The role of Industry Standards in EASA regulatory framework

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Your safety is our mission.
Established 2002

15 years in operation

800+ aviation experts & administrators

32 EASA member states = 28 + 4
EU + Switzerland, Norway, Iceland, Liechtenstein

Headquarters in Cologne
Office in Brussels

25/04/2017 SAE summit 2017
The Agency Organisation

Executive Directorate
Patrick KY

Communication & Quality

Legal

Chief Engineer

Strategy & Safety
Management Directorate
L. Tytgat

Safety Intelligence & Performance

Strategy & Programmes

International Cooperation

Certification Directorate
T. Woods

Large Aeroplanes

General Aviation & Remotely Piloted Aircraft Systems (RPAS)

Rotorcraft

Propulsion, Parts & Appliances

Environment

Design Organisations

Certification Policy & Safety Information

Flight Standards Directorate
J. Rasmussen

Maintenance & Production

Air Operations

Aircrew & Medical

Air Traffic Management/Air Navigation Services (ATM/ANS) & Aerodromes

Policy & Planning

Resources & Support Directorate
O. Ramsayer

Human Resources

Information Technology

Applicant Services

Finance & Procurement

Corporate Services
EASA Mission

» Ensure the highest common level of safety protection for EU citizens

» Ensure the highest common level of environmental protection

» Single regulatory and certification process among Member States

» Facilitate the internal aviation single market & create a level playing field

» Work with other international aviation organisations & regulators
Safety significantly affects all aviation domains:

**Total System Approach**

- Airworthiness
- Operations & FCL
- 3rd Country Operations
- Aerodromes
- ATM/ANS
Partnership with EU Member States

- Implementing EU Legislation
- Oversight of national organisations
  - Production
  - Maintenance
  - OPs/Licencing
  - Training
  - ATM
  - Aerodromes

- Implementing rules
- Oversight of Member States
- Aircraft and products certification
- Safety of non-EU operations
- Approval of non-EU organisations
  - Production
  - Maintenance
  - Training
  - ATM
EU Regulatory structure

Basic Regulation

Implementing Rules

Soft Law
- Acceptable Means of Compliance
- Guidance Material
- Certification Specifications

Agency Opinion → Commission proposal → EU Council & Parliament

Agency Opinion → Commission proposal

Agency Decision
Current Regulations

Regulations Structure

Each Part to each implementing regulation has its own Acceptable Means of Compliance and Guidance Material (AMCM/AMG). These AMCM and AMG are amended along with the amendments of the regulations. These AMCM/AMG are so-called “soft law” (non-binding rules), and put down in form of EASA Decisions. A comprehensive explanation on AMCM in form of questions and answers can be found on the FAQ section of the EASA website.

Furthermore, Certification Specifications are also related to the implementing regulations, respectively their parts. Like AMCM/AMG they are put down as Decisions and are non-binding.

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**Outlook of Regulations**

EU Legislation for ATM/ANS & Aerodromes

Part 1: SES Legislation & 'EASA rules' for Aerodromes

- Treaty on the European Union

- Framework Regulation No. 549/2004 + 1070/2009

- Service Provision Regulation No. 550/2004 + 1070/2009

- Airspace Regulation No. 551/2004 + 1070/2009

- Interoperability Regulation No. 552/2004 + 1070/2009

**Latest Update:** 08/03/2017

- Decision 2009/302/EC: Endorsing the European ATM Master Plan
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The CS are developed in order to facilitate compliance with implementing rules (e.g. CS-25 is used to provide the certification basis for a large aeroplane certificated in accordance with Part 21)

Certification Specifications are developed by EASA in consultation with interested parties

Industry Standards can be and are used to form the basis for demonstrating compliance with the CS or Acceptable Means of Compliance (AMC)

Industry Standards have always played an important role in EASA’s implementation of regulations, (even before, e.g. during JAA or NAA time)
Benefits of Industry Standards

- Provide direct means of compliance
- Consistent quality and performance
- Internationally recognised
- Can be developed quicker than regulations
- Revision cycle quicker
Amount of Industry Standards Referenced in EASA CS, AMCs, and ETSOs

2016 Total: 412
2015 Total: 239
EASA SAE activities

- Safety Assessment
- Aircraft Oxygen Equipment
- Noise Measure
- Aircraft Instruments
- Landing Gears
- Actuation/Flight Control Systems
- Aircraft Environment
- Anti Icing
- Fuel Cells
- Cargo Handling/GSE
- Helicopter Hoists
- Composite Repair
- Composite Materials
- ATM
- Exhaust Emissions
- Engine Health Management
- Structural Health Monitoring
- Ground Deicing
- IVHM
- Flight Deck Integration
- Cabin Safety
- Aircraft Seats
- Lightning
- Electrical Power Generation
- RFID
- Electronic Engine Controls
- Electromagnetic Compatibility
- Air Data Instruments
- Additive Manufacturing
- Propulsion Lubricants
- Electric Aircraft
- Li Battery Packaging Perf.
Examples of Industry Standards

