
  - FlySmart v3.3 iPad for portable EFB (stand alone) (2017)
  - FlySmart v4.1 iPad for portable EFB (stand alone) (2019)
  - Flysmart L6.5.1 Windows for touchscreen and non-touchscreen A350 (2020)
  - eQRH v3.0 for portable EFB (iPad and Windows) (2020)

Airbus Ops Evaluations – Mission+ applications

- Each major version of Mission+ application has been **evaluated** by **EASA & FAA**

- Step 1: Mission+ V1.0
  - Flight mission data
  - Enroute moving map
  - Terminal charts
  - Airport moving map (with own-ship depiction)
  - EASA and FAA OSLs published on July 2021

- Step 2: Mission+ v1.1 with Weather function
  - EASA and FAA OSLs published on May 2022

Airbus Ops Evaluations – Mission+ applications

- Each major version of Mission+ application has been **evaluated** by **EASA & FAA**

- Step 3: Mission+ v1.3
  - Units Conversion tool
  - Wind Calculation
  - Pilot's Notes
  - FAA OSL issued on April 2023
  - No blocking point on EASA side, OSL will be provided with step 4.

- Step 4: Mission+ with TakeOff and Landing performance functions – Evaluation completed
  - Kick-off meeting with EASA and FAA in October 2022
  - EASA and FAA OSLs expected this month (July 2025)

Example of the Mission+ v1.0 Compliance

EASA
European Aviation Safety Agency

Air OPS

FEDERAL AVIATION ADMINISTRATION

AC120-76E

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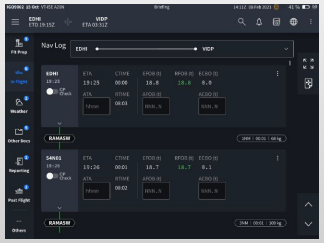
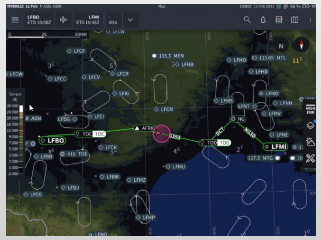
Hardware Type

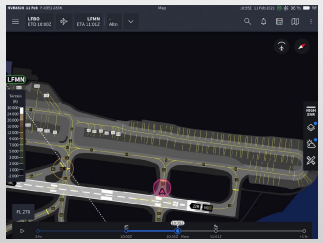
[Airbus Amber]



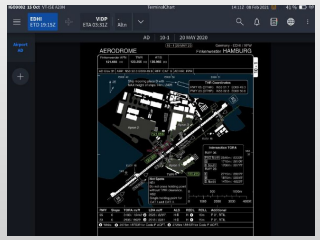
FLIGHT MISSION DATA



ENROUTE MOVING MAP



AIRPORT MOVING MAP



TERMINAL CHARTS

INFLIGHT WEATHER

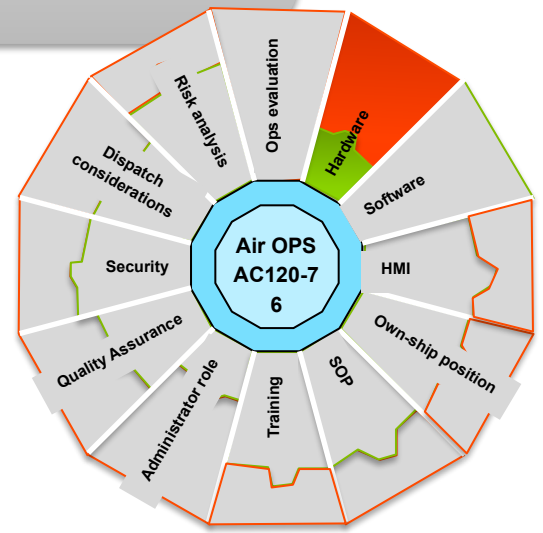
MISSION+ APPLICATION

Mission+ EFB hardware is considered as a

Portable EFB

As per the EASA & FAA definitions

Portable EFB
Stand-Alone



The operators must meet the compliance of the EFB hardware:

- Electro Magnetic Interferences (EMI)
- Rapid Decompression
- Batteries

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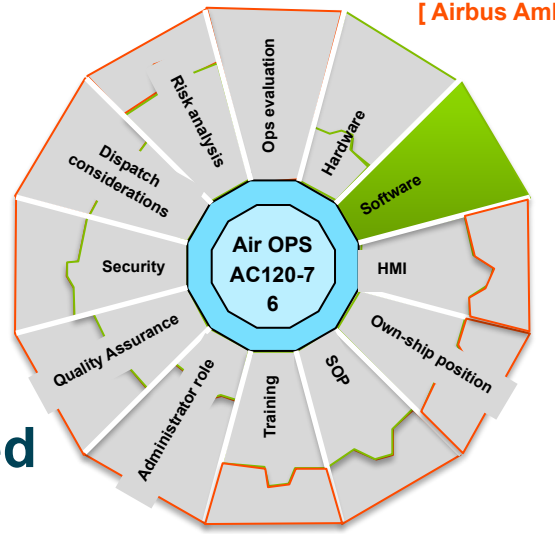
Classification of Software Applications

