EASA
European Union Aviation Safety Agency

# THE EUROPEAN PLAN *for* AVIATION SAFETY (EPAS 2020-2024)

# Foreword by the Executive Director

Europe has consistently led the way in regional aviation safety planning. This year, the European Union Aviation Safety Agency (EASA) is publishing the 9th edition of the European Plan for Aviation Safety (EPAS). This is the cornerstone for safety planning within ICAO's Europe and North Atlantic regions (EUR-NAT) and provides the foundation on which individual Member States build their own State Plans for Aviation Safety.

This edition of the EPAS has been enhanced to correspond better with the safety risk portfolios presented in the EASA Annual Safety Review (ASR) 2019. The two documents taken together demonstrate the maturity of the European Safety Risk Management Process.

Drawn up in close collaboration with its various stakeholders, the EPAS lays out the current and future work EASA will be undertaking in coming years to support the introduction of new technologies and innovative solutions. These developments have the potential to further improve the level of safety whilst creating a level playing field for new business models and operating concepts.

The increasing importance of environmental protection is also fully recognised in the EPAS, where actions related to ICAO's Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) and the implementation of ICAO environmental standards are included.

The actions contained in the plan cover a wide field, spanning rulemaking, safety promotion, research, evaluation and Member States' focused oversight. It plays an important role in prioritising these actions, so as to ensure that aviation safety and environmental protection is maintained and steadily improved at European level.

Overall, the aspiration is to ensure that safety standards are not compromised as air traffic density, and the safety risks associated with that, grow over the next decade.

**Patrick Ky**
**Executive Director**

# European Plan for Aviation Safety (EPAS) 2020-2024

European Union Aviation Safety Agency, 13th of November 2019

# Volume I

# 1. Executive Summary

2017 was considered the safest year ever in commercial aviation history; but events in 2018 and 2019 have reminded us that safety can never be taken for granted. This edition of the European Plan for Aviation Safety (EPAS) emphasises the importance of identifying and mitigating risks at European level and worldwide , while at the same time taking account of changing societal demands in areas such as innovation, security, capacity and environment. Ensuring aviation is a safe, secure and environmentally friendly form of transport for EU citizens is at the core of the New Basic Regulation, which entered into force on 11 September 2018.

The 2020-2024 EPAS edition fosters the safe integration into the aviation system of **new technologies, innovative solutions and operating concepts** . The first building blocks of the regulatory framework for the operation of drones are already in place. While this work is still continuing, regulatory actions to enable concepts such as urban air mobility or technologies such as novel propulsion systems are now already part of EPAS. This edition contains a set of recommendations to prevent incidents such as those that took place in Gatwick in December 2018 as well as an ambitious roadmap to accompany industrial strategies and developments in the domain of artificial intelligence (AI) in the coming years.

EASA has an explicit mandate to protect the **environment, climate and human health**. The Agency is thus stepping up, its actions to create a cleaner, quieter and more sustainable aviation system in this EPAS edition. Initiatives include actions to increase $CO_2$ efficiency, use of electric and hybrid technology as well as sustainable aviation fuels. Furthermore, EASA continues evolving its certification process and integrating effective standards such as the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). An environmental label is being developed to increase transparency and support decision-making. In the area of circular economy, the Agency is working to establish a monitoring approach for aviation.

As **air traffic** continues growing, Europe's skies are becoming more congested. The report of the Wise Persons Group on the future of the Single European Sky issued in April 2019, as well as the proposal for the future architecture of the European airspace put forward by the SESAR Joint Undertaking (SJU) in collaboration with the Network Manager nominated by the European Commission (EC) and Eurocontrol, include a number of recommendations and proposed actions that will be addressed within ATM/ANS-related actions included in this EPAS edition.

The multiplication of network connections and the surge in digitalisation of aviation systems increases the vulnerability to **cybersecurity** threats. This EPAS edition consolidates our strategy for cybersecurity in all domains. In addition, with the preparatory phase now finalised, the regulatory work to develop safety requirements for **groundhandling** has started**.**

The actions included in this edition also seek to reduce the number of rotorcraft accidents through the implementation of the **Rotorcraft Safety Roadmap** and to make general aviation (GA) safer and cheaper through **General Aviation Roadmap 2.0**. The Agency has launched several related safety promotion initiatives and is now starting to adapt design and production rules that are more proportionate to the risks ('Part 21 Light').

Data and information sources feeding EPAS include not only occurrence data (feeding the domain SRPs), but also oversight and standardisation data and related information (feeding the Standardisation Annual Report (SAR), as well as the ATM Master Plan.

# 2. Introduction

EPAS constitutes the regional safety plan for EASA Member States, setting out the strategic priorities, strategic enablers, main risks affecting the European aviation system and the necessary actions to mitigate those risks to further improve aviation safety. EPAS sets an aspirational safety goal to achieve constant safety improvement with a growing aviation industry (refer to **Section 4.2**).

According to the EUROCONTROL seven-year forecast report issued in February 2019, the forecast growth rate of instrument flight rules (IFR) movements for 2020 is 3.0 % to reach 11.65 million flights (compared to a 2.8 % growth rate in 2019 / 11.31 million flights). From 2021 onwards, the forecast reflects slower economic growth, with European flight growth expected to slow down from an average of 3.2 % per year (2016-2020) to around 1.8 % per year (2021-2025)[1]. Even though growth rates will be lower than initially forecasted, the increase in traffic will require extra efforts from all stakeholders to reach the safety goal.

EPAS strategic priorities are derived from the EU Aviation Strategy with due regard to the continued increase in traffic volumes. Main safety risks are determined through the European safety risk management (SRM) process, in close coordination with States and Industry. The EPAS covers a five-year period and is reviewed and updated on a yearly basis.

This EPAS edition constitutes the 9th edition of the European safety action plan. This plan was initially termed 'European Aviation Safety Plan' (EASp). Since its 5th edition (covering 2016-2020), EPAS incorporates the EASA Rulemaking Programme, thus creating a single source for all programmed actions, supported by a single programming process. The main objective of EPAS is to further improve aviation safety and environmental protection throughout Europe, while ensuring a level playing field, as well as efficiency/proportionality in regulatory processes. EPAS is a key component of the safety management system (SMS) at the European level, which is described in the European Aviation Safety Programme[2] (EASP). The regional approach complements national approaches offering a more efficient means of discharging State obligations for safety management in the EU's aviation system.

EASP defines the aviation safety framework at European level. The objective of EASP is to ensure that the system for the management of aviation safety in the EU delivers the highest level of safety performance, uniformly enjoyed across the whole Union, and continuing to improve over time, while taking into account other important objectives such as environmental protection. It explains the functioning of the European aviation system to manage the safety of civil aviation in the EU in accordance with Regulation (EU) 2018/1139[3] (the 'Basic Regulation'). It describes the processes, roles and responsibilities of the different actors and lays down general principles for European safety management, including safety action planning. EASP functionally corresponds, at EU level, to the State Safety Programme (SSP) as described in International Civil Aviation Organization (ICAO) Annex 19 'Safety Management'. It is prepared by the EC, in consultation with Member States and EASA, and updated as required.

In December 2015, the EC issued the second edition of EASP[4]. This edition took into consideration the legislative changes occurred since 2011 as well as the evolution of safety management in all areas. In addition, it strengthened safety promotion at EU level and described the process to update and develop EPAS, giving it a truly European dimension.

1 https://www.eurocontrol.int/publication/seven-year-forecast-flight-movements-and-service-units-february-2019

2 https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0670:FIN:EN:PDF

3 https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32018R1139

4 https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52015DC0599

The Basic Regulation introduced a dedicated chapter on aviation safety management, thereby creating a strong legal basis not only for EASP and EPAS, but also for the establishment and maintenance of SSPs and State Plans for Aviation Safety (SPAS) at Member State level.

The development of EPAS relies on dedicated stakeholder groups, in particular:

— the Member States' Advisory Body (MAB) that provides advice on strategic priorities;

— the Stakeholders Advisory Body (SAB) that reviews strategic orientation and performance indicators from an industry perspective; and

— the Technical/Sectorial Bodies (TeB, TeC, Sectorial Committees, representing Member States and industry respectively) that provide technical and operational advice as well as feedback on implementation.

The Basic Regulation requires EASA Member States to consider relevant risks and actions defined in EPAS within their national safety action planning process. In return, EPAS defines a number of specific actions addressed to and owned by Member States, to support the implementation of effective SSPs and SPAS.

The implementation of EPAS, as well as of SSP and SPAS, is supported by a specific stakeholder advisory body, the Safety Management TeB (SM TeB). Its main purpose is to provide a forum to exchange information and address implementation issues in the area of State safety management, as well as to provide input and feedback on EPAS implementation in regard to systemic issues. The SM TeB also provides recommendations on further actions required to support EPAS, SSP and SPAS implementation. All EASA Member States are represented in the SM TeB; non-EASA European Civil Aviation Conference (ECAC) States are invited to attend as observers. In addition to being developed in accordance with the processes, roles and responsibilities described in EASP, EPAS is consistent with the ICAO global plans in the area of aviation safety and air navigation and ensures alignment with the SES ATM Master Plan.

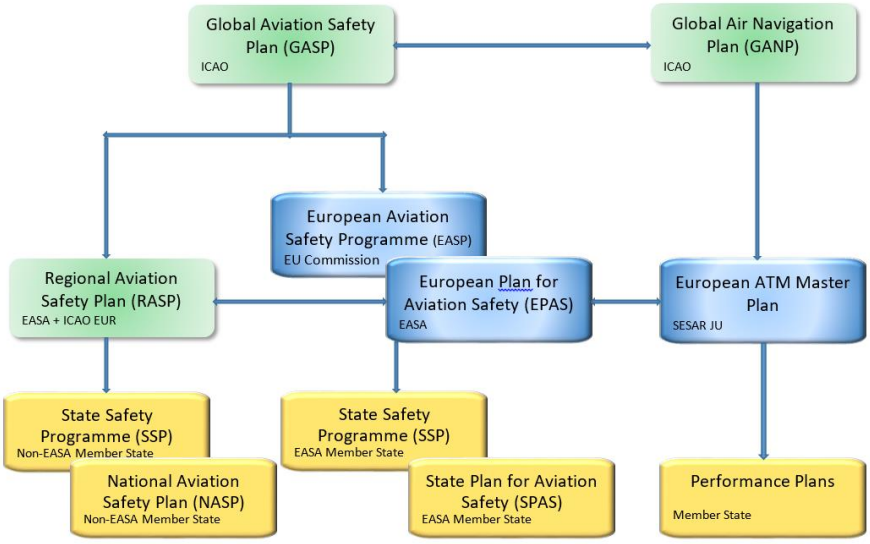


**Figure 1: Relationship between EPAS and other programmes and plans**

## 2.1 Global Aviation Safety Plan (GASP)

EPAS supports the objectives and priorities of GASP. The purpose of GASP is to continually reduce fatalities, and the risk of fatalities, by guiding the development of a harmonised aviation safety strategy and the development and implementation of regional and national aviation safety plans. A safe aviation system contributes to the economic development of States and their industries. GASP promotes the implementation of a State's safety oversight system, a risk-based approach to managing safety as well as a coordinated approach to collaboration between States, regions and industry. One of the GASP goals is for States to improve their effective safety oversight capabilities and to progress in the implementation of SSPs. Thus, GASP calls for States to put in place robust and sustainable safety oversight systems that should progressively evolve into more sophisticated means of managing safety. These objectives are mainly addressed in **Section 5.1**.

In addition to addressing systemic safety, GASP addresses high-risk categories of occurrences, which are deemed global safety priorities. These categories were determined based on actual fatalities from past accidents, high fatality risk per accident or the number of accidents and incidents. The following high-risk categories have been identified for the 2020-2022 edition of the GASP:

— controlled flight into terrain;

— loss of control in flight;

— mid-air collision;

— runway excursion; and

— runway incursion.

These are consistent with the key risk areas identified through the European SRM process[5]. The GASP global priorities are addressed in **Sections: 6.1.1.1 Aircraft upset in flight (LOC-I)**, **6.1.1.2 Runway safety, 6.1.1.3 Airborne conflict (mid-air collisions)** and **6.1.1.4 Terrain collision**.

Since 2017, the ICAO Regional Office for the EUR/NAT region and EASA have been working together to develop a Regional Aviation Safety Plan (RASP) based on EPAS, thus allowing all States that are part of the EUR/NAT region to benefit from this approach. The aim of RASP is to facilitate the achievement of the GASP goals at a regional level. The Regional Aviation Safety Group (RASG)-EUR is the main body to monitor the EUR RASP implementation and to collect feedback from stakeholders with the assistance of ICAO and EASA. The first EUR RASP covering the period 2019-2023[6] was issued on 31 January 2019 following endorsement at the combined meeting of the coordination groups of the European Air Navigation Planning Group (EANPG) and RASG – EUR region (RASG-EUR) of ICAO. This made EUR-NAT the first ICAO region having its RASP adopted.

To support the EUR-RASP planning process, this EPAS edition provides references to corresponding GASP 2020-2022 Safety Enhancement Initiatives (SEIs) addressed to States or industry, covering both organisational challenges and operational risks. GASP SEIs addressed to the regions are considered implemented through the EU SMS at large, as described in EASP and implemented through EPAS. Consequently, they are not specifically referenced in EPAS.

[5] EASA Annual Safety Review 2019

[6] https://www.icao.int/EURNAT/EUR%20and%20NAT%20Documents/EUR%20Documents/EUR%20RASP/EUR%20RASP%202019-2023.pdf

## 2.2 ATM priorities

### 2.2.1 ATM Master Plan and Global Air Navigation Plan (GANP)

The purpose of **GANP**[7] is to drive the evolution of the global air navigation system to meet the evergrowing expectations of all sectors of aviation community, in a safe, secure and cost-effective manner while reducing the aviation environmental impact. To this end, GANP provides a series of operational improvements to increase capacity, efficiency, predictability, flexibility while ensuring interoperability of systems and harmonisation of procedures. GANP provides a global basis on which regional and national air navigation implementation plans are developed.

The **ATM Master Plan**[8] is the European planning tool for setting ATM priorities, aligned with the GANP and enabling the Single European Sky ATM Research (SESAR) 'Target Concept' to become a reality. The SESAR 'Target Concept' aims at achieving a high-performing ATM system by enabling airspace users to fly their optimum trajectories through effective sharing of information between air and ground. The ATM Master Plan is evolving and is built in collaboration with and for the benefit of all aviation stakeholders. The ATM Master Plan also provides stakeholders with a business view of what deployment will mean in terms of return on investment.

As required by Article 93 (c) of the Basic Regulation which stipulates that 'The Agency shall, where it has the relevant expertise and upon request, provide technical assistance to the Commission, in the implementation of the Single European Sky, in particular by contributing to the implementation of the ATM Master Plan (MP), including the development and deployment of the SESAR programme', an alignment between EPAS and the ATM MP needs to be accomplished. Furthermore, as EASA is the body responsible for the SES safety pillar and safety is one of the key performance indicators (KPIs) within the SES ATM Performance Scheme — through which the ATM Master Plan contributes to achieving these ambitions — the EPAS actions and ATM Master Plan solutions should be aligned where possible and the changes made in the 2019-2023 EPAS edition constituted an important step towards such alignment.

This alignment requires two actions. Firstly, that the ATM Master Plan identifies solutions that can mitigate related safety risks identified by the European aviation safety system, and secondly that EPAS makes references to those solutions from the ATM Master Plan that are actually mitigating those identified safety risks.

This alignment is ensured as follows[9]:

— Volume I is in line with the ATM Master Plan Level 1 (Executive View), Fourth Edition; and

— Volume II is aligned with the published solutions in the ATM Master Plan that aim at mitigating existing safety risks.

Future versions of both documents will mature in line with this alignment concept. For future editions, it is also envisaged to evolve to further align in terms of environment and interoperability of ATM systems. Both plans will also need to consider the recommendations stemming from the Report of the Wise Persons Group

7 https://www4.icao.int/ganpportal

8 https://www.atmmasterplan.eu/

9 The correspondence between this EPAS edition and the ATM MP actions is labelled in each applicable EPAS action in Volume II.

on the future of the Single European Sky[10] and the proposal for the future architecture of the European airspace[11] (refer to **Section 2.2.2**).

### 2.2.2 Future of the Single Sky and future architecture of the European airspace

For this EPAS planning cycle, EASA performed an initial analysis of relevant recommendations stemming from the Report of the Wise Persons Group on the future of the Single European Sky and the proposal for the future architecture of the European airspace, to determine the possible impact on EPAS.

The Wise Persons Group developed a set of ten recommendations on the future of the Single European Sky to enable additional ATM capacity in Europe, to be provided in a flexible and scalable manner, at reasonable costs, to deliver a more resilient ATM system, while continuing to ensure safety and security and meeting environmental concerns. The recommendations address the following priorities, with EUROCONTROL and SJU as main contributors:

— a network-centric approach;

— implementation of a digital European Sky;

— evolving role for people delivering the ATM services; and

— simplifying the regulatory framework.

In its initial analysis, EASA identified the following recommendations as directly relevant to its scope, for consideration in future EPAS planning cycles, on the basis of an agreed implementation roadmap/transition plan:

**Recommendation 3:** Implement a Digital European Sky based on an agreed roadmap building on the recommendations described in the Airspace Architecture Study (AAS), managed by the Infrastructure Manager, ensuring resilience of the system.

**Recommendation 4:** Create a new market for ATM data service providers as recommended by the AAS.

**Recommendation 6:** Facilitate the transition towards the Digital European Sky by reviewing current licensing and training requirements for ATCOs, with full involvement of staff representatives.

**Recommendation 8:** Establish a strong, independent and technically competent economic regulator at European level.

The AAS, complementing the Wise Person Group Report (WPGR), proposes a progressive transition strategy towards the Single European Airspace System in three consecutive 5 year-periods, while building on known good practices and quick-wins, as well as existing initiatives such as SESAR. The aim is to progressively enable additional capacity in order to cope with the significant growth in traffic, while maintaining safety, improving flight efficiency and reducing environmental impact.

In order to initiate the transition towards a Single European Airspace System, the following three high-level recommendations are made in the study to support the overall transition strategy:

— Launch an airspace re-configuration programme supported by an operational excellence programme to achieve quick-wins;

[10] https://ec.europa.eu/transport/modes/air/press-releases/2019-04-12-aviation-commission-receives-high-level-recommendations-air_en

[11] https://www.sesarju.eu/node/3253

— Realise the de-fragmentation of European skies through virtualisation and the free flow of data among trusted users; and

— Create a legal and financial framework that rewards early movers.

The overall transition strategy is illustrated below:

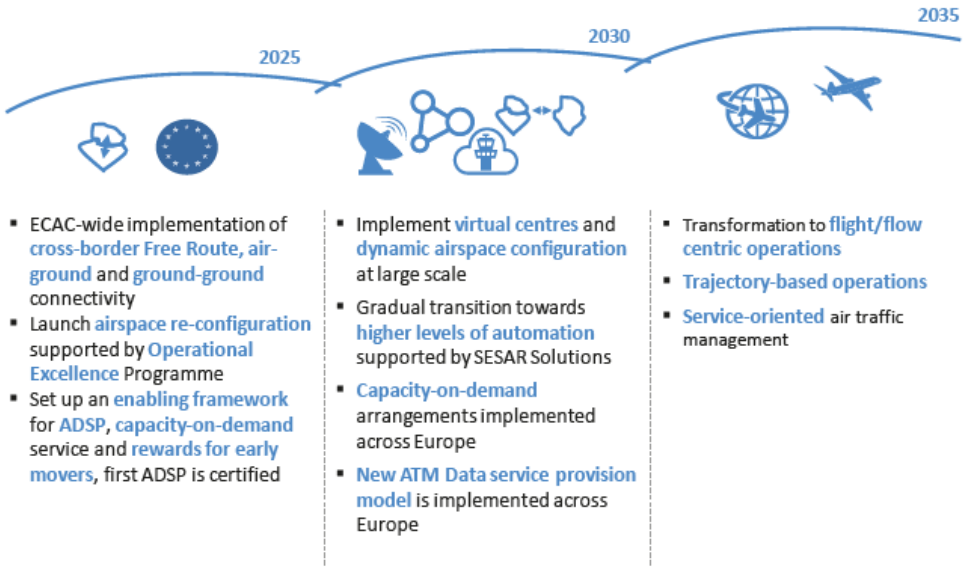


**Figure 2: Airspace architecture transition strategy**

In its initial analysis of the recommendations made both in the WPGR and in the AAS, EASA identified three main rulemaking topics:

— Air traffic controller (ATCO) mobility and training (WPRG Recommendation 6, AAS Recommendation 2);

— Cyber resilience (WPRG Recommendation 3); and

— Evolution of the ATS common requirements & airspace architecture (WPRG Recommendations 3 and 4, AAS Recommendation 1).

Regarding the first topic, one of the objectives will be to move from sector orientation to systems orientation, for increased flexibility and capacity. The related implementation actions will have an impact on RMT.0668 ‘Regular update of air traffic controller licensing rules (IRs/AMC & GM)’.

The second topic will have an impact on RMT.0720 ‘Management of information security risks’.

On the third topic, the proposal for the future architecture of the European airspace includes specific recommendations to improve the system, e.g. by creating distinct layers for generating of air navigation service provider (ANSP)-related data and the wider use of such data respectively, not limited to the ANSP having generated such data. The related implementation actions for those recommendations will have an impact on RMT.0719 ‘Regular update of air traffic management/air navigation services rules’ and RMT.0476 ‘Regular update of the standardised European rules of the air’.

Finally, relevant WPRG and AAS recommendations will also have an impact on RMT.0682 'Implementation of the regulatory needs of the SESAR common projects'.

The details of such changes to existing rulemaking tasks may only be determined on the basis of an agreed implementation roadmap/transition plan and will thus only be considered for the next EPAS planning cycle.

## 2.3 How EPAS is developed

### 2.3.1 Better Regulation

The EC's Better Regulation Agenda[12] aims at delivering tangible benefits for European citizens and addressing the common challenges Europe faces. Thus, Better Regulation principles are applied in the development of EPAS.

Applying Better Regulation principles means for EASA that efforts must aim at:

- a transparent and streamlined regulatory process that is supported by an efficient stakeholder consultation;
- evidence-based decisions (through safety data analysis, impact assessment, monitoring and evaluation);
- a plain and easily understandable language also for non-native English speakers;
- communication and IT platforms that give stakeholders easy access to consulted deliverables and regulatory material, including soft law;
- a regulatory approach that
  - is performance-based where appropriate;
  - respects the principles of subsidiarity and proportionality;
  - contributes to the competitiveness of the industry, without compromising safety; and
- actors involved in the drafting of regulatory material that have been appropriately trained in drafting performance-based rules. To that end, EASA initiated a series of performance-based regulation drafting workshops for regulations officers.

Modern, proportionate rules that are fit for purpose are essential in aviation safety to uphold high common standards and ensure the competiveness of the European industry. Regulations should be as efficient and performance-based as possible, and as prescriptive as necessary to provide legal certainty.

Regulating elements of aviation safety by describing the desired outcome is not new. This so-called performance-based approach is intended to make aviation safer, more efficient and flexible. This approach promotes the principles of subsidiarity and proportionality by prescribing safety objectives instead of prescribing how to achieve them.

The expected benefits of performance-based regulations (PBRs) are:

- **Resilience**: the increased complexity in operations and aviation activities, the dynamics of aviation business models, and fast and proliferating technological advancements require a regulatory framework capable of anticipating changes (technology-neutral regulations).

[12] https://ec.europa.eu/info/law/law-making-process/planning-and-proposing-law/better-regulation-why-and-how_en

— **Flexibility**: by focusing on safety outcomes, PBRs provide flexibility and encourage innovation by not restricting a priori the means to control specific risks.

— **Safety management**: by providing a flexible implementation framework and focusing on safety outcomes, PBRs allow organisations and authorities to foster risk management capability and to better allocate resources against risks identified under their SMS and SSP.

To meet EC's Better Regulation Agenda, EASA must ensure that its regulatory proposals and other EPAS actions deliver maximum safety, economic, social and environmental benefits at minimum cost to citizens, businesses and workers, without creating unnecessary regulatory burden for Member States, the industry and EASA itself. To that end, EASA must prioritise and design the EPAS actions through a transparent process and based on evidence, understandable by those who are affected and backed up by the views of stakeholders. Evidence is gathered ex ante through a best intervention strategy (BIS) at the programming stage, and regulatory impact assessment (RIA) at the rule development stage (see **Section 2.3.4.3** or ex post through the evaluation process (see **Section 2.3.5**). About two thirds of the EPAS actions take the form of rulemaking tasks.

To be fully effective, Better Regulation must cover the entire regulatory cycle, i.e. the programming and planning phase, design of a proposal, adoption, implementation, application, evaluation and revision. In other words, the effort to equip the EU with state-of-the-art aviation safety rules must start already in the planning and programming phase. Efficient planning and programming in the context of Better Regulation means to take well-informed decisions which must be based on holistic risk management principles. Where there is no or limited data available, such as for innovative technologies or new ways of operating, decisions may have to rely on expert knowledge and/or the extrapolation of existing data from similar subjects.

**Stakeholder consultation**

In line with the principles of Better Regulation, EASA engages with its stakeholders via different channels and for different purposes, such as:

— EASA Advisory Bodies (ABs), Collaborative Analysis Groups (CAGs), and European Network of Analysts (NoAs) to identify the aviation issues to be further assessed;

— EASA AB consultation of BIS, RIAs, rulemaking ToRs and evaluation reports;

— AB consultation of the draft EPAS;

— Inclusion of stakeholder experts and representatives in rulemaking groups;

— Open public consultation of NPAs;

— Targeted consultation to groups of stakeholders (e.g. questionnaire for evaluation of existing rules);

— Work with groups of experts (e.g. focus groups).

### 2.3.2 The programming cycle

EPAS covers a five-year time frame. In line with Article 6(1) of the Basic Regulation, EPAS is updated on a yearly basis. Hence, EPAS is developed as a rolling five-year plan in close cooperation with stakeholders, drawing increasingly from an evidence-based approach. There are two distinct programming phases, each with a dedicated stakeholder consultation.

— During the 'strategic phase', the strategic priorities derived from the EU Aviation Strategy (see **Chapter 3**) are discussed and agreed with the EASA ABs, by means of a dedicated EPAS Strategy Workshop. SAB

and MAB take the lead in consolidating inputs from their domain sub-committees and provide EASA with the industry/Member State views on the strategic priorities.

— Based on these strategic priorities agreed/confirmed with the EASA ABs, a draft EPAS is then developed and provided to all ABs for detailed comments.

Following the AB consultation, the final draft EPAS is consolidated and presented for approval to the EASA Management Board (MB). Following its formal approval by the MB, it is published on the EASA website[13].

### 2.3.3 EPAS action types

Five different types of EPAS actions are defined to improve aviation safety, efficiency/proportionality, and address the level playing field and environmental protection as follows:

— **Rulemaking tasks (RMTs)**

**RMTs** lead to new or amended regulatory material (implementing rules, acceptable means of compliance (AMC) or guidance material (GM)), but the related work is usually not limited to rules drafting. Depending on the scope and issues addressed, a rulemaking project may also include implementation support activities, such as the organisation of conferences, workshops, roadshows, the creation of frequently asked questions (FAQs), etc. An RMT may also be supported by a dedicated safety promotion task (SPT) managed in accordance with EASA's Safety Promotion Strategy (see **Section 3.2.2**), or by a research action (see **Section 3.2.1**).

For confirmed RMTs, the information gathered for the BIS will be reviewed to provide the RIA as part of the NPA/Opinion. Information and data provided at the BIS stage will be updated, as necessary.

Regular update tasks 'address miscellaneous issues of non-controversial nature' as described in Article 3 of MB Decision No 18/2015[14]. These tasks are programmed as and when subjects arise, and therefore do not follow a common timeline. Regular updates of the implementing rules and related AMC & GM are initiated when relevant data is available to support the need for an update, e.g. following a regular update of ICAO SARPS, updated industry standards or feedback from certification activities or to address minor issues raised by the stakeholders. Due to their nature (minor, non-controversial issues), an impact assessment is generally not required for these projects.

— **Safety promotion tasks (SPTs)**

**SPTs** involve safety training, awareness/education and dissemination of safety relevant information to further engage and interact with relevant aviation stakeholders in order to positively influence or change individual behaviour with the ultimate objective of achieving predetermined aviation safety objectives. It includes the promotion of safety topics, rulemaking and awareness, communicating about safety intelligence, priorities and actions and other tasks to raise awareness with individuals, as well as organisations. SPTs can involve a wide range of deliverables that include guides, videos, text for use in websites and printed media, social media and outreach activities.

Note: EASA undertakes additional, regular or ad hoc implementation support/safety promotion activities, in the form of thematic workshops, roadshows, conferences and events. Furthermore, in certain cases, information needs to be disseminated quickly in reaction to a safety issue (e.g. publication of a Safety Information Bulletin (SIB). While all of these support the EPAS objectives, not

[13] https://www.easa.europa.eu/easa-and-you/safety-management/european-plan-aviation-safety

[14] http://www.easa.europa.eu/the-agency/management-board/decisions/easa-mb-decision-18-2015-rulemaking-procedure

all of them qualify for a formal EPAS action.Where such an activity can be conducted as part of normal operational tasks, the EPAS prioritisation mechanisms do not apply.

— **Research actions (RES)**

**RES** actions are innovation- and/or efficiency-related research projects to support the safe integration of new technologies and concepts, and to measure the improvement of the environmental performance of the aviation sector. RES actions may also be triggered by the need to better understand a safety issue in view of determining intervention strategies in the future, or to assess the effectiveness of existing regulations, as an alternative to evaluations. The research projects included in EPAS are those triggered by safety recommendations (SRs) addressed to EASA and those either already covered by a funding source or likely to be funded by the start of the reference period of a given EPAS.

— **Evaluation tasks (EVTs)**

**EVTs** are used to assess if existing aviation regulations and related initiatives (e.g. SPTs) are delivering the expected results at minimum cost. For further details, refer to **Section 2.3.6**.

— **Member State tasks (MSTs)**

**MSTs** are actions that are owned by Member States and that have to be considered for their SPAS, together with the main risks identified in EPAS relevant for the State, as required by Article 8 of the Basic Regulation. MSTs may derive from operational safety issues identified in the ASR, safety priorities identified in GASP or through the EASA Standardisation process (hence supported by Standardisation data). Related actions are defined in close collaboration with Member States, through the different ABs. Safety priorities include, but are not limited to, maintaining effective oversight capabilities, the implementation of effective SSPs and related State safety action planning. Most MSTs take the form of continuous actions to ensure continuous monitoring of the underlying safety risks and regular monitoring on progress of those Member State actions. Results of such monitoring are discussed with Member States during the regular Technical Body (TeB) meetings. EASA may further support the implementation of specific MSTs through thematic workshops, targeted implementation support actions, training sessions, etc. During such implementation support actions, different implementation approaches, difficulties or best practices are brought up and discussed to enhance collaboration amongst Member States and between Member States and EASA, as well as to further strengthen oversight capabilities and support State safety management. Activities to support the implementation of MSTs are not captured as distinct EPAS actions.

Note: This EPAS edition no longer includes any action type ‘FOT’ for ‘Focussed Attention Topics’. The corresponding issues are now addressed within the scope of MST actions.

### 2.3.4 How actions are prioritised in EPAS

The proposed candidate issues (safety and non-safety ones) are recorded in a Candidate Issue Register (CIR). This register is an internal repository for all received proposals, from internal and external sources (see Figure 4). The prioritised candidate issues are then further assessed with a view to finding the most cost-effective approach to tackle them. The outcome is a BIS report, which is consulted with the ABs. It is only after the AB validation that the actions proposed in the BIS report become EPAS actions.

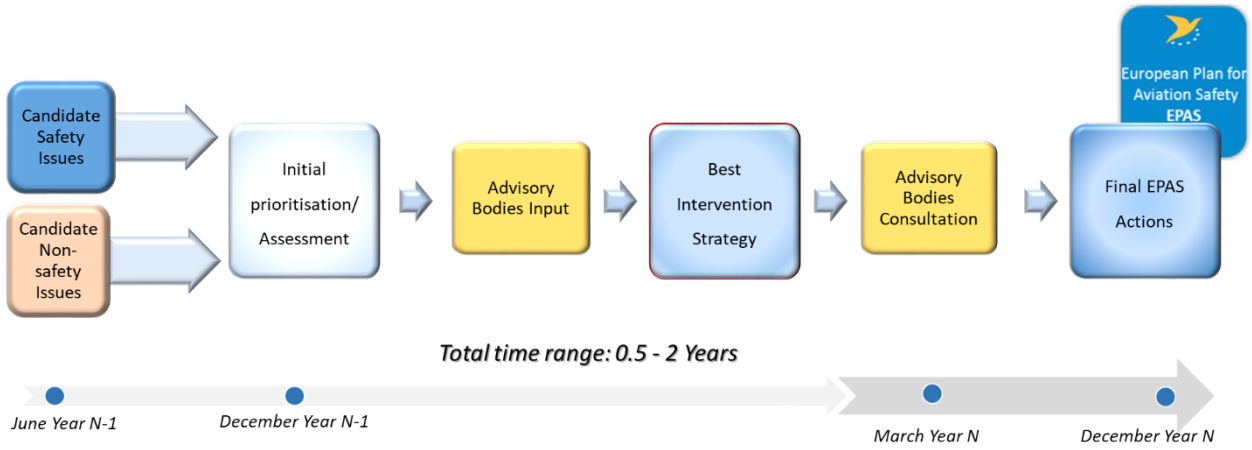


**Figure 3: Key steps to prioritise actions in EPAS**

#### 2.3.4.1 EPAS inputs

**How to submit a new proposal to be included in EPAS**

A new proposal, such as a new candidate issue or a proposal for a new EPAS action to be included in EPAS can be submitted at any moment in the programming cycle. For this purpose, a '**Candidate Issue Identification form**'[15] is available on the EASA website.

This form replaces the old Rulemaking Proposal Form. It is meant to encompass a larger range of proposals for actions, besides rulemaking, such as: safety promotion, research, evaluation, as well as the identification of new issues in the EPAS areas of safety, environmental protection, level playing field or efficiency/proportionality.

In addition to the individual proposals submitted via the Candidate Issue Identification form, EASA collects proposals from other sources, including safety and non-safety issues. For each proposal, core data is recorded in the CIR.

15 https://www.easa.europa.eu/rulemaking-proposal-candidate-issue-identification-form

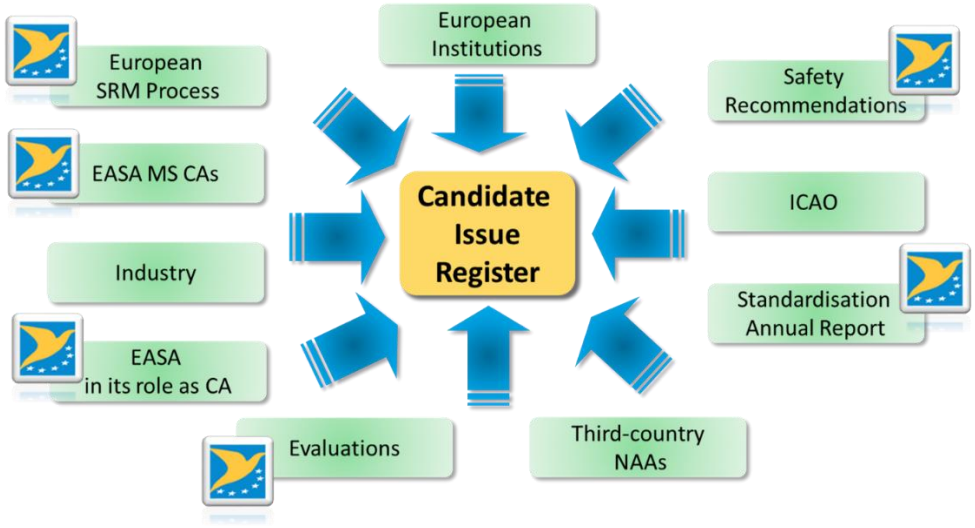


**Figure 4: EPAS inputs**

An initial review of the received candidate issues is carried out in order to allow for initial prioritisation. Candidate issues are clustered according **to the four EPAS drivers**, as follows:

— **Safety:** The actions in this category are driven by the need to increase or maintain the current level of safety in the aviation sector.

The main sources for safety candidate issues are the European SRM process and SRs addressed to the Agency following the investigation of accidents and serious incidents. The Standardisation process provides an additional source.

The European SRM process, shown in Figure 5 below, includes the following main steps:

— Identification of candidate safety issues, preliminary assessment;

— Development of domain specific safety risk portofolios (SRPs), with the advice from the European NoAs and the CAGs;

— Formal assessement of each identified safety issue within the domain SRPs, to identify potential actions for EPAS;

— Potential actions for EPAS are then further processed as explained in **Sections 2.3.4.2** and **2.3.4.3**; and

— EPAS implementation is monitored as explained in **Sections 2.5** and **4.2**. This serves two purposes, firstly to monitor the changes that have resulted from the implementation of safety actions. Secondly, it also serves to monitor the aviation system so that new safety issues can be identified.

A detailed description of the European SRM process is provided in the ASR[16] (see ASR 2019 — Introduction).

16 EASA Annual Safety Review 2019

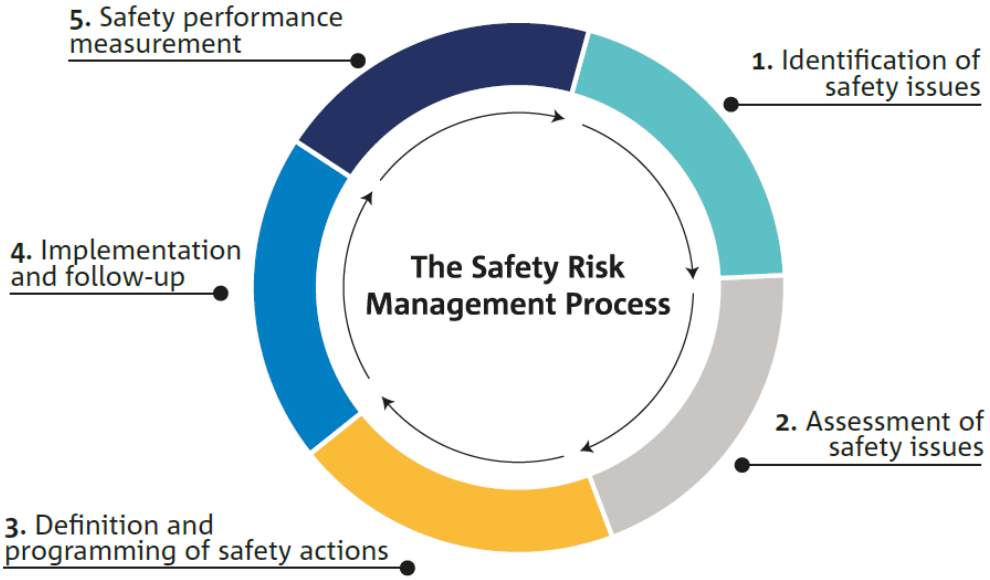


**Figure 5: European SRM process**

— **Environment**: The actions in this category are driven by the need to improve the current environmental protection in the aviation sector, while striving to ensure a level playing field globally.

Main sources for environmental candidate issues are the ICAO Standards and Recommended Practices (SARPs) and the European Aviation Environmental Report (EAER)[17] (refer to **Section 3.1.4**).

— **Efficiency/proportionality**: The actions in this category are primarily driven by the need to ensure that rules are cost-effective in achieving their objective, as well as proportionate to the risks identified. Having included an action in this category by no means signals that there are no related safety objectives; however, the effects on efficiency and proportionality prevail over those on safety.

Main sources for efficiency and proportionality issues are feedback from industry and NAAs, channelled through the ABs, as well as the results of evaluations.

