



EUROPEAN PLAN FOR **AVIATION SAFETY** (EPAS)



VOLUME II
EPAS actions
2023 Edition



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Introduction

General

The EPAS reference period is reduced to 3 years. This implies that new EPAS actions are included only when they start within the new reference period 2023-2025 and that the information on action completion targets beyond 2025 are to be considered 'indicative'.

EPAS Volume II edition builds upon the strategic priorities for the new reference period defined in EPAS Volume I 2023-2025. This edition includes 158 active EPAS actions, with 59 Rulemaking Tasks (RMTs), 35 Safety Promotion Tasks (SPTs), 23 Member State Tasks (MSTs), 38 Research projects (RES), 2 Evaluations (EVT) and 1 Implementation Support Task (IST). 13 new actions are added, including 3 SPTs resulting from the Best Intervention Strategy (BIS) on Administrative Burden for Small Helicopter Operators, and 4 SPTs to address Human Factors issues in relation to the design and use of procedures. The new type of EPAS action 'IST' is introduced to support the roll-out of important new regulations. The first IST supports the roll-out of the new Part-Information Security.

The RMT template was reviewed:

- Separate fields for safety issues (SIs) and safety recommendations (SRs)
- Addition of a new field 'ICAO ref.'
- Reference to 'strategic priority' in alignment with EPAS 2023-2025 Volume I, where applicable
- Addition of a new field 'affected regulations'
- Introduction of details on 'working method' in line with EASA Management Board Decision No 01-2022 on the revised Rulemaking Procedure
- Update of fields in section 'Planning milestones' in line with EASA Management Board Decision No 01-2022 on the revised Rulemaking Procedure
- Standardisation of the format of the delivery dates
 - planned to be delivered in 2023, the format is: yyyy-Qn
 - planned to be delivered in 2024 and beyond, the format is: yyyy

'Regular Update' RMTs for which the previous cycle is completed and not enough candidates exist to initiate the next cycle are removed from this edition.

All EPAS action deliverables published are shown with their reference and publication date using the following format: dd/mm/yyyy.

Appendix A is renamed 'Rulemaking and safety promotion deliverables published in 2022'. It now provides an overview of SPT deliverables for SPTs completed in 2022.

Appendix B is renamed 'Rulemaking deliverables planned for 2023'.

Appendix C provides information on 16 actions that were completed in 2022 and an overview of regular update RMTs without active cycle.

INTRODUCTION

How Volume II is structured

The structure of Volume II reflects the various domains defined within the European SRM process to provide a link with the corresponding safety data portfolios included in the ASR and the Safety Risk Portfolios in Volume III. In comparison to the previous EPAS Volume II edition, there is a change in the numbering of its structure. To this end, the EPAS Volume II 2023 edition starts now with 'Chapter 1'. The structure also facilitates the identification of the actions relevant for different stakeholder groups:

All systemic safety issues are grouped within **Chapter 1** which is further subdivided to address the various action areas.

All issues related to competence of personnel are now included in a separate **Chapter 2**.

- All actions other than those related to systemic safety and competence of personnel, corresponding to the drivers 'safety', 'level playing field' and/or 'efficiency/proportionality' are grouped per **domain** (see **Chapter 3 to 11**).
- All actions corresponding to the driver 'environment' are included in a separate **Chapter 12**.
- Regular-update RMTs are included in the respective **domain** chapter.

The table below provides an overview of the structure of Volume II:

| EPAS Volume II 2023 edition | EPAS 2022-2026 Volume II | Title |
|-----------------------------|--------------------------|--|
| 1 | 5 | Systemic safety and resilience |
| 2 | 5.3 | Competence of personnel |
| 3 | 6 | Flight operations — aeroplanes |
| 4 | 7 | Rotorcraft |
| 5 | 8 | General Aviation |
| 6 | 9 | Design and production |
| 7 | 10 | Maintenance and continuing airworthiness management |
| 8 | 11 | Air traffic management/air navigation services (ATM/ANS) |
| 9 | 12 and 13 | Aerodromes and ground handling |
| 10 | 14 | Unmanned aircraft systems and manned VTOL-capable aircraft |
| 11 | 15 | New technologies and concepts |
| 12 | 16 | Environmental protection |

Within each chapter/section, actions are grouped per EPAS action type (RMT, IST, SPT, RES, EVT, MST) and within each action type, they are listed in ascending order of the unique EPAS action reference number.

More information on the types of EPAS actions and the corresponding action templates can be found at https://www.easa.europa.eu/sites/default/files/dfu/EPAS_action_types_and_templates.pdf.

Where an action is relevant to more than one domain, its full description is included in the main domain chapter, and a reference to it is added in the other domain chapter(s).

Example:

An action for flight crew training in the rotorcraft domain is included with its full description in Chapter 2 'Competence of personnel'. In addition, a reference to it is provided in Chapter 4 'Rotorcraft'.

INTRODUCTION

Appendices to Volume II

EPAS Volume II is complemented by seven appendices with additional information in support of or for easy access to the information provided in Volumes I, II and III:

- Appendix A: Rulemaking and safety promotion deliverables published in 2022
- Appendix B: Rulemaking deliverables planned for 2023
- Appendix C: Overview of new actions, actions deleted, put on hold, merged or completed in 2022
- Appendix D: Overview of the Strategic Priorities
- Appendix E: Key indicators in terms of EPAS actions
- Appendix F: Overview of Best Intervention Strategies
- Appendix G: Index
- Appendix H: Transposition of ICAO SARPS

EPAS supporting documents

EPAS Volume II is complemented by the following supporting documents:

- Information on the different types of actions and related templates: <https://www.easa.europa.eu/downloads/134924/en>
- A list of EPAS acronyms & definitions is available here: https://www.easa.europa.eu/sites/default/files/dfu/list_of_epas_acronyms_and_definitions.pdf
- An overview of ICAO SARPS amendments with details on their transposition into EU rules, organised by ICAO Annexes, is available here: [Transposition table of ICAO SARPs | EASA \(europa.eu\)](#)

1. Systemic safety and resilience



1. Systemic safety and resilience

This area addresses system-wide issues that affect aviation as a whole. In most scenarios, these issues are related to the impact of security on safety, human factors and human performance, socio-economic factors, or to deficiencies in organisational processes and procedures, whether at authority or industry level.

The following icons are used to illustrate the various topics addressed in this chapter:



Safety management



Human factors and performance



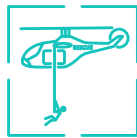
Risk interdependencies



Accident investigation



Aircraft tracking



Rescue operations



Impact of security on safety



Oversight capabilities



1.1 RISK INTERDEPENDENCIES

1.1 Risk interdependencies

Refer to EPAS Volume I Section 3.1.1 Manage risk interdependencies

1.1.1 Management of information security risks

Issue / rationale

The management of information security risks that have an impact on safety is a strategic priority.

The global civil aviation ecosystem accelerates towards more digitalisation. This implies that any exchange of information within any digital workflow of the aviation community needs to be resilient to information security (cybersecurity) threats which have far reaching consequences, such as on flight safety or the availability of airspace.

The safety actions in this area are aimed at mitigating the information-security-related safety risks.

What we want to achieve

Increase aviation safety by managing the impact of information security risks on safety and mitigating the related safety risks.

How we monitor improvement

Continuous assessment of the safety related cybersecurity posture and mitigation of information security risks.



1.1 RISK INTERDEPENDENCIES

RMT.0720 Management of information security risks

The objective of this task is to efficiently contribute to the protection of the aviation system against information security (cybersecurity) risks, and to make it more resilient to information security events and incidents. To achieve this objective, Opinion No 03/2021 proposed the introduction of provisions for the identification and management of information security risks which could affect information and communication technology systems and data used for civil aviation purposes, detecting information security events, identifying those which are considered information security incidents, and responding to, and recovering from, those information security incidents to a level commensurate with their impact on aviation safety.

Subtask 1 is removed as it was completed with the publication of Regulation (EU) 2022/1645 on 14/07/2022.

Subtask 2 covers the development of AMC/GM to Part-IS 'Information Security' (Annex to Regulation (EU) 2022/1645).

This RMT has been coordinated with the FAA and the TCCA.

| | |
|-------------------------------|---|
| Status | Ongoing |
| SlIs | n/a |
| SRs | n/a |
| ICAO ref. | Amendment 16 to ICAO Annex 17 |
| Other ref. | n/a |
| Dependencies | RMT.0251 |
| Affected stakeholders | DOA and POA holders, Part-ORO air operators, AeMCs, FSTD operators, U-space service providers and single common information service providers, apron management service providers, AOC holders (CAT), MOs, CAMOs, training organisations, ATM/ANS providers, aerodrome operators, Member States |
| Affected regulation(s) | Commission Regulations (EU) No 748/2012, No 1321/2014, 2017/373, 2015/340, No 139/2014, No 1178/2011, No 965/2012 |
| Strategic priority | EPAS Volume I Section 3.1.1.1 |
| Harmonisation | Yes |

WORKING METHOD

| | | | | |
|--------------|---|--|---------------------|--|
| Owner | EASA SM.1 | Safety Intelligence & Performance Department | | |
| SubT | Development | Impact Assessment(s) | Consultation | |
| 2 | By EASA with the support of the ESCP (European Strategic Coordination Platform) | Light | NPA - Public | |

PLANNING MILESTONES

| | | | | | |
|-------------|----------------------------|---------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| 2 | ToR RMT.0720 16/01/2019 | 2023-Q1 | n/a | n/a | 2023-Q2 |



1.1 RISK INTERDEPENDENCIES

IST.0001

Supporting the implementation of the IS management system (ISMS) by industry and NCAs

Following the adoption of the new Part-IS regulation (Commission Delegated Regulation (EU)2022/1645) and the publication of related AMC and GM¹, a number of activities are planned to support the implementation of the new regulatory framework, including but not limited to:

- defining competence objectives for the different roles involved in the implementation of the ISMS and its oversight; and
- launching pilot projects with volunteer organisations to implement Part-IS ahead of the applicability date.

Furthermore, aviation stakeholders will be encouraged to keep the focus on cybersecurity resources investment by:

- maintaining a high level of awareness through information sharing;
- promoting the reporting of information security events, collecting and analysing them following the methodology established pursuant to Regulation (EU) No 376/2014 - pending the amendment of its Annex I and Commission Implementing Regulation 2015/1018, to include details for this type of occurrences. ; and
- managing an 'EASA Cybersecurity Lab' to identify/test threat scenarios and demonstrate them in a contained environment.

| | |
|------------------------------|---|
| Status | New |
| SlS | n/a |
| SRs | n/a |
| Reference(s) | n/a |
| Dependencies | RMT.0720 |
| Affected stakeholders | DOA and POA holders, Part-ORO air operators, AeMCs, FSTD operators, U-space service providers and single common information service providers, apron management service providers, AOC holders (CAT), MOs, CAMOs, training organisations, ATM/ANS providers, aerodrome operators, Member States |
| Owner | EASA SM.1 Safety Intelligence & Performance Department |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|--|-----------------|
| ISMS training objectives, pilot projects | 2023 |
| Information sharing and occurrence analysis platform | 2024 |
| EASA Cybersecurity Lab | Continuous |

¹ EASA decided in 2019 to create a cybersecurity Lab to understand cybersecurity threats to different architectures and to provide a sandboxed environment, where cybersecurity can be tested without side effects. Additionally, it is a platform for table-top exercises, training, incident detection, isolated forensic analysis, investigation and response



1.1 RISK INTERDEPENDENCIES

RES.0033 Aviation resilience - cybersecurity threat landscape

Assess the safety impact of cybersecurity threats on aviation users, support the development of mitigation measures and specific training actions, identify and mitigate the vulnerabilities of aviation products, and identify the required changes to aviation standards.

| | |
|------------------------------|--|
| Status | Ongoing |
| SIs | n/a |
| SRs | n/a |
| Reference(s) | Aviation resilience to threats to GNSS - DG DEFIS - Defence industry and Space call for tender (cf. tender notice ²) |
| Dependencies | RES.0048 |
| Affected stakeholders | Pilots, aircraft operators, NCAs, ANSPs, industry (e.g. avionics and ATM system manufacturers) |
| Owner | EASA SM.2 Strategy & Programmes Department |

| PLANNING MILESTONES | | |
|---------------------|----------------|--------------|
| Starting date | Interim report | Final report |
| 2020 | n/a | 2024 |

² <https://ted.europa.eu/udl?uri=TED:NOTICE:369183-2020:TEXT:EN:HTML>



1.1 RISK INTERDEPENDENCIES

1.1.2 Management of security risks that have an impact on aviation safety

Issue/rationale

The Basic Regulation addresses some of the interdependencies between safety and security in civil aviation and requires the EC, the Agency and the Member States to cooperate on security matters where interdependencies between civil aviation safety and security exist.

The implementation of aviation security measures can have a direct impact on the safety aspects of aerodrome or aircraft operations. Airport, aircraft or in-flight security are the areas where the interdependencies are highly visible and where any security requirements should also consider possible potential impacts on aviation safety.

What we want to achieve

Increase safety by managing the impact of security on safety and mitigating related safety risks. Encourage an integrated approach to management of safety and security risks across the spectrum of aviation activities.

How we monitor improvement

Continuous assessment and mitigation of aviation security threats.

How we want to achieve it: actions

MST.0040 Safety and security reporting coordination mechanism

Without prejudice to the obligations stemming from Regulation (EU) No 376/2014, Member States shall ensure that appropriate coordination mechanisms are established between safety and security reporting systems in order to allow for an integrated approach to the management of risks.

| | |
|------------------------------|---------------|
| Status | Ongoing |
| SIs | n/a |
| SRs | n/a |
| Reference(s) | n/a |
| Dependencies | RMT.0720 |
| Affected stakeholders | All |
| Owner | Member States |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|------------------------------------|-----------|
| Coordination mechanism established | 2022-2023 |



1.1 RISK INTERDEPENDENCIES

RES.0048 Impact of security requirements on operational safety and performance

Assess the impact of security measures implemented on the ground and in flight on operational safety and performance.

Assess the preparedness of aviation personnel and flight crews to cope with potential conflicting security and safety measures.

| | |
|------------------------------|---|
| Status | Ongoing |
| Slis | n/a |
| SRs | n/a |
| Reference(s) | n/a |
| Dependencies | n/a |
| Affected stakeholders | Aircraft operators - All, Design Approval Holders, NCAs |
| Owner | EASA SM.2 Strategy & Programmes Department |

| PLANNING MILESTONES | | |
|---------------------|----------------|--------------|
| Starting date | Interim report | Final report |
| 2022-Q3 | n/a | 2025-Q4 |



1.1 RISK INTERDEPENDENCIES

1.1.3 Management of the risks arising from conflict zones

Issue/rationale

Managing the risks arising from conflict zones is a strategic priority.

The safety actions in this area are aimed at mitigating the risks and threats posed by flying over or in the vicinity of zones where armed conflicts exist.

What we want to achieve

Enable the effective information sharing about possible risks and threats in conflict zones. Manage the risks arising from conflict zones.

How we monitor improvement

Continuous assessment and mitigation of risks and threats arising from conflict zones.

How we want to achieve it: actions

SPT.0078 Dissemination of information on conflict zones

Following the downing of Malaysian Airlines Flight 17 on 17 July 2014, there was a general consensus within the international community that improvements could be made in the way aviation stakeholders and States share information on risks arising from conflict zones.

In response to that, the European Union has developed an airspace information alert system, the 'Alerting system for risks to civil aviation arising from conflict zones', in order to achieve more consistency in the advice offered to airlines and aviation authorities and to protect the interest of EU citizens travelling inside and outside Europe.

The EU Alerting system for risks to civil aviation arising from conflict zones has been active since early 2016.

The tragic downing of Ukraine International Airlines Flight 752 on 8 January 2020 demonstrated again the importance of information sharing and moreover of risk assessments.

In this spirit, in close consultation with the EC, EASA established European Information Sharing and Cooperation Platform on Conflict Zones (the Platform), the purpose of which includes the support to the existing EU Conflict Zone Alerting System and particularly the Integrated EU Aviation Security Risk Assessment Group in order to improve the availability and swiftness of the exchange of relevant information.

| | |
|------------------------------|---|
| Status | Ongoing |
| SI | n/a |
| SRs | n/a |
| Reference(s) | n/a |
| Dependencies | n/a |
| Affected stakeholders | All |
| Owner | EASA SM.1 Safety Intelligence & Performance Department |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|--|------------|
| Information to Member States, Information Sharing and Cooperation Platform on Conflict Zones | Continuous |



1.1 RISK INTERDEPENDENCIES

1.1.4 Management of the risks arising from socio-economic factors

Issue/rationale

Article 89 of Regulation (EU) 2018/1139 formally requires the Commission, the Agency, other Union institution bodies, offices and agencies and the Member States, within their respective fields of competence, to cooperate with a view to ensuring that interdependencies between civil aviation safety and related socio-economic factors are taken into account including in regulatory procedures, oversight and implementation of just culture as defined in Article 2 of Regulation (EU) No 376/2014, to address socio-economic risks to aviation safety.

One of the main discussions on socio-economic factors is currently focused on the employment and working conditions of pilots in commercial air transport. Several EU-wide studies suggest that there may be concerns about the possible impact of the working conditions on safety culture and safety reporting (data for other safety-critical personnel is limited).

However, these studies, and data available to the Agency, fail to establish a correlation between employment and working conditions and level of safety. The absence of an established correlation could also be due to the lack of adequate data and the lack of reporting from safety-critical personnel.

What we want to achieve

Enable a better understanding of the possible risks arising from socio-economic factors, and manage them.

How we monitor improvement

Continuous assessment and mitigation of the risks arising from socio-economic factors.

How we want to achieve it: actions



1.1 RISK INTERDEPENDENCIES

MST.0042 Assessment of safety culture at air operators

A strong safety and reporting culture is an essential enabler of an effective management system. This task aims to improve the Member States' capacity to assess the safety culture at air operators involved in CAT operations, and complements EPAS action RES.0053 'Mapping the socio-economic impact on aviation safety'.

In a first phase (2023), in order to support national competent authorities (NCAs), EASA will develop guidance and practical tools to measure safety culture at air operators. As soon as finalised, such guidance and tools will be made available to the Member States. This phase will be an interactive phase where contributions/feedback from MS and industry stakeholders will be sought.

In a second phase (2024), the task for Member States will consist in including in their oversight programmes the assessment of safety culture of air operators with the support of the EASA guidance and practical tools. Based on the outcome of the first phase, the scope and details of the second phase will be further discussed and adjusted in EPAS 2024-2026.

| | |
|------------------------------|--|
| Status | New |
| SI | SI-0041 Effectiveness of safety management |
| SRs | n/a |
| Reference(s) | EASA Article 89 Report Edition 2021 Regulation (EU) No 376/2014 SMICG Industry Safety Culture Evaluation Tool and Guidance |
| Dependencies | MST.0026 |
| Affected stakeholders | AOC holders (CAT) |
| Owner | Member States |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|---|----------|
| Guidance and practical tools to measure safety culture at air operators | 2023-Q4 |
| Oversight programme for air operators includes the assessment of safety culture | 2024-Q2 |



1.1 RISK INTERDEPENDENCIES

RES.0053 Mapping the socio-economic impact on aviation safety

To map the impact of socio-economic factors on aviation safety for all safety-critical personnel, including an assessment of the adequacy of the current data collection process to identify socio-economic risks.

One of the main discussions on socio-economic factors is currently focused on the employment and working conditions of pilots. Several EU-wide studies suggest that there may be concerns about the possible impact of the working conditions on aviation safety, in particular on safety culture and safety reporting (data for other safety-critical personnel is limited). However, these studies, and data used by the Agency, fail to establish a correlation between employment and working conditions and level of safety.

The absence of an established correlation could also be due to the lack of adequate data and the lack of reporting from safety-critical personnel but also due to the fact that the current measures in place in the EU aviation safety system (safety management system, human factors, safety promotion, just culture, oversight by the competent authorities, etc.) already provide for adequate mitigation.

| | |
|------------------------------|--|
| Status | New |
| Sl | n/a |
| SRs | n/a |
| Reference(s) | EASA Article 89 Report Edition 2021 |
| Dependencies | n/a |
| Affected stakeholders | ALL |
| Owner | EASA SM.2 Strategy & Programmes Department |

| PLANNING MILESTONES | | |
|---------------------|----------------|--------------|
| Starting date | Interim report | Final report |
| 2023-Q3 | 2024-Q2 | 2024-Q3 |



1.2 SAFETY MANAGEMENT

1.2 Safety management

Refer to EPAS Volume I Section 3.1.2 Improve safety by improving safety management

Issue/rationale

The proactive implementation of safety management considering all known safety data and information has proven essential for the ability of the aviation system to deal with safety issues, including new items coming from disruptive events or from a crisis (recovery). Both the SSP and SMS will be increasingly instrumental within the EU aviation safety management system, not only in ensuring that safety issues are addressed at the right level, but also in guaranteeing the availability of required data and safety intelligence to support the timely identification of safety risks and issues.

What we want to achieve

Improve the level of safety through the effective implementation of safety management by authorities and organisations.

How we monitor improvement

Organisations and authorities shall demonstrate compliance with applicable regulations and their effective implementation to maintain and further improve safety performance. For ATM/ANS, this will be monitored as part of the ATM Performance and Charging Scheme. For the other domains, EASA collects data on the status of compliance with the organisation requirements as relevant to safety management.

How we want to achieve it: actions



1.2 SAFETY MANAGEMENT

RMT.0251

Embodiment of the safety management system requirements into Commission Regulations (EU) Nos 1321/2014 and 748/2012

With reference to ICAO Annex 19, the objective is to establish a framework for safety management in the initial and continuing airworthiness domain.

This RMT has been processed in three subtasks:

- **Subtask 1:** Changes to Part-M linked to OPS (CAMOs) is completed following the publication of Commission regulation 2019/1383³ on 08/07/2019 Decision 2020/002/R on 13/03/2020,
- **Subtask 2a:** Changes to Part-145 is completed following the publication of Commission Regulation 2021/1963⁴ on 08/11/2021 and Decision 2022/011/R on 10/05/2022,
- **Subtask 2b:** Changes to Part 21: Commission Regulation 2022/203⁵ was published on 15/02/2022, related AMCs and GM will be published in two Parts. The decision for the first part (ED Decision 2022/021/R), together with the corresponding AMC and GM, were published on 19/12/2022.

| | |
|-------------------------------|--|
| Status | Ongoing |
| SI | SI-0041 Effectiveness of safety management SI-3004 Integration of HF/HP principles into the organisation's management |
| SRs | UNKG-2010-072; UNKG-2011-018; UNKG-2015-001 |
| ICAO ref. | ICAO Annex 19 |
| Other ref. | n/a |
| Dependencies | RMT.0681, RMT.0720 |
| Affected stakeholders | CAMOs, AMOs (Part-145), POA holders, DOA holders, ETSOA holders, NCAs |
| Affected regulation(s) | Commission Regulation (EU) No 1321/2014 Commission Regulation (EU) No 748/2012 |
| Strategic priority | EPAS Volume I Section 3.1.2 Harmonisation No |

WORKING METHOD

| | | | |
|--------------|-------------------------------|------------------------------------|---------------------|
| Owner | EASA FS.0 | Flight Standards Director's Office | |
| SubT | Development | Impact Assessment(s) | Consultation |
| 2b | by EASA with external support | Light | NPA - Public |

PLANNING MILESTONES

| | | | | | |
|-------------|-------------------|---------------------------|-----------------------|------------------------|---|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| 2b | | NPA 2019-05 17/04/2019 | 04/2020 21/12/2020 | 2022/203 15/02/2022 | Part I: 2022/021/R 19/12/2022 Part-II: 2023-Q2 |

3 <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32019R1383>

4 <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32021R1963>

5 <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32022R0203>



1.2 SAFETY MANAGEMENT

RMT.0681**Alignment of the IRs of the EASA Basic Regulation and of the associated acceptable means of compliance (AMC) and guidance material (GM) with Regulation (EU) No 376/2014**

Note: NPA 2016-19 will not be followed by a stand-alone Opinion; instead, regulatory changes are being implemented as part of existing RMTs. CRD 2016-19 was published on 24/05/2019.

Overview of RMTs through which amendments were/are being made:

1. Part 21 through RMT.0251 Phase II, completed - see Commission Implementing Regulation (EU) 2022/203;
2. Part-M, Part-ML, Part-CAO and Part-CAMO through RMT.0278 and RMT.0521 - in progress;
3. Part-145 through RMT.0251 Phase II, completed - see Regulation (EU) 2021/1963;
4. Part-ARA / Part-ORA (Aircrew) through RMT.0599, completed - see Regulation (EU) 2020/2193;
5. Part-ARO / Part-ORO (Air Operations) through RMT.0392 - in progress;
6. Part-ADR-AR / Part-ADR-OR through RMT.0591 - in progress;
7. Part-ATM/ANS.AR / Part-ATM/ANS.OR through RMT.0719 (Part-MET), completed - see Regulation (EU) 2021/1338;
8. Part ATCO-AR / Part ATCO-OR through RMT.0668 - not yet started; and
9. AMC 20-8 through RMT.0643, completed - see EDD 2020/010/R of 23/07/2020.

| | |
|-------------------------------|---|
| Status | Ongoing |
| SlS | SI-0041 Effectiveness of safety management |
| SRs | n/a |
| ICAO ref. | ICAO Annex 19 Chapter 5 and Appendix 3 |
| Other ref. | n/a |
| Dependencies | RMT.0251, RMT.0278, RMT.0521, RMT.0392, RMT.0591, and RMT.0668 |
| Affected stakeholders | Air operators - All, Aircrew, MOs (Part-145), ATOs, Production organisations, CAMOs, ADR operators, ATM/ANS providers, ATCO TOs |
| Affected regulation(s) | See task description |
| Strategic priority | EPAS Volume I Section 3.1.2 |
| Harmonisation | No |

WORKING METHOD

| | | |
|--------------|--------------------|--|
| Owner | EASA SM.1 | Safety Intelligence & Performance Department |
| SubT | Development | Impact Assessment(s) |
| 2 | by EASA | Light |
| | | Consultation |
| | | NPA - Public |

PLANNING MILESTONES

| | | | | | |
|-------------|----------------------------|---------------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| | ToR RMT.0681 30/09/2015 | NPA 2016-19 19/12/2016 | n/a | n/a | n/a |



1.2 SAFETY MANAGEMENT

RMT.0706 Update of the authority and organisation requirements

Address relevant elements of ICAO Annex 19 considering the latest revision status of the document and ensure appropriate horizontal harmonisation of the requirements across the different domains taking on board lessons learned.

| | |
|-------------------------------|--|
| Status | On hold |
| SI | SI-0041 Effectiveness of safety management SI-3004 Integration of HF/HP principles into the organisation's management |
| SRs | n/a |
| ICAO ref. | ICAO Annex 19 |
| Other ref. | EASA BIS 'Safety Management' |
| Dependencies | n/a |
| Affected stakeholders | NCA, national supervisory authorities (NSAs), air operators, pilots, MOs, ATOs, POA holders, CAMOs, ADR operators, ATM/ANS providers, ATCO TOs |
| Affected regulation(s) | tbd |
| Strategic priority | No |
| Harmonisation | No |

WORKING METHOD

| | | |
|--------------|--------------------|------------------------------------|
| Owner | EASA FS.0 | Flight Standards Director's Office |
| SubT | Development | Impact Assessment(s) |
| | tbd | tbd |
| | | Consultation |
| | | tbd |

PLANNING MILESTONES

| | | | | | |
|-------------|-------------------|---------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| | tbd | tbd | tbd | tbd | tbd |



1.2 SAFETY MANAGEMENT

SPT.0057 Safety management implementation and international cooperation

Promote the common understanding of safety management and human factors/human performance principles within and outside Europe, share lessons learned and encourage progress and harmonisation through active participation in the Safety Management International Collaboration Group (SMICG)⁶ and dissemination of safety promotion material to support the effective implementation of the safety management system (SMS) and the State Safety Programme (SSP), including but not limited to the below deliverables and material addressing the EU context.

The latest SMICG deliverables⁷ include:

- Updated Safety Management Terminology
- State Safety Programme (SSP) brochure

Forthcoming SMICG material:

- Effective Surveillance Following the Introduction of SMS
- Management of Change at State Level: Considerations
- Safety Manager's Role in SMS, including competency and training requirements
- Performance- and Risk-based Oversight
- SMS Flyer on Design, Manufacturing and Production Organisations

Latest EASA material:

- Effective SMS implementation: SMS Q&A webinar⁸
- 2022 EASA safety week: recordings⁹ and material¹⁰
- EASA Covid-19 Resources¹¹, including the aviation safety issues arising from the Covid-19 pandemic and the role of operators' management systems in the Covid-19 recovery phase (with new scenarios)¹²
- Guide for compliance with Part-145 as amended by Regulation (EU) 2021/1963 (revision June 2022)¹³

Forthcoming EASA material:

- SMS in Part-145 and Part 21: practical implementation
- Upgraded EASA MS assessment tool¹⁴, including Part-CAMO, Part-145 and Part 21

| | |
|------------------------------|---|
| Status | Ongoing |
| SIs | SI-0041 Effectiveness of safety management SI-3002 Impact of culture on human performance SI-3001 Senior management competence and commitment to HF/HP principles |
| SRs | n/a |
| Reference(s) | EASA BIS 'Safety Management' GASP SEI-5 (industry) Improvement of industry compliance with the applicable SMS requirements |
| Dependencies | MST.0001, MST.0002, MST.0028, RMT.0251 |
| Affected stakeholders | ALL |
| Owner | EASA FS.0 Flight Standards Director's Office |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|---|------------|
| Guidance / training material / best practices | Continuous |

⁶ [https://www.skybrary.aero/index.php/Safety_Management_International_Collaboration_Group_\(SM_ICG\)](https://www.skybrary.aero/index.php/Safety_Management_International_Collaboration_Group_(SM_ICG))

⁷ <https://skybrary.aero/enhancing-safety/sm-icg-safety-management-products/sm-icg-guidancetools>

⁸ <https://www.easa.europa.eu/community/topics/effective-sms-implementation>

⁹ <https://www.youtube.com/playlist?list=PLYhk72r7SyLJYRwD-J-yCeA5MJHZ3cXUY>

¹⁰ <https://www.easa.europa.eu/community/content/stronger-safer-together>

¹¹ <https://www.easa.europa.eu/the-agency/coronavirus-covid-19>

¹² <https://www.easa.europa.eu/document-library/general-publications/guidelines-role-operators-management-systems-covid-19#group-easa-downloads>

¹³ <https://www.easa.europa.eu/downloads/136744/en>

¹⁴ <https://www.easa.europa.eu/document-library/general-publications/management-system-assessment-tool>

**1.2 SAFETY MANAGEMENT****MST.0001 Member States to give priority to the work on SSPs**

As regards the implementation and maintenance of the SSP, Member States shall in particular:

- ensure the effective implementation of the authority requirements and address deficiencies in oversight capabilities, as a prerequisite for the effective SSP implementation;
- ensure the effective coordination among State authorities that have a role to play in safety management;
- ensure that inspectors have the appropriate competencies to support the evolution towards risk- and performance-based oversight;
- ensure that policies and procedures are in place for risk- and performance-based oversight, including a description of how an SMS is accepted and regularly monitored;
- consider civil-military coordination aspects where relevant for State safety management activities, with a view to identifying where civil-military coordination and cooperation will need to be enhanced to meet the SSP objectives;
- establish policies and procedures for safety data collection, analysis, exchange and protection, in accordance with Regulation (EU) No 376/2014;
- establish a process to determine SPIs at State level addressing outcomes and processes;
- ensure that an approved SSP document is made available and shared with the other Member States and EASA;
- ensure that the SSP is regularly reviewed and that its effectiveness is regularly assessed.

| | |
|------------------------------|---|
| Status | Ongoing |
| SI | SI-0041 Effectiveness of safety management |
| SRs | n/a |
| Reference(s) | ICAO Annex 19 and GASP 2023-20254 Goal 3 'Implement effective State Safety Programmes' ICAO Doc. 10161 Appendix A 'ORG Roadmap': <ul style="list-style-type: none"> • GASP SEI-13 - Start of SSP implementation at the national level • GASP SEI-14 - Strategic allocation of resources to start SSP implementation • GASP SEI-15 - Strategic collaboration with key aviation stakeholders to start SSP implementation • GASP SEI-16 - Strategic collaboration with key aviation stakeholders to complete SSP implementation |
| Dependencies | MST.0028 |
| Affected stakeholders | All |
| Owner | Member States |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|-----------------------------|-----------------|
| SSP document made available | 2021 |
| SSP effectively implemented | 2025 |



1.2 SAFETY MANAGEMENT

MST.0002 Promotion of SMS

Member States should encourage the dissemination and implementation of safety promotion material developed by the European Safety Promotion Network, the SMICG and other relevant sources of information as regards safety management.

The latest SMICG deliverables¹⁵ include:

- Updated Safety Management Terminology
- State Safety Programme (SSP) brochure

Forthcoming SMICG material:

- Effective Surveillance Following the Introduction of SMS
- Management of Change at State Level: Considerations
- Safety Manager's Role in SMS, including competency and training requirements
- Performance- and Risk-based Oversight
- SMS Flyer on Design, Manufacturing and Production Organisations

Latest EASA material:

- Effective SMS implementation: SMS Q&A webinar¹⁶
- 2022 EASA safety week: recordings¹⁷ and material¹⁸
- EASA Covid-19 Resources¹⁹, including the aviation safety issues arising from the Covid-19 pandemic and the role of operators' management systems in the Covid-19 recovery phase (with new scenarios)²⁰
- Guide for compliance with Part-145 as amended by Regulation (EU) 2021/1963 (revision June 2022)²¹

Forthcoming EASA material:

- SMS in Part-145 and Part 21: practical implementation
- Upgraded EASA MS assessment tool²², including Part-CAMO, Part-145 and Part 21

| | |
|------------------------------|---|
| Status | Ongoing |
| SI | SI-0041 Effectiveness of safety management SI-8044 Ineffective safety management systems |
| SRs | n/a |
| Reference(s) | GASP SEI-5 (industry) Improvement of industry compliance with the applicable SMS requirements |
| Dependencies | MST.0001, SPT.0057 |
| Affected stakeholders | All |
| Owner | Member States |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|---|------------|
| Guidance / training material / best practices | Continuous |

15 <https://skybrary.aero/enhancing-safety/sm-icg-safety-management-products/sm-icg-guidancetools>

16 <https://www.easa.europa.eu/community/topics/effective-sms-implementation>

17 <https://www.youtube.com/playlist?list=PLYhk72r7SyLJYRwD-J-yCeA5MJHZ3cXUY>

18 <https://www.easa.europa.eu/community/content/stronger-safer-together>

19 <https://www.easa.europa.eu/the-agency/coronavirus-covid-19>

20 <https://www.easa.europa.eu/document-library/general-publications/guidelines-role-operators-management-systems-covid-19#group-easa-downloads>

21 <https://www.easa.europa.eu/downloads/136744/en>

22 <https://www.easa.europa.eu/document-library/general-publications/management-system-assessment-tool>



1.2 SAFETY MANAGEMENT

MST.0026 SMS assessment

Without affecting any of the obligations stemming from the SES ATM Performance Scheme, Member States should make use of the EASA management system assessment tool to support risk- and performance-based oversight. Member States should provide feedback to EASA on how the tool is used for the purpose of standardisation and continual improvement of the assessment tool.

Member States should regularly inform EASA about the status of their compliance with the SMS requirements and about the SMS performance of their industry.

Note 1: The EASA management system assessment tool is undergoing revision; a draft version including continuing airworthiness management organisations (CAMOs) and Part-145 approved maintenance organisations (AMOs) is available on request. A new version, which will include Part 21, will be available during the 2nd half of 2023; an editable version will follow.

Note 2: The use of the tool and the need for updates are discussed with the SM TeB.

| | |
|------------------------------|---|
| Status | Ongoing |
| SI | SI-0041 Effectiveness of safety management |
| SRs | n/a |
| Reference(s) | EASA Management system assessment tool ²³ EASA BIS 'Safety Management' GASP SEI-5 (industry) Improvement of industry compliance with the applicable SMS requirements |
| Dependencies | MST.0001, MST.0032 |
| Affected stakeholders | Air operators - CAT and NCC, CAMOs, ATOs, AeMCs, ADR operators, MOs (Part-145), DOA holders, POA holders |
| Owner | Member States |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|--|----------------------------------|
| Feedback on the use of the management system assessment tool Feedback on the status of SMS compliance | Continuous with annual reporting |

23 <https://www.easa.europa.eu/document-library/general-publications/management-system-assessment-tool>



1.2 SAFETY MANAGEMENT

MST.0028 Member States to establish and maintain a State Plan for Aviation Safety

Member States shall ensure that a State Plan for Aviation Safety (SPAS) is maintained and regularly reviewed. Member States shall identify in their SPAS the main safety risks affecting their national civil aviation safety system and shall set out the necessary actions to mitigate those risks. In doing so, Member States shall consider the European safety risk areas identified in the EPAS for the various aviation domains as part of their safety risk management (SRM) process and, when necessary, identify suitable mitigation actions within their SPAS. In addition to the actions, the SPAS shall also consider how to measure their effectiveness. Member States shall justify why action is not taken for a certain risk area identified in the EPAS.

The top key risk areas as determined through the EU SRM, currently are the following²⁴:

- for CAT and NCC aeroplanes: airborne collision, runway excursion, and runway collision;
- for rotorcraft operations:
 - CAT: airborne collision, obstacle collision in flight, and aircraft upset;
 - SPO: aircraft upset, obstacle collision in flight and other injuries;
 - NCO: aircraft upset, obstacle collision in flight and terrain collision.
- for GA/NCO aeroplanes: aircraft upset, terrain collision, and airborne collision;
- for GA/sailplanes: aircraft upset, terrain collision, and obstacle collision in flight;
- for GA/balloons: obstacle collision in flight, balloon landings, and aircraft upset.

Member States shall also consider in their SPAS, as applicable, top safety issues from the European safety risk portfolios. EPAS Volume I may be consulted for the key risk areas, and EPAS Volume III may be consulted for safety issues.

The SPAS shall describe how the plan is developed and endorsed, including collaboration with different entities within the State, with industry and other stakeholders (unless this is described in the SSP document), include safety objectives, goals, indicators and targets (unless these are included in the SSP document), reflect the EPAS actions as applicable to the State, and identify the main safety risks at national level in addition to the ones identified in the EPAS.

Member States shall ensure that their SPAS is made available to the relevant stakeholders and are invited to share it with the other Member States and EASA.

| | |
|------------------------------|--|
| Status | Ongoing |
| SI | SI-0041 Effectiveness of safety management |
| SRs | n/a |
| Reference(s) | ICAO Annex 19 and GASP 2023-2025 Goal 3 'Implement effective State Safety Programmes' ICAO Doc. 10161 Appendix A 'ORG Roadmap': <ul style="list-style-type: none"> • GASP SEI-11 (States) - Strategic collaboration with key aviation stakeholders to enhance safety in a coordinated manner • GASP SEI-17 (States) - Establishment of safety risk management at the national level • GASP SEI-18 (States) - Establishment of safety risk management at the national level • GASP SEI-19(States) - Acquisition of resources to increase the proactive use of risk modelling capabilities • GASP SEI-20 (States) - Strategic collaboration with key aviation stakeholders to support the proactive use of risk modelling capabilities • GASP SEI-21 (States) - Advancement of safety risk management at the national level |
| Dependencies | MST.0001 |
| Affected stakeholders | All |
| Owner | Member States |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|------------------|----------|
| SPAS established | 2021-Q4 |
| SPAS reviewed | 2024-Q1 |

24 Cf. [Annual Safety Review 2022](#) | [EASA \(europa.eu\)](#)



1.2 SAFETY MANAGEMENT

RES.0036 Risk assessment tool

The risk assessment tool shall provide a logical process to analyse a proposed new system (product / concept of operations) and establish an adequate level of confidence that the operation can be conducted with an acceptable level of risk.

The use of model-based risk assessment methods for aviation application should be investigated, covering the development of abstract models for expert knowledge capture, the identification of hazards and their mitigation, the use of quantitative analyses as well as the performance of numerical simulations.

All types of threats associated with a specified hazard, the relevant design, and the proposed operational mitigation measures for a specific operation shall be considered.

This research action has two phases:

- The first phase concerns the drafting of the technical specifications for a tender to develop the risk assessment tool. This phase started in 2021-Q2 and ends in 2023-Q2. This project is funded by Horizon Europe under the 2nd Research Contribution Agreement with the European Commission.
- The second phase, which is the development of the tool itself, is expected to start in 2023-Q3 and to end in 2025-Q4. This project is proposed to be funded under Horizon Europe under the planned 3rd Research Contribution Agreement with the European Commission.

| | |
|------------------------------|--|
| Status | Ongoing |
| SIs | n/a |
| SRs | n/a |
| Referencies | Risk Assessment Tool Technical Specifications EASA (europa.eu) |
| Dependencies | n/a |
| Affected stakeholders | Design organisations, aircraft operators - all, air navigation services providers (ANSPs), ADR operators, NCAs |
| Owner | EASA SM.2 Strategy & Programmes Department |

| PLANNING MILESTONES | | |
|---------------------|----------------|--------------|
| Starting date | Interim report | Final report |
| 2021-Q2 | n/a | 2023-Q2 |
| 2023-Q3 | n/a | 2025-Q4 |



1.3 HUMAN FACTORS AND HUMAN PERFORMANCE

1.3 Human factors and human performance

Issue/rationale

Refer to EPAS Volume I Section 3.1.3 'Manage human factors and human performance'

Human factors and human performance are strategic priorities. As new technologies and concepts of operation emerge on the market and the complexity of the aviation system continuously increases, it is of key importance to properly address human factors and human performance in terms of both limitations and their contribution to delivering safety, as part of the safety management implementation.

The health, well-being and fitness of aviation personnel are intrinsically linked to the resilience of the aviation system. Risks in the area of medical fitness have increased during the COVID-19 crisis. Those risks have an impact on the performance of key personnel in the aviation system due to their effect on mental or physical state, which are influenced by multiple factors.

What we want to achieve

Ensure continuous improvement in safety management activities as related to human factors and human performance.

Exploit new advances in medicines and health monitoring.

Harmonise MED and FTL requirements where this ensures fair competition or facilitates the free movement of goods, persons and services.

How we monitor improvement

Feedback from the ABs and the Human Factors Collaborative Analysis Group (HF CAG).

How we want to achieve it: actions



1.3 HUMAN FACTORS AND HUMAN PERFORMANCE

1.3.1 General

SPT.0115 Provide Member States with a basis for training their staff in human factors

The task involves expanding the scope of the existing human factors competency framework for inspectors to cover all categories of regulatory staff. This competency framework will then be promoted to Member States.

The task mitigates the risks incurred through the inadequate understanding, regulation and oversight of human factors.

| | |
|------------------------------|---|
| Status | Ongoing |
| SI | SI-3003 Human factors competence for regulatory staff |
| SRs | n/a |
| ICAO ref. | ICAO Human Performance Manual (ICAO Doc 10151) ICAO Safety Management Manual (ICAO Doc 9859) |
| Other ref(s) | EASA BIS 'Human Factors competence for regulatory staff' |
| Dependencies | MST.0037 |
| Affected stakeholders | NCA |
| Owner | EASA SM.1 Safety Intelligence & Performance Department |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|---------------------------|----------|
| Safety promotion material | 2023 |

SPT.0129 Review and recommend methods of design and management of procedures

The objective of this task is to improve the design and use of procedures, ensuring safe, technically correct and standardised work throughout the aviation system. The technical content will be a review of currently available methods of design and management of procedures. This will produce recommendations on which methods to use and in which organisational and operational contexts. This content will then be converted into safety promotion material for EASA stakeholders, taking a layered approach to build on the basic techniques and tailoring these for different audiences.

| | |
|------------------------------|--|
| Status | New |
| SI | SI-3007 Design and use of procedures |
| SRs | n/a |
| ICAO ref. | ICAO Human Performance Manual (ICAO Doc 10151) ICAO Safety Management Manual (ICAO Doc 9859) |
| Other ref(s) | EASA BIS 'Design and Use of Procedures' |
| Dependencies | n/a |
| Affected stakeholders | Air operators - all, ATOs (Aircrew), FSTD operators, MOs (Part-145 & Part-CAO), CAMOs, MTOs (Part-147), ATM/ANS providers, U-space service providers, ADR operators, groundhandling service providers (GHSPs), NCA |
| Owner | EASA SM.1 Safety Intelligence & Performance Department |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|--|-------------|
| Checklist, article, social media promotion | 2023 - 2024 |



1.3 HUMAN FACTORS AND HUMAN PERFORMANCE

SPT.0130

Facilitate the production of learning material to effectively inform audiences that procedure following does not automatically equate to safety

The objective of this task is to produce learning material to effectively inform audiences that procedure following does not automatically equate to safety. Safety emerges from systematic interactions (people, artefacts, training, etc.) and consequently increased focus should be aimed at adaptation skills and defensive operating techniques, ultimately fostering team resilience. To prevent over-reliance on procedures, it is important to stimulate the industry to focus on increasing human and systematic resilience. This means that training regarding human performance variabilities in complex operational conditions must go beyond procedural compliance.

| | |
|------------------------------|---|
| Status | New |
| SIs | SI-3007 Design and use of procedures |
| SRs | n/a |
| ICAO ref. | ICAO Human Performance Manual (ICAO Doc 10151) ICAO Safety Management Manual (ICAO Doc 9859) |
| Other ref(s) | EASA BIS 'Design and Use of Procedures' |
| Dependencies | SPT.0129 |
| Affected stakeholders | Air operators - all, ATOs (Aircrew), FSTD operators, MOs (Part-145 & Part-CAO), CAMOs, MTOs (Part-147), ATM/ANS providers, U-space service providers, ADR operators, groundhandling service providers (GHSPs), NCAs |
| Owner | EASA SM.1 Safety Intelligence & Performance Department |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|---|-----------------|
| Learning package, podcast/ videocast, article, social media promotion | 2023 - 2024 |



1.3 HUMAN FACTORS AND HUMAN PERFORMANCE

SPT.0131

Undertake a project to identify better applied root cause analysis for organisations conducting investigations into procedural non-compliance

To reduce procedural non-compliances, the objective of this action is to provide technical guidance for organisations investigating occurrences. The task deliverables should help users to ask more and better questions related to procedural non-compliance. The root cause analysis results should make it easier for industry safety practitioners to effectively identify causes of procedural non-compliance and rapidly implement solutions. Most importantly, the deliverables must include useable tools and procedures that can empower organisations to identify and address the cultural issues that affect procedural non-compliance.

| | |
|------------------------------|---|
| Status | New |
| SI | SI-3007 Design and use of procedures |
| SRs | n/a |
| ICAO ref. | ICAO Human Performance Manual (ICAO Doc 10151) ICAO Safety Management Manual (ICAO Doc 9859) |
| Other ref(s) | EASA BIS 'Design and Use of Procedures' |
| Dependencies | SPT.0057 |
| Affected stakeholders | Air operators - all, ATOs (Aircrew), FSTD operators, MOs (Part-145 & Part-CAO), CAMOs, MTOs (Part-147), ATM/ANS providers, U-space service providers, ADR operators, groundhandling service providers (GHSPs), NCAs |
| Owner | EASA SM.1 Safety Intelligence & Performance Department |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|---|-----------------|
| Podcast/ videocast, article, social media promotion | 2024 |



1.3 HUMAN FACTORS AND HUMAN PERFORMANCE

MST.0037 Foster a common understanding and oversight of human factors

The task includes some preparatory activities which will be performed by EASA with the support of the Human Factors Collaborative Analysis Group (HF CAG) in terms of:

- development of guidance and tools for the assessment of competence of regulatory staff before and after training;
- guidance for the appropriate level of human factors competence for human factors trainers;
- development of promotion material to be provided as guidance to Member States and encourage its implementation.

