

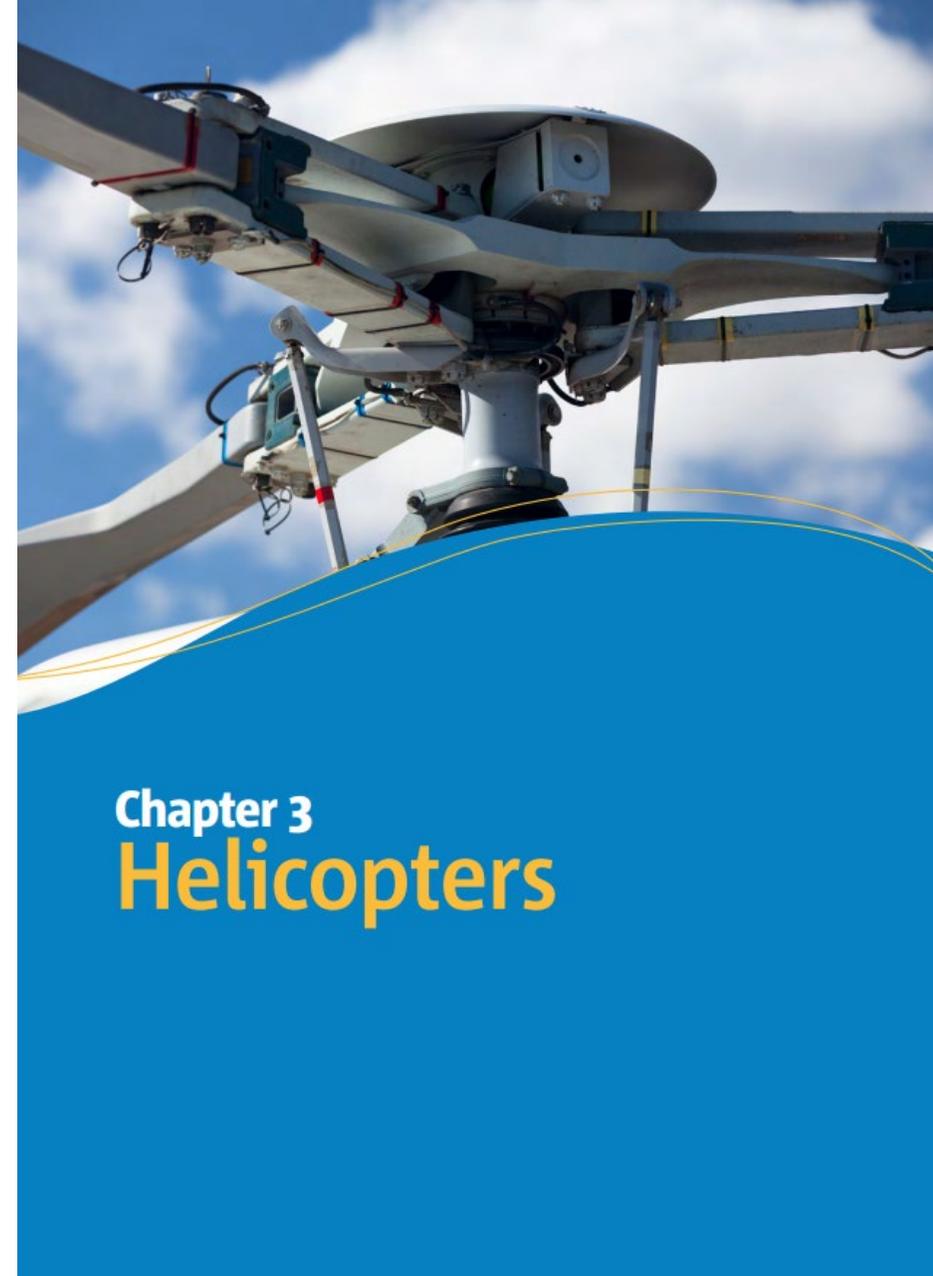
EASA and FAA Rotorcraft and VTOL highlights 2024

David Solar
Head of GA and VTOL Department, EASA
Certification Directorate

Dan Elgas
Director, Policy and Standards Division
Aircraft Certification



2023 Rotorcraft Safety - Statistics



Chapter 3 Helicopters



2024 Data

→ Fatal accidents

→ Steady decrease since 2022

→ Lowest since 2014!