— **Level playing field:** The actions in this category are mainly driven by the need to ensure that all players in a certain segment of the aviation market can benefit from the same set of rules, thereby promoting innovation, supporting fair competition and ensuring free movement of persons and services. This is particularly important for technological or business advancements where common 'rules of the game' need to be defined for all actors. 'Level playing field' may either relate to ensuring standardisation within EASA Member States or address the need to harmonise with the rules of main EASA counterparts, such as the Federal Aviation Administration (FAA), Transport Canada Civil Aviation (TCCA) or Agência Nacional de Aviação Civil (ANAC) Brazil, in order to ensure fair competition or facilitate the free movement of goods, persons and services. Actions in this category will directly contribute to maintaining or even increasing the current level of safety. Main sources for level playing field actions are feedback from EASA Standardisation, feedback from industry and NAAs, as well as rulemaking coordination with the main EASA counterparts.

[17] www.easa.europa.eu/eaer

These four drivers should be understood as *main* drivers. A number of actions could well fall under several of these drivers, but only the most relevant one will be indicated for each EPAS action.

#### 2.3.4.2 Initial prioritisation

New candidate issues/proposals can be submitted to EASA at any moment in the programming cycle. However, considering that the EPAS edition for Year N + 1 will require the final actions to be validated by early December of Year N at the latest, the initial prioritisation process for the received candidate issues should start between 6 months to 2 years before December Year N. Therefore, the processing duration for candidate issues may range between 6 months and 2 years , depending on the nature of each candidate issue. Refer to Figure 3.

The initial prioritisation intends to generate a ranked list of issues/actions considering a number of prioritisation criteria, including:

— legal obligation to act;

— the link with the EPAS strategic priorities (**Section 3.1**);

— potential safety, economic, social and environmental consequences, if the action proposed is not endorsed; and

— workload at EASA, Member States and industry level to develop the action.

Strategic priorities get a higher ranking when setting rulemaking priorities. However, the timing of the related actions often needs to consider other parameters, in addition to the strategic priority ranking. Prioritisation is done across domains but also within a domain: e.g. if an issue is small in absolute terms (across domains) but fundamental for a specific domain to be resolved, it is then considered as key.

The resulting list of issues/actions is then reviewed and endorsed internally by EASA and a decision is made on issues/actions that will be further assessed to determine Best Intervention Strategies (BIS).

The above initial prioritisation step does not apply to RES actions that follow a separate process for initial prioritisation, nor to MSTs, which mainly commit resources at Member State level. Proposals for new MSTs or changes to existing MSTs are discussed and agreed at the level of the TeBs (domain TeBs for operational issues and SM TeB for systemic issues).

#### 2.3.4.3 Best intervention strategies

Further to the initial prioritisation, the retained actions are grouped per topic and then related issues are analysed and impacts assessed, to propose the BIS. A list of BIS topics and their status is available in Appendix D.

Evidence should be included to support the analysis performed. For safety issues, this is normally provided through the related safety issues assessment (SIA) performed as part of the European SRM process (see **Section 2.3.4.1** and Figure 5).

Stakeholders are considered throughout the analysis, not only focusing on the ones mostly and directly affected, but also taking a wider view on other stakeholders.

The assessment of impacts is proportionate to the extent of the impacts and the controversial elements considered. The bigger and/or the more controversial the issue is, the more detailed will the assessment be.

For RMTs, during the development of the BIS, the Agency will also assess the suitability for a performance-based rule, based on the following criteria:

— measurability;

— need for flexibility;

— impact on innovation;

— impact on bilateral agreements;

— impact on level playing field;

— efficiency gains (through a performance-based solution); and

— need for interoperability.

One domain where rules have been reviewed in line with PBR principles is GA. EASA is engaged in developing simpler, proportionate, lighter and better rules for GA. This is achieved in line with the GA Roadmap[18] created in partnership with the EC and stakeholders by addressing the recognised importance of GA and its contribution to the European economy and a safe European aviation system. The GA Roadmap 2.0 was issued in March 2019[19].

**Impact assessment methodologies**

The methodologies applied to assess the impacts could be one or a combination of the following: cost-benefit analysis (CBA), cost-effectiveness analysis (CEA), multi-criteria analysis (MCA):

— **CBA:** Full CBA should be used when the most significant part of both costs and benefits can be quantified and monetised. It entails identifying and evaluating expected economic, environmental and social benefits and costs of the proposed public initiatives. A measure is considered to be justified where net benefits can be expected from the intervention.

— **CEA:** This method is used when the fixed objective would be difficult to monetise, e.g. in the aviation sector, the prevention of a fatality. It requires calculating the net cost needed to achieve the objective, and then comparing the net cost per 'unit of effectiveness' of each option. It is an alternative to CBA in cases where it is difficult to value benefits in monetary terms.

— **MCA:** This method is undertaken to make a comparative assessment between options for which the impacts are a mixture of qualitative, quantitative and monetary data. The aim is to combine a range of positive and negative impacts into a single framework to allow easier comparison.

Most of the impact assessments developed by EASA use MCA, as it would be very difficult to monetise all elements for each criterion and to evaluate the impacts with the same unit of measurement. In some cases, a detailed CBA or CEA is performed, for instance, on economic criteria. In this case, the result of the analysis can then be integrated into the MCA, comparing options across all relevant criteria.

[18] Available on EASA website: https://www.easa.europa.eu/newsroom-and-events/news/easa-ga-roadmap.

[19] https://www.easa.europa.eu/document-library/general-publications/ga-roadmap-2019-update-%E2%80%93-making-ga-safer-and-cheaper

**Current developments**

In line with Article 89 of the Basic Regulation, EASA shall take into account, in its decision-making, the interdependencies between civil aviation safety and socio-economic factors. Investing resources in a thorough assessment of the risks, impacts and possible side effects of proposed actions, before they are confirmed in EPAS, is expected to increase efficiency. These early assessments shall be carried out in partnership with the Member States and the industry stakeholders who have to be prepared to support EASA with their expert knowledge already during the planning phase.

Accordingly, EASA gives much importance to social impacts in its impact assessments and is working to further improve its methodology in this regard. The social impact assessment methodology to be developed will enable a more precise assessment of the social impacts of future EASA activities, more specifically in the case of RMTs. This methodology will be progressively improved throughout its implementation, based on feedback received from stakeholders.

#### 2.3.4.4 BIS output for EPAS

A BIS report is drafted summarising the main findings of the impact assessment and proposing actions ('intervention strategy'). The BIS report is consulted with the ABs. AB comments will be addressed and the BIS report will be updated accordingly. Following consultation and feasibility check from the resource point of view, the actions are considered in subsequent EPAS planning cycles (refer to Figure 1).

The output of the BIS could be any one or a combination of the following types of EPAS actions:

— RMTs;

— SPTs;

— RES; and

— MSTs.

As a general rule, the BIS is updated on an annual basis for traceability purposes. The update serves the purpose of monitoring the evolution of the identified issues/problems and envisaged actions. In case there are new issues/priorities to be addressed in the BIS, the BIS cycle (assessment of issues/new actions) needs to be completed and the updated BIS is consulted with the ABs.

### 2.3.5 Regular updates

The aviation industry is complex and rapidly evolving. The corresponding rules need to be updated regularly to ensure that they are fit for purpose, cost-effective, can be implemented in practice, and are in line with the latest ICAO SARPs. The vehicle to address these miscellaneous issues of non-controversial nature are systematic rulemaking projects called regular updates.

This EPAS edition includes 29 regular update RMTs, with about half of them relating to the update of relevant Certification Specifications (CS).

### 2.3.6 Evaluation

In line with the Better Regulation principles, EASA assesses the performance of the rules and non-rulemaking actions. Evaluations (EVTs) are used to assess if aviation regulations and related initiatives (e.g. SPTs) are delivering the expected results at minimum cost.

These EVTs intend to conclude whether the existing rules/non-rulemaking actions are fit for purpose and whether/in which areas improvements are needed. An EVT will draw conclusions on whether the rules/actions continue to be justified or whether they should be modified to improve their effectiveness and/or eliminate excessive burden.

The EVT is intended to answer the following questions:

— Is the rule/action useful to the stakeholders? — criterion 'relevance'

— Have the objectives been reached with the results? — criterion 'effectiveness'

— Are the spent resources proportionate to the achieved results? — criterion 'efficiency'

— Are the rules/actions consistent with others which are interrelated to them? — criterion 'coherence'

— Does the EU regulatory framework provide an added value compared to the national system? — criterion 'EU added value'.

In addition, a standard feature of any EVT of existing rules is to assess the potential for introducing more performance-based elements following a thorough assessment. The outcome of the EVT includes a list of recommendations that are then further analysed in the BIS for the issues identified.

Several criteria are taken into account to decide on future EVTs to be conducted by EASA:

— Legal obligation to undertake an evaluation of the rules;

— Feedback on the controversy, complexity of the rules/non-rulemaking actions, whether they generate safety risks and/or regulatory inefficiencies. This feedback is gained by analysing the flexibility provisions (Basic Regulation Articles 70 and 71), requests for alternative means of compliance (AltMoC), requests from stakeholders, feedback by the ABs on regulatory gaps/inefficiencies, permanently open findings from EASA Standardisation, etc;

— Rules/non-rulemaking actions have reached a level of implementation to enable an evaluation based on sufficient evidence (sufficient time, e.g. 5 years elapsed after the adoption of the rules/non-rulemaking actions).

The result of the analysis is reflected in the list of EVTs as included in EPAS 2020-2024.

It should be noted that the EVT concept is equally applicable to rules and non-rulemaking actions. In this regard, EASA initiated a first EVT project on safety promotion activities related to European operators flight data monitoring (EOFDM) coordination, paving the way for more assessments of this kind.

Evaluation reports are published on EASA's website[20].

## 2.4 How EPAS is structured

The 2020-2024 EPAS edition comprises two distinct volumes:

— **Volume I** provides the executive summary as well as an introduction, describes the strategy and includes the key indicators. It consists of **Chapters 1** to **4**.

— **Volume II** contains the detailed list of EPAS actions. It consists of **Chapters 5** to **16**.

Both volumes are supported by a number of appendices providing further details or assisting the reader.

[20] https://www.easa.europa.eu/document-library/general-publications?publication_type%5B%5D=2481

**Volume I**

Volume I provides an executive summary with the main highlights of each edition. This is followed by an introductory chapter where the link with other planning documents at European and global level is explained. **Chapter 2 Introduction** explains how EPAS is developed and presents the structure of the document, how actions are presented as well as how new proposals to be included in EPAS can be submitted.

The overall structure of **Chapter 3 Strategy** remains basically unchanged in this edition.

**Section 3.1** 'Strategic priorities' addresses the following priorities:

— 3.1.1 Systemic safety

— 3.1.2 Operational safety

— 3.1.3 Safe integration of new technologies and concepts

— 3.1.4 Environment

**Section 3.2** 'Strategic enablers' includes the following enablers:

— 3.2.1 Research

— 3.2.2 Safety promotion

— 3.2.3 International cooperation

— 3.2.4 Digitalisation

— 3.2.5 Technical training

— 3.2.6 Oversight and standardisation

The text in these sections is updated to reflect the latest developments.

**Section 3.3** 'New Basic Regulation' is maintained to update the information on priorities guiding the implementation of the Basic Regulation, as provided with EPAS 2019-2023.

**Chapter 4 Performance** provides key indicators for EPAS monitoring, including:

— 4.1 Key indicators in terms of EPAS actions and action completion

— 4.2 Safety performance with an outline for EPAS safety performance metrics

— 4.3 Performance information on environmental protection (with reference to the EAER)

**Volume II**

The structure of Volume II is entirely reviewed to provide a clearer link with the SRPs (ASR) and facilitate the identification of actions relevant for different stakeholder groups:

— All systemic safety & competence of personnel issues are grouped within **Chapter 5**, which is further subdivided into 6 distinct sections to address the various action areas.

— All actions other than those related to systemic safety & competence of personnel, corresponding to drivers 'safety', 'level playing field' and/or 'efficiency/proportionality' are grouped per **domain** (see **Chapters 6** to **15**). Within each of those chapters, actions are grouped per driver. For the driver 'safety', a further grouping per key risk area is applied where a significant number of actions is included (this concerns **Chapters 6** and **8** mainly).

— Following the reorganisation of chapters in Volume II from driver to operational/technical domains, regular update tasks are no longer grouped in a specific chapter under the driver 'efficiency/proportionality', they are now included in the respective **domain** chapter.

— All actions corresponding to the driver 'environment' continue to be included as a separate chapter, now **Chapter 16**.

The new structure for Volume II is as follows:

| Ch. | Title |
|---|---|
| **5** | **Systemic safety & competence of personnel** |
| **5.1** | Safety management |
| **5.2** | Human factors and human performance |
| **5.3** | Competence of personnel |
| **5.4** | Aircraft tracking, rescue operations and accident investigation |
| **5.5** | Impact of security on safety |
| **5.6** | Oversight and standardisation |
| **6** | **Flight operations — aeroplanes** |
| **6.1** | CAT & NCC[21] operations |
| **6.2** | Specialised operations (SPO) |
| **7** | **Rotorcraft** |
| **8** | **General Aviation[22]** |
| **9** | **Design and production** |
| **10** | **Maintenance and continuing airworthiness management** |
| **11** | **Air traffic management/air navigation services** |
| **12** | **Aerodromes** |
| **13** | **Groundhandling** |
| **14** | **Unmanned aircraft systems** |
| **15** | **New technologies and concepts** |
| **15.1.1** | New business models |
| **15.1.2** | New products, systems, technologies and operations |
| **15.1.3** | SESAR deployment |
| **15.1.4** | All-weather operations (AWOs) |
| **16** | **Environmental protection** |
| **16.1** | Noise, local air quality and climate change standards |
| **16.2** | Market-based measures |

A table that shows the correspondence between the structure of the 2019-2023 EPAS edition and that of the 2020-2024 one is included in **Appendix H: Volume II — new structure**.

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

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

[21] Non commercial operations with complex motor-powered aircraft.

[22] Non-commercial operations with aeroplanes with MTOMs below 5 700 kg, all operations with balloons and sailplanes.

**Example:**

- An action for flight crew training in the rotorcraft domain is included with its full description in **Section 5.3** 'Competence of personnel'. In addition, a reference to it is provided in **Chapter 7** 'Rotorcraft'.

**How individual actions are presented**

| | | | | | |
|---|---|---|---|---|---|
| **RMT.xxxx** | **Title** | | | | |
| *(1) text* | *(2) text* | | | | |
| **Status** | *(3) text* | | | | |
| **Reference(s)** | *(4) text* | | | | |
| **Dependencies** | *(5) text* | | | | |
| **Affected stakeholders** | *(6) text* | | | | |
| **Owner** | *(7) acronym* | *Full name of the EASA Department, if applicable* | | | |
| **Priority** | *(8) text* | **RM Procedure** | *(9) acronym* | **Harmonisation** | *(10) Yes/No* |

| PLANNING MILESTONES | | | | | |
|---|---|---|---|---|---|
| **SubT** | **ToR** | **NPA** | **Opinion** | **Commission IR** | **Decision** |
| *1-n* | *(11) date/reference or year/quarter* | *(11) date/reference or year/quarter* | *(11) date/reference or year/quarter* | *(11) date/reference or year/quarter* | *(11) date/reference or year/quarter* |

| CHANGES SINCE LAST EDITION |
|---|
| *(12) text* |

**Figure 6: EPAS action template for RMTs**

For each EPAS action, a unique reference and title are provided. Tasks newly added with this edition are identified by using red colour in the **action number** and by adding 'new' in the status field (3).

For RMTs, the following information is provided:

(1) 'Main driver': safety, efficiency/proportionality, level playing field, environment; where applicable, 'HF' will be added to indicate that the action has a strong human factors component;

(2) 'Action description': issue, objective and rationale;

(3) 'Status': new, ongoing, completed, on-hold, de-prioritised, merged, etc.;

(4) 'Reference(s)': related actions in other plans (e.g. ATM Master Plan, GASP) or other important reference documents, including Safety Recommendations (SRs), where relevant;

(5) 'Dependencies': other EPAS actions that enable or affect the implementation of this EPAS action. Note that such dependencies are not necessarily bi-directional;

(6) 'Affected stakeholders';

(7) 'Owner of the action': e.g. EASA department;

(8) 'Priority': YES or NO, on the basis of the strategic priorities defined in **Chapter 3**;

(9) 'RM Procedure': the applicable rulemaking (RM) procedure in accordance with EASA MB Decision No 18/2015 'Rulemaking Procedure'. Possible entries are:

— DP: Direct publication: Article 15 of the Rulemaking Procedure;

— AP: Accelerated procedure: Article 16 of the Rulemaking Procedure; or

— ST: Standard procedure.

(10) 'Harmonisation': an indication as to whether the RMT aims at harmonising the rules with those of third countries[23], in order to alleviate differences between EASA and other aviation authorities (currently: Brazil, USA, Canada) under a Bilateral Aviation Safety Agreement (BASA) with the EU, or, while ensuring an equivalent level of safety. Possible entries are: Yes/No.

Note 1: An entry 'no' does not mean that EASA is not coordinating the activity with the bilateral partners.

Note 2: Alignment with ICAO SARPs is not indicated through the harmonisation field, but explained in the task description.

(11) 'Planning milestones': date/reference or year/quarter for each deliverable. The *rulemaking process deliverables* are: ToR, NPA, Opinion and Decision. The *legislative process deliverable* is the Commission Implementing Rule (IR). IRs may take the form of delegated acts (DA) or implementing acts (IA), depending on the topic and domain.

— Where the documents are already delivered, the document reference and the publication date are provided in date format: dd/mm/yyyy.

— For documents yet to be delivered, the planned date for publication is provided in year and quarter format: yyyy Qn.

— In case a RMT has several subtasks, a separate line will provide deliverables and planning milestones for each subtask (1-n), and where different, applicable RM procedure will be indicated next to the SubT nb.

(12) 'Changes since last edition': Any changes in the scope of the given task since the previous EPAS edition. If not applicable or for tasks newly added for this edition n/a.

[23] The intention of harmonising rules can materialise in common rulemaking activities with bilateral partners developing the same or similar rule text, in EASA developing a rule harmonised with a rule that already exists within the regulatory framework of a bilateral partner, or in close cooperation with the bilateral partners.

| | | | |
|---|---|---|---|
| **XYZ.xxx** | **Title** | | |
| *(1) text* | *(2) text* | | |
| **Status** | *(3) text* | | |
| **Reference(s)** | *(4) text* | | |
| **Dependencies** | *(5) text* | | |
| **Affected stakeholders** | *(6) text* | | |
| **Owner** | *(7) acronym* | *Full name of the action owner* | |
| **EXPECTED OUTPUT** | | | |
| **Deliverable(s)** | | | **Timeline** |
| *(8) text* | | | *(9) date/reference or year/quarter* |
| **CHANGES SINCE LAST EDITION** | | | |
| *(10) text* | | | |

**Figure 7: EPAS action template for MSTs and SPTs**

(1) 'Main driver': safety, efficiency/proportionality, level playing field, environment;

(2) 'Action description': issue, objective and rationale;

(3) 'Status': new, ongoing, completed, on-hold, de-prioritised, merged, etc.;

(4) 'Reference(s)': related actions in other plans (e.g. ATM Master Plan, GASP) or other important reference documents;

(5) 'Dependencies': other EPAS actions that enable or affect the implementation of this EPAS action. Note that such dependencies are not necessarily bi-directional.

(6) 'Affected stakeholders';

(7) 'Owner of the action': e.g. EASA department; Safety Promotion Network (SPN), Member States;

(8) 'Deliverable(s)': type of deliverable (report, best practice, guidance material, study, etc.);

(9) 'Timeline': planning milestone for the deliverable:

— Where the deliverable is already published/available, the date is provided in date format: dd/mm/yyyy.

— For deliverables yet to be published/made available, the planned date for completion is provided in year and quarter format: yyyy Q (1-2-3-4).

— In case an action has several subtasks, a separate line will provide deliverables and planning milestones for each subtask (1-n).

The same logic applies to EVT actions. In addition to the above information, the planning milestone/delivery date for the EVT ToR is provided.

(10) 'Changes since last edition': Any changes in the scope of the given task since the previous EPAS edition. If no such changes are made or for tasks newly added for this edition: n/a.

| | | | |
|---|---|---|---|
| **XYZ.xxx** | **Title** | | |
| *(1) text* | *(2) text* | | |
| **Status** | *(3) text* | | |
| **Reference(s)** | *(4) text* | | |
| **Dependencies** | *(5) text* | | |
| **Affected stakeholders** | *(6) text* | | |
| **Owner** | *(7) acronym* | *Full name of the action owner* | |

| PLANNING MILESTONES | | |
|---|---|---|
| **Starting date** | **Interim Report** | **Final Report** |
| *(8) year/quarter* | *(8) year/quarter* | *(8) year/quarter* |

| CHANGES SINCE LAST EDITION |
|---|
| *(9) text* |

**Figure 8: EPAS action template for RESs**

(1) 'Main driver': safety, efficiency/proportionality, level playing field, environment;

(2) 'Action description': issue, objective and rationale;

(3) 'Status': new, ongoing, completed, on-hold, de-prioritised, merged, etc.;

(4) 'Reference(s)': related actions in other plans (e.g. ATM Master Plan, GASP) or other important reference documents;

(5) 'Dependencies': other EPAS actions that enable or affect the implementation of this EPAS action. Note that such dependencies are not necessarily bi-directional;

Note: This information will be succesuflly completed through future updates, hence in many cases this is left blank.

(6) 'Affected stakeholders';

(7) 'Owner of the action': e.g. EASA department; EC (H2020); SESAR

(8) 'Planning milestones: The planned date for the start of the research project, the interim report and final report is provided in year and quarter format: yyyy Q (1-2-3-4);

(9) 'Changes since last edition': Any changes in the scope of the given task since the previous EPAS edition. If not applicable or for tasks newly added for this edition: n/a.

**Appendices**

EPAS is complemented by 9 appendices with additional information in support of or for easy access to the information provided in Volumes I and II:

— Appendix A: Opinions, Decisions and other deliverables published in 2019;

— Appendix B: Deliverables expected in 2020;

— Appendix C: New actions, deleted actions and de-prioritised actions overview;

— Appendix D: Overview of new and ongoing Best Intervention Strategies to be launched/progressed in 2019-2020;

— Appendix E: European Commission's strategic priorities for aviation;

— Appendix F: Acronyms and definitions;

— Appendix G: Working Groups and Bodies having a role in EPAS;

— Appendix H: Volume II – new structure;

— Appendix I: Index.

## 2.5 How EPAS is monitored

**Section 4.2** presents an outline for EPAS safety performance metrics reflecting the EPAS strategic priorities in the area of safety and the high-level safety objective set out in the Basic Regulation to 'establish and maintain a high uniform level of civil aviation safety in the Union'.

The efficiency of actions included in EPAS in relation to environmental protection will continue to be monitored as part of the EAER (refer to **Section 4.3).**

Regarding the actions owned by , in the past EASA monitored those actions by means of a dedicated online survey. The survey was addressed to all EASA Member States , as well as non-EASA Member States applying EPAS, and initiated once EPAS was published and sought States' feedback on the status of implementation of EPAS MSTs. The results were summarised in an implementation report[24].

In accordance with Chapter II of the Basic Regulation, Member States are required to develop a SPAS, taking into consideration the actions they own in EPAS and providing justifications when such actions are not considered relevant to them. Accordingly, SPAS will be the primary tool for Member States to report on action implementation. States are expected to provide an up-to-date SPAS at least annually or, where the SPAS is not updated annually, a report on the implementation of EPAS actions. Implementation of the SPAS is also foreseen to be monitored by the Agency as part of the standardisation activities. EASA made available an online platform for Member States to upload their SSP, SPAS and any other relevant material. This online platform, hosted on the EASA SharePoint site for the EASA ABs[25], is also intended to facilitate the exchange of information amongst Member States on EPAS and SSP implementation.

For the remaining EPAS actions (RMT, SPT, RES and EVT), feedback on implementation is regularly provided during AB meetings. Most of the deliverables planned in EPAS are published on the EASA website (see rulemaking process[26], safety promotion[27], research projects[28] and evaluation of rules[29]).

[24] Latest States' implementation report on EPAS 2017-2021: https://www.easa.europa.eu/document-library/general-publications/states-implementation-report-epas-2017-2021

[25] https://imf.easa.europa.eu/case/eab/mabtebs/SSPDocuments/Forms/AllItems.aspx

[26] https://www.easa.europa.eu/document-library/rulemaking-process-overview

[27] https://www.easa.europa.eu/document-library/safety-promotion

[28] https://www.easa.europa.eu/document-library/research-projects

[29] https://www.easa.europa.eu/document-library/general-publications?publication_type%5B%5D=2481

# 3. Strategy

In the 2017-2021 programming cycle, EASA introduced the notion of strategic priorities for EPAS. The strategic priorities were initially based on the EC's Aviation Strategy[30] and EASA's strategic plan. The safety priorities are based on the European SRPs published in the ASR. The efficiency and level playing field priorities are based on stakeholder feedback. The environmental priorities are aligned with the EAER 2019[31].

EASA consulted these priorities with stakeholders in February and March 2019, including the organisation of a one-day workshop with the members of SAB. The comments received led to a number of adjustments and improvements, notably the identification of priorities to be addressed first. In Volume II, the actions linked to strategic priorities are identified in the field 'Priority'.

Moreover, civil-military cooperation is a crucial element to foster. Although only individual States can improve civil-military cooperation, within a regional approach in areas of highly fragmented airspace and in case of air encounters, certain facilities and services can be facilitated by EASA with limited effort, so as to ensure the safety, regularity and efficiency of civil aviation, while ensuring that requirements for military air operations are met. The regional approach may support the promotion of a common understanding, the sharing of best practices and the monitoring of their practical implementation.

**How priorities are established**

In the previous edition, the rulemaking activities were prioritised to take into consideration the need to make resources available to tackle Basic Regulation responsibilities (not only related to rulemaking), as explicitly requested by the EASA MB back in April 2018. The Basic Regulation roadmap (see **Section 3.3.2**) clearly identifies the areas where work was planned to start within the 2019-2021 range; therefore, not all new responsibilities will be tackled immediately. The prioritisation takes into account the compromise to continue working towards mitigating major safety risks across domains and addressing the strategic priorities agreed with industry and States, which are described in this Chapter.

In 2019, EASA re-assessed the activities that were postponed in the previous EPAS edition. This resulted in the reprioritisation of a number of rulemaking projects. Priority was given to those tasks that were more advanced and for which positive benefits (safety or economic) were identified. These RMTs will be resumed. The related timelines can be found in Volume II.

**Chapters 5** to **16** contain the full list of EPAS actions that are programmed for the next 5 years.

**Appendix C**: **New actions, deleted actions and de-prioritised actions overview** includes the overview of all tasks that remain on the list of de-prioritised tasks, as compared to the 20 tasks in the previous edition.

30 https://www.europeansources.info/record/communication-on-an-aviation-strategy-for-europe/

31 https://www.easa.europa.eu/eaer/system/files/usr_uploaded/219473_EASA_EAER_2019_WEB_LOW-RES.pdf

## 3.1 Strategic priorities

### 3.1.1 Systemic safety

#### 3.1.1.1 Improve safety by improving safety management

Despite the fact that the last years have clearly brought continued improvements in safety across every operational domain, the latest accidents and serious incidents underline the complex nature of aviation safety and the significance of addressing human and organisational factor aspects. Aviation authorities and organisations should anticipate new emerging threats and associated challenges by developing SRM principles. Those principles will be strengthened by SMS implementation supported by ICAO Annex 19 and Regulation (EU) No 376/2014[32] on the reporting, analysis and follow-up of occurrences in civil aviation.

**Key actions:**

— Incorporate safety management requirements in initial and continuing airworthiness (RMT.0251)

— Support States in implementing State Safety Programmes (MST.001) and States Safety Plans (MST.028)

— Encourage international harmonisation of SMS implementation and human factors principles (MST.002 and SPT.057)

— Support the implementation of a robust oversight system across Europe (MST.032)

See **Section 5.1**.

#### 3.1.1.2 Human factors

EASA monitors data relating to human performance and assesses feedback from stakeholders, through the Human Factors CAG (HF CAG) and through other regulatory and oversight activities. As the aviation system changes, it is imperative to ensure that human factors and the impact on human performance are taken into account, both at service provider and regulatory levels.

'Human factors' and 'human performance' are terms that are sometimes used interchangeably. While both human factors and human performance examine the capabilities, limitations and tendencies of human beings, they have different emphases:

— Human factors (HF) — this term focusses on why human beings function in the way that they do. The term incorporates both mental and physical processes, and the interdependency between the two.

— Human performance (HP) — the output of human factors is HP. This term focuses on how people do the things that they do.

Note: Throughout Volume II, actions with a strong HF component are identified by adding 'HF' below the driver indication.

The HF CAG prioritised a series of safety issues for a more in-depth analysis. These issues are systemic safety issues. Other CAGs address safety issues that also have HP elements[33]. The issues that have been recently completed, are underway or due to be started shortly are as follows:

[32] https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014R0376&from=EN

[33] As a result, the HF CAG also provides expertise to assess HF-related safety issues identified by the other CAGs.

**Safety issue assessments complete**

— **Human factors competence for regulatory staff** — Without HF competencies, regulators cannot adequately oversee HF implementation in the aviation industry.

— **Design and use of procedures** — It is imperative for procedures to be designed so that they are usable, but this is increasingly difficult in the context of a complex system.

**Safety issue assessments underway**

— **Senior management knowledge, competence, and commitment to HF/HP** — Unless senior management takes the lead in implementing HF practices, the culture does not permeate through the organisation, with consequences for safety and efficiency.

— **Organisational and individual resilience** — Organisational and individual resilience are key factors in successfully managing safety, but there is little regulatory guidance on how to apply the concept.

— **Training effectiveness and competence** — There can be too large a gap between work as imagined and work as done, resulting in ineffective or negative training. Some changes to training regimes may exacerbate the problem.

**New safety issue assessments for 2019/2020**

— **Fatigue (quality sleep)** — Fatigue, including the aspect of quality sleep, has been identified by almost all the domain CAGs and the HF CAG as a safety issue, despite extensive research and regulation in this area. This aspect is to be taken up in the envisaged second assessment of the effectiveness of flight time limitations (FTLs) (see **Section 5.2.1.).**

The results of the in-depth analysis of the above issues may lead to the determination of additional actions for future EPAS editions.

#### 3.1.1.3 Competence of personnel

As new technologies and new business models or operational concepts emerge on the market and the complexity of the system continues to increase, it is of key importance for aviation personnel to have the right competencies and for training methods to be adapted to cope with new challenges. It is equally important for aviation personnel to take advantage of the opportunity presented by new technologies to enhance safety.

The safety actions related to aviation personnel are aimed at introducing competency-based training for all licences and ratings and at facilitating the availability of appropriate personnel in competent authorities (CAs). The Agency shall take due account of requests to introduce competency-based training and assessment (CBTA) for all categories of aviation personnel to whom the concept is addressed: aircraft maintenance personnel, pilots, ATCOs, air traffic safety electronics personnel (ATSEP), and flight operations officers. A phased approach to gradually reach the level of maturity required for the full implementation has been adopted. Moreover, for ATCOs, the existing European' performance objective is structurally very similar to an ICAO competency unit. The safety actions for the introduction of the new training concept initially address pilots, through training organisations and operators. These actions will contribute to mitigating related safety issues, which play a role in improving safety across all aviation domains. Training and education are considered key enablers. See also **Section 3.2.6** for further details on technical training.

**Key actions:**

— Introduce evidence and competency based training and assessment for FCL and OPS, as appropriate (RMT.0194, RMT.0599 and SPT.012);

— Modernise the European pilot licensing and training system (RMT.0194).

#### 3.1.1.4 Impact of security on safety

Cybersecurity

Citizens travelling by air are more and more exposed to cybersecurity threats. In order for the new generation of aircraft to have their systems connected to the ground in real time, ATM technologies require internet and wireless connections between the various ground centres and the aircraft. The multiplication of network connections and the surge in digitalisation of aviation systems increases the vulnerability of the whole system. It is essential that the aviation industry and authorities share knowledge and learn from experiences to ensure systems are secure from individuals/organisations with malicious intent.

EASA signed a Memorandum of Cooperation (MoC) with the Computer Emergency Response Team (CERT-EU) of the EU Institutions on 10 February 2017. EASA and CERT-EU have established a European Centre for Cyber Security in Aviation (ECCSA)[34]. The ECCSA's mission is to provide information and assistance to European aviation manufacturers, airlines, maintenance organisations, ANSPs, aerodromes (ADR), etc. in order to protect critical elements of the system such as aircraft, navigation and surveillance systems, data links, etc. The ECCSA will cover the full spectrum of aviation. In addition to the information-sharing initiatives intended to be implemented through the ECCSA, the strategy to address cybersecurity risks should be focused on research and studies, event investigation and response, knowledge and competence building, international cooperation and harmonisation and regulatory activities and development of industry standards.

**Key actions:**

— Implement a regulatory framework for cybersecurity covering all aviation domains (RMT.0720);

— Introduce new cybersecurity provisions in the certification specifications (RMT.0648).

Conflict zones

Since the tragic downing of Malaysian Airlines flight MH17, there is a general consensus that States shall share their information about possible risks and threats in conflict zones. Numerous initiatives have been taken to inform the airlines about risks on their international flights.

Member States, European Institutions and EASA have established an alerting system with the objective of joining up available intelligence sources and conflict zone risk assessment capabilities in order to enable the publication of information and recommendations on conflict zone risks in a timely manner, for the benefit of all European Member States, operators and passengers. It complements national infrastructure mechanisms, when they exist, by adding, when possible, a European level common risk picture and corresponding recommendations.

[34] https://www.easa.europa.eu/eccsa

EASA acts as the coordinating entity for activities not falling directly under Member States' or the EC's responsibility and initiates the drafting, consultation and publication of Conflict Zone Information Bulletins[35], based on common EU risk assessment.

**Key action:**

— Disseminate information to air operators in order to mitigate the risk associated with overflying conflict zones (SPT.078).

#### 3.1.1.5 Impact of socio-economic factors on safety

Article 89 of the Basic Regulation requires the Member States, the EC, the Agency and other Union institutions, bodies, offices and agencies to cooperate with a view to ensuring that interdependencies between civil aviation safety and related socio-economic factors are taken into account. In particular, it addresses the need to address socio-economic risks to aviation safety. EASA is also required to consult relevant stakeholders when addressing such interdependencies and every three years publish a review, which shall give an objective account of the actions and measures undertaken, in particular those addressing the interdependencies between civil aviation safety and socio-economic factors.

**Key action:**

— Set up a consultation process on interdependencies between civil aviation safety and socio-economic risks through SAB and the EU Aviation Social Dialogue platform.

#### 3.1.1.6 Data4Safety

*Data4Safety* (also known as D4S) is a data collection and analysis programme that aims at collecting and gathering all data that may support the management of safety risks at European level. This includes safety reports (or occurrences), flight data (i.e. flight parameters recorded on board the aircraft), surveillance data (air traffic data), weather data — these being only a few from a much longer list.

More specifically, the programme will allow to identify better where the risks are (safety issue identification), determine the nature of these risks (risk assessment), and verify whether the safety actions are delivering the needed level of safety (performance measurement). It aims at developing the capability of discovering vulnerabilities in the system across terabytes of data.

An initial proof of concept (PoC) phase has been launched with a limited number of partners to test the technical challenges as well as the governance structure of such a programme. The PoC is planned to be completed early 2021 and the programme will then open gradually the membership to the European aviation safety system stakeholders. A number of key building blocks have been achieved, in particular:

— The partnership principles have been framed into a programme charter.

— The data protection rules have been agreed upon and captured into the rules and procedures document and in a data sharing and protection agreement template.

— The use cases for the PoC phase have been agreed upon and specified.

— The Big Data infrastructure has been set up and the initial set of data uploaded.

— Data scientists have now joined the programme and started to work on the advanced analytics.

[35] https://www.easa.europa.eu/easa-and-you/air-operations/information-on-conflict-zones

D4S is, in essence, a collaborative partnership programme that aims at inferring safety intelligence. This is done by organising a massive collection of safety data and, equally important, organising the analytical capacity amongst all European aviation safety system stakeholders. This will take the collaborative work with the industry at a scale never achieved before in Europe.

D4S will therefore directly respond to the GASP SEI 11A (GASP 2020-2022 Appendix A ORG Roadmap § 3.1.1) 'Work with industry stakeholders to leverage best practices with safety information analysis.'

#### 3.1.1.7 Civil-military coordination and cooperation

Closer cooperation is needed between the civil and the military, including at the level of State safety management, to achieve a safe and efficient use of airspace as well as to protect fundamental principles such as security, or interoperability.

Within Europe, a good example of civil-military cooperation in the ATM area is the implementation of flexible use of airspace (FUA), which is now evolving towards a more advanced concept. While this approach is desirable and commendable, it only accounts for the ATM aspects. A comprehensive approach could be introduced to address virtually all aviation areas.

**Airworthiness**

Military aviation is the prerogative and the responsibility of a Member States, it would be beneficial from committing further to leverage and consolidate efforts by both civil and military in developing their aviation capabilities by taking elements from the civil world.

EASA started to provide an effective support to military and industry applicants to ensure adequate and prioritised technical advice for appropriate airworthiness and safety solutions.

Some of the European military authorities have already recognised that the civil model can, in part, be extrapolated to military air systems. In those circumstances, they may move towards an 'as civil as possible, as military as necessary' approach through gradual convergence to civil standards for the design, manufacture and maintenance of military aircraft.

**Safety intelligence and performance domains**

The timely and accurate reporting of safety information at European level and beyond is critical to verify the achievement of global safety objectives and monitor the implementation of safety programme initiatives, such as EPAS.

Reliable military safety data sharing, primarily for aerodromes open to public use (dual-use platforms) and civil derivative aircraft (fixed wings and rotorcraft), would provide perspectives that are both global in nature as well as specific to individual areas, such as rotorcraft, where a substantial fleet is operated by the military.

Going forward, tools to allow for a comprehensive assessment of safety performance, including State and military aircraft, would be of strong benefit to the entire aviation system and would support the goal of ensuring the highest common level of safety and environmental protection for the European aviation system.

**Aviation security (including cybersecurity)**

There is a shared understanding and growing concern within the military community that security and especially cybersecurity may introduce considerable risk for aviation, as systems on board aircraft and the

European ATM System rely on increased connectivity. Moreover, effectively mitigating cyber-related risks is key to enabling unmanned aircraft systems (UAS) (or drones)[36] integration into non-segregated airspace.

The strategic orientations adopted by EASA in developing its cybersecurity roadmap and the setting up of the European Strategic Coordination Platform (ESCP) provide the military with an opportunity to cooperate in an area of common interest in the wider context of the European aviation system.

**Airspace, ANS, aerodromes open to public use**

To meet the aerodrome challenges of delivering sufficient capacity, civil and military aerodromes will need to make progress to achieve a seamless airspace and globally harmonised ANS, where civil-military cooperation is a crucial element to foster in the transition process.

Key to successful cooperation is the establishment of trust and transparency so that the needs and requirements of civil and military aerodromes and services providers could be fully understood and that over time an integrated model could be achieved.

With a regional approach in areas of highly fragmented airspace and aerodromes open to public use, certain facilities and services shall be arranged so as to ensure the safety, regularity and efficiency of civil aviation as well as to ensure the requirements of military air operations are met, in particular by promoting a common understanding of key principles, sharing best practices and monitoring their practical implementation.

**Key action:**

— Member States to consider civil-military coordination aspects where relevant for their State Safety Programme (MST.001).

### 3.1.2 Operational safety

#### 3.1.2.1 Address safety risks in commercial air transport (CAT) aeroplane operations (airlines and air taxi, passenger/cargo) and NCC operations

During 2018, there were no fatal accidents involving European air operator certificate (AOC) holders performing CAT passenger/cargo. In this category, there were 14 non-fatal accidents; however, the number of non-fatal accidents was lower than the average of the previous 10-year period (23.1). In 2018, the number of serious incidents in this category increased in comparison with the average of the previous 10-year period, with 107 serious incidents recorded in 2018 in comparison with the 10-year period average of 81.3.

In the European NCC operations category, there were 3 non-fatal accidents in 2018, compared with an average of 1.4 per year over the previous decade. There was also 1 fatal accident, with 1 fatality. The number of serious incidents was also higher than usual, with 7 in 2018, compared with an average of 3.7 per year over the previous 10-year period.