Such guidance and tools will be provided to the Member States' NCAs to organise the implementation of the competence framework, and plan and deliver the training to the regulatory staff concerned.

| | |
|------------------------------|---|
| Status | Ongoing |
| SI | SI-3003 Human factors competence for regulatory staff SI-3004 Integration of HF/HP principles into the organisation's management |
| SRs | n/a |
| ICAO ref. | ICAO Human Performance Manual (ICAO Doc 10151) ICAO Safety Management Manual (ICAO Doc 9859) |
| Other ref(s) | EASA BIS 'Human Factors competence for regulatory staff' |
| Dependencies | SPT.0115 |
| Affected stakeholders | NCAs |
| Owner | Member States |

| EXPECTED OUTPUT | |
|---|----------|
| Deliverable(s) | Timeline |
| Guidance for assessing the competence of regulatory staff | 2023 |
| Guidance for assessing the competence of trainers | |



1.3 HUMAN FACTORS AND HUMAN PERFORMANCE

1.3.2 Flight time limitations

| | |
|-----------------|---|
| RMT.0492 | Development of FTL rules for CAT operations of emergency medical services by aeroplanes (AEMS) |
|-----------------|---|

This task includes two work packages:

- Subtask 1, dedicated to the development of harmonised and state-of-the-art rules for AEMS;
- Subtask 2, dedicated to reflecting the recommendations from the 2019 report on the “Effectiveness of Flight Time Limitation (FTL)”²⁵ in the provisions applicable to FTL for CAT operations.

| | |
|-------------------------------|--|
| Status | Ongoing |
| SI | SI-0039 Fatigue (FTL) |
| SRs | FRAN-2013-053 |
| ICAO ref. | n/a |
| Other ref(s) | n/a |
| Dependencies | n/a |
| Affected stakeholders | CAT aeroplane operators, flight crews |
| Affected regulation(s) | Commission Regulation (EU) No 965/2012 |
| Strategic priority | EPAS Volume I Section 3.1.3 |
| Harmonisation | No |

| WORKING METHOD | | | |
|----------------|--|---------------------------------|---------------------|
| Owner | EASA FS.2 | Air OPS & Aerodromes Department | |
| SubT | Development | Impact Assessment(s) | Consultation |
| 1 | By EASA with the support of a Rulemaking Group | Detailed | NPA - Public |
| 2 | By EASA | Light | Focused |

| PLANNING MILESTONES | | | | | |
|---------------------|----------------------------|---------------------------|---------|---------------|----------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| 1 | ToR RMT.0492 18/04/2012 | NPA 2017-17 30/10/2017 | 2024 | 2025 | 2025 |
| 2 | | 2023-Q1 | n/a | n/a | 2023-Q3 |

25 <https://www.easa.europa.eu/en/document-library/general-publications/effectiveness-flight-time-limitation-ftl-report>



1.3 HUMAN FACTORS AND HUMAN PERFORMANCE

RMT.0493

Update and harmonisation of the FTL rules for CAT by aeroplanes for air taxi and single-pilot operations

Develop harmonised and state-of-the-art-rules for air taxi and single-pilot operations taking into account operational experience and recent scientific evidence.

| | |
|-------------------------------|--|
| Status | Ongoing |
| SI | SI-0039 Fatigue (FTL) |
| SRs | n/a |
| ICAO ref. | n/a |
| Other ref(s) | n/a |
| Dependencies | n/a |
| Affected stakeholders | CAT aeroplane operators, flight crews |
| Affected regulation(s) | Commission Regulation (EU) No 965/2012 |
| Strategic priority | EPAS Volume I Section 3.1.3 |
| Harmonisation | No |

WORKING METHOD

| | | | | |
|--------------|--|---------------------------------|---------------------|--|
| Owner | EASA FS.2 | Air OPS & Aerodromes Department | | |
| SubT | Development | Impact Assessment(s) | Consultation | |
| | By EASA with the support of a Rulemaking Group | Detailed | NPA - Public | |

PLANNING MILESTONES

| | | | | | |
|-------------|------------------------------|---------------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| | ToR OPS.071(b) 21/08/2012 | NPA 2017-17 30/10/2017 | 2024 | 2025 | 2025 |



1.3 HUMAN FACTORS AND HUMAN PERFORMANCE

RMT.0494 FTL rules for helicopter commercial operations

Establish harmonised and state-of-the-art rules for helicopter commercial air transport operations (CAT) and commercial specialised operations (SPO).

The task will be initiated in 2024.

| | | | |
|-------------------------------|--|----------------------|----|
| Status | Not started | | |
| SI | SI-8016 Pilot fatigue | | |
| SRs | n/a | | |
| ICAO ref. | n/a | | |
| Other ref(s) | EASA research project on FRMS in commercial helicopter operations (CAT, SPO) | | |
| Dependencies | n/a | | |
| Affected stakeholders | CAT, commercial SPO helicopter operators, flight crews | | |
| Affected regulation(s) | Commission Regulation (EU) No 965/2012 | | |
| Strategic priority | No | Harmonisation | No |

WORKING METHOD

| | | | |
|--------------|---|-----------------------------|---------------------|
| Owner | EASA FS.2 Air OPS & Aerodromes Department | | |
| SubT | Development | Impact Assessment(s) | Consultation |
| | By EASA with external support | Light | NPA - Public |

PLANNING MILESTONES

| | | | | | |
|-------------|-------------------|---------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| | 2024 | 2025 | 2026 | 2027 | 2027 |



1.3 HUMAN FACTORS AND HUMAN PERFORMANCE

RMT.0495 FTL rules for aeroplane commercial operations other than CAT

Establish harmonised and state-of-the-art rules for aeroplane commercial operations other than CAT.

The RMT is subject to further assessment of the issue and its impacts, therefore its status is 'on hold'.

| | |
|---------------------|-----------------------------------|
| Status | On hold |
| SI | SI-3005 Fatigue and quality sleep |
| SRs | n/a |
| ICAO ref. | n/a |
| Other ref(s) | n/a |
| Dependencies | n/a |

Affected stakeholders Commercial SPO operators with aeroplanes, flight crews

Affected regulation(s) Commission Regulation (EU) No 965/2012

Strategic priority No **Harmonisation** No

WORKING METHOD

| | | | | |
|--------------|-----------------------------------|-----------------------------------|-----------------------------------|--|
| Owner | EASA FS.2 | Air OPS & Aerodromes Department | | |
| SubT | Development | Impact Assessment(s) | Consultation | |
| | To be determined at a later stage | To be determined at a later stage | To be determined at a later stage | |

PLANNING MILESTONES

| | | | | | |
|-------------|-------------------|---------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| | tbd | tbd | tbd | tbd | tbd |



1.3 HUMAN FACTORS AND HUMAN PERFORMANCE

SPT.0116 Webinar/Roadshow dedicated to FRM

Supporting the implementation of an appropriate FRM or FRMS by operators and their oversight by competent authorities through the organisation of webinars/workshops/conferences on specific topics to share information and best practices.

In March 2021, the first webinar on FRMS in cargo operations was organised.

Refer to <https://www.easa.europa.eu/newsroom-and-events/events/1st-webinar-fatigue-risk-management-cargo-and-demand-operations>

Another webinar is planned for 2023-Q2.

Note: This SPT might be reconsidered to become an 'IST' (Implementation Support Task).

| | | |
|------------------------------|--|---------------------------------|
| Status | Ongoing | |
| SI | SI-0039 | Fatigue (FTL) |
| SRs | n/a | |
| Reference(s) | EASA BIS 'Aircrew Fatigue' | |
| Dependencies | SPT.0117, SPT.0118 | |
| Affected stakeholders | FTL/FRM inspectors at NAAs and operators' FRM/rostering personnel and aircrews | |
| Owner | EASA FS.2 | Air OPS & Aerodromes Department |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|--|----------|
| Training material and webinars/live events | 2023 |

SPT.0117 Assist NCAs in developing competencies for FTL/FRM oversight

EASA conducts visits to the requesting Member State and meets with the responsible personnel from the NCA and from the operators under their oversight to determine the status of the FTL/FRM implementation and the necessary improvements.

Note: This SPT might be reconsidered to become an 'IST' (Implementation Support Task).

| | | |
|------------------------------|--|---------------------------------|
| Status | Ongoing | |
| SI | SI-0039 | Fatigue (FTL) |
| SRs | n/a | |
| Reference(s) | EASA BIS 'Aircrew Fatigue' | |
| Dependencies | SPT.0116; SPT.0118 | |
| Affected stakeholders | FTL/FRM inspectors at NCAs and operators' FRM/rostering personnel, Flight Crew, Cabin Crew | |
| Owner | EASA FS.2 | Air OPS & Aerodromes Department |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|----------------------|------------|
| EASA missions to MSs | Continuous |



1.3 HUMAN FACTORS AND HUMAN PERFORMANCE

SPT.0118 Develop practical guides, promotion material and e-learning content on aircrew fatigue

Development of written and video material containing explanatory material, examples, FAQs and recommendations.

Delivered so far:

- IFTSS (individual flight time specification scheme) Evaluation Form in 2018;
- FTL/FRM Inspector's checklists (1st and 2nd part) in 2019;
- FTL/FRM Practical Guide Issue 1 in 2019.

| | | |
|------------------------------|--|---------------------------------|
| Status | Ongoing | |
| SIs | SI-0039 | Fatigue (FTL) |
| SRs | n/a | |
| Reference(s) | EASA BIS 'Aircrew Fatigue' | |
| Dependencies | SPT.0116; SPT.0117 | |
| Affected stakeholders | FTL/FRM inspectors at NCAs and operators' FRM/rostering personnel and aircrews | |
| Owner | EASA FS.2 | Air OPS & Aerodromes Department |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|--|----------|
| FTL/FRM Inspector's checklist (3rd part) | 2022 |
| FTL/FRM Practical Guide Issue 2 | 2023 |

MST.0034 Oversight capabilities / focus area: flight time specification schemes

Member States shall ensure that NCAs have the required competence to approve and oversee the operators' flight time specification schemes; in particular, those that include fatigue risk management. NCAs should focus on the verification of the effective implementation of processes established to meet the requirements on operators' responsibilities and to ensure the adequate management of fatigue risks. NCAs should consider the latter when performing audits of the operators' management systems.

Feedback from Member States on the implementation of this action is normally obtained via EASA standardisation activities.

| | | |
|------------------------------|--|---------------|
| Status | Ongoing | |
| SIs | SI-0039 | Fatigue (FTL) |
| SRs | n/a | |
| Reference(s) | GASP SEI-5 - Qualified technical personnel to support effective safety oversight | |
| Dependencies | n/a | |
| Affected stakeholders | AOC holders (CAT), Aircrew | |
| Owner | Member States | |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|--|-----------|
| Report on actions implemented to foster NCA's oversight capabilities | 2022/2023 |



1.3 HUMAN FACTORS AND HUMAN PERFORMANCE

RES.0006 Effectiveness of the FTL rules

Collection, analysis and processing of historical and in-flight crew fatigue data for the purpose of supporting the continuous review of the effectiveness of the provisions concerning flight and duty time limitations and rest requirements as laid down in Regulation (EU) No 965/2012, and in particular for the second phase of the assessment:

- duties of more than 13 hours at the most favourable time of the day;
- duties of more than 11 hours for crew members in an unknown state of acclimatisation;
- duties including a high level of sectors (more than 6); and
- on-call duties such as standby or reserve followed by flight duties.

The first phase of the assessment for this RES action was completed (report²⁶ published on 28/02/2019).

The second phase initially started with the publication of a call for tender²⁷ on 04/10/2019. Due to COVID-19 the actual start of the project was delayed to 2024-Q1, to ensure that the data collection campaign will reflect 'normal' period for airline operations.

| | | |
|------------------------------|---|---|
| Status | Ongoing | |
| SI | SI-0039 Fatigue (FTL) | |
| SRs | n/a | |
| Referencies | https://www.easa.europa.eu/document-library/general-publications/effectiveness-flight-time-limitation-ftl-report | |
| Dependencies | SPT.0116, SPT.0117, SPT.0118 | |
| Affected stakeholders | AOC holders, aircrews | |
| Owner | EASA SM.2 and FS.2 | Strategy & Programmes Department and Air OPS & Aerodromes Department |

| PLANNING MILESTONES | | |
|---------------------|----------------|--------------|
| Starting date | Interim report | Final report |
| 2021-Q4 | n/a | 2024 |

²⁶ <https://www.easa.europa.eu/document-library/general-publications/effectiveness-flight-time-limitation-ftl-report>

²⁷ [Call for tender – Effectiveness of Flight Time Limitations – EASA.2019.HVP.11](#)



1.3 HUMAN FACTORS AND HUMAN PERFORMANCE

1.3.3 Medical fitness

RMT.0287

Regular update of Part-MED, of Part-ARA Subpart ARA.AeMC and ARA.MED, and of Part-ORA Subpart ORA.AeMC, as well as of the related AMC and GM

The objectives of RMT.0287 are to resolve consistency issues, fill regulatory gaps identified through implementation, as well as keep the requirements up to date with the new developments in the field of medicine in order to ensure that they are fit for purpose and can be implemented.

To facilitate the rulemaking process and to collect implementation feedback regarding the authority requirements, RMT.0287 was split in three subtasks:

- Subtask 1, updating Part-MED, has been removed as it was completed with the publication of Regulation (EU) 2018/1974 on 19/12/2018²⁸ and of Decision 2019/002/R on 28/01/2019²⁹.
- Subtask 2a aims to update the medically relevant subparts of Part-ARA and Part-ORA.
- Subtask 2b aims to address the numerous exemptions related to increasing the pilot age limit from 60 to 65 years for single-pilot commercial air transport operations in HEMS. The rulemaking task will explore the opportunity for raising the pilot age limit for single-pilot CAT operations in a gradual approach, starting with HEMS. It also takes into account the EASA study on age limitations for commercial air transport pilots³⁰.

| | |
|-------------------------------|---|
| Status | Ongoing |
| SI | SI-0049 Flight crew incapacitation |
| SRs | HUNG-2019-003 |
| ICAO ref. | n/a |
| Other ref(s) | EASA BIS 'Flight Crew Licences', subtask 'Pilot age' |
| Dependencies | EASA Study 'Age limitations for commercial air transport pilots' |
| Affected stakeholders | Pilots, AOC holders (aeroplane and helicopter), aero-medical centres (AeMCs), aero-medical examiners (AMEs), NCAs |
| Affected regulation(s) | Commission Regulation (EU) No 1178/2011 |
| Strategic priority | No |
| Harmonisation | No |

WORKING METHOD

| | | | |
|--------------|--------------------|-----------------------------------|---------------------|
| Owner | EASA FS.3 | Aircrew & Medical Department | |
| SubT | Development | Impact Assessment(s) | Consultation |
| 2a | By EASA | To be determined at a later stage | NPA - Public |
| 2b | By EASA | To be determined at a later stage | Focused |

PLANNING MILESTONES

| | | | | | |
|-------------|-------------------|---------------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| 2a | n/a | NPA 2017-22 21/12/2017 | 2023-Q2 | 2024 | 2024 |
| 2b | n/a | 05/05/2022 | 2023-Q2 | 2024 | 2024 |

28 <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32018R1974&qid=1636543801683>

29 <https://www.easa.europa.eu/en/document-library/agency-decisions/ed-decision-2019002r>

30 https://www.easa.europa.eu/sites/default/files/dfu/EASA_REP_RESEA_2017_1.pdf



1.3 HUMAN FACTORS AND HUMAN PERFORMANCE

RMT.0424 Regular update of Part-MED

A standing rulemaking task allowing EASA to tackle non-controversial issues identified by industry and Member States and which should be corrected or clarified in Part-MED.

The objective of this rulemaking task is to regularly address miscellaneous issues of non-controversial nature to ensure that the requirements are fit for purpose, cost-effective, can be implemented, and are in line with the latest ICAO SARPs. In particular, regular updates are used to address non-complex and non-controversial issues raised by stakeholders.

The current cycle also addresses the topics previously included in RMT.0707, as regards the merging of the requirements of Annex IV (Part ATCO.MED) to Regulation (EU) 2015/340 and other parts of that Regulation which are relevant to the medical certification process in accordance with Annex IV (Part-MED) and Annex VI (Part-ARA) to Regulation (EU) No 1178/2011, while keeping the separation between the medical fitness requirements for pilots and air traffic controllers.

| | | | |
|-------------------------------|--|----------------------|----|
| Status | Ongoing | | |
| SI | SI-0049 Flight crew incapacitation | | |
| SRs | n/a | | |
| ICAO ref. | n/a | | |
| Other ref(s) | n/a | | |
| Dependencies | n/a | | |
| Affected stakeholders | Pilots, AeMCs, AMEs, NCAs | | |
| Affected regulation(s) | Commission Regulation (EU) 2015/340 Commission Regulation (EU) No 1178/2011 | | |
| Strategic priority | EPAS Volume I Section 3.1.3 | Harmonisation | No |

WORKING METHOD

| | | | |
|--------------|--|-----------------------------------|-----------------------------------|
| Owner | EASA FS.3 Aircrew & Medical Department | | |
| SubT | Development | Impact Assessment(s) | Consultation |
| current | By EASA with the support of a Rulemaking Group | Light | NPA - Public |
| next | To be determined at a later stage | To be determined at a later stage | To be determined at a later stage |

PLANNING MILESTONES

| | | | | | |
|-------------|----------------------------|---------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| current | ToR RMT.0424 09/10/2017 | NPA 2024 | 2025 | 2026 | 2026 |
| next | tbd | tbd | tbd | tbd | tbd |



1.3 HUMAN FACTORS AND HUMAN PERFORMANCE

RES.0041 Mental health of pilots and ATCOs

This research project assesses new medical developments in the early diagnosis as well as treatment of mental health conditions which could pose a safety risk to aviation and would consequently lead to pilot and air traffic controller (ATCO) unfitness or to the limitation of their medical certificate for safety purposes.

Currently, there are no specific, validated mental health assessment methods for aviation use, incorporating the specific operational needs, to address the issues identified. Research is needed to further detail the specific needs, and to develop and validate assessment methods or to assess the applicability of existing methods for use in the aviation environment.

The expected outcome of this research project will be as follows:

- evidence-based recommendations for updating the mental health requirements in Part-MED and Part ATCO.MED in line with the medical developments;
- evidence-based recommendations for mental health assessment methods suitable for aero-medical fitness assessments;
- an impact assessment of the recommended regulatory amendments;
- guidance material on the updates to the fitness assessment of applicants for aero-medical examiners and medical assessors;
- guidance material on mental health assessment and updates to the fitness assessment of applicants for peer support groups and trained peers involved in peer support programmes; and
- material (e.g. presentations of the results obtained under this contract and training material suitable for professional audiences) to support the management of the proposed amendments.

This project is funded by Horizon Europe under the 2nd Contribution Agreement with the European Commission.

| | |
|------------------------------|--|
| Status | Ongoing |
| SIs | n/a |
| SRs | n/a |
| Referencies | Mental Health EASA (europa.eu) |
| Dependencies | n/a |
| Affected stakeholders | Air operators, ATM/ANS providers, pilots, ATCOs, AeMCs, AMEs, NCAs |
| Owner | EASA SM.2 Strategy & Programmes Department |

| PLANNING MILESTONES | | |
|---------------------|----------------|--------------|
| Starting date | Interim report | Final report |
| 2021 Q3 | n/a | 2024-Q2 |



1.3 HUMAN FACTORS AND HUMAN PERFORMANCE

RES.0042 Pilot and ATCO aero-medical fitness

The following two research projects study aspects of the pilot and ATCO aero-medical fitness, and in particular:

- (1) Cardiology (new treatments and diagnostic measures) - new technologies have been released on the market providing improved curative or supportive treatments in terms of medication and supportive equipment; in order to have scientific evidence to amend the medical requirements and include the new developments in the current regulatory framework, a study aimed at the aviation environment is necessary.
- (2) Diabetes mellitus (new solutions for pilots living with diabetes) - new diagnostic measures are being developed that allow reliable continuous blood glucose level monitoring; the research shall assess the possibility of their safe use in the aviation environment in order to alleviate the requirements for fitness for pilots with such pathology.

These two projects are funded by Horizon Europe under the 2nd Contribution Agreement with the European Commission.

Note: Monitoring pilot health during the active life and after retirement is deleted due to a lack of data, specifically for retired pilots. The monitoring of active pilots and ATCOs should be part of regular oversight activities.

| | |
|------------------------------|---|
| Status | Ongoing |
| SlIs | n/a |
| SRs | n/a |
| Referencies | n/a |
| Dependencies | n/a |
| Affected stakeholders | Aircraft operators - all, ATM/ANS providers, pilots, ATCOs, AeMCs, AMEs, NCAs |
| Owner | EASA SM.2 Strategy & Programmes Department |

PLANNING MILESTONES

| Starting date | Interim report | Final report |
|---------------|----------------|--------------|
| 2021-Q3 | n/a | 2025-Q3 |



1.3 HUMAN FACTORS AND HUMAN PERFORMANCE

EVT.0011

Evaluation of the effectiveness of the provisions concerning staff support programmes, the psychological assessment of flight crews, and the systematic and random testing of psychoactive substances

Having regard to Commission Regulation (EU) 2018/1042, amending Regulation (EU) No 965/2012, the Agency shall conduct an evaluation of the effectiveness of the provisions concerning support programmes, the psychological assessment of flight crews and the systematic and random testing of psychoactive substances. The report will be published in 2023.

| | |
|------------------------------|--|
| Status | Ongoing |
| SIs | SI-0049 Flight crew incapacitation SI-3012 Lack of industry-wide staff support programmes (SI-3012) (Amended) |
| SRs | n/a |
| Reference(s) | n/a |
| Dependencies | n/a |
| Affected stakeholders | Air operators, pilots, NCAs |
| Owner | EASA FS.2 Air OPS & Aerodromes Department |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|-------------------|----------|
| Evaluation report | 2023 |



1.4 AIRCRAFT TRACKING, RESCUE OPERATIONS AND ACCIDENT INVESTIGATION

1.4 Aircraft tracking, rescue operations and accident investigation

Issue/rationale

The safety actions in this area aim to better locate aircraft in distress and improve the availability and quality of data recorded by flight recorders.

What we want to achieve

Increase the survivability of accidents over remote and oceanic areas by providing rescue coordination centres with more robust and accurate means to locate accident sites. Further, increase safety by facilitating the recovery of flight recorder data by safety investigation authorities, which helps identify accident causes and define corrective actions, thus helping to avoid future accidents.

How we monitor improvement

Number of investigated accidents over remote and oceanic areas for which rescue coordination centres received accurate information on the location of the accident site.

Number of investigated accidents or serious incidents for which flight data was not available.

How we want to achieve it: actions

RES.0013 Quick recovery of flight recorder data

Further to the MH370 fatal accident and the adoption by ICAO of consequent SARPs, carry out an assessment of the feasibility of using wireless transmission solutions for the timely recovery of flight recorder data (namely, flight parameters, audio and video images) for accident follow-up; particular emphasis should be put on tackling prevailing open issues, such as those linked with the possible circumstances of an accident (loss of engine power, unusual aircraft attitude, complete aircraft destruction, accident in an oceanic area), the reliability and cost impact of the proposed solutions, their suitability for usage in accident investigations as well as associated data privacy considerations.

| | |
|------------------------------|--|
| Status | Ongoing |
| SlIs | n/a |
| SRs | n/a |
| Referencies | ICAO Annex 6 Part I Section 6.3.6 Flight Recorder Data Recovery |
| Dependencies | n/a |
| Affected stakeholders | AOC holders (CAT), aircraft original equipment manufacturer (OEMs) |
| Owner | EASA SM.2 Strategy & Programmes Department |

| PLANNING MILESTONES | | |
|---------------------|----------------|--------------|
| Starting date | Interim report | Final report |
| 2021-Q2 | n/a | 2023-Q2 |



1.5 OVERSIGHT CAPABILITIES

1.5 Oversight capabilities

Refer to EPAS Volume I Section 3.1.6.1 'Address deficiencies identified through standardisation'

The safety actions in this area aim to address issues that emerge from standardisation activities, with focus on the safety oversight capabilities of the Member States. The lack of effective oversight remains an issue, as shown by the number of standardisation findings related to the NCAs' performance as regards certification and oversight tasks. The magnitude of the issue varies across the technical domains, with the most relevant being Air Operations, Flight Crew Licensing, ATM/ANS and Aerodromes, Airworthiness (production and maintenance). The difficulties experienced by several authorities in properly discharging their oversight responsibilities in these domains is a concern also in the light of the size, scope and complexity of the aviation industry that some of them oversee.

Furthermore, while several NCAs have reached an appropriate and stable level of maturity, certain others continue to underperform and/or struggle in achieving sustainable improvements. Most notably, while progress has been made in the implementation of the authorities' management systems, the lack of effective oversight of (safety) management systems' undertakings continues to be an area of concern in several domains.

Issue/rationale

The authority requirements, introduced in the provisions developed in the first and second extension of the EASA's scope, define what Member States are expected to implement when performing oversight of the organisations under their responsibility. In particular, they introduced the concept of risk-based oversight with the objective to address safety issues while taking efficiency into account.

The following elements are considered enablers of a robust safety oversight system, expected to be in place according to the applicable requirements:

1. ability and determination to perform effective oversight;
2. ability to identify risks through a data collection and analysis process;
3. ability to mitigate the identified risks in an effective way, implying measurement of performance which would in turn lead to continuous improvement;
4. willingness and possibility to cooperate and exchange information with other NCAs;
5. ability to ensure the availability of adequate personnel, where 'adequate' includes the notion of sufficiently trained and properly qualified personnel; and
6. focus on the implementation of effective management systems in industry, wherever this is required by the applicable regulations in force.

What we want to achieve

A robust system across Europe for capable and streamlined oversight, where each NCA has the capacity to properly discharge its oversight responsibilities, with particular focus on the management of safety risks, exchange of information and cooperation with other NCAs. To that end, the implementation of management systems by all organisations, as well as ensuring the availability of adequate personnel in NCAs, is an essential enabler.

How we monitor improvement

The elements above are constantly monitored during the standardisation activities performed by the Agency. In addition, Member States' oversight capabilities are monitored on the basis of standardisation ratings, as well as the level of compliance of aviation organisations with the management system (SMS) requirements.

How we want to achieve it: actions

**1.5 OVERSIGHT CAPABILITIES****MST.0032 Oversight capabilities / focus areas****(a) Availability of adequate personnel at NCAs**

Member States shall ensure that adequate personnel are available to discharge their safety oversight responsibilities.

(b) Cooperative oversight in all sectors

Member States shall ensure that the applicable authority requirements are complied with in all sectors. The objective is to ensure that each organisation's activities are duly assessed, known to the relevant authorities, and that those activities are adequately overseen, either with or without an agreed transfer of oversight tasks.

Note: EASA will continue to support NCAs in the implementation of cooperative oversight, e.g. benefitting from the outcome of the pilot projects conducted between the United Kingdom, Norway, France, the Czech Republic, as well as with the exchange of best practices and guidance.

(c) Organisations' management system in all sectors

Member States shall foster the ability of NCAs to assess and oversee the organisations' management system in all sectors. This shall focus in particular on safety culture, the governance structure of the organisation, the interaction between the risk identification/assessment process and the organisation's monitoring process, and consider inspection findings and safety information such as occurrences, incidents, and accidents and, where applicable, flight data monitoring (FDM). This should allow NCAs to adapt and improve their oversight systems.

| | |
|------------------------------|--|
| Status | Ongoing |
| SI | SI-3003 Human factors competence for regulatory staff SI-3004 Integration of HF/HP principles into the organisation's management SI-3011 Training effectiveness and competence |
| SRs | n/a |
| Reference(s) | ICAO Annex 19 and GASP 2023-2025 Goal 2 'Strengthen States' safety oversight capabilities' ICAO Doc. 10161 Appendix A 'ORG Roadmap': GASP SEI-4 & GASP SEI-10 - Strategic allocation of resources to enable effective safety oversight GASP SEI-5 - Qualified technical personnel to support effective safety oversight GASP SEI-6 - Strategic collaboration with key aviation stakeholders to enhance safety in a coordinated manner EASA Aviation Inspector Competencies Report ³¹ |
| Dependencies | n/a |
| Affected stakeholders | All |
| Owner | Member States |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|-----------------------|-----------------|
| Initial SPAS issued | 2021-Q4 |
| SPAS reviewed | 2024-Q1 |

In addition to the above, the following action is also relevant to oversight:

RMT.0588 Aircraft continuing airworthiness monitoring - review of key risk elements

The full description of this action is included in [Section 7.1](#).

31 <https://www.easa.europa.eu/en/document-library/general-publications/easa-aviation-inspector-competencies-report>

1.6 MISCELLANEOUS

1.6 Miscellaneous

RMT.0732 Repository of aviation-related information (Article 74 of the Basic Regulation)

Article 74 of the Basic Regulation requires the Agency, in cooperation with the EC and the NCAs, to establish and manage a repository of information necessary to ensure effective cooperation between EASA and the NCAs concerning the exercise of their tasks relating to certification, oversight and enforcement under this Regulation.

Considering the huge quantity and complexity of information as well as the obligation to comply with the data protection requirements, the EASA Management Board decided to set up a dedicated task force which falls under the Member States Advisory Body (MAB). The task force will focus on specifications per domain, the global architecture and the governance of the future repository.

| | |
|-------------------------------|---|
| Status | Ongoing |
| SIs | n/a |
| SRs | n/a |
| ICAO ref. | n/a |
| Other ref(s) | n/a |
| Dependencies | n/a |
| Affected stakeholders | Member States, EC, safety investigation authorities |
| Affected regulation(s) | n/a |
| Strategic priority | EPAS Volume I Section 3.1.1 |
| Harmonisation | No |

WORKING METHOD

| | | | |
|--------------|--|-----------------------------|--|
| Owner | EASA SM.0 Strategy & Safety Management Director's Office | | |
| SubT | Development | Impact Assessment(s) | Consultation |
| | EASA with the support of a dedicated MAB task force | Light | Focused MB Decision 18-2015 Art. 16 |

PLANNING MILESTONES

| | | | | | |
|-------------|----------------------------|---------------------|-----------------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| | ToR RMT.0732 20/04/2020 | 06/05/2022 | 04/2022 14/07/2022 | 2023-Q1 | 2023-Q3 |

2. Competence of personnel





2. Competence of personnel

Issue/rationale

Refer to EPAS Volume I Section 3.2 'Competence of personnel'

The availability of well-trained and competent aviation personnel is paramount to the safety and resilience of the aviation industry. Therefore, 'competence of personnel' is a level 1 strategic priority.

As new technologies and concepts of operation emerge on the market and the complexity of the aviation system is continuously increasing, it is of key importance to have the right competencies and adapt training methods to cope with new challenges. It is equally important for aviation personnel to take advantage of the opportunities presented by new technologies to enhance safety.

A key priority in this domain is the introduction of competency-based training and assessment (CBTA) for all licences and ratings. This plays a role in improving safety across all aviation domains.

Another priority is the improvement of the level of language proficiency (LPR) as an important aviation safety element.

Rotorcraft:

EASA's Rotorcraft Safety Roadmap aims to significantly reduce the number of rotorcraft accidents and incidents and focuses on traditional/conventional rotorcraft including General Aviation (GA) rotorcraft. It focuses on safety and transversal issues that need to be tackled through actions in various domains, including training, operations, initial and continuing airworthiness, environment, and facilitation of innovation. Accordingly, this chapter contains the actions in the area of training, existing and new training devices, simulators and new technologies available for training in line with EASA's Rotorcraft Safety Roadmap Training Safety work stream.

What we want to achieve

Ensure the continuous improvement of all aviation personnel competence.

How we monitor improvement

Measurable improvements of aviation personnel competence at all levels.



2. COMPETENCE OF PERSONNEL

2.1 General

2.1.1 Career opportunities

SPT.0107 Promotion of the full range of careers and opportunities in the European aviation industry

Help to address potential shortage of aviation professionals for the future European aviation system by promoting the full range of career opportunities that are available and by supporting the improvement of diversity and inclusion across the aviation community.

This covers the full range of aviation activities both on the ground and in the air.

Specific focus is needed to address already identified shortages in areas such as AMEs, instructors, flight examiners, maintenance, and ground personnel. However, an industry wide approach is needed to promote careers within the entire aviation industry and to help portray aviation as a progressive industry seeking to attract and retain talent.

This task also supports some of the European aspects of the ICAO Next Generation of Aviation Professionals (NGAP) programme³².

2022 deliverables:

- EASA involvement in Aviation4Girls event
- Co-organisation of Workshop on Diversity and Inclusion in ATM.

| | |
|------------------------------|---|
| Status | Ongoing |
| Sl | n/a |
| SRs | n/a |
| Reference(s) | ICAO NGAP Programme |
| Dependencies | n/a |
| Affected stakeholders | All |
| Owner | EASA SM.1 Safety Intelligence & Performance Department |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|--|------------|
| Promotion online material and social media | Continuous |

32 <https://www.icao.int/safety/ngap/Pages/NGAP-Programme.aspx>



2. COMPETENCE OF PERSONNEL

2.1.2 Language proficiency

Issue/rationale

EASA considers language proficiency as an important aviation safety element and joins efforts with ICAO to streamline and harmonise language proficiency requirements (LPR)-related activities, as well as to optimise the support provided to Member States and the industry. LPRs are important not just for pilots and ATCOs but also for certain aerodrome personnel such as vehicle drivers, and this requirement has recently been reflected in the amendment of the aerodrome regulation with Regulation (EU) 2020/2148 on runway safety.

Building on the successful joint endeavours, ICAO and EASA conduct in close coordination a joint ICAO-EASA activity on LPR implementation.

The following additional points have been brought to the attention of EASA (some came directly from industry):

- The lack of standardisation in assessment of language proficiency and lack of standardisation in the outcome of the testing is an area of concern, such that the stated level of an English LP endorsement might not always be a reliable indicator of the holder's actual ability.
- Raw safety data show only a very low number of incidents related to a lack of language proficiency, whilst a significant number of incidents are related to a lack of situational awareness because the radio communications were only in the local language.
- GA pilot organisations claim that the language proficiency tests are too demanding and not adapted to the GA environment.

What we want to achieve

To increase safety by reducing the risk of ineffective communication or even miscommunication when pilots and/or air traffic controllers are faced with an unexpected situation and need to use plain language.

In response to the above, EASA:

- intends to promote the use of the English language during pilot training for IR, CPL and ATPL, for ATCOs and for staff that operate at aerodromes;
- has initiated an analysis of the raw data to ensure that not only those incidents that are directly related to language proficiency are considered, but also those that show the lack of language proficiency in the chain of events;
- through NCA standardisation and with the feedback on performance provided by the technical Advisory Bodies (ABs), has started examining closely the tests that are provided in the different Member States; after a thorough analysis, EASA plans to promote selected best practices with a view to harmonising language proficiency testing methods.
- will support implementation of the language proficiency requirements for certain aerodrome personnel, i.e. persons intending to drive a vehicle on the manoeuvring area, to whom the language proficiency requirements from Regulation (EU) 2020/2148 apply.

EASA encourages Member States through safety promotion measures to make use of ICAO Doc 9835 'Manual on the Implementation of ICAO Language Proficiency Requirements'.

How we want to achieve it: actions



2. COMPETENCE OF PERSONNEL

SPT.0105
Language proficiency requirements - together with ICAO, the industry and the Member States, raise awareness on the implementation of language proficiency requirements

Subtask 1:

Together with ICAO, the industry and the Member States, raise the awareness of pilots (both commercial and GA), ATCOs and certain aerodrome personnel on LPR implementation (LPRI), establish good practices and facilitate proportionate LPRI, based on operational needs.

All relevant stakeholders and Member States: to work together on the maintenance, monitoring and revision of LPRI; to promote the common understanding of LPRI as a safety issue, linked to human factors principles; share lessons learned; encourage progress and harmonisation and develop good practices document to cope with operational, safety and standardisation needs.

Subtask 2:

Use of the English language during pilot training for IR, CPL and ATPL.

Develop promotion material to encourage ATOs to conduct pilot training for CPL, ATPL and IR mainly in English and/or English-language training delivered in parallel with CPL, ATPL and IR training courses.

| | | |
|------------------------------|--|---|
| Status | Ongoing | |
| SIs | SI-0054 | Poor language proficiency causing communication breakdown |
| SRs | n /a | |
| Reference(s) | n/a | |
| Dependencies | MST.0033 | |
| Affected stakeholders | Member States, ANSPs, ATCOs, Training Organisations, aerodrome operators and GHSPs, pilot licence holders and students | |
| Owner | EASA SM.1 and NCAs | Safety Intelligence & Performance Department |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|--|----------|
| SubT 1 Guidance/good practices article, posters, webinar and video | 2023 |
| SubT 2 Guidance/good practices article, posters and video | 2023 |

**2. COMPETENCE OF PERSONNEL****MST.0033****Language proficiency requirements - share best practices, to identify areas for improvement for the uniform and harmonised language proficiency requirements implementation**

Member States should provide feedback to EASA on how LPRI is performed, including the delivery of training in English by ATOs, for the purpose of harmonised and uniform implementation.

Note: EASA will collect such feedback at the opportunity of the various standardisation and oversight activities.

| | |
|------------------------------|---|
| Status | Ongoing |
| SI | SI-0054 Poor language proficiency causing communication breakdown |
| SRs | n/a |
| Reference(s) | n/a |
| Dependencies | SPT.0105 |
| Affected stakeholders | Member States, ANSPs, ATCOs, ATOs, pilot licence holders and students |
| Owner | Member States |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|---------------------------------------|-----------------|
| Feedback on the implementation status | Continuous |

In addition to the above, the following RMTs are also relevant to language proficiency:

RMT.0194**Modernisation and simplification of the European pilot licensing and training system and improvement of the supply of competent flight instructors****RMT.0678****Simpler, lighter and better flight crew licensing requirements for general aviation**

The full description of these RMTs is included in [Section 2.2](#).



2. COMPETENCE OF PERSONNEL

2.2 Flight crews

RMT.0190 Requirements for relief pilots

The objective of this RMT is to review and, where necessary, revise the requirements related to experience, training, checking and CRM for cruise relief pilots and cruise relief co-pilots.

| | |
|-------------------------------|---|
| Status | Ongoing |
| Sl | n/a |
| SRs | FRAN-2011-010 |
| ICAO ref. | n/a |
| Other ref(s) | n/a |
| Dependencies | n/a |
| Affected stakeholders | Pilots, ATOs, AOC holders |
| Affected regulation(s) | Commission Regulation (EU) No 1178/2011 Commission Regulation (EU) No 965/2012 |
| Strategic priority | No |
| Harmonisation | No |

WORKING METHOD

| | | | |
|--------------|--|------------------------------|---------------------|
| Owner | EASA FS.3 | Aircrew & Medical Department | |
| SubT | Development | Impact Assessment(s) | Consultation |
| | By EASA with the support of a Rulemaking Group | Detailed | NPA - Public |

PLANNING MILESTONES

| | | | | | |
|-------------|----------------------------|---------------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| | ToR RMT.0190 02/11/2012 | NPA 2014-25 04/11/2014 | 2023-Q2 | 2024 | 2024 |



2. COMPETENCE OF PERSONNEL

RMT.0194

Modernisation and simplification of the European pilot licensing and training system and improvement of the supply of competent flight instructors

Subtask 1:

The objectives of Subtask 1 are to improve the regulatory framework for instructors (Part-FCL Subpart J) as well as the supply of competent flight instructors, mainly in the General Aviation domain, by performing the following activities:

- review and revision of the CPL learning objectives (to make the CPL theory, a prerequisite for PPL flight instructors, more proportionate);
- comprehensive revision of Part-FCL Subpart J, including the introduction of CBTA methodologies in instructor training.

Subtask 2:

The objectives for Subtask 2 are to modernise and simplify the pilot licensing and training system by:

- considering the recommendations from the ex-post evaluation under EVT.0006 and the associated BIS;
- introducing/incorporating the latest ICAO Annex 1 and associated ICAO documents on the CBTA concept for the appropriate licences and ratings.

| | |
|-------------------------------|---|
| Status | Ongoing |
| SIs | SI-0009 Crew resource management (CRM) SI-3011 Training effectiveness and competence |
| SRs | n/a |
| ICAO ref. | n/a |
| Other ref(s) | EASA BIS 'Flight Crew Licences', subtask flight instructors |
| Dependencies | RMT.0599, RMT.0678, RMT.0587 |
| Affected stakeholders | Pilots, flight instructors, flight examiners, ATOs, declared training organisations (DTOs), air operators |
| Affected regulation(s) | Commission Regulation (EU) No 1178/2011 |
| Strategic priority | No |
| Harmonisation | No |

WORKING METHOD

| | | | |
|--------------|--|------------------------------|---------------------|
| Owner | EASA FS.3 | Aircrew & Medical Department | |
| SubT | Development | Impact Assessment(s) | Consultation |
| 1 | By EASA with the support of a Rulemaking Group | Light | NPA - Public |
| 1 | By EASA with the support of a Rulemaking Group | Detailed | NPA - Public |

PLANNING MILESTONES

| | | | | | |
|-------------|----------------------------|---------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| 1 | ToR RMT.0194 28/02/2020 | NPA 2023-Q4 | 2024 | 2025 | 2025 |
| 2 | | NPA 2024 | 2025 | 2026 | 2026 |



2. COMPETENCE OF PERSONNEL

RMT.0196 Update of the flight simulation training device requirements

The main objective of this rulemaking task is to include in the European provisions elements from ICAO Doc 9625 regarding the use of FSTDs in flight training, and thus enhance harmonisation with ICAO. The task will also address three SRs and aims to include the results and findings from the loss of control avoidance and recovery training (LOCART) and RMT.0581 working group. Harmonisation with the FAA should be considered.

Subtask 1 (Work Package 1) was removed as it was completed with the publication of Decision 2018/006/R on 03/05/2018.

Subtask 2 (Work Package 2): the main objective this subtask is the review of the technical requirements for training devices in order to:

- (1) reflect their actual capability and technology advancements in support of introducing the 'task to tool' - concept for aeroplanes and helicopters; and
- (2) enable special conditions for other categories of aircraft.

Some activities initially planned for subtask 3 are now part of subtask 2. Particularly, under the name 'FCS training and simulation group' (FCSTS), the aim is to incorporate new EASA certification specifications for aeroplanes (CS-FSTD(A)) and helicopters (CS-FSTD(H)) into a single document (CS-FSTD).

Subtask 3: the main objective of this subtask is to enable the crediting of training for flight crews by using innovative training technologies, such as virtual reality. Additionally, it is aimed at developing more proportionate requirements for FSTD operators that operate only flight navigation and procedures trainers (FNPTs) and other simulation training tools, and at reviewing the initial qualification process of these FNPTs to transfer the responsibility to the training device manufacturer. Finally, the intention is to develop appropriate standards for new technologies, such as off-board instructor operating stations and secondary motion systems, also considering any special conditions developed in parallel to the rulemaking activity.

| | |
|-------------------------------|---|
| Status | Ongoing |
| SIs | SI-0018 Clear air turbulence and mountain waves SI-0001 Icing in flight SI-0002 Icing on ground SI-3011 Training effectiveness and competence SI-0012 Wake vortex |
| SRs | AUST-2017-001 FRAN-2012-045 FRAN-2016-006 RUSF-2013-002 SPAN-2011-020 |
| ICAO ref. | n/a |
| Other ref(s) | n/a |
| Dependencies | RMT.0194, RMT.0230, RMT.0599, RMT.0678, RMT.0587 |
| Affected stakeholders | Air operators, ATOs, DTOs, FSTD operators and manufactures, pilots, instructors, flight examiners NCAs |
| Affected regulation(s) | Commission Regulation (EU) No 1178/2011 |
| Strategic priority | EPAS Volume I Section 3.2 |
| Harmonisation | Yes |



2. COMPETENCE OF PERSONNEL

| RMT.0196 Update of the flight simulation training device requirements | | | | | |
|---|--|-----------------------------------|---------|---------------------|----------|
| WORKING METHOD | | | | | |
| Owner | EASA FS.3 Aircrew & Medical Department | | | | |
| SubT | Development | Impact Assessment(s) | | Consultation | |
| 2 | By EASA with the support of a Rulemaking Group | Detailed | | NPA - Public | |
| 3 | By EASA with the support of a Rulemaking Group | To be determined at a later stage | | NPA - Public | |
| PLANNING MILESTONES | | | | | |
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| 2 | ToR RMT.0196 15/07/2016 | NPA 2020-15 16/12/2020 | 2024 | 2024 | 2025 |
| 3 | | 2026 | 2027 | 2028 | 2028 |



2. COMPETENCE OF PERSONNEL

RMT.0587

Regular update of regulations regarding pilot training, testing and checking, and related oversight

A standing task that allows the Agency to table non-controversial issues identified by industry and Member States which should be corrected or clarified in Parts FCL, ARA, ORA and DTO of the Aircrew Regulation and in Subpart FC of Part-ORO of the Air Operations Regulation.

- Subtask 1 was removed as it was completed with the publication of Regulation (EU) 2018/1065 on 30/07/2018³³ and of Decision 2018/011/R on 06/11/2018.
- Subtask 2 was removed as it was merged with RMT.0678 and will follow the RMT.0678 Subtask 2 timelines.
- Subtask 3 (current) will deal with a limited number of other non-controversial recommendations stemming from the GA and the Rotorcraft Safety Roadmaps and the EASA Sustainable Aviation Programme (ESAP), in consultation with the EASA ABs.
- Subtask 4 (next): Regular update of Part-FCL, Part-ARA, Part-ORA and Part-DTO and of the associated AMC and GM to meet new needs taking into account recent input from Member States, stakeholders and safety recommendations. This Subtask may also address a review of the definition of ‘complex motor-powered aircraft’ (CMPA) if found necessary in view of the activities under RMT.0392, RMT.0727 and RMT.0735, as well as the deletion of the term ‘Leisure Pilot Licence’.

| | |
|-------------------------------|---|
| Status | Ongoing |
| SI | SI-3011 Training effectiveness and competence |
| SRs | n/a |
| ICAO ref. | n/a |
| Other ref(s) | n/a |
| Dependencies | RMT.0194, RMT.0196, RMT.0599, RMT.0678 RMT.0392, RMT.0727, RMT.0735 (CMPA) |
| Affected stakeholders | Pilots, instructors, examiners, ATOs |
| Affected regulation(s) | Commission Regulation (EU) No 1178/2011 Commission Regulation (EU) No 965/2012 |
| Strategic priority | No |
| Harmonisation | No |

WORKING METHOD

| | | | |
|--------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Owner | EASA FS.3 | Aircrew & Medical Department | |
| SubT | Development | Impact Assessment(s) | Consultation |
| Current | By EASA | Detailed | NPA - Focused |
| Next | To be determined at a later stage | To be determined at a later stage | To be determined at a later stage |

PLANNING MILESTONES

| | | | | | |
|-------------|----------------------------|---------------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| Current | ToR RMT.0587 11/05/2016 | Workshop 21-23/06/2022 | 2023-Q2 | 2024 | 2024 |
| Next | | tbd | tbd | tbd | tbd |

33 <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32018R1065>



2. COMPETENCE OF PERSONNEL

RMT.0599 Update of Subpart FC of Part-ORO (evidence-based training)

The objective of this task is the complete review of the provisions contained in Subpart FC of Part-ORO of the Air Operations Regulation whilst ensuring alignment between the Aircrew and the Air Operations Regulation as regards flight crew training requirements.