[Airbus Amber]



- **Type A - non certified application with no safety effect**
  - Browser displaying certificates, notifications of special Pax/loads, maintenance manuals
  - Crew rest calculations
- **Type B - non certified application with failure condition limited to minor safety effect**
  - Document browser displaying Ops Manual*, AFM*, CDL*, OFP, ATC Flight plan, NOTAMs, meteorological data
  - Electronic aeronautical charts application
  - Airport Moving Map application
  - Aircraft performance calculation application
  - Weight&Balance calculation applications*

*Not yet available in Mission+

Mission+ classification

Mission+ application belongs to **type B application**

As per the EASA and FAA definitions

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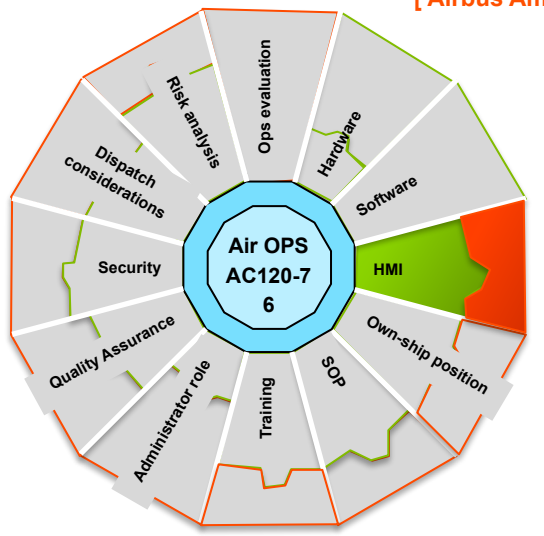
Assessment of application HMI

[Airbus Amber]



- HMI designed for best efficiency, easy to use, easy to learn
- Legibility of text
- Consistency of the HMI with other EFB applications (Flysmart) and with the flight deck
- Messages and colours used (Amber and red used according to criteria)
- Responsiveness of application
- Off-screen content
- Active regions
- Managing multiple open applications and documents

Mission+ HMI

HF* & HMI* considerations (UCM §3)

Found compliant by EASA and FAA

Operator should:

o Assess the physical integration of the EFB device in the cockpit environment

o Complete the HMI assessment according to its specific customization of the HMI.

*HF: Human Factors *HMI: Human Machine Interface

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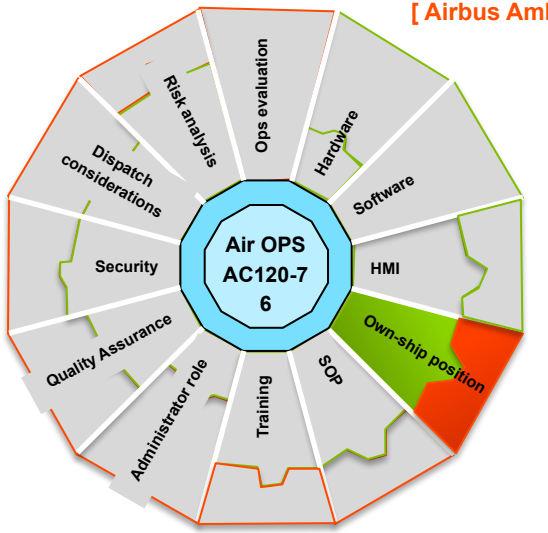
Own-ship position

[Airbus Amber]



Own-ship position could be provided according to different sources:

- Aircraft GNSS data
- Device Integrated GNSS receiver
- External COTS GNSS position receiver.

Own-ship position HMI and dynamic are compliant with the criteria given in the regulation

Found compliant by EASA and FAA

Operator should demonstrate that the device integrated GNSS receiver or an external COTS GNSS receiver is compliant with the regulations considerations as the position source for Mission+.