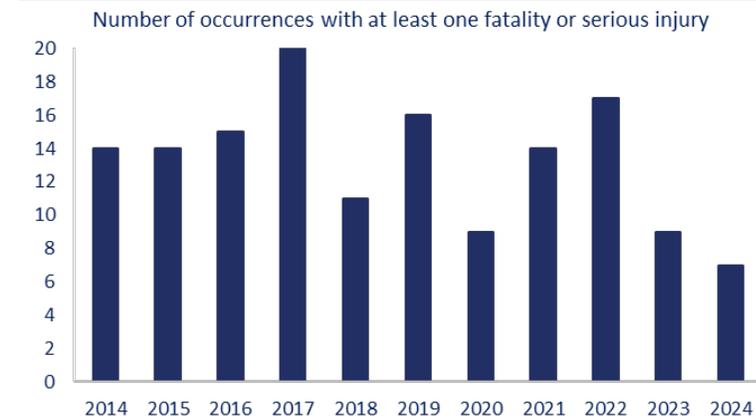
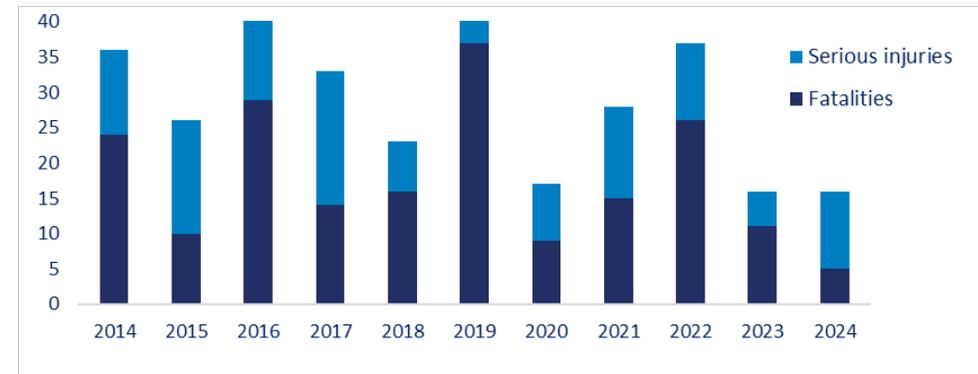
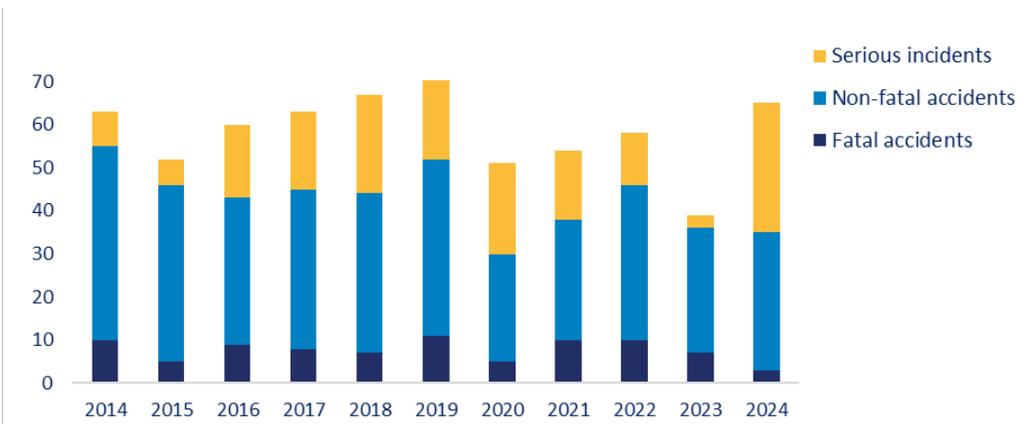
→ Accidents