- Subtask 1 includes the introduction of evidence-based training (EBT) and competency-based training and assessment (CBTA) in the field of recurrent training (Subtask 1a) and other training-related implementation issues (Subtask 1b), such as better alignment of the requirements for operators and FCL helicopter training. Subtask 1a is removed as it was completed with the publication of Regulations (EU) 2020/2036 on 09/12/2020 and 2020/2193 on 16/12/2020 as well as of Decision 2021/002/R on 01/03/2021. Subtask 1b is removed as it was completed with the publication of Decision 2022/014/R on 19/08/2022.
- Subtask 2 will include the extension of EBT to other parts of the operator's training or to training that directly affects the operator (e.g. conversion course, command course, type rating training course), allowing for a single training philosophy within the operator. Subtask 2 will reflect the latest developments at ICAO level with regard to EBT and CBTA (e.g. ICAO Doc 9995, PANS TRG, "competency-to-tool concept", etc).
- Subtask 3 will extend EBT to other aircraft types (e.g. helicopters, business jets) allowing for a single training philosophy across the industry. In addition, it will tackle other implementation issues of the training-related requirements brought to the attention of EASA.

| | |
|-------------------------------|--|
| Status | Ongoing |
| SI | SI-0009 Crew resource management (CRM) SI-0019 Handling and execution of go-arounds SI-3011 Training effectiveness and competence SI-0012 Wake vortex SI-0024 Windshear |
| SRs | FRAN-2009-007; FRAN-2013-017; FRAN-2013-018; FRAN-2013-022; FRAN-2013-032; FRAN-2013-033; FRAN-2013-035; FRAN-2013-052; FRAN-2014-005; GERF-2009-02; GERF-2009-025; IRLD-2014-003; SPAN-2004-030; SPAN-2012-066; FRAN-2015-062; SWED-2012-006; SWED-2011-004; UNKG-2006-102. |
| ICAO ref. | n/a |
| Other ref(s) | n/a |
| Dependencies | RMT.0681, RMT.0196 |
| Affected stakeholders | Pilots, flight instructors, flight examiners, ATOs, air operators |
| Affected regulation(s) | Commission Regulation (EU) No 965/2012 Commission Regulation (EU) No 1178/2011 |
| Strategic priority | EPAS Volume I Section 3.2 |
| Harmonisation | No |

WORKING METHOD

| | | | |
|--------------|-----------------------------------|-----------------------------------|---------------------|
| Owner | EASA FS.3 | Aircrew & Medical Department | |
| SubT | Development | Impact Assessment(s) | Consultation |
| 2 | To be determined at a later stage | To be determined at a later stage | NPA - Public |
| 3 | To be determined at a later stage | To be determined at a later stage | NPA - Public |

PLANNING MILESTONES

| | | | | | |
|-------------|-------------------|---------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| 2 | ToR 2023-Q4 | NPA 2025 | 2026 | 2027 | 2027 |
| 3 | ToR 2024 | NPA 2026 | 2027 | 2028 | 2028 |



2. COMPETENCE OF PERSONNEL

RMT.0678 Simpler, lighter and better flight crew licensing requirements for general aviation

Review the different requirements which have been identified in the GA Roadmap to cause problems for GA.

This task is divided into three subtasks:

Subtask 1 (modular LAPL) was removed as it was completed with the publication of Regulation (EU) 2019/430 on 19/03/2019.

Subtask 2: topics deemed to be a priority, covering:

- new engine technologies (electric engines, hybrid engines) used in GA training aeroplanes;
- upgrade from LAPL to PPL training;
- revalidation of small helicopter type ratings via refresher training;
- miscellaneous clarifications and text improvements.

Subtask 3: miscellaneous topics, such as:

- mountain rating for helicopter;
- development of a 'light aircraft flight instructor (LAFI)' for LAPL training only;
- examiner's vested interests in the context of GA;
- review of class and type rating requirements;
- further review of the different LAPL and PPL requirements; and
- language proficiency requirements for GA pilots.

| | |
|-------------------------------|--|
| Status | Ongoing |
| Sl | n/a |
| SRs | ITAL-2020-001 |
| ICAO ref. | n/a |
| Other ref(s) | n/a |
| Dependencies | RMT.0731, RMT.0230 (for new VTOL capable aircraft), RMT.0587, RMT.0194, RMT.0196 |
| Affected stakeholders | Pilots, flight examiners, NCAs, ATOs, DTOs |
| Affected regulation(s) | Commission Regulation (EU) No 1178/2011 |
| Strategic priority | EPAS Volume I Section 3.2 |
| Harmonisation | No |

WORKING METHOD

| | | | |
|--------------|-----------------------------------|-----------------------------------|---------------------|
| Owner | EASA FS.3 | Aircrew & Medical Department | |
| SubT | Development | Impact Assessment(s) | Consultation |
| 2 | By EASA | Light | NPA - Public |
| 3 | To be determined at a later stage | To be determined at a later stage | NPA - Public |

PLANNING MILESTONES

| | | | | | |
|-------------|-------------------|---------------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| 2 | ToR 01/09/2016 | NPA 2020-14 14/12/2020 | 2023-Q2 | 2024 | 2024 |
| 3 | | 2024 | 2025 | 2026 | 2026 |

**2. COMPETENCE OF PERSONNEL****SPT.0012 Promotion of the new European provisions on pilot training**

The objective of this task is to support aeroplane and helicopter operators in organising training and checking effectively by:

- sharing good practices on the performance of line checks while exploring and presenting different approaches by NCAs;
- informing operators how to promote CRM and EBT training tailored to the needs of an operator and its pilots (with focus on the feedback from the operators on CRM and EBT training);
- promoting how familiarisation with aerodromes/heliports can be done while sharing best practices, including line training in different blocks for different kinds of situations (main capital airports, specific heliports, congested areas, off airfield night landings) and organising general/additional sign-off required for each specific block, etc.;
- sharing good practices in tracking due dates for training/checking;
- supporting the implementation of ED Decision 2022/014/R.

The objective is to complement the new regulatory package on UPRT and EBT with relevant safety promotion material. The safety promotion material for EBT includes support and guidance for the implementation of EBT mixed (ED Decision 2015/027/R), and following the publication of Implementing Regulation (EU) 2020/2036³⁴ on 11/12/2020 and the related ED Decision 2021/002/R, it also includes support and guidance material for the EBT baseline.

Oversight guidance for the transition to mixed EBT implementation is available at:

<https://www.easa.europa.eu/oversight-guidance-transition-ebt-mixed-checklist>

4 EBT Webinars have now been held and all the promotional material can be found on the Air Ops Community Site:

<https://www.easa.europa.eu/community/topics/evidence-based-training>

| | |
|------------------------------|--|
| Status | Ongoing |
| SIs | SI-0018 Clear air turbulence and mountain waves SI-0009 Crew resource management (CRM) SI-0012 Wake vortex SI-0024 Windshear |
| SRs | n/a |
| Reference(s) | GASP SEI (States) - Mitigate contributing factors to LOC-I accidents and incidents BIS on Administrative Burden for Small Helicopter Operators ED Decision 2015/027/R and EASA Opinion No 08/2019 https://www.easa.europa.eu/sites/default/files/dfu/EBT-Checklist.pdf (Version 03, 2020-Q3) |
| Dependencies | RMT.0599 |
| Affected stakeholders | Pilots, instructors, flight examiners, ATOs, air operators, Member States |
| Owner | EASA FS.3 Aircrew & Medical Department |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|---|-----------------|
| Safety promotion material, including webinars | 2022-2023 |
| EBT manual | 2023-2024 |

34 <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32020R2036&qid=1666613857108>



2. COMPETENCE OF PERSONNEL

SPT.0111 Flight examiner manual

Enhance among the examiners certified in the EASA Member States the application and harmonisation of standards and best practices to ensure that an applicant is qualified by a comparable level of knowledge, competence and skills.

Through reliable and objective testing and checking guidance, foster the achievement of optimal outcomes in the interest of effectiveness, efficiency, fairness, and transparency.

Foster the development of a common training programme for the standardisation of examiners among all EASA Member States' NCAs.

This SPT is intended to:

- maintain the EASA flight examiner manual (FEM) which provides guidelines for flight examiners on the conduct of examinations with a view to improving examiner standardisation and fairness at EU level;
- successively extend the scope of the EASA FEM to address:
 - helicopter pilot examiners, and
 - balloon and sailplane pilot examiners.
- provide recommendations to NCAs on the usefulness of using common, standardised forms and, in addition,
- a common notification procedure(s) for examiners with a Part-FCL examiner certificate conducting a test, check or assessment of competence of a Part-FCL licence holder whose licence has been issued by an NCA other than their own.

The initial version of the EASA FEM was published in November 2021:

<https://www.easa.europa.eu/document-library/general-publications/flight-examiners-manual-fem>.

| | | |
|------------------------------|---|--|
| Status | Ongoing | |
| SI | SI-3011 | Training effectiveness and competence |
| SRs | n/a | |
| Reference(s) | Evaluation report on the implementation of the Aircrew Regulation, Part-FCL Subpart K (requirements for Examiners involved in pilot testing and checking) | |
| Dependencies | n/a | |
| Affected stakeholders | NCAs, flight examiners | |
| Owner | EASA SM.1 | Safety Intelligence & Performance Department |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|--|------------|
| EASA Flight Examiner Manual (FEM) Update 1 (helicopters) | 2023-Q1 |
| EASA Flight Examiner Manual (FEM) Update 2 (sailplanes and balloons) | 2024 |
| Recommendations to NCAs | Continuous |

**2. COMPETENCE OF PERSONNEL****MST.0036****PPL/LAPL learning objectives in the ‘Meteorological Information’ part of the PPL/LAPL syllabus**

Member States should develop proportionate learning objectives in the ‘Meteorological Information’ part of the PPL/LAPL syllabus.

Such learning objectives should be of a basic, non-academic nature, and should address key learning objectives in relation to:

- the practical interpretation of ground-based weather radar, and strengths and weaknesses;
- the practical interpretation of meteorological satellite imagery, and strengths and weaknesses;
- forecasts from numerical weather prediction models, and strengths and weaknesses.

| | |
|------------------------------|--|
| Status | Ongoing |
| SlS | n/a |
| SRs | n/a |
| Reference(s) | EASA BIS ‘Weather Information to Pilots (GA and Rotorcraft) EASA ‘Weather Information to Pilots’ Strategy Paper |
| Dependencies | n/a |
| Affected stakeholders | NCA, PPL/LAPL holders, ATOs |
| Owner | Member States |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|---|-----------------|
| Learning objectives, with related question bank | 2023-Q4 |

In addition to the above, the following SPT is relevant to the competence of personnel (GA):

SPT.0083**Flight instruction**

The full description of this action is included in [Section 5.1](#).



2. COMPETENCE OF PERSONNEL

2.3 Cabin crew

This section is maintained as a placeholder for future actions.



2. COMPETENCE OF PERSONNEL

2.4 Aviation maintenance personnel

Part-147

At present, Part-147 forbids the use of distance learning for the purpose of basic knowledge and aircraft type training as the training locations are part of the approval. Part-66 allows the use of 'synthetic training devices' but does not define them. According to Appendix III to Part-66, 'Multimedia Based Training (MBT) methods may be used to satisfy the theoretical training element either in the classroom or in a virtual controlled environment [...]'; however, that Appendix does not define these methods, and no guidance exists on how to evaluate, validate and/or approve courses based on MBT methods.

What we want to achieve

Ensure the continuous improvement of all aviation maintenance personnel competence.

Part-147: The introduction of new methods and technologies will lead to a level playing field and will improve the efficiency, quality and safety of maintenance training. Additionally, this way, the training provided by approved maintenance training organisations will be at a similar level. Moreover, it may result in an increased number of young people choosing to embark on maintenance careers, which may help tackle the expected shortage of aviation maintenance personnel in the near future.

How we want to achieve it: actions



2. COMPETENCE OF PERSONNEL

RMT.0255 Review of Part-66

The objective of this task is to address some shortcomings identified on the maintenance licensing system linked to the effectiveness and efficiency of the current requirements, namely:

- type rating endorsement for legacy aircraft;
- on-the-job training (OJT);
- deficit of practical skills for maintenance personnel; and
- obsolescence of the Basic Knowledge syllabus.

This task will also address new training/teaching technologies for aviation maintenance personnel, as relevant to Part-66, to set up the framework for:

- e-learning and distance learning;
- simulation devices or synthetic training devices (STDs);
- specialised training such as Human Factor (HF), Fuel Tank Safety (FTS), Electrical Wiring Interconnection System (EWIS), continuation training; and
- blended teaching methods.

| | |
|-------------------------------|--|
| Status | Ongoing |
| SIs | SI-3011 Training effectiveness and competence |
| SRs | n/a |
| ICAO ref. | n/a |
| Other ref(s) | n/a |
| Dependencies | RMT.0544, RMT.0731 |
| Affected stakeholders | Aircraft maintenance licence (AML) holders, AMTOs (Part-147), MOs (Part-145), NCAs |
| Affected regulation(s) | Commission Regulation (EU) No 1321/2014 |
| Strategic priority | EPAS Volume I Section 3.2 |
| Harmonisation | No |

WORKING METHOD

| | | | |
|--------------|--|-------------------------------------|---------------------|
| Owner | EASA FS.1 | Maintenance & Production Department | |
| SubT | Development | Impact Assessment(s) | Consultation |
| | By EASA with the support of a Rulemaking Group | Light | NPA - Public |

PLANNING MILESTONES

| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
|------|--|---------------------------|-----------------------|---------------|----------|
| | ToR RMT.0255 14/07/2014 Iss 1 14/08/2019 Iss 2 | NPA 2020-12 01/12/2020 | 07/2022 06/09/2022 | 2023-Q3 | 2023-Q3 |



2. COMPETENCE OF PERSONNEL

RMT.0541 Regular update of aircraft type ratings for Part-66 aircraft maintenance licences

Regular update of references used for issuing type ratings in a harmonised way.

The previous cycle was completed with the publication of Decision 2019/024/R on 18/11/2019.

| | |
|-------------------------------|--|
| Status | Ongoing |
| SI | SI-3011 Training effectiveness and competence |
| SRs | n/a |
| ICAO ref. | n/a |
| Other ref(s) | n/a |
| Dependencies | RMT.0544, RMT.0731 |
| Affected stakeholders | AML holders, AMTOs (Part-147), AMOs (Part-145), NCAs |
| Affected regulation(s) | Commission Regulation (EU) No 1321/2014 |
| Strategic priority | No |
| Harmonisation | No |

WORKING METHOD

| | | | |
|--------------|--------------------|-------------------------------------|---------------------|
| Owner | EASA FS.1 | Maintenance & Production Department | |
| SubT | Development | Impact Assessment(s) | Consultation |
| | By EASA | Light | NPA - Public |

PLANNING MILESTONES

| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
|---------|-------------------|--------------|---------|---------------|----------|
| Current | ToR 12/05/2009 | NPA 2024 | n/a | n/a | 2025 |
| Next | | tbd | n/a | n/a | tbd |



2. COMPETENCE OF PERSONNEL

RMT.0544 Review of Part-147

Complete review of Part-147 (not performed since it was first issued in 2003) and considering of the areas of special interest identified in EVT.0002:

- Optimisation of the structure of the Basic Knowledge syllabus and its impact on the training courses and examinations;
- Language proficiency for students in training courses;
- Mechanisms to eliminate or reduce the examination cheating and fraud/conflict of interest within Part-147 organisations; in particular, a final assessment performed by the NCA.

This task will also address new training/teaching technologies for aviation maintenance personnel, as relevant to Part-147, to set up the framework for:

- e-learning and distance learning;
- simulation devices or STDs;
- specialised training such as HFs, FTS, continuation training; and
- blended teaching methods.

| | |
|-------------------------------|---|
| Status | Ongoing |
| SIs | SI-3008 Knowledge development and sharing SI-3011 Training effectiveness and competence |
| SRs | n/a |
| ICAO ref. | n/a |
| Other ref(s) | EVT.0002 Evaluation report related to the EASA maintenance licensing system and maintenance training organisations (02/03/2018) |
| Dependencies | RMT.0255 |
| Affected stakeholders | AMTOs (Part-147), AML applicants and holders, NCAs |
| Affected regulation(s) | Commission Regulation (EU) No 1321/2014 |
| Strategic priority | EPAS Volume I Section 3.2 |
| Harmonisation | No |

WORKING METHOD

| | | | |
|--------------|--|-------------------------------------|---------------------|
| Owner | EASA FS.1 | Maintenance & Production Department | |
| SubT | Development | Impact Assessment(s) | Consultation |
| | By EASA with the support of a Rulemaking Group | Light | NPA - Public |

PLANNING MILESTONES

| | | | | | |
|-------------|----------------------------|---------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| | ToR RMT.0544 14/08/2019 | NPA 2023-Q3 | 2024 | 2025 | 2025 |



2. COMPETENCE OF PERSONNEL

SPT.0106 Prevention, detection and mitigation of fraud cases in Part-147 organisations

EVT.0002, the report on the EU maintenance licensing and training system, denounced cases of fraud or cheating during the examinations.

The action includes discussions with the NCAs/industry on how to prevent, detect, mitigate and eliminate fraud cases.

| | |
|------------------------------|--|
| Status | Ongoing |
| Slis | n/a |
| SRs | n/a |
| Reference(s) | EVT.0002 Evaluation report related to the EASA maintenance licensing system and maintenance training organisations |
| Dependencies | MST.0035 |
| Affected stakeholders | AMTOs (Part-147), NCAs |
| Owner | EASA FS.1 Maintenance & Production Department |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|---|----------|
| Workshops, leaflets and online material | 2023 |

MST.0035 Oversight capabilities / focus area: fraud cases in Part-147

Member States should focus on the risk of fraud in examinations, including by adding specific items in audit checklists and collecting data on the actual fraud cases. They may exchange and share information as part of the collaborative oversight.

| | |
|------------------------------|--|
| Status | Ongoing |
| Slis | n/a |
| SRs | n/a |
| Reference(s) | EVT.0002 Evaluation report related to the EASA maintenance licensing system and maintenance training organisations |
| Dependencies | SPT.0106 |
| Affected stakeholders | AMTOs (Part-147), NCAs |
| Owner | Member States |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|---------------------------------------|------------|
| Feedback on the implementation status | Continuous |



2. COMPETENCE OF PERSONNEL

2.5 Personnel involved in ATM/ANS

RMT.0668 Regular update of air traffic controller licensing rules (IRs and AMC and GM)

This task concerns the maintenance of Regulation (EU) 2015/340, which comprehensively addresses different areas of the ATCO licensing system. Besides the constant endeavour to update the training and qualification requirements considering the scientific and technological progress, there is a need for enhancement and simplification of the ATCO licensing system identified by several EU initiatives targeting better performance and resilience, providing flexibility to respond to new technological developments and operational needs. This RMT is also intended to complete the implementation of the common European ATCO licensing system to include the acceptance of military and third-country certification.

In response to those needs, the planned activities are grouped in the following subtasks:

Subtask 1:

Under this Subtask, EASA will introduce a controlled mechanism of crediting of training, experience or other qualifications of military ATCOs for the purpose of obtaining ATCO licences under Regulation (EU) 2015/340.

Subtask 2:

Under this Subtask, EASA will:

- introduce simplifications resulting from the rating/rating endorsements survey conducted by the Agency in 2019, and clarify the existing rules based on implementation feedback;
- provide enhanced mobility options for instructors, assessors and student ATCOs, and facilitate dynamic cross-border sectorisation;
- simplify and update the initial training requirements resulting from the work of the EUROCONTROL ATCO Common Core Content Task Force coordination.

Subtask 3:

Under this Subtask, EASA will introduce a mechanism for the recognition of third-country ATCO licences under Regulation (EU) 2015/340.

Subtask 4:

Under this Subtask, EASA will:

- harmonise the initial training qualification output to handle complex and dense air traffic situations and to enhance the qualification requirements for instructors and assessors by setting the required performance standards using the principles of competency-based training and assessment (CBTA), which is also the ICAO preferred route to the licensing of all aviation personnel;
- enable the utilisation of virtual training proposals stemming from the COVID-19 RNO project.

| | |
|-------------------------------|---|
| Status | Ongoing |
| SIs | SI-3011 Training effectiveness and competence |
| SRs | n/a |
| ICAO ref. | n/a |
| Other ref(s) | This RMT may be affected by the recommendations stemming from the WPGR and the AAS. |
| Dependencies | RMT.0681 |
| Affected stakeholders | ATM/ANS service providers, NCAs, ATCOs, ATCO TOs, AMEs, AeMCs |
| Affected regulation(s) | Commission Regulation (EU) 2015/340 |
| Strategic priority | EPAS Volume I Section 3.2 |
| Harmonisation | No |



2. COMPETENCE OF PERSONNEL

RMT.0668 Regular update of air traffic controller licensing rules (IRs and AMC and GM)
WORKING METHOD

| | | | | |
|--------------|----------------------------|-----------------------------|---------------------|--|
| Owner | EASA ED.4 | Air Traffic Department | | |
| SubT | Development | Impact Assessment(s) | Consultation | |
| 1 | EASA with external support | No | NPA – Focused | |
| 2 | EASA with external support | No | NPA - Public | |
| 3 | EASA with external support | No | NPA - Public | |
| 4 | EASA with external support | No | NPA - Public | |

PLANNING MILESTONES

| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
|-------------|----------------------------|---------------------------|-----------------------|----------------------|-----------------|
| 1 | ToR RMT.0668 10/08/2017 | NPA 16/03/2020 | 06/2022 02/09/2022 | 2023 | 2023-Q4 |
| 2 | | NPA 2021-08 24/06/2021 | 06/2022 02/09/2022 | 2023 | 2023-Q4 |
| 3 | | NPA 2023-Q1 | 2024-Q1 | 2024 | 2024 |
| 4 | | NPA 2023-Q1 | 2024-Q1 | 2024 | 2024 |



2. COMPETENCE OF PERSONNEL

RMT.0738 Next generation of air traffic controller licensing rules (IRs and AMC and GM)

This task aims to respond to the strategic priority to converge the training and performance of ATCOs to respond to the evolution of the European ATM landscape with dynamic cross-flight information region (FIR) operations, standardised operational procedures, and technological convergence.

Its objective is to create a future-proof ATCO licensing, competence and training scheme that can adapt to emerging technological advances. The deliverables of the SESAR Joint Undertaking (JU), the recommendations of the Wise Persons Group on the future of the Single European Sky, and the proposal for the future architecture of the European airspace could, among others, serve as sources of inspiration.

This task separates strategic initiatives from implementation activities and from scientific and technology-based updates regarding Regulation (EU) 2015/340, which comprehensively addresses different areas of the ATCO licensing system.

System-based, non-geographical ATCO licensing shall focus on the systems' capabilities and user requirements and associate those with the appropriate qualification requirements supported with appropriate training. Regulatory adaptations are required for the current licensing scheme, including its training aspects, to transition towards a system-based approach with phased implementation starting with initial training.

In response to those needs, the planned activities are grouped in the following subtasks:

Subtask 1:

Under this Subtask, EASA will develop complete commonalities for initial training, including but not limited to a standardised method of assessment and assessment standards, common standards for STDI and initial training assessor performance, and common training syllabus.

Subtask 2:

Considering the technological and operational developments under this Subtask, EASA will harmonise unit and continuation training to the greatest possible extent to support system-based licensing, including but not limited to a standardised method of assessment and assessment standards, standards for OJTI and assessor performance, and common minimum training syllabi and training objectives.

This task may be affected by the recommendations stemming from the WPGR and the AAS.

This new RMT addresses the objective formerly intended to be achieved under RMT.0668 Subtask 5.

| | |
|-------------------------------|---|
| Status | New |
| SI | SI-3011 Training effectiveness and competence |
| SRs | n/a |
| ICAO ref. | n/a |
| Other ref(s) | n/a |
| Dependencies | RMT.0681 |
| Affected stakeholders | ATM/ANS service providers, NCAs, ATCOs, ATCO TOs, AMEs, AeMCs |
| Affected regulation(s) | Commission Regulation (EU) 2015/340 |
| Strategic priority | EPAS Volume I Section 3.2 Harmonisation No |

WORKING METHOD

| | |
|--------------|---|
| Owner | EASA ED.4 Air Traffic Department |
| SubT | Development Impact Assessment(s) Consultation |
| 1 | EASA with external support To be determined at a later stage NPA - Public |
| 2 | EASA with external support To be determined at a later stage NPA - Public |

**2. COMPETENCE OF PERSONNEL****RMT.0738** Next generation of air traffic controller licensing rules (IRs and AMC and GM)

| PLANNING MILESTONES | | | | | |
|---------------------|----------------|--------------|---------|---------------|----------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| 1 | ToR 2023-Q4 | NPA 2024 | 2025 | 2025 | 2025 |
| 2 | | NPA 2026 | 2027 | 2027 | 2027 |

3. Flight operations - aeroplanes





3. Flight operations - aeroplanes

Refer to EPAS Volume I Section 3.3.1 'Ensure operational safety in Commercial air transport (CAT) aeroplane operations (airlines and air taxi passenger/cargo) and NCC aeroplane operations

This chapter groups all the actions in the area of airline and air taxi passenger and cargo operations of EASA AOC holders with aeroplanes of a maximum take-off mass above 5 700 kg, with EASA-MS-registered complex aeroplanes conducting non-commercial operations (NCC), as well as specialised operations (SPO) involving aeroplanes of all mass categories.

3.1 CAT and NCC operations

The operational domains CAT and NCC with aeroplanes remain the primary focus of the EASA safety activities. For CAT operations with large aeroplanes and for NCC, sufficient safety and exposure data is available to enable the definition of specific safety performance metrics (see Volume I [Section 4.2](#)).

3.1.1 Safety

This section includes a significant number of EPAS actions and is therefore further subdivided into group actions per key risk area (KRA) for which mitigation actions are included in the current EPAS. [Section 3.1.1.6](#) includes the safety actions that do not relate to any of the KRAs in particular.

3.1.1.1 Aircraft upset in flight

Issue/rationale

Loss of control usually occurs because the aircraft enters a flight regime which is outside its normal flight envelope, usually, but not always, at a high rate, thereby introducing an element of surprise for the flight crews involved. Prevention of loss of control is a strategic priority.

Aircraft upset or loss of control is the key risk area ranking highest with regard to its cumulative risk score related to fatal accidents in CAT and NCC operations with aeroplanes.

What we want to achieve

Increase safety by continuously assessing and improving risk controls to mitigate the risk of loss of control.

How we monitor improvement

Continuous monitoring of the safety issues identified in the data portfolio and related safety risk portfolio for CAT and NCC operations with aeroplanes (see 2022 ASR Table 7 'Data portfolio for large aeroplanes').

How we want to achieve it: actions

In addition, the following actions are also directly relevant for this KRA:

| | |
|----------|--|
| RES.0010 | Ice crystal detection |
| RES.0017 | Icing hazard linked to super cooled large droplets (SLD) |

The full description of these actions is included in [Chapter 6](#).



3.1 CAT AND NCC OPERATIONS

3.1.1.2 Runway safety

Issue/rationale

This section deals with runway excursions, runway incursions and runway collisions, and is a strategic priority.

Aeroplane **runway excursion** includes all occurrences that involve actual or potential situations where an aircraft leaves the runway or the movement area of an aerodrome or landing surface of any other predesignated landing area without getting airborne. Runway excursion is the KRA ranking second highest with regard to its cumulative European Risk Classification Score (ERCS - see 2022 ASR) related to fatal accidents in CAT and NCC operations with aeroplanes. In 2020, the highest risk contributors were occurrences with delayed rotation due to take-off incorrect centre of gravity and actual runway excursions.

Runway incursion covers any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle or person on the protected area of a surface designated for the landing and take-off of aircraft (Source: ICAO Doc 4444 - PANS-ATM).

Runway collision covers collision between an aircraft and another object (other aircraft, vehicles, etc.) or person that occurs on a runway of an aerodrome or other predesignated landing area; it does not include collision with birds or wildlife. Collision on runway is the KRA ranking fourth with regard to its cumulative ERCS score (see 2022 ASR) related to fatal accidents in CAT and NCC operations with aeroplanes.

What we want to achieve

Increase safety by continuously assessing and improving risk controls to mitigate the risk of runway excursions, runway incursions and runway collisions.

How we monitor improvement

Continuous monitoring of the safety issues identified in the CAT Aeroplanes, Aerodromes and Ground handling as well as the ATM and ANS data portfolios (see 2022 ASR Tables 7, 33 and 36 respectively) and related safety risk portfolios in Volume III.

How we want to achieve it: actions

The section is maintained as a placeholder for future actions.

The following actions are also directly relevant for this KRA:

| | |
|----------|--|
| RMT.0722 | Provision of digital aeronautical data by the aerodrome operator |
| MST.0029 | Implementation of SESAR runway safety solutions |

The full description of these actions is included in [Section 9.1](#).



3.1 CAT AND NCC OPERATIONS

3.1.1.3 Airborne collision (mid-air collision)

Issue/rationale

Airborne collision includes all occurrences that involve the actual or potential collision between aircraft, while both aircraft are airborne, and between aircraft and other airborne objects (excluding birds and wildlife). This also includes all separation-related occurrences caused by either air traffic control (ATC) or cockpit crew, AIRPROX reports and genuine ACAS alerts. It does not include false ACAS alerts caused by equipment malfunction, or a loss of separation with at least one aircraft on the ground, which may be coded as ground damage if the occurrence meets the criteria and usage notes for those categories. Although there have been no CAT aeroplane airborne collision accidents in recent years within the EASA Member States, this KRA has been raised by a number of Member States through the NoAs and also by some airlines, specifically in the context of the collision risk posed by aircraft that fly without transponders in uncontrolled airspace. Airborne collision is the KRA ranking highest with regard to its cumulative ERCS score (see 2022 ASR) related to fatal accidents in CAT and NCC operations with aeroplanes. In 2020, the highest risk contributors were occurrences with a loss of separation whilst performing a missed approach due to windshear encounter and several TCAS resolution advisories cases.

What we want to achieve

Continuously assess and improve the risk controls to mitigate the risk of mid-air collision.

How we monitor improvement

Continuous monitoring of the safety issues identified in the data portfolio for CAT and NCC operations with aeroplanes (see 2022 ASR Table 7 'Data portfolio for large aeroplanes').

How we want to achieve it: actions



3.1 CAT AND NCC OPERATIONS

MST.0024 'Due regard' for the safety of civil traffic

Member States must have due regard for the safety of civil aircraft and must have established respective regulations for national State aircraft.

Several EU Member States have reported an increase in incidents involving close encounters between civil and military aircraft, and more particularly an increase in non-cooperative international military traffic.

Considering such a situation and the possible hazard to civil aviation safety, the European Commission mandated EASA to perform a technical analysis of the reported occurrences. The technical analysis resulted in the issue of a number of recommendations for the Member States:

- fully apply the ICAO Manual on Civil-Military Cooperation in Air Traffic Management (Doc 10088);
- closely coordinate to develop, harmonise and publish operational requirements and instructions for State aircraft to ensure that 'due regard' for civil aircraft is always maintained;
- support the development and harmonisation of civil-military coordination procedures for ATM at EU level and beyond if possible;
- report relevant occurrences to EASA; and
- facilitate/make primary surveillance radar data available in military ATC centres to civil ATC units; the objective of this action is to ensure that Member States follow up on the recommendations and provide feedback on the implementation.

EASA continues to monitor occurrences reported by Member States, with a view to considering the development of specific actions (e.g. Conflict zone SIB).

In addition, the military invasion by the Russian Federation into the territory of Ukraine triggered aviation safety risks affecting commercial aviation. For those risks EASA, in close cooperation with the Member States and industry developed , a dedicated [safety risk portfolio](#) 'Review of Aviation Safety Issues arising from the war in Ukraine'. Where already available, the portfolio provides mitigating actions alongside the corresponding safety issue. Member States are invited to assess the relevance of those safety risks and related actions within their SSPs.

Member States should also encourage organisations under their oversight to assess the relevance of the safety issues listed in this safety risk portfolio to their own operations and, where appropriate, capture them in their management systems so that any associated risks can be mitigated effectively.

| | |
|------------------------------|---|
| Status | Ongoing |
| SIs | SI-5514 Separation with unidentified aircraft |
| SRs | n/a |
| Reference(s) | ICAO Doc 10088 'Manual on Civil-Military Cooperation in Air Traffic Management' Safety Risk Portfolio - Review of Aviation Safety Issues arising from the war in Ukraine (EASA, Version 1 - April 2022) |
| Dependencies | MST.0001 |
| Affected stakeholders | AOC holders (CAT), aircraft operators (NCC), ATC providers |
| Owner | Member States |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|---|----------|
| Report to EASA on related incidents and actions taken | 2023-Q4 |

**3.1 CAT AND NCC OPERATIONS****MST.0030****Implementation of the SESAR solutions aiming to reduce the risk of mid-air collisions en-route and in terminal manoeuvring areas**

Member States should, as part of their State safety management activities, evaluate together with the ANSPs that are delegated to provide services in their airspace the needs for implementing the SESAR solutions related to enhanced short-term conflict alerts (STCA) / enhanced safety nets³⁵ such as solutions #60 and #69.

These SESAR solutions, designed to improve safety, should be implemented as far as practically possible.

The results of such evaluation should be recorded in the SPAS.

NOTE: In the course of 2023 EASA will reassess the relevance and alignment of the EPAS with the SESAR programme, which may lead to changes regarding the SESAR related MSTs.

| | |
|------------------------------|--|
| Status | Ongoing |
| SIs | n/a |
| SRs | n/a |
| Reference(s) | ATM Master Plan Level 3 - Plan (2019): ATC02.9 - Enhanced STCA for TMAs SESAR Solutions Catalogue 2021 Fourth edition ³⁶ |
| Dependencies | n/a |
| Affected stakeholders | ANSPs |
| Owner | Member States |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|-----------------------|-----------------|
| SPAS issued | 2021-Q4 |
| SPAS reviewed | 2024-Q1 |

35 More details about the related research projects can be found at https://www.atmmasterplan.eu/data/sesar_solutions.

36 https://www.sesarju.eu/sites/default/files/documents/reports/SESAR_Solutions_Catalogue_2021_small.pdf



3.1 CAT AND NCC OPERATIONS

3.1.1.4 Terrain collision

Issue/rationale

This risk area includes occurrences where an airborne aircraft collides with terrain, without indication that the flight crews were unable to control the aircraft. It includes instances where the flight crews are affected by visual illusions or degraded visual environment. It includes collision with water, flat as well as elevated terrain.

Note: The KRA 'terrain collision' is at rank 9 as per the accumulated ERCS score in the 2022 ASR.

What we want to achieve

Increase safety by continuously assessing and improving risk controls to mitigate the risk of controlled flight into terrain (CFIT).

How we monitor improvement

Continuous monitoring of the safety issues identified in the data portfolio and related safety risk portfolio for CAT and NCC operations with aeroplanes (see 2022 ASR Table 7 'Data portfolio for large aeroplanes').

How we want to achieve it: actions

Following the completion of the actions included under this section in the EPAS 2018-2022, no further actions are included in this EPAS edition. The section is maintained as a placeholder for future actions.

3.1.1.5 Fire, smoke, pressurisation, and cabin air quality

Issue/rationale

This area includes cases of fire, smoke, fumes or pressurisation situations that may pose a risk to human life. It includes occurrences involving fire, smoke or fumes affecting any part of an aircraft, in flight or on the ground, which is not the result of an impact or malicious act and covers fire/explosion (load/pax), fire/explosion (technical), as well as pressurisation, conditioning and contamination occurrences.

Uncontrolled fire on board an aircraft, especially when in flight, represents one of the most severe hazards in aviation. Aircraft depressurisation and post-crash fire are also addressed in this section, which examines situations where the internal environment of the aircraft may become hazardous or even unsurvivable.

In-flight fire can ultimately lead to loss of control, either as a result of structural or control system failure, or again as a result of crew incapacitation. Fire on the ground can take hold rapidly and lead to significant casualties if evacuation and emergency response is not swift enough. Smoke or fumes, whether they are associated with fire or not, can lead to passenger and crew incapacitation and will certainly raise concerns and call for action. Even when they do not give rise to a safety impact, they can give rise to concerns and need to be addressed.

While there were no fatal accidents involving EASA Member States' operators in the last years related to fires, there have been occurrences in other parts of the world that make it an area of concern within the EPAS.

The issue of cabin air quality (CAQ) on board commercial aircraft is the subject of several investigations and research projects worldwide regarding its health and safety implications for crews and passengers.

Although representing a small proportion of CAQ events, contamination by oil or aircraft fluids and their by-products are those that raise the greatest concerns. For this reason, the European Commission (DG MOVE) and EASA have launched a dedicated research project focusing on oil-related contamination. Other types of events, such as smell in the cabin, are beyond the scope of such research.



3.1 CAT AND NCC OPERATIONS

What we want to achieve

Increase safety by continuously assessing and improving risk controls to mitigate the risk of fire, smoke, fumes, pressurisation situations and poor CAQ.

How we monitor improvement

Continuous monitoring of the safety issues identified in the data portfolio and related safety risk portfolio for CAT and NCC operations with aeroplanes (see 2022 ASR Table 7 'Data portfolio for large aeroplanes').

Note: Fire, smoke and pressurisation rank number 6 in terms of accumulated ERCS score in the 2022 ASR.

How we want to achieve it: actions

RES.0016 Fire risks caused by portable electronic devices on board aircraft

Research work aimed at the full characterisation of the fire risks associated with the transport of large portable electronic devices (PEDs) in aircraft, notably of those stored in the cargo compartment in checked-in luggage; this encompasses theoretical and experimental work to deepen the knowledge related to the inception and propagation of PED-originated fire as well as devising efficient and cost-effective means for its detection and suppression.

| | | |
|------------------------------|--------------------------|---|
| Status | Ongoing | |
| SIs | SI-0027 | Carriage and transport of lithium batteries |
| SRs | n/a | |
| Reference(s) | n/a | |
| Dependencies | n/a | |
| Affected stakeholders | Aircraft Operators - CAT | |
| Owner | EASA SM.2 | Strategy & Programmes Department |

PLANNING MILESTONES

| Starting date | Interim report | Final report |
|---------------|----------------|--------------|
| 2020 | n/a | 2023-Q1 |

**3.1 CAT AND NCC OPERATIONS****RES.0030 Cabin air quality - chronic exposure to contamination events**

Investigation of the potential health risks (notably for flight and cabin crews) that might evolve from long-term exposure to low-dose cabin air contamination events and their possible mitigation; this should encompass the collection and analysis of combined samples of contaminants cocktails and ultra-fine particles and the evaluation of their effects by comparison with epidemiological data; aggregation with currently ongoing and past research work towards a more comprehensive, robust and validated picture between levels of contamination of cabin air and potential health impacts.

| | | |
|------------------------------|--|---|
| Status | Ongoing | |
| SIs | n/a | |
| SRs | n/a | |
| Reference(s) | CENT/TC 436 Cabin Air Quality on commercial aircraft | |
| Dependencies | n/a | |
| Affected stakeholders | AOC holders, aircrews | |
| Owner | EASA SM.2 and CT | Strategy & Programmes Department Certification Directorate |

PLANNING MILESTONES

| Starting date | Interim report | Final report |
|----------------------|-----------------------|---------------------|
| 2021-Q4 | n/a | 2024-Q4 |

RES.0044 PEDs - lithium battery fire/smoke risk in the aircraft cabin

Identify, determine and assess through tests the risks related to the carriage of PEDs by passengers and crew in the aircraft cabin.

Provide experimental evidence for the establishment of limits (power output and quantity) as regards the transport of PEDs and study the effects of a risk increase/decrease.

Reduce the consequences of the events caused by PEDs by better understanding their causes and consequences and developing patterns.

Determine cabin and flight crew compartment tolerances and identify solutions both at aircraft and battery level.

Develop new and improve existing emergency procedures for cabin crews. Identify the need for safety promotion for passengers and ways to support aircraft operators in assessing the related risks.

| | | |
|------------------------------|---|---|
| Status | Ongoing | |
| SIs | SI-0027 | Carriage and transport of lithium batteries |
| SRs | n/a | |
| Reference(s) | n/a | |
| Dependencies | n/a | |
| Affected stakeholders | Aircraft operators, NCAs, accident investigation boards | |
| Owner | EASA SM.2 | Strategy & Programmes Department |

PLANNING MILESTONES

| Starting date | Interim report | Final report |
|----------------------|-----------------------|---------------------|
| 2022-Q3 | n/a | 2025-Q4 |



3.1 CAT AND NCC OPERATIONS

3.1.1.6 Miscellaneous

Issue/rationale

This section groups the actions that do not relate to any of the KRAs listed in the previous sections. They may involve different types of actions in the domain CAT and NCC operations with aeroplanes. The need for having such a category was driven by the constant development of the EPAS towards new safety areas. For example, standardisation in the Air OPS domain will continue to focus on the effective implementation of operator FTS schemes, particularly those including provisions subject to fatigue risk management. Another example is the promotion of FDM, an essential component of the SMS for CAT aeroplane operators and CAT offshore helicopter operators. Several dedicated actions aim to enhance the implementation of FDM and its integration into safety risk management (SRM).

What we want to achieve

To increase safety with a combination of actions that address more than one issue.

How we monitor improvement

The EASA ABs regularly provide feedback on the effectiveness of the activities.

How we want to achieve it: actions

SPT.0101**Development of new safety promotion material for high-profile safety issues in commercial air operations**

Develop new safety promotion material on high-profile safety issues for commercial air operations. Such high-profile safety issues are to be determined from important risks identified through the SRM process, accidents/serious incidents, rulemaking tasks where support is needed to help industry with implementation (such as RMT.0379 on All Weather Operations -AWO - completed in 2022) and additional input from EASA stakeholders.

| | |
|------------------------------|--|
| Status | Ongoing |
| SIs | SI-0042 Emergency evacuation SI-0015 Entry of aircraft performance data SI-0043/SI-4010 Deconfliction of IFR and VFR traffic |
| SRs | n/a |
| Reference(s) | n/a |
| Dependencies | n/a |
| Affected stakeholders | Aircraft Operators - CAT |
| Owner | EASA SM.1 Safety Intelligence & Performance Department |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|---|------------|
| Posters, videos, articles and social media promotion. | Continuous |



3.1 CAT AND NCC OPERATIONS

SPT.0126

Integrating the flight data monitoring (FDM) programme with safety risk management (SRM)

Produce good practices for integrating the FDM programme with the operators' SRM, with a focus on risk assessment and on supporting flight crew training.

| | | |
|------------------------------|--|--|
| Status | New | |
| SIs | SI-0041 | Effectiveness of safety management |
| SRs | n/a | |
| Reference(s) | GASP SEIs (industry) - Mitigate contributing factors to CFIT, LOC-I, MAC, RE, and RI accidents and incidents | |
| Dependencies | MST.0003 | |
| Affected stakeholders | Aircraft Operators - CAT - Aeroplanes, Aircraft Operators - CAT - Helicopters - offshore | |
| Owner | EOFDM EASA SM.1 | Safety Intelligence & Performance Department |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|---|-----------------|
| EOFDM document 'Breaking the silos' updated | 2024 |

MST.0003

Member States should maintain a regular dialogue with their national aircraft operators on flight data monitoring (FDM) programmes**(a) Making the professionals concerned aware of the European Operators FDM Forum (EOFDM):**

Member States shall publish on their websites, as part of the SMS-related information, general information on the EOFDM activities.

(b) Promoting FDM good practices

Member States that have 10 or more operators running an FDM programme should organise a workshop (physical meeting or teleconference) dedicated to the EOFDM good practice documents with the FDM specialists at these operators. This workshop does not need to be repeated.

| | | |
|------------------------------|--|------------------------------------|
| Status | Ongoing | |
| SIs | SI-0041 | Effectiveness of safety management |
| SRs | n/a | |
| Reference(s) | n/a | |
| Dependencies | EVT.0009 (completed) | |
| Affected stakeholders | Aircraft Operators - CAT - Aeroplanes, Aircraft Operators - CAT - Helicopters - offshore | |
| Owner | Member States | |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|--|-----------------|
| Information on the EOFDM published in the SMS section of the MSs' websites | 2024 |
| Detailed report of the workshop | 2024 |



3.1 CAT AND NCC OPERATIONS

MST.0019 Better understanding of the operators' governance structure

Member States' NCAs should foster a thorough understanding of the operators' governance structure. This should particularly apply in the area of group operations³⁷.

Aspects to be considered include:

- the extensive use of outsourcing;
- the influence of financial stakeholders; and
- controlling management personnel, where such personnel are outside the scope of approval.

EASA supported this MST with the publication of 'Guidance for the oversight of group operations' on 21/06/2022 and will publish further guidance in 2023. Member States are requested to implement the guidance to strengthen the standardised approach to the implementation of group operations

| | |
|------------------------------|--|
| Status | Ongoing |
| SIs | n/a |
| SRs | n/a |
| Reference(s) | Guidance for the oversight of group operations: https://www.easa.europa.eu/document-library/general-publications/guidance-oversight-group-operations |
| Dependencies | n/a |
| Affected stakeholders | AOC holders (CAT) |
| Owner | Member States |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|-------------------|----------|
| Guidance material | 2022-Q2 |
| Guidance material | 2023 |

³⁷ The term 'group operations' refers to operations performed by a group of aircraft operators that share the same management system or that belong to the same 'mother company'.

**3.1 CAT AND NCC OPERATIONS****EVT.0013 Evaluation of the rules for commercial, small-size aeroplane operators under Part-CAT and Part-SPO**

Based on stakeholder request made through the EASA candidate issue register, an evaluation task on the analysis of the proportionality of the rules for commercial, small-size aeroplane operators under Part-CAT and Part-SPO is proposed. The objective of the task is to analyse the relevance in terms of proportionality of the rules for small aeroplane operators and of the potential administrative burden and inefficiencies they cause.

| | |
|------------------------------|--|
| Status | Ongoing |
| SIs | n/a |
| SRs | n/a |
| Reference(s) | n/a |
| Dependencies | EVT.0010 Evaluation on helicopter operations (completed) |
| Affected stakeholders | Commercial and specialised operators in the EASA MSs |
| Owner | EASA FS.2 Air OPS & Aerodromes Department |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|-----------------------|-----------------|
| Evaluation report | 2025 |

In addition to the above, the following actions are relevant for the safety of CAT and NCC operations with aeroplanes:

RMT.0251 Embodiment of the safety management system requirements into Commission Regulations (EU) Nos 1321/2014 and 748/2012

The full description of this action is included in [Section 1.2](#).

SPT.0103 Development of new safety promotion material on high-profile air traffic management safety issues

Refer to [Chapter 8](#) for the detailed description of this action.



3.1 CAT AND NCC OPERATIONS

3.1.2 Level playing field

Issue/rationale

The applicable provisions may need to be harmonised within the EU as well as with the main international trading partners in order to ensure fair competition and/or facilitate the free movement of goods, persons and services.

What we want to achieve

Harmonise the applicable requirements where this would ensure fair competition and/or would facilitate the free movement of goods, persons and services.

Remove obstacles for a well-functioning single market.

How we monitor improvement

Through feedback on the effectiveness of the activities provided regularly by the EASA ABs.

How we want to achieve it: actions

SPT.0097 Promotion of the new European provisions on fuel/energy planning and management

The objective is to complement the new regulatory package on fuel/energy planning (RMT.0573 - completed) and management with relevant safety promotion material.

The three main tasks are the following:

- EASA fuel scheme manual,
- workshop and events,
- safety promotion leaflets, online material, video.

Two webinars have now been held and all material can be found on this page: <https://www.easa.europa.eu/community/topics/fuel-management-new-rules>

| | | |
|------------------------------|--------------------------------|--|
| Status | Ongoing | |
| SIs | SI-0025 | Fuel management |
| SRs | FRAN-2012-026 SPAN-2017-005 | |
| Reference(s) | n/a | |
| Dependencies | n/a | |
| Affected stakeholders | AOC holders | |
| Owner | EASA SM.1 | Safety Intelligence & Performance Department |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|---|-----------|
| Webinars, guide, articles and social media promotion. | 2022-2023 |



3.1 CAT AND NCC OPERATIONS

3.1.3 Efficiency/proportionality

Issue/rationale

Passenger and cargo transport by airlines generates producer, consumer and wider economic benefits. Regulatory and administrative burden reduces these benefits and needs therefore to be fully justified by the corresponding benefits in terms of safety and/or environmental protection.

What we want to achieve

Ensure an efficient regulatory framework for airlines.

How we monitor improvement

Through feedback on the effectiveness of the activities provided regularly by the EASA ABs and CAT CAG.

How we want to achieve it: actions



3.1 CAT AND NCC OPERATIONS

RMT.0392 Regular update of the air operations rules

Seek the necessary updates to reflect technological and market developments, incorporate lessons learned from Air OPS standardisation inspections, and transpose the latest amendments to ICAO Annex 6 Parts I, II and III, as well as to ICAO Annex 18 and other relevant ICAO documents.

This task includes several work packages, covering different topics.