This operational domain remains the greatest focus of the EASA safety activities. The CAGs and ABs will help EASA to learn more about the safety challenges faced by airlines and manufacturers.

The European SRM process identified the following as the most important risk areas for CAT aeroplane and NCC business operations:

[36] 'Unmanned aircraft systems (UAS)' is the legal and technical term used in the EASA Basic Regulation as well as in the delegated and implementing acts adopted on the basis thereof. 'Drones' is the popular term used to be understood by persons with no aviation background. Both terms are used in EPAS and refer to the same thing.

— aircraft upset in flight (loss of control)

Aircraft upset or loss of control is the most common accident outcome for fatal accidents in CAT aeroplane operations. It includes uncontrolled collisions with terrain, but also occurrences where the aircraft deviated from the intended flight path or intended aircraft flight parameters, regardless of whether the flight crew realised the deviation and whether it was possible to recover or not. It also includes the triggering of stall warning and envelope protections.

**Key actions:**

— Review and promote training provisions on recovery from upset scenarios (RMT.0196 and SPT.012);

— Member States to address loss of control in flight by taking actions at national level and measuring their effectiveness (MST.028).

See **Section 6.1.1.1**.

— runway safety

Runway excursion covers materialised runway excursions, both at high and low speed, and occurrences where the flight crew had difficulties in maintaining the directional control of the aircraft or of the braking action during landing, where the landing occurred long, fast, off-centred or hard, or where the aircraft had technical problems with the landing gear (not locked, not extended or collapsed) during landing. Runway excursions account for 81 high-risk occurrences recorded in the period 2013-2017 in CAT aeroplane and NCC operations.

Runway incursion refers to the incorrect presence of an aircraft, a vehicle or a person on an active runway or in its areas of protection, which can potentially lead to runway collision as the most credible accident outcome. Manifested or potential runway collisions account for 28 high-risk occurrences recorded in the period 2013-2017. Despite the relatively low number, the risk of the reported occurrences was demonstrated to be significant.

**Key actions:**

— Require on-board technology to reduce runway excursions (RMT.0570);

— Improve safety in relation to runway surface condition reporting and in-flight assessment of landing performance (RMT.0296 — Opinion No 02/2019 published on 22/02/2019);

— Promote and implement the European Action Plan for the Prevention of Runway Incursions (EAPPRI) and Excursions (EAPPRE) (RMT.0703 — Opinion No 03/2019 published on 24/06/2019);

— Member States to address runway safety by taking actions at national level and measuring their effectiveness (MST.028).

See **Section 6.1.1.2**

#### 3.1.2.2 Rotorcraft safety improvement

The **Rotorcraft Safety Roadmap** was delivered in November 2018, and following endorsement by EASA, is available on the EASA website[37]. The roadmap was initiated by EASA who tasked a group of external experts to develop, jointly with EASA, a set of ambitious proposals. This roadmap contains proposals for actions in order to significantly reduce the number of rotorcraft accidents and incidents. The initial analysis of data showed that the activities have to focus on light conventional rotorcraft and small operators. General Aviation (GA) rotorcraft where the number of accidents is recognised to be higher, are also within the scope of the roadmap. The roadmap covers 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.

The vision of the roadmap is to '**achieve significant safety improvement for Rotorcraft with a growing and evolving aviation industry**'. The group analysed a significant amount of data and took a very close look at the European 'helicopter landscape' before defining its objectives and identifying the actions to meet these objectives. The following objectives are defined in order to deliver the vision stated above:

**Improve overall rotorcraft safety by 50 % within the next 10 years:** Most of the accidents can be attributed to operational causes and it is recognised that influencing behaviour in the wider community is a complex process where step changes are difficult to achieve in the short term. However, for accidents caused by technical failures, an ambitious target is set to reduce the number of accidents caused primarily by technical failures by one order of magnitude.

**Make positive and visible changes to the rotorcraft safety trends within the next 5 years:** The aim of this objective is to drive the implementation of the quick-wins that are identified and to rapidly progress a number of safety improvements. A key performance indicator (KPI) for the safety objectives is the number of rotorcraft accidents in Europe that result in at least a fatality or a serious injury. Additional KPIs are based on the European Risk Classification Scheme (ERCS), complemented by the data collection activity using D4S to build robust data on accident rates. Helicopter safety performance indicators are published as part of the EASA ASR.

**Develop performance-based and proportionate solutions that help maintain competitiveness, leadership and sustainability of the European industry:** This objective also aims at supporting the development of new business models and encourage innovation.

This specific set of rotorcraft objectives align with the EASA Strategic Objectives, which have been used to derive the strategic priorities for EPAS. The main elements of the roadmap were presented in several fora, including the Rotorcraft Committee (R.COM) and the Rotorcraft Symposium.

The actions are organised in accordance with the following work-streams:

- WS1 Safety Data,
- WS2 Safety Rating and market based solution to incentivise safety,

[37] https://www.easa.europa.eu/download/Events/Rotorcraft%20Safety%20Roadmap%20-%20Final.pdf

- WS3 Training Safety,
- WS4 Training Devices and simulators,
- WS5 Safety Promotion,
- WS6 Helicopter Design improvements,
- WS7 Net Safety Benefit and CS Modernisation,
- WS8 Simplify,
- WS9 Continued Aviation Education,
- WS10 Fostering EU financial support for safety improvements.

In 2019, the Agency created an internal team to evaluate and integrate the recommendations contained in the Roadmap document into the EASA work programme. It was decided not to launch new RMTs but to include the inputs from the Rotorcraft Safety Roadmap in the scope of the current RMTs.

The main subjects of the Roadmap were organised in work streams and are described below:

**Safety Data :** EASA will engage with Original Equipment Manufacturers (OEMs), operators and NAAs to collect and consolidate exposure data and other relevant statistics, such as flight hours or number of cycles of their products. A framework will be set up to exchange information with EASA in a manner which is mindful of personal data protection. In particular, the European NoAs will be used to facilitate the collection of data on fleet and flight hours from the NAAs. In order to enhance and promote reporting, new ways to report data, such as automatic reporting, will be investigated. The objective is to obtain enough data to enable us to work on accident rates instead of on numbers of accidents.

**Training Safety and Training Devices and simulators**: Training is seen both as a risk area and as an opportunity. A large number of the in-flight accidents happen during training. The use of flight simulator training devices (FSTDs) and the development of new training devices such as, but not limited to virtual reality (VR) should be strongly promoted for high-risk training scenarios. The changes will feed and be implemented within the context of RMT.0194, RMT.0196, RMT.0678 and RMT.0599.

**Safety Promotion**: In order to establish a sustainable and effective safety culture including the sharing of best practices, Safety Promotion is a fundamental activity. EASA is running actions such as SPT.082 ‘Support the development and implementation of flight crew operating manuals (FCOMs) for offshore helicopter operations’ and SPT.094 ‘Helicopter safety and risk management’. Please refer to **Chapter 7** for all Safety Promotion actions related to Rotorcraft.

**Helicopter Design improvements:** When it comes to design, the roadmap contains a number of actions that are not visible in the public version of the documents or the presentations and are discussed between EASA and the respective OEMs.

**CS Modernisation:** This work stream will address the modernisation of the EASA CSs. Several RMTshave been initiated in that respect. EASA’s rotorcraft team is engaged with industry and the other bilateral partner authorities on the modernisation of the CSs. Refer to the **Chapter 7** Rotorcraft and **Chapter 9** Design and Production with the list of RMTs directly relevant to rotorcraft safety. Some of these tasks pertain to Part-26 requirements.

**Simplify**: The Agency is planning the evaluation task EVT.0010 Helicopter operations in order to collect data and assess the regulatory burden put on small and medium-sized helicopter operators.

**Evaluation of new concepts:** The following new concepts were proposed and are evaluated:

— **Net Safety Benefit:** This task aims to establish a policy in order to introduce the net safety benefit concept in certification. Here, we are also going to evaluate technologies which are available. This activity has been initiated and is managed in the framework of the activities of the GA Roadmap in liaison with the EASA Technology for Safety (T4S) initiative. T4S is a working-group created and managed by EASA with participation from the industry and Member States aiming at facilitating the introduction of technologies having safety benefits in the cockpit of GA aircraft. It was initiated as part of the GA Roadmap.

— **Continued Aviation Education**: The Rotorcraft Safety Roadmap suggests to introduce a Continued Aviation Education (CAE) scheme using the Continued Medical Education (CME) experience, and assess applicability to various rotorcraft personnel playing key roles in safety: accountable managers, nominated personnel, pilots, instructors, examiners and inspectors, maintenance staff, and also GA pilots. This concept is currently being investigated.

**Safety Rating**: The next big concept proposed is the introduction of a voluntary rotorcraft safety rating scheme. Such a scheme is used in the automotive industry with the crash test programmes Euro NCAP[38]. It is a good way to give an incentive to the manufacturers to make safety improvements to their vehicles and differentiate themselves (from the competition). A comparative review of the current safety rating schemes of different industries has been conducted. It covered a wide range of test programmes used not only in transport but also in other industries — for example, in the food safety industry.

#### 3.1.2.3 Address safety risks in GA in a proportionate and effective manner

In the last years, accidents involving recreational aeroplanes, i.e. non-commercially operated small aeroplanes with MTOMs below 5 700 kg, have led to an average of 86 fatalities per year in Europe (based on 2008-2017 figures, excluding fatal accidents involving microlight airplanes, gliders and balloons), which makes it one of the sectors of aviation with the highest yearly number of fatalities. In 2018, there were 49 fatal accidents causing 95 fatalities in non-commercial operations with small aeroplanes, and 16 fatal accidents causing 17 fatalities in the domain of sailplane operations (the 2008-2017 average is 28.6 fatalities per year in Europe). The GA roadmap is key to the EASA strategy in this domain. 2018 seems to show an improvement for gliders, and a deterioration for GA fixed wing. In order to support the monitoring of safety performance and prioritisation of EPAS actions in the area of GA, Member States are invited to collect data on their GA fleet, as well as on flight hours, to provide such data to EASA, through the Network of Analysts (NoA).

Although it is difficult to precisely measure the evolution of safety performance in GA due to lack of consolidated exposure data (e.g. accumulated flight hours), it is reasonable to assume that more initiatives and efforts are needed to mitigate risks leading to these fatalities.

[38] https://de.wikipedia.org/wiki/Euro_NCAP

The following have been achieved:

— Safety promotion task on airspace infringement (SPT.089), developed in cooperation with the Safety Promotion Network (SPN) of the Member States, now completed;

— Sunny Swift comics[39], the first 11 issues were published in all EU languages. Sunny Swift is now well accepted and becoming a connecting link to attract the attention of the end user to a safety topic and related information;

— Launch of the first EASA GA Safety Award at the Aero Friedrichshafen 2019;

— Basic instrument rating (NPA 2016-14), cooperation with EUROCONTROL to promote the results of RMT.0677 (SPT.088). Opinion No 01/19, stemming among others from RMT.0677, was published on 19/02/2019. In parallel, RMT.0379 'AWOs' will allow to promote IFR approaches on non-IFR airfields;

— 3rd workshop on 'Enhance See and Avoid' organised in the first quarter of 2019;

— 'GA and low level weather' workshop organised in the second quarter of 2019. On the same theme, a visual flight rules (VFR) into instrument meteorological conditions (IMC) simulator project was organised in the first quarter of 2019 as part of the safety promotion plan for GA.

To improve the dissemination of safety messages (MST.025), in 2018 EASA introduced the GA Community website[40] and organised its Annual Safety Conference on 'Promoting Safety Together: a vision for the future of General Aviation'. Other dissemination actions include the GA roadmap roadshows and continued participation in AERO Friedrichshafen, the 'global show for General Aviation'. The GA Community site has been reinforced in 2019 with a new **GA Safety Together Facebook page**[41] in order to reach a wider audience.

EASA, in cooperation with its ABs, launched GA Roadmap 2.0. It will concentrate on making GA safer and cheaper thanks to innovation and technology and on supporting the implementation of new or amended regulations.

**Key actions:**

— Improve the dissemination of safety promotion and training material by authorities, associations, flying clubs, insurance companies targeting flight instructors and/or pilots; to create a General Aviation Safety Promotion platform (SPT.092);

— Support the introduction of new business models (i.e. cost sharing platforms);

— Adapt design and production rules ('Part 21 Light') to become more proportionate to the risks (RMT.0689 is completed; all futher related actions are incorporated in RMT.0727);

— Bring data to the GA cockpits: weather, flight information services (FIS), and traffic information data should progressively be made available in all GA cockpits (SPT.087 + RES.021); and

— Support the implementation of new or amended regulations.

39 https://www.easa.europa.eu/easa-and-you/general-aviation/sunny-swift-flight-instructor
40 https://www.easa.europa.eu/community/ga
41 https://www.facebook.com/easagasafetypromotion

### 3.1.3 Safe integration of new technologies and concepts

This strategic priority guides the introduction of new technologies, innovative solutions and operating concepts to support their safe integration into the aviation system and facilitate the emergence of such new technologies and solutions. It will require an evolution of the current European regulatory framework for aviation safety, initially 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.

Many of the technologies and innovations emerging in the aviation industry bear significant potential to further improve the level of safety, e.g. by improving the collection and analysis of operational data, better condition monitoring of aircraft for the purpose of preventive maintenance, improved accessibility and better quality of meteorological information, etc.

Digitalisation and automation are rapidly increasing in aviation systems. While this has resulted overall in significantly improved safety, the trend towards increasing automation requires a renewed safety focus on the interactions between humans and automation. The next generation of automation will be using AI. This domain, no longer the province of science fiction, could well be the next 'game-changer' for aviation[42]. In the near future, new EPAS actions will be required to maximise related safety benefits, while mitigating any threats induced by the implementation of these new technologies.

To cope with the ever-growing complexity of the aviation system, EASA's work will increasingly focus on managing interfaces and interdependencies between aviation system 'components' with due consideration of the total aviation system. This focus is expected to increase the efficiency in rulemaking, certification and oversight processes, as well as more generally in risk management.

To regulate the safe integration of new technologies and concepts, the Agency will ensure that from inception (issuing the related ToRs), any new rulemaking activity will foresee consultation of relevant stakeholders in all affected aviation domains, to ensure that an appropriate cross-section of aviation interests from all domains is captured. This was done, for example, for RMT.0379 'All-weather operations', to ensure due consideration of the interactions among the different 'aviation system components' involved (aircraft, aerodromes, operational procedures, involved personnel, etc.).

In this fast-evolving context, EASA is putting significant effort in preparing the future with e.g. the identification of dedicated resources to innovative projects, the establishment of an Artificial Intelligence Task Force, the EASA Innovation Cell, the Certification Directorate reorganisation 'CT Roadmap 2020', research activities, etc.

**EASA Innovation Cell**

In March 2018, EASA launched the internal Innovation Cell, whose task is to coordinate actions supporting the safe introduction of innovation in the aviation market. The Innovation Cell is a cross-Directorate, non-hierarchical structure, coordinating internal actions along 6 principles:

[42] See AVIATION SAFETY – Challenges and ways forward for a safe future, Research & Innovation Projects for Policy, EC – Directorate General for Research and Innovation, January 2018: https://publications.europa.eu/en/publication-detail/-/publication/b4690ade-3169-11e8-b5fe-01aa75ed71a1/language-en/format-PDF/source-75248795

**1. Organise innovation as part of our business**: The Innovation Cell concentrates, coordinates and disseminates information and projects on innovation.

**2. Learn**: It is essential for EASA to learn as soon as possible about new technologies and principles. This can only be achieved through partnerships with industry. EASA staff can participate in innovative projects through Innovation Partnership Contracts (IPCs) and MoC on innovation.

**3. Educate**: The EASA approach to innovation needs to become a corporate value. The Innovation Cell animates an internal knowledge community of more than 100 persons to date who share information, discuss impacts, and collaborate on projects through an online platform.

**4. Timely adapt regulations and methodologies**: EASA acknowledges the need to adapt regulations and certification methodologies in line with the maturation of new technologies (e.g. blockchain and AI).

**5. Be technology "agnostic"**: In times of technology proliferation, EASA acknowledges the need to move to performance-based rules, which do not prescribe a given technology, but provide a performance target.

**6. Engage with new entrants**: Innovation brings about a new 'breed' of stakeholders, such as drone manufacturers or operators, new digital companies, etc. EASA needs to integrate them into the community of stakeholders in order to take their views into account but also to educate them on the extremely high safety expectations of the aviation community.

The IPCs and MoC on innovation are being developed together with key industry stakeholders. Their objective is twofold: to ease the safe introduction of new technologies in the aviation market and to better prepare EASA to face innovation challenges by bridging the knowledge asymmetry with industry on new technologies. The current IPCs and MoC cover a wide spectrum of topics such as single-pilot operation concepts, the certification of Machine Learning (ML), new avionics concepts, virtualisation and digitalisation of ATM functions, electric and hybrid CAT, etc.

**EASA Artificial Intelligence Roadmap**

EASA is very active in implementing the EASA AI Roadmap that identifies the opportunities, challenges and impact of this emerging technology on the various domains under EASA's mandate, with a view to propose a corresponding action plan. It will allow the Agency to be prepared in accompanying industrial strategic changes and developments in the coming years. Further details can be found in **Section 3.1.3.1**

**EASA CT Roadmap 2020**

Among others, one of the main objectives of the CT Roadmap 2020 is to manage internal competencies and knowledge to be better prepared for handling new technological developments. This includes mapping all technical competencies available (within the Agency or through outsourcing) to develop strategic planning tools to anticipate future needs and adapt the available set of skills through development, mobility, retraining, outsourcing and recruitment.

**Research**

Research will play an important role in the safe integration of new technological advancements into the aviation system. An objective of EASA's research strategy[43] is the upstream support to research activities performed by industry, research centres and universities, by contributing the regulator's views and advice to ensure that the regulatory framework will not be an impediment to innovation. This on the one hand ensures that novel technologies meet the safety, security and environmental protection requirements and on the other hand assists is reducing 'time-to-market' of new products and new types of operation.

All these initiatives should support future enhancement of our global performance-/risk-based regulatory system fostering the introduction of new aircraft design and operating concepts, in a far more digital environment than we have today.

At the same time, new types of operations, aircraft or propulsion systems are emerging and their novel features may not be addressed in existing certification specifications and operational regulations, (including flight crew licensing, air operations, continuing airworthiness, aerodromes and ATM/ANS).

For example:

— **Electric and hybrid propulsion for aircraft**

  The market potential is considered significant with related effects on wealth and job creation. Environmental benefits for Europe are also potentially significant in terms of both gaseous emissions and noise.

— **Airships**

  There are at least two airship projects in Europe. These lighter-than-air aircraft are likely to be used in specialised operations in the medium term. The existing flight crew licensing, air operations, continuing airworthiness and aerodrome regulations will need to be adapted to incorporate this type of operation.

— **Supersonic and hypersonic aircraft**

  Although there are no supersonic aircraft being developed in Europe, it is very likely that such aircraft will be operated in Europe in the medium term.

  Specific landing and take-off noise regulations will need to be adapted for supersonic aeroplanes safeguarding the high level of environmental protection in Europe will need to be developed. In order to ensure a level playing field with subsonic aircraft, these supersonic landing and take-off noise regulations will be guided by the international noise certification standard for subsonic aeroplanes.

[43] https://www.easa.europa.eu/easa-and-you/safety-management/research

It is expected that supersonic transport (SST) aeroplanes will be restricted to fly at supersonic speeds over high seas in order to avoid unacceptable situations to the public from sonic booms to begin with. There is a long-term ambition to work on the definition of a sonic boom noise certification standard for 'low-boom' SST aircraft that will safeguard no such unacceptable situations will be present. This is one precondition to facilitate supersonic flights over land. As regards emissions certification standards, SST aircraft and engine emissions regulations need to be developed and updated, respectively, to ensure environmental compatibility of supersonics.

— **Tilt-rotor aircraft**

There is currently one project under certification in the USA; such aircraft could thus be operated in Europe by mid-2021. Tilt rotor aircraft will require adaptation of the flight crew licensing, air operations, aerodromes and continuing airworthiness regulations in particular. For example, current air operations regulations only address fixed wing aircraft, helicopters and balloons.

— **Higher airspace (HA) operations**

There is currently a regulatory gap for operations in the 'higher airspace'. It is a dynamically evolving topic, driven by new technologies and demand. There is a need to further explore ways to tackle this gap, including, but not limited to, the definition of HA limits (upper and lower). This airspace would affect several types of aircraft including e.g. balloons, airships, and high-velocity vehicles, manned and unmanned. In the short term, a concept of operations will be defined in a project led by the EC. The outcome of this work will be analysed by EASA to determine the need for regulatory activities in the medium/long term (2-4 years). The EASA view on the emerging business cases to utilise HA in the short term is centred on operations in the field of high-altitude pseudo-satellites as a significant cost saving over traditional satellites. Other business cases cover micro-satellite launches and, in the longer term, supersonic transportation. Any definition of an upper limit to HA would need to cater for the operation of suborbital and space operations. As a subset of HA suborbital and space operations will have an impact in more areas than just airspace operations.

— **Suborbital aircraft and space operations**

Air operations regulations, for example, would need to be adapted and the impacts on the ATM system will need to be addressed in both the current airspace management and HA. Moreover, as suborbital aircraft are currently envisaged to use rockets to reach the fringe of space, fuelling of such rockets at airports would require the installation of dedicated, protected areas. This new type of operations will also call for further civil-military cooperation and coordination. Currently some European States are interested in developing horizontal spaceports to operate such suborbital aircraft

One suborbital aircraft project is currently being developed and tested in the USA ('SpaceShipTwo') this project is gaining significant media coverage at present, but has not yet been operated commercially with paying passengers on board. Some suborbital aircraft projects exist as well in Europe ('Spaceplane', the VSH student challenge project[44] to develop a suborbital manned airborne,

[44] VSH project is part of the Aerospace Student Challenge, which allows teams of European students, through collaborative work, to participate in the development of the project by addressing various aspects of the VSH system: propulsion, avionics, flight simulation but also maintenance, management, legal aspects, etc. while complying to the overall technical framework of the VSH. The name stands for VEHRA (Véhicule Hypersonique Réutilisable Aéroporté) Suborbital Habité, or Suborbital Manned ARHV (Airborne Reusable Hypersonic Vehicle), and the vehicle will be launched from a commercial aircraft, which will reach Mach 3.5 and an altitude of 100 km, the limits of space.

reusable hypersonic vehicle). Due to the challenges around the propulsion systems the level of safety for such operations will require careful consideration.

— **Reduced crew**

PART-ORO (Annex III to Regulation (EU) 965/2012[45] — the 'Air OPS Regulation) contains conditions and limitations addressing crew composition, FTL regimes and crew training. In the future, these conditions and limitations may evolve in order to potentially extend to allow for the possibility for large aeroplanes conducting CAT to be safely operated by a single pilot, provided that effective mitigations (e.g. ground assistance, advanced cockpit with workload alleviation means, capability to cope with an incapacitation, etc.) are in place, in order to ensure an equivalent level of safety in each of the relevant areas affected. Should new RMTs be added or existing ones be amended to enable these kinds of operations, there will be an engagement with all relevant stakeholders via the established channels.

In 2019, EASA started an internal project aiming to evaluate the impact of required changes (internal and external) on a variety of aspects:

— changes to the regulatory environment;

— interaction with ICAO; and

— changes in operators' business models and social impacts.

A new RES action is included in this edition to support this new project (RES.028). Further actions may be developed and included in subsequent EPAS editions.

#### 3.1.3.1 Artificial intelligence (AI)

**EASA AI Roadmap**

AI, and more specifically the ML[46] field of AI, bears enormous potential for developing applications that would not have been possible with the development techniques that were used so far.

As concerns EASA, AI will affect most of the domains under its mandate. AI not only affects the products and services provided by the industry, but also triggers the rise of new business models and affects the Agency's core processes (certification, rulemaking, organisation approvals, and standardisation). This may in turn affect the competency framework of EASA staff.

AI is by essence multidisciplinary and will require a coordinated risk management approach, to ensure safety within the total aviation system.

EASA developed an AI Roadmap that aims at creating a consistent and risk-based 'AI trustworthiness' framework to enable the processing of AI/ML applications in any of the core domains of EASA, from 2025 onwards.

[45] https://eur-lex.europa.eu/legal-content/de/TXT/?uri=CELEX%3A02012R0965-20160825

[46] Machine learning (ML) — the ability of computer systems to improve their performance by exposure to data without the need to follow explicitly programmed instructions.

**Scope of the EASA AI Roadmap**

The current breakthrough is the use of data-driven learning techniques (Machine Learning (ML)/Deep Learning (DL)), which are disruptive and, by opposition to development techniques, cannot be addressed through traditional approaches. They raise the need for developing novel methods.

Version 1.0 of the EASA AI Roadmap will focus on ML techniques using, among others, learning decision trees or neural network (NN)[47] architectures. Further development in AI technology will require future adaptations to this Roadmap.

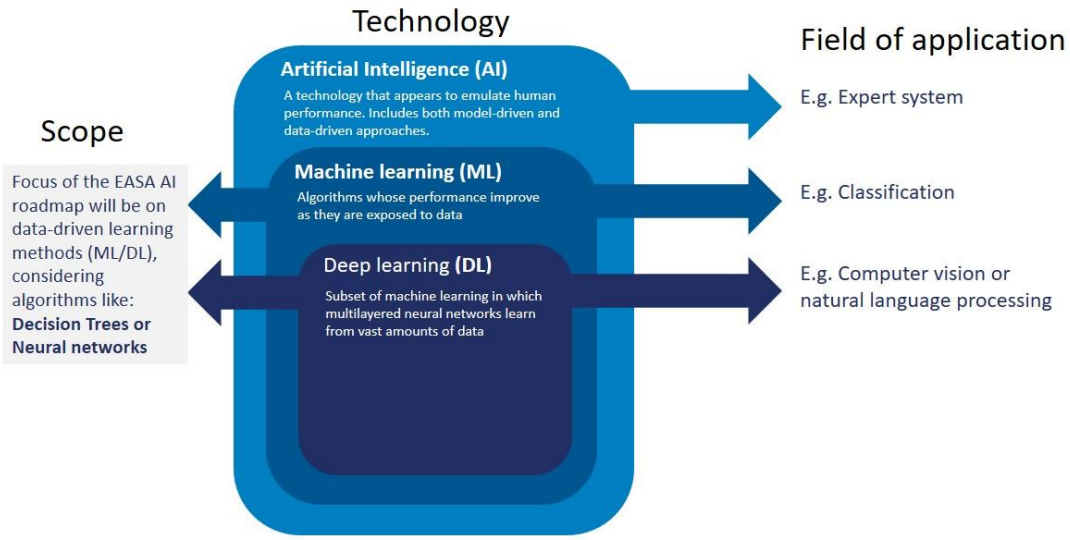


**Figure 9: AI taxonomy in the EASA AI Roadmap**

**Challenges**

The power of ML lies in the capability for a system to learn from a set of data rather than requiring development and programming of each necessary decision path. It also involves a consequent number of challenges, including:

— the traditional ***development assurance frameworks are not adapted*** to ML;

— the lack of standardised methods for ***evaluation of the operational performance*** of AI/ML;

— the issue of ***bias*** in data-driven approaches;

— the lack of ***predictability*** and ***explainability*** of the ML application behaviour;

— the ***complexity*** of architectures and algorithms; and

— ***adaptive*** learning processes (continuous learning in operations).

[47] **Neural network (NN)** — A computational graph which consists of connected nodes ('neurons') that define the order in which operations are performed on the input. Neurons are connected by edges which are parameterised by weights (and biases). Neurons are organised in layers, specifically an input layer, several intermediate layers, and an output layer.

**Building blocks for the EASA AI Roadmap**

The EASA approach is driven by the seven key requirements for trustworthy AI that were published in the report from the EC High Level Group of Experts on AI.

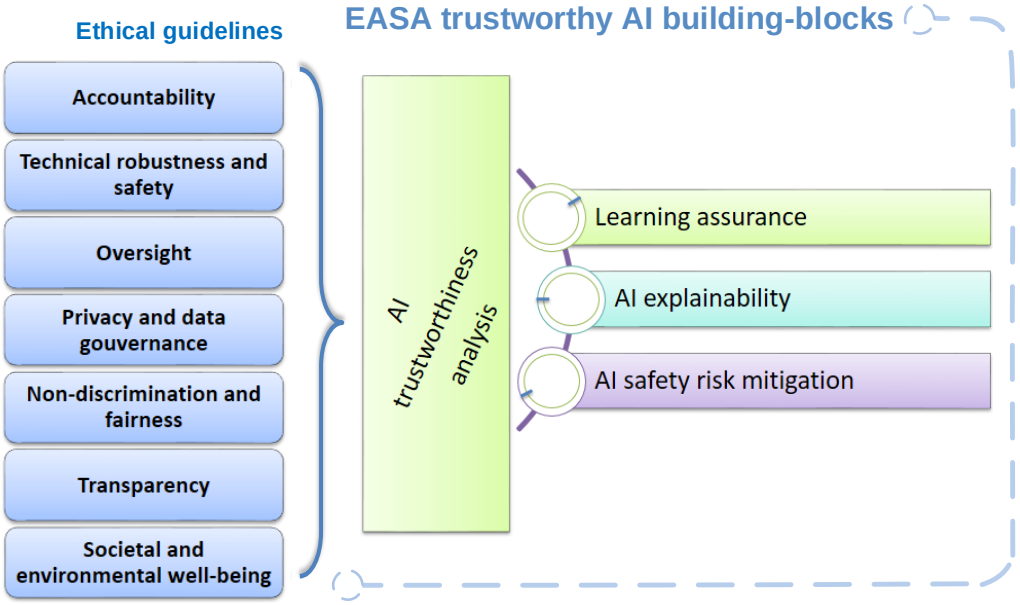


**Figure 10: Relationship between AI Roadmap building blocks and AI trustworthiness**

All four building blocks are anticipated to have an importance in gaining confidence in the trustworthiness of an AI/ML application.

The ***AI trustworthiness analysis*** should provide guidance to applicants on how to address each of the seven key guidelines in the specific context of civil aviation.

The objective of ***learning assurance*** is to gain confidence at an appropriate level that an ML application supports the intended functionality, thus opening the 'AI black box' as much as practicable.

***Explainability of AI*** is a human-centric concept that deals with the capability to explain how an AI application is coming to its results and outputs.

***AI safety risk mitigation*** is based on the anticipation that the 'AI black box' may not always be opened to a sufficient extent and that supervision of the function of the AI application may be suitable to the necessary extent.

**Key objectives**

The main action streams identified in the EASA AI Roadmap are to:

1. Develop the AI trustworthiness building blocks.
2. Ensure competency of EASA for first AI applications.
3. Influence the European AI research agenda and cover identified gaps.
4. Support the European Aviation leadership in AI.
5. Implement and support development of EU AI strategy and initiatives.

**Timeline**

The EASA AI Roadmap foresees a phased approach, the timing of which is aligned with the industry AI implementation timeline. ***Phase I*** will consist in developing a first set of guidelines necessary to approve first use of safety-critical AI, in partnership with the industry, mainly through IPCs, support to research, certification projects, and working groups. ***Phase II*** will build on the outcome of Phase I to develop regulations, AMC and GM for certification/approval of AI. A ***Phase III*** is foreseen to further adapt the Agency process and expand the regulatory framework to the future developments in the dynamic field of AI.

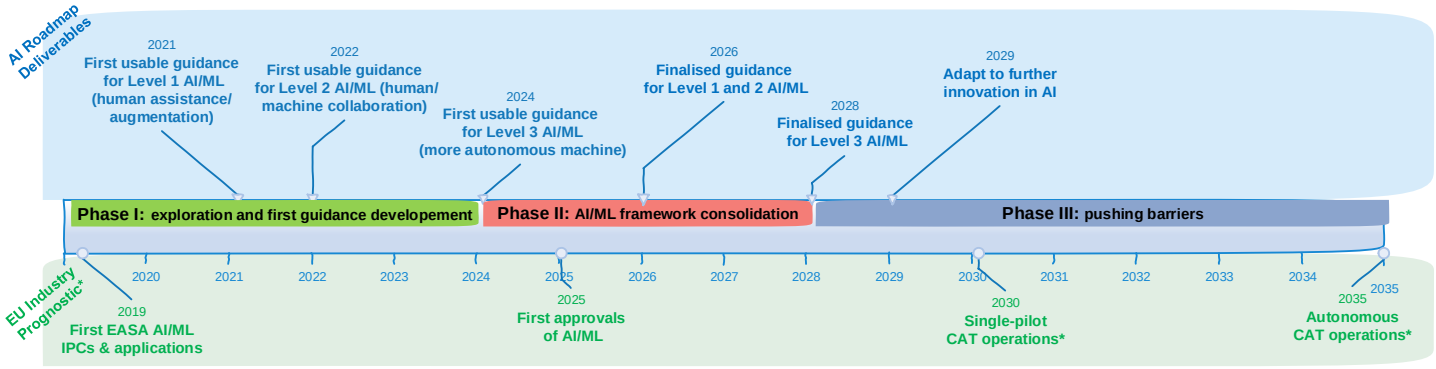


**Figure 11: AI Roadmap phased approach**

### 3.1.3.2 Engine/aircraft certification

In 2016, EASA, together with the FAA, initiated a dedicated Engine/Aircraft Certification Working Group (EACWG) to streamline the overall certification process by improving engine/aircraft interface certification and standard-setting practices. The EACWG aims at reducing unnecessary burden in the certification process and better address the interdependencies between aircraft and engine certification programmes of transport category aircraft with turbine engines. This work will also lead to better identifying and addressing gaps and overlaps when updating related CSs.

An effective and efficient certification process, combined with streamlined certification requirements and standards, will have clear safety benefits.

The EACWG identified a total of 29 recommendations, in the following areas:

— conducting a certification programme;

— understanding and developing the regulatory requirements;

— understanding if the engine/airframe certification interface is working effectively; and

— addressing specific rule and policy gaps.

A number of recommendations made were outside the scope of the EACWG, such as reviewing the operating regulations to determine whether discrepancies exist between certification and operational regulations.

The list of recommendations is included as Appendix D in the final report issued by the EACWG in June 2017[48].

48 https://www.easa.europa.eu/sites/default/files/dfu/EACWG_final_report_June_2017.pdf

In September 2018, the Certification Management Team (CMT), following a request from EASA and the FAA, approved the creation of the Engine Aircraft Certification Tracking Board (EACTB).The EACTB is framed under the Certification Authorities for Bilateral Agreements & Certification Procedures (CABA).

The EACTB met on 16-18 April 2019. The April meeting was the 1st formal gathering of the group after its recognised constitution. The EACTB is co-led by EASA and the FAA, and is formed by authority and industry representatives of the aircraft and engine communities.

One recommendation, R2.6, is closed and the results are available in the EACWG final report.

The remaining 28 recommendations are prioritised by the EACTB to be able to proceed to their development in an orderly manner. The 2020-2024 EPAS edition focuses on the following 3 + 3 prioritised recommendations:

Top-3 CMT Items:

— R-2.8: Issue Papers to Policy

— R-4.6: Fire Prevention

— R-4.7: Electrical Wiring Interconnection System (EWIS)

Addtionally, 3 Items identified by the EACTB:

— R-4.1: F&R Testing

— R-4.5: Inhibit Engine Protection Systems

— R-4.4: Extended-range Twin-engine Operational Performance Standards (ETOPS)

The EACTB will be coordinating with the Certification Authorities for Propulsion (CAPP) and with the Certification Authorities for Transport Airplane (CATA) for the pursuing and progressing on the recommendations.

#### 3.1.3.3 Ensure the safe operations of UAS (drones)

**Common European rules for UAS operations and registration**

To ensure the safe operation of drones and a level playing field within the European Union, EASA has developed common European rules. They contribute to the development of a common European market while ensuring safe operations and respecting the privacy and security of EU citizens.

On 28 February 2019, Europe got one step closer to harmonised rules for safe drone operation as the EASA Committee voted unanimously to approve the EC's proposal for an Implementing Act to regulate the operations of UAS in Europe and the registration of drone operators and of certified drones. Commission's Implementing Regulation (EU) 2019/947[49], accompanied by Commission's Delegated Regulation (EU) 2019/945[50], defining the technical requirements for drones, were published on 11 June 2019. The delegated Regulation is immediately applicable while the Implementing Regulation will become gradually applicable within a year from publication. By 2022, the transitional period will be completed and the regulation will be fully applicable.

With these Regulations, the proposed EASA general concept, establishing three categories of UAS operations ('open', 'specific' and 'certified' with different safety requirements, proportionate to the risk), is adopted at the European level and will be implemented.

Moreover, as the number of UAS operations increases, there is a need to establish unmanned traffic management (UTM) systems (named 'U-space' in Europe). There has been a huge development of U-space during the last year and it is expected that this will develop even faster in the years to come. The ATM Master Plan reflects the details about the integration of UAS in the EU airspace.

**Key actions and future outlook**

Following the publication of the EU Regulations, EASA published on 10 October 2019 the related AMC and the GM, cf. ED Decision 2019/021/R[51]. These AMC/GM include:

— a revised version of the draft AMC and GM that were published with Opinion No 01/2018[52];

— the specific operations risk assessment (SORA) as AMC to the risk assessment that is required in the 'specific' category;

— the first predefined risk assessment to assist operators when applying for an authorisation in the specific category; and

— explanations resulting from the discussions held with stakeholders during the approval of the regulation.

In parallel, EASA is working on the next regulatory actions that will enable safe operations of UAS and the integration of these new airspace users into the European airspace:

49 https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1570893991756&uri=CELEX:32019R0947

50 https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1570894011520&uri=CELEX:32019R0945

51 https://www.easa.europa.eu/document-library/agency-decisions/ed-decision-2019021r

52 EASA Opinion No 01/2018: Introduction of a regulatory framework for the operation of unmanned aircraft systems in the 'open' and 'specific' categories

— EASA's Opinion containing two standard scenarios that each allow the use of a declaration. These standard scenarios will be included in Appendix 1 to the Annex to the Implementing Act: EASA's Opinion No 05/2019[53] was published on 7 November 2019 (under RMT.0729);

— EASA's NPA for UAS in the 'certified' category, which will include a comprehensive package addressing all aviation domains (initial airworthiness, continuing airworthiness, remote pilot licences, aircraft operations, rule of the air, ATM/ANS and aerodromes) as well VTOL operations: the NPA is expected in Q4 2020 and is expected to include IFR operations of large cargo UAS in controlled airspace and UAS operations in an urban environment (under RMT.0729).

— EASA's Opinion on a high-level regulatory framework for the U-space[54] is expected by Q1 2020[55] (under RMT.0230).

EASA continues to assess the need for action in the field of UAS in particular in relation to the harmonised implementation of the adopted regulations for the 'open' and 'specific' categories, the development of the necessary regulations for the 'certified' category and the safe and harmonised development and deployment of U-space across the EU.

The safe integration of all new entrants into the airspace network will be one of the main challenges in relation to the integration of UAS technologies and related concepts of operation.

**EASA Counter Drone (C-UAS)[56] Task Force — proposed action plan**

The events in Gatwick/Heathrow in December 2018 showed that the unauthorised use of drones at or around aerodromes may — given the potential effect on aircraft safety and security — lead to unacceptable disruption of operations, affecting the air transportation system. Just after the events, an EASA internal Task Force was established to analyse the facts and develop an action plan in order to ensure that the aerodrome operators, aircraft operators and air traffic services (ATS) providers are prepared to prevent as far upstream as possible, and react to misuse of drones with minimum disruption of operations, while still being able to accommodate friendly drone operations. The ultimate goal of the proposed action plan is to maintain safety as a priority in case of misuse or unauthorised use of drones in the vicinity of aerodromes.

The analysis of the events in Gatwick in December 2018 has clearly identified the need to support aerodrome operators, aircraft operators and ATS providers to be better prepared to manage the presence of unauthorised drones around aerodromes, while ensuring the business continuity. This implies among others provision of guidance on roles and responsibilities between the different actors and on the various counter drone mitigations ranging from prevention, surveillance, detection and disruption of unauthorised drones.

EASA will be acting as the European coordinator of a roadmap to be developed and implemented with all involved stakeholders: the Member States (including NAAs and law enforcement authorities), the aerodrome operators, and aircraft operators, the ANSPs, Eurocontrol and the EC.