GNSS = Global Navigation Satellite System

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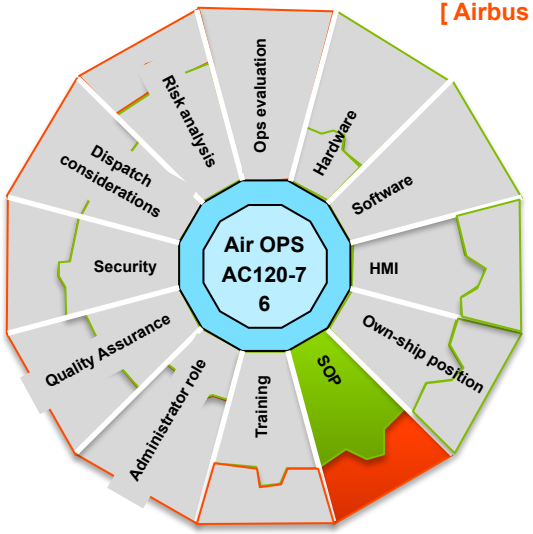
[Airbus Amber]

Flight Crew Procedures



Use of Mission+ application is not established in Airbus Standard Operating Procedures. SOP should be customized by operators

- EFB PREPARATION
  - Start Mission+
  - Check Mission+ application and database versions
  - Check Own-ship position settings
  - Load Flight mission data package
- FLIGHT CLOSURE
  - Export Flight mission data package
  - Stop Mission+

Procedures are available in FCOM PRO-NOR-SOP

Found compliant by EASA and FAA

Operator should adapt the PRO-NOR-SOP according to the recommendations* provided in UCM §7.1 and the functions embedded in their EFB system

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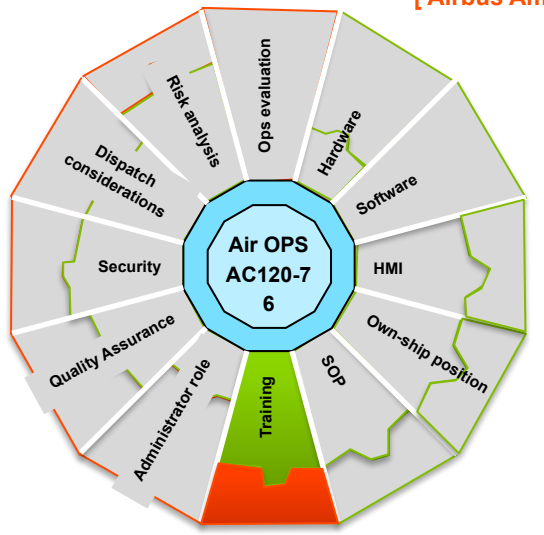
[Airbus Amber]

Training



- Mission+ Flight crew training should include items provided in UCM §7.2
  - elearning developped by Navblue for Flight crew training covered all the items UCM §7.2

- Administration tools training
  - eLearning on ADMIN+ and DISPATCH+
  - NCIM documentation

Training for Mission+ application and Administration tools are available from Navblue Academy

Mission+ items covered found compliant by EASA and FAA

Operator should complete the training for their own operations (MEL, EFB devices and resources) and the other applications embedded in their EFB system

- ADMIN+: Mission+ installation follow-up.
- NCIM (Navblue Customer Information Manager): New Charts revision package review
- DISPATCH+: Manage the Flight Mission Data package

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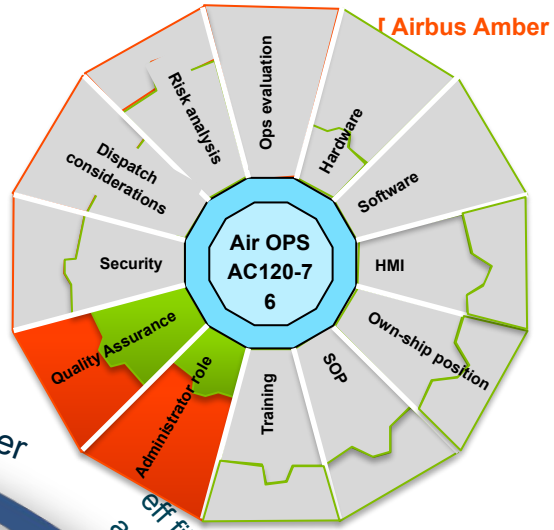
Quality Assurance & Administrator Role

[Airbus Amber]