- Subtask 1a covers the following topics:
 - Alignment of extended diversion time operations (EDTO) (former RMT.0577) with the ICAO SARPs related to EDTOs and modernise the EASA ETOPS rules.
 - Review of some helicopter requirements in Part-SPA and other subparts in various annexes to Regulation (EU) No 965/2012.
 - Review of the authority requirements based on feedback from standardisation inspections.
 - Changes stemming from RMT.0681 regarding the alignment of the implementing rules and acceptable means of compliance/guidance material with Regulation (EU) No 376/2014³⁸ on occurrence reporting.
- Subtask 1b covers the training of operations control personnel (flight operations officers / flight dispatchers), considering the transposition of the related ICAO SARPs. This Subtask is being developed with the support of a group of experts nominated by industry and Member States.
- Subtask 1c covers the development and issue of an ad hoc opinion to defer the applicability date of the requirements for locating an aircraft in distress in point CAT.GEN.MPA.210, following the deferral of the mandate in ICAO Annex 6. This Subtask is completed with the publication of Commission Implementing Regulation (EU) 2022/2203 on 14/11/2022³⁹ (refer to Opinion 05/2022 of 01/09/2022).
- Subtask 1d covers the development and issue of an ad hoc decision to quickly transpose some amendments to the ICAO SARPs introduced by Amendment 17 to Annex 14 Volume I and Amendment 40 to Annex 6 Part II to enable GA aircraft to land at aerodromes without rescue and firefighting services.
- Subtask 2 will address the following topics:
 - Review of the operations requirements applicable to group operations.
 - Operational requirements for flights related to design and production ('manufacturer flights') (former RMT.0348).
 - Transposition of several amended ICAO SARPs, namely regarding flight data monitoring (FDM) programme performance and the 'erase' function of the Cockpit Voice Recorders (CVR), Airborne Image Recorders (AIR).
 - Possible review of standard passenger weights (former RMT.0312) based on a survey to be commissioned by EASA.
 - Review of the definition of 'complex motor-powered aircraft' (CMPA).
- Subtask 3 will address the following topics:
 - Review of the requirements for aircraft weighing to consider allowing alternative means to actual weighing.
 - Operations and equipment for high-performance aeroplanes (HPA) (former RMT.0414).

This RMT will lead to changes at IR and at AMC and GM level.

38 <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32014R0376&qid=1666639539251>

39 [EUR-Lex - 32022R2203 - EN - EUR-Lex \(europa.eu\)](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32022R2203)



3.1 CAT AND NCC OPERATIONS

| RMT.0392 | | Regular update of the air operations rules | | | |
|-------------------------------|---|--|----------------|----------------------|-----------------|
| Status | Ongoing | | | | |
| Sl | n/a | | | | |
| SRs | FRAN-2009-021; UNKG-2020-001; AAIB 2020-007 | | | | |
| ICAO ref. | <p>SL AN 11/1.3.25-12/10 (EASA reference: SL 010/2012) issued by ICAO on 4 April 2012.</p> <p>SL AN 11/1.3.32-18/12 (EASA reference: SL 2018/12) issued by ICAO on 29 March 2018.</p> <p>SL AN 11/6.3.30-18/13 (EASA reference: SL 2018/13) issued by ICAO on 29 March 2018.</p> <p>SL AN 11/32.3.14-18/14 (EASA reference: SL 2018/14) issued by ICAO on 29 March 2018.</p> <p>SL AN 11/1.3.32-20/18 (EASA reference: SL 018e) issued by ICAO on 7 April 2020 introducing Amendment 44 to Annex 6 Part I.</p> <p>SL AN 11/6.3.31-20/31 (EASA reference: SL 031e) issued by ICAO on 8 April 2020 introducing Amendment 37 to Annex 6 Part II.</p> <p>SL AN 11/32.3.15-20/32 (EASA reference: SL 032e) issued by ICAO on 7 April 2020 introducing Amendment 23 to Annex 6 Part III.</p> <p>AN 11/6.3.33-22/16 (EASA reference: SL 016e) issued by ICAO on 31 March 2022 introducing Amendment 40 to Annex 6 Part II.</p> <p>SL AN 11/32.3.16-22/13 (EASA reference: SL 013e) issued by ICAO on 31 March 2022 introducing Amendment 24 to Annex 6 Part III.</p> | | | | |
| Other ref(s) | n/a | | | | |
| Dependencies | RMT.0230, RMT.0492, RMT.0599, RMT.0681, RMT.0728, RMT.0731, and RMTs related to other regular updates in various domains (e.g. RMT.0673 'Regular update of CS-25'). The new rules on EDTO (replacing the ETOPS terminology) and those related to aircraft with electric propulsion may have a future impact on the Theoretical Knowledge syllabus for pilots. RMT.0587, RMT.0727, RMT.0735 related to CMPA | | | | |
| Affected stakeholders | Aircraft operators - All, DOA holders, POA holders, NCAs | | | | |
| Affected regulation(s) | Commission Regulation (EU) No 965/2012 | | | | |
| Strategic priority | No | Harmonisation | | Yes | |
| WORKING METHOD | | | | | |
| Owner | EASA FS.2 | Air OPS & Aerodromes Department | | | |
| SubT | Development | Impact Assessment(s) | | Consultation | |
| 1a | By EASA with external support | No | | NPA - Public | |
| 1b | By EASA with external support | No | | NPA - Focused | |
| 1d | By EASA | No | | NPA - Focused | |
| 2 | By EASA with external support | No | | NPA - Public | |
| 3 | By EASA with external support | No | | NPA - Public | |
| PLANNING MILESTONES | | | | | |
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| 1a | ToR RMT.0392 07/10/2020 | Part I: NPA 2022-11 20/12/2022 Part II: 2023-Q1 | 2024 | 2025 | 2025 |
| 1b | | 2023-Q1 | 2024 | 2025 | 2025 |
| 1d | | NPA 2022-105 22/09/2022 NPA 2022-108 14/12/2022 | n/a | n/a | 2023-Q1 |
| 2 | | 2024 | 2025 | 2026 | 2026 |
| 3 | | 2025 | 2026 | 2027 | 2028 |

**3.1 CAT AND NCC OPERATIONS****RMT.0736 Regular update of the third-country operator Regulation**

The task is based on the results of the evaluation of the third-country operator Regulation (EVT.008) finalised in 2020. The evaluation recommends initiating a regular update of Commission Regulation (EU) No 452/2014 to foster the risk-based approach in the processing and assessing of compliance of third-country operators, thus improving the efficiency of EASA as the responsible authority for the implementation of the Regulation. The task will deal with resolving and clarifying inconsistencies, and enhancing the interrelationship with the EU Air Safety List both at regulation and rule level.

| | |
|-------------------------------|--|
| Status | Ongoing |
| Sl | n/a |
| SRs | n/a |
| ICAO ref. | n/a |
| Other ref(s) | n/a |
| Dependencies | EVT.0008 (completed) |
| Affected stakeholders | Third-country operators |
| Affected regulation(s) | Commission Regulation (EU) No 452/2014 |
| Strategic priority | No |
| Harmonisation | No |

WORKING METHOD

| | | |
|--------------|--------------------|---------------------------------|
| Owner | EASA FS.2 | Air OPS & Aerodromes Department |
| SubT | Development | Impact Assessment(s) |
| | By EASA | Light |
| | | Consultation |
| | | Focused - Affected parties |

PLANNING MILESTONES

| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
|-------------|----------------------------|----------------------------|-----------------------|----------------------|-----------------|
| Current | ToR RMT.0736 14/07/2021 | NPA 2022-101 01/02/2022 | 02/2022 25/04/2022 | 2023 Q1 | 2023 Q1 |

**3.1 CAT AND NCC OPERATIONS****MST.0041 Harmonisation in Helicopter AOC approvals, procedures and documents**

Member States should harmonise and, to the extent possible, simplify the application processes in the area of commercial operations with helicopters, including the use of common application forms and compliance lists with an indicative scope as follows:

- establish a harmonised process, a standardised checklist/guide for application for and changes to a helicopter AOC (OPS SPECs), with possible extension to CAMOs and ATOs;
- harmonise the process to add/remove a helicopter from the AOC;
- harmonise/standardise Member States' practices and development of a common application process (e.g. common application form for the removal of an item from the MEL);
- develop guidance on the implementation of the EFB provisions with regard to the versatility of helicopter operations.

The Agency will facilitate and support the development of this task with the Helicopter Expert Group, a Subgroup of the Air OPS TEB.

| | |
|------------------------------|---|
| Status | New |
| Sl | n/a |
| SRs | n/a |
| Reference(s) | BIS 'Administrative Burden for Small Helicopter Operators' |
| Dependencies | n/a |
| Affected stakeholders | Aircraft Operators - CAT – Helicopters, ATOs (aircrew), CAMOs, NCAs |
| Owner | Member States |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|--|-----------------|
| Paper to harmonise the AOC issue/change process (with interface to CAMOs and ATOs) | 2023-2024 |
| Paper to harmonise the process to add/remove an aircraft from the AOC | 2023-2024 |
| Paper to harmonise the process of a common application form for approval/removal of an item from the MEL | 2023-2024 |
| Paper to promote the simplification processes, including the use of common application forms, compliance lists, etc. | 2023-2024 |
| Paper to harmonise the process in implementation of the EFB provisions | 2023-2024 |

In addition to the above, the following action is relevant to efficiency/proportionality as regards CAT operations with aeroplanes and NCC operations:

RMT.0499 Regular update of CS-MMEL

The full description of this action is included in [Chapter 6](#).



3.2 SPECIALISED OPERATIONS AEROPLANES (SPO)

3.2 Specialised operations aeroplanes (SPO)

Note: For SPO helicopters, please refer to [Chapter 4](#).

Issue/rationale

Operators other than CAT or NCC (e.g. operators that conduct SPO operations with aeroplanes either under Part-SPO⁴⁰ or Part-NCO⁴¹) make an important contribution to the aviation's overall role in modern economies. There is thus a need for an efficient regulatory framework.

In 2021, the number of accidents and serious incidents was equal to or lower than the average of the preceding decade for all operation types. In 2021, 10 out of the 14 accidents and serious incidents concerned parachuting operations and sailplane-towing operations. There were only 2 accidents in agricultural operations and 1 accident in air show/race in 2021.

There were no accidents or serious incidents in aerial advertising, aerial observation, animal herding/mustering, or calibration operations.

As regards key risk areas (KRAs) for specialised operations that involve aeroplanes, it can be observed that aircraft upset is the most likely type of accident into which accidents and serious incidents have (or might have) escalated. Aircraft upset also presents the highest risk in this domain. In 2021, there have been approximately 35 occurrences where runway excursion is the KRA; however, the aggregated ERCS risk score of these accidents and serious incidents is lower than, for example, the risk score of terrain or airborne collision (cf. 2022 ASR).

Based on the analysis of accident and serious incident data, system reliability is the safety issue with the highest aggregated ERCS score. Besides system reliability, perception and situational awareness along with flight planning and preparation are the safety issues that affect the most KRAs.

What we want to achieve

Increase safety by continuously assessing and improving risk controls to mitigate the key risks.

How we monitor improvement

Continuous monitoring of the safety issues identified in the data portfolio and related safety risk portfolio for specialised operations with aeroplanes.

How we want to achieve it: actions

40 Annex VIII to Commission Regulation (EU) No 965/2012.

41 Annex VII to Commission Regulation (EU) No 965/2012.



3.2 SPECIALISED OPERATIONS AEROPLANES (SPO)

SPT.0121 Improving the safety of parachuting operations

Create and deliver safety promotion material to improve the safety of parachuting aircraft operations by highlighting the most common causes of accidents in this domain and by providing good practices / operational procedures that can help mitigate the most important risks.

| | | |
|------------------------------|--|--|
| Status | Ongoing | |
| SIs | SI-4023 | Risks associated with parachuting operations |
| SRs | n/a | |
| Reference(s) | n/a | |
| Dependencies | n/a | |
| Affected stakeholders | NCAs, SPO/NCO operators engaged in parachuting operations, Skydiving Centres and Air Sport Federations (Skydiving), ATOs, DTOs, pilot licence holders and student pilots, ANSPs, ATCOs | |
| Owner | EASA SM.1 | Safety Intelligence & Performance Department |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|---|-----------------|
| Posters, videos, articles and social media promotion. | 2023 |

4. Rotorcraft





4. Rotorcraft

Refer to EPAS Volume I Section 3.3.2 'Ensure operational safety in rotorcraft operations'

This chapter groups all the actions in the area of rotorcraft operations and provides links to rotorcraft-related actions in the domains of crew training, design, manufacture and maintenance, in line with EASA's **Rotorcraft Safety Roadmap**⁴².

Issue/rationale

The Rotorcraft Safety Roadmap aims to significantly reduce the number of rotorcraft accidents and incidents, and focuses on traditional/conventional rotorcraft including GA rotorcraft where the number of accidents is recognised to be higher. It focuses on safety and transversal issues that need to be tackled through actions in various domains, including training, operations, initial and continuing airworthiness, environment, and facilitation of innovation.

Helicopter operators perform a wide range of highly specialised operations that are important for the European economy and the citizens. There is a need to further develop an efficient regulatory framework, considering technological advancements.

This area includes three types of operations that involve certified helicopters:

- CAT operations, passenger and cargo flights conducted by the EASA Member States' AOC holders, including CAT passenger and cargo flights to and from offshore oil and/or gas platforms;
- SPO (aerial work), such as advertisement and photography, for which an EASA Member State is the State of operator or State of registry; and
- non-commercial operations with helicopters registered in an EASA Member State or for which an EASA Member State is the State of operator; this section includes in particular training flights.

42 <https://www.easa.europa.eu/download/Events/Rotorcraft%20Safety%20Roadmap%20-%20Final.pdf>



4. ROTORCRAFT

4.1 Safety

In 2021, there were 8 fatal accidents, 24 non-fatal accidents, and 16 serious incidents in helicopter operations (all types).

The number of fatal accidents in 2021 has been similar to the average of the preceding decade, whereas the number of non-fatal accidents has been significantly lower and the number of serious incidents higher than the 10-year average. The number of fatalities in 2021 (13) was lower than the preceding decade average (22.4), and the number of serious injuries in 2021 (11) was similar to this average (12.0).

Over the whole period of time considered, the overall trend is still decreasing.

The majority (79 %) of all accidents and serious incidents involved rotorcraft that performed non-commercial operations or specialised operations (representing 52 and 27 % respectively of all accidents and serious incidents).

The top three safety issues identified in the rotorcraft safety risk portfolio, for all types of operation, are:

- SI-8028 Inadequate airborne separation under VFR operation;
- SI-8038 External-sling-load-operations-related issues;
- SI-8031 Inadequate obstacle clearance during low-altitude operation, take-off and landing.

What we want to achieve

Increase safety by continuously assessing and improving risk controls in the above areas. Increase efficiency by enabling the implementation of appropriate and proportionate regulations.

How we monitor improvement

Continuous monitoring of the safety issues identified in the rotorcraft safety risk portfolio (Volume III) as well as the data portfolios established for CAT helicopter operations, helicopter SPO and non-commercial operations (ref: 2022 ASR Chapter 3, Tables 18, 21 and 24 respectively).

The EASA ABs regularly provide feedback on the actions where efficiency/proportionality is the main driver.

How we want to achieve it: actions



4. ROTORCRAFT

RMT.0325 Helicopter emergency medical service performance and public interest sites

To properly address the issues that stem from the non-implementation of or deviation from JAR-OPS 3 performance and public interest sites (PIS) provisions; in particular, performance in high mountains considering review of the safety level of helicopter emergency medical service (HEMS) flights at night following the issue of UK Safety Directive 2014/003.

| | |
|-------------------------------|---|
| Status | Ongoing |
| SlS | n/a |
| SRs | ITAL-2019-001 |
| ICAO ref. | n/a |
| Other ref(s) | UK Safety Directive 2014/003 |
| Dependencies | n/a |
| Affected stakeholders | Aircraft Operators - CAT - Helicopters - HEMS, MOs (Part-145) |
| Affected regulation(s) | Commission Regulation (EU) No 965/2012 |
| Strategic priority | No |
| Harmonisation | No |

WORKING METHOD

| | | |
|--------------|-------------------------------|---------------------------------|
| Owner | EASA FS.2 | Air OPS & Aerodromes department |
| SubT | Development | Impact Assessment(s) |
| | By EASA with external support | Light |
| | | Consultation |
| | | NPA - Public |

PLANNING MILESTONES

| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
|------|----------------------------|---------------------------|-----------------------|---------------|----------|
| | ToR RMT.0325 26/03/2014 | NPA 2018-04 18/06/2018 | 08/2022 26/09/2022 | 2023 Q3 | 2023 Q3 |



4. ROTORCRAFT

RMT.0708

Controlled-flight-into-terrain prevention with helicopter terrain awareness warning systems (HTAWSs)

Mandating the installation of HTAWSs is expected to prevent between 8.5 and 11.5 CFIT accidents with fatalities or severe injuries within 10 years (medium safety improvement). This RMT will consider proposing the mandatory installation of HTAWS on board the helicopter for certain operations. HTAWS should only be required to be retrofitted to the current fleet if HTAWS ETSO standards are improved. An appropriate impact assessment for retrofit will need to be further developed. Based on the preliminary cost-effectiveness analysis, HTAWS for the following operations are not to be considered: NCO, SPO, and CAT with small helicopters in visual flight rules (VFR) operations (night and day). This also includes the involvement of the EASA Certification Directorate working with stakeholders on the evaluation of updated HTAWS ETSO standards

Taking into account the different timelines for the development of HTAWS ETSO standards for onshore and offshore operations, two different Subtasks are created:

- Subtask 1a will cover offshore HTAWS rules.
- Subtask 1b will cover onshore HTAWS rules. The development of this Subtask is put on hold awaiting the finalisation of onshore HTAWS ETSO standards.

| | |
|-------------------------------|--|
| Status | Ongoing |
| SI | SI-8019 Degraded visibility conditions |
| SRs | UNKG-2014-034 UNKG-2016-013 |
| ICAO ref. | n/a |
| Other ref(s) | UK Safety Directive 2014/003 |
| Dependencies | n/a |
| Affected stakeholders | Aircraft operators - helicopters |
| Affected regulation(s) | Commission Regulation (EU) No 965/2012 |
| Strategic priority | No |
| Harmonisation | No |

WORKING METHOD

| | | | |
|--------------|-------------------------------|---------------------------------|----------------------------|
| Owner | EASA FS.2 | Air OPS & Aerodromes department | |
| SubT | Development | Impact Assessment(s) | Consultation |
| 1a/b | By EASA with external support | Light | Focused - Affected parties |

PLANNING MILESTONES

| | | | | | |
|-------------|----------------------------|---------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| 1a | ToR RMT.0708 31/07/2019 | 2024 | 2025 | 2026 | 2027 |
| 1b | | tbd | tbd | tbd | tbd |



4. ROTORCRAFT

RMT.0724 Improvement of operating information provided to rotorcraft flight crews

The objective of this RMT is to improve the operating information provided to rotorcraft flight crews in aircrew operating manuals. This could be achieved by standardising the structure and approach used to present operational information in rotorcraft manuals, thereby improving the clarity of the information. This RMT will consider the current approach followed in the AMC to CS-25, and other initiatives such as the activity undertaken by Heli Offshore.

| | |
|-------------------------------|---|
| Status | Ongoing |
| SI | SI-8046 Deficiencies and inconsistencies in operating manuals |
| SRs | UNKG-2014-013 UNKG-2016-005 UNKG-2016-006 |
| ICAO ref. | n/a |
| Other ref(s) | n/a |
| Dependencies | n/a |
| Affected stakeholders | Aircraft operators - helicopters |
| Affected regulation(s) | n/a |
| Strategic priority | No |
| Harmonisation | No |

WORKING METHOD

| | | | |
|--------------|--------------------|---|---------------------|
| Owner | EASA CT.5 | Policy, Innovation & Knowledge Department | |
| SubT | Development | Impact Assessment(s) | Consultation |
| | By EASA | Detailed | NPA - Public |

PLANNING MILESTONES

| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
|------|----------------------------|----------------|---------|---------------|----------|
| | ToR RMT.0724 12/03/2021 | NPA 2023-Q4 | n/a | n/a | 2024 |



4. ROTORCRAFT

SPT.0093 Development of new safety promotion material for high-profile helicopter issues

In cooperation with the Vertical Aviation Safety Team (VAST) (previously 'IHSF'), develop new safety promotion material (leaflets, videos, tablet/smartphone applications, etc.) on subjects such as performance-based navigation, point in space, low-level IFR, bird strike, operational and passenger pressure management, aimed at pilots and owners of private helicopters. Such safety promotion material shall address the most important areas of rotorcraft safety as directed through the Rotorcraft Committee and the EASA Rotorcraft Strategy.

| | |
|------------------------------|---|
| Status | Ongoing |
| SIs | SI-8030 Bird and other wildlife hazard SI-8038 External-sling-load-operations-related issues |
| SRs | n/a |
| Reference(s) | n/a |
| Dependencies | n/a |
| Affected stakeholders | Aircraft operators - helicopters |
| Owner | ESPN-R European Safety Promotion Network Rotorcraft |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|--|-----------------|
| Posters, videos, articles and social media promotion | Continuous |

SPT.0096 Organisation of an annual safety workshop

The European Safety Promotion Network Rotorcraft (ESPN-R) to organise a safety workshop in cooperation with trade shows. This high-profile event shall promote safe helicopter operations and foster interactions within the community. The event theme changes every year.

| | |
|------------------------------|--|
| Status | Ongoing |
| SIs | n/a |
| SRs | n/a |
| Reference(s) | European Safety Promotion Network Rotorcraft (ESPN-R) https://www.easa.europa.eu/en/domains/safety-management/safety-promotion/european-safety-promotion-network-rotorcraft-espnr |
| Dependencies | n/a |
| Affected stakeholders | Aircraft operators - helicopters, NCAs |
| Owner | ESPN-R European Safety Promotion Network Rotorcraft |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|-----------------------|-----------------|
| Safety workshop | Continuous |



4. ROTORCRAFT

SPT.0099 Helicopter hoist safety promotion

Develop safety promotion material for helicopter hoists.

Note: The deliverables for 2019 are already available and shared via the LinkedIn group⁴³. The group is called 'ESPN-R Hoist Operation Safety Promotion'.

| | | |
|------------------------------|---|--|
| Status | Ongoing | |
| SI | SI-8037 | Hoist-operations-related issues |
| SRs | n/a | |
| Reference(s) | LinkedIn group 'ESPN-R Hoist Operation Safety Promotion' https://www.linkedin.com/groups/8693588 | |
| Dependencies | n/a | |
| Affected stakeholders | Aircraft operators - helicopters | |
| Owner | EASA SM.1 | Safety Intelligence & Performance Department |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|------------------------------------|-----------------|
| Pilot guidance on hoist operations | 2023 |

MST.0015 Helicopter safety events

Develop safety promotion material for helicopter hoists.

Note: The deliverables for 2019 are already available and shared via the LinkedIn group . The group is called 'ESPN-R Hoist Operation Safety Promotion'.

| | | |
|------------------------------|--|--|
| Status | Ongoing | |
| SI | n/a | |
| SRs | n/a | |
| Reference(s) | n/a | |
| Dependencies | n/a | |
| Affected stakeholders | Aircraft operators - helicopters, NCAs | |
| Owner | Member States | |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|-----------------------|-----------------|
| Safety events | Continuous |

43 <https://www.linkedin.com/groups/8693588/>



4. ROTORCRAFT

MST.0031**Implementation of the SESAR solutions aiming to facilitate safe instrument flight rule operations**

Member States together with their ANSPs and their flight procedure designers (if different from the ANSPs) should, as part of their State safety management activities, evaluate the possibility to establish a network of low-level IFR routes in their airspace to facilitate safe helicopter operations. These SESAR solutions, such as solution #113, which are designed to improve safety, should be implemented as far as it is feasible.

The results of such evaluation should be recorded in the SPAS.

Note: In the course of 2023 EASA will reassess the relevance and alignment of the EPAS with the SESAR programme, which may lead to changes regarding the SESAR related MSTs.

| | |
|------------------------------|---|
| Status | Ongoing |
| SIs | n/a |
| SRs | n/a |
| Reference(s) | ATM Master Plan (Level 3 Edition 2019) action NAV12 (ATS IFR Routes for Rotorcraft Operations) SESAR Solutions Catalogue 2021 Fourth edition ⁴⁴ |
| Dependencies | n/a |
| Affected stakeholders | Aircraft operators - helicopters, NCAs |
| Owner | Member States |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|-----------------------|-----------------|
| IFR routes/report | 2025 |

44 https://www.sesarju.eu/sites/default/files/documents/reports/SESAR Solutions Catalogue 2021_small.pdf



4. ROTORCRAFT

RES.0008 Integrity improvement of rotorcraft main gear boxes (MGBs)

Further to the investigation of the EC225 LN-OJF accident, the research aimed to identify threats to the integrity of critical components of rotor drive systems, and to develop methods for the evaluation of flaw-tolerant critical component designs. Specifically, this includes enhancements to the design of helicopter MGB and its attachments, to preclude separation of the mast and main rotor from the helicopter and to enable autorotation even in the event of major failure of the MGB components.

| | | |
|------------------------------|---|---|
| Status | Ongoing | |
| SIs | SI-8001 | Helicopter rotor and transmission system failures |
| SRs | LN-OJF | |
| Reference(s) | https://www.easa.europa.eu/en/research-projects/integrity-improvement-rotorcraft-main-gear-box-mgb | |
| Dependencies | n/a | |
| Affected stakeholders | DOA holders - helicopters | |
| Owner | EASA SM.2 | Strategy & Programmes Department |

PLANNING MILESTONES

| Starting date | Interim report | Final report |
|----------------------|--|---------------------|
| 2020-Q2 | Deliverables are publicly available on the project's webpage of the EASA website (cf. 'Reference(s)'). | 2023-Q1 |

RES.0011 Helicopter, tilt rotor and hybrid aircraft gearbox health monitoring - in-situ failure detection

New technologies for in-situ detection of tilt rotor, helicopter and hybrid aircraft gearbox failures.

| | | |
|------------------------------|--|----------------------------------|
| Status | On hold | |
| SIs | n/a | |
| SRs | UNKG-2011-041 (for possible extension to research projects conducted by EASA) | |
| Reference(s) | Cleansky 2 iGear project: Intelligent Gearbox for Endurance Advanced Rotorcraft https://www.researchgate.net/publication/333827990_Vibration_analysis_under_varying_operating_conditions_for_rotorcraft_gearbox_monitoring UK MENTOR project: Methods and Experiments for NOvel Rotorcraft https://gtr.ukri.org/projects?ref=EP%2FS013814%2F1 | |
| Dependencies | n/a | |
| Affected stakeholders | Aircraft operators - helicopters, DOA and POA holders - Helicopters | |
| Owner | EASA SM.2 | Strategy & Programmes Department |

PLANNING MILESTONES

| Starting date | Interim report | Final report |
|----------------------|-----------------------|---------------------|
| tbd | tbd | tbd |



4. ROTORCRAFT

RES.0035 Helicopter underwater evacuation

The following objectives are addressed under this topic:

- Evaluate the influence of being underwater on the required jettison force with regard to the operation of an underwater emergency exit or escape window(s).
- Determine the forces that human test subjects (covering the range of sizes from 5th percentile female to 95th percentile male) are capable of applying to jettison an underwater emergency exit or escape windows when underwater.
- Establish an appropriate maximum operating/jettison force for underwater emergency exits to ensure that these exits are operable in an emergency when underwater.
- Validate the current CS-27 and CS-29 AMC material for compliance with the requirement ‘the means of opening each emergency exit must be simple and obvious and may not require exceptional effort’ for underwater emergency exits, or propose a future revision based on the technical findings of this research.
- Better quantify the underwater escape process from a capsized helicopter using a full complement of test subjects in the simulator, in both light and dark conditions.
- Determine whether the current expectation of a 60-second escape time is achievable under a range of conditions and possible seat configurations, using test subjects that are representative of the demographic of the European offshore population.
- Validate the current CS-27 and CS-29 specifications and AMC material related to occupant egress in the event of a capsized, or propose a future revision based on the technical findings of this research.

This project is funded by Horizon Europe under the 2nd Research Contribution Agreement with the European Commission.

| | | |
|------------------------------|--|---|
| Status | Ongoing | |
| SIs | SI-8039 | Hazardous conditions following ditching |
| SRs | 2016-016 | |
| Reference(s) | Helicopter Underwater Escape #2 EASA (europa.eu) | |
| Dependencies | n/a | |
| Affected stakeholders | Aircraft operators - helicopters, DOA holders, NCAs | |
| Owner | EASA SM.2 | Strategy & Programmes Department |

| PLANNING MILESTONES | | |
|---------------------|--|--------------|
| Starting date | Interim report | Final report |
| 2021-Q2 | Deliverables are publicly available on the project’s webpage of the EASA website (cf. References(s)) | 2024 |

**4. ROTORCRAFT****RES.0039 Helicopter vortex ring state experimental research**

The vortex ring state (VRS) is an aerodynamic condition for helicopters normally generated in nearly vertical or vertical descent when the relative upward air velocity equals the downward induced main rotor flow rate. This research should provide a better understanding of the VRS phenomenon on different types of helicopters, the analytical and simulation prediction methods, and flight test methods for its determination. Further, it should provide an indication of the effectiveness of alternative recovery manoeuvres such as the one proposed by Capt. Vuichard.

This research project is funded by Horizon Europe under the 2nd Research Contribution Agreement with the European Commission.

| | | |
|------------------------------|---|----------------------------------|
| Status | Ongoing | |
| SIs | SI-8025 | Vortex ring state |
| SRs | n/a | |
| Reference(s) | n/a | |
| Dependencies | n/a | |
| Affected stakeholders | Aircraft operators - helicopters, DOA holders, NCAs | |
| Owner | EASA SM.2 | Strategy & Programmes Department |

PLANNING MILESTONES

| Starting date | Interim report | Final report |
|----------------------|-----------------------|---------------------|
| 2021-Q4 | n/a | 2024 |

In addition to the above actions listed in this chapter, the following RMTs are directly relevant to rotorcraft safety:

| | |
|-----------------|--|
| RMT.0710 | Improvement in the survivability of rotorcraft occupants in the event of a crash |
| RMT.0711 | Reduction in accidents caused by failures of critical rotor and rotor drive components through improved vibration health monitoring systems |
| RMT.0712 | Enhancement of the safety assessment processes for rotorcraft designs |
| RMT.0725 | Rotorcraft chip detection system |
| RMT.0726 | Rotorcraft occupant safety in the event of a bird strike |

The full description of these actions is included in [Chapter 6](#).



4. ROTORCRAFT

In addition to the above actions listed in this chapter, the following SPTs are directly relevant to rotorcraft safety:

SPT.0111 Flight examiner manual

The full description of this action is included in [Chapter 2](#).

SPT.0119 Promoting iConspicuity

The full description of this action is included in [Chapter 5](#).

SPT.0126 Integrating the flight data monitoring (FDM) programme with safety risk management

The full description of these actions is included in [Section 3.1.1](#).

MST.0002 Promotion of SMS

The full description of this action is included in [Section 1.2](#).

In addition to the above actions listed in this chapter, the following RES actions are directly relevant to rotorcraft safety:

RES.0016 Fire risks caused by portable electronic devices on board aircraft

The full description of this action is included in [Chapter 3](#).

RES.0031 Interoperability of different iConspicuity devices/systems

The full description of this action is included in [Chapter 5](#).

RES.0017 Icing hazard linked to super cooled large droplets (SLDs)

The full description of this action is included in [Chapter 6](#).

RES.0028 Single-pilot operations risk assessment framework

The full description of this action is included in [Chapter 11](#).

RES.0025 Assessment of environmental impacts - rotorcraft noise

The full description of this action is included in [Chapter 12](#).



4. ROTORCRAFT

4.2 Level playing field

RMT.0318 Single-engine helicopter operations

Review the applicable regulations and the associated AMC and GM to re-evaluate the restrictions as regards the operation of single-engine helicopters over congested environments. Technological developments in hybrid propulsion that could have a positive impact on the performance of single-engine helicopters are anticipated in the next years and should be taken into consideration in the development of this task.

| | |
|-------------------------------|--|
| Status | On hold |
| Sl | n/a |
| SRs | n/a |
| ICAO ref. | n/a |
| Other ref(s) | n/a |
| Dependencies | n/a |
| Affected stakeholders | Air operators – helicopters |
| Affected regulation(s) | Commission Regulation (EU) No 965/2012 |
| Strategic priority | No |
| Harmonisation | No |

WORKING METHOD

| | | |
|--------------|-------------------------------|---------------------------------|
| Owner | EASA FS.2 | Air OPS & Aerodromes Department |
| SubT | Development | Impact Assessment(s) |
| | By EASA with external support | Light |
| | | Consultation |
| | | Focused - Affected parties |

PLANNING MILESTONES

| | | | | | |
|-------------|----------------------------|---------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| | ToR RMT.0318 01/02/2018 | tbd | tbd | tbd | tbd |



4. ROTORCRAFT

4.3 Efficiency/proportionality

SPT.0127

Supporting small helicopter operators in implementing management systems effectively

The objective of this task is to provide support to small helicopter operators to implement management systems effectively with the following indicative scope:

- promote good practices and examples on how to organise the implementation of a safety management system, including change management, risk assessments, examples of safety key performance indicators, etc.;
- promote good practices and examples on how to organise the implementation of a compliance monitoring system, including good practices in root-cause analysis, simpler internal audit checklist systems, etc.;
- promote good practices and examples on how to organise digital record-keeping, etc.

| | |
|------------------------------|---|
| Status | New |
| SIs | n/a |
| SRs | n/a |
| Reference(s) | BIS 'Administrative Burden for Small Helicopter Operators' |
| Dependencies | RMT.0392 |
| Affected stakeholders | Aircraft operators - helicopters |
| Owner | EASA SM.1 Safety Intelligence & Performance Department |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|--|-----------|
| Posters, guides, videos, articles and social media promotion | 2023-2024 |

**4. ROTORCRAFT****SPT.0128****Support helicopter operators in developing improved organisational processes and procedures**

The objective of this task is to provide support to helicopter operators in the development of internal organisational processes and procedures, including the following areas:

- Development and promotion of typical standard operating procedures (SOPs) and checklists as a basis which will have to be further tailored to the specific needs/risks of the operators. More concretely, this includes the development of practical guidance material which will guide the operators through the identification of their risks (related to their envisaged operations). Subsequently, the guidance material will provide information on how to develop an adequate risk assessment on the basis of which suitable SOPs and checklists can be developed. Typical SOPs could include thematic hazard lists, possibly with some common controls/compensating measures. However, they would need to be further tailored to the needs/risks of the operators.
- Development and promotion of guidance on how an operator verifies the validity of a certificate/approval for certified subcontractors and how to appropriately ensure compliance with the applicable requirements and that relevant hazards are considered. Promotion of examples of contracts for subcontracting CAMO/Part-145 approvals.
- Development and promotion of guidance related to EFB operations and the related approval process.

| | |
|------------------------------|---|
| Status | New |
| SI | n/a |
| SR | n/a |
| Reference(s) | BIS 'Administrative Burden for Small Helicopter Operators' |
| Dependencies | n/a |
| Affected stakeholders | Aircraft operators - helicopters |
| Owner | EASA SM.1 Safety Intelligence & Performance Department |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|--|-----------------|
| Posters, videos, articles and social media promotion | 2023-2024 |

The following RMTs are directly relevant to rotorcraft efficiency/proportionality:

RMT.0494 Flight time limitation rules for helicopter operations

The full description of this action is included in [Section 1.3.2](#).

RMT.0392 Regular update of the air operation rules

The full description of this action is included in [Section 3.1.3](#).

5. General Aviation





5. General Aviation

Refer to EPAS Volume I Section 3.3.3 'Ensure operational safety for General Aviation'

This chapter covers non-commercial operations with aeroplanes that have a MTOM below 5 700 kg, as well as all operations with sailplanes and balloons. Operations with rotorcraft (commercial and non-commercial) for all types of rotorcraft are addressed in Chapter 4.

Addressing safety risks in GA in a proportionate and effective manner remains a strategic priority within the EPAS. GA in Europe maintains a stable activity, involving 10 times more aircraft and airfields than CAT. GA has been since its dawning the cradle for innovation and recruitment of young professionals (ATCOs, mechanics, pilots, etc.) and a means to connect people across Europe.

Between 2011 and 2020, accidents in Europe involving **recreational aeroplanes**, i.e. non-commercially operated small aeroplanes with MTOMs below 5 700 kg, resulted in between 70 and 115 fatalities per year, with an average of 88.1 fatalities per year. These figures exclude fatal accidents involving micro light aeroplanes, gliders and balloons. As such, this sector of aviation records the highest average number of fatalities per year. In 2021, there were 58 fatal accidents causing 96 fatalities involving recreational aeroplanes. 2021 shows an increase in both the number of fatal accidents and non-fatal accidents compared to the 10-year average. The number of serious incidents (186) also significantly increased in comparison with the 10-year average (115.4). There were 48 serious injuries, well above the 10-year average of 42.4. In terms of accident rates, based on data provided by GAMA/AOPA in 2022, both the numbers of flights and flight hours have slightly increased since 2020.

The fatal accident rate is slightly higher in 2021 (3.1 in 2020 and 3.3 in 2021⁴⁵). However, the non-fatal accident rate in 2021 increased by 4%.

There were 17 fatalities in **sailplane operations** in 2021. This is a significant decrease when compared to the 10-year average (29.9). The number of serious incidents (32) is however above the 10-year average (22.7). The number of serious injuries (22) remains below the 10-year average (33.8). Compared to the 10-year average, the number of fatalities reduced by 43 % and the number of serious injuries by 35 %. In terms of accident rates, based on the annual GAMA/AOPA survey, in 2021 the number of flights is estimated to have increased by 4 % compared to the previous year, so the fatal accident and non-fatal accident rates are both decreasing (fatal accident rate down from 1.2 in 2020 to 0.7 in 2021, non-fatal accident rate down from 8.2 in 2020 to 6.4 in 2021⁵⁹).

As concerns **balloon operations**, in 2021 there were 2 fatal accidents resulting in 2 fatalities, 14 non-fatal accidents and no serious incidents recorded. The fatal accident figure is above the 10-year average (1.4), the non-fatal accident figure (14) is similar to that average (15.0).

The ASR 2022 provides further insights into safety in GA, including key statistics, accident rates, key risk areas (KRAs) and safety issues associated with non-commercially operated small aeroplanes (refer to Section 2.5), sailplanes (refer to Chapter 5) and balloons (refer to Chapter 4) respectively. Safety issues pertaining to non-commercially operated small aeroplanes are further described in EPAS Volume III.

The persisting high number of fatalities in GA accidents shows that further efforts are required to mitigate the risks leading to those fatalities; these are explained on the following pages.

⁴⁵ Accidents per 100 000 flights.



5. GENERAL AVIATION

5.1 Safety

This section is further subdivided into actions that are grouped per main safety issue (see Sections 5.1.1 to 5.1.5). While the current EPAS may not include mitigation actions for each of those, the safety issue description is maintained to raise awareness.

5.1.1 Systemic enablers

Issue/rationale

This section addresses system-wide or transversal issues that affect GA as a whole and are common to several safety risk areas. In combination with triggering factors, transversal factors can play a significant role in incidents and accidents. Conversely, they also offer opportunities for improving safety across the risk domains.

What we want to achieve

Reduce the number of fatalities in GA through the implementation of systemic enablers.

How we monitor improvement

Continuous monitoring of the safety issues identified in the data portfolios and safety risk portfolio for non-commercially operated small aeroplanes as well as for sailplanes and balloons (data portfolios: refer to 2022 ASR Tables 13, 30 and 27 respectively).

How we want to achieve it: actions

SPT.0083 Flight instruction

Develop safety promotion material aimed at making more effective use of and maximising the safety benefits of biennial class rating revalidation check flights with examiners and refresher training with flight instructors, including differences between aircraft types.

EASA has published the following guidance material:

<https://www.easa.europa.eu/community/topics/preparing-return-flying>

| | |
|------------------------------|---|
| Status | Ongoing |
| SIs | n/a |
| SRs | n/a |
| Reference(s) | n/a |
| Dependencies | RMT.0678, RMT.0194 |
| Affected stakeholders | GA |
| Owner | EASA SM.1 Safety Intelligence & Performance Department |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|---------------------------|-----------|
| Safety promotion material | 2022-2023 |



5. GENERAL AVIATION

SPT.0125 Promotion of the most important safety issues for General Aviation

Safety promotion campaigns - before and after each flying season to help maintain skills and currency - based on highlighting the most important safety issues identified from the safety risk management process.

Coordinate with NCAs and industry partners to maximise the number of coordinated events and release of material in local languages.

| | |
|------------------------------|--|
| Status | Ongoing |
| SIs | Refer to the SIs described for non-commercial operations with small aeroplanes in EPAS Volume III. |
| SRs | n/a |
| Reference(s) | n/a |
| Dependencies | n/a |
| Affected stakeholders | GA |
| Owner | EASA SM.1 Safety Intelligence & Performance Department |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|--|-----------------|
| Posters, videos, articles and social media promotion. Workshops, webinars events | Continuous |

MST.0025 Improvement in the dissemination of safety messages

Member States should increase their engagement and dissemination of safety promotion and training material by their competent authorities, associations, flying clubs, and insurance companies, targeting flight instructors and/or pilots through means such as being part of the pan-EASA Member State GA Season Opener/ Closing by hosting local events/ workshops and promoting the material developing through the Safety Promotion Network (SPN) on the most important safety issues for General Aviation.

This activity considers EASA safety promotion deliverables and content, whose timeline changes in return impact the timelines of the present task.

| | |
|------------------------------|---------------|
| Status | Ongoing |
| SIs | n/a |
| SRs | n/a |
| Reference(s) | n/a |
| Dependencies | SPT.0125 |
| Affected stakeholders | GA |
| Owner | Member States |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|---|-----------------|
| Safety workshops and safety days/evenings | 2022-2023 |



5. GENERAL AVIATION

MST.0027 Promotion of safety culture in GA

Member States' NCAs should include in their State safety management activities provisions to facilitate and promote safety culture (including just culture) in GA in order to foster positive safety behaviours and encourage occurrence reporting.

EASA will support this MST by providing promotion material and guidance to support Member States in that task.

Safety promotion video published in 2022 can be found on the EASA Youtube Channel:

[GA Season Opener Day 1 - Be Ready and Fly Safely Introduction - YouTube](#)

| | |
|------------------------------|---------------|
| Status | Ongoing |
| Slis | n/a |
| SRs | n/a |
| Reference(s) | n/a |
| Dependencies | n/a |
| Affected stakeholders | GA |
| Owner | Member States |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|---|-----------------|
| Provisions to facilitate and promote safety culture as part of the SSP/SPAS | Continuous |



5. GENERAL AVIATION

5.1.2 Staying in control

Issue/rationale

This section addresses subjects such as flying skills, pilot awareness, and management of upset or stall at take-off, in flight, or during approach and landing, flight preparation, aborting take-off and going around. Staying in control prevents loss-of-control accidents. Loss of control usually occurs because the aeroplane enters a flight regime outside its normal envelope, thereby introducing an element of surprise for the flight crews involved.

Loss-of-control accidents are both frequent and severe.

What we want to achieve

Increase safety by reducing the risk of loss-of-control accidents.

How we monitor improvement

Continuous monitoring of the safety issues identified in the data portfolios and safety risk portfolio for non-commercially operated small aeroplanes as well as for sailplanes and balloons (data portfolios: refer to 2022 ASR Tables 13, 30 and 27 respectively).

This concerns in particular the following safety issues:

- SI-4004 Training, experience, and competence of individuals
- SI-4001 Handling of technical failures
- SI-4003 Inflight decision making
- SI-4017 Knowledge of aircraft systems and procedures
- SI-4007 Poor pre-flight planning and preparation
- SI-4012 Engine system reliability
- SI-4028 Other aircraft system reliability

How we want to achieve it: actions

Following the completion of the actions included under this section in the EPAS 2018-2022, no further actions are included in this EPAS edition. The section is maintained as a placeholder for future actions.



5. GENERAL AVIATION

5.1.3 Coping with weather

Issue/rationale

This section addresses subjects such as entering into IMC, icing conditions, carburettor icing, and poor weather conditions. Weather is an important contributing factor to GA accidents, often related to pilots underestimating the risks of changing weather conditions prior to take-off and during the flight, as weather deteriorates. Dealing with poor weather may increase pilot workload and affect situational awareness and aircraft handling. Decision-making can also be impaired, as a plan continuation bias may lead pilots to press on to the planned destination despite threatening weather conditions. The EASA work on weather information to pilots is split in the two distinct areas, CAT and GA, respecting their specific needs.

What we want to achieve

Increase safety by reducing the number of weather-related accidents.

How we monitor improvement

Continuous monitoring of the safety issues identified in the data portfolios and safety risk portfolio for non-commercially operated small aeroplanes as well as for sailplanes and balloons (data portfolios: refer to 2022 ASR Tables 13, 30 and 27 respectively).

How we want to achieve it: actions

SPT.0087 Weather awareness for pilots

Produce safety promotion material (video) addressing subjects such as weather awareness, flight preparation, management and debrief, the use of flight information services (FIS), the benefits of using modern technology including cockpit weather information systems (including GPS integrated, mobile/4G connected apps, etc.), communication with ATC, inadvertent entry into IMC, TEM, and HFs.

The following safety promotion material was delivered in 2022:

- [Sunny Swift](#) on weather briefing process
- [Winter Flying Article](#)
- [Webinar](#) on planning and decision-making in GA

| | |
|------------------------------|--|
| Status | Ongoing |
| SIs | SI-4015 Crosswind SI-4022 Icing in flight SI-4003 Inflight decision making SI-4008 Inadvertent flight into IMC/scud running |
| SRs | n/a |
| Reference(s) | GASP SEI (industry) - Mitigate contributing factors to LOC-I accidents and incidents |
| Dependencies | MST.0036, SPT.0119, RES.0031 |
| Affected stakeholders | GA |
| Owner | EASA SM.1 Safety Intelligence & Performance Department |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|---|-----------|
| Posters, videos, articles and social media promotion. | 2022-2023 |

**5. GENERAL AVIATION****SPT.0088 Promote instrument flying for GA pilots**

Launch a safety promotion campaign to promote the results of RMT.0677 on the easier access of GA pilots to IFR flying in order to ensure that the safety and efficiency benefits materialise across Europe, and that the Basic Instrument Rating is widely adopted in Europe.

Related 'Sunny swift' promotion material:

<https://www.easa.europa.eu/newsroom-and-events/news/sunny-swift-easier-and-safer-flying-ifr>
<https://www.easa.europa.eu/newsroom-and-events/news/sunny-swift-weather-radar-information>
<https://www.easa.europa.eu/newsroom-and-events/news/sunny-swift-taf-what-it-means-practice>

| | |
|------------------------------|--|
| Status | Ongoing |
| SlIs | n/a |
| SRs | n/a |
| Reference(s) | n/a |
| Dependencies | RMT.0677 |
| Affected stakeholders | GA |
| Owner | EASA SM.1 Safety Intelligence & Performance Department |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|---|-----------------|
| Posters, videos, articles and social media promotion. | 2022-2023 |

In addition to the above actions, the following EPAS actions are directly relevant to coping with weather in GA:

| | |
|-----------------|--|
| SPT.0114 | Promote the availability of enhanced meteorological information and uplink connectivity |
| SPT.0119 | Promoting iConspicuity |
| RES.0031 | Interoperability of different iConspicuity devices/systems |

The full description of these actions is included in [Section 11.1.4e](#)



5. GENERAL AVIATION

5.1.4 Preventing mid-air collisions

Issue/rationale

This section addresses subjects such as airspace complexity, airspace infringement and use of technology. Statistics show that mid-air collision (MAC) risks affect both novice and experienced pilots and can occur in all phases of flight and at all altitudes. However, the vast majority of them occur in daylight and in excellent meteorological conditions. A MAC is more likely where aircraft are concentrated, especially close to aerodromes. Airspace infringements by GA aircraft into controlled airspace is an important related safety risk.

What we want to achieve

Increase safety by reducing the risk of MACs and airspace infringements in GA.

How we monitor improvement

Continuous monitoring of the safety issues identified in the data portfolios and safety risk portfolio for non-commercially operated small aeroplanes as well as for sailplanes and balloons (data portfolios: refer to 2022 ASR Tables 13, 30 and 27 respectively).

How we want to achieve it: actions

SPT.0119 Promoting iConspicuity

The concept of iConspicuity has to be understood as the 'in-flight capability' to transmit position and/or to receive, process and display information about other aircraft, airspace, weather or support navigation in a real time with the objective to enhance pilots' situational awareness.