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53 https://www.easa.europa.eu/document-library/opinions/opinion-052019

54 This task is also linked to RMT.0376 as there is a need for suitable conspicuity devices from the manned aviation when entering in the U-space airspace.

55 While for the development of this Opinion the Agency follows the accelerated procedure of the rulemaking process, extensive consultation is organised through dedicated meetings and workshops to address all airspace users' concerns.

56 Counter unmanned aircraft systems.

The first version of the action plan was distributed to the Member States and EASA stakeholders for review, endorsement and contribution during April - May 2019. The second version takes into account the feedback and proposals received.

The action plan at Issue 2, published on 11 June 2019, complements the EASA implementation plan for Commission's Implementing Regulation (EU) 2019/947 and Delegated Regulation (EU) 2019/945, and the rulemaking activities on U-Space.

The action plan[57] is articulated around five objectives, each objective being transposed into one concrete action.

— **Objective #1: Educate the public to prevent and reduce misuse of drones around aerodromes**

With the coming Implementing Rules on drones, the Member States will be able to define geographical zones, i.e. portions of airspace that facilitate, restrict or exclude UAS operations in order to address risks pertaining to safety, privacy, protection of personal data, security or the environment, arising from UAS operations. The UAS geographical zones available to the public should be using a common unique digital format.

| **Proposed action #1** | |
|---|---|
| Coordinator | **EASA** |
| Actors | Eurocontrol and a TF of Member States |
| Timeline | 9 months |
| Date of start | 1st meetings held in EASA on 10 September 2019 and 23 October 2019. Follow-up meetings planned between December 2019 and May 2020. |
| Deliverables | Inputs for an ED Decision proposing AMC and GM to Article 15 of Commission Implementing Regulation (EU) 2019/947 providing a common and unique digital format to be used by Member States to make the UAS geographical zones available to the public. |

— **Objective #2: Prepare aerodromes to mitigate risks from unauthorised drones use**

Preparation of aerodromes to mitigate potential misuse of drones in their vicinity includes the definition of roles and responsibilities of all involved actors for the following areas:

— information gathering (including detection methods);

— sharing of data;

— coordination of procedures;

— risk assessment taking into control security aspects; and

— training.

[57] These actions are taken in addition to the safety promotion action on drones: SPT.091.

The objective of the proposed action #2 is to develop guidance on definition of roles and responsibilities when sightseeing drones are identified in the vicinity of an aerodrome.

| **Proposed Action #2** | |
|---|---|
| Coordinator | **EASA** |
| Actors | Member States (including NAAs and law enforcement authorities designated by the Member States), aerodrome operators, CAT Operators, ANSPs) (*) |
| Timeline | Task force will run from 11/2019 to Q3/2020 |
| Estimated date of start | November 2019 (“Rules of Engagement” have been submitted for review through EASA MAB and SAB) |
| Deliverables | Manual with best practices on definition of roles and responsibilities when unauthorised drones are identified in the vicinity of an aerodrome |

(*) Operational personnel (e.g. pilots through CAT operators and ATCOs through ANSPs) are expected to participate.

— **Objective #3: Support the assessment of the safety risk of drones to manned aircraft with scientific data**

Assessing the safety risk associated with the presence of an unauthorised malicious drone in the vicinity of an aerodrome, implies understanding the potential effect of a drone collision with manned aircraft. Currently, there is a lack of conclusive scientific evidence, which led EASA to launch a research project (RES.015) to gain understanding of the effects of potential collisions of mass market drones (‘threat’) with manned aircraft (‘target’). This research project also aims at identifying and recommending drone design strategies. The first project deliverables will not be available before the end of 2021. Therefore, EASA proposes a short-term solution in the form of a workshop to share relevant scientific data (European or worldwide) which could be already available and used in the meantime.

| **Proposed action #3** | |
|---|---|
| Coordinator | **EASA** |
| Actors | Relevant Member States and stakeholders |
| Timeline | Mid-term (6 to 12 months) |
| Estimated date for the workshop | Q1 2020 |
| Deliverables | Report gathering any scientific data relevant to the consequences of a drone collision with manned aircraft |

— **Objective #4: Ensure that C-UAS measures are swiftly considered and implemented from a global safety perspective**

While the responsibility for disrupting activity of misused or malicious drones falls under national law enforcement regulations, the choice of drone detection and drone disruption technologies is a challenge since they could create unintended safety hazards and unmitigated risks to other manned aircraft, authorised drones or aerodrome infrastructures.

EASA, with due regard for its responsibility for civil aviation, is following the European initiatives in the domain of drone detection and drone disruption technologies, and works closely with subject matter experts to make sure aviation safety objectives are preserved. It is expected that guidance material to

reduce unintended impact on aircraft or aerodrome equipment (e.g. communication, navigation and surveillance (CNS) equipment and NAV aids infrastructure) as well as to clarify the roles and responsibilities of stakeholders for C-UAS and law enforcement measures (including prosecution) are developed.

| **Proposed action #4** | |
|---|---|
| Coordinator | **EASA** |
| Actors | Relevant Member States' law enforcement bodies, EC — Migration and Home Affairs (DG HOME), aerodrome operators |
| Timeline | 12 months |
| Date of start | Q2 2019 |
| Deliverables | Guidance material:<br>— to ensure the integrity of 'no flight zones for drones' (including technical means for detection, identification, interception and intervention);<br>— to support public education and awareness initiatives (communication mechanism);<br>— to reduce unintended impact on aircraft or aerodrome equipment (e.g. CNS equipment and NAV aids infrastructure); and<br>— to clarify the roles and responsibilities of stakeholders for C-UAS and law enforcement measures (including prosecution). |

— **Objective #5: Support adequate occurrence reporting**

Occurrences involving drones need to be reported in accordance with Article 3 of Regulation (EU) No 376/2014, paragraph 2, as amended by Article 136 of the Basic Regulation.

Analysis of data/information related to unauthorised presence of drones in the aerodrome area and analysis of the effectiveness of the measures taken are considered to be of key importance.

EASA has an essential role to play in maintaining a record of occurrences for trend analysis and initiating proactive measures. One of the fundamental elements to support occurrence monitoring will be to define criteria to classify:

— an airprox (aircraft proximity) between an unmanned aircraft (UA) and a manned aircraft, i.e. the distance between a UA and a manned aircraft as well as their relative positions and speed such that the safety of the manned aircraft involved may be compromised; and

— a UA airspace infringement.

| **Proposed action #5** | |
|---|---|
| Coordinator | **EASA** |
| Actors | EASA NoA, Eurocontrol, aerodrome operators, airline associations and ANSPs |
| Timeline | Mid-term (6 to 12 months) |
| Date of start | Q4 2019 |
| Deliverables | Define criteria to classify:<br>— an airprox between a UA and a manned aircraft; and<br>— a UA airspace infringement. |

**Other actions of non-regulatory nature on drones**

— Coordinated safety promotion to create understanding and awareness of the rules and to support safe UAS operations in the long term (SPT.091);

— Aircraft drone collision research action (RES.015).

EASA is actively engaged in the development of standards for the 'open' and 'specific' categories of UAS and in the development of SP material.

#### 3.1.3.4 New operating concepts and business models

**Address current and future safety risks arising from new operating concepts and emerging business models**

Some new business models such as those responding to the increased demand for flying in the cities (e.g. 'urban air mobility') or those generated by the increased digitalisation in the aviation industry (virtual/ augmented reality, digital twins, etc.), the possible introduction of more autonomous vehicles and platforms, single-pilot operations and completely autonomous cargo aircraft, will challenge the way authorities regulate and oversee the aviation system.

Until now, the air travel over urban areas has been limited to very special operations, such as police operations or helicopter emergency medical services (HEMS). New aviation partners are seeking new business models to provide more services to citizens, ranging from parcel delivery by air within the cities to flying air taxis. These new business models and operations need to be performed in a safe and secure manner to maintain the confidence that citizens have in the air transport system. EASA has a key role to play in this area.

**Key action:**

— Develop rules or amend existing ones, where necessary, to address new technologies and operational air transport concepts (RMT.0731 'New air mobility').

#### 3.1.3.5 Electric and hybrid propulsion, vertical take-off and landing (VTOL) aircraft

Innovation in any industry is a key factor influencing its competitiveness, growth and employment potential. With this strategic priority in mind, and looking at the increasing number of new aircraft manufacturers and suppliers working on aircraft using electric propulsion (and increasingly electric systems), it becomes apparent that there are very strong prospects as well as demand, from industry and governments, to have hybrid propulsion and eventually fully electric aircraft. The use of electric and hybrid propulsion systems has the potential of significantly reducing aviation environmental footprint. However, in order to ensure that this objective is met, the full life cycle of the product needs to be taken into account as well as the energy mix used.

To encourage the safe integration of new technological advancements in the wider electrical aviation sector overall, flexibility in the approach on all types of concepts, variations and design types will be enhanced.

To allow for the projects to thrive, a number of complex issues need to be tackled from a regulatory perspective.

**In terms of rulemaking for aircraft design requirements**, until such time as enough experience will have been gained, special conditions (SCs)/derogations will be applied in a flexible and innovative way, as already allowed by the system and in line with Better Regulation principles. The use of performance-based and non-prescriptive regulations is used for e.g. CS-23, CS-VLA and for the future rules for drones.

At the end of 2018, following receipt of applications for small VTOL aircraft, EASA launched a public consultation on its proposal for a SC that included suitable airworthiness standards to enable the certification of small VTOL aircraft. The number and the nature of the comments received provide an indication that such aircraft may have to be treated as a new product category which would neither fit the CS-23 nor the CS-27 product category. However, the SC is intended to represent the first component of the regulatory framework to enable the safe operation of air taxi and electric VTOL (eVTOL) aircraft in Europe. In anticipation of future air taxi operations in urban areas, a number of noise measurements were performed on small VTOL aircraft in summer 2019, this activity will continue in 2020.

Currently, the type certification of electric and hybrid propulsion systems is conducted by a dedicated set of SCs, together with existing airworthiness codes (CS-E, CS-23, CS-27, etc.), and on a case-by-case basis for each application.

Moreover, and in order to enable standardised type certification of electric and hybrid propulsion units (EHPU), either in the case of having a separate type certificate (TC) for the EHPU, or in the case where the EHPU would be integrated into the aircraft TC, a set of technical specific certification requirements will be reflected in a single SC for EHPU. The draft SC-EHPU is expected to be made available for public consultation at the end of 2019, with an expected timeline for issuing the final SC-EHPU in the beginning of 2020.

Early 2020 at the latest, the first small aircraft type model with fully electric propulsion is planned to be type-certificated.

Likewise, in electric and hybrid aviation, EASA aims to continue building up knowledge on emerging technologies, to establish TACs or IPCs to identify certification challengers on innovative products, and to continue liaising with relevant industry and standardisation working groups. EASA is also engaged through providing technical training to its staff.

**In terms of rulemaking actions for other aviation domains**, the new RMT.0731 is expected to lead to different streams of activity, one of them being to address the regulatory gaps with regard to electric and hybrid propulsion.

After an analysis of the ongoing RMTs, the scope of RMT.0731 for electric and hybrid propulsion is limited to continuing airworthiness requirements for all types of aircraft. RMT.0731 has strong interfaces with the following RMTs:

— RMT.0230 (Drones), which is now also addressing manned e-VTOL electric propulsion aspects related to the ADR, ATM, FCL, OPS domains;

— RMT.0678 (FCL) and RMT.0573 (OPS), which are addressing a first set of FCL and OPS electric propulsion-related requirements for other aircraft types that are not covered by RMT.0230; and

— The environmental protection requirements regarding emissions and noise with electric and hybrid propulsion will be assessed with the existing RMT.0727 (Alignment of Part 21 with Regulation (EU) 2018/1139 (including simple and proportionate rules for General Aviation)) and RMT.0514 (Implementation of the CAEP/10 amendments: Climate change, emissions and noise).

Potentially, more streams to cover other future projects could be added in RMT.0731, including the development of CSs based on experience gained in certification projects applying SCs such as for VTOL or electric and hybrid propulsion.

**Key action:**

— Develop rules or amend existing ones, where necessary, to address new technologies and operational air transport concepts (RMT.0731 'New air mobility').

#### 3.1.3.6 Enable the implementation of new operational solutions developed by SESAR

EPAS also caters 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 and cloud-based architecture and remote tower operations).

Since the Basic Regulation repealed Regulation (EC) No 552/2204[58], global interoperability, civil-military cooperation and compatibility with other regions' development plans, such as NextGen, form an integral part of EASA's work. Furthermore, EPAS provides a proactive and forward-looking view to support the implementation of the essential operational changes required to achieve the SESAR target operational concept safely.

In addition, EASA will consider additional implementation support actions that facilitate the achievement of operational improvements and new ATM operational concepts. These actions should approach the implementation needs of the enabling infrastructure in a comprehensive manner, thus facilitating the safe, secure and interoperable implementation of cost-effective solutions considered as necessary. Such solutions could include GNSS (incorporating dual frequency multi-constellations), SATCOM, and other satellite-based CNS solutions or others emerging from the telecommunications field. It should avoid requiring specific technological solutions; it should instead specify clear performance and competence requirements as appropriate to the anticipated operations.

**Key actions:**

— Support the development of data link operations through RMT.0524, expanding the current Commission Regulation (EC) No 29/2009[59] to alternate data link technologies compliant with performance requirements;

— Support the implementation of performance-based navigation in the European ATM network as per Commission Implementing Regulation (EU) 2018/1048[60] (SPT.108);

— Support the implementation of the regulatory needs of the SESAR common projects (RMT.0682). This encompasses regulatory actions at rule level and validation of industry standards.

#### 3.1.3.7 Enable all-weather operations

The European industry should have the capability to take full advantage of the safety and economic benefits generated through new technologies and operational experience. This represents a widely recognised interoperability subject touching on a wide range of areas, including performance-based aerodrome operating minima (PBAOM), related aerodrome equipment to support such operations, and procedures for both CAT and GA.

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58 Regulation (EC) No 552/2004 of the European Parliament and of the Council of 10 March 2004 on the interoperability of the European Air Traffic Management network (the interoperability Regulation)

59 Commission Regulation (EC) No 29/2009 of 16 January 2009 laying down requirements on data link services for the single European sky

60 Commission Implementing Regulation (EU) 2018/1048 of 18 July 2018 laying down airspace usage requirements and operating procedures concerning performance-based navigation

Aircraft operations have always been influenced by the weather. Whilst modern aircraft design and the availability of weather observations and forecasts contribute to a predominantly very safe flying environment, there remain occasions where severe weather events have been identified as being a contributing factor in the causal chain of accidents and incidents. Such events remain of concern within the aviation community and corresponding SRs have been addressed to EASA by accident investigation authorities.

Since 2015, EASA has increased its focus on weather-related challenges and, as part of that work, has sought to identify whether the meteorological information available to pilots could be enhanced. Accordingly, EASA organised a first workshop dedicated to 'Weather information provided to pilots'. Following the workshop and the acknowledged need to take further action, EASA integrated the 'Weather Information to Pilots' project within the activities of RMT.0379 'AWO'. A project team put together in April 2016 — involving representatives from international organisations, associations and industry — was tasked with an assessment of the situation and this resulted in the 'Weather Information to Pilots Strategy Paper'[61] issued in January 2018. The EASA Strategy Paper focuses on the weather phenomena that introduce risk to aviation, describes the current mitigation measures, the deficiencies and how to overcome them. The scope of the paper is focusing on CAT aeroplanes. In the near future, similar work will be undertaken to address weather information to pilots in GA and rotorcraft operations.

The EASA Strategy Paper proposes nine recommendations to further improve weather information and awareness. The recommendations are detailed on the Weather Information to Pilots web page[62] and on pages 28-29 of the Strategy Paper itself. They are summarised below:

— **Recommendation #1: Education and training:** weather hazards, mitigation, and use of on-board weather radar.

— **Recommendation #2: Improved weather briefing presentation:** promote improvements to the presentation of weather information in-flight briefing.

— **Recommendation #3: Promotion of in-flight weather information updates:** promote the use of the latest information available to ensure up-to-date situational awareness.

— **Recommendation #4: Pan-European high-resolution forecasts:** support the pan-European developments regarding the provision of high-resolution forecasts for aviation hazards (e.g. CAT, icing, surface winds, cumulonimbus (CB), winter weather).

— **Recommendation #5: Use of supplementary 'Tier 2' weather sources for aviation purposes:** develop the necessary provisions to support the use of supplementary 'Tier 2' meteorological information by pilots.

— **Recommendation #6: Development and enhancement of aircraft sensors/solutions:** promote the development of intrinsic aircraft capabilities to facilitate the recognition and, if required, the avoidance of hazardous weather.

— **Recommendation #7: Connectivity to support in-flight updates of meteorological information:** promote deployment of connectivity solutions (uplink and downlink) to support the distribution of meteorological information to pilots.

61 https://www.easa.europa.eu/sites/default/files/dfu/EASA-Weather-Information-to-Pilot-Strategy-Paper.pdf

62 https://www.easa.europa.eu/easa-and-you/air-operations/weather-information-pilots

— **Recommendation #8: Provision of enhanced meteorological information:** promote provision of high-resolution observed and forecast meteorological information, particularly data with high spatial and temporal resolution such as imagery derived from satellite and ground weather radar sources.

— **Recommendation #9: On-board weather radar, installation of latest generation equipment:** promote the installation of the latest generation of on-board weather radars, with emphasis on including capability for wind shear and turbulence detection.

To support the above, a BIS will be defined to determine the need for additional EPAS actions. These could then be considered for the 2021-2025 EPAS planning cycle.

**Key action:**

— Review and update the AWO rules in all aviation domains (RMT.0379), supported with relevant safety promotion activities.

### 3.1.4 Environment

In a changing world, climate change and sustainability are becoming major driving forces for the aviation industry. The Agency has defined a new strategic orientation to support the decarbonisation of the aviation system, based on the following objectives and key actions:

#### 3.1.4.1 Act towards sustainable aviation through robust, efficient and innovative certification

In the area of aircraft and engine technology, the Agency's product certification activities ensure that products are as quiet and clean as possible, thereby reducing negative impacts on the health of citizens. At the same time, the Agency innovates to develop **the most cost-effective environmental certification process in the world**, thereby contributing to the competiveness of the European industry.

**Key actions:**

— The Agency has a new mandate to collect and **verify aircraft noise and performance information** for noise modelling around airports, as per Regulation (EU) 598/2014[63] Article 7.

— A number of ***novel technologies*** are rapidly approaching market maturity. In order to respond proactively to these technologies and allow for smooth certification based on robust environmental assessments, a dedicated activity will be launched to assess their environmental characteristics and sustainability. This will include the electric propulsion project as well as the sustainability assessment of alternative fuels. The success of this activity will be ensured by engaging traditional stakeholders as well as aviation environment non-governmental organisations (NGOs).

#### 3.1.4.2 Act towards sustainable aviation through technical leadership for smart and proportionate standards

The Basic Regulation makes direct reference in Article 9 to the relevant Volumes of ICAO Annex 16. The Agency's vision of 'smart rules' in terms of environmental standards is fulfilled through effective involvement upstream in the ICAO-CAEP process.

63 https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1570907778872&uri=CELEX:32014R0598

**Key actions:**

— A key priority from the European perspective is the CAEP work on **supersonic** transport to safeguard that **the current high level of aviation environmental protection in Europe is not deteriorated** and a level playing field between subsonic and supersonic jets is ensured. Furthermore, the environmental certification requirements for supersonic transport must on the one hand not undermine the historic environmental improvements that have been achieved by subsonic aircraft, and on the other hand help to avoid potential operating restrictions that affect the wider sector.

— EASA expertise in ICAO standard setting will continue to be made available to the EC for ICAO's **CORSIA**, provided there is a suitable funding mechanism.

— As the Basic Regulation permits Europe to create environmental standards in those areas that are not regulated by ICAO standards, efficient rulemaking will focus on areas where Europe would like to take the lead (e.g. hybrid and electric aircraft).

— Smart standards is also synonymous with '**data-informed' standards**. In this regard, EASA is continuously improving the quality of its impact assessment capabilities by collecting and analysing flight data (Data4Safety) and developing state-of-the-art tools to monitor and forecast aviation's noise and emissions as well as the costs of candidate policies to mitigate those (H2020).

— The Agency will bundle its efforts on digitalisation of its environmental activities under the ***EASA ecoPortal***. The ecoPortal aims at achieving efficiency gains inside the Agency, as well as for NAAs (e.g. in issuing noise certificates), manufacturers, operators and aerodromes (e.g. in collection of noise certificates). The ecoPortal project will be modular to achieve benefits in all implementation phases, starting with noise[64].

#### 3.1.4.3 Act towards sustainable aviation through effective transversal actions at European level (Article 87 implementation)

The Basic Regulation contains a broadened mandate for the Agency on environmental protection with an objective to 'prevent significant harmful effects on climate, environment and human health (Article 87(1)). As this is a new requirement from the EASA Basic Regulation, currently there is no process defined. It is proposed to anchor this activity to the EASA quality system and create a related core process.

The EC, EASA, other EU institutions as well as Member States are called to cooperate on environmental matters including on the EU Emissions Trading System (ETS) and on Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)[65] (Article 87(2)). This cooperation is implemented through bilateral agreements of the Agency (e.g. the MoU with the European Chemicals Agency (ECHA) on REACH) and pan-European structures, like the ECAC European Aviation Environmental Group (EAEG).

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[64] Current Module 1: Noise data and certificates; Potential future modules: 2: Emissions data including $CO_2$; 3: Impact assessment models; and 4: CORSIA

[65] Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the **Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)**, establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.

**Key actions:**

— The Agency assists the EC with the definition and coordination of policies and actions (Article 87(3)). Current actions are, for example, related to CORSIA and the study on non-$CO_2$ effects of aviation on climate.

— The Agency is newly mandated to perform and publish an environmental review which shall give an objective account of the state of environmental protection relating to civil aviation in the Union. Said review shall also contain recommendations on how to improve level of environmental protection in the area of civil aviation in the Union (Article 87(4)). As the **EAER developed with the European Environment Agency (EEA) and EUROCONTROL and published in January 2019 contains already** the 'objective account' with the best available data, the Agency will now focus on a stand-alone, independent publication with technical recommendations on how to improve the environmental performance of the aviation sector to be published mid-2020.

— Based on the outcome of the 2019 work on **circular economy** indicators and **life cycle assessments** of novel technologies, the Agency will build an effective circular economy policy both for traditional airline activities as well as new urban air mobility concepts.

— Based on its technical expertise and independence, the Agency is ideally placed to provide expertise and strategic steer to **international cooperation and research activities** (Horizon Europe, CleanSky3). As part of this, EASA can act as contract manager or as technical partner to the EC to support the implementation and monitoring of environment-related research projects. Similarly, EASA will support ECHA by providing aviation technical expertise into the REACH process.

#### 3.1.4.4 Act towards sustainable aviation through actions for increased operational efficiency

The Agency will perform further analysis to identify more clearly room for related regulatory or non-regulatory actions, focusing on areas including:

— monitoring ATM environmental performance/ANSP environmental labelling;

— identifying and removing regulatory barriers;

— supporting elements for hybrid and electric operation;

— optimising operational procedures, such as abundant fuel carrying; and

— supporting/endorsing the Airport Carbon Accreditation programme (involving also groundhandling).

## 3.2 Strategic enablers

### 3.2.1 Research

The European aviation industry has gone through a successful development in the past decades placing Europe at a leading position in the global competitive market. Significant elements of this success story are the European aviation research and innovation programmes of the EU as well as the Member States' and industry's research activities. Therefore, these initiatives are of high relevance to the setting-up of EPAS actions. They contribute to EASA's objectives for ensuring the highest level of safety, security and environmental protection in Europe.

Recently developed technologies, notably in the areas of complex software, propulsion, new materials, connectivity, digitalisation, data science, autonomous vehicles, space operations, business models are planned for entry into service at an unprecedented pace in the aviation economic system.

Further evolutions may address emerging risks such as security, including cybersecurity, AI applications and systems or aviation impact on climate change.

Moreover, aviation growth is calling for solutions that are resilient to weather hazards, continuous traffic growth and increased complexity of traffic ranging from operation at low altitudes to commercial aircraft operations and operation in remote areas.

The European and national research & innovation programmes, including Clean Sky and SESAR, are developing new aviation concepts and solutions, which will need to be certified or approved prior to entering operation in Europe as well as in third countries. Furthermore, new entrants, in particular in the drone sector, bring new requirements to the European aeronautics arena and necessitate new European regulatory responses.

It is essential for Europe that EASA is in the position to support and assist the streamlining of the deployment of those new solutions. To meet these objectives, notably with regard to the safe integration of new technologies and concepts, and to measures improving environmental protection, EASA must be equipped with new tools, agile methods, test/demonstration standards and modular evolutionary approaches for product certification and operational approval processes. This requires a number of evolutions to the current regulatory framework in order to cope with these current and future expected developments.

Playing a pivotal role between innovation and the development of safety, security or environmental protection standards, EASA is positioned to federate the future aviation research and innovation network comprising Member States, the industry and the aviation research community. It can also support development of new instruments for European aviation research and innovation projects' prioritisation and coordination, in support of the EU Advisory Council for Aviation Research and Innovation in Europe (ACARE) Strategic Research and Innovation Agenda (SRIA)[66].

The EASA Basic Regualtion entails that EASA supports the development of EU aviation/aeronautics research programmes and projects; develops synergies and collaboration between the Agency and publicly funded research; catalyses cooperation between national aviation research programmes and research centres. To this end, discussions between the Association of European Research Establishments in Aeronautics (EREA) and EASA have taken place to possibly launch a common initiative for a 'European Research Agenda'. Furthermore, a federation of universities, collaborating with the Agency to join research efforts is in the

[66] 2017 edition of ACARE SRIA: http://www.acare4europe.org/sria

making, with *Ecole Nationale de l'Aviation Civile Toulouse*, *Technische Universität B*raunschweig and *Technische Universiteit Delft* in the lead.

Regularly, EASA experts and external stakeholders suggest or request research activities topics that are needed to tackle the issues identified. These topics are prioritised on a yearly basis and included in the 'Research Agenda[67]', which groups the requests for a given period, even without having immediate funding. A short overview of the prioritisation exercise can be found on the EASA website. The Research Agenda encompasses a series of innovation- and efficiency-related actions besides safety-focused research.

The research projects that become part of EPAS are those that are triggered by SRs addressed to EASA or that are already covered by a funding source or likely to be funded by the start of the reference period of the given EPAS.

Further information on research activities of the Agency can be found on the EASA website: https://www.easa.europa.eu/easa-and-you/safety-management/research.

Having started in 2019, a series of research actions identified in EPAS will be funded through a delegation agreement, established with the EU Horizon 2020 programme and coordinated by EASA. The list of projects is as follows:

**RES.006 — Effectiveness of flight time limitation (FTL) rules:** The 2nd assessment is about the collection, analysis and processing of historical and in-flight crew fatigue data to support the continuous review of the effectiveness of the provisions concerning flight and duty time limitations and rest requirements as foreseen in Regulation (EU) No 965/2012[68]; this is to cover the envelope of the most frequent short-, medium- and long-haul scheduled air operations and encompass schedules in less favourable times and classified as disruptive.

**RES.008 — Integrity improvement of rotorcraft main gear boxes (MGB)**: Further to the investigation of the EC225 LN-OJF accident, the research aimed at identifying threats to the integrity of critical components of rotor drive systems and at developing methods for evaluating 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.

**RES.009 — Helicopter offshore operations — new floatation systems:** Assessment of technical solutions for enhancing helicopter floatation at sea in view of heightening survivability following helicopter capsizing — which is the major event conducive to fatalities due to drowning.

**RES.013 — Quick recovery of flight recorder data:** Further to the MH370 accident and the adoption by ICAO of consequent SARPs[69], assessment of the feasibility for using wireless transmission solutions for timely recovery of flight recorder data — namely flight parameters, audio and video images — in the follow-up to an accident; 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, aircraft complete destruction, accident in an oceanic area), the reliability and cost impact of the proposed solutions, their aptitude for usage in accident investigations as well as associated data privacy considerations.

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67 EASA Research Agenda 2019-2021 rev 1

68 Commission Regulation (EU) No 965/2012 of 5 October 2012 laying down technical requirements and administrative procedures related to air operations pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council.

69 ICAO Annex 6 Part I, section 6.3.5.

**RES.015 — 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.

**RES.016 — Fire risks caused by portable electronic devices on board aircraft:** Research 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 the checked-in luggage. This encompasses theoretical and experimental work to deepen the knowledge related to the inception and propagation of PED originated fires as well as devising efficient and cost-effective means for their detection and suppression.

**RES.024 — Assessment of environmental impacts — engine emissions:** Development of extended and more robust standards for purposes of supporting the assessment of engine emissions. The emphasis shall be on robust methods for non-volatile particulate matter (nvPM) mass and number determination including, notably, particle size measurement and sampling techniques, consideration of the effect of both ambient conditions and volatile PM, and sensitivity and uncertainty analyses. This task merges RES.018 and RES.019 of the EPAS 2019-2023 edition, due to the similarity of research activities to be undertaken.

**RES.025 — Assessment of environmental impacts — aircraft noise:** Development of extended and more robust standards for the purpose of supporting the assessment of aircraft noise footprints. The focus will be twofold: (i) extension of current helicopter noise models towards ensuring the coverage of current types of helicopters within the European fleet[70]; (ii) extension of prevailing modelling approaches in view of the assessment of the noise footprint of new aircraft concepts prior to their certification — centred on supersonic aircraft and VTOL aircraft.

**RES.026 — Market-based measures (ETS and CORSIA):** Extension and updating of existing capabilities for assessment of market-based measures; 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 (EC, Member States) and international (ICAO) level.

[70] Work planned to be carried out in cooperation with the US Department of Transport Federal Aviation Administration, implementing EU-US data exchange agreements.

### 3.2.2 Safety promotion

From the beginning of 2019, EASA has begun the launch of a new Safety Promotion Strategy that will take an increasingly proactive approach to the way EASA communicates with the European aviation community. This will position EASA's Safety Promotion programme as a safety promotion leader in Europe and worldwide having influence and a recognised brand. Understanding that different aviation stakeholders have very different needs in terms of information and communication channels, the strategy takes a domain-based approach. It has been split into operational domains such as aircraft operations, aerodromes and groundhandling, GA, rotorcraft and drones.

When possible, safety promotion will be used as a light and effective alternative to rulemaking and oversight. It will also support a better understanding of EU civil aviation regulations and provide more information on safety intelligence and analysis results. The strategy will provide continual information on a wide range of safety topics at domain level. A wide range of communication tools will be used to spread safety messages and this will see EASA becoming more active on social media and using new and novel ways to inform people about safety. Within EPAS, there is a number of specific SPTs and this is augmented by a number of new actions to promote important safety topics in each of the main operational domains.

This EPAS edition includes 7 new SPTs.

### 3.2.3 International cooperation

One of the EC's strategic priorities is that the EU becomes a stronger global actor. As an Agency of the EU, EASA cooperates with national, regional and international organisations alike in order to enhance global aviation safety, and supports the free movement of European products and services on a global level. Furthermore, ICAO recognises the value of regional approaches to ensuring or improving aviation safety, and recognises the importance of regional cooperation mechanisms such as Regional Safety Oversight Organisations (RSOOs) in this respect. EASA plays a significant role in supporting ICAO's activities within the EU as well as in pursuing European interests at ICAO. In this perspective, the strategic priorities at an international level are the following:

- **Strive, through international cooperation, that citizens' interests for safety and environmental protection are being met at global level.** This can be achieved through:
  - contribution to the improvement of global safety and environmental protection;
  - support to the resolution of safety deficiencies through technical assistance; and
  - promotion of regional integration wherever effective.
- **Ensure a global level playing field for European industry.** This can be achieved through:
  - promotion of fair and open competition and removal of barriers to market access;
  - enabling efficient oversight between international partners; and
  - promotion of EU aviation standards around the world.
- **Enable the European approach.** This can be achieved through:
  - coordination of common European positions at ICAO;
  - strengthening the coordination with ICAO and the Member States on Universal Safety Oversight Audit Programme (USOAP);

— bringing together different European actors in technical assistance; and

— promoting the recognition of the European system at ICAO level.

### 3.2.4 Digitalisation

Aviation moves into the digital era at an unprecedented pace. Almost all aviation sectors are affected by these developments. Aircraft manufacturers are moving, mostly for future products, from trend monitoring of key components to using increasingly connected digital systems, such as on-board sensors and digital engine twins. Digitalisation also affects aircraft operations by allowing certain operations to be carried out or controlled remotely. In certain extreme cases, such as drones, digitalisation can take the shape of full automation with minimal remote human intervention. Digitalisation is furthermore transforming the way training is performed and supports the move towards fully data-driven decision-making.

In order to exploit the full digitalisation potential, the aviation sector needs to progress in the 'information management' dimension. Today, the fragmentation of data in terms of both taxonomy and storage does not allow a significant progress for the analysis according to the latest methodologies. These developments are increasingly challenging traditional aviation regulations and calling for an evolution towards more performance-based, technology-neutral requirements, which will enable the novel business models that emerge from the digital transformation, increasing at the same time safety and efficiency.

EASA is engaged in defining its roadmap to digitalisation in order to determine the following:

— changes needed in the regulatory system to accompany and benefit from industry digitalisation;

— actions needed to keep abreast of digitalisation issues, in particular in relation to product certification and operations;

— key EASA digitalisation activities needed, both for external purposes (e.g. e-licence for pilots) or internal purposes (e.g. digitalisation of processes); and

— actions needed to implement EU's digital agenda and e-government action plan.

The roadmap will have due regard to digitalisation-induced cybersecurity issues and related EPAS actions.

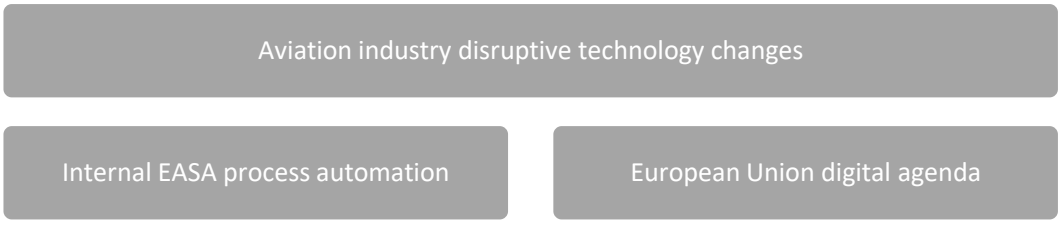


**Figure 12: Overview of the digital transformation strategy drivers**

The high-level EASA digitalisation roadmap is defined to address 4 main challenges as represented below:

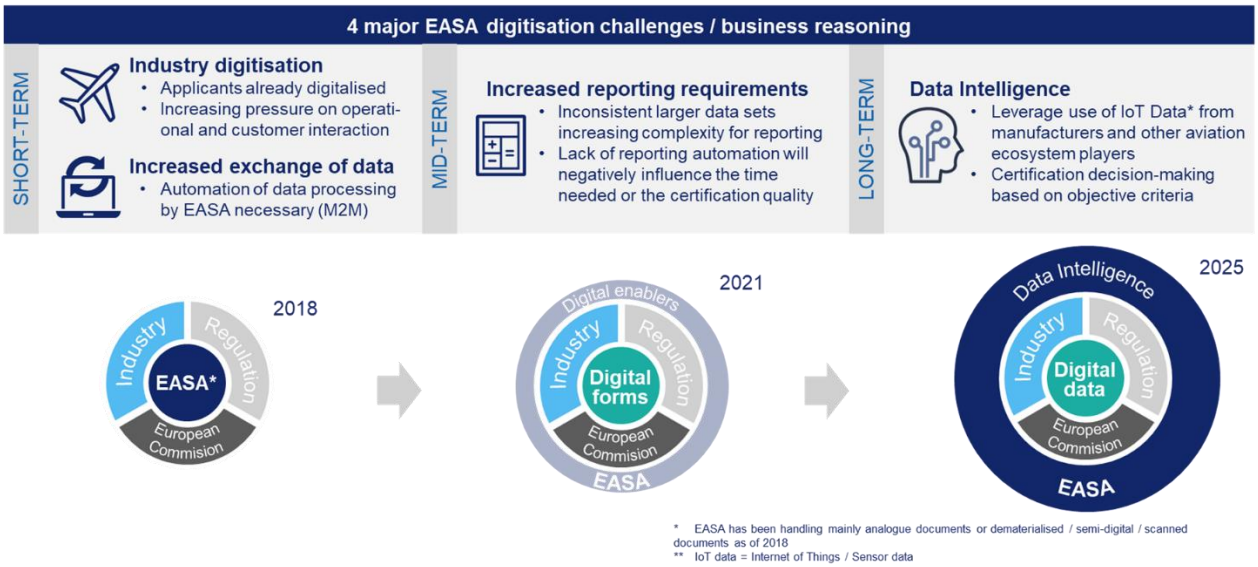


**Figure 13: EASA high-level digitalisation roadmap**

The purpose is to allow EASA and the aviation system to integrate by 2023, allowing streamlined processing of data and advanced analytics capabilities. This can be achieved only through the realisation of the intermediate milestone set for 2021 where EASA should reach the full digitisation and develop the digital enablers necessary to move towards data intelligence. By 2021, EASA's processes will be digitalised in a single, transparent, cost-efficient system with user-friendly access for both internal and external stakeholders and predictable workflows. Once this milestone is completed, EASA will exploit digitalisation by adoption of internet of things (IoT) and AI technologies (where appropriate), to further enhance the quality of the service and support stakeholders. The roadmap can only add value if executed in association and alignment with the aviation sectors, with specific attention to the convergence of a robust industry-wide information management framework. In 2018 EASA started the digital licences for EU aviation pilots (dLAP) PoC project, following the vision of providing a contemporary 'state-of-the-art' IT system, being applied in EASA´s Member States' CAs, to provide a comprehensive and regulated IT platform for issuing, revalidating, renewing, suspending or revoking digital pilot licences.

The dLAP project intends to provide easy-to-use services, especially for aviation pilots, at a first stage, by carrying their (currently only paper-based licences) digitised on their mobile devices. The IT platform will therefore provide a digital signature workflow for electronic Identification (eID) to verify securely the identities of the pilots using the system and to enable the CAs, the authorised examiners and aero-medical examiners to validate and update the pilot licence. The dLAP platform will also provide a web portal with multiple interfaces to be viewed in a standard web browser to provide easy-to-use services to the pilots, aero-medical examiners and flight examiners. The dLAP PoC ran until July 2019 and the next stages of development and implementation will be phased in until 2021.

### 3.2.5 Technical training

According to ICAO Annex 19, qualified technical personnel is a critical element (CE-4) of the State safety oversight system. Annex 19 stipulates that States shall establish minimum qualification requirements for the technical personnel performing safety-related functions and provide for appropriate initial and recurrent training to maintain and enhance their competence at the desired level.

Consequently, as in ICAO's GASP, EPAS considers technical training as a strategic key enabler for an effective State oversight system.

Aviation is a very dynamic sector with rapidly innovating technologies and business models. At the same time, it is confronted with evolving new risk scenarios in terms of both safety and security. These rapid changes are a challenge for the staff of aviation authorities, as well as for aviation organisations, to keep abreast of new developments and to update their knowledge and competencies to fulfil their responsibilities.

Furthermore, the Basic Regulation provides a framework for pooling and sharing of technical resources between the Member States and EASA. The implementation of this new approach needs to be based on harmonised training and assessment standards for aviation personnel.

EASA will therefore continue to focus on the following key areas:

— Maintenance and further development of the competence of EASA staff based on training programmes specifying initial and recurrent training subjects.

— Further identification of common training and assessment needs to facilitate access to acceptable training for aviation inspectors within the EASA system, together with the Common Training Initiative Group (CTIG).

— Cooperation with aviation authorities and aviation organisations.

— Support to universities and similar educational institutions through lectures.

— Support of the international cooperation strategy through dedicated training services.

— Continuous improvement of the European Central Question Bank (ECQB), used for knowledge examinations of commercial pilots; taking into account EPAS priorities, where relevant for the training of pilot competencies.