Operation Control Center

For a given flight…

Flight Folder

eff file relative to a given mission

Performance & Loading Administrator

Performance loads

Low Speed, High Speed, Airport data

Documentation Administrator

Documentation loads

FCOM, MEL, QRH, Airline Manuals…

Administration platform

Software & Data version control

Software & database update

EFB Admin

End-user

Charts loads

Charts, Route Manual

Charts Administrator

Chief Pilot

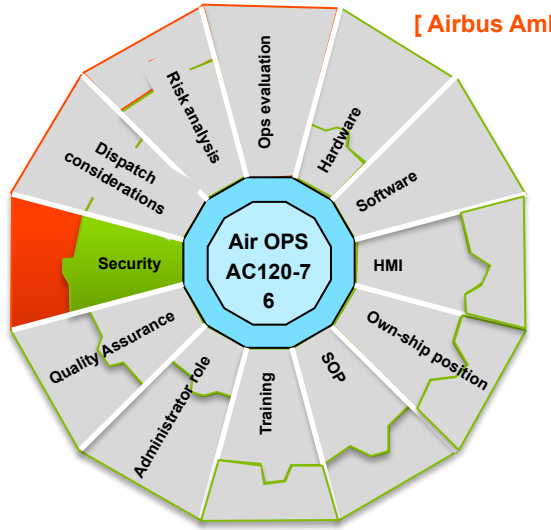
Generic description of administrator roles and workflows available in UCM §6
Found compliant by EASA and FAA

Operator should adapt this generic description to its organization and operations

Security

- Implement IT security activities
- Secure the use of devices, aircraft network, and communication network

[Airbus Amber]



Airbus Security Handbook

Security Risk Assessment done by Navblue on Mission+ application and ground tools (ADMIN+, DISPATCH+)

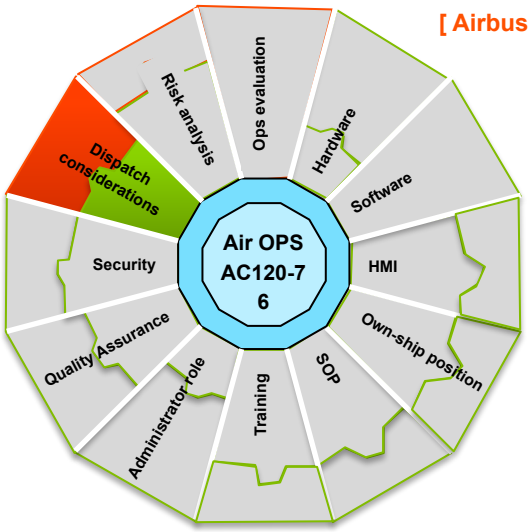
Mitigations put in place at software level (authentication, encryption)

The operators should implement the security measures to the EFB provided by Airbus Security Operational procedures for EFB

AIRBUS

Dispatch Considerations

[Airbus Amber]



- Manage inoperative devices at dispatch, following failure on ground, or in-flight

- EFB dispatch conditions
  - Nbr installed
  - Nbr Required
  - Ops Procedures (O)

Dispatch Considerations are available in the Airbus UCM §10: define the minimal EFB configuration needed to dispatch the aircraft with inoperative EFB (hardware or software)

Found compliant by EASA and FAA

The operators should include their EFB dispatch considerations either in the minimum equipment list (MEL) or in the operations manual

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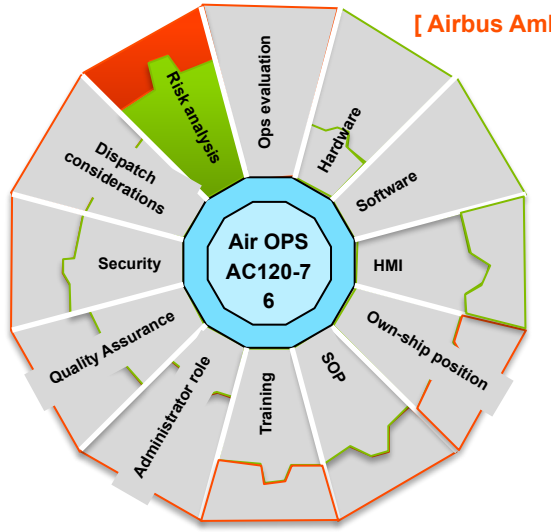
Risk Assessment

[Airbus Amber]



Required prior the use of EFB applications

- Identify potential **losses** of functions or **malfunctions**
- Analyse the **operational consequences (severity effect: no safety effect, minor, greater than minor)**
- Propose **mitigation means**
- If not sufficient to be minor or lower than minor: analyse propose **preventions means**
- Objective: **no hazards leading to severity effect more than minor**

Risk Assessment available in the UCM §9

Found compliant by EASA and FAA

The operator should put in place the mitigations means and prevention means defined in the Risk Assessment.