The objective of this task is to:

- facilitate the installation of iConspicuity devices in all aircraft that have been granted an EASA TC
- promote their use by airspace users at an affordable cost for them
- support the initiatives that enhance the interoperability and performance of iConspicuity devices/systems, and take into consideration the spectrum congestion.

| | |
|------------------------------|--|
| Status | Ongoing |
| SIs | SI-0043/SI-4010 Deconfliction of IFR and VFR traffic SI-8028 Inadequate airborne separation under VFR operation SI-4010 Airborne separation |
| SRs | AUST-2008-002; AUST-2016-001; AUST-2016-002; AUST-2016-003; AUST-2016-004; IRLD-2014-017; FRAN-2015-057; FRAN-2016-100; NETH-2018-003; SWTZ-2016-002 |
| Reference(s) | BIS 'Airborne collision risk' |
| Dependencies | RMT.0230, RES.0031, RES.0032 |
| Affected stakeholders | Pilots, aircraft operators, NCAs, ANSPs, industry (e.g. avionics manufacturers) |
| Owner | EASA SM.1 Safety Intelligence & Performance Department |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|--|-----------|
| Posters, videos, articles and social media promotion | 2020-2023 |



5. GENERAL AVIATION

SPT.0120 Promoting good practices in airspace design

Promote good practices in airspace design that reduce ‘airspace complexity’ and ‘traffic congestion’ with the aim of reducing the risk of airborne collisions involving uncontrolled traffic.

| | | |
|------------------------------|--|--|
| Status | Ongoing | |
| SIs | SI-2025 | Airspace infringement |
| | SI-0043/SI-4010 | Deconfliction of IFR and VFR traffic |
| | SI-4010 | Airborne separation |
| SRs | n/a | |
| Reference(s) | European Action Plan for Airspace Infringement Risk Reduction (EAPAIRR) BIS ‘Airborne collision risk’ | |
| Dependencies | MST.0038 | |
| Affected stakeholders | Pilots, aircraft operators, NCAs, ANSPs, industry (e.g. avionics manufacturers) | |
| Owner | EASA SM.1 | Safety Intelligence & Performance Department |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|---------------------------|-----------------|
| Safety promotion material | 2020-2023 |

MST.0038 Airspace complexity and traffic congestion

Member States should consider ‘airspace complexity’ and ‘traffic congestion’ as safety-relevant factors in airspace changes affecting uncontrolled traffic, including the changes along international borders.

| | | |
|------------------------------|--|--------------------------------------|
| Status | Ongoing | |
| SIs | SI-2025 | Airspace infringement |
| | SI-0043/SI-4010 | Deconfliction of IFR and VFR traffic |
| | SI-4010 | Airborne separation |
| SRs | n/a | |
| Reference(s) | European Action Plan for Airspace Infringement Risk Reduction (EAPAIRR) BIS ‘Airborne collision risk’ | |
| Dependencies | SPT.0120 Promoting good practices in airspace design | |
| Affected stakeholders | Pilots, aircraft operators - all, NCAs, ANSPs | |
| Owner | Member States | |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|-----------------------|-----------------|
| Best practices | 2023 |



5. GENERAL AVIATION

RES.0031 Interoperability of different iConspicuity devices/systems

EASA, with the support of technical partners, should demonstrate and validate the feasibility of achieving interoperability of different iConspicuity devices/systems through a network of stations while respecting the data privacy requirements.

| | |
|------------------------------|---|
| Status | Ongoing |
| SIs | SI-8028 Inadequate airborne separation under VFR operation |
| SRs | n/a |
| Reference(s) | European Action Plan for Airspace Infringement Risk Reduction (EAPAIRR) EASA BIS 'Airborne collision risk' |
| Dependencies | RMT.0230, SPT.0119 |
| Affected stakeholders | Pilots, aircraft operators - all, NCAs, ANSPs, industry (e.g. avionics manufacturers) |
| Owner | EASA CT.2 General Aviation & VTOL Department |



5. GENERAL AVIATION

5.1.5 Managing the flight

Issue/rationale

This section addresses subjects such as navigation, fuel management, terrain and obstacle awareness, and forced landings. Most accidents are the result of pilot actions, including decisions made while preparing the flight, or due to changing circumstances during the flight. Pilot decisions, including their ability to prioritise the workload, affect the safety of the aircraft and the survival of its occupants.

What we want to achieve

Reduce the number of fatalities and serious injuries in GA.

How we monitor improvement

Continuous monitoring of the safety issues identified in the data portfolios and safety risk portfolio for non-commercially operated small aeroplanes as well as for sailplanes and balloons (data portfolios: refer to 2022 ASR Tables 13, 30 and 27 respectively).

This concerns in particular the following safety issues:

- SI-4005 Approach path management on GA aeroplanes
- SI-4004 Training, experience and competence of individuals
- SI-4011 Fuel management in flight
- SI-4001 Handling of technical failures
- SI-4003 Inflight decision making
- SI-4021 Operational communication

How we want to achieve it: actions

Following the completion of the actions included under this section in the EPAS 2018-2022, no further actions are included in this EPAS edition. The section is maintained as a placeholder for future actions.



5. GENERAL AVIATION

5.2 Efficiency/proportionality

Issue/rationale

This section provides references to the additional EPAS actions that are directly relevant to GA, where efficiency/proportionality is the main driver. Detailed information for each of those actions is included in the domain-specific EPAS chapter.

This section also includes regular-update RMTs in the GA domain.

What we want to achieve

Reduce the regulatory burden and cost for GA while improving the level of safety.

How we monitor improvement

The key risk areas (KRAs) and underlying safety issues will be further monitored as part of the data portfolios and safety risk portfolios for non-commercially operated small aeroplanes, sailplanes and balloons respectively.

The ABs regularly provide feedback on the effectiveness of the activities that aim to improve efficiency/proportionality and ensure a level playing field.

How we want to achieve it: actions

RMT.0678 **Simpler, lighter and better flight crew licensing requirements for general aviation**

The full description of this action is included in [Section 2.2](#).

RMT.0727 **Alignment of Part 21 with Regulation (EU) 2018/1139 (including simple and proportionate rules for General Aviation)**

The full description of this action is included in [Chapter 6](#).

6. Design and production





6. Design and production

Refer to EPAS Volume I Section 3.3.4 'Ensure operational safety in initial and continuing airworthiness'

This chapter includes all the actions that are relevant to design and production for the drivers 'safety', 'efficiency/proportionality' and 'level playing field'.

6.1 Safety

Issue/rationale

Design and production improvements may limit the probability and/or severity of technical failures. Many fatal accidents involve some sort of technical failure, in many cases not properly managed during flight, thus making it a precursor of other types of accidents. This does not necessarily mean that the technical failure was the direct cause of the accident, but that a system component failure was identified in the sequence of events in a number of serious incidents and accidents over the past years. The handling of technical failures in this context means the ineffective handling of a non-catastrophic technical failure by the flight crew. This could be an engine failure, an avionics system failure, or some other recoverable technical failure. The cause of the accident is usually the result of a combination of circumstances and events that can only be understood after reading the investigation report. Specific analysis work is ongoing to identify the systemic safety issues that may be present in the domains of design and production. Non-accident data will be used for the analysis.

What we want to achieve

Increase safety by continuously assessing and improving risk controls related to design and production. Ensure an efficient regulatory framework for manufacturers. Harmonise the requirements where harmonisation ensures fair competition and/or facilitates the free movement of goods, persons and services.

How we monitor improvement

Continuous monitoring of the safety issues identified in the data portfolios and safety risk portfolios for the different types of air operations (see ASR 2022 and EPAS Volume III). The EASA ABs regularly provide feedback on the effectiveness of the actions in the area of efficiency/proportionality and level playing field.

How we want to achieve it: actions



6. DESIGN AND PRODUCTION

RMT.0118 Analysis of on-ground wing contamination effect on take-off performance degradation

The objective of this task is to assess the need to amend CS-25 to require applicants to perform an assessment of the effect of on-ground contamination of aircraft aerodynamic surfaces on take-off performance and on aircraft manoeuvrability and controllability.

| | |
|-------------------------------|---|
| Status | Ongoing |
| SI | SI-0002 Icing on ground |
| SRs | FRAN-2009-001 FRAN-2014-006 RUSF-2013-001 SWED-2011-016 UNKG-2003-060 |
| ICAO ref. | n/a |
| Other ref(s) | CS-25 |
| Dependencies | n/a |
| Affected stakeholders | DOA holders |
| Affected regulation(s) | n/a |
| Strategic priority | EPAS Volume I Section 3.3.4 |
| Harmonisation | No |

WORKING METHOD

| | | |
|--------------|--------------------|---|
| Owner | EASA CT.5 | Policy, Innovation & Knowledge Department |
| SubT | Development | Impact Assessment(s) |
| | By EASA | Detailed |
| | | Consultation |
| | | NPA - Public |

PLANNING MILESTONES

| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
|------|----------------------------|---------------------------|---------|---------------|----------|
| | ToR RMT.0118 21/03/2017 | NPA 2022-08 25/07/2022 | n/a | n/a | 2023-Q3 |



6. DESIGN AND PRODUCTION

RMT.0710 Improvement in the survivability of rotorcraft occupants in the event of a crash

The likelihood of survival of rotorcraft occupants in the event of a crash would significantly be improved through the retroactive application of the current improvements in fuel tank crash resistance and occupant safety for rotorcraft that were certified before the new certification specifications for type designs entered into force in the 1980s and 1990s. SRs have been put forward by accident investigation boards on fuel tanks and occupant safety for helicopters certified before the update of the rules for emergency landing conditions and fuel system crash resistance, for new type designs in the 1980s and 1990s. In November 2015, a new task was assigned to the ARAC by the FAA to provide recommendations regarding occupant protection rulemaking in normal and transport category rotorcraft for older certification basis type designs. EASA participates to the Working Group and should consider the application of the outcome of this activity to existing European fleets.

EASA will address these issues in two subtasks:

- Subtask 1 will address crash-resistant fuel systems.
- Subtask 2 will address crash-resistant seats and structures. The decision to start this subtask is subject to an impact assessment.

| | |
|-------------------------------|---|
| Status | Ongoing |
| SIs | SI-8039 Hazardous conditions following ditching |
| SRs | PORT-2020-001 SWTZ-2017-530 |
| ICAO ref. | n/a |
| Other ref(s) | n/a |
| Dependencies | n/a |
| Affected stakeholders | DOA holders, POA holders, air operators - helicopters |
| Affected regulation(s) | Commission Regulation (EU) 2015/640 |
| Strategic priority | EPAS Volume I Section 3.3.4 |
| Harmonisation | No |

WORKING METHOD

| | | | |
|--------------|--------------------|---|-----------------------------------|
| Owner | EASA CT.5 | Policy, Innovation & Knowledge Department | |
| SubT | Development | Impact Assessment(s) | Consultation |
| 1 | By EASA | Detailed | NPA - Public |
| 2 | By EASA | Detailed | To be determined at a later stage |

PLANNING MILESTONES

| | | | | | |
|-------------|----------------------------|---------------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| 1 | ToR RMT.0710 16/12/2021 | NPA 2022-10 11/11/2022 | 2023-Q4 | 2024 | 2024 |
| 2 | | tbd | tbd | tbd | tbd |



6. DESIGN AND PRODUCTION

RMT.0711**Reduction in accidents caused by failures of critical rotor and rotor drive components through improved vibration health monitoring systems**

The use of vibration health monitoring (VHM) systems to detect imminent failures of critical rotor and rotor drive components has been shown to greatly improve the level of safety of rotorcraft, particularly for offshore operations. However, there is a need to improve the current certification specifications to reflect the evolution of modern VHM systems in order to gain the associated benefits from these systems.

Improved certification specifications would drive and enable improvements in the fidelity of VHM systems and also foster the modernisation of these systems which would provide additional safety benefits when compared with existing legacy systems.

| | |
|-------------------------------|---|
| Status | Ongoing |
| SIs | SI-8001 Helicopter rotor and transmission system failures |
| SRs | UNKG-2018-007 |
| ICAO ref. | n/a |
| Other ref(s) | n/a |
| Dependencies | n/a |
| Affected stakeholders | DOA holders, POA holders |
| Affected regulation(s) | Commission Regulation (EU) 2015/640 |
| Strategic priority | No |
| Harmonisation | No |

WORKING METHOD

| | | |
|--------------|--------------------|---|
| Owner | EASA CT.5 | Policy, Innovation & Knowledge Department |
| SubT | Development | Impact Assessment(s) |
| | By EASA | No |
| | | Consultation |
| | | NPA - Public |

PLANNING MILESTONES

| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
|-------------|----------------------------|---------------------------|----------------|----------------------|-----------------|
| | ToR RMT.0711 05/03/2020 | NPA 2022-03 11/05/2022 | n/a | n/a | 2023-Q2 |



6. DESIGN AND PRODUCTION

RMT.0725 Rotorcraft chip detection system

Subtask 1 (CS-27 / CS-29) is removed as related work was completed with the publication of Decision 2021/016/R on 17/12/2021.

Subtask 2 will consider the proportionate retrospective application of the currently applicable CS-27 and CS-29 to existing fleets and types that are not compliant with the latest specifications. The decision to start this subtask is subject to an impact assessment.

| | |
|-------------------------------|---|
| Status | Ongoing |
| SI | SI-8001 Helicopter rotor and transmission system failures |
| SRs | NORW-2018-004 |
| ICAO ref. | n/a |
| Other ref(s) | BIS 'Rotorcraft' |
| Dependencies | n/a |
| Affected stakeholders | DOA holders, POA holders |
| Affected regulation(s) | Commission Regulation (EU) 2015/640 |
| Strategic priority | No |
| Harmonisation | No |

WORKING METHOD

| | | | |
|--------------|--------------------|---|---------------------|
| Owner | EASA CT.5 | Policy, Innovation & Knowledge Department | |
| SubT | Development | Impact Assessment(s) | Consultation |
| 2 | By EASA | To be determined at a later stage | NPA - Public |

PLANNING MILESTONES

| | | | | | |
|-------------|----------------------------|---------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| 2 | ToR RMT.0725 07/04/2020 | NPA tbd | tbd | tbd | tbd |



6. DESIGN AND PRODUCTION

RMT.0726 Rotorcraft occupant safety in the event of a bird strike

Since the 1980s there has been an increasing number of accidents involving rotorcraft bird strikes where the rotorcraft was not certified in accordance with the latest bird-strike protection specifications. This has resulted in a number of occurrences where rotorcraft bird impacts have had an adverse effect on safety. The objective of this RMT is to improve rotorcraft occupant safety in the event of a bird strike. This will be achieved by considering the development of new CS-27 specifications for bird strike based on the recommendations of the ARAC Bird Strike WG (rev. B) and also considering the proportionate retrospective application of the currently applicable CS-27 and CS-29 to existing fleets and types that are not compliant with the latest specifications.

This RMT is split into two subtasks:

- Subtask 1 (CS-27 specifications) is removed as the related work was completed with the publication of Decision 2021/016/R on 17/12/2021.
- Subtask 2 will consider the retrospective application of the currently applicable CS-27 and CS-29 specifications. The decision to start this subtask is subject to an impact assessment.

| | |
|-------------------------------|--|
| Status | Ongoing |
| SI | SI-8030 Bird and other wildlife hazard |
| SRs | n/a |
| ICAO ref. | n/a |
| Other ref(s) | BIS 'Rotorcraft' |
| Dependencies | n/a |
| Affected stakeholders | DOA holders, POA holders |
| Affected regulation(s) | Commission Regulation (EU) 2015/640 |
| Strategic priority | No |
| Harmonisation | No |

WORKING METHOD

| | | | |
|--------------|--------------------|---|---------------------|
| Owner | EASA CT.5 | Policy, Innovation & Knowledge Department | |
| SubT | Development | Impact Assessment(s) | Consultation |
| 2 | By EASA | To be determined at a later stage | NPA - Public |

PLANNING MILESTONES

| | | | | | |
|-------------|----------------------------|---------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| 2 | ToR RMT.0726 08/09/2020 | NPA tbd | tbd | tbd | tbd |



6. DESIGN AND PRODUCTION

RES.0010 **Ice crystal detection**

The ice crystal icing phenomenon continues to pose a severe threat to high-altitude flying, in particular to new engine designs. Pilots have little or no means to detect and/or avoid it, especially at night. A research project is ongoing in order to better detect the presence of ice crystal icing and to develop equipment suitable to detect such a phenomenon.

| | | |
|------------------------------|--|----------------------------------|
| Status | Ongoing | |
| SIs | SI-0001 | Icing in flight |
| SRs | n/a | |
| Reference(s) | EU-funded project SENS4ICE https://www.sens4ice-project.eu/ | |
| Dependencies | RES.0017 | |
| Affected stakeholders | Aircraft operators - CAT, DOA holders | |
| Owner | EASA SM.2 | Strategy & Programmes Department |

PLANNING MILESTONES

| Starting date | Interim report | Final report |
|---------------|----------------|--------------|
| 2019-Q1 | n/a | 2023-Q4 |

RES.0014 **Air-data enhanced fault detection and diagnosis**

Develop new methods for the verification and monitoring of complex flight control systems (e.g. flight control laws, air-data sensors) and investigate new techniques for fault detection and diagnosis and fault control (e.g. model-based, model-free methods and their combination).

These will serve to improve the EASA certification standards, and to prepare the evaluation of new designs proposed by aircraft manufacturers.

| | | |
|------------------------------|--------------------------|------------------------------------|
| Status | Ongoing | |
| SIs | SI-0001 SI-0002 | Icing in flight Icing on ground |
| SRs | n/a | |
| Reference(s) | n/a | |
| Dependencies | n/a | |
| Affected stakeholders | DOA holders, POA holders | |
| Owner | EASA SM.2 | Strategy & Programmes Department |

PLANNING MILESTONES

| Starting date | Interim report | Final report |
|---------------|----------------|--------------|
| 2022-Q3 | tbd | 2024-Q3 |



6. DESIGN AND PRODUCTION

RES.0017 **Icing hazard linked to super cooled large droplets (SLDs)**

Characterisation of the SLD icing phenomenon and analysis of the impact/mitigation for safety in order to develop relevant airworthiness standards and means of compliance.

The H2020-funded project ICE GENESIS shall provide the European aeronautical industry with a validated new generation of 3D icing engineering tools (numerical simulation tools and upgraded test capabilities), addressing App C, O and snow conditions for the design and certification of future regional, business and large aircraft, rotorcraft and engines. ICE GENESIS shall allow for weather hazards to be more precisely evaluated and properly mitigated thanks to adapted design or optimised protection through either active or passive means. Furthermore, ICE GENESIS shall pave the way for 3D digital tools to be used in the future as acceptable means of compliance by the regulatory authorities.

EASA is contributing to this research project in an advisory role.

The H2020-funded project MUSIC HAIC will complete the development of ice crystal icing (ICI) models, implement them in existing industrial 3D multidisciplinary tools, and perform extensive validation of the new ICI numerical capability through comparison of the numerical results with both academic and industrial experimental data. The need for the European aeronautics industry to use numerical simulation tools able to accurately predict ICI is paramount, especially regarding the development of new-generation engines (UHBR, CROR, ATP) which are expected to be even more sensitive to the ICI threat than current in-service engines and for which comparative analysis methods will not be applicable anymore.

The expected capability will allow the replacement of physical tests by cheaper virtual tests, which would be easier to configure and run, thus permitting substantial gains in development costs and allowing more design choices to be explored and de-risked.

| | | |
|------------------------------|---|----------------------------------|
| Status | Ongoing | |
| SI | SI-0001 | Icing in flight |
| | SI-0002 | Icing on ground |
| SRs | n/a | |
| Reference(s) | ICE GENESIS https://cordis.europa.eu/project/id/824310 | |
| | MUSIC HAIC https://cordis.europa.eu/project/id/767560 | |
| Dependencies | RES.0010 | |
| Affected stakeholders | AOC holders (CAT), DOA holders | |
| Owner | EASA SM.2 | Strategy & Programmes Department |

PLANNING MILESTONES

| Starting date | Interim report | Final report |
|----------------------|-----------------------|---------------------|
| 2019-Q1 | n/a | 2023-Q4 |



6. DESIGN AND PRODUCTION

RES.0027 **Sandwich-structured composites**

This research project shall help obtain further insight and develop guidance for the consistent and standardised design and safe use of sandwich structures in aviation. The results of the research shall be used to further complement the Composite Materials Handbook 17 and to refine the applicable regulatory material for initial and continuing airworthiness.

| | | |
|------------------------------|---|----------------------------------|
| Status | Not started | |
| SIs | n/a | |
| SRs | n/a | |
| Reference(s) | Composite Material Handbook 17 (CMH-17) | |
| Dependencies | n/a | |
| Affected stakeholders | DOA holders, MOs (Part-145) | |
| Owner | EASA SM.2 | Strategy & Programmes Department |

PLANNING MILESTONES

| Starting date | Interim report | Final report |
|----------------------|-----------------------|---------------------|
| 2024 | 2025 | 2027 |



6. DESIGN AND PRODUCTION

RES.0037 **Machine learning Application Approval**

The project deals with the approval of machine learning (ML) technologies for systems intended for use in safety-related applications in all domains covered by Regulation (EU) 2018/1139 (the Basic Regulation).

The research results will be a set of reports identifying a set of methods and tools to address the following three important topics:

- Guarantees on machine-learning model generalisation
- Guarantees on data completeness and representativeness
- Guarantees on algorithm and model robustness

Along with the project, at least one real-scale aviation use case should be developed to demonstrate the effectivity and usability of the proposed methods and tools. Those use cases should be developed in a software and hardware environment, accessible remotely by EASA or through software package deliveries to EASA. The essential life cycle artefacts developed for the project to address the different steps of the W-shaped process should be made available to EASA.

This project is funded by Horizon Europe under the 2nd Research Contribution Agreement with the European Commission.

| | |
|------------------------------|--|
| Status | Ongoing |
| Slis | n/a |
| SRs | n/a |
| Reference(s) | Machine Learning Application Approval EASA (europa.eu) |
| Dependencies | n/a |
| Affected stakeholders | DA holders |
| Owner | EASA SM.2 Strategy & Programmes Department |

| PLANNING MILESTONES | | |
|---------------------|----------------|--------------|
| Starting date | Interim report | Final report |
| 2021-Q2 | tbd | 2024-Q2 |



6. DESIGN AND PRODUCTION

RES.0043 Flight control systems verification and air-data fault detection

Develop new methods for the verification of complex flight control systems and for real-time air-data error detection (via independent monitoring).

Assess new fault detection and diagnosis (FDD) and fault-tolerant control (FTC) methods.

| | | |
|------------------------------|--------------------------|----------------------------------|
| Status | Ongoing | |
| SIs | n/a | |
| SRs | n/a | |
| Reference(s) | n/a | |
| Dependencies | n/a | |
| Affected stakeholders | DOA holders, POA holders | |
| Owner | EASA SM.2 | Strategy & Programmes Department |

| PLANNING MILESTONES | | |
|---------------------|----------------|--------------|
| Starting date | Interim report | Final report |
| 2022-Q3 | n/a | 2024 |



6. DESIGN AND PRODUCTION

RES.0050 Aircraft certification using modelling and numerical simulations

Assess the use of effective modelling and simulation methods and tools for certification compliance demonstration.

The action is realised through a series of projects funded by industry or by the EU Horizon 2020 programme.

Rotorcraft Certification by Simulation (RoCS) aims to explore the possibilities, limitations, and guidelines for best practices for the application of flight simulation to demonstrate compliance with the airworthiness regulations related to helicopters and tilt rotors. The aim is to define a virtual engineering flight simulation process for the generation of evidence for the certification of rotorcraft. The objective is to establish, in collaboration with industry and regulators, the characteristics that a virtual flight simulation environment must have to be adequate to demonstrate compliance with the airworthiness standards in a safer, more economical, and more effective way than that which could be achieved through current flight test procedures.

The challenge is to develop, in agreement with the regulatory authorities, guidelines that define the part of the certification basis that could be substituted or complemented by flight simulation, as well as the metrics and methodology to assess simulation model and flight simulator cueing fidelity.

| | |
|------------------------------|--|
| Status | Ongoing |
| SIs | n/a |
| SRs | n/a |
| Reference(s) | RoCs https://cordis.europa.eu/project/id/831969 RoCs project website https://www.rocs-project.org/ |
| Dependencies | n/a |
| Affected stakeholders | DOA holders, aircraft operators - all, ATOs (aircrews), NCAs |
| Owner | EASA SM.2 Strategy & Programmes Department |

| PLANNING MILESTONES | | |
|---------------------|----------------|--------------|
| Starting date | Interim report | Final report |
| 2020 | n/a | 2023-Q2 |



6. DESIGN AND PRODUCTION

6.2 Level playing field

Rules may need to be harmonised within the EU as well as with the main international trade partners to either ensure fair competition and/or facilitate the free movement of goods, persons and services.

The section is maintained as a placeholder for future actions.

**6. DESIGN AND PRODUCTION****6.3 Efficiency/proportionality**

With aircraft design evolving at a rapid pace, requirements for initial airworthiness and CSs need to be constantly reviewed and adjusted for cost-effectiveness and to keep pace with the technological advancements.

RMT.0031 Regular update of the AMC and GM to Part 21

The objective of this RMT is to regularly address miscellaneous issues of non-controversial nature to ensure that the AMC and GM to Part 21 are fit for purpose, cost-effective, can be implemented, and are in line with the latest ICAO SARPs. In particular, regular updates are used to incorporate certification memoranda and other material supporting the application and interpretation of Part 21 as established by EASA during previous certification projects, and to address non-complex and non-controversial issues raised by stakeholders.

DOA: This subtask is removed as it was completed by the publication of ED Decision 2021/001/R on 02/03/2021.

POA: This subtask will now deal with DOA and POA issues.

ETOPS: A single NPA will be published proposing to 'repatriate' the airworthiness elements, currently included in AMC 20-6, in the AMC and GM to Part 21, CS-25, and CS-E.

| | |
|-------------------------------|---|
| Status | Ongoing |
| Sl | n/a |
| SRs | NORW-2018-007 |
| ICAO ref. | n/a |
| Other ref(s) | n/a |
| Dependencies | n/a |
| Affected stakeholders | DA holders, POA holders, NCAs, EASA (on a case-by-case basis) |
| Affected regulation(s) | Commission Regulation (EU) No 748/2012 |
| Strategic priority | No |
| Harmonisation | No |

WORKING METHOD

| | | |
|--------------|--------------------|---|
| Owner | EASA CT.5 | Policy, Innovation & Knowledge Department |
| SubT | Development | Impact Assessment(s) Consultation |
| DOA & POA | By EASA | No NPA - Public |
| ETOPS | By EASA | No NPA - Public |

PLANNING MILESTONES

| | | | | | |
|-------------|----------------------------|---------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| DOA & POA | ToR RMT.0031 15/12/2016 | NPA 2023-Q3 | n/a | n/a | 2024 |
| ETOPS | | NPA 2023-Q3 | n/a | n/a | 2024 |



6. DESIGN AND PRODUCTION

RMT.0180**Turbine-engine endurance and initial maintenance inspection testing, and substantiation of piston-engine time between overhauls (TBO)**

The objective of this RMT is to modernise the engine certification test requirements to:

- upgrade the turbine-engine endurance test specifications to take into account modern engine design characteristics;
- improve the level of confidence in the robustness of turbine-engine designs prior to entry into service, as well as, in some cases, the definition of initial maintenance inspection (IMI) intervals;
- ensure that EASA oversees the IMI tests and benefits from the knowledge gained;
- ensure the robust and harmonised substantiation of the TBO and of the maintenance programmes for piston engines; and
- ensure the greatest possible harmonisation with the related FAA regulations and certification policies.

| | |
|-------------------------------|--------------------------|
| Status | Ongoing |
| SlS | n/a |
| SRs | AUST-2009-011 |
| ICAO ref. | n/a |
| Other ref(s) | RIA 08 1120 |
| Dependencies | n/a |
| Affected stakeholders | DA holders |
| Affected regulation(s) | n/a |
| Strategic priority | No |
| | Harmonisation Yes |

WORKING METHOD

| | | |
|--------------|--------------------|---|
| Owner | EASA CT.5 | Policy, Innovation & Knowledge Department |
| SubT | Development | Impact Assessment(s) |
| | By EASA | Light |
| | | Consultation |
| | | NPA - Public |

PLANNING MILESTONES

| | | | | | |
|-------------|----------------------------|---------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| | ToR RMT.0180 07/05/2021 | 2023-Q1 | n/a | n/a | 2023-Q4 |



6. DESIGN AND PRODUCTION

RMT.0184 Regular update of CS-E

The objective of this RMT is to regularly address miscellaneous issues of non-controversial nature to ensure that the certification specifications (CSs) are fit for purpose, cost-effective, can be implemented, and are in line with the latest ICAO SARPs. In particular, regular updates are used to incorporate special conditions (SCs), certification memoranda and other material supporting the application and interpretation of existing CSs as established by EASA during previous certification projects, and to address non-complex and non-controversial issues raised by stakeholders.

The next update will address the following items: compressor and turbine blade failure; assumptions - oil consumption; instrument provision; piston-engine failure analysis; approval of engine use with a thrust reverser; fuel specifications for compression-ignition piston engines; ice protection; damage tolerance of critical parts and Engine critical parts - static; pressure-loaded parts.

ETOPS: a single NPA, under RMT.0031, will be published proposing to 'repatriate' the airworthiness elements, currently included in AMC 20-6, in the AMC and GM to Part 21, CS-25, and CS-E.

| | | | |
|-------------------------------|---|----------------------|----|
| Status | Ongoing | | |
| Sl | n/a | | |
| SRs | n/a | | |
| ICAO ref. | n/a | | |
| Other ref(s) | n/a | | |
| Dependencies | n/a | | |
| Affected stakeholders | Design approval holders/production approval holders - engines | | |
| Affected regulation(s) | n/a | | |
| Strategic priority | No | Harmonisation | No |

WORKING METHOD

| | | | |
|--------------|--------------------|---|-----------------------------------|
| Owner | EASA CT.5 | Policy, Innovation & Knowledge Department | |
| SubT | Development | Impact Assessment(s) | Consultation |
| Current | By EASA | No | NPA - Public |
| Next | By EASA | No | To be determined at a later stage |

PLANNING MILESTONES

| | | | | | |
|-------------|----------------------------|---------------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| Current | ToR RMT.0184 27/07/2015 | NPA 2021-13 20/11/2021 | n/a | n/a | 2023-Q4 |
| Next | | tbd | n/a | n/a | tbd |



6. DESIGN AND PRODUCTION

RMT.0499 Regular update of CS-MMEL

The objective of this RMT is to regularly address miscellaneous issues of non-controversial nature to ensure that the certification specifications (CSs) are fit for purpose, cost-effective, can be implemented, and are in line with the latest ICAO SARPs. In particular, regular updates are used to incorporate special conditions (SCs), certification memoranda and other material supporting the application and interpretation of existing CSs as established by EASA during previous certification projects, and to address non-complex and non-controversial issues raised by stakeholders.

The previous cycle was completed with the publication of ED Decision 2020/012/R on 17/08/2020.

| | |
|---------------------|----------|
| Status | Ongoing |
| SlS | n/a |
| SRs | n/a |
| ICAO ref. | n/a |
| Other ref(s) | n/a |
| Dependencies | RMT.0400 |

Affected stakeholders Design organisations of complex motor-powered aircraft and other design organisations dealing with changes or STCs to these aircraft
Design organisations of other than complex, motor-powered aircraft
NCAs

Affected regulation(s) n/a

Strategic priority No **Harmonisation** No

WORKING METHOD

Owner EASA CT.5 Policy, Innovation & Knowledge Department

| SubT | Development | Impact Assessment(s) | Consultation |
|---------|-------------|----------------------|--------------|
| Current | By EASA | No | NPA - Public |
| Next | By EASA | No | NPA - Public |

PLANNING MILESTONES

| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
|---------|----------------------------|----------------|---------|---------------|----------|
| Current | ToR RMT.0499 09/04/2018 | NPA 2023-Q3 | n/a | n/a | 2024 |
| Next | | tbd | n/a | n/a | tbd |



6. DESIGN AND PRODUCTION

RMT.0673 Regular update of CS-25

The objective of this RMT is to regularly address miscellaneous issues of non-controversial nature to ensure that the certification specifications (CSs) are fit for purpose, cost-effective, can be implemented, and are in line with the latest ICAO SARPs. In particular, regular updates are used to incorporate special conditions (SCs), certification memoranda and other material supporting the application and interpretation of existing CSs as established by EASA during previous certification projects, and to address non-complex and non-controversial issues raised by stakeholders.

The previous cycle proposed amendments in the following areas:

- Item 1: Ditching survivability
- Item 2: AMC 25.1309 System design and analysis - Development assurance and AMC-20 references
- Item 3: Installed systems and equipment for use by the flight crew
- Item 4: Performance and handling characteristics in icing conditions
- Item 5: Brakes and braking systems' certification tests and analysis
- Item 6: Oxygen equipment and supply
- Item 7: Air-conditioning 'off' - maximum time period
- Item 8: Cabin crew portable oxygen equipment

This cycle was completed with the publication of Decision 2021/015/R on 06/12/2021.

ETOPS: a single NPA, under RMT.0031, will be published proposing to 'repatriate' the airworthiness elements, currently included in AMC 20-6, in the AMC and GM to Part 21, CS-25, and CS-E.

The current cycle will also address aeroplane ditching survivability (previously included as RMT.0453).

| | | | |
|-------------------------------|---|----------------------|----|
| Status | Ongoing | | |
| SlS | n/a | | |
| SRs | FRAN-2005-001; NETH-2007-004; SWED-2016-005 | | |
| ICAO ref. | n/a | | |
| Other ref(s) | n/a | | |
| Dependencies | n/a | | |
| Affected stakeholders | DOA holders - large aeroplanes | | |
| Affected regulation(s) | n/a | | |
| Strategic priority | No | Harmonisation | No |

WORKING METHOD

| | | | |
|--------------|--------------------|---|---------------------|
| Owner | EASA CT.5 | Policy, Innovation & Knowledge Department | |
| SubT | Development | Impact Assessment(s) | Consultation |
| Current | By EASA | No | NPA - Public |
| Next | By EASA | No | NPA - Public |

PLANNING MILESTONES

| | | | | | |
|-------------|----------------------------|---------------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| Current | ToR RMT.0673 27/04/2015 | NPA 2022-07 06/07/2022 | n/a | n/a | 2023-Q3 |
| Next | | tbd | tbd | tbd | tbd |



6. DESIGN AND PRODUCTION

RMT.0687 Regular update of CS-23

The objective of this RMT is to regularly address miscellaneous issues of non-controversial nature, in order to ensure that the CS are fit for purpose, cost-effective, can be implemented in practice, and are in line with the latest ICAO SARPs. In particular, a regular update is used to incorporate SCs, certification memoranda and other material supporting the application and interpretation of existing CS as established by EASA during previous certification projects, and to address non-complex and non-controversial issues raised by stakeholders.

Under this RMT, EASA will regularly review the standards developed by ASTM for the application of CS-23 and incorporate into AMC & GM those which are considered to be suitable to provide means of compliance or guidance to the CS.

This standing task does not yet have sufficient candidate issues to plan the next cycle.

| | |
|-------------------------------|------------|
| Status | Ongoing |
| Sl | n/a |
| SRs | n/a |
| ICAO ref. | n/a |
| Other ref(s) | n/a |
| Dependencies | n/a |
| Affected stakeholders | DA holders |
| Affected regulation(s) | n/a |
| Strategic priority | No |
| Harmonisation | No |

WORKING METHOD

| | | | | |
|--------------|-----------------------------------|---|-----------------------------------|--|
| Owner | EASA CT.5 | Policy, Innovation & Knowledge Department | | |
| SubT | Development | Impact Assessment(s) | Consultation | |
| Current | By EASA | No | Focused [EASA Advisory Bodies] | |
| Next | To be determined at a later stage | No | To be determined at a later stage | |

PLANNING MILESTONES

| | | | | | |
|-------------|----------------------------|----------------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| Current | ToR RMT.0687 09/08/2017 | NPA 2022-103 26/10/2022 | n/a | n/a | 2023-Q1 |
| Next | | tbd | n/a | n/a | tbd |



6. DESIGN AND PRODUCTION

RMT.0712 Enhancement of the safety assessment processes for rotorcraft designs

The safety assessment of the design of aircraft systems and equipment can help identify shortfalls in the robustness of the design and also help aircraft designers mitigate the risk of undesirable events by introducing means to reduce their likelihood. Ensuring robust safety assessment of rotorcraft designs can be considered to be even more critical due to the high number of single-point failures. Technology and techniques have evolved since the inception of formal safety assessment processes and, therefore, it is vital that CSs keep abreast with the latest thinking on safety assessment to maximise the potential that safety issues are identified during certification.

The safety requirements for equipment, systems and installations contained in the CSs should be improved for small and large rotorcraft to reflect the current best practices as regards safety assessment.

The FAA also develops new rules for the safety assessment of rotorcraft, and these will create significant standard differences between the EU and the US regulations and are likely to result in a lower regulatory efficiency. The proposed RMT also aims to review these changes to achieve harmonisation where possible.

| | |
|-------------------------------|--------------------------|
| Status | Ongoing |
| Sl | n/a |
| SRs | n/a |
| ICAO ref. | n/a |
| Other ref(s) | n/a |
| Dependencies | n/a |
| Affected stakeholders | DA holders, POA holders |
| Affected regulation(s) | n/a |
| Strategic priority | No |
| | Harmonisation Yes |

WORKING METHOD

| | | |
|--------------|--------------------|---|
| Owner | EASA CT.5 | Policy, Innovation & Knowledge Department |
| SubT | Development | Impact Assessment(s) |
| | By EASA | Light |
| | | Consultation |
| | | NPA - Public |

PLANNING MILESTONES

| | | | | | |
|-------------|----------------------------|---------------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| | ToR RMT.0712 15/10/2018 | NPA 2021-11 26/10/2021 | n/a | n/a | 2023-Q1 |



6. DESIGN AND PRODUCTION

RMT.0727

Alignment of Part 21 with Regulation (EU) 2018/1139 (including simple and proportionate rules for General Aviation)

The objective of this task is to revisit Part 21 in view of the new and amended provisions introduced by the Basic Regulation. The objective of this task is to introduce simple rules that will allow the application of a proportionate approach for sport and recreational aircraft. It will take into account the various risk levels in GA in the initial airworthiness process with the aim to achieve a reduction in administrative burden and costs, while at the same time supporting GA innovation. The task will include the preparatory work done under RMT.0689 'Part 21 proportionality'.

- **Subtask 1:** In the first phase of this RMT, EASA will develop proposals according to Article 140(3) of the Basic Regulation in relation to aircraft primarily intended for sport and recreational use.
- **Subtask 2:** In the second phase, EASA will develop proposals for the implementation of other amendments to Part 21 as required by the Basic Regulation, including rules required to ensure environmental compatibility. Specific environmental requirements for novel technologies not covered by ICAO Annex 16 will be developed in a two-stage process, whereby the first stage will use environmental special conditions (SCs), collecting the necessary information to progress towards stage two, leading to a regulatory update.
- **Subtask 3:** In the third phase, EASA will address the certification of non-installed equipment (NIE). As part of this subtask, EASA will review the ETSO system in relation to the demonstration of design capabilities. The intention is to develop the NIE concept in an iterative manner in consultation with the affected stakeholders.

This Subtask will also address the review of the definition of 'complex motor-powered aircraft' (CMPA) – refer to Article 140 of Regulation (EU) 2018/1139.

The regulatory approach for phases 2 and 3 is under development, thus no timelines are shown below.

EASA will use different means of consultation.

| | |
|-------------------------------|---|
| Status | Ongoing |
| SIs | n/a |
| SRs | n/a |
| ICAO ref. | n/a |
| Other ref(s) | n/a |
| Dependencies | RMT.0392, RMT.0587, RMT.0735 (CMPA) |
| Affected stakeholders | DOA holders, POA holders, Aircraft operators, particularly GA operators, NCAs |
| Affected regulation(s) | Commission Regulation (EU) No 748/2012 |
| Strategic priority | EPAS Volume I Section 3.3.4 |
| Harmonisation | No |

WORKING METHOD

| | | | |
|--------------|--------------------|---|-----------------------------------|
| Owner | EASA CT.5 | Policy, Innovation & Knowledge Department | |
| SubT | Development | Impact Assessment(s) | Consultation |
| 1 | By EASA | Light | Focused [EASA Advisory Bodies] |
| 2 | By EASA | To be determined at a later stage | To be determined at a later stage |
| 3 | By EASA | To be determined at a later stage | To be determined at a later stage |

PLANNING MILESTONES

| | | | | | |
|-------------|----------------------------|---------------------|-----------------------|---|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| 1 | ToR RMT.0727 28/08/2019 | 16/09/2021 | 05/2021 22/10/2021 | 2022/1358 2022/1361 2022/1360 05/08/2022 | 2023-Q2 |
| 2 | | tbd | tbd | tbd | tbd |
| 3 | | 2024 | 2025 | 2026 | 2026 |



6. DESIGN AND PRODUCTION

EVT.0007

Evaluation of Regulation (EU) No 748/2012 related to the airworthiness and environmental certification of aircraft and related products, parts and appliances, as well as for the certification of design and production organisations

The purpose of the EVT is to assess whether Regulation (EU) No 748/2012 is fit for the purpose it was designed for based on the experience gained through its implementation.

This task will entail the evaluation of several aspects of the Regulation, including continued validity of type certificates issued by Member States on the basis of bilateral agreements with third countries (Article 3(a)(1) of Regulation (EU) No 748/2012).

| | |
|------------------------------|--|
| Status | On hold |
| Sl | n/a |
| SRs | n/a |
| Reference(s) | n/a |
| Dependencies | n/a |
| Affected stakeholders | EASA Part 21 organisations (DOA holders, POA holders, ETSOA holders, etc.), NCAs |
| Owner | EASA CT.5 Policy, Innovation & Knowledge Department |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|-----------------------|-----------------|
| Evaluation report | tbd |

7. Maintenance and continuing airworthiness management





7. Maintenance and continuing airworthiness management

Refer to EPAS Volume I Section 3.3.4 'Ensure operational safety in initial and continuing airworthiness'

This chapter includes all the actions that are relevant to maintenance and continuing airworthiness management for the drivers 'safety', 'efficiency/proportionality' and 'level playing field'. The actions specifically addressing competence of aircraft maintenance personnel are included in Section 2.1.5.

Issue/rationale

As in the case of design and manufacture improvements, maintenance improvements may reduce the probability and/or severity of technical failures. Many fatal accidents involve some sort of technical failure, often not properly managed during flight, thus making it a precursor of other types of accidents. This does not necessarily mean that the technical failure was the direct cause of the accident, but that a system component failure was identified in the sequence of events. This was evidenced in a number of serious incidents and accidents over the past years. Handling of technical failures in this context means the ineffective handling of a non-catastrophic technical failure by the flight crew. This could be an engine failure, an avionics system failure or some other recoverable technical failure. The cause of the accident is usually the result of a combination of circumstances and events that can only be understood after reading the investigation report. Specific analysis work is ongoing to identify the systemic safety issues that may be present in the maintenance domain. Non-accident data will be used for the analysis.

This chapter also addresses certain existing requirements that are either not efficient or not proportionate to the risks involved.

In terms of level playing field, the requirements may need to be harmonised within the EU as well as with the main international trade partners in order to either ensure fair competition and/or facilitate the free movement of goods, persons and services.

What we want to achieve

Increase safety by continuously assessing and improving the risk controls related to maintenance and continuing airworthiness management. Increase proportionality and efficiency in the continuing airworthiness domain. Harmonise the requirements where this ensures fair competition and/or facilitates the free movement of goods, persons and services. Remove obstacles for a well-functioning single market.

How we monitor improvement

Continuous monitoring of the safety issues identified in the data portfolios and the safety risk portfolios for the different types of air operations (see 2022 ASR and EPAS Volume III). The EASA ABs regularly provide feedback on the effectiveness of the actions in terms of efficiency/proportionality and level playing field.

How we want to achieve it: actions



7. MAINTENANCE AND CONTINUING AIRWORTHINESS MANAGEMENT

7.1 Safety

RMT.0097 Functions of B1 and B2 support staff and responsibilities

Introduce principles for increased robustness of the maintenance certification process to ensure that maintenance is certified by competent staff. This will be achieved by closing potential safety gaps and clarifying the roles and responsibilities of certifying staff, support staff and sign-off staff, both in line and base maintenance when two different license (sub)categories are required to certify the maintenance conducted, based on the privileges of the license (sub)categories.

| | |
|-------------------------------|--|
| Status | Ongoing |
| Sl | n/a |
| SRs | n/a |
| ICAO ref. | n/a |
| Other ref(s) | n/a |
| Dependencies | n/a |
| Affected stakeholders | MOs (Part-145) |
| Affected regulation(s) | Commission Regulations (EU) No 1321/2014 |
| Strategic priority | EPAS Volume I Section 3.3.4 |
| Harmonisation | No |

WORKING METHOD

| | | |
|--------------|--|-------------------------------------|
| Owner | EASA FS.1 | Maintenance & Production Department |
| SubT | Development | Impact Assessment(s) |
| | By EASA with the support of a Rulemaking Group | Light |
| | | Consultation |
| | | NPA - Public |

PLANNING MILESTONES

| | | | | | |
|-------------|----------------------------|---------------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| | ToR RMT.0097 02/11/2011 | NPA 2014-11 13/05/2014 | 2024 | 2025 | 2025 |



7. MAINTENANCE AND CONTINUING AIRWORTHINESS MANAGEMENT

RMT.0521 Airworthiness review process

Perform a full review of the airworthiness review process to introduce an improved framework to mitigate the risks linked to a faulty airworthiness review with potential safety consequences where the actual airworthiness status of the aircraft is below the standard.

This RMT will in addition propose regulatory amendments to facilitate the transfer of aircraft within the EU.

| | |
|-------------------------------|---|
| Status | Ongoing |
| SlS | n/a |
| SRs | n/a |
| ICAO ref. | n/a |
| Other ref(s) | n/a |
| Dependencies | n/a |
| Affected stakeholders | Aircraft operators - all, CAMOs, NCAs |
| Affected regulation(s) | Commission Regulation (EU) No 1321/2014 Commission Regulation (EU) No 748/2012 |
| Strategic priority | EPAS Volume I Section 3.3.4 |
| Harmonisation | No |

WORKING METHOD

| | | | |
|--------------|--|-------------------------------------|---------------------|
| Owner | EASA FS.1 | Maintenance & Production Department | |
| SubT | Development | Impact Assessment(s) | Consultation |
| | By EASA with the support of a Rulemaking Group | Light | NPA - Public |

PLANNING MILESTONES

| | | | | | |
|-------------|------------------------------|---------------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| | ToR RMT.0521/2 07/05/2013 | NPA 2015-17 05/11/2015 | 2024 | 2025 | 2025 |



7. MAINTENANCE AND CONTINUING AIRWORTHINESS MANAGEMENT

RMT.0588 Aircraft continuing airworthiness monitoring - review of key risk elements (KREs)

Considering the implementation experience (including standardisation feedback), the objective of this task is to review the current principles specified in AMC3 M.B.303(b) 'Aircraft continuing airworthiness monitoring', and the related GM1 M.B.303(b) and Appendix III to GM1 M.B.303(b).