Through the CTIG and the CA training focal points, EASA makes available its catalogue of technical training courses to all Member States. The range of training courses on offer is regularly adjusted, to take into account the needs of EASA staff as well as external stakeholders, in particular CA staff.

### 3.2.6 Oversight and standardisation

The Standardisation process monitors how States apply the requirements of the Basic Regulation and of the delegated and implementing acts adopted on the basis thereof. Moreover, monitoring of application of Regulation (EU) No 376/2014 on the reporting, analysis and follow-up of occurrences in civil aviation has been added to the scope of the Basic Regulation, upon request of the EC. In particular, the Agency assesses the States' capability to discharge their safety oversight obligations.

**What we want to achieve**

Through the application of the EU aviation safety regulations and the deployment of EPAS, EASA supports the establishment and the maintenance of robust oversight systems across Europe, where each CA is able to properly discharge its oversight responsibilities.

To that end, it is essential that States, through their CAs, are capable of managing the safety risks identified at State level. This presumes that those risks are identified through a process to collect and analyse data and mitigated in an effective way, implying the measurement and monitoring of safety performance leading to continual improvement.

In addition, exchange of information and cooperation with other CAs, implementation of management systems in all organisations, as well as the availability of adequate personnel in CAs, are essential enablers.

**Currently identified weaknesses**

The 2018 SAR identified the following areas of concern:

— The quality of the certification and oversight performed by the authorities remains in some cases unsatisfactory. The severity of the issue varies from domain to domain, but it is consistently observed.

— Although progress has been noted in the functioning of the authorities' management systems, the oversight of management systems in industry is still below the expected standard. This puts into question the ability to implement risk- and performance-based oversight.

— Differences among States in terms of levels of maturity in the application of the rules are still present, with some States continuing to encounter difficulties in meeting the minimum standard. This could undermine the integrity of the European aviation system and needs to be properly addressed. Some implementation support initiatives generated some improvement, but not in all cases.

— As also noted during the SYS inspections[71], the use of available data and intelligence, to drive a more effective and better targeted oversight is still sporadic and not widely spread as it should, at times leaving data analysis detached from the oversight performed. Further analysis of Standardisation inspection results shows that some CAs still show a reactive attitude.

A number of actions are presented in **Section 5.6** to drive improvements in these areas of concerns.

It should also be noted that, in line with the priorities of the Basic Regulation, EASA started to roll out an implementation support programme that will entail activities mainly aimed at strengthening the safety oversight capability of the Member States, together with targeted support activities addressing SSP and SPAS implementation, thus enabling a robust and harmonised EU aviation safety system.

[71] Standardisation inspections that focus on the implementation of Regulation (EU) No 376/2014 on occurrence reporting and on the verification of the CA management system.

These targeted implementation support actions addressed to domains and/or States, do not qualify for inclusion as EPAS actions.

EASA will also continue to support CAs in the application of very large-scale demonstration (VLD) activities in support of essential operational changes that are intended to improve the European ATM system.

## 3.3 New Basic Regulation

### 3.3.1 General

The Basic Regulation prepares the grounds for the future challenges ahead while maintaining aviation as a safe, secure and environmentally friendly form of transport for EU citizens. In this context, Chapter II 'Aviation safety management' creates a solid legal foundation for EPAS and transposes ICAO Annex 19 SARPs for State safety management.

The Basic Regulation conforms with the EC's three key strategic priorities regarding aviation, namely: maintaining high EU safety and security standards, hence strengthening the EU's role as a global actor; tapping into growth markets while promoting job creation; and tackling limits to growth in the air and on the ground.

The main Basic Regulation objectives and related provisions are included below:

| Main objective | Basic Regulation provisions |
|---|---|
| Making better use of the EASA system's limited resources with the following initiatives: | — A pool of European aviation inspectors<br>— New framework for reallocation of responsibilities<br>— Oversight support mechanism<br>— Additional privileges for qualified entities<br>— Repository of information (including aero-medical) and Big Data<br>— Updated framework for better working at international level |
| Having a flexible and performance-based system, by introducing the following principles: | — Risk- and performance-based elements reinforced<br>— Additional flexibility for GA (e.g. use of declarations)<br>— Safety plan for Europe and national safety plans<br>— Opt-in for Annex I aircraft manufacturers<br>— Opt-in for 'State aircraft'<br>— Opt-out for light sport aircraft |
| Integrating unmanned aircraft, by applying these conditions: | — 150 kg threshold removed from Annex I (all unmanned aircraft within thescope)<br>— Operation-centric framework<br>— Use of market harmonisation legislation<br>— Registration requirements<br>— Protection and efficient use of radio-spectrum<br>— Amendments to the accident investigation and occurrence reporting regulations |
| Closing previous gaps and inconsistencies, such as: | — Interdependencies with other domains, such as security, socio-economic factors, environmental and ATM legislation<br>— Essential requirements and cooperation framework for cybersecurity<br>— Proportionate safety requirements for groundhandling (GH)<br>— EU environmental protection requirements to the extent not covered by ICAO Annex 16 |
| Allow for a better governance in EASA, with: | — Alignment with the 'common approach' on EU decentralised agencies<br>— New forms of EASA revenue (grants)<br>— Making best use of EASA resources, by:<br>  — furthering the use of EASA expertise by the EC (security, environment, research, SES implementation)<br>  — allowing for demand-driven resources for certification (more flexibility in adjusting fee-financed staff according to workload) |

### 3.3.2 Basic Regulation roadmap

On 10 April 2018, the EASA MB requested EASA to present a roadmap outlining the priorities for the implementation of the BR. The roadmap received the MB's support during the June 2018 MB meeting.

It identified the areas of the Basic Regulation where work is to be initiated or will start in the range 2019-2021. It constitutes an important input also for this EPAS edition.

The roadmap identifies not only rulemaking activities, but also certification- and Standardisation-specific projects, involving policies' or procedures' drafting, initiatives with roadmaps, support to Member States, etc.

When it comes to rulemaking and policy setting, the following activities identified in the Basic Regulation were already included in the previous EPAS edition and will continue to be delivered:

— Development of a regulatory framework for drones and urban air mobility

— Work on cybersecurity

— ADR/apron management services (AMS) (see Opinion No 02/2014)

— ATM/ANS (Article 44) Opinion covering interoperability issues:

  — RMT.0679 — SPI: Report to be published (no Opinion)

  — RMT.0524 — DLS: Opinion due in 2022

In order to better encapsulate and reflect in EPAS the new areas introduced by the Basic Regulation, the strategic priority 'Safe integration of new technologies and concepts' was introduced with EPAS 2019-2023 (see **Section 3.1.3**).

Under RMT.0727, EASA will publish an Opinion at the end of 2020 proposing to implement the airworthiness aspects of the Basic Regulation. This Opinion will include items such as simpler and more proportionate rules for sports and recreational aircraft, the extended use of declarations and others discussed in the context of the GA Roadmap phase 2. In addition, the Opinion will also address other items introduced or amended by the new Basic Regulation, such as non-installed equipment, permit to fly, restricted certificate of airworthiness, etc.

In the areas of groundhandling and on new aspects of environmental protection (not covered by ICAO Annex 16), the following activities will be undertaken:

— On **groundhandling** (Articles 33 & 37), during 2018, EASA engaged in a fact-finding phase, via safety assessment and dialogue with Member States and stakeholders. In March 2019, a dedicated groundhandling conference organised by EASA concluded this fact-finding phase and presented the groundhandling roadmap, defining the scope and objectives. A new RMT was added in EPAS 2019-2023 to address requirements for the provision of groundhandling-related services (RMT.0728). A new SPT was also added to address any non-regulatory groundhandling matters (SPT.102).

— On **environmental protection,** EASA has redefined its strategy including the implementation of Article 87, where EASA will engage in developing a measurement methodology for novel technologies (supersonics, electric propulsion/urban mobility) as well as in updating the EAER. See **Section 3.1.4.**

Moreover, the Basic Regulation **in Chapter II**, 'Aviation safety management' Article 7 requires States to establish and maintain an SSP in accordance with international SARPs (ICAO Annex 19) and with the European Aviation Safety Programme (EASP). Basic Regulation Article 8 requires States to complement their SSP with

a SPAS. Such a plan shall include the risks and actions identified in EPAS that are relevant for the Member States concerned. A new EPAS action was created with EPAS 2019-2023 to account for this new requirement (see MST.028). A dedicated repository for Member States' SSP documents and SPAS was made available to facilitate the dissemination of such documents[72]. In addition, a States Safety Exchange Forum was created to encourage the sharing of guidance material and good practice[73]. EASA expects Member States to have a SPAS available by the end of 2020. EASA Standardisation activities will be extended to these new requirements as of 2021; this is expected to provide Member States some time to get prepared.

The development of new technologies, new business models and more generally speaking economic/social/societal changes, may have an impact on aviation safety. It is important for the Agency to have a clear vision on those changes that can potentially affect safety. Stakeholders and **EU Aviation Social Partners** should help to build this vision.

**Article 74 of the Basic Regulation** requires EASA to develop a **repository** which aims at facilitating the exchange of information between the CAs, EASA and the EC. Considering the huge quantity and complexity of information as well as the obligation to comply with data protection requirements, the MB decided to set up a dedicated Task Force which falls under MAB. The Task Force will focus on specifications per domains, the global architecture and the governance of the future platform. In 2019, the domains to be addressed will be mainly drones, exemptions and aero-medical data. The technical solution shall rely on the EASA 'Certification and Organisation Approval information hub programme' (CORAL) outputs. CORAL was initiated as an emergent programme with the purpose of harmonising projects through system integration and end-to-end digitalisation. The implementation of additional domains (e.g. licences, opt-outs, opt-ins) will be done step-by-step and in line with the CORAL milestones, with the ultimate goal to have all domains covered by 2025.

An important milestone will be to include drones, with data available in 2020.

**Article 89 of the Basic Regulation** requires EASA to consult relevant stakeholders when addressing interdependencies between civil aviation and related socio-economic factors. EASA is therefore enhancing the cooperation with EU aviation social partners in aviation in order to reinforce its capacity in assessing potential social impacts of the EU aviation regulations and to address socio-economic risks to aviation safety. Refer to **Section 3.1.1.5**.

Paragraph 2 of **Basic Regulation Article 140** stipulates that 'Not later than 12 September 2023 the implementing rules adopted on the basis of Regulations (EC) No 216/2008 and (EC) No 552/2004 shall be adapted to this Regulation'. Except for RMT.0727 on initial airworthiness, EASA has not identified the need to change any IRs for the sole purpose of complying with the Basic Regulation deadline. Changes to rules will instead be driven by concrete safety, proportionality or level playing field improvements. In addition, the limited capacity of the EASA Committee will need to be taken into account when setting priorities.

[72] https://imf.easa.europa.eu/case/eab/mabtebs/SSPDocuments/Forms/AllItems.aspx

[73] https://imf.easa.europa.eu/collab/SSEF/SitePages/Home.aspx

# 4. Performance

## 4.1 Key indicators in terms of EPAS actions

This section 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. It also provides key indicators related to the average duration of rulemaking projects and rulemaking output.

This EPAS edition reflects the near-term priorities agreed in 2018 for the period 2019-2021. It encompasses **180 actions**. The majority of actions are rulemaking tasks (59.5 %), followed by safety promotion tasks (15.0 %). Half of these actions are strategic, meaning they are linked to the areas highlighted in **Chapter 3**.

31 EPAS actions **are expected to be completed in the course of 2019.** With most of those being rulemaking tasks, the backlog continues to be resorbed. Finally, this EPAS proposes 23 **new actions**, including the new rulemaking task addressing new air mobility, 6 new research projects, 5 new evaluation tasks to assess existing regulations/safety initiatives, 4 new actions for MS and 7 new safety promotion tasks. An overview of all new actions is included in **Appendix C: New actions, deleted actions and de-prioritised actions overview**

***Most of the EPAS actions are in the domains 'Systemic safety & competence of personnel' and 'Design and production'.***

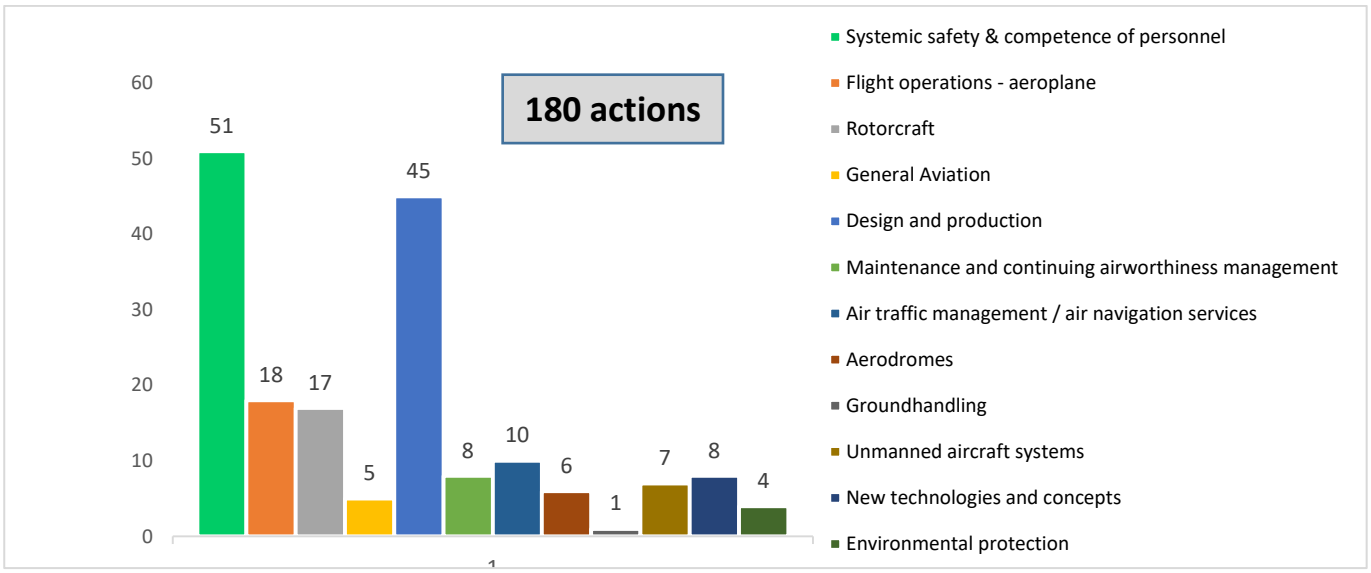


**Figure 14: Distribution of EPAS actions by domain**

***Most of the actions in EPAS are rulemaking projects.***

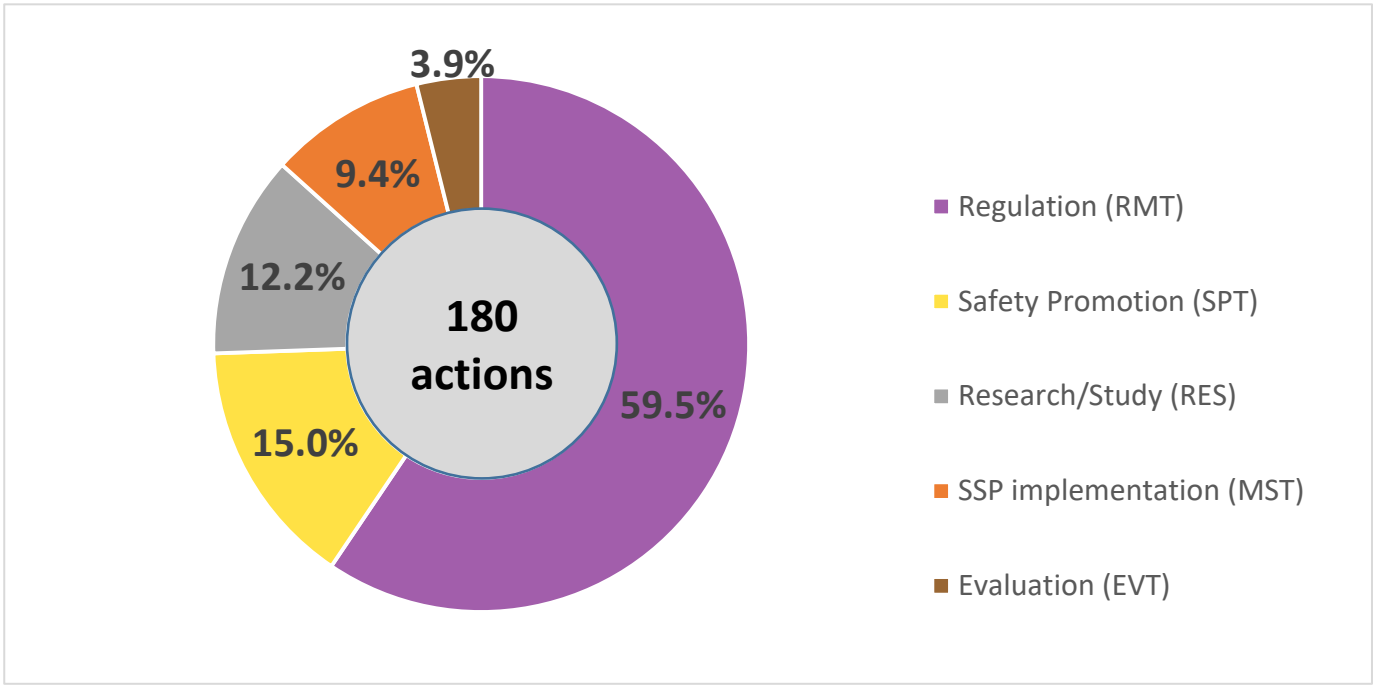


**Figure 15: Distribution of EPAS actions per action type**

**Average duration of rulemaking tasks and adoption process**

The table below shows the average duration of RMTs for Opinions and Decisions published by EASA in 2019 (meaning from ToR publication to Opinion/Decision publication), as well as the average duration of the adoption process for Opinions adopted in 2019 (meaning from Opinion publication to the vote in the EASA Committee).

| *Average duration — Decisions published by EASA in 2019* | *Average duration — Opinions published by EASA in 2019* | *Average duration — Opinions adopted by the EC in 2019* |
|---|---|---|
| 3,2 years ↗ | 3,2 years ↘ | 1,9 years ↘ |

**Rulemaking output**

The rulemaking activity shows an overall decrease between 2015 and 2018. In 2019, the rulemaking activity is back at 2017 levels. The volume of hard law deliverables planned for the next 5 years continues to be adjusted to the actual capacity of the regulatory system.

The graphs on the next pages show not only the total rulemaking output of EASA (Figure 16), but also separately the rulemaking activity leading either to Opinions (hard law and associated soft law, Figure 17) or to stand-alone Decisions[74] (soft law, Figure 18), as the latter have little impact on the Member States' resources.

[74] Decisions that are not linked to any Opinion, meaning where the scope of the corresponding rulemaking task is limited to creating new or amended soft law (typically AMCs and GM).

These graphs do not reflect Decisions (AMC and GM) that are waiting for the adoption of the related Opinions.

***Rulemaking activity — EASA***

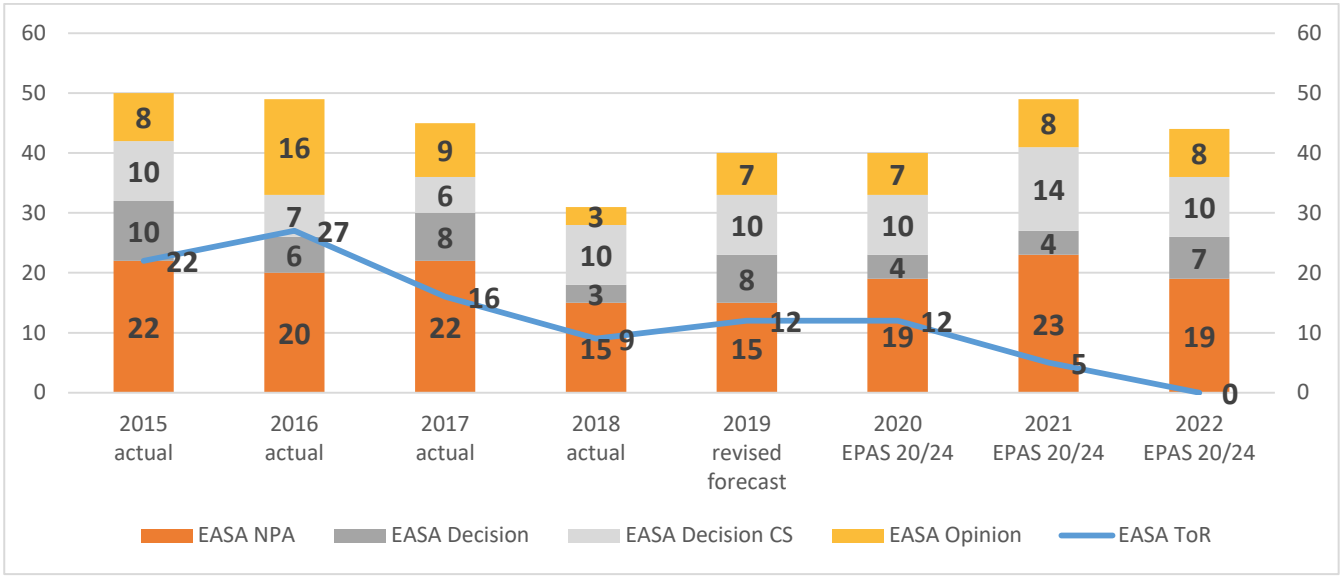


**Figure 16: Rulemaking activity EASA 2015–2022 – total rulemaking output[75]**

EASA plans to publish eight Opinions per year as of 2020. The number of CSs increased in 2019. In addition to other regulatory measures, CS need to be frequently updated in order to keep up with safety needs and new technologies.

***Rulemaking activity leading to Opinions (hard law and associated soft law)***

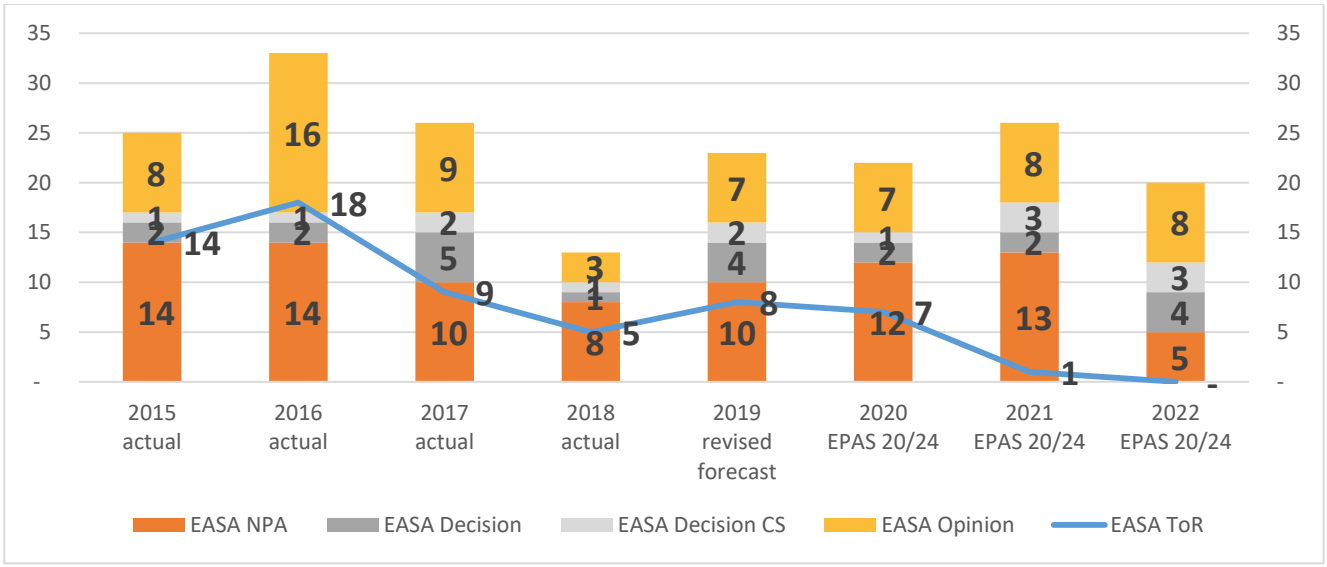


**Figure 17: Rulemaking activity EASA 2015–2022 — Opinions and associated soft law**

[75] The actions mentioned in Appendix C as de-prioritised are not included in this graph.

The above graph shows the rulemaking output related to Opinions and asscoiated soft law, meaning any RMT that contains at least one Opinion and related soft law. Generally, the development of an Opinion and the related soft law is done in parallel, as part of the same rulemaking project.

***Rulemaking activity related to soft law***

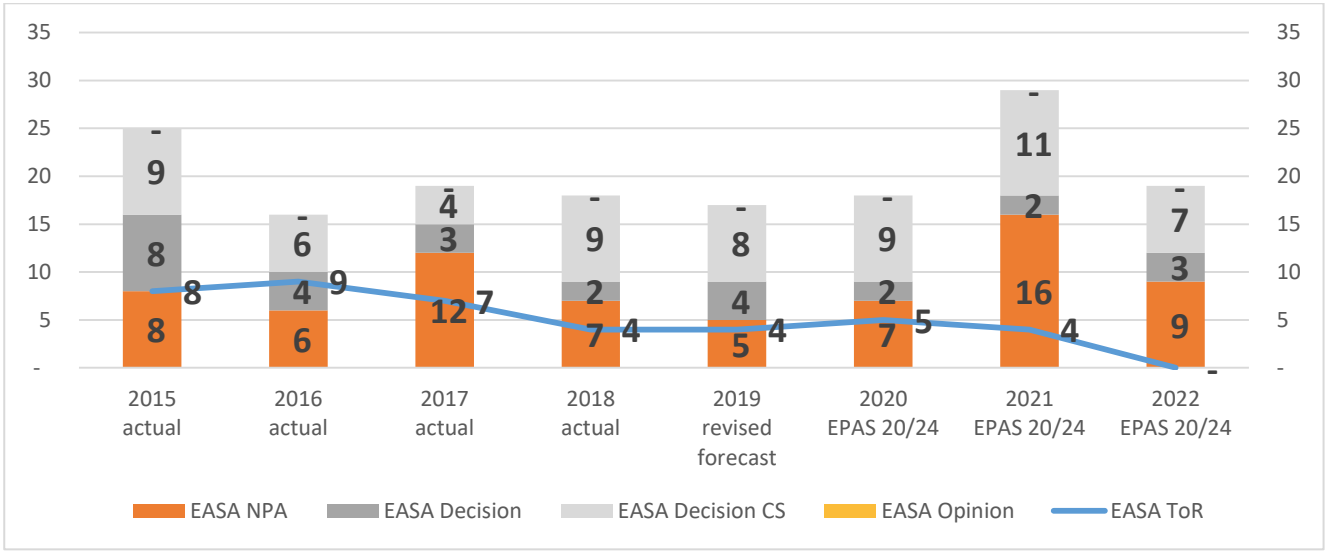


**Figure 18: Rulemaking activity EASA 2015–2022 related to soft law**

The above chart shows the outputs related to soft law, meaning those resulting from rulemaking tasks that only lead to 'stand-alone' Decisions. These tasks do not require the involvement of the EC, nor the EASA Committee, and have less impact on Member States' resources.

***Split between hard/soft law and soft law (compared to the 2019-2023 EPAS edition)***

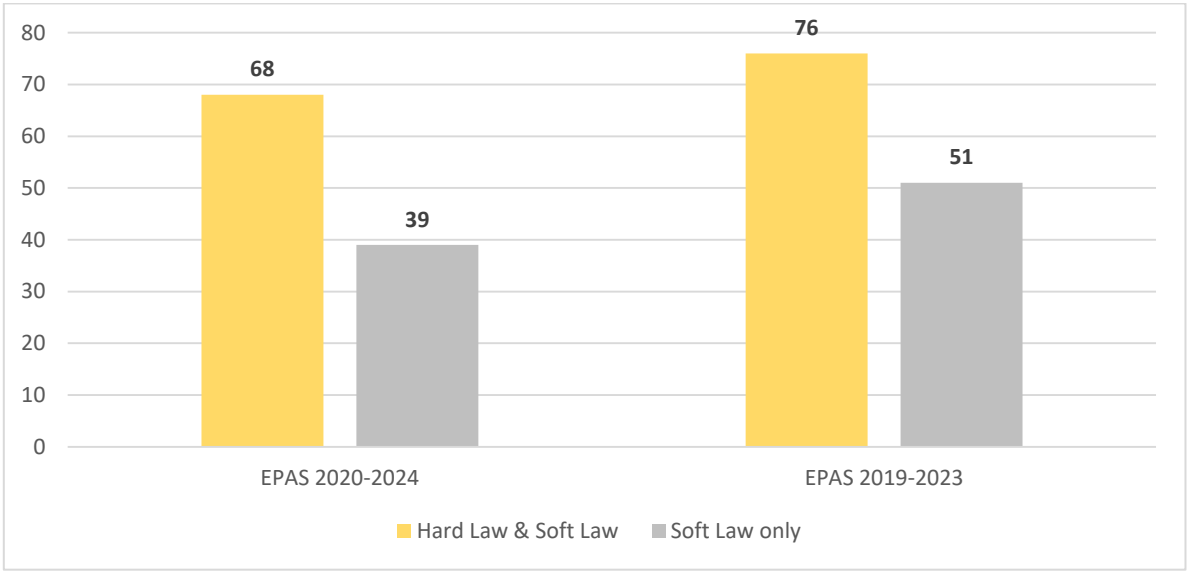


**Figure 19: Split between hard/soft law and soft law**

Following the delivery of a number of opinions and decisions (as detailed in Appendix A) and the addition of only one new RMT, the overall number of RMT actions has decreased from EPAS 2019-2023 to EPAS 2020-2024.

## 4.2 Safety performance

This section presents an outline for EPAS safety performance metrics reflecting the EPAS strategic priorities in the area of safety and the high-level safety objective set out in the Basic Regulation to 'establish and maintain a high uniform level of civil aviation safety in the Union'. EPAS safety performance goals, indicators and targets also align with the 2020-2022 GASP goals and targets as relevant in the EASA system.

EPAS proposes an 'aspirational goal' overarching the different EPAS indicators, as an alternative to the GASP aspirational goal of 'zero fatalities in commercial operations by 2030 and beyond', as follows:

***'achieve constant safety improvement with a growing aviation industry'***

This goal is deemed 'aspirational' as it represents an ambition of achieving an ever safer aviation system. It is intended to address all operational domains.

EPAS SPIs shall serve to monitor the impact of EPAS actions on the overall level of safety performance. New safety issues are identified and monitored via the European SRM process.

In accordance with Article 6 of the Basic Regualtion, EPAS shall specify the level of safety performance in the Union, which the Member States, the EC and EASA shall jointly aim to achieve. The level of safety performance shall be determined on the basis of the EPAS SPIs and where relevant, associated safety performance targets, as well as considering the safety-related indicators and targets defined in the SES ATM Performance Scheme.

**Principles for establishing EPAS SPIs and targets**

SPIs and targets shall monitor both safety **outcomes** (such as accidents, incidents and injuries) and the enablers, in terms of **systems and processes**[76] required to maintain effective safety management at authority and organisation levels.

Setting safety performance targets as part of EPAS is considered more relevant for process-based indicators, to drive positive system 'behaviours'. For safety-outcome-related metrics, which are derived from occurrence data, it is proposed to not consider setting safety performance targets, but to define 'baseline performance' and monitor the system against this baseline performance. Proposed 'baseline' indicators are included in Table 3.

Outcome-based indicators shall consider as main inputs:

— number of fatal accidents;

— number of fatalities; and

— number of non-fatal accidents and serious incidents.

This is aligned with the high-level ICAO safety metrics, thereby facilitating comparison of European performance with that of other regions or with global averages. The number of fatal accidents and fatalities provide the highest level of safety outcome monitoring, while the non-fatal accidents and serious incidents combined provide monitoring of higher-risk events. These can subsequently be reviewed to identify key risk areas that inform EASA's safety priorities. Looking to the future, when the European Risk Classification Scheme (ERCS) has been implemented across the Member States, an additional indicator that monitors high-risk occurrences may be considered. This could be in addition to or instead of monitoring non-fatal accidents

[76] The efficiency of systems and processes established and implemented by EASA will continue to be monitored through the EASA SPD related indicators.

and serious incidents. The SRPs published in the ASR include incident data sourced from the European Central Repository for accident and incident reports in aviation (ECR) under Regulation (EU) No 376/2014. As the implementation of Regulation (EU) No 376/2014 improves, EASA expects to be able to integrate more incident data into the monitoring framework.

**Monitoring systems and processes**

It is proposed that related SPIs be defined and monitored in three areas:

1. Member States' oversight capabilities

   This is related to 2020-2022 GASP Goal 2 and EPAS strategic enabler 'Oversight & standardisation'.

   Monitoring will be based on the EASA Standardisation rating, as an alternative to the ICAO USOAP Effective Implementation (EI) indicator. The Standardisation rating is used for the prioritisation of Standardisation inspections. It aims at emulating the expert's confidence in the CA's ability to discharge its safety oversight capabilities. The Standardisation rating considers elements related to size, nature and complexity of the State authorities and functions, the number and type of open Standardisation findings, as well as the State's reactivity in relation to findings closure, once the final report has been sent.

2. Member States' progress with SSP implementation

   This is related to GASP Goal 3 and the EPAS strategic priority 'Systemic safety'.

   Related indicators will mainly be based on data available through ICAO iSTARS. Feedback provided by Member States will also be considered. EASA will in addition collect relevant documentation from States (SSP and SPAS). In the future, this monitoring area will consider results from the EASA Standardisation of the implementation of Basic Regulation Articles 6 and 7.

   The objective is aligned with the 2020-2022 GASP requiring States to achieve an effective SSP, as appropriate to their aviation system complexity, by 2025.

3. Effective implementation of SMS in aviation organisations

   This partially addresses 2020-2022 GASP Goal 5 and addresses the EPAS strategic priority 'Systemic safety' and the requirements in the Basic Regulation.

   Monitoring the implementation of SMS in industry should focus on compliance with relevant requirements and effectiveness of SMS key processes. To develop a common set of indicators and targets on effective implementation of SMS, an agreed methodology for assessing SMS, as well as a method to score and aggregate related assessment results would first need to be developed and implemented. Such an assessment and scoring methodology is currently only available in the ATM/ANS domain, as part of the SES ATM Performance Scheme. It should also be considered that SMS requirements are not yet applicable in the initial and continuing airworthiness domains. Moreover, while the EASA Management System assessment tool is promoted through EPAS action MST.026, EASA has not yet received sufficient feedback on the use of the tool.

   For the above reasons, no detailed EPAS indicators and targets are proposed on SMS effectiveness (for domains other than ATM/ANS, since here this indicator is monitored in the context of the European ANS Performance Review). However, it is proposed to monitor the following:

(a) the extent to which the EASA Management System assessment tool (or similar) is being used by Member States, and

(b) the status of compliance with EASA management system (SMS) requirements.

Point (a) will be monitored on the basis of feedback received through EASA Standardisation. For point (b), EASA's monitoring will be based on oversight data provided by CAs covering the following:

**Requirements:**

| **Regulation** | **965/2012** | **1178/2011** | **139/2014** | **2015/340** | **2017/373** |
|---|---|---|---|---|---|
| **Part**<br>***Subject*** | **Part-ORO** | **Part-ORA** | **Part ADR.OR** | **Part ATCO.OR** | **Part-ATM/ANS.OR** |
| *Changes to the organisation* | ORO.GEN.130 | ORA.GEN.130 | ADR.OR.B.040 | ATCO.OR.B.015 | ATM/ANS.OR.B.010 |
| *Management system* | ORO.GEN.200 | ORA.GEN.200 | ADR.OR.D.005 | ATCO.OR.C.001 | ATM/ANS.OR.B.005 |
| *Contracted activities* | ORO.GEN.205 | ORA.GEN.205 | ADR.OR.D.010 | ATCO.OR.C.005 | ATM/ANS.OR.B.015 |
| *Personnel requirements* | ORO.GEN.210 | ORA.GEN.210 | ADR.OR.D.015 | ATCO.OR.C.010 | ATM/ANS.OR.B.020 |
| *Record-keeping* | ORO.GEN.220 | ORA.GEN.220 | ADR.OR.D.035 | ATCO.OR.C.020 | ATM/ANS.OR.B.030 |

This list will be reviewed to include relevant requirements in the initial and continuing airworthiness domains, when a management system (SMS) will be required in these domains (RMT.0251).

**Data points:**

- number of organisations with open non-compliance findings in any of the above requirements:
  - both for level 1 and level 2 findings; and
  - for each organisation category;
- average time (in days — positive or negative values) from effective closure of the finding to agreed implementation target:
  - level 2 findings only;
  - for each of the above requirements; and
  - for each organisation category;
- number of organisations for which an extended oversight planning cycle is applied for each organisation category;
- number of organisations for which a reduced oversight planning cycle is applied within each organisation category; and
- top three non-compliance findings raised per frequency of occurrence in the area of EASA management system requirements for each organisation category.

No data/information on individual organisations will be requested. EASA will convert numbers into rates based on the data that Member States provide regularly through the Standardisation Information System. EASA will also report on those indicators for organisations under its oversight in the domains where the requirements listed above are already applicable.

The collection of data will start in 2020.

Once sufficient data is available on the status of compliance with management system (SMS) requirements and experience is gained with collecting and consolidating such data, EASA, in close cooperation with the ABs, will propose more advanced indicators to measure SMS effectiveness in industry.

Results of monitoring safety performance in the above three areas will be presented and discussed at regular AB meetings.

**Alignment with the SES ATM Performance Scheme**

Significant effort has been invested by the Agency, Member States and industry to ensure that the Safety Key Performance Area of the SES Performance Scheme aligns with the principles and technical direction of EASA's performance monitoring framework. The performance indicators for Reference Period 3 of the Performance Scheme were designed by an Agency-led working group in 2016 and then associated AMC and GM were published in 2018. These indicators measure the effectiveness of safety management at organisation level and then monitor safety outcomes via untargeted tier 2 performance indicators, using the European Central Repository as the data source.

**Outcome-based indicators**

Monitoring safety outcomes addresses 2020-2022 GASP Goal 1 and EPAS strategic priority 'Operational safety'.

Indicators related to key risk areas are identified through the Europan SRM process and described in the EASA SRPs. EASA, in cooperation with the European NoAs, developed a safety performance framework that identifies different tiers of SPIs.

— **Tier 1** transversally monitors all the domains and the overview of the performance in each domain. Tier 1 considers the number of fatal accidents and fatalities in the previous year compared with the average of the preceding decade. In addition to this, for CAT aeroplanes, detailed statistical indicators have been developed to identify the accident and serious incident rates over a four-year period. These will be updated periodically to monitor performance against the baseline (see Table 3).

— **Tier 2** covers the priority key risk areas at domain level. Tier 2 provides the number (and where available, the rate) of fatal accidents and the ERCS risk level for each domain in the ASR, divided by key risk areas.

These 'operational' safety indicators will continue to be monitored through the European SRM process. Likewise, reporting on those will continue to be done through the EASA ASR.

The following tables provide an overview of the figures associated with the current Tier 1 indicators.