» High level requirements
  » CS-LSA is based on ASTM 2245

» Process level references in AMC
  » SAE ARP 4761 Guidelines and Methods for Conducting the Safety Assessment Process on Civil Airborne Systems and Equipment
  » SAE ARP 4754 (ED 79) Guidelines for Development of Civil Aircraft and Systems has became a must in aircraft development

» Specific material level in AMC
  » Anti-icing fluids SAE AMS 1428, Types II, III, or IV.
EASA is moving towards an increasingly performance-based regulatory approach, utilising Industry Standards as MoC.

CS 23 Amendment 5: reorganisation of General Aviation CS, MOC will be supported by ASTM 44 work, ongoing.

ASD-STAN: 1st Design Organisation Approval standard (prEN 9250)
- Test organisations
- General requirements for test process and capabilities
- should become AMC to part 21.A.33 (a, b, c, d, e)
Activities where standards support the EASA “regulations”

- **Certification** (the bulk of activities)

- **ATM**: European Amt Standards Coordination Group chaired by EUROCAE, with participation of EC, SJU, SDM is observer

- **UAS**: EUSCG, chaired by EUROCAE: EC, SAE will be members of, with several other Standard Making Organisations
ICAO is also moving in PBR direction, supporting performance based standards by technical specifications (Ind Stds), whilst maintaining several prescriptive ICAO standards.

- Initiated the Std Round Table meetings for this purpose.
- Participation of major SMOs, SAE, Eurocae, RTCA, Eurocontrol and some AA, e.g. EASA & FAA.
EASA and SMO support to ICAO under SRTM

- Items proposed by SAE
  - G 27 for Li Battery packaging
  - proposal aimed to address data link deficiencies VDLM2 (SAE-IA)
- Items proposed by EUROCAE
  - New ELT designs, ROAS,
- Items proposed by EUROCONTROL
  - Time Based Separation
- Validation of (IS)Technical Specifications (fit for purpose) is an item to address in this expanded context
- This concern is valid not only for ICAO but also for EASA/EC and other AA
EASA involvement in Industry Standards development

- Internal International Standards Committee
  - 65 EASA staff participate to 112 Standardisation WG
  - 52 EASA staff involved with ICAO panels and WG

- EASA staff on membership of EUROCAE council, SAE Aerospace Council and ASD-STAN board

- Member of ICAO standards roundtable task force

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Potential difficulties

- Duplication of effort between standards bodies and potential for differences

- Sponsoring standards development vs encouraging standards development

- Selection of the standards body and assignment of tasking is done on a case by case basis
Shows how EASA is organised vis a vis Industry Standards developments,

rationalised system to coordinate its interactions with the industry standardisation bodies with all the necessary means for an efficient cooperation.

All Directorates are represented in the Committee,

Tackle ARAC, ICAO and Industry Standards,

Ensure efficient use of resources and budget,

Meet SAE (D.Alexander) twice a year and some other SMOs
IISC 2017 scope

- Not included:
  - JARUS
  - ARAC/ARC

- Standardisation bodies
- ICAO groups
IISC Main functions

- Implementation of Agency priorities
- Steering of priorities & coordination of activities
- Streamlining the use of Agency resources
- Coordinate Agency response to consultations
- Central repository of information (share point)
- Cooperation with standardisation bodies & ICAO
Industry Standards have always played an important role in regulatory material, even more so in EASA. We aim to put them at the heart of EASA’s technical specifications, such as Certification Specifications and Acceptable Means of Compliance.

Indeed, EASA wishes to use even more industry standards as shown by our activities in the field of ATM.

The joint FAA/EASA initiative to reorganise CS 23 is another example. The modification of these certification specifications for small airplanes will simplify airworthiness certification for General Aviation, and reduce the costs incurred by focussing on key risks and putting industry standards at the centre of the certification process.

The partnership we enjoy with SAE is central to this strategy. Indeed, approximately half of all the industry standards referred to in our regulatory material were produced by this organisation.
Conclusions

- Industry Standards are essential to the proper functioning of an international safety driven activity such as aviation.

- To support performance based rules and risk based safety management, EASA expects increased involvement and co-operation with standards bodies such as SAE in the future.
Thank you for your attention!
Budget in 2016: 140 M€

- Fees paid by the Industry (66%)
- EU Budget (26%)
- Others e.g. 3rd Country contributions (8%)
That's all Folks!