In particular to:

- assess whether the requirements adequately address the processing of KREs that require to be annually reviewed to ensure that all regulatory references remain up to date;
- assess the appropriateness of each KRE;
- determine the need for additional KREs; and
- review the adequacy and pertinence of typical inspection items included.

| | | | |
|-------------------------------|--|----------------------|----|
| Status | Not started | | |
| SlS | n/a | | |
| SRs | n/a | | |
| ICAO ref. | n/a | | |
| Other ref(s) | AMC3 M.B.303(b), GM1 M.B.303(b) and Appendix III to GM1 M.B.303(b) | | |
| Dependencies | n/a | | |
| Affected stakeholders | CAMOs, NCAs | | |
| Affected regulation(s) | n/a | | |
| Strategic priority | No | Harmonisation | No |

WORKING METHOD

| | | | | |
|--------------|-----------------------------------|-------------------------------------|---------------------|--|
| Owner | EASA FS.1 | Maintenance & Production Department | | |
| SubT | Development | Impact Assessment(s) | Consultation | |
| | To be determined at a later stage | To be determined at a later stage | NPA - Public | |

PLANNING MILESTONES

| | | | | | |
|-------------|-------------------|---------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| | 2025 | tbd | n/a | n/a | tbd |



7. MAINTENANCE AND CONTINUING AIRWORTHINESS MANAGEMENT

SPT.0104 Develop new safety promotion material for high-profile maintenance safety issues

Develop new safety promotion material for high-profile safety issues in the maintenance domain. Such high-profile safety issues are to be determined from important risks identified through the SRM process, accidents/serious incidents, and input from EASA stakeholders.

| | |
|------------------------------|---|
| Status | Ongoing |
| SIs | n/a |
| SRs | n/a |
| Reference(s) | n/a |
| Dependencies | n/a |
| Affected stakeholders | Air operators - all, CAMOs, MOs (Part-145, and Part-CAO) |
| Owner | EASA SM.1 Safety Intelligence & Performance Department |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|--|-----------------|
| Posters, videos, articles and social media promotion | Continuous |

SPT.0132 Develop design guidelines for Electronic Checklists (ECL) for maintenance tasks

The objective of this task is to develop design guidelines for Electronic Checklists for maintenance tasks. ECL for maintenance personnel sometimes lack a structured human factors design approach and can contradict well established design philosophies of the flight deck, e.g. the use of colour. The action is intended to investigate how properly designed ECL for maintenance personnel could help to provide the same benefits as ECL for flight crews, and as a consequence, reduce human error of maintenance personnel. The output should be human factors design considerations for ECL for maintenance personnel, which are consistent with established design guidelines for ECL for flight crews.

| | |
|------------------------------|---|
| Status | New |
| SIs | SI-3007 Design and use of procedures |
| SRs | n/a |
| ICAO ref. | ICAO Human Performance Manual (ICAO Doc 10151) ICAO Safety Management Manual (ICAO Doc 9859) |
| Other ref(s) | EASA BIS 'Design and Use of Procedures' |
| Dependencies | None |
| Affected stakeholders | MOs (Part-145, Part-CAO) |
| Owner | EASA FS.1 Maintenance and Production Department |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|--|-----------------|
| Guide, podcast/ videocast, article, social media promotion | 2023 - 2024 |



7. MAINTENANCE AND CONTINUING AIRWORTHINESS MANAGEMENT

7.2 Level playing field

RMT.0096 Amendments (IRs and AMC & GM) in line with the process of granting foreign Part-145 approvals

The objective of this RMT is to amend existing or issue new AMC to Part-145 to address current shortcomings and inconsistencies when dealing with foreign maintenance organisations, i.e. organisations located outside the territories of the Member States. Some of these amended AMC may also be applicable to the approval of organisations within the Member States.

In most cases, these proposals cover issues that have already been discussed with accredited NCAs working on behalf of EASA or issues where EASA has provided its interpretation.

| | |
|-------------------------------|---|
| Status | Ongoing |
| Sl | n/a |
| SRs | n/a |
| ICAO ref. | n/a |
| Other ref(s) | n/a |
| Dependencies | n/a |
| Affected stakeholders | AMOs (Part-145) |
| Affected regulation(s) | Commission Regulation (EU) No 1321/2014 |
| Strategic priority | No |
| Harmonisation | No |

WORKING METHOD

| | | | |
|--------------|--------------------|-------------------------------------|---------------------|
| Owner | EASA FS.1 | Maintenance & Production Department | |
| SubT | Development | Impact Assessment(s) | Consultation |
| | By EASA | Light | NPA - Public |

PLANNING MILESTONES

| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
|------|-----------------------------------|------------------------|---------|---------------|----------|
| | ToR RMT.0096 (145.023) 17/06/2008 | NPA 2013-12 11/07/2013 | n/a | n/a | 2024 |



7. MAINTENANCE AND CONTINUING AIRWORTHINESS MANAGEMENT

RMT.0278 Importing aircraft from other regulatory systems and review of Part 21 Subpart H

Develop criteria for importing aircraft from other regulatory systems and review Part 21 Subpart H, considering the recommendations from the ICAO Airworthiness Panel.

| | |
|-------------------------------|---|
| Status | Ongoing |
| Sl | n/a |
| SRs | n/a |
| ICAO ref. | n/a |
| Other ref(s) | n/a |
| Dependencies | RMT.0521 |
| Affected stakeholders | Aircraft operators - all, CAMOs, NCAs |
| Affected regulation(s) | Commission Regulation (EU) No 1321/2014 Commission Regulation (EU) No 748/2012 |
| Strategic priority | EPAS Volume I Section 3.3.4 |
| Harmonisation | No |

WORKING METHOD

| | | |
|--------------|--|-------------------------------------|
| Owner | EASA FS.1 | Maintenance & Production Department |
| SubT | Development | Impact Assessment(s) |
| | By EASA with the support of a Rulemaking Group | Light |
| | | Consultation |
| | | NPA - Public |

PLANNING MILESTONES

| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
|-------------|----------------------------|---------------------------|----------------|----------------------|-----------------|
| | ToR RMT.0278 01/02/2013 | NPA 2016-08 07/09/2016 | 2024 | 2025 | 2025 |



7. MAINTENANCE AND CONTINUING AIRWORTHINESS MANAGEMENT

7.3 Efficiency/proportionality

RMT.0735 Regular update of the CAW regulation

The objective of this RMT is to regularly address miscellaneous issues of non-controversial nature to ensure that the CAW regulation is fit for purpose, cost-effective, can be implemented, and is in line with the latest ICAO SARPs. This regular-update RMT will also address the remaining outstanding items from RMT.0217 'CAMOs' and Part-145 organisations' responsibilities.

This RMT (current cycle) will also address the review of the definition 'complex motor-powered aircraft' (CMPA) – refer to Article 140 of Regulation (EU) 2018/1139.

| | |
|-------------------------------|--|
| Status | Ongoing |
| SlS | n/a |
| SRs | n/a |
| ICAO ref. | n/a |
| Other ref(s) | n/a |
| Dependencies | RMT.0392, RMT.0587, RMT.0727 (CMPA) |
| Affected stakeholders | NCA, AMOs, CAMOs, AMTOs, AML applicants and holders, combined airworthiness organisations (CAOs) |
| Affected regulation(s) | Commission Regulation (EU) No 1321/2014 |
| Strategic priority | EPAS Volume I Section 3.3.4 |
| Harmonisation | No |

WORKING METHOD

| | | | |
|--------------|-----------------------------------|-------------------------------------|-----------------------------------|
| Owner | EASA FS.1 | Maintenance & Production Department | |
| SubT | Development | Impact Assessment(s) | Consultation |
| Current | by EASA | Light | NPA - Public |
| Next | To be determined at a later stage | To be determined at a later stage | To be determined at a later stage |

PLANNING MILESTONES

| | | | | | |
|-------------|----------------------|---------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| Current | ToR RMT.0735 2023-Q3 | NPA 2024 | 2025 | 2026 | 2026 |
| Next | | tbd | tbd | tbd | tbd |

In addition to the above the following actions are directly relevant to maintenance and continuing airworthiness management:

SPT.0106 Prevention, detection and mitigation of fraud cases in Part-147 organisations

MST.0035 Oversight capabilities/focus area: fraud cases in Part-147

The full description of these actions is included in [Section 2.4](#).

8. Air traffic management/ air navigation services (ATM/ANS)





8. Air traffic management/ air navigation services (ATM/ANS)

Refer to EPAS Volume I Section 3.3.5 'ATM/ANS'

Issue/rationale

EASA is working towards harmonised rules based on ICAO SARPs, PANS and SUPPs that facilitate compliance with the essential requirements for ATM/ANS.

In addition, EASA is working on a proposal for a consistent framework that ensures the certification of certain ATM/ANS equipment (i.e. ATM/ANS systems and ATM/ANS constituents) as well as of organisations that are involved in its design and/or production, following the repeal of Regulation (EC) No 552/2004. The initial proposal for the new regulatory framework has been published (refer to NPA 2022-09), and the completion of the rulemaking activities and implementation of the new framework will span the 2023-2025 EPAS period.

What we want to achieve

The framework for the service provision of ATM/ANS was completed in January 2022 when the additional requirements introduced by Regulation (EU) 2020/469, namely concerning flight procedure design, ATS, and AIS/AIM became applicable. In the coming years, EASA will focus on the maintenance of these requirements and on establishing enhanced processes to keep them up to date with the ICAO provisions in a timely manner.

ATM/ANS systems and ATM/ANS constituents (i.e. ATM/ANS equipment) are key and integral elements for the safe, interoperable and efficient operation of the European Air Traffic Management network (EATMN). It should enable full compatibility with airborne and space-based systems through the appropriate allocation of performance requirements dependent upon the nature and risk of the activity concerned. The application of the new framework for ATM/ANS systems and ATM/ANS constituents would reduce the burden and enable savings for both manufacturers and ANSPs as well as for competent authorities. This mostly stems from synergies, economies of scale, increased commonality, and improved interoperability.

How we monitor improvement

The key risk areas (KRAs) and underlying safety issues will continue to be monitored as part of the data portfolio and safety risk portfolio for ATM and ANS, with the support of the ATM CAG. The EASA ABs regularly provide feedback on the efficiency/proportionality of the related actions.



8. AIR TRAFFIC MANAGEMENT/AIR NAVIGATION SERVICES (ATM/ANS)

8.1 Safety

The top key risk areas (KRAs) for the ATM/ANS domain are defined as follows (cf. 2022 ASR):

- **Airborne collision** includes occurrences involving actual or potential airborne collision between aircraft, and occurrences involving an aircraft and other controllable airborne objects, such as drones, thereby excluding birds. Therefore, it includes all separation-related occurrences regardless of the cause. It does not include false TCAS/ACAS alerts caused by equipment malfunction or loss of separation with at least one aircraft on the ground, which may be coded as runway or movement area collision if the occurrence meets the criteria.
- **Collision on runway** includes all occurrences involving actual or potential runway collision between an aircraft and another aircraft, vehicle or person that occur on the runway of an aerodrome or other designated landing area. This includes occurrences involving the incorrect presence of an aircraft, vehicle, or person on the protected area of a surface designated for the landing and take-off of aircraft. It does not include occurrences involving wildlife on the runway.

The safety issues with higher risk scores, based on occurrence data and their ERCS score (cf. 2022 ASR), are the following:

- **Deconfliction of IFR and VFR flights with one or more traffic uncontrolled** involves ineffective deconfliction of IFR and VFR flights in airspace classes where one or more traffic could be uncontrolled (i.e. Class E and G), potentially resulting in AIRPROX events and airborne collisions.
- **Undetected occupied runway** involves runway incursion by an aircraft landing or taking off on an already occupied runway. This could be due to ATCO monitoring, aerodrome design or other organisational factors.
- **Conflict detection with closest aircraft (blind spot)**. ATCOs may not detect a conflict between an aircraft and another aircraft close to it due to attention failure. Attention is a limited resource and numerous processes compete for it. In blind-spot events the required elements of attention - vigilance (maintaining awareness) and focus (concentration on the task) -are adversely affected.
- **Landing / taking off / crossing without clearance**: such events typically occur during critical and high-workload phases of the flight and can result in similar hazardous outcomes, such as runway incursion and runway collision.
- **Airborne collision with unmanned aircraft systems (UASs)** involves unauthorised activity of drones in both take-off and approach paths of commercial airlines up to 5 000 ft. While less common, unauthorised activity of drones may also pose a collision hazard when an aircraft flies en route.
- **ACAS RA not followed** refers to encounters where one or both of the aircraft's flight crew did not follow the instructions given by the ACAS resolution advisory (RA) to resolve the conflict and avoid a potential mid-air collision.

How we want to achieve it: actions



8. AIR TRAFFIC MANAGEMENT/AIR NAVIGATION SERVICES (ATM/ANS)

SPT.0103

Development of new safety promotion material for high-profile air traffic management safety issues

Develop new safety promotion material for high-profile air traffic management safety issues. Such high-profile safety issues are to be determined from important risks identified through the SRM process, accidents/serious incidents, and input from stakeholders, such as Air Navigation Service Providers and National Supervisory Authorities (NSAs).

| | | |
|------------------------------|-----------|---|
| Status | Ongoing | |
| SIs | SI-2026 | Lack of effectiveness of safety management system |
| SRs | n/a | |
| Reference(s) | n/a | |
| Dependencies | n/a | |
| Affected stakeholders | CAT | |
| Owner | EASA SM.1 | Safety Intelligence & Performance Department |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|---|------------|
| Posters, videos, articles and social media promotion. | Continuous |

RES.0032

Use of iConspicuity devices/systems in flight information services

EASA will investigate the use of iConspicuity devices/systems in air traffic management flight information services (ATM FIS), considering the 'net safety benefit' and the 'operational safety assessment' principles for the assessment of implementation issues and of possible benefits for Search and Rescue (SAR).

| | | |
|------------------------------|---|--------------------------------------|
| Status | Not started | |
| SIs | SI-0043/SI-4010 | Deconfliction of IFR and VFR traffic |
| SRs | n/a | |
| Reference(s) | European Action Plan for Airspace Infringement Risk Reduction (EAPAIRR) EASA BIS 'Airborne Collision Risk' | |
| Dependencies | RES.0031 | |
| Affected stakeholders | Pilots, Aircraft operators - all, NCAs, ANSPs, industry (e.g. avionics and ATM systems manufacturers) | |
| Owner | EASA ED.4 | Air Traffic Department |

PLANNING MILESTONES

| Starting date | Interim report | Final report |
|---------------|----------------|--------------|
| 2024-Q4 | 2025-Q1 | 2025-Q2 |



8. AIR TRAFFIC MANAGEMENT/AIR NAVIGATION SERVICES (ATM/ANS)

8.2 Efficiency/proportionality

RMT.0161 Conformity assessment

This RMT concerns the development of a harmonised and mutually recognised mechanism to attest compliance of ground equipment (i.e. ATM/ANS systems and ATM/ANS constituents, as well as safety-related aerodrome equipment used for the purpose of ATM/ANS) dependent upon their intended purpose (e.g. for the safe and seamless operation of the European Air Traffic Management network (EATMN) for all phases of flight).

The task has been divided into four subtasks as follows:

- Subtask 1:
The objective of this Subtask is to establish the related EU regulatory framework (delegated/implementing acts, Certification Specifications (CSs), AMC and GM) for the conformity assessment of ATM/ANS systems and ATM/ANS constituents in order to contribute to the safety and interoperability of the operation of the EATMN.
- Subtask 2:
The objective of this Subtask is to review the content of the repealed SES Interoperability framework previously established with Regulation (EU) 552/2004 and the related Implementing rules (e.g. automatic systems for the exchange of flight data IR (EC) 1032/2006, Coordinated allocation and use of Mode S IR (EC) No 262/2009, Surveillance Performance and Interoperability (SPI) IR (EC) No 1207/2011, etc.) and to adapt it to the new EASA regulatory framework concerning ATM/ANS ground systems (being developed under Subtask 1).
- Subtask 3:
This Subtask aims to establish the related AMC and GM supporting Subtask 1 deliverables and the first set of the EASA detailed specifications (DSs) based on the existing interoperability rules and Community Specifications (e.g. flight message transfer protocol).
- Subtask 4:
The objective of this Subtask is to establish the related EU regulatory framework (delegated/implementing acts, Certification Specifications (CSs), AMC and GM) to implement the Basic Regulation as regards safety-related aerodrome equipment.

| | |
|-------------------------------|--|
| Status | Ongoing |
| Slis | n/a |
| SRs | DENM-2010-003 NORW-2011-008 |
| ICAO ref. | n/a |
| Other ref(s) | n/a |
| Dependencies | RMT.0524, RMT.0682, RMT.0719, RMT.0476 |
| Affected stakeholders | ATM/ANS providers; organisations involved in the design, production and maintenance of ATM/ANS systems, ATM/ANS constituents and safety-related aerodrome equipment used for the purpose of ATM/ANS; NCAs; ADR operators |
| Affected regulation(s) | Regulation (EU) 2018/1139 Commission Implementing Regulation (EU) 2017/373 |
| Strategic priority | EPAS Volume I Section 3.3.5 |
| Harmonisation | No |



8. AIR TRAFFIC MANAGEMENT/AIR NAVIGATION SERVICES (ATM/ANS)

| RMT.0161 | | Conformity assessment | | | |
|---------------------|----------------------------|------------------------------------|---------------|---------------|----------|
| WORKING METHOD | | | | | |
| Owner | EASA ED.4 | Air Traffic Department | | | |
| | EASA FS.2.4 | Aerodromes Section (for Subtask 4) | | | |
| SubT | Development | Impact Assessment(s) | Consultation | | |
| 1 | EASA with external support | Detailed | NPA - Public | | |
| 2 | EASA with external support | Light | NPA - Focused | | |
| 3 | EASA with external support | Light | NPA - Public | | |
| 4 | EASA with external support | Light | NPA - Public | | |
| PLANNING MILESTONES | | | | | |
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| 1 | ToR RMT.0161 14/02/2020 | NPA 2022-09 16/08/2022 | 2023-Q1 | 2023 | n/a |
| 2 | | NPA 2022-107 30/11/2022 | 2023-Q1 | 2023 | n/a |
| 3 | | 2023-Q2 | n/a | n/a | 2023-Q3 |
| 4 | | 2023-Q3 | 2024 | 2025 | 2025 |



8. AIR TRAFFIC MANAGEMENT/AIR NAVIGATION SERVICES (ATM/ANS)

RMT.0476 Regular update of the standardised European rules of the air

This RMT concerns the maintenance of Regulation (EU) No 923/2012. For better traceability and to ensure the necessary consistency with the evolution of the related EU regulatory framework and the ICAO SARPs and PANS, the RMT activities are split into subtasks:

- **Subtask 1:** The objective is to amend the IRs and the AMC and GM with the first ‘regular update’ amendment containing non-controversial modifications, which were initially consulted in late 2017 with the EASA ABs, and to address wake turbulence separation in relation to PANS-ATM Amendment 9. This subtask will also ensure the necessary consistency with Annex IV (Part-ATS) to Regulation (EU) 2017/373 at AMC and GM level.
- **Subtask 2:** The objective is to address amendments concerning controversial issues (radiocommunication failure and SID/STAR phraseologies).
- **Subtask 4:** The objective is to introduce speed restrictions to avoid supersonic flights over land in Europe in order to protect citizens from unacceptable sonic booms from supersonic transport aeroplanes (SSTs) operating at supersonic speed.
- **Subtask 5:** The objective of this subtask is to propose amendments to the SERA RT phraseologies in order to ensure the necessary harmonisation in the pilot-ATCO communication and to prevent any misunderstanding that would potentially result in safety issues, especially in critical phases of flight such as the approach.

This Subtask is completed with the publication of ED Decision 2022/020/R on 04/11/2022. Full alignment of the SERA RT phraseologies with those applicable at global level, as recently amended by ICAO is now ensured.

| | |
|-------------------------------|---|
| Status | Ongoing |
| SlS | n/a |
| SRs | SPAN-2017-038 |
| ICAO ref. | Amendment 9 to PANS-ATM (ICAO Doc 4444) ICAO SL: ICAO reference AN 13/2.1-20/27 ICAO SL: ICAO reference AN 13/2.1-22/30 |
| Other ref(s) | n/a |
| Dependencies | RMT.0733 (for Subtask 4) |
| Affected stakeholders | Member States, NCAs/NSAs, ATM/ANS providers, airspace users (e.g. aircraft operators), ADR operators, EASA |
| Affected regulation(s) | Commission Implementing Regulation (EU) No 923/2012 |
| Strategic priority | EPAS Volume I Section 3.3.5 |
| Harmonisation | No |

WORKING METHOD

| | | | |
|--------------|----------------------------|------------------------------------|--------------------------------|
| Owner | EASA FS.2.4 | Aerodromes Section (for Subtask 4) | |
| SubT | Development | Impact Assessment(s) | Consultation |
| 1 | EASA with external support | Light | NPA - Public |
| 2 | EASA with external support | Light | NPA - Public |
| 4 | EASA with external support | Light | NPA - Public |
| 5 | EASA with external support | Light | Focused – EASA Advisory Bodies |



8. AIR TRAFFIC MANAGEMENT/AIR NAVIGATION SERVICES (ATM/ANS)

RMT.0476 Regular update of the standardised European rules of the air

| PLANNING MILESTONES | | | | | |
|---------------------|----------------------------|----------------------------|---------|---------------|--------------------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| 1 | ToR RMT.0476 18/08/2017 | NPA 2022-04 25/05/2022 | 2023-Q1 | 2023 | 2023-Q4 |
| 2 | | NPA 2022-04 25/05/2022 | 2023-Q1 | 2023 | 2023-Q4 |
| 4 | | NPA 2022-04 25/05/2022 | tbd | tbd | tbd |
| 5 | | NPA 2022-106 07/10/2022 | n/a | n/a | 2022/020/R 04/11/2022 |



8. AIR TRAFFIC MANAGEMENT/AIR NAVIGATION SERVICES (ATM/ANS)

RMT.0719**Regular update of the air traffic management/air navigation services rules (IRs and AMC and GM)**

This RMT concerns the maintenance of Regulation (EU) 2017/373 and addresses the authority, organisation and technical requirements for the provision of ATM/ANS services. It contains the following active subtasks:

- Subtask 2: The objective of this Subtask is to introduce a set of additional AMC and GM, which will be based on SESAR Safety Reference Material, as regards the scope of the changes, the risk analysis process and the safety criteria determination by the providers of ATM/ANS services.
- Subtask 3: The objective of this Subtask is to:
 - (a) include the 'space weather advisory', revise the template for METAR, change the content of the tropical cyclone advisory, and assess the function of space weather centres (SWXCs) as proposed by Amendment 78 to ICAO Annex 3; and
 - (b) address the dissemination of world area forecast system (WAFS) SIGWX forecasts using the ICAO Meteorological Information Exchange Model (IWXXM), the training and competencies of personnel involved in the provision of aeronautical meteorological services, and reflect the updated SIGMET examples based on Amendment 79 to ICAO Annex 3.

This Subtask was completed with the publication of Commission Regulation (EU) 2021/1338 on 11/08/2021 and Decision 2022/004/R on 14/03/2022.

- Subtask 4: The objective is to maintain the ATM/ANS common requirements Regulation up to date, including alignment with the evolution of the ICAO regulatory framework and coherent with the related evolving EU regulatory framework (e.g. ADR and AIR OPS rules). This Subtask will be progressed in two steps:
 - Subtask 4a proposes amendments to the AIS rules in order to address the AWO concept and facilitate the implementation of the global reporting format (GRF) implementation, as well as to the aeronautical data catalogue. This sub task was completed with the publication of Commission Implementing Regulation (EU) 2022/938 on 10/08/2022 and Decisions 2022/015/R and 2022/016/R on 29/08/2022.
 - Subtask 4b aims to align Regulation (EU) 2017/373 with the evolving ICAO provisions (in particular with Annex 4, Annex 10, Annex 11, Annex 15, PANS-ATM, PANS-AIS) as well as introduce changes for regulatory consistency.
- Subtask 5: The objective is to introduce a further set of AMC and GM for NAV providers to demonstrate that their equipment is regularly maintained and, where required, calibrated.

| | |
|-------------------------------|--|
| Status | Ongoing |
| SlS | n/a |
| SRs | n/a |
| ICAO ref. | n/a |
| Other ref(s) | This task may be affected by the recommendations stemming from the WPGR and the AAS. |
| Dependencies | RMT.0681 |
| Affected stakeholders | ATM/ANS service providers, Network Manager, aircraft operators, NCAs |
| Affected regulation(s) | Commission Implementing Regulation (EU) 2017/373 |
| Strategic priority | No |
| Harmonisation | No |



8. AIR TRAFFIC MANAGEMENT/AIR NAVIGATION SERVICES (ATM/ANS)

RMT.0719 Regular update of the air traffic management/air navigation services rules (IRs and AMC and GM)

| WORKING METHOD | | | |
|----------------|----------------------------|--|---------------------|
| Owner | EASA ED.4 EASA FS.2.4 | Air Traffic Department Aerodromes Section (for Subtask 4) | |
| SubT | Development | Impact Assessment(s) | Consultation |
| 2 | EASA with external support | No | NPA - Public |
| 4b | EASA with external support | No | NPA - Public |
| 5 | EASA | No | NPA - Public |

| PLANNING MILESTONES | | | | | |
|---------------------|------------------------|---------------------------|---------|---------------|----------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| 2 | RMT.0719 18/08/2017 | NPA 2019-04 11/04/2019 | n/a | n/a | 2023-Q2 |
| 4b | | 2023-Q1 | 2024 | 2024 | 2024 |
| 5 | | 2023-Q4 | n/a | n/a | 2024 |

In addition to the above, the following RMTs are relevant for ATM/ANS:

RMT.0668 Regular update of the air traffic controller licensing rules (IRs and AMC and GM)

The full description of this action is included in [Section 2.5](#).

RMT.0230 Introduction of a regulatory framework for the operation of drones

The full description of this action is included in [Section 10.1](#).

| | |
|-----------------|--|
| RMT.0524 | Data link services |
| RMT.0624 | Remote aerodrome air traffic services |
| RMT.0682 | Implementation of the regulatory needs in support of the SESAR deployment |
| RMT.0731 | New air mobility |

The full description of these actions is included in [Chapter 11](#).

9. Aerodromes and ground handling





9. Aerodromes and ground handling

Refer to EPAS Volume I Section 3.3.6 'Ensure operational safety in aerodromes' operations (ADR) and groundhandling (GH)

9.1 Aerodromes

This section addresses aerodrome (ADR) design and operations aspects, as well as aerodrome ADR operators. The actions in this chapter address safety, as well as efficiency/proportionality, in terms of developing and maintaining a legal framework commensurate with the complexity of the ADR activities and management of potential risks. This chapter also includes actions to ensure a level playing field on the basis of the regulatory requirements stemming from the Basic Regulation.

The actions in this chapter aim to maintain a high uniform level of safety in the Member States, ensuring compliance with the ICAO SAPRs and a harmonised approach, also with regard to the alignment of the applicability dates. This will support the free movement of services within the Member States and concurrently ensure convergence of rules at the global level.

This chapter also addresses the conformity assessment of safety-related aerodrome equipment; however, related rulemaking work will be processed under RMT.0161, referenced in Chapter 8 'Air Traffic Management/Air Navigation Services (ATM/ANS)'. The objective is to develop a harmonised and mutually recognised mechanism to attest compliance, declaration and certification of safety-related aerodrome equipment in accordance with the applicable provisions of the Basic Regulation, and in particular Articles 3, 36 and 79 of this Regulation.

For the declaration and certification of safety-related aerodrome equipment, RMT.0161 will include a new and stand-alone subtask on safety-related aerodrome equipment.

How we monitor improvement

The key risk areas (KRAs) and underlying safety issues will continue to be monitored as part of the joint data portfolio and safety risk portfolio for aerodromes and ground-handling operations, with the support of the ADR CAG. The EASA ABs will provide feedback on the efficiency/proportionality of the related actions.

9.1.1 Safety

The most frequent KRA for aerodrome- and ground-handling-related accidents and serious incidents is ground damage, followed by aircraft upset and other injuries. In terms of aggregated risk, aircraft upset is the top KRA, followed by ground damage and fire, smoke and pressurisation thereafter (cf. 2022 ASR).

The associated safety issues are described in the corresponding safety risk portfolio (refer to EPAS Volume III).

How we want to achieve it: actions



9. AERODROMES AND GROUND HANDLING

RMT.0722 Provision of digital aeronautical data by aerodrome operators

Revision and update of Regulation (EU) No 139/2014 and of the related AMC and GM in order to include the provisions of Chapter 2 of ICAO Annex 14 and the provisions of ICAO Annex 15 with regard to the provision of digital aeronautical data by aerodrome operators.

This RMT is subject to further assessment of the issue and its impacts, therefore its status is 'on hold'.

| | |
|-------------------------------|--|
| Status | On hold |
| SlS | n/a |
| SRs | n/a |
| ICAO ref. | ICAO Annex 14 and ICAO Annex 15 |
| Other ref(s) | ATM Master Plan Level 3 - Plan (2019): INF07 - Electronic Terrain and Obstacle Data (e-TOD) ATM Master Plan Level 3 - Plan (2019): ITY-ADQ - Ensure quality of aeronautical data and aeronautical information |
| Dependencies | RMT.0719 |
| Affected stakeholders | ADR operators, AOC holders, ANSPs, NCAs |
| Affected regulation(s) | Commission Regulation (EU) No 139/2014 |
| Strategic priority | No |
| Harmonisation | No |

WORKING METHOD

| | | | | |
|--------------|-----------------------------------|-----------------------------------|-----------------------------------|--|
| Owner | EASA FS.2 | Air OPS & Aerodromes Department | | |
| SubT | Development | Impact Assessment(s) | Consultation | |
| | To be determined at a later stage | To be determined at a later stage | To be determined at a later stage | |

PLANNING MILESTONES

| | | | | | |
|-------------|----------------------------|---------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| | ToR RMT.0722 14/04/2021 | tbd | tbd | tbd | tbd |



9. AERODROMES AND GROUND HANDLING

SPT.0102

Development of new safety promotion material for high-profile aerodrome and ground-handling safety issues

Develop new safety promotion material for high-profile safety issues for aerodrome and ground-handling operations. Such high-profile safety issues are to be determined from important risks identified through the SRM process, accidents/serious incidents, input from EASA stakeholders, and ground-handling safety topics that have been defined in the ground-handling road map, including ground-handling safety topics stemming from the Basic Regulation.

| | |
|------------------------------|---|
| Status | Ongoing |
| SIs | All SIs (mitigate and monitor) in the ADR and GH Safety Risk Portfolio |
| SRs | n/a |
| Reference(s) | n/a |
| Dependencies | n/a |
| Affected stakeholders | ADR operators, Ground-handling services providers (GHSPs), AOC holders, ANSPs, NCAs |
| Owner | EASA SM.1 Safety Intelligence & Performance Department |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|---|------------|
| Posters, videos, articles and social media promotion. | Continuous |



9. AERODROMES AND GROUND HANDLING

MST.0029 Implementation of the SESAR runway safety solutions

Member States should, as part of their State safety management activities, evaluate, together with ADR operators, AOC holders and ANSPs, the need to implement the related SESAR solutions such as those related to ground situational awareness, airport safety net vehicles, and enhanced airport safety nets⁴⁶.

The results of such evaluation should be recorded in the SPAS.

These SESAR solutions (solutions #01, #02, #04, #26, #47, #48, #70), designed to improve runway safety, should be considered as far as it is feasible.

Note: In the course of 2023 EASA will reassess the relevance and alignment of the EPAS with the SESAR programme, which may lead to changes regarding the SESAR related MSTs.

| | |
|------------------------------|--|
| Status | Ongoing |
| Sl | n/a |
| SRs | n/a |
| Reference(s) | GASP SEIs (States) -- Mitigate contributing factors to the risks of RE and RI SESAR Solutions Catalogue 2021 Fourth edition ⁴⁷ |
| Dependencies | n/a |
| Affected stakeholders | ADR operators, AOC holders, ANSPs, NCAs |
| Owner | Member States |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|-----------------------|-----------------|
| SPAS | 2021-Q4 |
| SPAS reviewed | 2024-Q1 |

46 <https://www.atmmasterplan.eu/exec/operational-changes>

47 https://www.sesarju.eu/sites/default/files/documents/reports/SESAR_Solutions_Catalogue_2021_small.pdf



9.1 AERODROMES

RES.0040 Runway microtexture

Good aeroplane tyre braking friction on wet runways is of essential importance for the safe stop of aircraft. Poor runway microtexture has resulted in several landing overrun occurrences on wet surfaces. There are currently no acceptable methods for aerodromes to accurately assess the microtexture characteristics. The proposed research assesses the practical use and validity of high-resolution surface laser scanners to determine the runway microtexture characteristics. A better understanding of these characteristics can reduce the number of runway excursions.

This project is funded by Horizon Europe under the 2nd Research Contribution Agreement with the European Commission.

| | |
|------------------------------|--|
| Status | Ongoing |
| SlIs | n/a |
| SRs | n/a |
| Reference(s) | Runway Micro Texture (RWYMT) ⁴⁸ |
| Dependencies | n/a |
| Affected stakeholders | ADR operators, aircraft operators (CAT, NCC, NCO, SPO), DA holders, NCAs |
| Owner | EASA SM.2 Strategy & Programmes Department |

PLANNING MILESTONES

| Starting date | Interim report | Final report |
|----------------------|-----------------------|---------------------|
| 2021-Q2 | n/a | 2025 |

48 <https://www.easa.europa.eu/research-projects/runway-micro-texture-rwymt>



9.1 AERODROMES

RES.0045 Implementation of the 'triple one' concept for aerodromes

The 'triple one' concept refers to ways and means to enhance ground communication between pilots, ATC personnel and vehicle drivers during aircraft and vehicle operations on the manoeuvring area of aerodromes to increase the situational awareness of these actors. The overall objective of the 'triple one' concept is that in demanding environments associated with aerodrome operations on a runway, it is required that all participants accurately receive, understand and, where appropriate, correctly read back all ATC clearances and instructions.

The working definition of the 'triple one' concept can be therefore formulated as follows: 'one runway, one frequency, one language'.

The research project aims to:

- identify and understand the current application of the 'triple one' concept, the variations in use, as well as the rationale/reasoning behind each one of them, including the way in which each solution was implemented at local level, and at what cost and impact;
- provide EASA and the aviation stakeholders with the necessary understanding of the safety benefits and safety risks, as well as all the reasons for implementing or not the 'triple one' concept;
- provide policy options in relation to the 'triple one' concept that may be pursued to further reduce the risk of runway incursions at European aerodromes.

| | |
|------------------------------|---|
| Status | Ongoing |
| SIs | n/a |
| SRs | n/a |
| Reference(s) | n/a |
| Dependencies | n/a |
| Affected stakeholders | ADR operators, ANSPs, NCAs |
| Owner | EASA SM.2 Strategy & Programmes Department |

| PLANNING MILESTONES | | |
|---------------------|----------------|--------------|
| Starting date | Interim report | Final report |
| 2022-Q4 | n/a | 2024 Q4 |

9.1.2 Level playing field

The section is maintained as a placeholder for future actions.



9.1 AERODROMES

9.1.3 Efficiency/proportionality

RMT.0591 Regular update of the aerodromes rules

The objective of this RMT is to regularly address miscellaneous issues of non-controversial nature to ensure that the aerodromes Regulation is fit for purpose, cost-effective, and in line with the latest ICAO SARPs and the Basic Regulation.

This regular-update rulemaking task addresses Commission Regulation (EU) No 139/2014 and the related AMC and GM, as well as the design certification specifications (CSs) and related GM for aerodromes.

The current cycle encompasses the following deliverables:

- a Decision for the stand-alone CSs/GM whose adoption is not dependent upon the adoption of the amendment to the implementing rules.
Note: Completed with the publication of Decision 2022/006/R on 29/03/2022.
- an Opinion proposing amendments to the implementing rules.
Note: The Opinion will also include the regulatory changes proposed with [RMT.0681](#) regarding the alignment of the implementing rules and the related AMC/GM with Regulation (EU) No 376/2014 on occurrence reporting;
- a Decision issuing the AMC/GM and CSs/GM whose adoption is dependent upon the adoption of the amendments to the implementing rules.

| | | | |
|-------------------------------|--|----------------------|----|
| Status | Ongoing | | |
| SlS | n/a | | |
| SRs | n/a | | |
| ICAO ref. | n/a | | |
| Other ref(s) | n/a | | |
| Dependencies | RMT.0681 | | |
| Affected stakeholders | ADR operators, NCAs | | |
| Affected regulation(s) | Commission Regulation (EU) No 139/2014 | | |
| Strategic priority | No | Harmonisation | No |

WORKING METHOD

| | | | |
|--------------|-----------------------------------|---------------------------------|-----------------------------------|
| Owner | EASA FS.2 | Air OPS & Aerodromes Department | |
| SubT | Development | Impact Assessment(s) | Consultation |
| Current | by EASA | Light | NPA - Public |
| Next | To be determined at a later stage | Light | To be determined at a later stage |

PLANNING MILESTONES

| | | | | | |
|-------------|----------------------------|---------------------------|----------------|----------------------|---|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| Current | ToR RMT.0591 29/07/2016 | NPA 2020-10 17/11/2020 | 2023-Q1 | 2024 | Part I: 2022/006/R 29/03/2022 Part II: 2024 |
| Next | | tbd | tbd | tbd | tbd |

**9.1 AERODROMES****EVT.0012 Evaluation of Commission Regulation (EU) No 139/2014 (the aerodromes Regulation)**

Commission Regulation (EU) No 139/2014 (the aerodromes Regulation) was published on 14/02/2014. Since 2018, the applicable provisions have been subject to monitoring through EASA standardisation activities. An evaluation will be performed to assess their relevance, effectiveness, and efficiency.

This EVT is on hold pending availability of resources.

| | |
|------------------------------|--|
| Status | On-hold |
| Slis | n/a |
| SRs | n/a |
| Reference(s) | Commission Regulation (EU) No 139/2014 |
| Dependencies | n/a |
| Affected stakeholders | ADR operators, NCAs |
| Owner | EASA FS.2 Air OPS & Aerodromes Department |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|-----------------------|-----------------|
| Evaluation report | tbd |

In addition to the above, the following actions are also directly relevant for ADR operators:

RMT.0161 Conformity assessment**RMT.0476 Regular update of the standardised European rules of the air**

The full description of these actions is included in [Section 8.2](#).

RMT.0728 Development of requirements for ground handling

The full description of this action is included in [Section 9.2](#).

RMT.0230 Introduction of a regulatory framework for the operation of drones**RMT.0729 Regular update of Regulations (EU) 2019/945 and 2019/947 (drones in the 'open' and 'specific' categories)**

The full description of these actions is included in [Chapter 10](#).

RMT.0624 Remote aerodrome air traffic services**RMT.0682 Implementation of the regulatory needs in support of the SESAR deployment****RMT.0731 New air mobility**

The full description of these actions is included in [Chapter 11](#).



9.2 GROUND HANDLING

9.2 Groundhandling

This section addresses all groundhandling-related aspects, with the exception of aerodrome design and operations, as well as aerodrome operators, being dealt with in the previous chapter.

9.2.1 Safety

Issue/rationale

This risk area includes all ground-handling- and apron-management-related issues (aircraft loading, de-icing, refuelling, ground damage, etc.) as well as collision of the aircraft with other aircraft, obstacles or vehicles while the aircraft is moving on the ground, either under its own power or being towed. It does not include collision on the runway. Baggage and cargo loading in passenger aircraft is the top safety issue based on the data portfolio.

What we want to achieve

Increase safety by continuously assessing and improving risk controls to mitigate the risks in the area of ground safety.

How we monitor improvement

The key risk areas (KRAs) and underlying safety issues will continue to be monitored as part of the joint data portfolio and safety risk portfolio for aerodromes and groundhandling (refer to 2022 ASR Figure 114 and Table 33), with the support of the Aerodromes and Groundhandling CAG. The EASA ABs regularly provide feedback on the efficiency/proportionality of the related actions and on their effect on level playing field.

How we want to achieve it: actions



9.2 GROUND HANDLING

RMT.0728 **Development of requirements for ground handling**

The objective of this RMT is to develop IRs and AMC and GM to ensure compliance with the essential requirements contained in Annex VII to the Basic Regulation. The task will consider operational, organisation and authority requirements, as deemed necessary. The detailed objectives and actions have been defined in the Groundhandling Roadmap, which was subject to a focused consultation in the first quarter of 2019.

In addition, the task includes the items previously addressed in RMT.0705 and, therefore, also covers the development of requirements for:

- the establishment of the methods for the delivery, storage, dispensing and handling of dangerous goods at aerodromes; and
- ADR operators to train their personnel in the handling of dangerous goods when the ADR operator acts as a subcontractor (handling agent) of the air operators.

| | |
|-------------------------------|---|
| Status | Ongoing |
| SI | SI-1023 Operation of air bridges/passenger boarding bridges (PBBs) SI-5022 Impact of the pandemic on the groundhandling industry — human factors |
| SRs | GERF-2018-002 (BFU) Ground aircraft de-icing to be under regulatory authority |
| ICAO ref. | n/a |
| Other ref(s) | n/a |
| Dependencies | n/a |
| Affected stakeholders | NCA, GHSPs, ADR operators, Aircraft operators - all, groundhandling staff |
| Affected regulation(s) | Commission Regulation (EU) No 965/2012 Commission Regulation (EU) No 139/2014 |
| Strategic priority | EPAS Volume I Section 3.3.6 |
| Harmonisation | No |

WORKING METHOD

| | | | |
|--------------|---|---------------------------------|---------------------|
| Owner | EASA FS.2 | Air OPS & Aerodromes Department | |
| SubT | Development | Impact Assessment(s) | Consultation |
| | by EASA with support of an expert group representing all affected stakeholders' | Detailed | Focused |

PLANNING MILESTONES

| | | | | | |
|-------------|----------------------------|---------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| | ToR RMT.0728 22/11/2019 | 30/09/2022 | 2023-Q1 | 2024 | 2024 |

In addition to the above, the following SPT is also directly relevant to ground handling:

SPT.0102 **Development of new safety promotion material for high-profile aerodrome and ground-handling safety issues**

The full description of this action is included in [Section 9.1](#).

10. Unmanned aircraft systems and manned VTOL-capable aircraft





10. Unmanned aircraft systems and manned VTOL-capable aircraft

Refer to EPAS Volume I Section 3.4.3.1 'Establish a comprehensive EU regulatory framework for UAS and manned VTOL-capable aircraft'

Enabling the safe integration of UAS (also commonly called 'drones'), being a fast evolving and emerging market segment, as well as of (initially manned) VTOL-capable aircraft, also intended for urban air mobility (UAM) operations, continues to be a high-priority activity for EASA.

10.1 Safety

Issue/rationale

Most of the EU Member States had adopted national regulations to ensure the safe operation of UASs with MTOMs below 150 kg. With the extension of the scope of the EU competence through the Basic Regulation to regulate UASs with MTOMs below 150 kg and the applicability of the EU requirements for the operation of UASs in the 'open' and 'specific' category (Commission Implementing Regulations (EU) 2019/947 and 2019/945), Member States are in the process of amending their national regulations. As of January 2024, all UAS operations in the 'open' category and all drone operators must fully comply with both EU Regulations.

These EU Regulations need to be complemented with additional actions to enable harmonisation of the rules at EU level. They are also linked with other EPAS actions (such as RMT.0731) and aim to enable standardised UAS operations as well as more complex UAS operations such as operations in urban environments (i.e. urban air mobility (UAM)).

In order to ensure safe UAS operations and mitigate the risks, it is important to manage the safe integration of UASs into the airspace. On airspace integration, the U-space⁴⁹ is a set of new services and specific procedures designed to support the safe, efficient and secure access to airspace for a large number of drones. EASA has prepared a world's-first U-space/UTM regulatory package (Commission Implementing Regulations (EU) 2021/664, 2021/665 and 2021/666, adopted by the European Commission on 22 April 2021). This package will become applicable on 26 January 2023 and will enable the safe integration of UAS operations in urban environments.

What we want to achieve

To create a level playing field in all EU Member States by using an operation-centric concept, which is proportionate and risk- and performance-based, so that all companies can make best use of the UAS technologies to create jobs and growth. At the same time, to enable the safe integration of drones in the European airspace while maintaining a high and uniform level of safety.

How we monitor improvement

The relevant EASA ABs regularly provide feedback on the effectiveness of the related activities.

How we want to achieve it: actions

⁴⁹ The 'U-space' is the European name for unmanned traffic management (UTM).



10. UNMANNED AIRCRAFT SYSTEMS AND MANNED VTOL-CAPABLE AIRCRAFT

RMT.0230 Introduction of a regulatory framework for the operation of drones

Development of IRs (including implementing and delegated acts) for UASs to implement Articles 55 to 57 of and Annex IX to the Basic Regulation.

The ToRs have been updated by publishing Issue 3 on 22/04/2021 to reflect the developments of the approach defined by EASA and agreed with the relevant stakeholders.

There are three categories of UASs defined as follows:

- ‘open’ category: low-risk operation that does not require authorisation or declaration before flight;
- ‘specific’ category: medium-risk operation that requires authorisation or declaration before flight;
- ‘certified’ category: high-risk operation that requires a certification process.

To implement an innovative new set of rules for the three categories and to address U-space, the following six subtasks have been identified:

Subtask A:

UAS operations in the ‘open’ and ‘specific’ category regulated by dedicated implementing and delegated acts⁵⁰.

This Subtask is removed as it was completed in 2019 with the publication of Regulation (EU) 2019/945 and Regulation (EU) 2019/947 on 11/06/2019 and ED Decision 2019/021/R on 10/10/2019.

Subtask B:

U-space and airspace integration regulated by three implementing acts⁵¹. This subtask also covered the development of AMC and GM to support the implementation of the U-space Regulation.

This Subtask is removed as it was completed with the publication of Regulation (EU) 2021/1338 on 12/08/2021 and ED Decisions 2022/022/R, 2022/023/R and 2022/024/R on 20/12/2022.

Subtask C:

UAS operations in the ‘certified’ category and UAM. This subtask includes amendments to the IAW, CAW, FCL, AIR OPS, ADR and ATM/ANS Regulations for three types of operations:

- Operations Type #1: instrument flight rules (IFR) operations of UASs for the carriage of cargo in airspace classes A-C (ICAO airspace classification) and taking off from and/or landing at aerodromes that fall under the Basic Regulation.
- Operations Type #2: operations of UASs taking off and/or landing in a congested (e.g. urban) environment using predefined routes in the U-space airspace (part of the operation could be in a non-congested, e.g. rural, environment). These include operations of unmanned VTOL-capable aircraft carrying passengers (e.g. air taxis) or cargo (e.g. goods delivery services).
- Operations Type #3: same as for Type #2 operations with VTOL-capable aircraft with a pilot on board, including operations out of the U-space airspace. While this task will also consider emerging technologies such as electric and hybrid propulsion as integral part of the drones’ design, the dedicated RMT.0731 will address in particular the CAW aspects related to these technologies.

In the context of FCL, Subtask C will also include the following:

- a review of the ECQB for identifying those questions related to those subjects which will be usable also for examinations for the new pilot licences that will be introduced with this RMT;
- a review of the necessary aero-medical certification requirements for remote pilots.

50 Commission Implementing Regulation (EU) 2019/947 and Commission Delegated Regulation (EU) 2019/945

51 Commission Implementing Regulations (EU) 2021/664, 2021/665 and 2021/666



10. UNMANNED AIRCRAFT SYSTEMS AND MANNED VTOL-CAPABLE AIRCRAFT

RMT.0230 Introduction of a regulatory framework for the operation of dronesSubtask D:

Certification Specifications for Unmanned Aircraft Systems (CS-UAS and CS-Light UAS), Certification Specifications for vertical take-off and landing aircraft (CS-VTOL), and CS-ETSO.

Subtask E:

Airspace usage requirements and ATM/ANS interoperability requirements.

Subtask F:

Environmental protection is planned to be addressed in a two-phased approach. EASA will use special conditions (SCs) to propose the first set of requirements. Once experience is acquired, the regulatory framework will be adapted as necessary.

For the maintenance of the Regulations (EU) 2019/945 and 2019/947 and the AMC and GM developed under Subtasks A and D, two RMTs have been created. Refer to RMT.0729 and RMT.0730.