→ Stable but in the low range

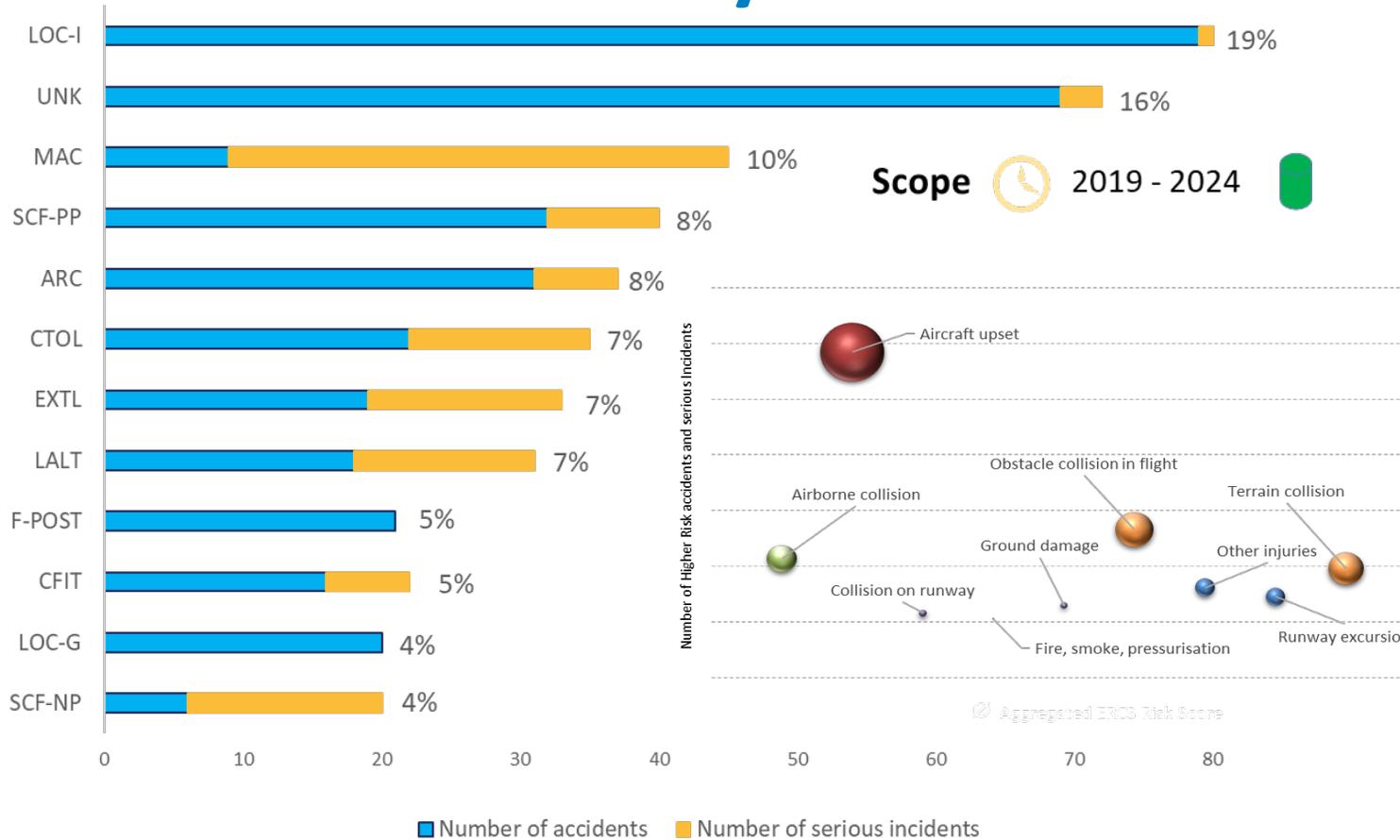
→ Serious incident

→ Sharp increase

We need to stay vigilant!



ASR Annual Safety Review



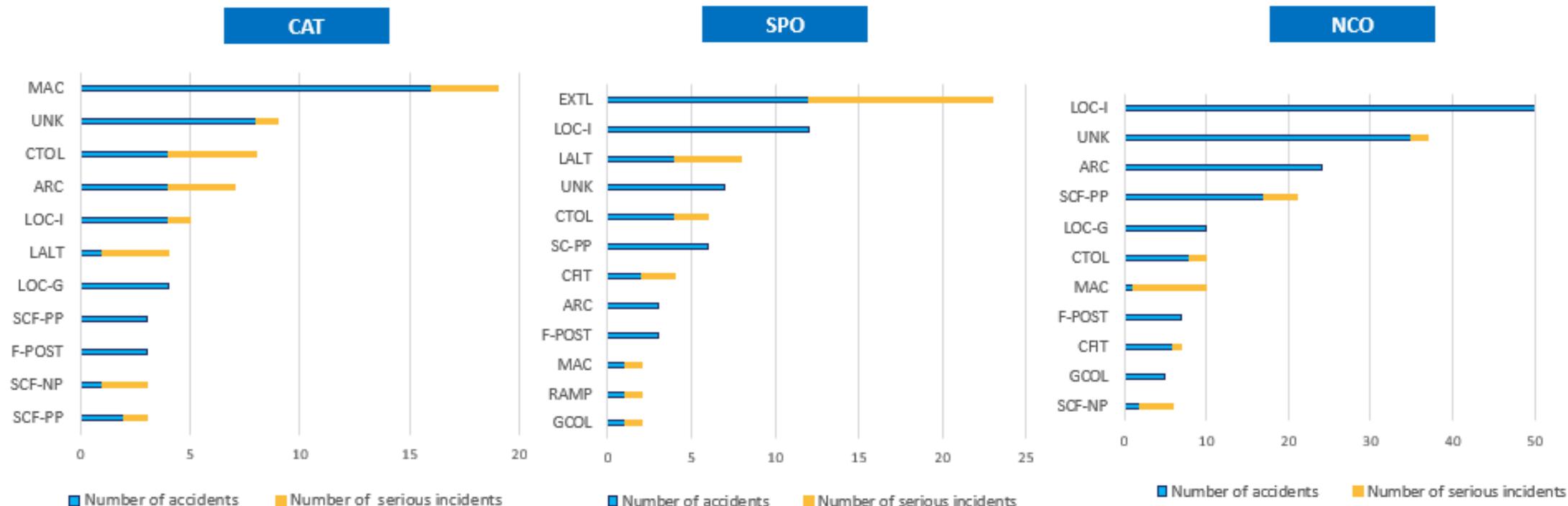
- LOC-I/ARC/CTOL/EXTL/CFIT/LALT/LOC-G
- Training vs Checking
- Updated procedures
- Automation – Net Safety Benefit
- Simulators
- Safety Promotion
- HF evaluations (new TC)
- i-Conspicuity
- HTAWS
- F-Post
- CRFS – In production cut-in and retrofit
- SCF-NP
- OEM individual safety roadmaps
- UNK
- Light Recorders
- FI Guide