***Table 1: Tier 1 indicators — cross-domain comparison of EASA Member States aircraft fatal accidents and fatalities, 2008-2018***

| Aircraft domain | Fatal accidents 2018 | Fatal accidents 2008-2017 Mean | Fatalities 2018 | Fatalities 2008-2017 Mean | Fatalities 2008-2017 Median |
|---|---|---|---|---|---|
| **Aeroplanes** | | | | | |
| CAT — airlines | 0 | 0.8 | 0 | 66.1 | 4.0 |
| NCC | 1 | 0.4 | 1 | 0.9 | 0.0 |
| Specialised Operations | 6 | 6.8 | 7 | 13.8 | 13.0 |
| Non-commercial operations | 49 | 47.1 | 95 | 86.0 | 82.0 |
| **Helicopters** | | | | | |
| Offshore CAT | 0 | 0.4 | 0 | 3.6 | 0.0 |
| Onshore CAT | 2 | 1.6 | 8 | 5.2 | 6.0 |
| Specialised operations | 2 | 3.8 | 2 | 7.1 | 6.5 |
| Non-commercial operations | 6 | 5.5 | 15 | 11.8 | 10.5 |
| **Balloons** | | | | | |
| | 0 | 1.3 | 0 | 2.2 | 1.0 |
| **Sailplanes** | | | | | |
| | 16 | 24.9 | 17 | 28.6 | 29.0 |

***Table 2: Tier 1 indicators — cross-domain comparison of EASA Member States infrastructure fatal accidents and fatalities, 2008-2018***

| Infrastructure | Fatal accidents 2018 | Fatal accidents 2008-2017 — Mean | Fatalities 2018 | Fatalities 2008-2017 — Mean | Fatalities 2008-2017 — Median |
|---|---|---|---|---|---|
| **ADR & GH** | 0 | 0.7 | 0 | 1.7 | 0.5 |
| **ATM & ANS** | 2 | 0.7 | 12 | 2.4 | 0.5 |

In Tables 1 and 2, both the mean (average) and the median number of fatalities are shown for the period 2008-2017. This is because for some aircraft domains, the median number provides a better representation of the number of fatalities per year. This is typically related to the number of passengers on board aircraft involved in fatal accidents. Sailplanes usually only have one person on board and the number of fatal accidents and both the mean and median number of fatalities are very similar. By contrast, CAT airline fatal accidents may involve one or several hundred fatalities; therefore, the annual number of fatalities varies and the mean and median figures are quite different.

In Table 3 accident rates were calculated as part of an NoA survey and analysis work. These calculations are based on the accidents reported to the Agency under Regulation (EU) No 996/2010[77]. The flight hours and

[77] Regulation (EU) No 996/2010 of the European Parliament and of the Council of 20 October 2010 on the investigation and prevention of accidents and incidents in civil aviation and repealing Directive 94/56/EC.

movements were determined based on the NoA survey and extensive, detailed review of the data to ensure accuracy and completeness.

It is important to note that these 'baseline' performance measures may be used by States to monitor sector-based performance; they should, however, not be adopted as safety performance targets for individual regulated entities. To ensure continuous improvement in safety, regulated entities must establish their own SPIs and associated targets, in a manner acceptable to their CA.

***Table 3: Tier 1 Indicators for CAT aeroplanes, baseline figures 2011-2014 & 2015-2017***

| EASA-Member States accident rate | | |
|---|---|---|
| **Time period** | **Per 10 000 movements** | **Per 10 000 flight hours** |
| **4-year period [2011-2014]** | **0.044** | **0.023** |
| 2011 | 0.044 | 0.024 |
| 2012 | 0.048 | 0.026 |
| 2013 | 0.034 | 0.018 |
| 2014 | 0.051 | 0.026 |
| **3-year period [2015-2017]** | **0.028** | **not available** |
| 2015 | 0.031 | not available |
| 2016 | 0.023 | not available |
| 2017 | 0.030 | not available |

| EASA-Member States fatal accident rate | | |
|---|---|---|
| **Time period** | **Per 10 000 movements** | **Per 10 000 flight hours** |
| **4-year period [2011-2014]** | **0.001** | **0.0004** |
| 2011 | 0.001 | 0.001 |
| 2012 | 0 | 0 |
| 2013 | 0 | 0 |
| 2014 | 0.002 | 0.001 |
| **3-year period [2015-2017]** | **0.001** | **not available** |
| 2015 | 0.002 | not available |
| 2016 | 0.001 | not available |
| 2017 | 0 | not available |

| Accident rate by size of AOC holder (Number of movements) | | |
|---|---|---|
| **AOC holder flying activity over the analysed period** | **Accident rate per 10 000 movements** | |
| | **period [2011-2014]** | **period [2015-2017]** |
| **Band A: Less than 7 100 movements** | 0.17 | not available |
| **Band B: 7 100 - 35 099 movements** | 0.18 | not available |
| **Band C: 35 100 - 101 999 movements** | 0.06 | 0.04 |
| **Band D: 102 000 - 199 999 movements** | 0.04 | 0.03 |
| **Band E: More than 199 999 movements** | 0.03 | 0.03 |

## 4.3 Environmental performance

The efficiency of actions included in EPAS in relation to environmental protection will continue to be monitored as part of the EAER[78].

The report is led by EASA with support from the EC, the EEA and Eurocontrol. EAER provides a valuable source of objective and accurate information on the environmental performance of the aviation sector, and sets the scene for Europe's ambition to make the sector more sustainable. It includes performance indicators that provide an overview of the sector's environmental performance over time. This includes technology/design, sustainable aviation fuels, air traffic management/operations, airports, market-based measures and the latest scientific understanding on environmental impacts from aviation.

EASA published the 2nd edition of the report in January 2019 and, in line with EASA's expanded environmental protection remit, is responsible to update the EAER every 3 years.

[78] https://www.easa.europa.eu/eaer/downloads

# Volume II

# 5. Systemic safety & competence of personnel

This area addresses system-wide problems that affect aviation as a whole. In most scenarios, these problems are related to human factors, human performance limitations, competence of personnel, socio-economic factors or to deficiencies in organisational processes and procedures, whether at authority or industry level.

This area also includes the impact of security on safety.

## 5.1 Safety management

**Issue/rationale**

Safety management is a strategic priority. Despite the fact that last years have clearly brought continued improvements in safety across every operational domain, recent accidents underline the complex nature of aviation safety and the significance of addressing human factor aspects. Authorities and aviation organisations should anticipate more and more new threats and associated challenges by developing SRM principles. These principles will be strengthened through SMS implementation supported by ICAO Annex 19 and Regulation (EU) No 376/2014 (reporting reinforcement).

**What we want to achieve**

Regulatory framework requiring safety management is in place across all domains of aviation, with proportionate requirements in the area of GA.

Regulatory framework for information security management is in place.

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

**How we monitor improvement**

Organisations and authorities are able to demonstrate compliance and effective implementation. For ATM/ANS, this will be monitored as part of the ATM Performance Scheme. For the other domains (air operations, aircrew and aerodromes), it is proposed to start with collecting data on the status of compliance with organisation and authority requirements as relevant to safety management (see Section **4.2**).

**How we want to achieve it: actions**

| | |
|---|---|
| **RMT.0251** | **Embodiment of safety management system requirements into Commission Regulations (EU) Nos 1321/2014 and 748/2012** |
| **Safety** | With reference to ICAO Annex 19, the objective is to set up a framework for safety management in the initial and continuing airworthiness domains.<br>This RMT is processed in two phases:<br>1. Changes to Part-M linked to OPS (CAMOs) - Opinion No 06/2016 issued in May 2016<br>2. Changes to Part-145 and Part 21 |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | RMT.0681 |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | CAMOs, AMOs (Part-145), POA holders, DOA holders, ETSOA holders and CAs | | | | |
| **Owner** | EASA FS.2 | Air Operations Department | | | |
| **Priority** | Yes | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| 1 | MDM.055<br>19/07/2011 | 2013-19<br>10/10/2013 | 06/2016<br>11/05/2016 | 2019/1383 of<br>08/07/2019[79] | 2020 Q1 |
| 2 | | NPA 2019-05<br>17/04/2019 | 2020 Q3 | 2021 Q3 | 2021 Q3 |

**CHANGES SINCE LAST EDITION**

n/a

[79] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L_.2019.228.01.0001.01.ENG&toc=OJ%3AL%3A2019%3A228%3ATOC

| | |
|---|---|
| **RMT.0681** | **Alignment of implementing rules and AMC & GM with Regulation (EU) No 376/2014** |
| **Safety** | Alignment of IRs and AMC & GM with Regulation (EU) No 376/2014.<br><br>Note: NPA 2016-19 will not be followed by a stand-alone Opinion; instead, regulatory changes will be implemented as part of existing RMTs. CRD 2016-19[80] was published on 24/05/2019. It provides an overview of those existing RMTs through which the changes will be made.<br>1. Part 21 to RMT.0251 Phase II;<br>2. Part M to RMT.0251 Phase II;<br>3. Part 145 to RMT.0251 Phase II;<br>4. Part-ARA/Part-ORA (Aircrew) to RMT.0599;<br>5. Part-ARO/Part-ORO (Air Operations) to RMT.0599;<br>6. Part-ADR-AR/Part-ADR-OR to RMT.0591;<br>7. Part-ATM/ANS.AR/Part-ATM/ANS.OR to RMT.0719 (Part-MET);<br>8. Part ATCO-AR/Part ATCO-OR to RMT.0668; and<br>9. AMC 20-8 to RMT.0643. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | n/a |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Air operators, pilots, MOs, ATOs, manufacturers[81], CAMOs, ADR operators, ATM/ANS providers and ATCO TOs | | | | |
| **Owner** | EASA SM.1 | Safety Intelligence & Performance Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

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

**CHANGES SINCE LAST EDITION**

Further information added on how the regulatory changes proposed will be processed.

[80] https://www.easa.europa.eu/sites/default/files/dfu/CRD%20to%20NPA%202016-19.pdf

[81] The term 'manufacturer' includes, depending on the case: production approval holder (POAH) and production organisation manufacturing without POA.

| RMT.0706 | **Update of authority and organisation requirements** |
|---|---|
| **Safety** | Address relevant elements of ICAO Annex 19 considering the latest revision status of the document and ensure appropriate horizontal harmonisation of the requirements across different domains taking on board lessons learned. |
| **Status** | De-prioritised |
| **Reference(s)** | n/a |
| **Dependencies** | |

| **Affected stakeholders** | CAs, NSAs, air operators, pilots, MOs, ATOs, POA holders, CAMOs, ADR operators, ATM/ANS providers, and ATCO TOs | | | | |
|---|---|---|---|---|---|
| **Owner** | EASA FS | Flight Standards Directorate | | | |
| **Priority** | No | **RM Procedure** | tbd | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | tbd | tbd | tbd | tbd | tbd |

**CHANGES SINCE LAST EDITION**

n/a

| SPT.057 | **SMS international cooperation** |
|---|---|
| **Safety**<br>**HF** | Promote the common understanding of safety management and human factors principles and requirements in different countries, share lessons learned and encourage progress and harmonisation, through active participation in the Safety Management International Collaboration Group (SMICG)[82] and dissemination of safety promotion material to support effective SMS implementation, including but not limited to SMICG deliverables[83].<br><br>Latest SMICG deliverables include:<br>— Improved SMS evaluation tool,<br>— Industry Safety Culture evaluation tool and guidance,<br>— Organisational Culture self-assessment tool for regulators,<br>— Position paper on SMS/QMS relationship. |
| **Status** | Ongoing |
| **Reference(s)** | GASP SEI-5 (Industry) Improvement of industry compliance with applicable SMS requirements |
| **Dependencies** | MST.001, MST.002, MST.028 |

| **Affected stakeholders** | ALL | |
|---|---|---|
| **Owner** | EASA FS.2 | Air Operations Department |

**EXPECTED OUTPUT**

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

**CHANGES SINCE LAST EDITION**

Addition of references to latest SMICG deliverables and references to relevant GASP SEIs.

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

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

| | |
|---|---|
| **MST.001** | **Member States to give priority to the work on SSPs** |
| **Safety** | In the implementation and maintenance of the SSP, Member States shall in particular:<br>— ensure effective implementation of the authority requirements and address deficiencies in oversight capabilities, as a prerequisite for effective SSP implementation,<br>— ensure effective coordination between State authorities having a role in safety management,<br>— ensure that inspectors have the right competencies to support the evolution towards risk- and performance-based oversight,<br>— 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,<br>— 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 SSP objectives,<br>— establish policies and procedures for safety data collection, analysis, exchange and protection, in accordance with Regulation (EU) No 376/2014,<br>— establish a process to determine SPIs at State level addressing outcomes and processes,<br>— ensure that an approved SSP document is made available and shared with other Member States and EASA,<br>— ensure that the SSP is regularly reviewed and that the SSP effectiveness is regularly assessed. |
| **Status** | Ongoing |
| **Reference(s)** | ICAO Annex 19 and GASP 2020-2024 Goal 3 'Implement effective State Safety Programmes'<br>GASP SEI-13 — Start of SSP implementation at the national level<br>GASP SEI-14 — Strategic allocation of resources to start SSP implementation<br>GASP SEI-15 — Strategic collaboration with key aviation stakeholders to start SSP implementation<br>GASP SEI-16 — Strategic collaboration with key aviation stakeholders to complete SSP implementation |
| **Dependencies** | MST.028 |
| **Affected stakeholders** | ALL |
| **Owner** | Member States |

| **EXPECTED OUTPUT** | |
|---|---|
| **Deliverable(s)** | **Timeline** |
| SSP document made available | 2019 |
| SSP effectively implemented | 2025 |

| **CHANGES SINCE LAST EDITION** |
|---|
| A point on civil-military coordination is added. References to relevant GASP SEIs are added. |

| | |
|---|---|
| **MST.002** | **Promotion of SMS** |
| **Safety HF** | Encourage implementation of safety promotion material developed by the European Safety Promotion Network, the SMICG and other relevant sources of information on the subject of safety management.<br><br>Latest SMICG deliverables include:<br><br>— Improved SMS evaluation tool,<br>— Industry Safety Culture evaluation tool and guidance,<br>— Organisational Culture self-assessment tool for regulators,<br>— Position paper on SMS/QMS relationship. |
| **Status** | Ongoing<br>GASP SEI-5 (Industry) Improvement of industry compliance with applicable SMS requirements |
| **Reference(s)** | n/a |
| **Dependencies** | MST.001, SPT.057 |
| **Affected stakeholders** | ALL |
| **Owner** | Member States |

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

| **CHANGES SINCE LAST EDITION** |
|---|
| A list of recent SMICG deliverables is now included. References to relevant GASP SEIs are added. |

| | |
|---|---|
| **MST.026** | **SMS assessment** |
| **Safety** | Without prejudice to any 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.<br><br>Member States should regularly inform EASA about the status of compliance with SMS requirements and SMS performance of their industry. |
| **Status** | Ongoing |
| **Reference(s)** | EASA Management System assessment tool [84]<br>GASP SEI-5 (Industry) Improvement of industry compliance with applicable SMS requirements |
| **Dependencies** | MST.001, MST.032 |
| **Affected stakeholders** | Air Operations, Aircrew, Medical, Aerodromes |
| **Owner** | Member States |

| **EXPECTED OUTPUT** | |
|---|---|
| **Deliverable(s)** | **Timeline** |
| Feedback on the use of the tool<br>Feedback on the status of SMS compliance (cf. § 4.2) and performance | Continuous with annual reporting |

| **CHANGES SINCE LAST EDITION** |
|---|
| References to relevant GASP SEIs are added. |

[84] https://www.easa.europa.eu/document-library/general-publications/management-system-assessment-tool

| **MST.028** | **Member States to establish and maintain a State Plan for Aviation Safety** |
|---|---|
| **Safety** | Member States shall ensure that a SPAS is maintained and regularly reviewed. Member States shall identify in 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 pan-European safety risk areas identified in EPAS for the various aviation domains as part of their SRM process and, when necessary, identify suitable mitigation actions within their SPAS. In addition to the actions, 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 EPAS.<br><br>The pan-European safety risk areas in the current EPAS edition are as follows:<br>— For CAT by aeroplane: aircraft upset in flight, runway safety[85], airborne conflict, ground safety, terrain collision, and aircraft environment<br>— For rotorcraft operations: helicopter upset in flight and terrain and obstacle conflict<br>— For GA: staying in control, coping with weather, preventing mid-air collisions and managing the flight<br>SPAS shall:<br>— 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),<br>— include safety objectives, goals, indicators and targets (unless these are included in the SSP document),<br>— reflect the EPAS actions as applicable to the State,<br>— identify the main safety risks at national level in addition to the ones identified in EPAS, and<br>— ensure that their SPAS is made available to relevant stakeholders, shared with other Member States and EASA. |
| **Status** | Ongoing |
| **Reference(s)** | ICAO Annex 19 and GASP 2020-2024 Goal 3 'Implement effective State Safety Programmes'<br>GASP SEI-11 (States) — Strategic collaboration with key aviation stakeholders to enhance safety in a coordinated manner<br>GASP SEI-17 (States) — Establishment of safety risk management at the national level (step 1)<br>GASP SEI-18 (States) — Establishment of safety risk management at the national level (step 2)<br>GASP SEI-19(States) — Acquisition of resources to increase the proactive use of risk modelling capabilities<br>GASP SEI-20 (States) — Strategic collaboration with key aviation stakeholders to support the proactive use of risk modelling capabilities<br>GASP SEI-21 (States) — Advancement of safety risk management at the national level<br>SEIs (States) — Mitigate contributing factors to the risks of CFIT, LOC-I, MAC, RE, and RI |
| **Dependencies** | MST.001 |

| | |
|---|---|
| **Affected stakeholders** | ALL |
| **Owner** | Member States |

| **EXPECTED OUTPUT** | |
|---|---|
| **Deliverable(s)** | **Timeline** |
| SPAS established | 2020 |

| **CHANGES SINCE LAST EDITION** |
|---|
| Addition of a reminder that SPAS should be made available to relevant stakeholders, shared with other Member States. References to relevant GASP SEIs are added. |

[85] Runway excursions: refer also to SAF11 (Prevention of RWY Excursions) in the ATM MP's (Level 3 Ed 2018).

## 5.2 Human factors and human performance

**Issue/rationale**

Human factors and the impact on human performance, as well as medical fitness are strategic priorities. As new technologies and/or operating concepts emerge on the market and the complexity of the system continues increasing, it is of key importance to properly assess human factors and human performance, in terms of both limitations and its contribution to delivering safety, as part of the safety management implementation.

The safety actions identified currently — related to aviation personnel — are aimed at updating fatigue risk management (FRM) requirements and contributing to mitigating safety issues in all domains such as personal readiness, flight crew perception or crew resource management (CRM) and communication, which play a role in improving safety across all aviation domains.

**What we want to achieve**

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

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 HF CAG.

**How we want to achieve it: actions**

### 5.2.1 Flight time limitations

| | |
|---|---|
| **RMT.0486** | **Alignment with the ICAO Standards and Recommended Practices as regards the provisions for air traffic controller fatigue management** |
| **Safety** | Align with ICAO SARPs on the subject provisions. |
| **Status** | This task is de-prioritised in accordance with the criteria described in Chapter 3. |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | ANSPs and ATCOs | | | |
| **Owner** | | EASA FS.4 | ATM/ANS & Aerodromes Department | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

| PLANNING MILESTONES | | | | | |
|---|---|---|---|---|---|
| **SubT** | **ToR** | **NPA** | **Opinion** | **Commission IR** | **Decision** |
| | tbd | tbd | tbd | tbd | tbd |

| CHANGES SINCE LAST EDITION |
|---|
| n/a |

| | |
|---|---|
| **RMT.0492** | **Development of FTL rules for CAT operations of emergency medical services by aeroplanes** |
| **Level playing field** | Harmonised and state-of-the-art rules for EMS.<br>This RMT will continue only in the field of EMS with aeroplanes (AEMS).<br>Development of FTL for HEMS will be addressed in RMT.0494. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | CAT aeroplane operators conducting EMS operations, flight crew | | | | |
| **Owner** | EASA FS.2 | Air Operations Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0492<br>18/04/2012 | 2017-17<br>30/10/2017 | 2021 Q1 | 2022 Q3 | 2022 Q3 |

**CHANGES SINCE LAST EDITION**

n/a

| | |
|---|---|
| **RMT.0493** | **Update and harmonisation of FTL rules for CAT by aeroplane for air taxi operations and single-pilot operations taking into account operational experience and recent scientific evidence** |
| **Level playing field** | Develop harmonised and state-of-the-art-rules for air taxi and single-pilot operations. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | CAT aeroplane operators, flight crew | | | | |
| **Owner** | EASA FS.2 | Air Operations Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0493<br>21/08/2012 | 2017-17<br>30/10/2017 | 2021 Q1 | 2022 Q3 | 2022 Q3 |

**CHANGES SINCE LAST EDITION**

n/a

| RMT.0494 | FTL rules for helicopter operations |
|---|---|
| **Efficiency/ proportionality** | Establish harmonised and state-of-the-art rules for helicopter operations (CAT, SPO, NCC). |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | CAT, SPO, NCC helicopter operators, flight crew | | | | |
| **Owner** | EASA FS.2 | Air Operations Department | | | |
| **Priority** | Yes | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | 2020 Q3 | 2022 Q1 | 2023 Q1 | 2024 Q1 | 2024 Q1 |

**CHANGES SINCE LAST EDITION**

n/a

| RMT.0495 | FTL rules for aeroplane commercial operations other than CAT |
|---|---|
| **Level playing field** | Establish harmonised and state-of-the-art rules for aeroplane commercial operations other than CAT. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Commercial SPO operators with aeroplanes, flight crew | | | | |
| **Owner** | EASA FS.2 | Air Operations Department | | | |
| **Priority** | Yes | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | 2021 Q3 | 2022 Q4 | 2023 Q3 | 2024 Q2 | 2024 Q2 |

**CHANGES SINCE LAST EDITION**

n/a

| | |
|---|---|
| **RES.006** | **Effectiveness of FTL rules** |
| **Safety HF** | Collection, analysis and processing of historical and in-flight crew fatigue data for purposes of supporting the continuous review of the effectiveness of the provisions concerning flight and duty time limitations and rest requirements as foreseen in Regulation (EU) No 965/2012; and in particular for the 2nd phase of the assessment:<br>- duties of more than 13 hours at the most favourable time of the day;<br>- duties of more than 11 hours for crew members in an unknown state of acclimatisation;<br>- duties including a high level of sectors (more than 6); and<br>- on-call duties such as standby or reserve followed by flight duties.<br><br>The first phase of the assessment for this RES action is completed (report[86] published 28/02/2019). The second phase started with the publication of a call for tender[87] on 04/10/2019 |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | |
|---|---|---|
| **Affected stakeholders** | CAT operators and aircrew | |
| **Owner** | EASA SM.0.1 and FS.2 | Strategy & Safety Management Director's Office and Air Operations Department |

| PLANNING MILESTONES | | |
|---|---|---|
| **Starting date** | **Interim Report** | **Final Report** |
| 1st assessment: 2016 | n/a | 2019 |
| 2nd assessment: 2020 | | 2023 |

| CHANGES SINCE LAST EDITION |
|---|
| Start of the 2nd assessment. |

86 Effectiveness of Flight Time Limitation (FTL) Report

87 Call for tender – Effectiveness of Flight Time Limitations – EASA.2019.HVP.11

### 5.2.2 Medical

| | |
|---|---|
| **RMT.0287** | **Regular update of Part-MED (Annex IV), Subparts ARA.AeMC and ARA.MED of Part-ARA (Annex VI), and Subpart ORA.AeMC of Part-ORA (Annex VII) of Commission Regulation (EU) No 1178/2011, as well as of the related AMC and GM** |
| **Efficiency/proportionality** | The specific objectives of RMT.0287 are to solve the consistency issues, close the loopholes in the rules, as identified through the implementation experience, 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 in practice. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Pilots, aero-medical centres (AeMCs), aeromedical examiners (AMEs), and NAAs | | | | |
| **Owner** | EASA FS.3 | Aircrew & Medical Department | | | |
| **Priority** | n/a | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0287<br>22/10/2012 | 2017-22<br>21/12/2017 | 2021 Q1 | 2022 Q1 | 2022 Q1 |

**CHANGES SINCE LAST EDITION**

Addition of the task description.

| | |
|---|---|
| **RMT.0424** | **Regular update of Part-MED (Annex IV) of Commission Regulation (EU) No 1178/2011** |
| **Efficiency/ proportionality** | A 'standing task' allowing the Agency to table non-controversial issues identified by industry and Member States which should be corrected or clarified in Part-MED. |
| **Status** | This task is de-prioritised in accordance with the criteria described in Chapter 3. |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Pilots, aero-medical centres (AeMCs), aeromedical examiners (AMEs), and NAAs | | | | |
| **Owner** | EASA FS.3 | Aircrew & Medical Department | | | |
| **Priority** | n/a | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0424<br>09/10/2017 | tbd | tbd | tbd | tbd |

**CHANGES SINCE LAST EDITION**

n/a

| | |
|---|---|
| **RMT.0589** | **Rescue and firefighting services at aerodromes** |
| **Safety** | The objective of this RMT is to ensure a high and uniform level of safety by establishing minimum medical standards for rescue and firefighting personnel required to act in aviation emergencies. It will also ensure that the level of protection for rescue and firefighting at ADRs serving all-cargo or mail flights is proportionate to this type of traffic and their particular requirements. Finally, it will as well ensure a clearer implementation of the remission factor in general.<br><br>The RMT will lead to changes at AMC & GM level only. It has been split in two subtasks:<br><br>Subtask 1:<br>Remission factor, cargo flights, etc. The first subtask is completed. Decision 2016/009/R published on 23/5/2016.<br><br>Subtask 2:<br>RFFS personnel physical and medical fitness standards. |
| **Status** | This RMT is planned to be delivered in 2019. |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | CAs, ADR operators | | | |
| **Owner** | | EASA FS.4 | ATM/ANS & Aerodromes Department | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| 1 | RMT.0589<br>10/04/2014 | 2015-09<br>09/07/2015 | n/a | n/a | 2016/009/R<br>23/05/2016 |
| 2 | | 2018-15<br>18/12/2018 | n/a | n/a | 2019 Q4 |

**CHANGES SINCE LAST EDITION**

n/a

| | |
|---|---|
| **RMT.0707** | **Medical regulation — combine Part-MED (Annex IV) of Commission Regulation (EU) No 1178/2011 and Part ATCO MED (Annex IX) of Commission Regulation (EU) 2015/340** |
| **Level playing field** | The main benefits are that the medical assessor (MA) within the authorities, and the aero-medical examiner (AME) and aero-medical centres (AeMCs) only need to use one common regulatory document, encouraging harmonisation and removing duplication between Part-MED and Part ATCO.MED. Consequently, the regulation should be easier to keep up to date. Moreover, currently AMEs and AeMCs require duplicate certifications on both Part-MED and Part ATCO.MED. |
| **Status** | This task is de-prioritised in accordance with the criteria described in Chapter 3. |
| **Reference(s)** | |
| **Dependencies** | n/a |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | AMEs, AeMCs, pilots and ATCOs | | | | |
| **Owner** | EASA FS.3 | Aircrew & Medical Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | tbd | tbd | tbd | tbd | tbd |

**CHANGES SINCE LAST EDITION**

n/a

| | |
|---|---|
| **EVT.0011** | **Evaluation on effectiveness of the provisions concerning support programmes, the psychological assessment of flight crew and the systematic and random testing of psychoactive substances** |
| **Efficiency/proportionality** | Having regard the Commission Regulation (EU) 2018/1042, amending Regulation (EU) No 965/2012, an evaluation of the effectiveness of the provisions concerning support programmes, the psychological assessment of flight crew and the systematic and random testing of psychoactive substances is envisaged to ensure the medical fitness of flight and cabin crew members. The report will be published in compliance with the regulatory deadline by 14 August 2022. |
| **Status** | New |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | |
|---|---|---|---|
| **Affected stakeholders** | Air operators, pilots, CA | | |
| **Owner** | EASA FS.2. | Air Operations Department | |

**EXPECTED OUTPUT**

| Deliverable(s) | Timeline |
|---|---|
| Evaluation report | 2022 |

**CHANGES SINCE LAST EDITION**

n/a

## 5.3 Competence of personnel

**Issue/rationale**

Competence of personnel is a strategic priority. As new technologies and/or operating concepts emerge on the market and the complexity of the system continues 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.

The safety actions identified currently — related to aviation personnel — are aimed at introducing competency-based training for all licences and ratings. These actions play a role in improving safety across all aviation domains.

Rotorcraft:

EASA's Rotorcraft Safety Roadmap aims at significantly reducing 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 are affected by the different domains including training, operations, initial and continuing airworthiness, environment and innovation.

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 continuous improvement of all aviation personnel competence.

**How we monitor improvement**

Measurable improvement in aviation personnel competence at all levels (flight crew, cabin crew, maintenance staff and ATCOs).

**How we want to achieve it: actions**

### 5.3.1 General

| | |
|---|---|
| **SPT.107** | **Promotion of the full range of careers and opportunities in the European aviation industry** |
| **Safety** | Help to address potential shortages of aviation professionals for the future European aviation system by promoting the full range of careers and opportunities that are available.<br><br>This covers the full range of aviation activities both on the ground and in the air.<br><br>Specific focus is needed to address already identified shortages in areas such as aero-medical examiners, instructors, flight examiners, maintenance and ground personnel.<br><br>This task also supports some of the European aspects of the ICAO Next Generation of Aviation Professionals (NGAP) programme[88]. |
| **Status** | New |
| **Reference(s)** | ICAO NGAP |
| **Dependencies** | |

| | | |
|---|---|---|
| **Affected stakeholders** | All | |
| **Owner** | EASA SM.1 | Safety Intelligence & Performance Department |

| EXPECTED OUTPUT | |
|---|---|
| **Deliverable(s)** | **Timeline** |
| Promotional web material and social media | Continuous |

| CHANGES SINCE LAST EDITION |
|---|
| n/a |

[88] https://www.icao.int/safety/ngap/Pages/NGAP-Programme.aspx

### 5.3.2 Language proficiency (pilots and ATCOs)

**Issue/rationale**

The decision to address language proficiency requirements (LPRs) for pilots and air traffic controllers was first made by the 32nd Session of the ICAO Assembly in September 1998 as a direct response to several fatal accidents, including one that cost the lives of 349 persons, as well as to previous fatal accidents in which the lack of proficiency in English was identified as a contributing factor. The intent was to improve the level of language proficiency in aviation worldwide, and reduce the communication breakdowns caused by a lack of language skills.

LPRs have now moved beyond implementation (Assembly Resolution A38-8 refers), entering a phase of post implementation.

Despite the successful establishment of national LPR systems, there remains insufficient awareness, particularly in the selection of suitable and appropriate testing tools that meet ICAO LPRs, which may result in safety risks.

Therefore, EASA supports the continuation of the LPR activities as an important aviation safety element and joins efforts with ICAO, working together in order to streamline and harmonise the LPR activities and optimise support to Member States and the industry.

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

Moreover, the following points have been brought to the attention of EASA (some came from the industry directly:

— Whilst all pilots holding a CPL/an IR and an ATPL have an English LP endorsement on their licence of at least the LP level 4, experience has shown that many of the pilots seeking a job at airlines cannot pass a straightforward telephone interview and are therefore not successful in getting their first job as an airline pilot.

— GA pilot organisations claim that the language proficiency tests are too demanding and not adapted to the GA environment. Furthermore, GA organisations claim that the real advantage of the language proficiency examinations is for the language proficiency testing industry.

— Raw safety data shows 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.

— Pilot organisations claim that the CAs in different Member States have implemented different procedures to test language proficiency with the effect that in some countries it is easier or in other countries more difficult to obtain a language proficiency endorsement. (Some airlines have a Level 6 as a pre-entry requirement thus pushing pilots to search for an easy solution).

— The language proficiency testing industry claims that the provisions for language proficiency in Regulation (EU) 1178/2011 are not consistent with the latest amendments of ICAO Annex 1.

**What we want to achieve**

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

To react to the above:

— EASA intends to promote the use of the English language during pilot training for IR, CPL and ATPL.

— EASA is evaluating the content of the provided tests and is ready to reconsider the necessity of language proficiency tests for pilots holding an light aircraft pilot licence (LAPL) or a private pilot licence (PPL) with a radio telephony (RT) licence that includes the English language.

— EASA has initiated an analysis of the raw data to ensure that not only those incidents that are directly related to language proficiency are included, but also those that show the lack of language proficiency in the chain of events.

— Through standardisation of CAs and with the feedback on performance of the technical advisory bodies, EASA has started to have a closer look at the tests that are provided in the different Member States. After a thorough analysis, EASA plans to promote selected best practices with the view to harmonising testing methods.

EASA has verified the existing requirements and considers these as sufficient; however ,EASA plans to encourage Member States through safety promotion measures to make use of ICAO Doc 9835.

**How we want to achieve it: actions**

| | |
|---|---|
| **SPT.105** | **Language proficiency requirements — raise awareness on language proficiency requirements implementation, together with ICAO, the industry and the Member States** |
| **Safety** | Subtask 1:<br>Raise awareness on LPR implementation (LPRI), establish good practices and facilitate proportionate LPRI, based on the operational needs, together with ICAO, the industry and the Member States.<br>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 practice document to cope with operational, safety and standardisation needs.<br><br>Subtask 2:<br>Use of the English language during pilot training for IR, CPL and ATPL.<br>CAs recommending ATOs about pilot training for CPL, ATPL and IR mainly conducted in English language and/or English language training delivered in parallel with CPL, ATPL and IR training courses |
| **Status** | New |
| **Reference(s)** | ICAO Annex 1, Annex 6, Annex 10, Annex 11 |
| **Dependencies** | MST.033 |
| **Affected stakeholders** | Member States, ANSPs, ATCOs, training organisations, pilot licence holders and students |
| **Owner** | EASA FS.3 Aircrew & Medical Department and CAs |

| **EXPECTED OUTPUT** | |
|---|---|
| **Deliverable(s)** | **Timeline** |
| SubT 1 | continuous |
| SubT 2 Guidance/good practice document | 2020 Q4 |

| **CHANGES SINCE LAST EDITION** |
|---|
| n/a |

| | |
|---|---|
| **MST.033** | **Language proficiency requirements — share best practices, to identify areas for improvement for the uniform and harmonised language proficiency requirements implementation** |
| **Safety** | Member States should provide feedback to EASA on how the LPRI is implemented, including the uptake by ATOs to deliver training in English, for the purpose of harmonisation and uniform implementation. |
| **Status** | New |
| **Reference(s)** | n/a |
| **Dependencies** | SPT.105 |
| **Affected stakeholders** | Member States, ANSPs, ATCOs, training organisations, pilot licence holders and students |
| **Owner** | Member States |

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

| CHANGES SINCE LAST EDITION |
|---|
| n/a |

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 for these RMTs is included in **Section 5.3.3 Flight crew**

### 5.3.3 Flight crew

| | |
|---|---|
| **RMT.0188** | **Update of flight crew licensing implementing rules** |
| **Safety** | A complete first review of Part-FCL addressing a number of issues to be clarified or amended as identified by industry and Member States. It also establishes a flight examiner manual (FEM) and a first draft of the learning objectives (LOs). Some of these corrections and clarifications also pertain to alleviations for the GA community.<br>See Opinion No 05/2017. |
| **Status** | This RMT is expected to be completed in 2019. |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Flight examiners, instructors, pilots, ATOs and DTOs | | | | |
| **Owner** | EASA FS.3 | Aircrew & Medical Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| 1 | FCL.002<br>21/07/2011 | 2014-29<br>17/12/2014 | 05/2017<br>29/0/2017 | 2019 Q4 | 2019 Q4 |

**CHANGES SINCE LAST EDITION**

n/a

| | |
|---|---|
| **RMT.0194** | **Modernisation and simplification of the European pilot licensing and training system and improvement of the supply of competent flight instructors** |
| **Safety** | The task objectives are to:<br><br>1. improve the supply of competent flight instructors and extend the principles of threat and error management (TEM) in the training of the flight instructors and to all licenses and ratings; and<br><br>2. modernise and simplify the pilot licensing and training system by:<br>a. considering the recommendations from the ex post evaluation under EVT.6 and BIS;<br>b. introducing/transposing the latest ICAO Annex 1 and associated ICAO documents on the competency-based training and assessment (CBTA) concept for the appropriate licences and ratings; and |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Pilots, flight instructors, flight examiners, ATOs, DTOs, air operators | | | | |
| **Owner** | EASA FS.3 | Aircrew & Medical Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| 1 | 2019 Q4 | 2021 Q1 | 2021 Q4 | 2022 Q4 | 2022 Q4 |
| 2 | 2019 Q4 | 2023 Q2 | 2024 Q2 | 2025 Q2 | 2025 Q2 |

**CHANGES SINCE LAST EDITION**

Adjustment of the task title. This task now incorporates the content of RMT.0596.

**RMT.0196** **Update of flight simulation training device requirements**

**Safety**

An ICAO alignment issue, as the main purpose is to include in the European provisions elements from ICAO Doc 9625 for the use of FSTDs in flight training. The task will also address three SRs and aims at including results and findings from the loss of control avoidance and recovery training (LOCART) and RMT.0581 working group results. Harmonisation with the FAA should be considered.

Subtask 1:
The main objective of Work Package 1 (WP 1) is to increase the fidelity of the provisions to support the approach-to-stall training, as well as of the new upset prevention and recovery training (UPRT) requirements as proposed by Opinion No 06/2017 (RMT.0581). The related Commission Implementing Regulation (EU) 2018/1974 was published on 14 December 2018.

Subtask 2A:
The main objective of Work Package 2A (WP2) is to introduce flexibility in the use of the best possible training tools including new technologies. This is done identifying the device requirements 'FSTD capability signature' (FCS) based on analysing regulatory training task objectives, thus creating a clear link between FCL, OPS and CS-FSTD.

Subtask 2B:
The main objective of Work Package 2B (WP2B) is to review the technical requirements for FSTDs to reflect their actual capability and technology advancement.

Subtask 3:
The main objective of Work Package3 (WP3) is to address any relevant and appropriate emerging issues relevant to CS-FSTD, including the feasibility for developing CS-FSTD requirements for power-lift/tilt rotor aircraft.

**Status** Ongoing

**Reference(s)** n/a

**Dependencies**

**Affected stakeholders** Air operators, ATOs, DTOs, pilots, instructors, and flight examiners

**Owner** EASA FS.3 Aircrew & Medical Department

**Priority** Yes **RM Procedure** Standard **Harmonisation** Yes

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| 1 | RMT.0196 15/07/2016 | 2017-13 25/07/2017 | n/a | n/a | 2018/006/R 03/05/2018 |
| 2A | | 2020 Q1 | 2020 Q2 | 2020 Q4 | 2020 Q4 |
| 2B | | 2020 Q1 | n/a | n/a | 2021 Q1 |
| 3 | | 2021 Q2 | n/a | n/a | 2022 Q2 |

**CHANGES SINCE LAST EDITION**

Adjustment of the task title. Split of subtask 2 into 2A and 2B.

| | |
|---|---|
| **RMT.0412** | **Regular update of the authority and organisation requirements pertaining to Part-FCL** |
| **Efficiency/ proportionality** | Review of the IRs in Part-ARA and Part-ORA (Annex VI and Annex VII) of Commission Regulation (No) 1178/2011, and resolution of any inconsistencies identified after the adoption of the Part-ARA and Part-ORA IRs. This is necessary to ensure that the EASA regulatory system reflects the state of the art, and specifically the best practices developed in the Member States. |
| **Status** | This task is de-prioritised in accordance with the criteria described in Chapter 3. |
| **Reference(s)** | n/a |
| **Dependencies** | RMT.0706 |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | TOs and NAAs | | | |
| **Owner** | | EASA FS.3 | Aircrew & Medical Department | | |
| **Priority** | n/a | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0412 30/10/2012 | tbd | tbd | tbd | tbd |

**CHANGES SINCE LAST EDITION**

Addition of the task description.

| | |
|---|---|
| **RMT.0509** | **Regular update of CS-FCD** |
| **Efficiency/proportionality** | The objective of this RMT is to regularly address miscellaneous issues of non-controversial nature, which are required 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 transpose special conditions, 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. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | Design organisations of aircraft and other design organisations dealing with changes or supplemental type certificates to these aircraft | | | |
| **Owner** | | EASA CT.5 | Certification Strategy & Programming Department | | |
| **Priority** | n/a | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | 16/10/2019 | 2020 Q1 | n/a | n/a | 2020 Q3 |

**CHANGES SINCE LAST EDITION**

Addition of the task description.

| | |
|---|---|
| **RMT.0581** | **Loss of control prevention and recovery training** |
| **Safety** | Review of the provisions for initial and recurrent training in order to address UPRT. The review will also address the implementation of the ICAO documents and several SRs. Other aspects to be covered are manual aircraft handling of approach to stall and stall recovery (including at high altitude), the training of aircraft configuration laws, the recurrent training on flight mechanics, and training scenarios (including the effect of surprise).<br><br>This RMT is split into multiple deliverables. See the related ToR on the EASA website.<br>Note: Recurrent and conversion training provisions related to UPRT were already published in May 2015. They have been applicable as of May 2016.<br><br>Workstream No 1 constitutes amendments to AMC & GM to Regulation (EU) No 965/2012 (UPRT for air operators).<br><br>Workstream No 2 constitutes amendments to Regulation (EU) No 1178/2011 and related AMC & GM (UPRT in Part-FCL). Additionally, it contains updates to AMC & GM to Regulation (EU) No 965/2012, in order to align the already existing UPRT framework as introduced with workstream No 1 with the new Part-FCL UPRT framework.<br><br>Workstream No 3 constitutes amendments to AMC & GM to Regulation (EU) No 965/2012 as regards the applicability of CS-FSTD(A) Issue 2 for UPRT during air operator training. After the conduct of a survey with the Member States in October 2019 as well as a discussion held at the EASA committee meeting on 24 October 2019, this workstream is completed in accordance with Article 15 of the EASA MB Decision 18-2015 (direct publication). |
| **Status** | This RMT is expected to be completed in 2019. |
| **Reference(s)** | Refer also to RMT.0582 (ToR issued 20/08/2013) |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Pilots, instructors, flight examiners, ATOs and Air Operators | | | | |
| **Owner** | | EASA FS.3 | Aircrew & Medical Department | | |
| **Priority** | Yes | **RM Procedure** | See SubT | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| 1 (ST) | RMT.0581 and RMT.0582 20/08/2013 | 2015-13 01/09/2015 | n/a | n/a | 2015/012/R 04/05/2015 |
| 2 (ST) | n/a | n/a | 06/2017 29/06/2017 | 2018/1974 of 14/12/2018[89] | 2019/005/R 27/02/2019 |
| 3(DP) | 2019 Q4 | 2019 Q4 | n/a | n/a | 2019 Q4 |

**CHANGES SINCE LAST EDITION**

Update of the task description and introduction of workstream (SubT) 3.