The introduction of standard scenarios (STs) by amending the implementing and delegated acts for the 'open' and 'specific' category is covered by RMT.0729.

| | |
|-------------------------------|---|
| Status | Ongoing |
| SI | SI-2014 Airborne collision with an unmanned aircraft system (UAS) |
| SRs | ITAL-2017-001 |
| ICAO ref. | n/a |
| Other ref(s) | n/a |
| Dependencies | RMT.0727, RMT.0731 |
| Affected stakeholders | UAS operators (private and commercial); NCAs; flight crews; remote pilots; UAS MOs; UAS MTOs; UAS CAMOs; maintenance licence holders; UAS manufacturers; other airspace users (manned aircraft); providers of air traffic management/air navigation services (ATM/ANS) and other ATM network functions (including U-space service providers (USSP) and common information service (CIS) providers; air traffic services (ATS) personnel; ADR operators; general public; model aircraft associations |
| Affected regulation(s) | Commission Delegated Regulation (EU) 2019/945 Commission Implementing Regulation (EU) 2019/947 Commission Implementing Regulation (EU) 2021/1338 |
| Strategic priority | EPAS Volume I Section 3.4.3.1 |
| Harmonisation | No |

WORKING METHOD

| | |
|--------------|---|
| Owner | EASA ED.03 Executive Director's Office - Drones Section |
| SubT | Development Impact Assessment(s) Consultation |
| C | By EASA with support of affected stakeholders Detailed NPA - public |
| D | By EASA with support of affected stakeholders Detailed NPA - public |
| E | By EASA with support of affected stakeholders Detailed NPA - public |
| F | By EASA with support of affected stakeholders Detailed NPA - public |



10. UNMANNED AIRCRAFT SYSTEMS AND MANNED VTOL-CAPABLE AIRCRAFT

RMT.0230 Introduction of a regulatory framework for the operation of drones

| PLANNING MILESTONES | | | | | |
|---------------------|---|---------------|---------|---------------|----------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| C | ToR RMT.0230 22/12/2016 Issue 3 21/04/2021 | #1NPA 2022-06 | | | |
| | | 30/06/2022 | 2023 | tbd | tbd |
| | | #2 2023 | 2024 | tbd | tbd |
| | | #3 2023 | n/a | n/a | 2024 |
| | | #4 2023 | n/a | n/a | 2024 |
| D | | #5 2025 | n/a | n/a | 2025 |
| | | #1 2023 | n/a | n/a | 2024 |
| | | #2 2023 | n/a | n/a | 2024 |
| | | #3 2024 | n/a | n/a | 2024 |
| E | | #4 2023 | n/a | n/a | 2024 |
| | | #1 2023 | 2024 | tbd | 2024 |
| | | #2 2023 | 2024 | tbd | tbd |
| | | #3 2024 | n/a | n/a | 2025 |
| F | | #4 2024 | 2025 | tbd | tbd |
| | | #1 tbd | n/a | n/a | tbd |
| | | #2 tbd | n/a | n/a | tbd |
| | | #3 tbd | n/a | n/a | tbd |

Notes:

- For the correlation between the NPA numbers and the respective subtasks, please refer to the annex to the Terms of Reference (ToR) for RMT.0230 Issue 3.
- Issue 4 of the ToRs was published on 19/12/2022. It confirms the planning milestones for Subtasks C to F.



10. UNMANNED AIRCRAFT SYSTEMS AND MANNED VTOL-CAPABLE AIRCRAFT

RMT.0729**Regular update of Regulations (EU) 2019/945 and 2019/947 (drones in the 'open' and 'specific' category)**

The objective of this RMT is to regularly address miscellaneous issues to ensure that the UAS Regulations are fit for purpose, cost-effective, and in line with the latest ICAO SARPs and the Basic Regulation.

Subtask 1:

This subtask is removed as it was completed with the publication of Regulation (EU) 2020/639 on 12/05/2020 and of Regulation (EU) 2020/1058 on 27/04/2020. The related AMC and GM are addressed under RMT.0730.

Subtask 2 (current cycle):

This subtask will address inconsistencies and lessons learned identified by the stakeholders during the application of Regulations (EU) 2019/945 and 2019/947.

| | | | |
|-------------------------------|---|---|----|
| Status | Ongoing | | |
| SIs | SI-2014 | Airborne collision with an unmanned aircraft system (UAS) | |
| SRs | n/a | | |
| ICAO ref. | n/a | | |
| Other ref(s) | n/a | | |
| Dependencies | RMT.0730 | | |
| Affected stakeholders | UAS operators (private and commercial); NCAs; flight crews; remote pilots; UAS MOs; UAS MTOs; UAS CAMOs; maintenance licence holders; UAS manufacturers; other airspace users (manned aircraft); providers of air traffic management/air navigation services (ATM/ANS) and other ATM network functions (including U-space service providers (USSP) and common information service (CIS) providers; air traffic services (ATS) personnel; ADR operators; general public; model aircraft associations | | |
| Affected regulation(s) | Commission Delegated Regulation (EU) 2019/945 Commission Implementing Regulation (EU) 2019/947 | | |
| Strategic priority | EPAS Volume I Section 3.4.3.1 | Harmonisation | No |

WORKING METHOD

| | | | |
|--------------|--|-----------------------------------|---------------------|
| Owner | EASA ED.0.3 Executive Director's Office - Drones Section | | |
| SubT | Development | Impact Assessment(s) | Consultation |
| Current | By EASA with the support of an expert group | To be determined at a later stage | NPA - Public |
| Next | tbd | tbd | tbd |

PLANNING MILESTONES

| | | | | | |
|-------------|------------------------|---------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| Current | RMT.0729 26/07/2019 | NPA 2023-Q4 | 2024 | 2025 | n/a |
| Next | | tbd | tbd | tbd | tbd |



10. UNMANNED AIRCRAFT SYSTEMS AND MANNED VTOL-CAPABLE AIRCRAFT

RMT.0730

Regular update of the AMC and GM to Regulations (EU) 2019/945 and 2019/947 (drones in the 'open' and 'specific' category)

The objective of this RMT is to regularly address miscellaneous issues to ensure that the UAS Regulations are fit for purpose, cost-effective, and in line with the latest ICAO SARPs and the Basic Regulation. It aims for general improvements of the AMC and GM to Regulations (EU) 2019/947 and 2019/945.

Predefined risk assessments (PDRAs) and recognition of industry standards in support of the specific operations risk assessment (SORA) methodology.

Considering the novelty of the topic and the need to gain experience while achieving harmonisation in the implementation of the UAS Regulations, EASA will publish on its website guidelines providing useful information for the stakeholders. When the material will be considered mature, an NPA and the resulting Decision will be published.

- Subtask 1 is removed as it is completed with the publication of Decision 2020/022/R on 17/12/2020.
- Subtask 2: Additional PDRAs, AMC and GM for STSs (Regulations⁵² published under RMT.0729) and for the definition of geographical zones; general improvement of the related AMC and GM and recognition of industry standards. Subtask 2 has been partially completed with the publication of NPA 2021-09. Since the proposed amendments affecting the verification of design of drones were controversial, it was decided to split the Decision in two parts. On 7 February 2022, Decision 2022/002/R was published, including all the amendments which do not affect the demonstration of compliance with the design of drones. A second Decision will be published early 2023 with the remaining AMC and GM.
- Subtask 3: The Joint Authorities for Rulemaking on Unmanned Systems (JARUS) plan to publish in 2023-Q3 updates to the SORA, and 3 new PDRAs, following a JARUS public consultation. Unless major objections are raised by EASA or by EU stakeholders during the JARUS consultation, EASA plans to integrate that proposal into the EU drones regulations. In that case EASA will consult the ABs on the regulatory material doing so.
- Subtask 4: This subtask will produce guidelines for publication on the EASA website to make the material available to stakeholders in a timely manner. The NPA and the Decision will be published later when the material will be considered mature. It will include additional PDRAs, general improvements to the related AMC and GM, and recognition of additional industry standards. Guidelines on the design verification process have been published and more are under development.

| | |
|-------------------------------|---|
| Status | Ongoing |
| SI | SI-2014 Airborne collision with an unmanned aircraft system (UAS) |
| SRs | n/a |
| ICAO ref. | n/a |
| Other ref(s) | n/a |
| Dependencies | n/a |
| Affected stakeholders | UAS operators (private and commercial); NCAs; flight crews; remote pilots; UAS MOs; UAS MTOs; UAS CAMOs; maintenance licence holders; UAS manufacturers; other airspace users (manned aircraft); providers of air traffic management/air navigation services (ATM/ANS) and other ATM network functions (including U-space service providers (USSP) and common information service (CIS) providers; air traffic services (ATS) personnel; ADR operators; general public; model aircraft associations |
| Affected regulation(s) | Commission Delegated Regulation (EU) 2019/945 Commission Implementing Regulation (EU) 2019/947 |
| Strategic priority | EPAS Volume I Section 3.4.3.1 Harmonisation No |

52 Commission Implementing Regulation (EU) 2020/639 and Commission Delegated Regulation (EU) 2020/1058.



10. UNMANNED AIRCRAFT SYSTEMS AND MANNED VTOL-CAPABLE AIRCRAFT

RMT.0730 Regular update of the AMC and GM to Regulations (EU) 2019/945 and 2019/947 (drones in the 'open' and 'specific' category)

| WORKING METHOD | | | |
|----------------|--|-----------------------------------|-----------------------------------|
| Owner | EASA ED.0.3 Executive Director's Office - Drones Section | | |
| SubT | Development | Impact Assessment(s) | Consultation |
| 2 | By EASA with the support of an expert group | No | NPA - Focused |
| 3 | By EASA with the support of an expert group | No | Focused [EASA Advisory Bodies] |
| 4 | To be determined at a later stage | To be determined at a later stage | To be determined at a later stage |

| PLANNING MILESTONES | | | | | |
|---------------------|------------------------|---------------------------|---------|---------------|--|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| 2 | RMT.0730 26/07/2019 | NPA 2021-09 14/07/2021 | n/a | n/a | Part I: 2022/002/R 07/02/2022 Part II: 2023-Q1 |
| 3 | | n/a | n/a | n/a | 2023-Q4 |
| 4 | | tbd | n/a | n/a | tbd |

SPT.0091 European safety promotion on civil drones

- Coordinate European activities to promote the safe operation of drones to the general public.
- Promote the safe use of drones and the understanding of the drone rules to those undertaking commercial drone operations.
- Promote the design and certification aspects of drones.
- Promote activities to minimise the risk of drones impacting on airspace.

Material can be found on the EASA website here: <https://www.easa.europa.eu/en/domains/civil-drones> and also on the EASA Youtube Channel here: https://www.youtube.com/playlist?list=PLTfS24aKkIn4swkv4R_hTUn7frzBHNd

| | | |
|------------------------------|--|---|
| Status | Ongoing | |
| SIs | SI-2014 | Airborne collision with an unmanned aircraft system (UAS) |
| SRs | n/a | |
| Reference(s) | n/a | |
| Dependencies | RMT.0230 | |
| Affected stakeholders | UAS operators (private and commercial) | |
| Owner | SPN | Safety Promotion Network |

| EXPECTED OUTPUT | |
|--|------------|
| Deliverable(s) | Timeline |
| Posters, videos, articles and social media promotion | Continuous |



10. UNMANNED AIRCRAFT SYSTEMS AND MANNED VTOL-CAPABLE AIRCRAFT

RES.0015 Vulnerability of manned aircraft to drone strikes

Assessment of the potential collision threats posed by drones to manned aircraft and evaluation of their estimated impacts; establishment of a risk model to support regulatory and operational stances to be validated by means of a comprehensive set of simulated impact tests.

This project is funded by H2020 under the 1st Research Contribution Agreement with the European Commission.

| | | |
|------------------------------|---|---|
| Status | Ongoing | |
| SIs | SI-2014 | Airborne collision with an unmanned aircraft system (UAS) |
| SRs | ITAL-2017-001 | |
| Reference(s) | https://www.easa.europa.eu/research-projects/vulnerability-manned-aircraft-drone-strikes | |
| Dependencies | n/a | |
| Affected stakeholders | Aircraft operators - all | |
| Owner | EASA SM.2 | Strategy & Programmes Department |

PLANNING MILESTONES

| Starting date | Interim report | Final report |
|----------------------|---|---------------------|
| 2020-Q2 | Deliverables made publicly available on the project's webpage on the EASA website | 2023-Q2 |

RES.0022 SESAR 2020 research projects aiming to safely integrate drones in the airspace

The research activities dedicated to U-Space are being addressed under the SESAR 2020 programme.

Six Very Large-Scale Demonstrations (AMU-LED, CORUS-XUAM, GOF2.0, SAFIT-MED, TINDAIR, U-space4UAM) were launched in 2019 under the call for proposal SESAR VLD2-03-2020.

One Industrial Research and Validation project (PJ.34-W3-AURA) was launched in 2019 under the call for proposal H2020-SESAR-2020-2.

| | | |
|------------------------------|--|---|
| Status | Ongoing | |
| SIs | SI-2014 | Airborne collision with an unmanned aircraft system (UAS) |
| SRs | ITAL-2017-001 | |
| Reference(s) | SESAR U-space (https://www.sesarju.eu/U-space) SESAR Innovation Pipeline (https://www.sesarju.eu/innovation-pipeline) | |
| Dependencies | n/a | |
| Affected stakeholders | UAS operators and manufacturers | |
| Owner | SESAR | |

PLANNING MILESTONES

| Starting date | Interim report | Final report |
|----------------------|-----------------------|---------------------|
| 2019 | n/a | 2023-Q2 |



10. UNMANNED AIRCRAFT SYSTEMS AND MANNED VTOL-CAPABLE AIRCRAFT

RES.0023 **SESAR exploratory projects on U-space**

SESAR JU has launched the U-space exploratory research as a step towards realising the EC U-space vision. U-space is a set of four blocks of services (U1, U2, U3, U4) relying on a high level of digitalisation and automation of functions and specific procedures designed to support safe, efficient and secure access to airspace for large numbers of drones.

Implemented under the Exploratory Research call for proposal SESAR-H2020-2019-2 through the topic U-space Exploratory Project SESAR-ER4-31-2019.

| | | |
|------------------------------|--|---|
| Status | Ongoing | |
| SIs | SI-2014 | Airborne collision with an unmanned aircraft system (UAS) |
| SRs | ITAL-2017-001 | |
| Reference(s) | SESAR U-space https://www.sesarju.eu/U-space SESAR Innovation Pipeline https://www.sesarju.eu/innovation-pipeline | |
| Dependencies | n/a | |
| Affected stakeholders | UASs operators | |
| Owner | SESAR | |

| PLANNING MILESTONES | | |
|---------------------|----------------|--------------|
| Starting date | Interim report | Final report |
| 2019 | n/a | 2023-Q2 |



10. UNMANNED AIRCRAFT SYSTEMS AND MANNED VTOL-CAPABLE AIRCRAFT

RES.0038 Standards Evaluation Project supporting European Regulations for Drones

The European Commission, with the support of EASA, is developing the EU regulatory framework for UAS operations. Regulations (EU) 2019/945 and 2019/947 (the UAS Regulations) lay down the requirements for UAS operations in the 'open' and 'specific' category. Regulation (EU) 2021/664 (the U-space Regulation) lays down the requirements for the U-space. The UAS Regulations became applicable on 31 December 2020 while the U-space Regulation will become applicable on 26 January 2023.

The European UAS Standards Coordination Group (EUSCG), led by EASA, developed the Rolling Development Plan for UASs (U-RDP), listing more than 800 standards, developed by standardisation bodies from different parts of the world.

In 2019, the Innovation and Networks Executive Agency (INEA) funded the AW-Drones project with the aim to contribute to the safe use of UASs by supporting the ongoing EU regulatory process for the identification of technical standards and procedures. In particular, the AW-Drones project assessed the standards listed in the U-RDP with regard to maturity, coverage, cost of compliance, environmental impact, impact on EU industry competitiveness, and social acceptance. The assessment, however, did not include the evaluation of the technical content to determine whether the standards are adequate to meet the safety objective of the provisions of the related regulations.

This research project shall now complement the analysis with the technical assessment of the standards.

This project is funded by Horizon Europe under the 2nd Research Contribution Agreement with the European Commission.

| | |
|------------------------------|---|
| Status | Ongoing |
| Sl | n/a |
| SRs | n/a |
| Reference(s) | UAS Standards ⁵³ |
| Dependencies | n/a |
| Affected stakeholders | UAS operators, UAS design organisations, UAS MOs, ANSPs, NCAs |
| Owner | EASA SM.2 Strategy & Programmes Department |

PLANNING MILESTONES

| Starting date | Interim report | Final report |
|----------------------|-----------------------|---------------------|
| 2021-Q2 | n/a | 2024-Q2 |

In addition to the above, the following RMT is also relevant:

RMT.0731 New air mobility

The full description of this action is included in [Chapter 11](#).

53 <https://www.easa.europa.eu/research-projects/uas-standards>

11. New technologies and concepts





11. New technologies and concepts

Refer to EPAS Volume I Section 3.4 'Safe and sustainable integration of new technologies and concepts'

This chapter addresses the safe and sustainable integration of new technologies and innovative solutions into the aviation system, with the exception of civil drones, which are addressed in Chapter 10.

While many of the technologies and innovations emerging in the aviation industry bear significant potential to further improve the level of safety and/or efficiency, the EPAS gives due consideration to the safety issues deriving from new technologies, new operational concepts or novel business models.

In the ATM domain, SESAR covers the development of new technologies for a better management of Europe's airspace as well as their contribution to the achievement of the SES goals and safety targets.

What we want to achieve

Facilitate emerging technologies and innovative concepts, while ensuring their safe integration into the European aviation system.

11.1 Safety

11.1.1 New business models

Issue/rationale

Managing current and future safety risks arising from new and emerging business models is a strategic priority.

This section addresses risks related to new and emerging business models arising from the increased complexity of the aviation industry, the number of interfaces between organisations, their contracted services and regulators. Some new business models are emerging: the increased demand for flying in the cities, the increased digitalisation of aviation systems, the introduction of more autonomous vehicles, platforms starting for single-pilot operations, and completely autonomous cargo aircraft. These will challenge the way authorities regulate and oversee the aviation system. NCAs should work better together, and EASA should evaluate whether the existing safety regulatory system adequately addresses current and future safety risks arising from new and emerging business models. Upon the request of Member States, EASA has tasked a working group of NCAs to assess airlines' emerging 'new' business models and to identify related safety risks they pose to the aviation system.

What we want to achieve

Increase safety by continuously assessing and mitigating the risks posed by new and emerging business models.

How we monitor improvement

The EASA ABs regularly provide feedback on the effectiveness of the activities.

How we want to achieve it: actions



11. NEW TECHNOLOGIES AND CONCEPTS

RMT.0739 Introduction of extended minimum-crew operations (eMCO)

Industry is currently developing technologies to allow the safe operation of large passenger aeroplanes by a single pilot during the cruise phase of the flight (extended minimum-crew operations (eMCO)). The integration of such technological developments needs to be accompanied by all the necessary measures to ensure an equivalent or higher level of safety for such operations, such as the presence of an advanced cockpit design with workload alleviation means, the capability to cope with crew incapacitation, effective fatigue management, the prevention of security threats, and human factors, mental and psychological considerations.

This task aims to amend the current legal framework applicable to air operations and aircrew training to allow eMCO, while ensuring at least an equivalent level of safety to that ensured by today's multi-crew operations.

| | |
|-------------------------------|---|
| Status | New |
| SI | n/a |
| SRs | n/a |
| ICAO ref. | n/a |
| Other ref(s) | n/a |
| Dependencies | RES.0028 |
| Affected stakeholders | Pilots, aircraft operators (CAT), aircraft manufacturers, NCAs, ANSPs |
| Affected regulation(s) | Commission Regulation (EU) No 965/2012 Commission Regulation (EU) No 1178/2011 |
| Strategic priority | EPAS Volume I Section 3.4 |
| Harmonisation | No |

WORKING METHOD

| | | | |
|--------------|-----------------------------------|---------------------------------|---------------------|
| Owner | EASA FS.2 | Air OPS & Aerodromes Department | |
| SubT | Development | Impact Assessment(s) | Consultation |
| | By EASA with the support of a RMG | Detailed | NPA - Public |

PLANNING MILESTONES

| | | | | | |
|-------------|-------------------|---------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| | 2023 Q3 | 2025 | 2026 | 2027 | 2027 |



11. NEW TECHNOLOGIES AND CONCEPTS

RES.0028 Extended minimum-crew operations (eMCOs) - single-pilot operations risk assessment framework

Development of the risk assessment framework to assess the main hazards associated with the proposed concepts for reduced crew operations or single-pilot operations, investigation of hazard mitigation, and means to perform compliance demonstration.

| | | |
|------------------------------|---|---|
| Status | Ongoing | |
| SIs | n/a | |
| SRs | n/a | |
| Reference(s) | n/a | |
| Dependencies | n/a | |
| Affected stakeholders | Aircraft operators (CAT), flight crew, cabin crew, POA holders, DOA holders | |
| Owner | EASA SM.2 and CT | Strategy & Programmes Department Certification Directorate |

PLANNING MILESTONES

| Starting date | Interim report | Final report |
|----------------------|-----------------------|---------------------|
| 2022-Q3 | 2024-Q4 | 2025-Q3 |



11. NEW TECHNOLOGIES AND CONCEPTS

11.1.2 New products, systems, technologies, and operations

Issue/rationale

This section addresses the introduction of new designs, technologies or types of operation for which regulatory updates are needed, and highlights some of the most relevant trends that will influence aviation in the years to come.

What we want to achieve

Manage the safe introduction of new products, systems, technologies and operations, and continuously assess and mitigate the safety risks posed by new designs, technologies, or types of operation.

How we monitor improvement

The EASA ABs regularly provide feedback on the effectiveness of the activities.

How we want to achieve it: actions

RMT.0731 New air mobility

The current European regulatory framework for aviation safety has initially been designed for conventional fixed-wing aircraft, rotorcraft, balloons and sailplanes. The existing framework relies on the active contribution of human beings, increasingly assisted by automation, be it on board or on the ground. Propulsion is mostly provided by piston or turbine engines using fossil fuels.

The introduction of new technologies and air transport concepts (from multi-modal to autonomous vehicles) requires revisiting this framework. The purpose of this RMT is to develop rules or amend existing ones, where necessary, to address new technologies and operational air transport concepts, with the objective of adapting the regulatory framework to the performance-based regulation (PBR) principles. A general principle that will govern this RMT is that future requirements should be technology-neutral, where possible, while ensuring legal certainty.

This RMT leads to different streams of activities. The first stream was defined in 2019 in the field of continuing airworthiness requirements for electric and hybrid propulsion, indicated here below as Subtask 1. Based on current certification projects where the regulatory framework needs to be adapted (except for initial airworthiness), two other streams are now foreseen: gyroplanes and tilt rotors after the BIS consultations. Airships is a candidate for a future stream after the BIS consultation.

Potentially, more streams to cover other future projects will be added, including the development of CSs based on experience gained from certification projects applying special conditions (SCs) such as for VTOL aircraft or electric and hybrid propulsion.

- Subtask 1: Electric and hybrid propulsion

Continuing airworthiness requirements for electric and hybrid propulsion for all types of aircraft. It covers also conventional aircraft which are not addressed in the current CAW rules (gyroplanes, tilt rotors, airships). The activities in the context of this subtask are coordinated with those of RMT.0230.

Notes: VTOL capable aircraft electric propulsion aspects related to the ADR, ATM, FCL and AIR OPS domains are addressed through RMT.0230.

A first set of FCL and AIR OPS electric- and hybrid-propulsion-related requirements for other aircraft types are addressed through RMT.0678 (FCL) and RMT.0573 (AIR OPS - completed) respectively.



11. NEW TECHNOLOGIES AND CONCEPTS

RMT.0731 New air mobility• Subtask 2: Gyroplanes

FCL and AIR OPS Regulations to be amended. Related to a current certification project of a gyroplane being also a road vehicle, this subtask will also cover the regulatory aspects of aircraft being multi-modal vehicles (road, sea).

• Subtask 3: Tilt rotors

FCL, FSTD and AIR OPS Regulations to be amended.

Subtask 3 also addresses the topics previously included within RMT.0587 as relevant to the development of ECQB for airship pilot licences.

| | |
|-------------------------------|---|
| Status | Ongoing |
| SIs | n/a |
| SRs | n/a |
| ICAO ref. | n/a |
| Other ref(s) | BIS 'Electric and hybrid propulsion' BIS 'Road / gyroplanes' BIS 'Tilt rotors' |
| Dependencies | RMT.0230, RMT.0255, RMT.0678 |
| Affected stakeholders | All |
| Affected regulation(s) | Commission Regulation (EU) 1178/2011 Commission Regulation (EU) 1332/2011 Commission Regulation (EU) 965/2012 Commission Regulation (EU) 1321/2014 |
| Strategic priority | EPAS Volume I Section 3.4 |
| Harmonisation | No |

WORKING METHOD

| | | | |
|--------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Owner | EASA SM.2 | Strategy & Programmes Department | |
| SubT | Development | Impact Assessment(s) | Consultation |
| 1 | By EASA | Light | NPA - Public |
| 2 | By EASA with external support | Light | NPA - Public |
| 3 | To be determined at a later stage | To be determined at a later stage | To be determined at a later stage |

PLANNING MILESTONES

| | | | | | |
|-------------|---------------------------------------|---------------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| 1 | ToR RMT.0731 Issue 1 09/09/2020 | NPA 2021-15 21/12/2021 | 2023-Q3 | 2024 | 2024 |
| 2 | ToR RMT.0731 Issue 2 12/05/2021 | NPA 2021-12 15/11/2021 | 2023-Q3 | 2024 | 2024 |
| 3 | | tbd | tbd | tbd | tbd |

**11. NEW TECHNOLOGIES AND CONCEPTS****RES.0046 Digital transformation - case studies to prepare the evolution of aviation standards**

The three research projects aim to evaluate a series of changes applied to aviation products, processes and operations resulting from the deployment of new digital solutions with a focus on measuring the impact on safety standards and regulatory materials as well as to prepare their evolution. The project will build upon a series of case studies allowing to develop a comprehensive investigation of the key changes at stake, by developing several working examples (use cases and conceptual models), analysing the impact on the working processes, the safety management processes, and the existing regulatory standards. Such case studies will lead to the identification of key actions to be taken by safety regulators, service and solution providers to streamline the deployment of such innovative digital applications.

Lot 1: Modelling and Simulations

Case study 1: Application of the digital 'twin' concept for the design verification of VTOL aircraft and drones.

Lot 2: Virtualisation

Case study 2: Use of blockchain technologies for the management of aircraft parts throughout their life cycle.

Lot 3: Data Science Applications

Case study 3: Use of flight training data to support the application of evidence-based / competency-based training concepts.

Case study 4: Application of new analytical methods and techniques for fuel management (preflight/in-flight).

Case study 5: Data models for enhancing the use of operational or training data for safety.

The three research projects are funded by Horizon Europe under the 2nd Research Contribution Agreement with the European Commission.

| | | |
|------------------------------|---|----------------------------------|
| Status | Ongoing | |
| SlIs | n/a | |
| SRs | n/a | |
| Reference(s) | n/a | |
| Dependencies | n/a | |
| Affected stakeholders | Design and production organisations, digital solution developers, Aircraft operators – all, UAS operators, MOs, TOs, NCAs | |
| Owner | EASA SM.2 | Strategy & Programmes Department |

PLANNING MILESTONES

| Starting date | Interim report | Final report |
|----------------------|-----------------------|---------------------|
| 2021-Q2 | n/a | 2024 |



11. NEW TECHNOLOGIES AND CONCEPTS

RES.0051 Electric aircraft and hybrid propulsion

Assess the feasibility, the environmental benefits (incl. full life cycle assessment where appropriate) and the certifiability of the proposed designs for aircraft propulsion systems with integrated hybrid/electric engines and power generation architectures as well as subsystem enablers.

The action is realised through a series of projects funded by the EU Horizon 2020 programme:

- **IMOTHEP** *Investigation and Maturation of Technologies for Hybrid Electric Propulsion*: The core of IMOTHEP is an integrated end-to-end investigation of hybrid-electric power trains for commercial aircraft, performed in close connection with the propulsion system and aircraft architecture. Aircraft configurations will be selected based on their potential for fuel burn reduction and their representativeness of a variety of credible concepts, with a focus on regional and short-to-medium range missions. The project will also address the infrastructures and tools required for HEP development, as well as the need for technology demonstrations or regulatory evolution.
- **FUTPRINT50** *Future propulsion and integration: towards a hybrid-electric 50-seat regional aircraft*: Addresses the need to accelerate disruptive technologies in aviation to ensure carbon neutral growth commitment from FlightPath2050. It will develop tools, technologies and aircraft-level analysis for key hybrid-electric technologies supporting the entry into service of a 50-seat class aircraft towards 2035.
- **EASIER** *Electric Aircraft System Integration Enabler*: Challenges presented by aircraft electric propulsion requires the development of new airborne technologies that enable expanding the electrification technology trend already impacting other areas, like ground transportation or the autonomous generation/usage of electricity from renewables, to efficient and economical air transportation.
- **TRANSCEND** *Technology Review of Alternative and Novel Sources of Clean Energy with Next-generation Drivetrains*: Evaluates the environmental impact at aircraft and air transport level of alternative energy sources and novel propulsion technologies for aircraft with entry into service before 2050. In addition, TRANSCEND provides a TRL-based technology road map for promising propulsion technologies and a road map regarding economic viability and availability for the associated alternative energy sources.

MAHEPA *Modular Approach to Hybrid Electric Propulsion Architecture*: The overall objective of MAHEPA is to bridge the gap between the research and product stage of a low emission propulsion technology to meet the environmental goals for aviation towards the year 2050. Two variants of a low emission, high efficiency, serial-hybrid-electric propulsion architecture will be advanced to TRL 6: the first uses a hydrocarbon fuelled internal combustion engine and an electric generator as primary power source, while in the second a hydrogen fuel cell is used to produce power showcasing the flexibility of the architecture.

This project is completed; MAHEPA project results are available here: [RESULTS](#) | [Mahepa](#)

| | |
|------------------------------|--|
| Status | Ongoing |
| SlIs | n/a |
| SRs | n/a |
| Reference(s) | IMOTHEP: https://cordis.europa.eu/project/id/875006 , IMOTHEP project website FUTPRINT50: https://cordis.europa.eu/project/id/875551 EASIER: https://cordis.europa.eu/project/id/875504 TRANSCEND: https://cordis.europa.eu/project/id/864089 MAHEPA: https://cordis.europa.eu/project/id/723368 ; MAHEPA project website |
| Dependencies | n/a |
| Affected stakeholders | Aircraft operators - all, design organisations, NCAs |
| Owner | EASA SM.2 Strategy & Programmes Department |

| PLANNING MILESTONES | | |
|---------------------|----------------|--------------|
| Starting date | Interim report | Final report |
| 2022 Q4 | n/a | 2023-Q4 |



11. NEW TECHNOLOGIES AND CONCEPTS

11.1.3 SESAR deployment

Issue/rationale

This section includes the relevant EPAS actions on the implementation of the regulatory needs that support the modernisation of the Single European Sky ATM System, with the exception of SESAR items that are only relevant to UASs (and therefore are included in Chapter 10).

The European-wide harmonised implementation of the AAS architecture requires actions from many actors. The envisioned end result can only be achieved if all actions are taken in the right order. Not only the synchronisation between regulatory and technical/operational evolution is key, but also interdependencies between various actions need to be respected within the technical/operational evolution and Member States' involvement.

What we want to achieve

The rationale behind the following actions is to cater for the regulatory and implementation needs of the SESAR essential operational changes and other new technological advancements (such as but not limited to U-space technological solutions, virtualisation, cloud-based architecture, and remote tower operations) by enabling the use of new working methods, operational improvements and technologies developed by the SESAR project. Interoperability, civil-military cooperation and international compatibility (such as but not limited to ICAO GANP/ASBUs and FAA NextGen alignment) will form an integral part of EASA's work. In addition, consolidated and coordinated implementation support activities that facilitate the operational improvements and new ATM operational concepts need to be established.

How we monitor improvement

The EASA ABs regularly provide feedback on the effectiveness of the activities.

How we want to achieve it: actions



11. NEW TECHNOLOGIES AND CONCEPTS

RMT.0524 Data link services

The objective of RMT.0524 is to ensure that the operational improvements associated with the safety and efficiency of the communication between ATCOs and pilots via data link are met. Considering the close link with RMT.0161 activities, and to benefit from minimum changes to the data link Regulation, the task has been divided into the following subtasks:

- **Subtask 1:** The objective of this subtask is to address the amendment of CS-ACNS in relation to data link services. The execution of Subtask 1 is subject to availability and the positive EASA assessment of supporting industry standards.
- **Subtask 2:** The objective of this subtask is to review Regulation (EC) No 29/2009 (the SES interoperability Regulation) (implementing repealed Regulation (EC) No 552/2004) to adapt it to the EASA framework. The resulting regulatory proposal will be consulted jointly with Subtask 2 of RMT.0161.
- **Subtask 3:** This subtask aims to establish the related AMC and GM supporting the provisions introduced with Subtask 2 deliverables.
- **Subtask 4:** This subtask aims to establish the first set of the EASA detailed specifications (DSs) based on the existing interoperability DLS rules and the relevant DLS Community Specifications (e.g. based on ETSI EN 303 214). The resulting regulatory proposal will be consulted jointly with Subtask 3 of RMT.0161.

| | |
|---------------------|---|
| Status | Ongoing |
| SlIs | n/a |
| SRs | n/a |
| ICAO ref. | n/a |
| Other ref(s) | ATM Master Plan Level 3 - Plan (2022): ITY-AGDL - Initial ATC air-ground data link services |
| Dependencies | RMT.0161 |

Affected stakeholders NCAs, ANSPs, ADR operators, Air operators - all, design organisations, production organisations, pilots and ATCOs

Affected regulation(s) Commission Regulation (EC) No 29/2009
Commission Regulation (EU) No 1332/2011
Commission Implementing Regulation (EU) 2017/373
Commission Regulation (EU) No 965/2012
Commission Implementing Regulation (EU) 2015/310

Strategic priority EPAS Volume I Section 3.4 **Harmonisation** No

WORKING METHOD

| | | | |
|--------------|-------------------------------|-----------------------------|---------------------|
| Owner | EASA ED.4 | Air Traffic Department | |
| SubT | Development | Impact Assessment(s) | Consultation |
| 1 | By EASA | Light | NPA - Public |
| 2 | By EASA with external support | Light | NPA - Focused |
| 3 | By EASA | Light | NPA - Public |
| 4 | By EASA with external support | Light | NPA - Public |

PLANNING MILESTONES

| | | | | | |
|-------------|-----------------------------|---------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| 1 | ToRs RMT.0524 29/01/2018 | NPA 2023-Q1 | n/a | n/a | 2023-Q4 |
| 2 | | NPA 2023-Q1 | 2023-Q1 | 2023 | n/a |
| 3 | | NPA 2023-Q1 | n/a | n/a | 2023-Q3 |
| 4 | | NPA 2023-Q1 | n/a | n/a | 2023-Q3 |



11. NEW TECHNOLOGIES AND CONCEPTS

RMT.0624 Remote aerodrome air traffic services

The development and introduction of new technologies enables the provision of aerodrome ATS (aerodrome ATC service or aerodrome FIS) from geographically independent locations/facilities that are equipped with visual surveillance systems instead of direct visual observation.

As a follow-up of the substantial work undertaken to produce, develop and further expand soft law on the provision of remote aerodrome ATS, EASA intends to maintain its regulatory framework up to date with the evolution of the remote/virtual tower concept. The purpose of RMT.0624 remains to support the safe implementation of the newest developments as regards the provision of this type of ATS.

| | |
|-------------------------------|--|
| Status | Ongoing |
| SlS | n/a |
| SRs | n/a |
| ICAO ref. | n/a |
| Other ref(s) | ATM Master Plan (Level 3 Edition 2019) action AOP14 (Remote Tower Services) |
| Dependencies | n/a |
| Affected stakeholders | NCAs, ANSPs, ADR operators |
| Affected regulation(s) | Regulation (EU) 2018/1139 Commission Implementing Regulation 2017/373 Commission Regulation (EU) No 139/2014 Commission Regulation (EU) No 923/2012 |
| Strategic priority | EPAS Volume I Section 3.4 |
| Harmonisation | No |

WORKING METHOD

| | | | |
|--------------|----------------------------|-----------------------------|---------------------|
| Owner | EASA ED.4 | Air Traffic Department | |
| SubT | Development | Impact Assessment(s) | Consultation |
| | EASA with external support | Light | NPA - Public |

PLANNING MILESTONES

| | | | | | |
|-------------|----------------------------|---------------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| | ToR RMT.0624 11/12/2019 | NPA 2022-02 02/05/2022 | n/a | n/a | 2023-Q1 |

**11. NEW TECHNOLOGIES AND CONCEPTS****RMT.0682 Implementation of the regulatory needs in support of the SESAR deployment**

The objective of the task is the development of the regulatory enablers, as required to facilitate the safe, efficient, interoperable and timely deployment of the operational improvements based on the SESAR solutions stemming from the European ATM MP, the AAS, as well as the associated WPGR recommendations.

For this purpose, this task addresses those issues which are not covered by other specific RMTs.

The objective of the initial subtask is detailed as follows:

Subtask 1: To amend the applicable EU regulatory framework (in particular Regulation (EC) No 1322/2011 (ACAS Regulation)) to permit the operation of aeroplanes equipped with either ACAS II version 7.1 or ACAS Xa within the European airspace and to amend Regulation (EU) 2018/1048 (the PBN Regulation) to address identified PBN operational issues.

| | |
|-------------------------------|---|
| Status | Ongoing |
| SlIs | n/a |
| SRs | n/a |
| ICAO ref. | n/a |
| Other ref(s) | This RMT considers the recommendations stemming from the WPGR and the AAS and supports eight of the EOCs of the ATM MP fourth edition |
| Dependencies | RMT.0161 |
| Affected stakeholders | Providers of ATM/ANS (ANSPs); Air operators - all; ADR operators; aircraft and system/equipment manufacturers; Member States (MSs); NCAs (including military); POA holders; TOs |
| Affected regulation(s) | Commission Implementing Regulation (EU) 2018/1048 |
| Strategic priority | No |
| Harmonisation | No |

WORKING METHOD

| | | | |
|--------------|----------------------------|-----------------------------|---------------------|
| Owner | EASA ED.4 | Air Traffic Department | |
| SubT | Development | Impact Assessment(s) | Consultation |
| 1 | EASA with external support | Light | NPA - Focused |

PLANNING MILESTONES

| | | | | | |
|-------------|----------------------------|---------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| 1 | ToR RMT.0682 10/12/2019 | NPA 2023-Q1 | 2023-Q3 | 2024 | 2024 |



11. NEW TECHNOLOGIES AND CONCEPTS

11.1.4 All-weather operations (AWOs)

Issue/rationale

AWOs are currently addressed by regulations in the following aviation domains: airworthiness, air operations, aircrew, aerodromes, ATM/ANS, as well as in the standardised European rules of the air (SERA). The existing provisions in these domains have a number of deficiencies that need to be addressed. Work on AWOs will allow to sufficiently address technological advancements, align with the ICAO SARPs (e.g. ICAO Annex 6 amendments introducing lower category (CAT) II and CAT III minima and the concept of operational credits, in particular for operations with vision systems), increase consistency of the provisions across the different domains, carry out cross-domain risk assessments, ensure that better weather information is provided to pilots, as well as harmonise with the FAA and other regulators.

What we want to achieve

The European industry should be enabled to take full advantage of the safety and economic benefits generated through new technologies and operational experience.

How we monitor improvement

Continuous monitoring of the safety issues related to AWOs will be ensured on the basis of the CAT Safety Risk Portfolio for CAT operations with aeroplanes and NCC operations. The EASA ABs regularly provide feedback on the effectiveness of the related activities.

How we want to achieve it: actions

SPT.0114 Promote the availability of enhanced meteorological information and uplink connectivity

Help to mitigate the risks of weather-related occurrences through the promotion of the availability of enhanced meteorological information and uplink connectivity to support in-flight updates of meteorological information to airlines, ANSPs and other relevant organisations.

| | | |
|------------------------------|---|--|
| Status | Ongoing | |
| SIs | SI-0001 | Icing in flight |
| | SI-4008 | Inadvertent flight into IMC/scud running |
| SRs | n/a | |
| Reference(s) | EASA BIS 'Weather Information to Pilots (CAT - Fixed Wing)' | |
| Dependencies | SPT.0119 | |
| Affected stakeholders | Aircraft operators, pilots, ANSPs | |
| Owner | EASA SM.1 | Safety Intelligence & Performance Department |

EXPECTED OUTPUT

| Deliverable(s) | Timeline |
|---|----------|
| Web material, videos, social media, and outreach events | 2023-Q1 |

**11. NEW TECHNOLOGIES AND CONCEPTS****11.2 Efficiency/proportionality****RMT.0737 Enabling electronic personnel licensing in Europe**

The strategic goal of this RMT is to introduce electronic personnel licences (EPLs) (referred to as ‘Digital Licenses for Aviation Pilots -(dLAP)’ in past EPAS editions) for flight and cabin crews, air traffic controllers (ATCOs) and Part-66 aircraft maintenance licence holders which will be harmonised across Europe and will be globally accepted, based on compliance with the applicable ICAO SARPs.

The specific objective of this RMT is to develop requirements for the implementation of EPLs in the EU regulatory framework in order to:

1. enable the issue, display, validation and verification of an EU EPL on self-contained visual mobile electronic devices (the EPL will be optional to the hard-copy paper licence; nevertheless, the Member States’ national competent authorities will have an obligation to accept valid EPLs issued by other Member States);
2. ensure security, confidentiality, data protection, integrity, authentication, and accessibility of the EPL;
3. guarantee interoperability of the EPL between different issuing and verifying national competent authorities and other affected stakeholders;
4. transpose ICAO Annex 1 SARPs related to the EPL (Amendment 178 to ICAO Annex 1) into the relevant EU regulations.

In order to transpose these ICAO SARPs into the EU regulatory framework, amendments to the following regulations are envisaged:

- Regulation (EU) No 1178/2011 with regard to aircrews;
- Regulation (EU) 2015/340 with regard to ATCOs;
- Regulation (EU) No 1321/2014 on the continuing airworthiness of aircraft and aeronautical products, parts and appliances, and on the approval of organisations and personnel involved in these tasks.

| | |
|-------------------------------|---|
| Status | Ongoing |
| SlS | n/a |
| SRs | n/a |
| ICAO ref. | Amendment 178 to ICAO Annex 1 |
| Other ref(s) | n/a |
| Dependencies | n/a |
| Affected stakeholders | NCA; pilots, including remote pilots; cabin crews; instructors; examiners; training organisations; aircraft operators; aero-medical examiners (AMEs); aero-medical centres (AeMCs); air traffic controllers (ATCOs); Part-66 aircraft maintenance licence holders |
| Affected regulation(s) | Commission Regulation (EU) No 1178/2011 Commission Regulation (EU) No 1321/2014 Commission Regulation (EU) 2015/340 |
| Strategic priority | EPAS Volume I Section 3.4 |
| Harmonisation | Yes |

WORKING METHOD

| | | | |
|--------------|-------------------------------|------------------------------|---------------------|
| Owner | EASA FS.3 | Aircrew & Medical Department | |
| SubT | Development | Impact Assessment(s) | Consultation |
| | By EASA with external support | Light | NPA - Public |

PLANNING MILESTONES

| | | | | | |
|-------------|----------------------------|---------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| | ToR RMT.0737 20/09/2022 | 2023-Q4 | 2024 | 2025 | 2025 |

12. Environmental protection





12. Environmental protection

Refer to EPAS Volume I Section 3.5 'Environment'

Environmental protection and sustainability are key challenges for the aviation industry, Member States, the European Commission and EASA. Sustainable aviation is to a large degree also depending on combatting climate change and reducing the effects of aircraft noise and air pollution on human health. This needs to be considered in the global context in order to ensure a level playing field for European industry to remain competitive in a rapidly changing world. Environmental standards are key to achieving this.

EASA helps tackle the challenge of ensuring a cleaner, quieter and more sustainable future for the aviation system, including supporting the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).

The information below concerns the status of environmental standards. For the full picture, including stakeholder actions and market-based measures, see the European Aviation Environmental Report (EAER)⁵⁴, which provides an overview of the historic, current and forecast environmental performance of the European aviation sector.

In February 2019, the ICAO Committee on Aviation Environmental Protection (CAEP) agreed on a new nvPM emissions standard and proposed improvements to the existing noise, aircraft engine emissions and aeroplane CO₂ emissions standards and guidance. As European environmental standards are defined by reference to ICAO standards, the agreed updates to the environmental standards as well as guidance will need to be incorporated into the European regulatory framework in order to be implemented in Europe.

The actions to implement the ICAO standards in Europe will be adjusted and detailed once the outcome of the ICAO adoption process is communicated in the final version of the ICAO State Letters.

12.1 Standards on noise, local air quality and climate change

Issue/rationale

Implement the ICAO Annex 16 Volume I, II and III standards in Europe.

What we want to achieve

Align:

- the Basic Regulation;
- the implementing rules (Regulation (EU) No 748/2012);
- the AMC and GM to the implementing rules; and
- CS-34, CS-36 and CS-CO₂

with the ICAO SARPs and guidance material resulting from the latest CAEP work cycle.

How we monitor improvement

Continuous monitoring of the ICAO adoption process.

Continuous monitoring of the ICAO/CAEP work related to Annex 16 Volume I, II and III.

Monitoring of the aviation environmental impact through the EAER.

How we want to achieve it: actions

54 [2022 EAER Report: High Resolution](#)

**12. ENVIRONMENTAL PROTECTION****RMT.0514 Implementation of the CAEP amendments**

This task deals with the implementation of the CAEP ICAO SARPs and will align:

- the Basic Regulation;
- the implementing rules (Regulation (EU) No 748/2012);
- the AMC and GM to the implementing rules; and
- CS-34, CS-36 and CS-CO₂

with the ICAO SARPs and guidance material resulting from the CAEP work cycles.

The implementation of the CAEP/10 ICAO SARPs (RMT.0513 and RMT.0514) was finalised under Subtask 0 for the AMC and GM to Part 21 and for CS-34, CS-36 and CS-CO₂ through the publication of Commission Delegated Regulation (EU) 2019/897⁵⁵ on 03/06/2019, and of Decisions 2019/014/R, 2019/015/R and 2019/016/R on 01/08/2019.

Subtask 1 was finalised with the publication of Commission Delegated Regulations (EU) 2021/1087⁵⁶ and 2021/1088⁵⁷ on 05/07/2021, and of Decision 2021/011/R on 14/07/2021.

Under Subtask 2, EASA will address the implementation of the CAEP/12 ICAO SARPs.

| | |
|-------------------------------|---|
| Status | Ongoing |
| Sl | n/a |
| SRs | n/a |
| ICAO ref. | Annex 16 |
| Other ref(s) | CS-34, CS-36, CS-CO ₂ |
| Dependencies | n/a |
| Affected stakeholders | DOA holders, POA holders |
| Affected regulation(s) | Regulation (EU) 2018/1139 (Article 9) Commission Regulation (EU) No 748/2012 |
| Strategic priority | EPAS Volume I Section 3.5 |
| Harmonisation | No |

WORKING METHOD

| | | | |
|--------------|--------------------|---|---------------------|
| Owner | EASA CT.5 | Policy, Innovation & Knowledge Department | |
| SubT | Development | Impact Assessment(s) | Consultation |
| 2 | By EASA | Light | NPA – Public |

PLANNING MILESTONES

| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
|------|----------------------------|----------------|---------|---------------|----------|
| 2 | ToR RMT.0514 13/06/2016 | NPA 2023-Q4 | 2024 | 2025 | 2025 |

55 <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32019R0897>

56 <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32021R1087>

57 <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32021R1088>

**12. ENVIRONMENTAL PROTECTION****RMT.0733 Environmental protection requirements for supersonic transport aeroplanes**

This RMT will deal with the development of environmental protection certification requirements for supersonic transport (SST) aeroplanes, including landing-and-take-off (LTO) noise requirements and CO2 emissions requirements. In the absence of environmental protection standards from ICAO for the above-mentioned areas, the definition of environmental protection certification requirements for SST aeroplanes is based on the essential requirements for environmental compatibility set out in Article 9(2) of and in Annex III to the Basic Regulation.

EASA published Advance Notice of Proposed Amendment (A-NPA) 2022-05⁵⁸ on 25 May 2022 to present the initial concepts and preliminary draft requirements for landing-and-take-off (LTO) noise and CO2 emissions of SST aeroplanes. The feedback received during the consultation is used to further develop the approach for consideration at ICAO (CAEP/13) in the framework of future updates to ICAO Annex 16. Hence, the rest of the timeline is shown as 'tbd' below.