LOC-I: Loss of control – inflight; UNK: Unknown or undetermined; MAC: Airprox/ACAS alert/loss of separation/(near) midair collisions; SCF-PP: powerplant failure or malfunction; ARC: Abnormal runway contact; EXTL: External load related occurrences; CTOL: Collision with obstacle(s) during take-off and landing; LALT: Low altitude operations; F-POST: Fire/smoke (post-impact); CFIT: Controlled flight into or toward terrain; LOC-G: Loss of control – ground; SCF-NP: System/component failure or malfunction [non-powerplant]; OTHR: Other



ASR Annual Safety Review

Scope  2019 - 2024  ECR



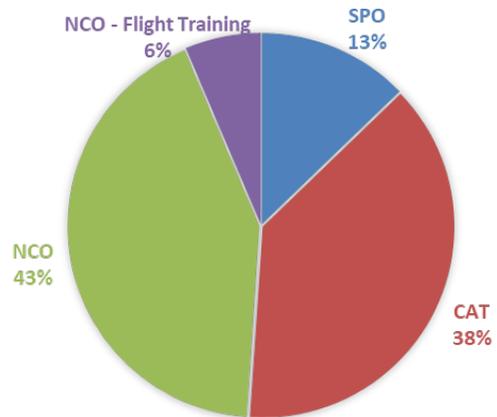
LOC-I: Loss of control – inflight; UNK: Unknown or undetermined; MAC: Airprox/ACAS alert/loss of separation/(near) midair collisions; SCF-PP: powerplant failure or malfunction; ARC: Abnormal runway contact; EXTL: External load related occurrences; CTOL: Collision with obstacle(s) during take-off and landing; LALT: Low altitude operations; F-POST: Fire/smoke (post-impact); CFIT: Controlled flight into or toward terrain; LOC-G: Loss of control – ground; SCF-NP: System/component failure or malfunction [non-powerplant]; OTHR: Other