[89] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32018R1974

| | |
|---|---|
| **RMT.0587** | **Regular update of regulations regarding pilot training, testing and checking and the related oversight** |
| **Efficiency/proportionality** | A 'standing task' allowing the Agency to table non-controversial issues identified by industry and Member States which should be corrected or clarified in Part-FCL. |
| **Status** | The current cycle is completed (SubT1)<br>Further cycles are de-prioritised in accordance with the criteria described in Chapter 3. (SubT2) |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Pilots, instructors, examiners and ATOs | | | | |
| **Owner** | EASA FS.3 | Aircrew & Medical Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| 1 | RMT.0587<br>11/05/2016 | 30/11/2016 | 03/2017<br>11/05/2017 | 2018/1065 of 27/07/2018[90] | 2018/011/R<br>06/11/2018 |
| 2 | tbd | tbd | tbd | tbd | tbd |

**CHANGES SINCE LAST EDITION**

n/a

[90] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32018R1065

| | |
|---|---|
| **RMT.0595** | **Technical review and regular update of learning objectives and syllabi for commercial licences (IR)** |
| **Safety** | Technical review of theoretical knowledge syllabi, learning objectives, and examination procedures for the air transport pilot licence (ATPL), MPL, commercial pilot licence (CPL), and instrument rating (IR).<br><br>NPA 2016-03(A)(B)(C)(D)(E)(F), stemming from for RMT.0595, has a three-step approach:<br><br>Subtask 1:<br>The entire package of all the subjects (except 090 communication) – Decision 2018/001/R[1] of 8 February 2018<br><br>Subtask 2:<br>Editorial amendment of this package and Examination procedures - Decision 2018/011/R[2] of 6 November 2018<br><br>Subtask 3:<br>Editorial amendment of this package and subject 090 communication – Decision 2019/017/R of 27 August 2019. The objective of this Decision is to address a safety and regulatory coordination issue related to flight crew licensing, and it has been developed in response to the EPAS safety actions. This Decision contains the introduction of new Subject 090 'Communications', which replaces Subjects 091 'VFR Communications' and 092 'IFR Communications', as amended by Commission Implementing Regulation (EU) 2018/1974 of 14 December 2018 amending Commission Regulation (EU) No 1178/2011. This Decision also contains the amended examination procedures in the relevant AMC to ARA.FCL.300(b) 'Examination procedures' regarding this new Subject 090 'Communications'. This Decision also issues some editorial corrections in the AMC to Appendix 6 and in the Learning Objectives (LOs) (i.e. AMC1 FCL.310, FCL.515(b) and FCL.615(b) 'Theoretical knowledge examination') of Decision 2018/001/R of 8 February 2018 and Decision 2018/011/R of 6 November 2018. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | CAs, ATOs, student pilots and ECQB | | | |
| **Owner** | | EASA FS.3 | Aircrew & Medical Department | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| 1 | RMT.0595<br>11/03/2015 | 2016-03<br>09/06/2016 | n/a | n/a | 2018/001/R<br>08/02/2018 |
| 2 | | | n/a | n/a | 2019/017/R<br>28/08/2019 |
| 3 | | | n/a | n/a | 2022 Q1 |

**CHANGES SINCE LAST EDITION**

Details on the 3-step approach are provided.

| | |
|---|---|
| **RMT.0599** | **Update of Subpart FC of Part-ORO (evidence-based training)** |
| **Safety** | A complete review of the provisions contained in ORO.FC (Annex III of Commission Regulation (EU) No 965/2012).<br><br>Subtask 1:<br>It will include the introduction of evidence-based training (EBT) and competency-based training and assessment (CBTA) in the field of recurrent training and other training-related implementation issues, such as helicopter requirements.<br><br>Subtask 2:<br>It will include the extension of EBT to other parts of the operator's training (e.g. conversion course, type rating) allowing a single philosophy of training to the operator.<br><br>Subtask 3:<br>It will extend EBT to other aircrafts types (e.g. helicopters, business jets) allowing a single philosophy of training across the industry. In addition, it will tackle other implementation issues on the training-related rules brought to the attention of EASA. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | RMT.0681 and RMT.0196 |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Pilots, flight instructors, flight examiners, ATOs and air operators | | | | |
| **Owner** | EASA FS.3 | Aircrew & Medical Department | | | |
| **Priority** | Yes | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| 1a | RMT.0599<br>05/02/2016 | 2018-07<br>27/07/2018 | 2019 Q4 | 2021 Q2 | 2021 Q2 |
| 1b | | 2019-08<br>14/06/2019 | 2020 Q2 | 2022 Q2 | 2022 Q2 |
| 2 | | 2021 Q3 | 2022 Q3 | 2023 Q3 | 2023 Q3 |
| 3 | | 2024 Q3 | 2025 Q3 | 2026 Q3 | 2026 Q3 |

**CHANGES SINCE LAST EDITION**

n/a

| | |
|---|---|
| **RMT.0654** | **Revision of the balloon licensing requirements** |
| **Efficiency/ proportionality** | Address topics identified by the industry balloon experts on the aircrew and on the medical side. A focused consultation was performed and no NPA was published. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Balloon operators, pilots, flight instructors and flight examiners, CAs and DTOs | | | | |
| **Owner** | EASA FS.3 | Aircrew & Medical Department | | | |
| **Priority** | Yes | **RM Procedure** | Article 16 | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0654 16/09/2016 | n/a | 01/2019 (A) & (B) 19/02/2019 | 2020 Q2 | 2020 Q2 |

**CHANGES SINCE LAST EDITION**

n/a

| | |
|---|---|
| **RMT.0677** | **Easier access of general aviation (GA) pilots to instrument flight rules (IFR) flying** |
| **Efficiency/ proportionality** | Review the existing requirements for the instrument ratings and most probably the development of a new instrument rating specifically catering for the needs of the PPL holders. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Pilots, instructors, flight examiners and ATOs, ANSPs | | | | |
| **Owner** | EASA FS.3 | Aircrew & Medical Department | | | |
| **Priority** | Yes | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0677 18/12/2015 | 2016-14 09/11/2016 | 01/2019 (A) & (B) 19/02/2019 | 2020 Q1 | 2020 Q1 |

**CHANGES SINCE LAST EDITION**

n/a

| | |
|---|---|
| **RMT.0678** | **Simpler, lighter and better flight crew licensing requirements for general aviation** |
| **Efficiency/ proportionality** | Review the different requirements which have been identified by the GA roadmap to cause problems for GA.<br>Examples:<br>— Modular LAPL;<br>— Review of different LAPL and PPL requirements (crediting, revalidation, seaplane rating for LAPL);<br>— Review of class & type ratings requirements (new propulsion systems, amphibious aircraft);<br>— Review of language proficiency requirements for GA pilots;<br>— Provisions on touring motor glider (TMG) (definition, additional crediting);<br>— Mountain rating for helicopters;<br>— Review of the flight test rating requirements in the context of GA;<br>— Development of a 'light aircraft flight instructor (LAFI)' for LAPL training only; and<br>— Examiner's vested interests in the context of GA.<br><br>This task has been divided in 3 subtasks:<br><br>Subtask 1:<br>Modular LAPL.<br><br>Subtask 2:<br>New technologies training and certification requirements (electric and hybrid propulsion)<br><br>Subtask 3:<br>Miscellaneous topics as listed above. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | RMT.0731 and RMT.0230 (for new eVTOLs) |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | Pilots, flight examiners and CAs, ATOs, DTOs | | | |
| **Owner** | | EASA FS.3 | Aircrew & Medical Department | | |
| **Priority** | Yes | **RM Procedure** | AP/ST[91] | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| 1 (AP) | RMT.0678 01/09/2016 | 09/06/2017 | 08-2017 23/10/2017 | 2019/430 of 18/03/2019[92] | n/a |
| 2 (ST) | | 2020 Q2 | 2021 Q1 | 2021 Q4 | 2021 Q4 |
| 3 (ST) | | 2022 Q3 | 2023 Q3 | 2024 Q2 | 2024 Q2 |

**CHANGES SINCE LAST EDITION**

The task is divided into 3 subtasks.

[91] * Modular LAPL was processed through the procedure in accordance with Article 16 of the Rulemaking Procedure (accelerated procedure). For all other items, the standard rulemaking procedure will be applied.

[92] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32019R0430

| | |
|---|---|
| **RMT.0701** | **Revision of the sailplane licensing requirements** |
| **Efficiency/proportionality** | Address topics identified by the industry sailplane experts on the aircrew side.<br>*In lieu of an NPA public consultation, an AB consultation was performed in June 2018. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Sailplane operators, pilots, flight instructors, flight examiners, ATOs and DTOs | | | | |
| **Owner** | EASA FS.3 | Aircrew & Medical Department | | | |
| **Priority** | Yes | **RM Procedure** | AP | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0701<br>15/12/2016 | 26/06/2018* | 2019-01<br>19/02/2019 | 2020 Q2 | 2020 Q2 |

**CHANGES SINCE LAST EDITION**

n/a

| | |
|---|---|
| **SPT.012** | **Promotion of the new European provisions on pilot training** |
| **Safety<br>HF** | The objective is to complement the new regulatory package on UPRT and EBT with relevant safety promotion material. |
| **Status** | Ongoing |
| **Reference(s)** | GASP SEI (States) - Mitigate contributing factors to LOC-I accidents and incidents |
| **Dependencies** | RMT.0599 |

| | | | |
|---|---|---|---|
| **Affected stakeholders** | Pilots, instructors, flight examiners, ATOs, and air operators, Member States | | |
| **Owner** | EASA FS.3 | Aircrew & Medical Department | |

**EXPECTED OUTPUT**

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

**CHANGES SINCE LAST EDITION**

n/a

| | |
|---|---|
| **SPT.110** | **Standardisation of flight examiners** |
| **Safety** | Improve harmonisation across the EASA Member States by providing support and guidance defining clear criteria and competences for examiners, depending on the different qualifications needed for different licences, and based on the needs from authorities and the industry. This is intended to strengthen the standardisation of examiners at EU level, fostering and facilitating the harmonisation of requirements, procedures and forms adopted at national level. |
| **Status** | New |
| **Reference(s)** | Evaluation report on implementation of the Aircrew Regulation (Regulation (EU) No 1178/2011), Part FCL, Subpart K rules Examiners and evaluation on applicable rules for initial and recurrent pilot training, testing and checking. |
| **Dependencies** | SPT.111 |
| **Affected stakeholders** | CAs, Flight Examiners |
| **Owner** | EASA SM.1 Safety Intelligence & Performance Department |

**EXPECTED OUTPUT**

| Deliverable(s) | Timeline |
|---|---|
| Promotional Web Material, Manuals, Guides, Standardised Forms and Checklists. | 2021 |

**CHANGES SINCE LAST EDITION**

n/a

| | |
|---|---|
| **SPT.111** | **Flight examiner manual** |
| **Safety** | Enhance the application and harmonisation, among the examiners certified in the EASA Member States, of standards and best practices to ensure that any applicant is qualified by a comparable level of knowledge, competence and skill.<br><br>Through a reliable and objective testing and checking guidance, foster the achievement of optimal outcomes in the interest of effectiveness, efficiency, fairness and transparency.<br><br>Foster a common training programme for the standardisation of examiners among all EASA Member States' CAs.<br><br>This SPT will entail :<br>- developing the EASA flight examiner manual (FEM) that provides guidelines to flight examiners on the conduct of examinations with a view to improving the standardisation and fairness of examiners at EU level.<br>- providing recommendations to competent authorities on the usefulness of using common standardised forms and, in addition, 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 was issued by a CA other than their own. |
| **Status** | New |
| **Reference(s)** | Evaluation report on implementation of EC Aircrew Regulation 1178/2011, Part FCL, Subpart K rules Examiners and evaluation on applicable rules for initial and recurrent pilot training, testing and checking. |
| **Dependencies** | SPT.110 |

| | |
|---|---|
| **Affected stakeholders** | CAs, Flight Examiners |
| **Owner** | EASA SM.1 Safety Intelligence & Performance Department |

| **EXPECTED OUTPUT** | |
|---|---|
| **Deliverable(s)** | **Timeline** |
| EASA flight examiner manual | June 2020 |

| **CHANGES SINCE LAST EDITION** |
|---|
| n/a |

| | |
|---|---|
| **EVT.0006** | **Evaluation on provisions for flight crew licences laid down in Commission Regulation (EU) No 1178/2011** |
| **Efficiency/ proportionality** | The regulation will be reassessed with regard to pilot training, testing and periodic checking for performance-based regulation. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | RMT.0587 |

| | | |
|---|---|---|
| **Affected stakeholders** | Organisations and CAs | |
| **Owner** | EASA FS.3 | Aircrew & Medical Department |

| EXPECTED OUTPUT | |
|---|---|
| **Deliverable(s)** | **Timeline** |
| Evaluation Report | 2020 Q1 |

| CHANGES SINCE LAST EDITION |
|---|
| n/a |

In addition to the above, the following RMTs are relevant to competence of personnel (flight crew):

| | |
|---|---|
| **RMT.0190** | **Requirements for relief pilots** |

The full description for this action is included in **Section 6.1.3**

| | |
|---|---|
| **RMT.0688** | **Regular update of CS-SIMD** |

The full description for this action is included in **Chapter 9**.

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

| | |
|---|---|
| **SPT.083** | **Flight instruction** |

The full description for this action is included in **Section 8.1.1**.

### 5.3.4 Cabin crew

| | |
|---|---|
| **RMT.0508** | **Regular update of CS-CCD** |

The full description for this action is included in **Chapter 9**.

### 5.3.5 Maintenance staff

Part-147:

At present, Part-147 excludes 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, Appendix III to Part-66 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 continuous improvement of all aviation personnel competence.

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

| | |
|---|---|
| **RMT.0106** | **Certification specifications and guidance material for maintenance certifying staff type rating training** |
| **Safety** | The main objective is to improve the level of safety by requiring the applicant for a type certificate (TC) or restricted TC for an aircraft to identify the minimum syllabus of maintenance certifying staff type rating training, including the determination of type rating.<br>This minimum syllabus, together with the requirements contained in Appendix III to Annex III (Part-66) to Commission Regulation (EU) No 1321/2014, will form the basis for the development and approval of Part-66 type rating training courses. |
| **Status** | This RMT is planned to be delivered in 2019. |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | DAHs, maintenance personnel, approved maintenance training organisations (Part-147), and CAs | | | | |
| **Owner** | EASA FS.1 | Maintenance & Production Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

| **PLANNING MILESTONES** | | | | | |
|---|---|---|---|---|---|
| **SubT** | **ToR** | **NPA** | **Opinion** | **Commission IR** | **Decision** |
| | RMT.0106<br>28/07/2014 | 2018-11<br>18/09/2018 | n/a | n/a | 2019 Q4 |

| **CHANGES SINCE LAST EDITION** |
|---|
| n/a |

| | |
|---|---|
| **RMT.0255** | **Review of Part-66** |
| **Efficiency/ proportionality** | The specific objective of this task is to address some shortcomings identified on the maintenance licensing system linked to effectiveness and efficiency of the current requirements, namely:<br>— Type rating endorsement for the 'legacy aircraft';<br>— On-the-job-training (OJT);<br>— Deficit of practical skills for maintenance personnel; and<br>— Obsolescence of the Basic Knowledge syllabus.<br><br>This task will also address new training/teaching technologies for maintenance staff as relevant to Part-66, to set up the framework for:<br>— e-learning and distance learning;<br>— simulation devices or STDs;<br>— specialised training such as HF, FTS, continuation training; and<br>— blended teaching methods. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Aircraft maintenance licence (AML) holders, approved maintenance training organisations (AMTOs), approved maintenance organisations (AMOs) and CAs. | | | | |
| **Owner** | EASA FS.1 | Maintenance & Production Department | | | |
| **Priority** | Yes | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | 14/07/2014 Iss 1<br>14/08/2019 Iss 2 | 2020 Q4 | 2021 Q4 | 2022 Q3 | 2022 Q3 |

**CHANGES SINCE LAST EDITION**

The task description is updated. This RMT now also addresses the topics previously included within RMT.0281 as relevant to Part-66.

| | |
|---|---|
| **RMT.0541** | **Regular update of aircraft type ratings for Part-66 aircraft maintenance licences** |
| **Efficiency/ proportionality** | Recurring regular update of references used for issuing type ratings in a harmonised way. |
| **Status** | Ongoing.<br>The current regular update is planned to be delivered in 2019. The next cycle has not yet been programmed. |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Aircraft maintenance licence (AML) holders, approved maintenance training organisations (AMTOs), approved maintenance organisations (AMOs) and CAs | | | | |
| **Owner** | EASA FS.1 | Maintenance & Production Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | 66.024<br>12/05/2009 | 2018-13<br>05/12/2018 | n/a | n/a | 2019 Q4 |

**CHANGES SINCE LAST EDITION**

Addition of the task description.

| | |
|---|---|
| **RMT.0544** | **Review Part-147** |
| **Safety** | Complete review of Part-147 (not performed since its first issue in 2003) and resolution of the areas of special interest identified in EVT.002:<br>– Optimisation of the structure of the basic knowledge syllabus and its impact on the training courses and examinations<br>– Language proficiency for students in training courses<br>– 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 NAA<br><br>This task will also address new training/teaching technologies for maintenance staff as relevant to Part-147, to set up the framework for:<br>— e-learning and distance learning;<br>— simulation devices or STDs;<br>— specialised training such as HF, FTS, continuation training; and<br>— blended teaching methods. |
| **Status** | Ongoing |
| **Reference(s)** | EVT.002 report |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Approved maintenance training organisations (AMTOs), AML applicants and holders, and CAs | | | | |
| **Owner** | EASA FS.1 | Maintenance & Production Department | | | |
| **Priority** | n/a | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | 14/08/2019 | 2020 Q4 | 2021 Q4 | 2022 Q3 | 2022 Q3 |

**CHANGES SINCE LAST EDITION**

This RMT now also addresses the topics previously included within RMT.0281 as relevant to Part-147.

| | |
|---|---|
| **SPT.106** | **Prevention, detection and mitigation of fraud cases in Part-147 organisations** |
| **Safety** | EVT.002, the report on the EU maintenance licensing and training system, denounced cases of fraud or cheating during the examinations.<br>The action includes discussions with the CAs/industry on how to prevent, detect, mitigate and eliminate fraud cases. |
| **Status** | New |
| **Reference(s)** | EVT.002 - Evaluation report related to the EASA maintenance licensing system and maintenance training organisations (02/03/2018) |
| **Dependencies** | MST.035 |

| | | | |
|---|---|---|---|
| **Affected stakeholders** | CAs, AMTOs | | |
| **Owner** | EASA FS.1 | Maintenance & Production Department | |

**EXPECTED OUTPUT**

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

**CHANGES SINCE LAST EDITION**

n/a

| | |
|---|---|
| **MST.035** | **Oversight capabilities/focus area: fraud cases in Part-147** |
| **Safety** | 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 cases of fraud. They may exchange and share information as part of collaborative oversight. |
| **Status** | New |
| **Reference(s)** | EVT.002 - Evaluation report related to the EASA maintenance licensing system and maintenance training organisations (02/03/2018) |
| **Dependencies** | SPT.106 |
| **Affected stakeholders** | CAs, AMTOs |
| **Owner** | Member States |

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

| CHANGES SINCE LAST EDITION |
|---|
| n/a |

### 5.3.6 Personnel involved in ATM/ANS

| | |
|---|---|
| **RMT.0668** | **Regular update of air traffic controller licensing rules (IRs/AMC & GM)** |
| **Efficiency/ proportionality** | Subtask 1:<br>Addresses the updates of the ATCO initial training content mainly introducing the changed regulatory references.<br><br>Subtask 2 will introduce a controlled mechanism of crediting of training, experience or other qualifications of military ATCOs for the purpose of obtaining ATCO licenses under Reg EU 2015/340.<br><br>Subtask 3:<br>Contains a review of the rule with the purpose of clarification. The task will amongst other topics consider the relevant recommendations stemming from the Report of the Wise Persons Group on the future of the Single European Sky and the proposal for the future architecture of the European airspace.<br><br>*Instead of an NPA public consultation, the procedure in Article 15 or that in Article 16 of MB Decision No 18-2015 will be applied. |
| **Status** | Ongoing |
| **Reference(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; CAs, ATCO TOs; aero-medical examiners; aero-medical centres; ATCOs | | | | |
| **Owner** | EASA FS.4 | ATM/ANS & Aerodromes Department | | | |
| **Priority** | No | **RM Procedure** | see SubT | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA* | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| 1 (AP) | RMT.0668 10/08/2017 | 02/09/2019 | n/a | n/a | 2019 Q4 |
| 2 (AP) | | 2019 Q4* | 2020 Q1 | 2021 Q1 | 2021 Q1 |
| 3 (ST) | | 2021 Q3 | 2022 Q1 | 2023 Q1 | 2023 Q1 |

**CHANGES SINCE LAST EDITION**

Addition of the task description and new subtasks.

## 5.4 Aircraft tracking, rescue operations and accident investigation

**Issue/rationale**

Safety investigation authorities have frequently raised the issue of lack of data to support investigations of light aircraft accidents. This is also related to the fact that light aircraft are not required to carry a flight recorder. As regards large aircraft, the advent of new technologies, as well as findings during safety investigations highlight the need to update the installation specifications for flight recorders.

The safety actions in this area are aimed at improving the location of an aircraft in distress, improving the availability and quality of data recorded by flight recorders, assessing the need for in-flight recording for light aircraft and the need to introduce data link recording for in-service large aircraft.

**What we want to achieve**

Increase safety by facilitating the recovery of information by safety investigation authorities and thus helping to avoid future accidents.

**How we monitor improvement**

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

**How we want to achieve it: actions**

| | |
|---|---|
| **RMT.0249** | **Installation and maintenance of recorders — certification aspects** |
| **Safety** | The general objective of this RMT is to improve the availability and quality of data recorded by flight recorders in order to better support safety investigation authorities in the investigation of accidents and incidents. More specifically, this RMT is aimed at modernising and enhancing the specifications for flight recorder installation on board large aeroplanes and large rotorcraft.<br>— Phase 1 addressed flight data recorder (FDR)/cockpit voice recorder (CVR) power supply, means to automatically stop the recording after an accident, combination recorders, etc.<br>— In Phase 2 of this RMT, EASA will prepare a second NPA (planned for 2019Q4), which will lead to a decision amending CS-25 and CS-29. Topics addressed in phase 2 will include data link recording, serviceability of flight recorders, quality of recording of CVR, and performance specifications for flight recorders.<br>Both phases will affect CS-25 and CS-29, but phase 1 also included an opinion with a proposal to amend Part-CAT. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Operators (of aircraft required to be equipped with flight recorders), POA holders and DOA holders | | | | |
| **Owner** | EASA CT.5 | Certification Strategy & Programming Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| 1 | RMT.0249 (MDM.051) 18/09/2014 | 2018-03 27/03/2018 | 2019-02 22/02/2019 | 2021 Q1 | 2021 Q1 |
| 2 | | 2019 Q4 | n/a | n/a | 2020 Q3 |

**CHANGES SINCE LAST EDITION**

n/a

| | |
|---|---|
| **RMT.0271** | **In-flight recording for light aircraft** |
| **Safety** | Assess the need for in-flight recording and make proportionate suggestions for categories of aircraft and types of operation covered by the air operations rules for which there is no flight recorder carriage requirement. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Operators (of aircraft not yet required to have flight recorders) | | | | |
| **Owner** | EASA FS.2 | Air Operations Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | 25/07/2014 | 2017-03 03/04/2017 | 2019-02 22/02/2019 | 2020 Q3 | 2020 Q3 |

**CHANGES SINCE LAST EDITION**

n/a

| | |
|---|---|
| **RMT.0400** | **Amendment of requirements for flight recorders and underwater locating devices** |
| **Safety** | All IRs were adopted with Commission Regulation (EU) 2015/2338; however, the AMC & GM for CAT.GEN.MPA.210 (Location of an aircraft in distress) in the rules for air operations have not yet been issued. In addition, it has been identified that amendments to certification specifications may be necessary to facilitate the implementation of CAT.GEN.MPA.210.<br>Subtask 1:<br>ED Decision 2015/021/R: this Decision modified some of the AMC and GM related to FDR and CVR serviceability (refer to CAT.GEN.MPA.195(b)). It also updated the performance specifications for two of the FDR parameters (refer to CAT.IDE.A.190), and it clarified the scope of the performance specifications applicable to the CVR (refer to CAT.IDE.A.185 and CAT.IDE.H.185)<br>Subtask 2:<br>ED Decision 2015/030/R: this Decision completed the AMC and GM related to the serviceability of the CVR (refer to ORO.MLR.100 and CAT.GEN.MPA.195(b)), the preservation of the CVR recording after an accident or a serious incident (refer to CAT.GEN.MPA.195(a)), and the performance and installation of the long-range underwater locating device (see CAT.IDE.A.285(f)). It also clarified the applicability of the data link recording requirements (refer to CAT.IDE.A.195 and CAT.IDE.H.195)<br>Subtask 3:<br>ED Decision 2016/012/R: this Decision updated the AMC and GM related to the protection of the CVR in normal operation (see CAT.GEN.MPA.195(f)). It also introduced operational requirements for FDRs installed on aeroplanes and helicopters first issued with an individual CofA on or after 1 January 2023 (see CAT.IDE.A.190 and CAT.IDE.H.190). Finally, this Decision clarified the time intervals between two inspections of the FDR and CVR recordings (refer to CAT.GEN.MPA.195(b))<br>Subtask 4:<br>ED Decision 2017/023/R: this Decision provided AMC and GM for the implementing rule on aircraft tracking (CAT.GEN.MPA.205)<br>Subtask 5:<br>This Decision will provide the Certification Specifications, AMC and GM for the implementing rule on location of an aircraft in distress (CAT.GEN.MPA.210). The scope of this Decision encompasses air operations, initial airworthiness and air traffic management. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Aircraft operators and POA holders | | | | |
| **Owner** | EASA FS.2 and EASA CT.4 | Air Operations Department and Environment & Propulsion Systems Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| 1 | OPS.090<br>26/09/2012 | 2013-26<br>20/12/2013 | 01/2014<br>06/05/2014 | 2015/2338 of<br>11/12/2015[93] | 2015/021/R<br>12/10/2015 |
| 2 | | n/a | n/a | n/a | 2015/030/R<br>17/12/2015 |
| 3 | | n/a | n/a | n/a | 2016/012/R<br>12/09/2016 |
| 4 | | n/a | n/a | n/a | 2017/023/R<br>14/12/2017 |
| 5 | | 2019 Q4 | n/a | n/a | 2020 Q2 |

**CHANGES SINCE LAST EDITION**

n/a

[93] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32015R2338

| | |
|---|---|
| **RES.013** | **Quick recovery of flight recorder data** |
| **Safety** | Further to the MH370 accident and the adoption by ICAO of consequent SARPs, assessment of the feasibility for using wireless transmission solutions for timely recovery of flight recorder data – namely, flight parameters, audio and video images – in the follow-up to an accident; 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, aircraft complete destruction, accident in an oceanic area, the reliability and cost impact of the proposed solutions, their aptitude for usage in accident investigations as well as associated data privacy considerations. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | n/a |

| | |
|---|---|
| **Affected stakeholders** | AOC holders (CAT), Aircraft OEM |
| **Owner** | EASA SM.0.1 Strategy & Safety Management Director's Office |

**PLANNING MILESTONES**

| Starting date | Interim Report | Final Report |
|---|---|---|
| 2020 Q1 | | 2021 Q4 |

**CHANGES SINCE LAST EDITION**

Enhancement of the task description; project planning.

## 5.5 Impact of security on safety

**Issue/rationale**

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

The safety actions in this area also include the mitigation of the risks posed by flying over zones where an armed conflict exists.

Managing the impact of security on safety is a strategic priority.

**What we want to achieve**

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

**How we monitor improvement**

Continuous assessment and mitigation of security threats

**How we want to achieve it: actions**

| | |
|---|---|
| **RMT.0648** | **Aircraft cybersecurity** |
| **Safety** | The specific objective of this task is to mitigate the safety effects stemming from cybersecurity risks due to acts of unlawful interference with the aircraft on-board electronic networks and systems. To achieve this objective, EASA will consider the introduction of new cybersecurity provisions taking into account the existing special condition and the recommendations of the FAA ASISP ARAC group. The RMT considers CS-25, CS-29, CS-27, CS-23, CS-E, CS-ETSO and CS-P. |
| Status | This RMT is planned to be delivered in 2019. |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Applicants for TC/STC for large aeroplanes or large rotorcraft | | | | |
| **Owner** | EASA CT.5 | Certification Strategy & Programming Department | | | |
| **Priority** | Yes | **RM Procedure** | Standard | **Harmonisation** | Yes |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0648 17/05/2016 | NPA 2019-01 22/02/2019 | n/a | n/a | 2019 Q4 |

**CHANGES SINCE LAST EDITION**

n/a

| | |
|---|---|
| **RMT.0720** | **Management of information security risks** |
| **Safety** | The specific objective of this task is to efficiently contribute to the protection of the aviation system from cybersecurity (information security from now on) attacks and their consequences. To achieve this objective, it is proposed to introduce provisions for the management of information security risks by organisations in all the aviation domains (design, production, continuing airworthiness management, maintenance, operations, aircrew, ATM/ANS, aerodromes). These provisions would include high-level, performance-based requirements, and would be supported by AMC & GM and industry standards.<br>This RMT is harmonised with the FAA and the TCCA. |
| **Status** | Ongoing |
| **Reference(s)** | This RMT may be affected by the recommendations stemming from the WPGR and the AAS. |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | DOA holders and POA holders, AOC holders (CAT), maintenance organisations, CAMOs, training organisations, ATM/ANS providers, aerodromes and Member States | | | | |
| **Owner** | EASA FS.4 | ATM/ANS & Aerodromes Department | | | |
| **Priority** | Yes | **RM Procedure** | Standard | **Harmonisation** | Yes |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0720<br>16/01/2019 | NPA 2019-07<br>27/05/2019 | 2020 Q2 | 2021 Q4 | 2021 Q4 |

**CHANGES SINCE LAST EDITION**

Adjustment of the task title.

| | |
|---|---|
| **SPT.078** | **Dissemination of information on conflict zones** |
| **Safety** | In the aftermath of the B777 MH17 accident, an EU high-level task force is working to define further actions to be taken at European level in order to provide common information on risks arising from conflict zones. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | |
|---|---|---|---|
| **Affected stakeholders** | ALL | | |
| **Owner** | EASA SM.1 | Safety Intelligence & Performance Department | |

**EXPECTED OUTPUT**

| Deliverable(s) | Timeline |
|---|---|
| Information to Member States | Continuous |

**CHANGES SINCE LAST EDITION**

n/a

| | |
|---|---|
| **RES.012** | **Cybersecurity: common aeronautical vulnerabilities database** |
| **Safety** | Develop a vulnerabilities database in order to collect, maintain and disseminate information about discovered vulnerabilities targeting major transport information systems. The project would include the identification of the type of information that this database would contain, how this database could be populated and how we can take advantage of the database in order to obtain an accurate landscape of cybersecurity risks. It should also include a 'prototype phase' with some initial population. |
| **Status** | New. Not started |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | |
|---|---|---|
| **Affected stakeholders** | ALL | |
| **Owner** | EASA SM.0.1 | Strategy & Safety Management Director's Office |

**PLANNING MILESTONES**

| Starting date | Interim Report | Final Report |
|---|---|---|
| 2021 Q1 (tentative) | | 2024 Q1 |

**CHANGES SINCE LAST EDITION**

Project planning

## 5.6 Oversight and standardisation

The safety actions in this area are aimed at addressing issues emerging from standardisation activities, with focus on the safety oversight responsibilities of the Member States. The conclusions of the EASA 2018 SAR are also taken into account.

**Issue/rationale**

Authority requirements, introduced in the rules developed under the first and second extension of the EASA 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 of addressing safety issues with a consideration to efficiency.

The safety actions in this area are aimed at addressing issues emerging from standardisation activities, with focus on the safety oversight responsibilities of the Member States. The conclusions of the EASA 2018 SAR are also taken into account.

The elements presented in **Section 3.2.6** are considered enablers of a robust safety oversight system, as expected to be in place according to the requirements in force:

1. ability and determination to conduct effective oversight[94];
2. ability to identify risks through a process to collect and analyse data;
3. ability to mitigate the identified risks in an effective way, implying measurement of performance and leading to continuous improvement;
4. willingness and possibility to exchange information and cooperate with other CAs;
5. ability to ensure the availability of adequate personnel, where 'adequate' includes the notion of sufficient training and proper qualification; and
6. focus on the implementation of effective management systems in industry, wherever required by the regulations in force.

**What we want to achieve**

A robust oversight system across Europe, where each CA is able to properly discharge its oversight responsibilities, with particular focus on management of safety risks, exchange of information and cooperation with other CAs. To that end, implementation of management systems in all organisations, as well as ensuring the availability of adequate personnel in CAs are essential enablers.

**How we monitor improvement**

The elements above are constantly monitored during the Standardisation activities conducted by the Agency. In addition, a number of indicators have been developed to measure the progress over time of point 6. above.

**Section 4.2** proposes to monitor Member States' oversight capabilities and the status of compliance with management system (SMS) requirements in aviation organisations respectively.

**How we want to achieve it: actions**

[94] 'Oversight' means the verification, by or on behalf of the CA, on a continuous basis that the requirements of this Regulation and of the delegated and implementing acts adopted on the basis thereof, on the basis of which a certificate has been issued or in respect of which a declaration has been made, continue to be complied with (Basic Regulation, Article 3).

| | |
|---|---|
| **MST.032** | **Oversight capabilities/focus areas** |
| **Safety** | **(a) Availability of adequate personnel in CAs**<br>Member States to ensure that adequate personnel is available to discharge their safety oversight responsibilities;<br><br>**(b) Cooperative oversight in all sectors**<br>Member States to ensure that the applicable authority requirements are adhered to 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.<br>*NB: EASA will continue to support CAs in the practical implementation of cooperative oversight, e.g. benefitting from the outcome of the trial projects conducted between the UK, NO, FR, CZ, as well as with exchanges of best practices and guidance.*<br><br>**(c) Organisations management system in all sectors**<br>Member States to foster the ability of CAs to assess and oversee the organisations' management system in all sectors. This will 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, the use of inspection findings and safety information such as occurrences, incidents, and accidents. This should lead CAs to adaptation and improvement of their oversight system. |
| **Status** | New |
| **Reference(s)** | ICAO Annex 19 and GASP 2020-2022 Goal 2 'Strengthen States' safety oversight capabilities'<br>GASP SEI-4 & GASP SEI-10 — Strategic allocation of resources to enable effective safety oversight<br>GASP SEI-5 — Qualified technical personnel to support effective safety oversight<br>GASP SEI-6 — Strategic collaboration with key aviation stakeholders to enhance safety in a coordinated manner |
| **Dependencies** | |
| **Affected stakeholders** | ALL |
| **Owner** | Member States |

| **EXPECTED OUTPUT** | |
|---|---|
| **Deliverable(s)** | **Timeline** |
| SPAS established | 2020 |

| **CHANGES SINCE LAST EDITION** |
|---|
| This new MST action supersedes FOT actions 003, 007 and 008 from EPAS 2019-2023. |

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 for this action is included in **Chapter 10**.

# 6. Flight operations — aeroplanes

This chapter groups all actions in the area of CAT by aeroplane (airlines and air taxi, passengers/cargo, aeroplanes of all mass categories), non commercial operations with complex motor-powered aircraft (NCC), as well as specialised operations (SPO) involving aeroplanes of all mass categories.

## 6.1 CAT & NCC operations

The operational domain CAT and NCC by aeroplane remains the greatest focus of the EASA safety activities. For CAT by large aeroplane and NCC, sufficient safety and exposure data is available in these domains to enable the definition of specific safety performance metrics (see **Section 4.2**).

### 6.1.1 Safety

This section includes a significant number of EPAS actions and therefore it is further subdivided to group actions per key risk area (KRA – see **Sections 6.1.1.1**to **6.1.1.5**) for which mitigation actions are included in the current EPAS. **Section 6.1.1.6** includes the safety actions that do not relate to any of the KRAs in particular.

The top three KRAs identified in the ASR 2019 for CAT aeroplane and NCC operations are listed below (refer to ASR 2019 Figure 17 and Table 7)**.**

| **CAT & NCC operations by aeroplane** | | |
|---|---|---|
| KRA 1 | KRA 2 | KRA 3 |
| Aircraft upset | Runway excursions | Security |

#### 6.1.1.1 Aircraft upset in flight (LOC-I)

**Issue/rationale**

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

Aircraft upset or loss of control is the key risk area with the highest cumulative risk score (cf. ASR 2019) related to fatal accidents in CAT aeroplane operations. It includes uncontrolled collisions with terrain, but also occurrences where the aircraft deviated from the intended flight path or intended aircraft flight parameters, regardless of whether the flight crew realised the deviation and whether it was possible to recover or not. It also includes the triggering of stall warning and envelope protections.

**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 safety issues identified in the SRP for CAT by aeroplane & NCC.

**How we want to achieve it: actions**

| | |
|---|---|
| **SPT.109** | **Raise of awareness of the risk posed by icing in-flight and potential mitigations** |
| **Safety** | Help to mitigate the risk of accidents and other occurrences due to icing in-flight by raising awareness of this safety Issue. This should include information on the situations where icing in-flight may occur and how flight crew can recognise some of the factors that might lead to accidents. Information should also be provided on the measures that operators and flight crew specifically can take to mitigate the risk of an accident occurring. |
| **Status** | New |
| **Reference(s)** | GASP SEIs (industry) – Mitigate contributing factors to LOC-I accidents and incidents |
| **Dependencies** | |

| | | |
|---|---|---|
| **Affected stakeholders** | Aircraft operators, pilots, groundhandling service providers | |
| **Owner** | EASA SM.1 | Safety Intelligence & Performance Department |

| **EXPECTED OUTPUT** | |
|---|---|
| **Deliverable(s)** | **Timeline** |
| Promotional Web Material and Social Media | 2020 |

| **CHANGES SINCE LAST EDITION** |
|---|
| n/a |

In addition, the below actions are also directly relevant for this key risk area:

| | |
|---|---|
| **RES.010** | **Ice crystal detection** |
| **RES.017** | **Icing hazard linked to super cooled large droplet (SLD)** |

The full description for these actions is included in **Chapter 9**.