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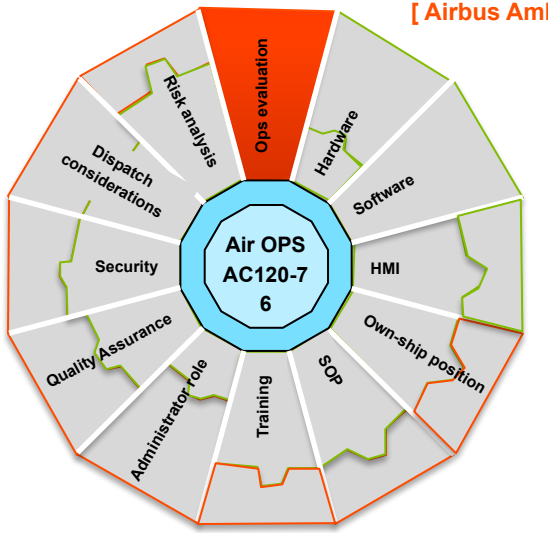
Operational Evaluation

[Airbus Amber]



Apply and follow the NAA EFB Ops Approval process

Demonstrate the EFB satisfy the relevant requirements from its NAA

In order to get its EFB Ops Approval, the operator should:

- notify its NAA its intention to apply for an EFB operational evaluation
- agree the process to be followed with its NAA
- demonstrate the EFB is compliant with NAA requirements (Hardware, Software, Risk assessment, ect).

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Operational Approval

Operations Specifications : EFB elements (1/3)

EFB operational authorization constitutes a 'Specific Approval' which should be listed in the Operations Specification for each approved aeroplane type:

Some States have implemented different OpSpec formats

OPERATIONS SPECIFICATIONS
(subject to the approved conditions in the operations manual)

ISSUING AUTHORITY CONTACT DETAILS[1]

Telephone: _____ Fax: _____ Email: _____

AOC#[2]: _____ Operator name[3]: _____ Date[4]: _____ Signature: _____

Dba trading name: _____

Aircraft model[5]:

Types of operation: Commercial air transportation ☐Passengers ☐ Cargo ☐ Other[6]: _____

Area(s) of operation[7]:

Special limitations[8]:

SPECIFIC APPROVAL	YES	NO	DESCRIPTION [9]	REMARKS
Dangerous goods	☐	☐		
Low visibility operations				
Approach and landing	☐	☐	CAT[10]: ____ RVR: ____ m DH: ____ ft	
Take-off	☐	☐	RVR[11]: ____ m	
Operational credit(s)	☐	☐	[12]	
RVSM[13] ☐ N/A	☐	☐		
EDTO[14] ☐ N/A	☐	☐	Threshold time[15]: ____ minutes Maximum diversion time[15]: ____ minutes	
AR navigation specifications for PBN operations	☐	☐	[16]	
Continuing airworthiness	X	X	[17]	
EFB	X	X	[18]	
Other[19]	☐	☐		

Annex 6, Part 1 - Appendix 6 Operations Specification Template

OPERATIONS SPECIFICATIONS
(subject to the approved conditions in the operations manual)

Aircraft model[5]:

Area(s) of operation[7]:

SPECIFIC APPROVAL	YES	NO	DESCRIPTION[9]	REMARKS
EFB	X	X	18	

EFB Related Content

Notes:-

18. List the EFB functions with any applicable limitations.

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Operational Approval

Operations Specifications : EFB elements (2/3)

OPERATIONS SPECIFICATIONS (subject to the approved conditions in the operations manual)				
Aircraft model[5]:				
Area(s) of operation[7]:				
SPECIFIC APPROVAL	**YES**	**NO**	**DESCRIPTION[9]**	**REMARKS**
EFB for A/C type Type1	X	X	- Specifically approved EFB hardware and software applications for A/C type *Type 1* are contained in [operations manual reference]	

The EFB-specific approvals referenced in the operations specifications form should have a companion detailed list of EFB-approved hardware and software applications. This list should be located in the operations manual.

Operational Approval

Operations Specifications : EFB elements (3/3)

Example of a companion EFB-specific approval table located in the operations manual

EFB (hardware and software) with specific approval		
Approved hardware for A/C type	EFB applications *(List of EFB functions, versions and any applicable limitations.)*	Specific references and/or remarks
EFB for A/C type *Type 1*	– Aircraft performance calculation (take-off and landing) – *AppName1 ver x.x* – Airport moving map – *AppName2 ver x.x* – Charts application: En route – *AppName3 ver x.x* – Airport charts (SID, STAR, approach) – *AppName4 ver x.x*	*See procedures in operations manual page X* *Backup: Quick Reference Handbook* *Refer to operations manual page X* *See operations manual page Y* *Paper backup operation* *Paperless operation* *Refer to operations manual page Z*
EFB for A/C type *Type 2*	– Charts application: En route – *AppName3 ver x.x*	*See operations manual page X* *Paper backup operation*