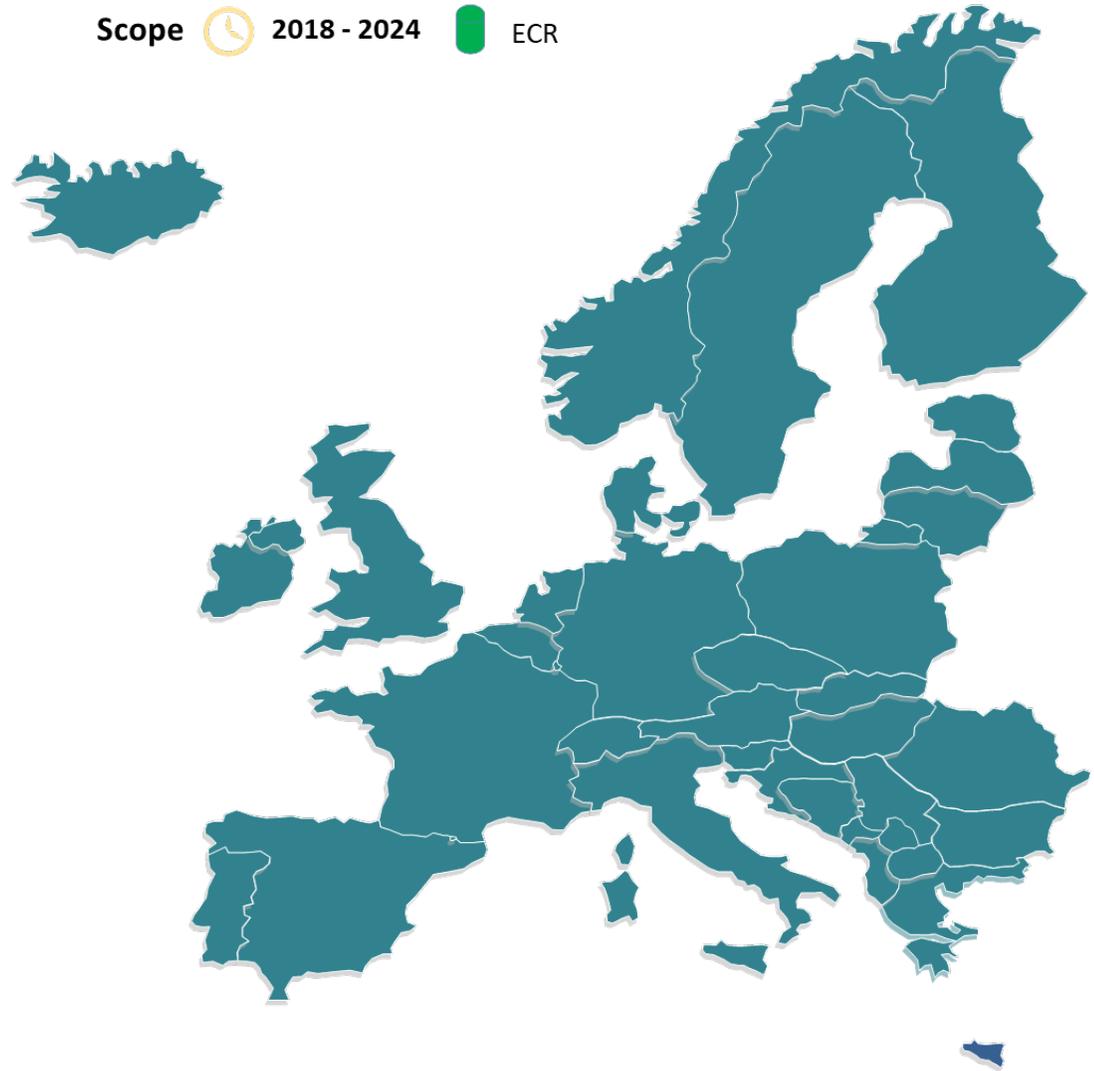
HELICOPTER OPERATIONS 2018-2023



HELICOPTER OPERATIONS 2024



Scope  2018 - 2024  ECR



Rotorcraft Safety Roadmap

Objectives (in EU):

1. Minus 50% fatal accidents in 2028 vs 2017
2. Tangible results within 5 years



**ROTORCRAFT
SAFETY
ROADMAP**
December 2018

Updated version

Results must be consolidated and stable in time – Must be stable or better in 2028!



Aircrew Update – Completed

- More training instead of checking - COMMISSION IR(EU) 2024/2076 Published on 25/07/2024
 - 1178/2011 amended to reflect the latest technical developments and to consider future designs, such as electric engines and hybrid engine designs, consisting of both thermal and electric engine components.
 - Amending age limitations for pilot engaged in HEMS



Aircrew Update – Completed

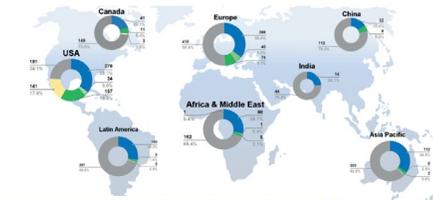
- More training instead of checking - COMMISSION IR(EU) 2024/2076 Published on 25/07/2024
 - Introduction of Safety awareness training during refresher training or prof checks (GM1 FCL.740.H)
 - Clarification of how to conduct VRS, autorotation & UAY training (AMC2 FCL.115 LAPL(H), AMC2 FCL.210 PPL(H), AMC1 ORO.FC.230, FCL appendix 9) with a link to the FI Guide
 - The possibility to revalidate (H) type rating with a training flight (with an instructor) + 6 hrs flight time (as alternative to 2hrs, incl. a check ride with an examiner) (FCL.740.H)



Aircrew Update – Completed

- Training devices - COMMISSION IR(EU) 2024/2076 Published on 25/07/2024
 - Promote use of training devices
 - Pilots of single-engine helicopters (maximum take-off mass of 3,175 kg) with at least six hours as Pilot in Command (PIC) during the validity period can now revalidate their type rating with refresher training on FSTDs, aircraft, or a combination of both, instead of undergoing a proficiency check (FCL.740.H)
 - Annex I, Appendix 9 - The training, skill test or proficiency check for class or type ratings for SPA and helicopters shall be conducted in either of the following:
 - (a) an available and accessible FFS, or in a combination of such FFS and FSTD(s);
 - (b) a combination of FSTD(s) and the aircraft if an FFS is not available or accessible;
 - (c) the aircraft if no FSTD is available or accessible.