Depending on progress of ICAO environmental rulemaking for supersonic aeroplanes this RMT may be reactivated in the future.

| | |
|-------------------------------|--|
| Status | On hold |
| Sl | n/a |
| SRs | n/a |
| ICAO ref. | n/a |
| Other ref(s) | n/a |
| Dependencies | RES.0025, RMT.0727 |
| Affected stakeholders | SST aeroplane airframe and engine manufacturers, SST aeroplane operators Member States, NCAs |
| Affected regulation(s) | Regulation (EU) 2018/1139 (Article 9) Commission Regulation (EU) No 748/2012 |
| Strategic priority | EPAS Volume I Section 3.5 |
| Harmonisation | No |

WORKING METHOD

| | | | | |
|--------------|--------------------|---|--|-----------------------------------|
| Owner | EASA CT.4 | Environment & Propulsion Systems Department | | |
| SubT | Development | Impact Assessment(s) | | Consultation |
| | By EASA | To be determined at a later stage | | To be determined at a later stage |

PLANNING MILESTONES

| | | | | | |
|-------------|----------------------------|-------------------------------|----------------|----------------------|-----------------|
| SubT | Initiation | Consultation | Opinion | Commission IR | Decision |
| | ToR RMT.0733 16/12/2021 | 2022-05 (A-NPA) 25/05/2022 | tbd | tbd | tbd |

58 <https://www.easa.europa.eu/en/document-library/notices-of-proposed-amendment/npa-2022-05>

**12. ENVIRONMENTAL PROTECTION****RES.0024 Assessment of environmental impacts engine emissions**

The objective of this research project is to improve the ICAO Annex 16 Volume II engine emissions sampling and measurement requirements for nvPM mass and number, and to propose more robust practices.

The work aims to:

1. analyse the relative share of aircraft fitted with engines not regulated for nvPM in operations and emissions at individual European aerodromes;
2. propose and test new or novel sampling designs and measurement techniques taking into account latest technological advances;
3. measure gaseous emissions (e.g. NO_x, HC, CO, CO₂), smoke emissions, nvPM mass and number emissions, nvPM particle size for both regulated and non-regulated engines (e.g. small turbofan engines with a rated thrust below 26.7 kN, turboprop, turboshaft).

This research project is funded by Horizon 2020 under the 1st Research Contribution Agreement with the European Commission.

| | |
|------------------------------|--|
| Status | Ongoing |
| SIs | n/a |
| SRs | n/a |
| Reference(s) | Environmental Research - Engine Emissions EASA (europa.eu) |
| Dependencies | n/a |
| Affected stakeholders | DOA holders, air operators (CAT) |
| Owner | EASA SM.2 Strategy & Programmes Department |

PLANNING MILESTONES

| Starting date | Interim report | Final report |
|----------------------|--|---------------------|
| 2020-Q3 | The deliverables are publicly available on the project's webpage of the EASA website (cf. 'References(s)') | 2024 |

**12. ENVIRONMENTAL PROTECTION****RES.0025 Assessment of environmental impacts - rotorcraft noise**

The objective of this project is the development of extended and more robust standards for the purpose of supporting the assessment of aircraft noise footprints.

The focus will be to:

- extend the Noise Related Annoyance, Cognition, and Health (NORAH) noise propagation modelling capabilities to account for example for urban environments, varied terrain and vegetation, and weather effects;
- enhance the NORAH source modelling capabilities, covering a wider range of flight conditions than that available in the noise database;
- prepare for the rotorcraft noise tests, including optimisation and update of the generic noise test plan to cover additional flight modes (e.g. hover), identification and prioritisation of the rotorcraft for the noise tests (including EVTOL) ensuring a good coverage of the European fleet, investigation of the availability and costs for renting rotorcraft and test sites;
- expand the helicopter types in the NORAH hemisphere repository by dedicated noise testing;
- implement the revised noise modelling methodology into a new software;
- validate the NORAH modelling method against benchmark data.

The project is funded by Horizon 2020 under the 1st Research Contribution Agreement with the European Commission.

| | |
|------------------------------|---|
| Status | Ongoing |
| SIs | n/a |
| SRs | n/a |
| Reference(s) | https://www.easa.europa.eu/research-projects/environmental-research-rotorcraft-noise |
| Dependencies | n/a |
| Affected stakeholders | DOA holders and organisations intending to develop new aircraft concepts (VTOL capable aircraft, SST aeroplanes, etc.) |
| Owner | EASA SM.2 Strategy & Programmes Department |

| PLANNING MILESTONES | | |
|---------------------|----------------|--------------|
| Starting date | Interim report | Final report |
| 2020-Q2 | n/a | 2024 |

**12. ENVIRONMENTAL PROTECTION****RES.0049 Non-CO₂ emissions: assessment of climate impact and policy options**

The objective of this project is the assessment of the climate impact of non-CO₂ emissions and the development of policy options.

It will entail the following:

- Consolidation of scientific knowledge and reduction in uncertainties related to the impact of aviation non-CO₂ emissions on climate.
- Support the coordination of ongoing and planned research initiatives addressing the scientific knowledge gaps and the identified mitigation measures to the climate impact.
- Enhanced quantification methods and tools used for non-CO₂ emissions inventories, environmental impact assessment and evaluation of policy options.

Ongoing projects funded by Horizon 2020.

Further projects planned under the Horizon Europe and the SESAR3 programmes:

ACACIA <https://www.acacia-project.eu/>

ALTERNATE <https://www.alternateproject.com/>

CLIMOP <https://www.climop-h2020.eu/>

| | | |
|------------------------------|---|----------------------------------|
| Status | Not started | |
| SIs | n/a | |
| SRs | n/a | |
| Reference(s) | n/a | |
| Dependencies | n/a | |
| Affected stakeholders | Aircraft manufacturers and OEMs, air operators, ANSPs, NCAs | |
| Owner | EASA SM.2 | Strategy & Programmes Department |

| PLANNING MILESTONES | | |
|---------------------|----------------|--------------|
| Starting date | Interim report | Final report |
| 2023 | n/a | 2026 |

**12. ENVIRONMENTAL PROTECTION****RES.0052 Noise/emissions standards for supersonic aircraft**

Develop a thorough understanding and detailed modelling methods for emissions, noise levels (including sonic boom), landing and take-off phases, and the global environmental impact of supersonic aircraft.

Contribute to the development of international standards for supersonic flights.

The action is realised through a series of projects funded by the EU Horizon 2020 programme; further information is available at:

SENECA project: <https://cordis.europa.eu/project/id/101006742>

MOREandLESS: <https://cordis.europa.eu/project/id/101006856>

| | |
|---------------------|---------|
| Status | Ongoing |
| SIs | n/a |
| SRs | n/a |
| Reference(s) | n/a |
| Dependencies | n/a |

Affected stakeholders Aircraft manufacturers and OEMs, air operators, NCAs

Owner EASA SM.2 Strategy & Programmes Department

| PLANNING MILESTONES | | |
|---------------------|----------------|--------------|
| Starting date | Interim report | Final report |
| 2021-Q1 | n/a | 2024 |

In addition to the above, the following RMT is also relevant:

RMT.0727 Alignment of Part 21 with Regulation (EU) 2018/1139 (including simple and proportionate rules for General Aviation)

The full description of this action is included in [Chapter 6](#).



12. ENVIRONMENTAL PROTECTION

12.2 Market-based measures

Issue/rationale

The adoption of the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) by ICAO in 2016 was the first time a single industry sector agreed to a global market-based measure in the field of climate action. It is forecast that CORSIA will mitigate between 460 and 2000 million tonnes of CO₂ emissions between 2021 and 2035, making CORSIA one of the largest carbon pricing instruments in the world in terms of greenhouse gas emissions coverage.

The CORSIA monitoring, reporting and verification system, which started on 1 January 2019, is important as it will establish the emissions baseline from which growth will be measured for the first carbon offsetting obligations in 2021.

At the time of writing, 115 States have volunteered to start offsetting their CO₂ emissions under CORSIA from January 2023⁵⁹; others are expected to follow in 2027 when the scheme becomes mandatory.

What we want to achieve

Support the preparation of the CORSIA implementation through the development of standard methods and tools for the assessment of global emissions units and the related offsetting requirements.

How we monitor improvement

The EASA ABs regularly provide feedback on the effectiveness of the related activities.

How we want to achieve it: actions

RES.0026 Market-based measures (ETS⁶⁰ and CORSIA)

The objective of this research project is to extend and update the existing capabilities for the assessment of market-based measures, e.g. EU Emissions Trading System (ETS) and ICAO CORSIA, notably to cater for new traffic data and forecasts, handling of novel scenarios and measures, ensuring their fitness for purpose and credibility for supporting critical policy-making both at European (European Commission, EU Member States) and international (ICAO) level.

| | |
|------------------------------|---|
| Status | Ongoing |
| SIs | n/a |
| SRs | n/a |
| Reference(s) | https://www.easa.europa.eu/research-projects/environmental-research-market-based-measures |
| Dependencies | n/a |
| Affected stakeholders | Air operators |
| Owner | EASA SM.2 Strategy & Programmes Department |

PLANNING MILESTONES

| Starting date | Interim report | Final report |
|---------------|----------------|--------------|
| 2020-Q2 | n/a | 2024 |

59 [CORSIA States for Chapter 3 State Pairs \(icao.int\)](https://www.icao.int)

60 <https://www.emissions-euets.com/carbon-market-glossary/872-european-union-emissions-trading-system-eu-ets>

Appendixes





Appendix A:

Rulemaking and safety promotion deliverables published in 2022

Rulemaking deliverables:

ToRs

| Reference | Title | Task number |
|----------------------------|---|-------------|
| ToR RMT.0737 20/09/2022 | Enabling electronic personnel licensing in Europe | RMT.0737 |

NPAs and A-NPAs

| Reference | Title | Task number |
|-----------------------------|--|-------------|
| NPA 2022-01 14/02/2022 | Regular update of the Certification Specifications for Small Rotorcraft (CS-27), and Large Rotorcraft (CS-29) | RMT.0128 |
| NPA 2022-02 02/05/2022 | Remote aerodrome air traffic services | RMT.0624 |
| NPA 2022-03 11/05/2022 | Reduction in accidents caused by failures of critical rotor and rotor drive components through improved vibration health monitoring systems | RMT.0711 |
| A-NPA 2022-05 25/05/2022 | Environmental protection requirements for supersonic transport aeroplanes | RMT.0733 |
| NPA 2022-04 25/05/2022 | Regular update of the SERA regulatory framework (IRs and AMC & GM) | RMT.0476 |
| NPA 2022-06 30/06/2022 | Introduction of a regulatory framework for the operation of drones - Enabling innovative air mobility with manned VTOL-capable aircraft, the IAW of UAS subject to certification, and the CAW of those UAS operated in the 'specific' category | RMT.0230-C1 |
| NPA 2022-07 06/07/2022 | Regular update of CS-25 | RMT.0673 |
| NPA 2022-08 25/07/2022 | Analysis of on-ground wing contamination effect on take-off performance degradation | RMT.0118 |
| NPA 2022-09 16/08/2022 | Establishment of a regulatory framework on the conformity assessment of ATM/ANS systems and ATM/ANS constituents (ATM/ANS equipment) (Subtask 1) | RMT.0161 |
| NPA 2022-10 11/11/2022 | Improvement in the survivability of rotorcraft occupants in the event of a crash - Phase 1 - Crash resistant fuel systems | RMT.0710 |
| NPA 2022-11 20/12/2022 | Regular update of the Air Operations rules: lessons learnt from standardisation inspections, helicopter operation issues, and transposition of several ICAO SARPs | RMT.0392 |

**APPENDIX A: RULEMAKING AND SAFETY PROMOTION DELIVERABLES PUBLISHED IN 2022****OPINIONS**

| Reference | Title | Task number |
|-------------------------------------|---|----------------------|
| Opinion No 01/2022 08/02/2022 | Large aeroplane tyre pressure monitoring Helicopter ditching and water impact occupant survivability Conversion of Class D compartments | RMT.0120 RMT.0586 |
| Opinion No 02/2022 25/04/2022 | Update of Commission Regulation (EU) No 452/2014 (Third-Country Operator (TCO) Regulation) | RMT.0736 |
| Opinion No 03/2022 27/04/2022 | Amendments to the aeronautical data catalogue and the aeronautical information publication structure and content | RMT.0719 |
| Opinion No 04/2022 14/07/2022 | Repository of aviation-related information (Article 74 of the Basic Regulation) | RMT.0732 |
| Opinion No 05/2022 01/09/2022 | Regular update of air operation rules — Postponement of the requirements for locating an aircraft in distress | RMT.0392-1c |
| Opinion No 06/2022 02/09/2022 | Enhanced mobility options and streamlined qualifications for air traffic controllers | RMT.0668-1/2 |
| Opinion No 07/2022 06/09/2022 | Review of Part-66 and new training methods and new teaching technologies | RMT.0255 RMT.0281 |
| Opinion No 08/2022 26/09/2022 | Helicopter emergency medical service performance and public interest sites | RMT.0325 |

DECISIONS

| Reference | Title | Type | Task number |
|--------------------------|--|--------|----------------------|
| 2022/001/R 26/01/2022 | Regular update of AMC-20 - AMC-20 Amendment 23 | CSs | RMT.0643 |
| 2022/002/R 09/02/2022 | Regular update of the AMC & GM to Regulation (EU) 2019/947: AMC & GM to Regulation (EU) 2019/947 - Issue 1, Amendment 2 AMC & GM to the Annex to Regulation (EU) 2019/947 - Issue 1, Amendment 2 | AMC/GM | RMT.0730 |
| 2022/003/R 15/02/2022 | Certification Specifications for Simulator Data (CS-SIMD) | CSs | RMT.0688 |
| 2022/004/R 14/03/2022 | Air traffic management/air navigation services Common Requirements and Update of the AMC & GM on occurrence reporting and on meteorological services | AMC/GM | RMT.0681 RMT.0719 |
| 2022/005/R 25/03/2022 | Fuel/energy planning and management - fuel schemes | IRs | RMT.0573 |
| 2022/006/R 29/03/2022 | Certification Specifications and Guidance Material for Aerodrome Design (CS-ADR-DSN) | CSs | RMT.0591 |
| 2022/007/R 30/03/2022 | Certification specifications, including airworthiness codes and acceptable means of compliance, for all-weather operations - CS-AWO Issue 2 | CSs | RMT.0379/1b |
| 2022/008/R 05/04/2022 | Regular update of CS-ACNS | CSs | RMT.0519 |



APPENDIX A: RULEMAKING AND SAFETY PROMOTION DELIVERABLES PUBLISHED IN 2022

| Reference | Title | Type | Task number |
|--------------------------|--|------------|----------------------|
| 2022/009/R 27/04/2022 | CS-STAN Issue 4 | CSs | RMT.0690 |
| 2022/010/R 02/05/2022 | CS-29 - Amendment 10 - corrigendum | n/a | RMT.0725 |
| 2022/011/R 10/05/2022 | Amendment of the AMC & GM to Commission Regulation (EU) No 1321/2014 SMS in Part-145 and Occurrence reporting | AMC/GM | RMT.0251 RMT.0681 |
| 2022/012/R 30/06/2022 | All-weather operations - AMC & GM to air operations rules | AMC/GM | RMT.0379 |
| 2022/013/R 06/07/2022 | All-weather operations - AMC & GM to aerodrome rules | AMC/GM | RMT.0379 |
| 2022/014/R 19/08/2022 | Update of ORO.FC - review of crew training provisions | AMC/GM | RMT.0599 |
| 2022/015/R 29/08/2022 | Aeronautical information publication - AMC & GM to the ATM/ANS rules | AMC/GM | RMT.0719 |
| 2022/016/R 29/08/2022 | Aeronautical information publication - AMC & GM to the Aerodromes rules | AMC/GM | RMT.0719 |
| 2022/017/R 02/09/2022 | Continuing airworthiness management in a single air carrier business grouping | AMC/GM | RMT.0734 |
| 2022/018/R 06/09/2022 | Regular update of CS-ETSO and ETSO for electrical hoist equipment | AMC/GM | RMT.0457 RMT.0709 |
| 2022/019/R 06/09/2022 | Large aeroplane tyre pressure monitoring Helicopter ditching and water impact occupant survivability | IRs | RMT.0120 RMT.0586 |
| 2022/020/R 04/11/2022 | Amendments to the SERA radiotelephony phraseologies for pilot–air traffic controller voice communications AMC and GM to the rules of the air - Issue 1, Amendment 5 | AMC/GM | RMT.0476 |
| 2022/021/R 19/12/2022 | Embodiment of safety management system and occurrence-reporting requirements into Part 21 — Amendment to the Acceptable Means of Compliance and Guidance Material to Part 21 | pending IR | RMT.0251 |
| 2022/022/R 20/12/2022 | AMC and GM to Implementing Regulation (EU) 2021/664 - Issue 1 | AMC/GM | RMT.0230 |
| 2022/023/R 20/12/2022 | AMC and GM to Part-ATS - Issue 1, Amendment 4 | AMC/GM | RMT.0230 |
| 2022/024/R 20/12/2022 | AMC and GM to the rules of the air - Issue 1, Amendment 6 | AMC/GM | RMT.0230 |

Safety promotion deliverables

| Task number | Title | Link to published material |
|-------------|---|--|
| SPT.0082 | Support the development and implementation of flight crew operating manuals (FCOMs) for offshore helicopter operations | https://www.heli offshore.org/s/Flightpath-Management-RP-v20.pdf |
| SPT.0094 | Helicopter safety and risk management | https://vast.aero/safety-toolbox/ https://www.easa.europa.eu/community/content/safety-topics-z |
| SPT.0108 | Promotion of the new European provisions on performance-based navigation and the associated ATM Master Plan essential operational changes | https://www.easa.europa.eu/community/topics/performance-based-navigation |



APPENDIX A: RULEMAKING AND SAFETY PROMOTION DELIVERABLES PUBLISHED IN 2022

| Task number | Title | Link to published material |
|-------------|--|---|
| SPT.0110 | Standardisation of flight examiners | https://www.easa.europa.eu/document-library/general-publications/flight-examiners-manual-fem |
| SPT.0112 | Flight data monitoring (FDM) precursors of operational safety risks | Pending |
| SPT.0113 | Flight data monitoring (FDM) analysis techniques | EOFDM WGC - Flight data monitoring, analysis techniques and principles (Initial issue, unedited) https://www.easa.europa.eu/en/downloads/134273/en |
| SPT.0122 | Safe return to operations - Ramp up safely | https://www.easa.europa.eu/community/content/stronger-safer-together |
| SPT.0123 | Reinforce the appropriate reactions of flight crews in response to an airborne collision avoidance system (ACAS) resolution advisories (RAs) | Pending |



APPENDIX B: RULEMAKING DELIVERABLES PLANNED FOR 2023

Appendix B:

Rulemaking deliverables planned for 2023

ToRs

| Nr | Baseline quarter | Task number | Task title |
|----|------------------|--------------|--|
| 1 | Q4 | RMT.0599 ST2 | Update of Subpart FC of Part-ORO (evidence-based training) |
| 2 | Q3 | RMT.0735 | Regular update of the CAW regulation |
| 3 | Q4 | RMT.0738 | Next generation of air traffic controller licensing rules (IRs and AMC and GM) |
| 4 | Q3 | RMT.0739 | Introduction of extended minimum-crew operations (eMCO) |

NPAs and other consultations:

| Nr | Baseline quarter | Task number | Task title |
|----|------------------|-----------------|--|
| 1 | Q3 | RMT.0031 | Regular update of AMC & GM to Part 21 |
| 2 | Q2 | RMT.0161 ST3 | Conformity assessment |
| | | RMT.0524 ST1 | Data link services |
| 3 | Q2 | RMT.0161 ST4 | Conformity assessment |
| 4 | Q4 | RMT.0194 | Modernisation and simplification of the European pilot licensing and training system and improvement of the supply of competent flight instructors |
| 5 | Q4 | RMT.0230 | Introduction of a regulatory framework for the operation of drones – continued |
| 6 | Q1 | RMT.0392 | Regular update of air operation rules |
| 7 | Q3 | RMT.0499 | Regular update of CS-MMEL |
| 8 | Q4 | RMT.0514 | Implementation of the CAEP amendments |
| 9 | Q1 | RMT.0524 ST3, 4 | Data link services |
| 10 | Q2 | RMT.0544 | Review Part-147 |
| 11 | Q4 | RMT.0719 | Regular update of air traffic management/air navigation services rules (IRs and AMC & GM) |
| 12 | Q1 | RMT.0720 | Management of information security risks |
| 13 | Q4 | RMT.0724 | Improvement of operating information provided to rotorcraft flight crew |
| 14 | Q4 | RMT.0725 | Rotorcraft chip detection system |
| 15 | Q4 | RMT.0729 | Regular update of Regulations (EU) 2019/945 and 2019/947 (drones in the 'open' and 'specific' categories) |
| 16 | Q4 | RMT.0737 | Enabling electronic personnel licensing in Europe |
| 17 | Q1 | RMT.0492 ST2 | Development of FTL rules for CAT operations of emergency medical services by aeroplanes (AEMS) |



APPENDIX B: RULEMAKING DELIVERABLES PLANNED FOR 2023

Decisions:

| Nr | Baseline quarter | Task number | Task title |
|----|------------------|-------------------|---|
| 1 | Q1 | RMT.0230 ST B | Introduction of a regulatory framework for the operation of drones |
| 2 | Q1 | RMT.0392 | Regular update of the air operations rules |
| 3 | Q1 | RMT.0624 | Remote aerodrome air traffic services |
| 4 | Q1 | RMT.0687 ST1 | Regular update of CS-23 |
| 5 | Q1 | RMT.0128 | Regular update of the Certification Specifications for Small Rotorcraft (CS-27), and Large Rotorcraft (CS-29) |
| | | RMT.0712 | Enhancement of the safety assessment processes for rotorcraft designs |
| 6 | Q1 | RMT.0730 ST2 | Regular update of the AMC & GM to Regulations (EU) 2019/945 and 2019/947 (drones in the 'open' and 'specific' categories) |
| 7 | Q1 | RMT.0736 | Regular update of the Third-Country Operator Regulation |
| 8 | Q2 | RMT.0251 Part 2 | Embodiment of the safety management system requirements into Commission Regulations (EU) Nos 1321/2014 and 748/2012 |
| | | RMT.0727 ST1 | Alignment of Part 21 with Regulation (EU) 2018/1139 (including simple and proportionate rules for General Aviation) |
| 9 | Q2 | RMT.0711 | Reduction in accidents caused by failures of critical rotor and rotor drive components through improved vibration health monitoring systems |
| 10 | Q2 | RMT.0719 ST2 | Regular update of the air traffic management/air navigation services rules (IRs and AMC and GM) |
| 11 | Q2 | RMT.0720 ST2 | Management of information security risks |
| 12 | Q3 | RMT.0118 | Analysis of on-ground wing contamination effect on take-off performance degradation |
| 13 | Q3 | RMT.0255 | Review of Part-66 |
| 14 | Q3 | RMT.0325 | Helicopter emergency medical services' performance and public interest sites |
| | | RMT.0161 ST3 | Conformity assessment |
| 15 | Q3 | RMT.0524 ST1,3, 4 | Data link services |
| | | RMT.0492 ST2 | Development of FTL rules for CAT operations of emergency medical services by aeroplanes (AEMS) |
| 16 | Q3 | RMT.0673 | Regular update of CS-25 |
| 17 | Q3 | RMT.0732 | Repository of aviation-related information (Article 74 of the Basic Regulation) |
| 18 | Q4 | RMT.0180 | Turbine engine endurance and initial maintenance inspection testing, and piston engine time between overhauls substantiation |
| | | RMT.0184 | Regular update of CS-E |
| 19 | Q4 | RMT.0476 ST1, 2 | Regular update of the standardised European rules of the air |
| 20 | Q4 | RMT.0668 ST1, 2 | Regular update of air traffic controller licensing rules (IRs and AMC & GM) |
| 21 | Q4 | RMT.0730 ST3 | Regular update of the AMC & GM to Regulations (EU) 2019/945 and 2019/947 (drones in the 'open' and 'specific' categories) |



APPENDIX B: RULEMAKING DELIVERABLES PLANNED FOR 2023

Opinions:

| Nr | Baseline quarter | Task number | Task title |
|----|------------------|-----------------|--|
| 1 | 1 | RMT.0591 | Regular update of the aerodromes rules |
| 2 | 1 | RMT.0728 | Development of requirements for ground handling |
| 3 | 2 | RMT.0190 | Requirements for relief pilots |
| | | RMT.0287 | Regular update of Part-MED, of Part-ARA Subpart ARA.AeMC and ARA.MED, and of Part-ORA Subpart ORA.AeMC, as well as of the related AMC and GM |
| | | RMT.0287 | Regular update of Part-MED, of Part-ARA Subpart ARA.AeMC and ARA.MED, and of Part-ORA Subpart ORA.AeMC, as well as of the related AMC and GM |
| | | RMT.0587 | Regular update of regulations regarding pilot training, testing and checking, and related oversight |
| | | RMT.0678 | Simpler, lighter and better flight crew licensing requirements for general aviation |
| 4 | 1 | RMT.0161 | Conformity assessment |
| | | RMT.0524 | Data link services |
| 5 | 1 | RMT.0476 | Regular update of the standardised European rules of the air |
| 6 | 2 | RMT.0230 | Introduction of a regulatory framework for the operation of drones |
| 7 | 3 | RMT.0682 | Implementation of the regulatory needs in support of the SESAR deployment |
| 8 | 3 | RMT.0731 ST1, 2 | New air mobility |
| 9 | 4 | RMT.0710 | Improvement in the survivability of rotorcraft occupants in the event of a crash |

**APPENDIX C: OVERVIEW OF NEW ACTIONS, ACTIONS DELETED, PUT ON HOLD, MERGED OR COMPLETED IN 2022**

Appendix C:

Overview of new actions, actions deleted, put on hold, merged or completed in 2022

New:

| Task number | Task title |
|-------------|---|
| IST.0001 | Supporting the implementation of the IS management system (ISMS) in industry and NCAs |
| MST.0041 | Harmonisation of AOC approvals, procedures and documents |
| MST.0042 | Assessment of safety culture in air operators |
| RES.0053 | Mapping of the socioeconomic impact on aviation safety |
| RMT.0738 | Next generation of air traffic controller licensing rules (IRs and AMC and GM) |
| RMT.0739 | Introduction of extended minimum-crew operations (eMCOs) |
| SPT.0126 | Integrating the flight data monitoring (FDM) programme with safety risk management |
| SPT.0127 | Support to small helicopter operators to implement management systems effectively |
| SPT.0128 | Support to helicopter operators to draft adequate procedures and checklists |
| SPT.0129 | Review and recommend methods of design and management of procedures |
| SPT.0130 | Facilitate the production of learning material to effectively inform audiences that procedure following does not automatically equate to safety |
| SPT.0131 | Undertake a project to identify better applied root cause analysis for organisations conducting investigations into procedural non-compliance |
| SPT.0132 | Develop design guidelines for Electronic Checklists (ECL) for maintenance tasks |

Deleted:

| Task number | Task title | Reason |
|-------------|--|---|
| RMT.0723 | Regular update of the AMC and GM for SKPIs (the ATM performance Regulation) | This RMT does not produce any EASA rulemaking deliverables. |
| RES.0047 | Fitness to fly in commercial air transport operations of people living with human immunodeficiency virus (HIV) | Lack of offers received (tender failed) |

On hold:

| Task number | Task title |
|-------------|--|
| EVT.0007 | Evaluation of Regulation (EU) No 748/2012 related to the airworthiness and environmental certification of aircraft and related products, parts and appliances, as well as for the certification of design and production organisations |
| EVT.0012 | Evaluation of Commission Regulation (EU) No 139/2014 (the aerodromes Regulation) |
| RES.0011 | Helicopter, tilt rotor and hybrid aircraft gearbox health monitoring - in-situ failure detection |
| RMT.0318 | Single-engine helicopter operations |
| RMT.0495 | FTL rules for aeroplane commercial operations other than CAT |
| RMT.0706 | Update of authority and organisation requirements |
| RMT.0722 | Provision of digital aeronautical data by aerodrome operators |

**APPENDIX C: OVERVIEW OF NEW ACTIONS, ACTIONS DELETED, PUT ON HOLD, MERGED OR COMPLETED IN 2022****Completed:**

| N | Task number | Task title |
|----|-----------------------|--|
| 1 | MST.0039 | Safety promotion to support ramp-up / safe return to operations |
| 2 | RES.0034 | Assessment for the provision of flight instruction outside FSTD (Off-board instructor OBIS) |
| 3 | RMT.0120 | Helicopter ditching and water impact occupant survivability |
| 4 | RMT.0379 | All-weather operations |
| 5 | RMT.0573 | Fuel/energy planning and management |
| 6 | RMT.0586 | Tyre pressure monitoring system |
| 7 | RMT.0709 | Prevention of catastrophic accidents due to rotorcraft hoist issues |
| 8 | RMT.0734 | One continuing airworthiness management organisation (CAMO) for airline business groups |
| 9 | SPT.0082 | Support the development and implementation of flight crew operating manuals (FCOMs) for offshore helicopter operations |
| 10 | SPT.0094 | Helicopter safety and risk management |
| 11 | SPT.0108 | Promotion of the new European provisions on performance-based navigation and the associated ATM Master Plan essential operational changes |
| 12 | SPT.0110 | Standardisation of flight examiners |
| 13 | SPT.0112 ¹ | Flight data monitoring (FDM) precursors of operational safety risks |
| 14 | SPT.0113 | Flight data monitoring (FDM) analysis techniques |
| 15 | SPT.0122 | Safe return to operations - Ramp up safely |
| 16 | SPT.0123 | Reinforce the appropriate reactions of flight crews in response to an airborne collision avoidance system (ACAS) resolution advisories (RAs) |

Merged:

| Task number | Task title | Reason |
|-------------|----------------------------------|----------------------|
| RMT.0453 | Aeroplane ditching survivability | Merged with RMT.0673 |

Regular update RMTs without active cycle removed from this edition:

| Task number | Task title |
|-------------|---|
| RMT.0037 | Regular update of CS-22 |
| RMT.0128 | Regular update of CS-27 and CS-29, and CS-VLR |
| RMT.0457 | Regular update of CS-ETSO |
| RMT.0502 | Regular update of CSs for balloons |
| RMT.0503 | Regular update of CS-APU |
| RMT.0508 | Regular update of CS-CCD |
| RMT.0509 | Regular update of CS-FCD |
| RMT.0519 | Regular update of CS-ACNS |
| RMT.0605 | Regular update of CS-LSA |
| RMT.0643 | Regular update of AMC-20 |
| RMT.0684 | Regular update of CS-P |
| RMT.0688 | Regular update of CS-SIMD |
| RMT.0690 | Regular update of CS-STAN |

¹ Publication of deliverables pending proofreading and editing



Appendix D:

Overview of the Strategic Priorities

| Chapter/Section | Chapter/Section description |
|---|---|
| Introduction -> Overall Strategic Direction | Build a (crisis-)resilient aviation system in Europe <ul style="list-style-type: none"> • build on lessons learned from COVID-19 • foster safety management implementation at State and industry level • promote the establishment of an emergency/crisis management function as part of the SMS and the SSP |
| 3.1 | Strategic priorities - SYSTEMIC SAFETY AND RESILIENCE |
| 3.1.1 | Manage risk interdependencies |
| 3.1.1.1 | Manage information security risks |
| 3.1.1.2 | Manage security risks with an impact on aviation safety |
| 3.1.1.3 | Manage the risks arising from conflict zones |
| 3.1.1.4 | Manage the risks arising from socio-economic factors |
| 3.1.1.5 | Manage public and aviation health safety (AHS) risks |
| 3.1.1.6 | Manage the impact of climate change on aviation safety |
| 3.1.1.7 | Manage the balance between aviation safety and other societal needs |
| 3.1.1.7(a) | - Optimise frequency spectrum use and reduce safety impact (5G) |
| 3.1.1.7(b) | - Optimise aerodrome surroundings and obstacle clearance |
| 3.1.2 | Improve safety by improving safety management |
| 3.1.2.1 | Achieve effective implementation of the SSP/SPAS in Member States |
| 3.1.2.2 | Achieve effective implementation of management systems (SMS) in industry |
| 3.1.3 | Manage human factors and human performance (all domains) |
| 3.1.3.1 | Address human factors and human performance issues -general |
| 3.1.3.2 | Exploit new advances in medicines and health monitoring |
| 3.1.4 | Civil-military coordination and cooperation |
| 3.1.5 | Capable and streamlined oversight |
| 3.1.5(a) | • Strengthen the oversight capabilities of NCAs |
| 3.1.5(b) | • Support NCAs' cooperative oversight: Group operations, implementation of 'One CAMO' for airline business groups |
| 3.1.5(c) | - New Organisation Approvals under Article 65 of the BR (UAS/eVTOL/U-space) |
| 3.1.6 | Ensure a level playing field |
| 3.1.6.1 | Address deficiencies identified through standardisation |
| 3.1.6.2 | Remove obstacles for a well-functioning single market |
| 3.1.6.2(a) | • Support smooth aircraft movements within European registers |
| 3.1.6.2(b) | • Ensure uniform qualifications of staff certifying maintenance of components across Europe |



APPENDIX D: OVERVIEW OF THE STRATEGIC PRIORITIES

| | |
|------------|--|
| 3.2 | Strategic priorities - COMPETENCE OF PERSONNEL |
| 3.2.1 | Cross-domain priorities |
| 3.2.1.1 | Improve the level of language proficiency in aviation |
| 3.2.1.2 | Facilitate the implementation of competency-based training assessment (CBTA) |
| 3.2.2 | Aircrew priorities (flight and cabin crews) |
| 3.2.2.1 | Data for training |
| 3.2.3 | Priorities for ATCOs and other personnel involved in ATM/ANS |
| 3.2.4 | Priorities for aviation maintenance personnel |
| 3.2.4(a) | <ul style="list-style-type: none"> • Improve training and examinations for mechanics |
| 3.2.4(b) | <ul style="list-style-type: none"> • Ensure maintenance is certified by competent personnel (linked to B1/B2 support staff) |
| 3.2.5 | Priorities for other aviation personnel (ADR/GH) |
| 3.3 | Strategic priorities - OPERATIONAL SAFETY |
| 3.3.1 | Ensure operational safety in CAT aeroplane operations (airlines and air taxi passenger/cargo) and NCC aeroplane operations |
| 3.3.1.1 | Address safety risks in CAT aeroplane and NCC aeroplane operations |
| 3.3.1.2 | Ensure availability of high-quality geo-data to support safe increases in traffic |
| 3.3.1.3 | Enable proportionate rules for 'business aviation' addressing the CAT/NCC boundary, including relation to environmental protection |
| 3.3.2 | Ensure operational safety in rotorcraft operations |
| 3.3.3 | Ensure operational safety in General Aviation (GA) |
| 3.3.4 | Ensure operational safety in initial and continuing airworthiness |
| 3.3.4.1 | Address safety risks in initial and continuing airworthiness |
| 3.3.4.2 | Improve safety assessment of human factors in aircraft certification |
| 3.3.5 | Ensure operational safety in air traffic management/air navigation services (ATM/ANS) |
| 3.3.5.1 | Address safety risks in ATM/ANS |
| 3.3.5.2 | Ensure the safety of ATM/ANS equipment |
| 3.3.5.3 | SES II+ implementation |
| 3.3.6 | Ensure operational safety in aerodrome operations (ADR) and ground handling (GH) |
| 3.3.6.1 | Address safety risks in ADR and GH |
| 3.3.6.2 | Create a certification system for aerodrome equipment |
| 3.3.6.3 | Create an EU regulatory framework for ground handling |
| 3.4 | SAFE AND SUSTAINABLE INTEGRATION OF NEW TECHNOLOGIES AND CONCEPTS |
| 3.4.1 | Artificial intelligence (AI) in Aviation Programme |
| 3.4.2 | Digitalisation in Aviation Programme |
| 3.4.2.1 | European electronic personnel licences (EPLs) |
| 3.4.3 | Innovative Aerial Services and other mobility and operational concepts |
| 3.4.3.1 | Establish a comprehensive EU regulatory framework for UAS and manned VTOL-capable aircraft |



APPENDIX D: OVERVIEW OF THE STRATEGIC PRIORITIES

| | |
|------------|---|
| 3.4.3.2 | Ensure safe U-space implementation |
| 3.4.3.3 | Ensure the safe integration of other air mobility and operational concepts |
| 3.4.4 | Virtual Certification: modelling and simulation (M&S) |
| 3.4.5 | ATCOs - system-based licensing system |
| 3.4.6 | SESAR research and development for new ATM/ANS functionalities |
| 3.4.7 | Ensure the safe integration of extended minimum-crew operations (eMCOs) |
| 3.4.8 | Ensure the safe integration of new business models in air operations |
| 3.4.8.1 | Ensure transparent conditions for airline group operations |
| 3.4.9 | New propulsion technologies |
| 3.4.9.1 | Enable the safe integration of electric and hybrid propulsion technologies |
| 3.4.9.2 | Enable the safe integration of hydrogen-powered technologies |
| 3.4.10 | Ensure the safe integration of higher-airspace operations |
| 3.5 | ENVIRONMENT |
| 3.5.1 | Facilitate the decarbonisation of the aviation system through Agency initiatives |
| 3.5.2 | Act towards sustainable aviation through environmental certification and standards |
| 3.5.3 | Act towards sustainable aviation through effective transversal actions at European level (implementation of Article 87 of the BR) |
| 3.5.4 | Act towards sustainable aviation through flight standards and ATM-related actions for increased operational efficiency |

Appendix E:

Key indicators in terms of EPAS actions

This Appendix presents an overview on the number of actions detailed in Volume II, illustrating the distribution by EPAS action type, as well as by domain affected by these actions.

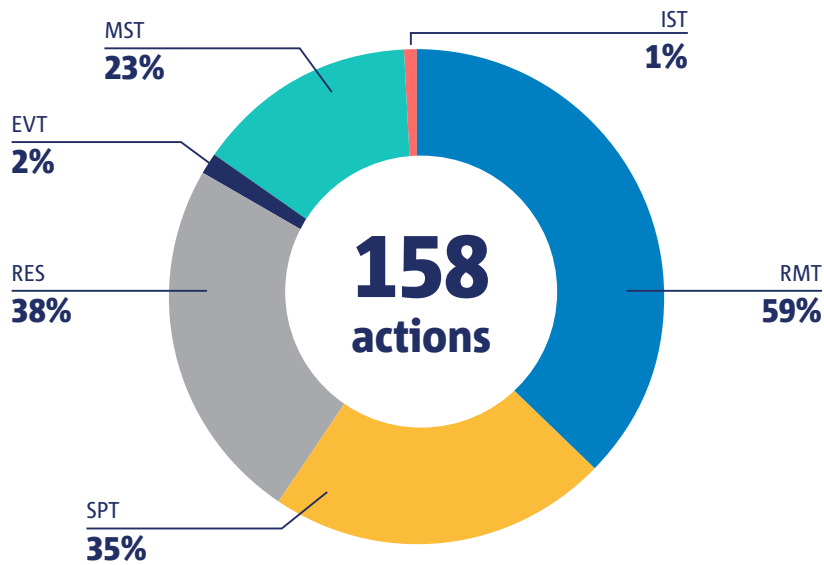


Figure 1 – Tasks per category

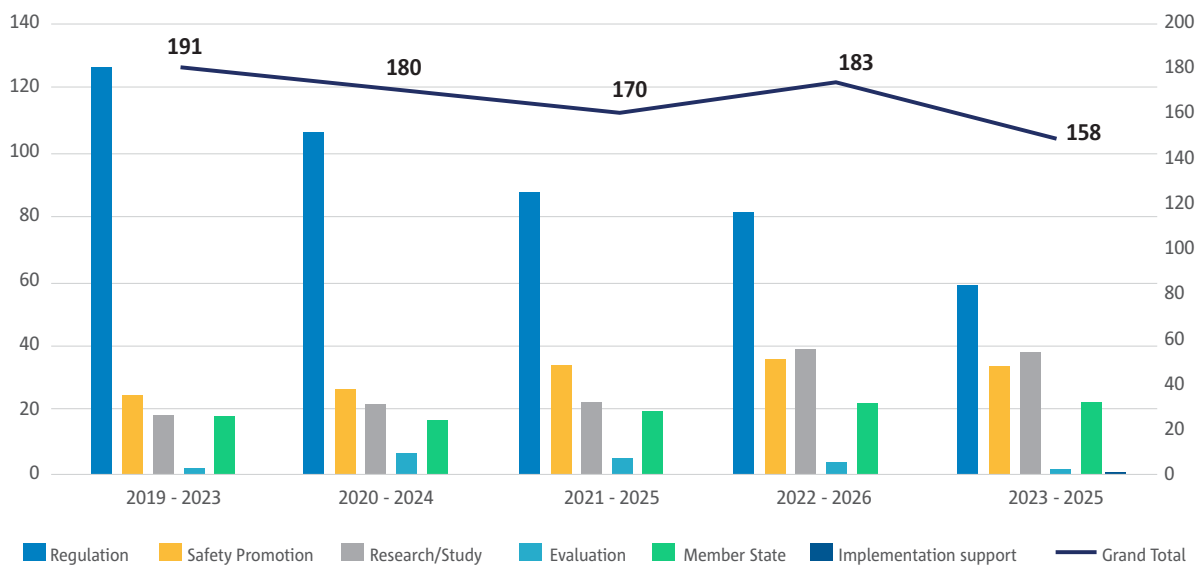


Figure 2 - Tasks per category: evolution over 5 years



APPENDIX F: OVERVIEW OF BEST INTERVENTION STRATEGIES (BISS)

Appendix F: Overview of Best Intervention Strategies (BISs)

This table provides an overview of the status of the BISs.

| BIS title | Short description | Status for EPAS |
|---|---|--|
| BISs addressing cross-domain issues | | |
| Weather information to pilots - GA and Rotorcraft | The actions identified in this BIS are intended to encourage MS, users, and service providers to support and implement data and infrastructure solutions to facilitate the increased use of weather information devices and to consider such developments holistically with, for example, technology for sharing of 'conspicuity' information. | No new actions for the EPAS 2023 |
| Airborne collision risk | The BIS addressed the safety issue on airborne collision risk. The outcome of the assessment is that a broader use of iConspicuity solutions and the improvement of their interoperability together with a better airspace utilisation and design, while ensuring compatibility with the U-space regulatory framework, should be at the heart of the strategy to define future actions. | No new actions for the EPAS 2023 edition |
| Language Proficiency oversight and assessment | The BIS assesses the feasibility and benefits of establishing a common set of minimum criteria for language proficiency assessment and oversight of language assessment bodies, both for flight crews and ATCOs. | No new actions for the EPAS 2023 edition. |
| Human factors - competence for regulatory staff | The BIS addresses the need of regulatory staff to have specific HF competencies to be able to perform their duties in overseeing how effectively human factors are addressed within organisations, as this is a significant contributor in assuring a high level of safety. | No new actions for the EPAS 2023 edition |
| Human factors - design and use of procedures | The BIS analyses the safety issues with regard to the design, use and management of procedures in the aviation industry. Outcome: The following new EPAS actions were agreed after the AB consultation: SPT.0129, SPT.0130, SPT.0131 and SPT.0132. | AB consultation from 24 June to 2 September 2022 |
| Safety management | The BIS was updated in 2021; it focuses on better implementation support as well as oversight of the SSP and SMS. | No new actions for the EPAS 2023 edition |
| Aircrew | | |
| Flight crew licences - flight instructors | The assessment addresses the supply of competent flight instructors. Outcome: RMT.0194 Modernisation and simplification of the European pilot licensing and training system and improvement of the supply of competent flight instructors | No new actions for the EPAS 2023 edition |
| Flight crew licences - pilot age | The assessment comes from the scientific study which recommends increasing the pilot age for commercial single-pilot operations for aeroplanes and helicopters from 60 to 65 years. Outcome: RMT.0287 Regular update of Part-MED of the Aircrew Regulation. The pilot age scope is limited to helicopters. | No new actions for the EPAS 2023 edition |
| Flight crew licences - competence-based training | The assessment focused on competence-based training for the appropriate pilot licences and ratings. Outcome: RMT.0194 is ongoing and addresses the competency-based training for the appropriate pilot licences and ratings. The impact assessment will be part of the NPA. | No new actions for the EPAS 2023 edition |



APPENDIX F: OVERVIEW OF BEST INTERVENTION STRATEGIES (BISS)

| BIS title | Short description | Status for EPAS |
|---|---|--|
| Aircrew fatigue (flight time limitations) | The BIS on aircrew fatigue has three main purposes: Follow up on a scientific evaluation on the rules regulating flight time limitation. Strengthen fatigue risk management by operators and aircrews. Raise awareness of shared responsibilities. | No new actions for the EPAS 2023 edition |
| Commercial Air Transport | | |
| Crew interoperability | The BIS will analyse the opportunity for AOC holders to exchange air crew among the same holding/parent companies, in EASA Member States. | AB consultation planned for 2023 |
| Emergency evacuation | The BIS will review several studies and recommendations and, if needed, propose actions for operations and certification aspects. | No new actions for the EPAS 2023 edition AB consultation expected in 2023 |
| Erroneous take-off parameters | The BIS will analyse the safety issue related to the use of erroneous take-off parameters. | No new actions for the EPAS 2023 edition |
| Ice in flight (CAT FW) | The BIS will analyse the safety issue 'Flight in adverse weather conditions for CAT FW'. | No new actions for the EPAS 2023 edition |
| Weather information to pilots - CAT FW | This BIS includes actions to promote availability of enhanced meteorological information, the up-link of that information to the cockpit and to increase pilot awareness of the type-specific icing characteristics, and of the meteorological regimes in which the type may be more susceptible to icing. | No new actions for the EPAS 2023 edition |
| Specialised Operations | | |
| Parachuting operations | A new BIS is planned on the safety in parachuting aircraft operations. | AB consultation planned for 2023-Q2 |
| Rotorcraft | | |
| Rotorcraft | The updated BIS Rotorcraft focuses on small helicopter operators, integrating the results of the evaluation on the administrative burden on small helicopter operators from the Air OPS Regulation and the related soft law (EVT.0010). This BIS addresses the evaluation recommendations in the context of existing actions and determines the need for new EPAS actions. Outcome: The following new EPAS actions were agreed after the AB consultation: MST.0041, SPT.0127 and SPT.0128. <i>Note: RMT.0318 Single-engine helicopter operations to operate over hostile and congested environment will resume in a future date to be defined at a later stage, without further analysis after an internal EASA review.</i> | AB consultation from 22 November 2021 to 28 February 2022 |
| New products, systems, technologies and operations | | |
| Electric and hybrid propulsion | The BIS addresses electric and hybrid propulsion systems and the regulatory gap with the current regulations, certification specifications and procedures. Outcome: RMT.0731 New air mobility Subtask 1 on continuing airworthiness related to introduction of new designs, technologies, and types of operation for which regulatory updates are needed (ToR published). | No new actions for the EPAS 2023 edition |



APPENDIX F: OVERVIEW OF BEST INTERVENTION STRATEGIES (BISS)

| BIS title | Short description | Status for EPAS |
|----------------------------|---|---|
| Road / gyroplanes | <p>The BIS addresses the issue of regulatory gap in the continuous airworthiness, flight crew licensing and AIR OPS rules for gyroplane operations.</p> <p>Outcome: RMT.0731 New air mobility Subtask 2 ‘Gyroplanes’ (ToR published, scope: FCL requirements for private pilot licence and non-commercial operations)</p> | <p>Work in progress on the flying cars (dual transport mode aircraft) and the rules to enable operations with CAT/SPO gyroplanes. AB consultation planning not yet decided.</p> |
| Airships | <p>Similarly to gyroplanes and tilt rotors, the current regulatory framework needs to be updated to enable operations.</p> | <p>AB consultation from 19 July to 17 September 2021.</p> <p>Next consultation planned for 2023-Q1</p> |
| New business models | | |
| SIPO/eMCO | <p>This BIS assesses the main challenges associated with the proposed concepts for extended minimum crew operations or single-pilot operations, investigating hazards and risk mitigation actions and means to perform compliance demonstration.</p> <p>Note: For the topic of extended minimum-crew operations (eMCO), the assessment already concluded that a rulemaking intervention is necessary to address this issue.</p> <p>A new RMT.0739 is added in this edition.</p> | <p>AB consultation planned for 2023.</p> |



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Appendix H: Transposition of ICAO SARPS

An overview of ICAO SARPS amendments with details on their transposition into EU rules, organised by ICAO Annexes, is available here: [Transposition table of ICAO SARPs | EASA \(europa.eu\)](#)



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