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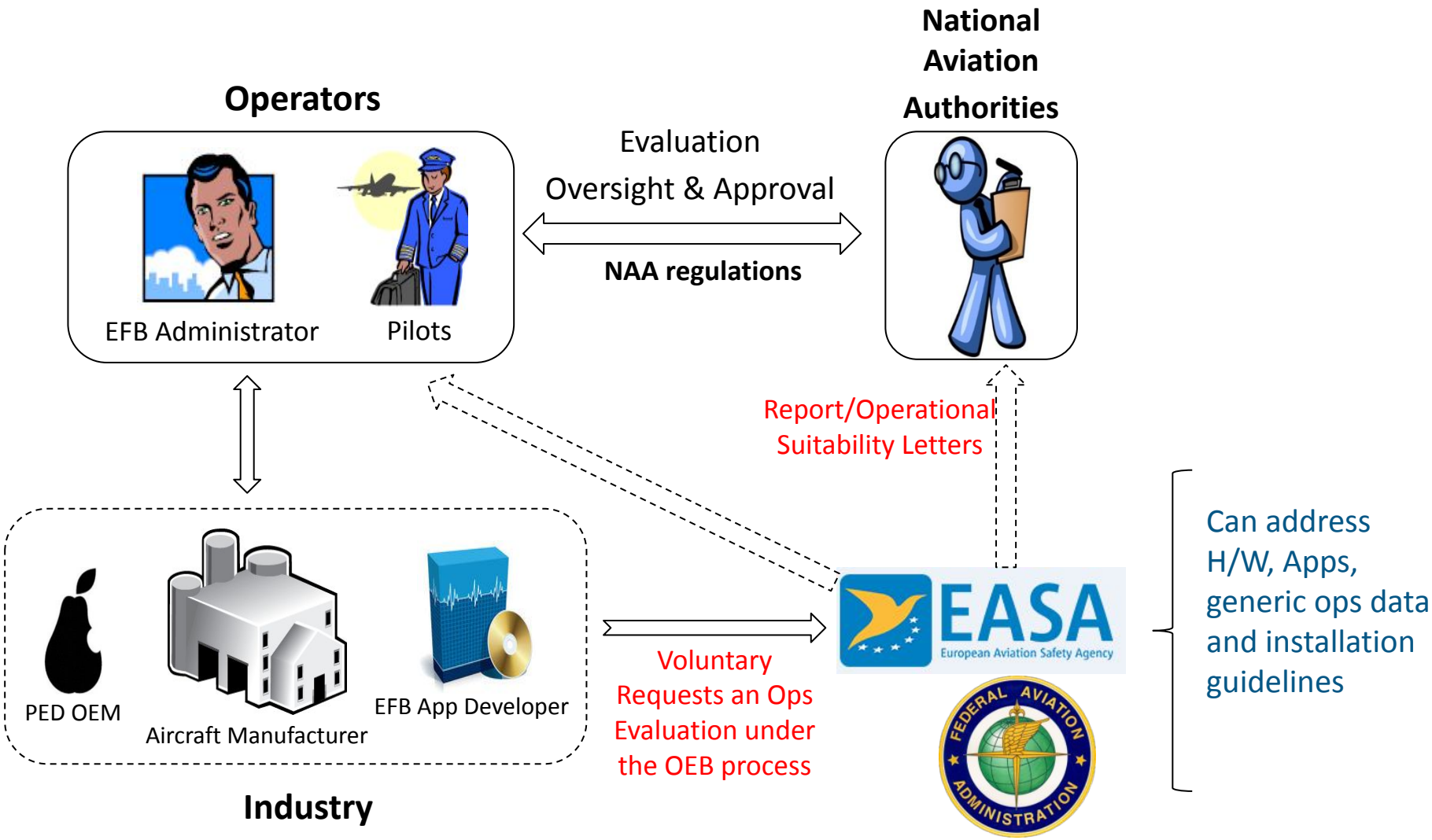
Agenda

- Ops Evaluation with EASA/FAA
- **Future Evaluation process**

Today Ops Evaluation process



PED = Portable Electronic Device

Future Evaluation process with ETSO (European Technical Standard Order)

AMC4 SPA.EFB.100(b) Use of electronic flight bags (EFBs)

EFB APPLICATIONS WITH ETSO AUTHORISATIONS

EFB software applications may be approved by EASA e.g. by means of an ETSO authorisation.
Such approved EFB applications are considered to be compliant with the requirements of SPA.EFB.100(b) that are included in the scope of the approval, provided that the EFB software is installed and used in conformity with its installation and operational instructions and limitations.