Part and CS26 Update - CRFS

As manufactured

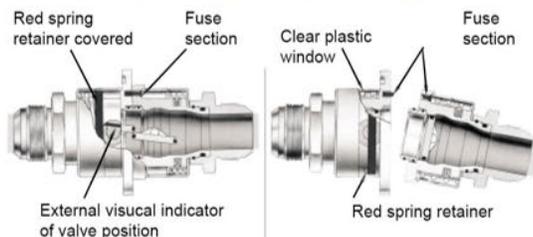
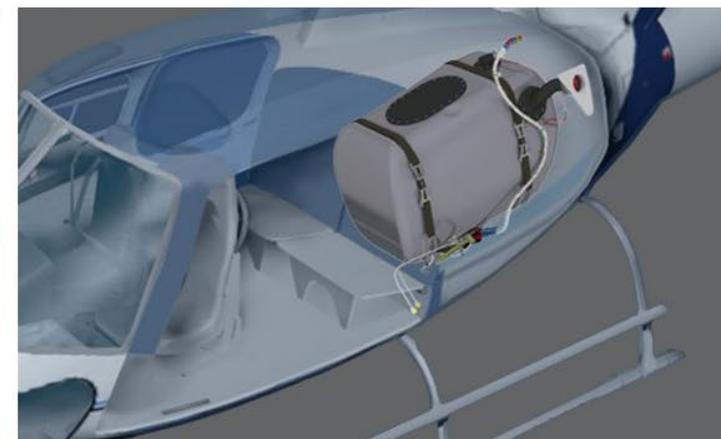
Rotorcraft certified **after 1994** only

Rotorcraft **originated from a non-member State**



Option 4 \geq 6 PAX
7 Years
(2030-2032)

Option <6 PAX
15 Years
(2038-2040)



Opinion Voted in October 2024

- Bladder drop test
- Fuse breakaway
- Puncture resistance

- Bladder drop test
- Puncture (250Lbs)

- Bladder drop test
- Puncture (250Lbs)



Simplification

→ Working on a Rotorcraft eRule book

→ New EASA strategic Objective – Rule simplification

→ Rotorcraft may be a pilot project

Display

- Easy Access Rules Publications (6)
- Easy Access Rules Content (9)

VTOL Related Content

- Yes (6)
- No (9)

Filter by Domain

- Basic Regulation (6)
- Initial Airworthiness (9)
- Additional Airworthiness Specifications (7)
- Continuing Airworthiness (11)
- Aircrew (5)
- Air Operations (4)
- Standardised European Rules of the Air (SERA) (4)
- Information Security (IS) (4)

Activity type

- Commercial Air Transport CAT (9)
- Specialized operations SPO (9)
- Non-commercial operations with complex motorpowered aircraft NCC (9)
- Non-commercial operations with other-than-complex motorpowered aircraft NCO (9)
- High risk SPO (9)

Show more

Aircraft category

- Small helicopters (9)
- Large helicopters (9)
- Gyroplanes (9)

Home / Easy Access Rules

Easy Access Rules

Below you will find all Easy Access Rules in various formats PDF, online and HTML, view the [technical rules documentation](#) learn how to use this format.

Overview Search My bookmarks

search term Search Reset

Display

- Easy Access Rules Publications (6)
- Easy Access Rules Content (9)

VTOL Related Content

- Yes (6)
- No (9)

Filter by Domain

- Basic Regulation (6)
- Initial Airworthiness (9)
- Additional Airworthiness Specifications (7)
- Continuing Airworthiness (11)
- Aircrew (5)
- Air Operations (4)
- Standardised European Rules of the Air (SERA) (4)
- Information Security (IS) (4)

Activity type

- Commercial Air Transport CAT (9)
- Specialized operations SPO (9)
- Non-commercial operations with complex motorpowered aircraft NCC (9)
- Non-commercial operations with other-than-complex motorpowered aircraft NCO (9)
- High risk SPO (9)

Show more

Aircraft category

- Small helicopters (9)
- Large helicopters (9)
- Gyroplanes (9)

Aircraft use

- Used by declared operators for special operations (9)
- Used by declared operators for non-commercial operations with complex motorpowered aircraft (9)
- Used by approved training organisations using complex motorpowered aircraft (9)
- Used by approved training organisations using other than complex motorpowered aircraft (9)

Show more

Keywords

- Helicopter Emergency Medical Services (HEMS) (6)
- HEMS Technical Crew Member (HEMS TCM) (6)
- Medical passenger (9)
- Public Inland Site (PIS) (6)
- HEMS human external cargo (6)

Show more

Other category

- MCTOM < 3 175 kg (6)
- MCTOM > 3 175 kg (6)
- MCTOM < 7 000 kg (6)
- MDPSC < 9 (6)
- MDPSC > 9 (6)
- Flight over water (6)

Show more

Regulatory material type

- Essential requirement (6)
- Implementing rule (6)
- Acceptable means of compliance (6)
- Guidance material (6)
- Alternative means of compliance (6)

Show more

Results

Displaying 1 - 10 of 411

1 2 3 4 5 6 7 8 9 10 >

Easy Access Rules for Air Operations (Regulation (EU) No 965/2012)

Revision 21, September 2023 Available formats: ONLINE PDF HTML

SPA, HEMS, 100 Helicopter emergency medical service (HEMS) operations

...helicopters shall only be operated for the purpose of search term HEMS operations

Easy Access Rules for Air Operations (Regulation (EU) No 965/2012)

Revision 21, September 2023 Available formats: ONLINE PDF HTML

GM1 SPA, HEMS, 100(a) Helicopter emergency medical service (HEMS) operations

...aviation legislation is to permit the widest spectrum of operations search term with the minimum risk

Easy Access Rules for Air Operations (Regulation (EU) No 965/2012)

Revision 21, September 2023 Available formats: ONLINE PDF HTML

AMCT SPA, HEMS, 100(b) HEMS HEC operations

...cargo sling operations, the operator should ensure search term that a trained crew member

Easy Access Rules for Air Operations (Regulation (EU) No 965/2012)

Revision 21, September 2023 Available formats: ONLINE PDF HTML

GM1 SPA, HEMS, 100(a) Helicopter emergency medical service (HEMS) operations

...pre-surveyed HEMS operating site search term is a site that has been surveyed by day

Easy Access Rules for Air Operations (Regulation (EU) No 965/2012)

Revision 21, September 2023 Available formats: ONLINE PDF HTML

AMCT SPA, HEMS, 100(b)(2) HEMS HEC operations

...double cargo hook installation should be considered to satisfy the search term airworthiness criteria

Easy Access Rules for Air Operations (Regulation (EU) No 965/2012)

Revision 21, September 2023 Available formats: ONLINE PDF HTML

SPA, HEMS, 130 Crew requirements

...minimum experience level for the commander conducting search term HEMS flights shall not be less than

Easy Access Rules for Air Operations (Regulation (EU) No 965/2012)

Revision 21, September 2023 Available formats: ONLINE PDF HTML

SPA, HEMS, 125 Performance requirements for HEMS operations

...conducting operations to/from a final search term approach and take-off area (FATO)

Easy Access Rules for Air Operations (Regulation (EU) No 965/2012)

Revision 21, September 2023 Available formats: ONLINE PDF HTML

SPA, HEMS, 110 Equipment requirements for HEMS operations

...operation shall be approved in accordance with search term

Easy Access Rules for Air Operations (Regulation (EU) No 965/2012)

Revision 21, September 2023 Available formats: ONLINE PDF HTML

GM1 SPA, HEMS, 125(a) Performance requirements for HEMS operations

...may ensure compliance of the fuel search term system based on a statement by

Easy Access Rules for Air Operations (Regulation (EU) No 965/2012)

Revision 21, September 2023 Available formats: ONLINE PDF HTML

GM1 SPA, HEMS, 125(c)(3) Performance requirements for HEMS operations

...risk profile at a search term HEMS operating site is already well known, operations



Promoting more sustainable and safer aviation

- Study to increase CS23/27 MTOW for aircraft with zero or reduced emission propulsion systems
- Positive outcome of the study – work will be carry on in 2025
- Objectives
 - have Holistic approach – also enabling more consistent framework across
 - Certification, OPS, FCL, CAW
 - Have simple and pragmatic criteria
 - Engage with ICAO and FAA/TCCA



Promoting more sustainable and safer aviation

→ Proposed criteria – for discussion and consultation

- Allow 30% MTOW increase in case of zero emission propulsion system – 11,200 kg for CS 23 and 2,360 kg (Class I to III)/4,125 kg (Class IV) helicopters.
- Allow a 10% MTOW increase in case of hybrid electric propulsion system - 9480 kg for CS 23 and 1,995 kg (Class I to III)/3,492kg (Class IV) helicopters.
- Propose to study a simplified and voluntary CO2 emission assessment/measurements for General Aviation and Rotorcraft