ETSO: European **T**echnical **S**tandard **O**rder

Future Evaluation process with ETSO (European Technical Standard Order)

New amendment with **ETSO-2C521** in Subpart B - List of ETSOs -
Electronic Flight Bag (EFB) software application approval

→ EFBs **must meet** the standard provided by **EUROCAE ED-273**, 'Minimum Operational Performance Standard for Electronic Flight Bag (EFB) Software Applications'.

→ **EUROCAE ED-273**, 'Minimum Operational Performance Standard for Electronic Flight Bag (EFB) Software Applications' released since 2021

Future Evaluation process with ETSO (European Technical Standard Order)

→ **EUROCAE ED-273**, 'Minimum Operational Performance Standard for Electronic Flight Bag (EFB) Software Applications' released since 2021

This standard should be used by organization that develops EFB applications (EFB manufacturers, EFB applications supplier, airline, etc).

This standard provides MOPS for the following aspects of EFB application:

- Determination of whether functions are eligible as EFB functions,
- Safety Risk Assessment,
- Human Machine Interface,
- Development Assurance,
- Databases,
- Security,
- Operational and installation instructions.

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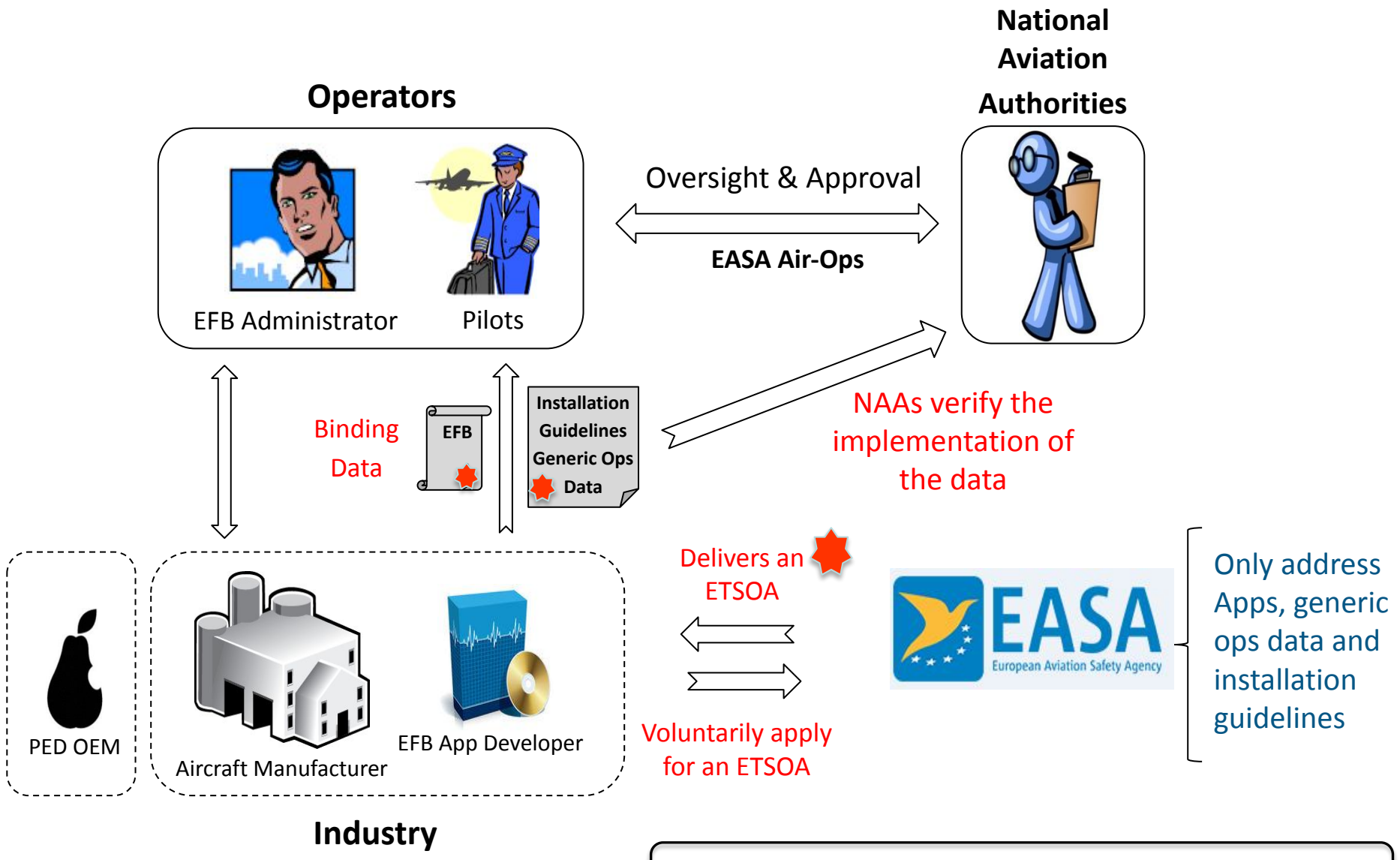
Future Evaluation process with ETSO (European Technical Standard Order)