EASA and FAA



2024 has been a true collaborative work with significant achievements



Joint FAA/EASA Work Plan

- The Certification Oversight Board (COB) directed the Validation Program Review Group (VPRG) to develop a prioritized list of systemic validation issues. The VPRG identified addressing Level of Involvement (LoI) as a priority and developed a joint FAA-EASA Work Plan template for validation projects.
- VPRG developed a joint template that defines the VA's applicable requirements, LoI, validation work scope, management oversight, and the scalability of the validation's activities commensurate with the risk profile of a particular project.
- VPRG also developed a Job Aid to ensure consistent use of the Work Plan template by both FAA and EASA staff.
- Implementation Target Date of WP Template & Job Aid – January 1, 2025
- Train FAA/EASA personnel to Implement the Joint WP Template & Job Aid – Webinars



Achievements



- First CS/Part 23/27/29 SEI revision since 6 years
 - Overall reduction in number of SEI
 - Significant reduction in scope of a number of SEI
- GAMA/ASD CS/Part 27/29 Analysis and proposal for
 - EASA to align on FAA current wording
 - FAA to align on EASA current wording

} On non-controvertial update
- Identification of areas where harmonization needs to be further discussed with priorities
- Enabling both EASA and FAA to establish a real common plan



- To tackle the future of Aviation, both FAA and EASA need to free-up resources by reducing Involvement in « low risk products »
- Low risk CS/Part 23/27 products are:
 - Conventional architecture Sailplanes and Powered Sailplanes - CS 22/FAA Special Class that do not require additional criteria beyond CS-22.
 - Conventional architecture Normal, Utility and Aerobatic - CS/Part 23 Level 1, and Level 2 that do not have the engine or propeller approved as part of the airplane, meaning Level 2 must have separate engine and propeller TC because FAA 23.2400(b) only allows engine and propeller to be approved with the airplane for Level 1, excluding aircraft above 1200 kg and aircraft with a maximum operating altitude exceeding 25,000 ft or MMO greater than 0.6 Mach/250 kts.
 - Conventional architecture Small Rotorcraft - CS/Part 27 Class I and Class II
 - Conventional architecture Gas Balloon, Hot Air Balloon, Tethered Gas Balloon CS/Part 31/GB/HB/TGB below 15,000 m³



CS/Part 23/27 Low-risk products

Simplified Validation



- (S) Type Certificates and modifications Validation Process for Low-Risk Products
 - Product compliance with the Certifying Authority Certification Basis and the Validating Authority SSD's
 - The VA issues any required Special Conditions and ESF/ELOS/Deviation/Exemptions and agrees to new MoCs (either directly in the project Certification Plan or via dedicated CRI/IP if deemed necessary)
 - As an interim step, the Validating Authority will only review the AFM/RFM and ICA as well as noise and emission data (irrespective of CS/Part 23/27 SEI list), other compliance findings being delegated to the Certifying Authority



CS/Part 23/27 Non-low risk products Agreement

- For TC and Significant changes - TIP Rev.7.1 is followed
- Significant Changes that are not introducing novelties or new features/MoC, but which are triggering 21.101 criteria
 - Case by case basis: Management decision to agree or not on reduced VA LOI
- Non Significant Major Changes/STCs but affecting CA Certification Basis
 - Same process as Low-risks product validation
- For Major Changes/STCs that are Not Significant and which impact a VA SEI, without changing the MoC (Non-Basic)
 - VA LOI only on AFM/RFM, ICA and noise and emission review



- Agreed at last week's COB
- Implementation at the date of signature of letter exchange – Now
- Agreement should be introduced in next TIP revision (addressing further noise and emission)



- Intermediate step enabling
 - Specific Learning phase on ICA and AFM
 - Gathering of Validation issues
 - Specific training and emphasis for EASA and FAA staff
- Final objective: Streamlined validation of Low-Risks Products and simplification of Changes validation



EASA/FAA Rulemaking commitment CS/Part 27/29

- Launch Rotorcraft Harmonisation Initiative based on GAMA paper
- Develop proposals upfront before launching
- In line with proposal to come from industry on CMT Industry day
- Short and Medium term
- COB ToR and dedicated resources
- Keep SEI reduction objective



Questions!

Your safety is our mission.



easa.europa.eu/connect



Thank you
for your attention!

Your safety is our mission.



easa.europa.eu/connect