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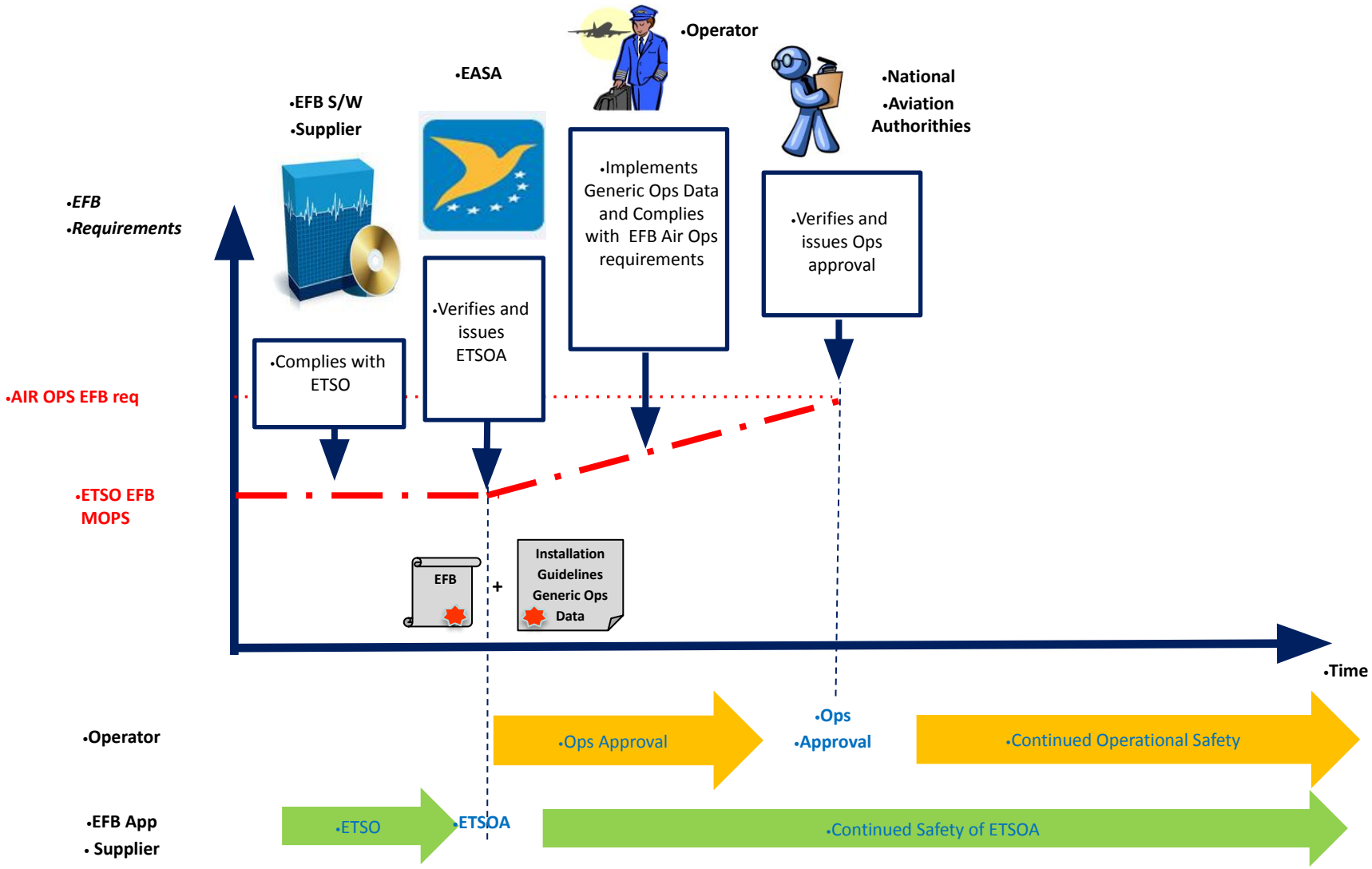
Future Evaluation process with ETSO (European Technical Standard Order)



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Navblue&Airbus Support – EFB Support

NAVBLUE SUPPORT

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Daily Support to EFB Operations

- **Navblue&Airbus Support on:**
  - **Performance and documentation,**
  - **EFB administration**
  - **EFB operations and approval**
- **Answers provided by EFB IT specialists and EFB Flight Operations specialists**

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[Airbus Amber]

Thank you

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