### 6.1.1.2 Runway safety

**Issue/rationale**

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

Runway excursion covers materialised runway excursions, both at high and low speed, and occurrences where the flight crew had difficulties in maintaining the directional control of the aircraft or of the braking action during landing, where the landing occurred long, fast, off-centred or hard, or where the aircraft had technical problems with the landing gear (not locked, not extended or collapsed) during landing. Runway excursions account for 81 high-risk occurrences recorded in the period 2013-2017 in CAT by aeroplane & NCC operations .

Runway incursion refers to the incorrect presence of an aircraft, vehicle or person on an active runway or in its areas of protection, which can potentially lead to runway collision as the most credible accident outcome. Manifested or potential runway collisions account for 28 high-risk occurrences recorded in the period 2013-2017. Despite the relatively low number, the risk of the reported occurrences was demonstrated to be very real.

**What we want to achieve**

Increase safety by continuously assessing and improving risk controls to mitigate the risk of REs and RIs.

**How we monitor improvement**

Continuous monitoring of safety issues identified in the Aerodromes and Groundhandling as well as the ATM and ANS SRPs (see ASR 2019 Table 25 and Table 30 respectively).

**How we want to achieve it: actions**

| | |
|---|---|
| **RMT.0296** | **Review of aeroplane performance requirements for operations** |
| **Safety** | — Develop regulatory material to provide improved clarity, technical accuracy, flexibility or a combination of these benefits for the EU operational requirements on aeroplane performance in air operations with the aim of reducing the number of accidents and serious incidents where aeroplane performance is a causal factor; and<br>— Contribute to the harmonisation of the FAA and EU operational requirements on aeroplane performance in CAT operations. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | Aeroplane Operators, POA holders, CAs | | | |
| **Owner** | | EASA FS.2 | Air Operations Department | | |
| **Priority** | Yes | **RM Procedure** | Standard | **Harmonisation** | Yes |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0296 (OPS.008(A)) 09/06/2015 | 2016-11 30/09/2016 | 2019-02 22/02/2019 | 2020 Q3 | 2020 Q3 |

**CHANGES SINCE LAST EDITION**

n/a

In addition, the below actions are also directly relevant for this key risk area:

| | |
|---|---|
| **RMT.0570** | **Reduction of runway excursions** |

The full description for this action is included in **Chapter 9**

| | |
|---|---|
| **RMT.0703** | **Runway safety** |
| **RMT.0722** | **Provision of aeronautical data by the aerodrome operator** |
| **MST.029** | **Implementation of SESAR runway safety solutions** |

The full description for these actions is included in **Chapter 12**.

### 6.1.1.3 Airborne conflict (mid-air collisions)

**Issue/rationale**

Airborne conflict refers to both actual collisions as well as near misses in the air. It includes direct precursors such as separation minima infringements, genuine traffic collision avoidance system (TCAS) resolution advisories or airspace infringements. Although there have been no CAT aeroplane airborne collision accidents in recent years within the EASA Member States, this key risk area 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 without transponders in uncontrolled airspace. This is one specific safety issue that is a main priority in this key risk area. The risk scoring of accidents and serious incidents warrants the inclusion of airborne conflict as a key risk area in this domain.

**What we want to achieve**

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

**How we monitor improvement**

Increase safety by continuously monitoring safety issues identified in the SRP for CAT by aeroplane & NCC operations (see ASR 2019, Table 7).

**How we want to achieve it: actions**

| | |
|---|---|
| **RMT.0376** | **Anti-collision and traffic awareness systems for aircraft with MTOMs less than 5 700 kg or carrying less than 19 passengers** |
| **Safety** | Set up the framework for reducing the risk of MACs. This task will include a thorough impact assessment aimed at evaluating the cost-benefit of anti-collision systems carriage, as well as other systems intended to improve the pilot's situational awareness.<br><br>Note: The BIS 'Airborne collision risk' is currently being developed to propose actions to mitigate this safety risk (for more information, refer to the overview of new and ongoing BIS in Appendix D. It includes an assessment of this RMT. |
| **Status** | Subject to BIS |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | AOC holders, GA, ANSPs | | | | |
| **Owner** | EASA FS.4 | ATM/ANS & Aerodromes Department | | | |
| **Priority** | Yes | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | tbd | tbd | tbd | tbd | tbd |

**CHANGES SINCE LAST EDITION**

Information on BIS updated.

| | |
|---|---|
| **MST.024** | **Loss of separation between civil and military aircraft** |
| **Safety** | Several EU Member States have reported an increase in losses of separation involving civil and military aircraft and more particularly an increase in non-cooperative military traffic over the high seas. Taking into account this situation, and the possible hazard to civil aviation safety, the EC mandated EASA to perform a technical analysis of the reported occurrences. The technical analysis issued a number of recommendations for the Member States:<br>— endorse and fully apply ICAO Circular 330;<br>— 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;<br>— support the development and harmonisation of civil/military coordination procedures for ATM at EU level;<br>— report relevant occurrences to EASA; and<br>— facilitate/make primary surveillance radar data available in military units 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.<br><br>**EASA will have a supporting role and provide feedback on the occurrences reported.** |
| **Status** | Ongoing |
| **Reference(s)** | ICAO Circular 330, which is expected to be replaced by ICAO Doc 10088 |
| **Dependencies** | MST.001 |
| **Affected stakeholders** | CAT |
| **Owner** | Member States |

| **EXPECTED OUTPUT** | |
|---|---|
| **Deliverable(s)** | **Timeline** |
| Report | 2020 |

| **CHANGES SINCE LAST EDITION** |
|---|
| n/a |

| | |
|---|---|
| **MST.030** | **Implementation of SESAR solutions aiming to reduce the risk of mid-air collision en-route and in terminal manoeuvring areas** |
| **Safety**<br>**HF** | Member States should evaluate together with ANSPs delegated to provide services in their airspace the needs for implementing SESAR solutions related to enhanced Short Term Conflict Alerts (STCA)/enhanced safety nets[95] such as solutions #60 & #69. These SESAR solutions, designed to improve safety, should be implemented as far as it is feasible. |
| **Status** | Ongoing |
| **Reference(s)** | ATM Master Plan Level 3 – Plan (2019): ATC02.9 – Enhanced STCA for TMAs |
| **Dependencies** | |
| **Affected stakeholders** | ANSP |
| **Owner** | Member States |

| **EXPECTED OUTPUT** | |
|---|---|
| **Deliverable(s)** | **Timeline** |
| SPAS established | 2020 |

| **CHANGES SINCE LAST EDITION** |
|---|
| ATM Master Plan reference updated. |

[95] More details about the related research projects can be found in https://www.atmmasterplan.eu/data/sesar_solutions.

#### 6.1.1.4 Terrain collision

**Issue/rationale**

This risk area includes the controlled collision with terrain together with undershoot or overshoot of the runway during approach and landing phases. It comprises those situations where the aircraft collides or nearly collides with terrain while the flight crew has control of the aircraft. It also includes occurrences which are the direct precursors of a fatal outcome, such as descending below weather minima, undue clearance below radar minima, etc.

**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 safety issues identified in the SRP for CAT by aeroplane & NCC operations (see ASR 2019, Table 7).

**How we want to achieve it: actions**

Following completion of the actions included under this section in EPAS 2018-2022, no further actions are included in this EPAS edition.

The section is maintained as a placeholder for future actions.

#### 6.1.1.5 Aircraft environment

**Issue/rationale**

Uncontrolled fire on board an aircraft, especially when in flight, represents one of the most severe hazards in aviation. Aircraft depressurisations and post-crash fire are also addressed in this section, which looks at 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 concern and invite a response. 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 EPAS.

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

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

**What we want to achieve**

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

**How we monitor improvement**

Continuous monitoring of safety issues identified in the SRP for CAT by aeroplane & NCC operations (see ASR 2019, Table 7).

**How we want to achieve it: actions**

| | |
|---|---|
| **RMT.0070** | **Additional airworthiness specifications for operations: fire hazard in Class D cargo compartments** |

The full description for this action is included in **Chapter 9**.

| | |
|---|---|
| **RES.003** | **Research study on cabin and cockpit air quality** |
| **Safety** | Investigation of cabin air contamination events induced by engine oil entering the bleed air system and their health implication. The work aims at demonstrating, on the basis of a sound scientific process, whether potential health implications may result from the quality of the air on board commercially operated large transport aeroplanes. |
| **Status** | Ongoing |
| **Reference(s)** | https://www.facts.aero/ |
| **Dependencies** | |

| | | |
|---|---|---|
| **Affected stakeholders** | CAT | |
| **Owner** | EASA SM.0.1 and CT | Strategy & Safety Management Director's Office<br>Certification Directorate |

| PLANNING MILESTONES | | |
|---|---|---|
| **Starting date** | **Interim Report** | **Final Report** |
| 2017 | n/a | 2021 |

| CHANGES SINCE LAST EDITION |
|---|
| Adjustment of the task description; project planning. |

| | |
|---|---|
| **RES.004** | **Transport of lithium batteries by air** |
| **Safety** | Assess mitigating measures for the transport of lithium metal and lithium ion batteries as cargo on board an aircraft and develop a risk assessment tool and guidance for operators.<br><br>This would include, at least:<br>— review of the state of the art and identification of potential risks;<br>— identification and assessment of packaging solutions/standards;<br>— identification and assessment of additional measures that may mitigate the risks of thermal runaway and propagation of the fire;<br>— characterisation and evaluation of firefighting measures and suppression systems;<br>— Development of a risk assessment method to enable operators to establish and evaluate safe conditions for air transport; and<br>— conclusions, recommendations and provision of technical assistance to the contracting authority.<br>This must take into consideration the specific operational conditions of air transport (vibrations, changes of temperature, pressure, etc.) that might affect the stability of a lithium battery. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | |
|---|---|---|
| **Affected stakeholders** | CAT | |
| **Owner** | EASA SM.0.1 | Strategy & Safety Management Director's Office |

| PLANNING MILESTONES | | |
|---|---|---|
| **Starting date** | **Interim Report** | **Final Report** |
| 2017 | n/a | 2020 |

| CHANGES SINCE LAST EDITION |
|---|
| n/a |

| | |
|---|---|
| **RES.016** | **Fire risks caused by portable electronic devices on board aircraft** |
| **Safety** | 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 the checked-in luggage; this encompasses theoretical and experimental work to deepen the knowledge related to the inception and propagation of PED-originated fires as well as devising efficient and cost-effective means for their detection and suppression. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | |
|---|---|---|
| **Affected stakeholders** | CAT | |
| **Owner** | EASA SM.0.1 | Strategy & Safety Management Director's Office |

**PLANNING MILESTONES**

| Starting date | Interim Report | Final Report |
|---|---|---|
| 2020 | n/a | 2021 |

**CHANGES SINCE LAST EDITION**

Updating task title and description; project planning

| | |
|---|---|
| **RES.030** | **Cabin Air Quality – Chronic exposure to contamination events** |
| **Safety** | Investigation of the potential health risks that might evolve from long-term exposure – notably for cockpit and cabin crews - to low dose cabin air contamination events and their possible mitigations; 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 on-going and past research work towards a more comprehensive, robust and validated picture between levels of contamination of cabin air and potential health impacts. |
| **Status** | New. Not started. |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | |
|---|---|---|
| **Affected stakeholders** | CAT operators and aircrew | |
| **Owner** | EASA SM.0.1 | Strategy & Safety Management Director's Office |
| | and CT | Certification Directorate |

**PLANNING MILESTONES**

| Starting date | Interim Report | Final Report |
|---|---|---|
| 2021 | | 2024 |

**CHANGES SINCE LAST EDITION**

n/a

### 6.1.1.6 Miscellaneous

**Issue/rationale**

This section gathers the actions that do not relate to any of the KRAs listed **in Section 6.1.1** They may involve different types of actions in the domain CAT by aeroplane & NCC operations . The need for having such a category was driven by the constant development of EPAS towards new safety areas. For example, standardisation in the OPS domain will continue to focus on the effective implementation of operators' flight time specifications schemes, particularly those including provisions subject to fatigue risk management. A dedicated MST action (MST.034) has been included, following discussions and agreement by the Air Ops TeB.

**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**

| | |
|---|---|
| **MST.003** | **Member States should maintain a regular dialogue with their national aircraft operators on flight data monitoring programmes** |
| **Safety** | States should maintain a regular dialogue with their operators on FDM programmes, with the objectives of:<br>— promoting the operational safety benefits of FDM and the exchange of experience between subject matter experts, and<br>— encouraging operators to make use of good-practice documents produced by EOFDM and similar safety initiatives.<br><br>The document titled 'Guidance for National Aviation Authorities on setting up a national flight data monitoring forum' (produced by EAFDM) is offering guidance for this purpose. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |
| **Affected stakeholders** | AOC holders (CAT) |
| **Owner** | Member States |

| EXPECTED OUTPUT | |
|---|---|
| **Deliverable(s)** | **Timeline** |
| Report on activities performed to promote FDM | Continuous |

| CHANGES SINCE LAST EDITION |
|---|
| n/a |

| | |
|---|---|
| **MST.019** | **Better understanding of operators' governance structure** |
| **Safety** | CAs to have a thorough understanding of operators' governance structure. This should in particular apply in the area of group operations.<br><br>Aspects to be considered include:<br>— extensive use of outsourcing,<br>— the influence of financial stakeholders, and<br>— controlling management personnel, where such personnel are located outside the scope of approval.<br><br>Note: The Agency will support this MST by providing guidance on how to effectively oversee group operations. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |
| **Affected stakeholders** | AOC holders (CAT) |
| **Owner** | Member States |

| EXPECTED OUTPUT | |
|---|---|
| **Deliverable(s)** | **Timeline** |
| Research/guidance material | 2020 |

| CHANGES SINCE LAST EDITION |
|---|
| n/a |

| | |
|---|---|
| **MST.034** | **Oversight capabilities/focus area: flight time specification schemes** |
| **Safety** | Member States to ensure that the CAs possess the required competence to approve and oversee the operators' flight time specification schemes; in particular, those including fatigue risk management. CAs should focus on the verification of effective implementation of processes established to meet operators' responsibilities requirements and to ensure an adequate management of fatigue risks. CAs should consider the latter when performing audits of the operator's management system. |
| **Status** | New |
| **Reference(s)** | GASP SEI-5 — Qualified technical personnel to support effective safety oversight |
| **Dependencies** | |
| **Affected stakeholders** | AOC holders (CAT) |
| **Owner** | Member States |

| EXPECTED OUTPUT | |
|---|---|
| **Deliverable(s)** | **Timeline** |
| Report on actions implemented to foster capabilities | 2020 |

| CHANGES SINCE LAST EDITION |
|---|
| n/a |

| | |
|---|---|
| **SPT.076** | **Flight data monitoring precursors of main operational safety risks** |
| **Safety** | EASA should, in partnership with the industry, complete the good-practice documentation which supports the inclusion of main operational safety risks such as RE, LOC-I, CFIT and MAC into operators' FDM programmes. |
| **Status** | Ongoing |
| **Reference(s)** | GASP SEIs (industry) – Mitigate contributing factors to CFIT, LOC-I, MAC, RE, and RI accidents and incidents |
| **Dependencies** | |

| | | |
|---|---|---|
| **Affected stakeholders** | ALL | |
| **Owner** | EASA SM.1 | Safety Intelligence & Performance Department |

| **EXPECTED OUTPUT** | |
|---|---|
| **Deliverable(s)** | **Timeline** |
| Good-practice document | 2020 |

| **CHANGES SINCE LAST EDITION** |
|---|
| n/a |

| | |
|---|---|
| **SPT.101** | **Development of new safety promotion material on high-profile commercial flight operations safety issues** |
| **Safety** | Develop new safety promotion material on high-profile safety issues for commercial flight operations. Such high-profile safety issues are to be determined from important risks identified from the SRM process, accidents/serious incidents and inputs from EASA stakeholders. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | |
|---|---|---|
| **Affected stakeholders** | CAT | |
| **Owner** | EASA SM.1 | Safety Intelligence & Performance Department |

| **EXPECTED OUTPUT** | |
|---|---|
| **Deliverable(s)** | **Timeline** |
| Leaflets, videos, web pages and/or applications | Continuous |

| **CHANGES SINCE LAST EDITION** |
|---|
| n/a |

| | |
|---|---|
| **EVT.0009** | **Evaluation on European operators flight data monitoring** |
| **Efficiency/ proportionality** | The European Operators Flight Data Monitoring (EOFDM) forum, established in 2011, is a voluntary partnership between European operators and EASA. The overall objective of the evaluation is to take stock of the current level of awareness and implementation of EOFDM best-practice documents by European operators and to assess potential needs for the adaptation of the scope and/or the promotion strategy of EOFDM. The project is exemplary for the ex post assessment of safety promotion actions in EASA. |
| **Status** | New |
| **Reference(s)** | n/a |
| **Dependencies** | |
| **Affected stakeholders** | Safety managers, FDM programme managers at European operators |
| **Owner** | EASA SM.1 Safety Intelligence & Performance Department |

| **EXPECTED OUTPUT** | |
|---|---|
| **Deliverable(s)** | **Timeline** |
| Evaluation report | 2020 |

| **CHANGES SINCE LAST EDITION** |
|---|
| n/a |

In addition to the above, the following actions are relevant for CAT by aeroplane & NCC operations safety:

| | |
|---|---|
| **RMT.0225** | **Development of an ageing aircraft structure plan** |

| | |
|---|---|
| **RMT.0276** | **Technical records** |

| | |
|---|---|
| **RMT.0586** | **Tyre pressure monitoring system** |

The full description for these actions is included in **Chapter 9**.

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

The full description for these actions is included in **Chapter 10**.

| | |
|---|---|
| **SPT.103** | **Development of new safety promotion material on high-profile air traffic management safety issues** |

Refer to **Chapter 11.1** for the detailed action description.

| | |
|---|---|
| **RMT.0379** | **All-weather operations** |

Refer to **Section 15.1.4** for the detailed action description.

### 6.1.2 Level playing field

**Issue/rationale**

Rules may need to be harmonised within the EU as well as with the main international trade partners in order to either ensure fair competition or facilitate the free movement of goods, persons and services.

**What we want to achieve**

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

**How we monitor improvement**

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

**How we want to achieve it: actions**

| | |
|---|---|
| **RMT.0278** | **Importing of aircraft from other regulatory systems and Part 21 Subpart H review** |
| **Level playing field** | Develop criteria for importing of aircraft from other regulatory systems and Part 21 Subpart H review. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | Air operators and CAs | | | |
| **Owner** | | EASA FS.1 | Maintenance & Production Department | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0278<br>01/02/2013 | 2016-08<br>07/09/2016 | 2021 Q3 | 2022 Q3 | 2022 Q3 |

**CHANGES SINCE LAST EDITION**

n/a

| | |
|---|---|
| **RMT.0312** | **Review of standard weights** |
| **Level playing field** | Transposed task from the JAA to review the standard weights due to demographic changes. Review of IRs/AMC & GM based on the weight survey commissioned by EASA. |
| **Status** | This task is de-prioritised in accordance with the criteria described in Chapter 3. |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | CAT and NCC operators | | | |
| **Owner** | | EASA FS.2 | Air Operations Department | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | tbd | tbd | tbd | tbd | tbd |

**CHANGES SINCE LAST EDITION**

n/a

| | |
|---|---|
| **RMT.0573** | **Fuel/energy planning and management** |
| **Level playing field** | Review and update the EU fuel rules, taking into account ICAO amendments and a related SR, and providing for operational flexibility.<br>The RMT will also address a first set of OPS electric and hybrid propulsion-related requirements for other non-complex aircraft types that are not covered by RMT.0230. |
| **Status** | Ongoing |
| **Reference(s)** | (SR) FRAN-2012-026 |
| **Dependencies** | RMT.0731; RMT.0230; SPT.097 |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | AOC holders | | | |
| **Owner** | | EASA FS.2 | Air Operations Department | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0573 27/04/2015 | 2016-06 15/07/2016 | 2020 Q2 | 2021 Q4 | 2021 Q4 |

**CHANGES SINCE LAST EDITION**

Adjustment of the task title; inclusion of a new item ‘OPS requirements for electric/hybrid propulsion’.

| | |
|---|---|
| **RMT.0577** | **Extended diversion time operations** |
| **Level playing field** | To consider alignment of the extended diversion time operation (EDTO) rules with the related ICAO SARPs and modernise the EASA ETOPS rules. |
| **Status** | Merged |
| **Reference(s)** | n/a |
| **Dependencies** | RMT.0392 |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | AOC holders (CAT) | | | | |
| **Owner** | EASA FS.2 | Air Operations Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | n/a | n/a | n/a | n/a | n/a |

**CHANGES SINCE LAST EDITION**

This task is merged into RMT.0392

| | |
|---|---|
| **SPT.097** | **Promotion of the new European provisions on fuel /energy planning and management** |
| Level playing field | The objective is to complement the new regulatory package on fuel/energy planning and management with relevant safety promotion material.<br><br>The three main tasks are:<br>• EASA fuel scheme manual<br>• Workshop and events<br>• Safety promotion leaflets, website, video |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | RMT.0573 |

| | | |
|---|---|---|
| **Affected stakeholders** | ALL | |
| **Owner** | EASA SM.1 | Safety Intelligence & Performance Department |

**EXPECTED OUTPUT**

| Deliverable(s) | Timeline |
|---|---|
| Safety Promotion material | 2022 |

**CHANGES SINCE LAST EDITION**

Addition of subtasks.

In addition to the above, the following action is relevant to level playing field in CAT by aeroplane & NCC operations:

| | |
|---|---|
| **RMT.0561** | **Update of AMC-20 — in-flight entertainment (IFE), lead-free soldering, harmonisation of safety and software criteria** |

Refer to **Chapter 9** for the detailed action description.

### 6.1.3 Efficiency/proportionality

**Issue/rationale**

Passenger and cargo transport by airlines generate producer, consumer and wider economic benefits. Regulatory and administrative burden reduce these benefits and need therefore to be fully justified by 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**

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

**How we want to achieve it: actions**

| | |
|---|---|
| **RMT.0190** | **Requirements for relief pilots** |
| **Efficiency/ proportionality** | Address the provisions for the use of relief pilots as regards experience, training, checking and CRM. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | Pilots, ATOs, and air operators | | | |
| **Owner** | | EASA FS.3 | Aircrew & Medical Department | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0190 02/11/2012 | 2014-25 04/11/2014 | 2021 Q2 | 2022 Q2 | 2022 Q2 |

**CHANGES SINCE LAST EDITION**

The task status is changed to ‘ongoing’ from ‘de-prioritised’.

| RMT.0392 | **Regular update of air operation rules** |
|---|---|
| **Efficiency/ proportionality** | Necessary update reflecting technological and market developments<br>This regular update task will lead to changes at IR level and at AMC & GM level. For the latter, for those changes that are not dependant on changes at IR level, a first Decision is expected in 2021 Q4. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | All operators and NAAs | | | | |
| **Owner** | EASA FS.2 | Air Operations Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | Yes |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | 2020 Q1 | 2021 Q1 | n/a | n/a | 2021 Q4 |
| | | n/a | 2022 Q1 | 2022 Q3 | 2022 Q2 |

**CHANGES SINCE LAST EDITION**

Addition of the task description. This task now also includes topics from RMT.0294 and RMT.0577. The task status is changed to 'ongoing' from 'de-prioritised'.

| EVT.0008 | **Evaluation on Commission Regulation (EU) No 452/2014 (the 'third-country operator (TCO) Regulation')** |
|---|---|
| **Efficiency/ proportionality** | The TCO Regulation was adopted in 2014. The Regulation is assessed to determine whether it is still fit for purpose and remains efficient and serviceable. |
| **Status** | New |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | |
|---|---|---|---|
| **Affected stakeholders** | Third-country operators, EASA Member States, EASA | | |
| **Owner** | EASA FS.2 | Air Operations Department | |

**EXPECTED OUTPUT**

| Deliverable(s) | Timeline |
|---|---|
| Evaluation report | 2020 |

**CHANGES SINCE LAST EDITION**

n/a

In addition to the above, the following actions are relevant to efficiency/proportionality in CAT by aeroplane & NCC operations:

| RMT.0499 | **Regular update of CS-MMEL** |
|---|---|

| RMT.0695 | **Non-ETOPS operations using performance class A aeroplanes with an MOPSC of 19 or less** |
|---|---|

The full description for these actions is included in **Chapter 9**.

## 6.2 Specialised operations (SPO)

**NB:** For SPO helicopters please refer to **Chapter 7**.

**Issue/rationale**

Operators other than CAT or NCC, e.g. conducting aeroplane SPO, make an important contribution to the aviation's overall role in modern economies. There is thus a need for an efficient regulatory framework.

An analysis per type of operation shows that the type of operations with the highest number of accidents and serious incidents, on average in the period 2008-2017 were:

— parachute drop;

— towing; and

— airshow/race

In 2018, the top three SPO types in terms of accidents and serious incidents were towing, parachute drop and agricultural.

The top three KRAs for aeroplane SPO are indicated below (refer to ASR 2019 Figure 24 and Table 9)**:**

| **Specialised operations - aeroplanes** | | |
|---|---|---|
| KRA 1 | KRA 2 | KRA 3 |
| Aircraft upset | Airborne collision | Terrain collision |

The highest-risk safety issues in this domain all relate to human factors.

**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 safety issues identified in the SRP for Specialised Operations Aeroplane.

**How we want to achieve it: actions**

Following completion of the actions included under this section in EPAS 2018-2022, no further actions are included in this EPAS edition.

The section is maintained as a placeholder for future actions.

# 7. Rotorcraft

This chapter groups all 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**[96] delivered and endorsed in November 2018.

**Issue/rationale**

The Roadmap aims at significantly reducing 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 are affected by the different domains including training, operations, initial and continuing airworthiness, environment and innovation.

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

This area includes four types of operations involving certified helicopters:

— passenger and cargo flights to and from offshore oil and gas installations in CAT (EASA Member States' AOC holders);

— other CAT operations, passenger and cargo (EASA Member States' AOC holders), excluding offshore;

— SPO, such as advertisement, photography, with an EASA Member State as the State of operator or State of registry; and

— non-commercial operations (NCO) with helicopters registered in an EASA Member State or for which an EASA Member State is the State of operator.

## 7.1 Safety

The top three key risk areas for each of the four types of operation are as follows:

| **Offshore helicopters** | | |
|---|---|---|
| KRA 1 | KRA 2 | KRA 3 |
| Aircraft upset | Helideck excursions | Obstacle collision in flight |

In the CAT offshore helicopter domain, no accidents (either fatal or non-fatal) occurred in 2017 and 2018. Instead, there were 4 serious incidents in 2018, which is above the 10-year average for serious incidents. Prior to 2017, there were 2 fatal accidents (one in 2013 and another one in 2016).

| **Other CAT helicopters** | | |
|---|---|---|
| KRA 1 | KRA 2 | KRA 3 |
| Terrain collision | Aircraft upset | Obstacle collision in flight |

[96] https://www.easa.europa.eu/download/Events/Rotorcraft%20Safety%20Roadmap%20-%20Final.pdf

In other CAT helicopter operations, there were 2 fatal accidents, 9 non-fatal accidents and 8 serious incidents in 2018, leading to 8 fatalities. Both fatal accidents involved HEMS operations. The number of non-fatal accidents was almost twice the average of the previous decade.

**SPO helicopters**

| KRA 1 | KRA 2 | KRA 3 |
|---|---|---|
| Aircraft upset | Terrain collision | Obstacle collision in flight |

In SPO there were 2 fatal accidents, 10 non-fatal accidents and 6 serious incidents in 2018, leading to 2 fatalities and 1 serious injury. While the number of fatal accidents and non-fatal accidents in 2018 was slightly lower than the average of the preceding 10-year period, the number of serious incidents was higher than that average.

**NCO helicopters**

| KRA 1 | KRA 2 | KRA 3 |
|---|---|---|
| Aircraft Upset | Terrain Collision | Injuries/Damage |

In non-commercial operations, there were 6 fatal accidents, 24 non-fatal accidents and 3 serious incidents in 2018, leading to 15 fatalities and 5 serious injuries. The number of fatal accidents increased in 2018 compared to 2017 and the 10-year average. The number of non-fatal accidents and serious incidents remains below the 10-year average.

The safety issues identified for all KRAs, for the different types of operation, are listed in the ASR 2019 (refer to Table 13 – Offshore CAT, Table 15 – CAT other than Offshore, Table 17 - SPO and Table 19 – NCO).

Based on the data supporting the different portfolios, the following priority 1 key risk areas can be highlighted:

— **helicopter upset in flight** (loss of control)

  This is key risk area with the highest priority in offshore and CAT helicopter operations. Loss of control for offshore helicopter operations generally falls into two scenarios: technical failure that renders the aircraft uncontrollable or human factors. In addition, it is the second most common accident outcome for aerial work operations. The following actions contribute to mitigating risks in this area: RMT.0127, RMT.0709 and RMT.0711.

— **terrain and obstacle conflict**

  This is the second priority key risk area for helicopter operations (offshore, other CAT, SPO and NCO), although equipment is now fitted to helicopters in this domain that will significantly mitigate the risk of this outcome. Obstacle collisions is the second most common accident outcome in the CAT helicopters domain. This highlights the challenges of HEMS operations and their limited selection and planning for landing sites. Terrain and obstacle conflict is the most common outcome for SPO (aerial work operations). The following action contributes to mitigating risks in this area: RMT.0708.

  In addition, from an airspace perspective, it is important to ensure that the airspace and routes design facilitate safe operations of helicopters which typically fly at low levels. Within SESAR 1, there have been solutions aiming to improve safety and efficiency of helicopter operations such as those supporting the establishment of low-level IFR routes[97].

[97] See SESAR solution # 113 from the SESAR Solution Catalogue: https://www.sesarju.eu/sites/default/files/documents/reports/SESAR_Solutions_Catalogue_2019_web.pdf

**What we want to achieve**

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

**How we monitor improvement**

Continuous monitoring of safety issues identified in the specific SRPs established for offshore CAT helicopter operations, other CAT helicopter operations, helicopter SPO and NCO (ref: ASR 2019).

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

**How we want to achieve it: actions**

| | |
|---|---|
| **RMT.0120** | **Helicopter ditching and water impact occupant survivability** |
| **Safety** | This task aims at enhancing post-ditching and water impact standards for rotorcraft that could significantly enhance occupant escape and survivability. It will, in part, consider the recommendations arising from early work performed by the Joint Aviation Authorities (JAA) Water Impact, Ditching Design and Crashworthiness Working Group (WIDDCWG) and the Helicopter Offshore Safety and Survival Working Group (HOSSWG).<br><br>In a first phase, EASA plans to address CS-27/29. In a second phase, EASA will consider whether the safety issue also necessitates amendment of Part-26/CS-26. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | DAHs and helicopter operators | | | |
| **Owner** | | EASA CT.5 | Certification Strategy & Programming Department | | |
| **Priority** | Yes | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| 1 | RMT.0120<br>24/10/2012 | 2016-01<br>23/03/2016 | n/a | n/a | 2018/007/R<br>25/06/2018 |
| 2 | | 2020 Q1 | 2021 Q1 | 2022 Q3 | 2022 Q3 |

**CHANGES SINCE LAST EDITION**

n/a

**RMT.0127** **Pilot compartment view**

**Safety**

The objective of this RMT is to address a safety issue related to rotorcraft windshield misting and subsequent restriction of pilot vision. The existing rules are unclear as to what is required and how compliance can be demonstrated.

The specific objective is to mitigate the risks linked to restricted pilot vision, particularly during critical phases of flight (take-off, landing, low hover), by requiring a means to remove or prevent the misting of internal portions of transparencies in rotorcraft, thus ensuring safe operations in all likely flight and operating conditions.

In addition, the RMT's scope is proposed to be extended to address the rules governing pilot vision in snow conditions, which are unclear, particularly in relation to piston-engine rotorcraft.

**Status** Ongoing

**Reference(s)** n/a

**Dependencies**

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | DOA holders, POA holders and helicopter operators | | | | |
| **Owner** | EASA CT.5 | Certification Strategy & Programming Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | 2020 Q1 | 2021 Q1 | n/a | n/a | 2022 Q1 |

**CHANGES SINCE LAST EDITION**

n/a

| | |
|---|---|
| **RMT.0325** | **Helicopter emergency medical services' performance and public interest sites** |
| **Safety** | To properly address the issues stemming from non-implementation or deviation from JAR-OPS 3 performance and public interest sites (PIS) provisions; in particular, performance in high mountains considering review of HEMS flights at night safety level following a UK Safety Directive. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | UK Safety Directive 2014/003[98] |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | Helicopter CAT, HEMS operators and MOs (Part-145) | | | |
| **Owner** | | EASA FS.2 | Air Operations Department | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0325 26/03/2014 | 2018-04 18/06/2018 | 2021 Q3 | 2022 Q3 | 2022 Q3 |

**CHANGES SINCE LAST EDITION**

n/a

| | |
|---|---|
| **RMT.0708** | **Controlled flight into terrain prevention with helicopter terrain awareness warning systems (HTAWS)** |
| **Safety** | Mandating HTAWS 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 mandating the installation of HTAWS on board the helicopter for certain operations. The RMT should only mandate HTAWS to be retrofitted to the current fleet if HTAWS 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). For offshore helicopter operations, this also includes the involvement of the EASA Certification Directorate working with stakeholders on the evaluation of updated HTAWS standards. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | Helicopter operators | | | |
| **Owner** | | EASA FS.2 | Air Operations Department | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | 31/07/2019 | 2021 Q2 | 2022 Q1 | 2023 Q2 | 2023 Q2 |

**CHANGES SINCE LAST EDITION**

n/a

[98] https://publicapps.caa.co.uk/docs/33/SafetyDirective2014003.pdf

| | |
|---|---|
| **RMT.0724** | **Rotorcraft flight crew operating manuals (FCOMs)** |
| **Safety** | The objective of this RMT is to improve the operating information provided to rotorcraft flight crew in the 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 this information. This RMT will consider the current approach utilised in CS-25 AMC, and other initiatives such as the activity undertaken by Heli Offshore. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Rotorcraft operators | | | | |
| **Owner** | EASA CT.5 | Certification Strategy & Programming Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | 2020 Q3 | 2021 Q3 | n/a | n/a | 2022 Q3 |

**CHANGES SINCE LAST EDITION**

n/a

| | |
|---|---|
| **SPT.082** | **Support the development and implementation of flight crew operating manuals (FCOMs) for offshore helicopter operations** |
| **Safety** | To provide support to manufacturers, if needed, in the development of FCOMs for different helicopter types and support/encourage operators in their implementation. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | |
|---|---|---|
| **Affected stakeholders** | HE | |
| **Owner** | SM.1 | Safety Intelligence & Performance Department |

**EXPECTED OUTPUT**

| Deliverable(s) | Timeline |
|---|---|
| Report | 2020 |

**CHANGES SINCE LAST EDITION**

n/a

| | |
|---|---|
| **SPT.092** | **Improve dissemination of existing safety promotion material by developing mobile applications & e-platforms** |
| **Safety** | Reaching target audience is one of the main challenges of safety promotion. This tasks aims at improving dissemination of existing safety promotion material by developing mobile applications & e-platforms. This will increase user-friendliness of existing paper format safety promotion material and will facilitate translations and future revisions. |
| **Status** | ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | |
|---|---|---|
| **Affected stakeholders** | HE | |
| **Owner** | ESPN-R | European Safety Promotion Network Rotorcraft |

| **EXPECTED OUTPUT** | |
|---|---|
| **Deliverable(s)** | **Timeline** |
| Mobile applications and/or e-platforms | 2020 |

| **CHANGES SINCE LAST EDITION** |
|---|
| n/a |

| | |
|---|---|
| **SPT.093** | **Development of new safety promotion material on high-profile helicopter issues** |
| **Safety** | In cooperation with the IHST, develop new safety promotion material (leaflets, videos, 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 as directed through the Rotorcraft Committee and EASA Rotorcraft Strategy. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | |
|---|---|---|
| **Affected stakeholders** | HE | |
| **Owner** | ESPN-R | European Safety Promotion Network Rotorcraft |

| **EXPECTED OUTPUT** | |
|---|---|
| **Deliverable(s)** | **Timeline** |
| Leaflets, videos, web pages and/or applications | 2021 |

| **CHANGES SINCE LAST EDITION** |
|---|
| Enhancement of task description. This task now incorporates SPT.098. |

| | |
|---|---|
| **SPT.094** | **Helicopter safety and risk management** |
| **Safety** | Review existing helicopter safety & risk management material to check consistency and update (when applicable) material to reflect new rules, standards and international good practice coming for example from IHST and SMICG. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | |
|---|---|---|
| **Affected stakeholders** | HE | |
| **Owner** | ESPN-R | European Safety Promotion Network Rotorcraft |

| **EXPECTED OUTPUT** | |
|---|---|
| **Deliverable(s)** | **Timeline** |
| Revised helicopter safety & risk management manuals and/or toolkits | 2021 |

| **CHANGES SINCE LAST EDITION** |
|---|
| n/a |

| | |
|---|---|
| **SPT.095** | **Promotion of helicopter technologies with safety benefits** |
| **Safety** | Following the identification of promising helicopter technologies (study performed by the NLR for EHEST and the Technology Work Stream stemming for the EASA Rotorcraft Safety Roadmap), promote the helicopter technologies having high safety benefits. |
| **Status** | Ongoing |
| **Reference(s)** | NLR-TP-2014-311[99] |
| **Dependencies** | |

| | | |
|---|---|---|
| **Affected stakeholders** | HE | |
| **Owner** | ESPN-R | European Safety Promotion Network Rotorcraft |

| **EXPECTED OUTPUT** | |
|---|---|
| **Deliverable(s)** | **Timeline** |
| Web page, flyer and/or report | 2020 |

| **CHANGES SINCE LAST EDITION** |
|---|
| Enhancement of the task description. |

[99] https://www.easa.europa.eu/sites/default/files/dfu/NLR-TP-2014-311.pdf

| | |
|---|---|
| **SPT.096** | **Organisation of an annual safety workshop** |
| **Safety** | The European Safety Promotion Network Rotorcraft (ESPN-R) to organise a safety forum, in cooperation with the trade shows. This high-profile event promotes safe helicopter operations and fosters interactions within the community. The event theme changes every year. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | |
|---|---|---|
| **Affected stakeholders** | HE | |
| **Owner** | ESPN-R | European Safety Promotion Network Rotorcraft |

| **EXPECTED OUTPUT** | |
|---|---|
| **Deliverable(s)** | **Timeline** |
| Safety Workshop | Continuous |

| **CHANGES SINCE LAST EDITION** |
|---|
| n/a |

| | |
|---|---|
| **SPT.099** | **Helicopter hoist safety promotion** |
| **Safety** | Develop safety promotion material for helicopter hoists<br><br>NB: 2019 deliverables already available are shared via the LinkedIn group[100]. The group is called "ESPN-R Hoist Operation Safety Promotion". |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | |
|---|---|---|
| **Affected stakeholders** | HE | |
| **Owner** | EASA SM.1 | Safety Intelligence & Performance Department |

| **EXPECTED OUTPUT** | |
|---|---|
| **Deliverable(s)** | **Timeline** |
| Safety Promotion material | Continuous |

| **CHANGES SINCE LAST EDITION** |
|---|
| Status changed to 'ongoing' as the task will continue to produce deliverables. |

[100] https://www.linkedin.com/groups/8693588/

| | |
|---|---|
| **RES.008** | **Integrity improvement of rotorcraft main gear boxes (MGB)** |
| **Safety** | Further to the investigation of the EC225 LN-OJF accident, the research aimed at identifying threats to the integrity of critical components of rotor drive systems and at developing methods for evaluating 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 main gear box components. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | |
|---|---|---|
| **Affected stakeholders** | HE | |
| **Owner** | EASA SM.0.1 | Strategy & Safety Management Director's Office |

| PLANNING MILESTONES | | |
|---|---|---|
| **Starting date** | **Interim Report** | **Final Report** |
| 2020 Q1 | n/a | 2023 Q1 |

**CHANGES SINCE LAST EDITION**

Enhancement of the task description. The research action will be funded through H2020; contracting and technical management is delegated to EASA by the European Commission.

| | |
|---|---|
| **RES.009** | **Helicopter offshore operations — new floatation systems** |
| **Safety** | Assessment of technical solutions for enhancing helicopter floatation at sea in view of heightening survivability following helicopter capsizes, which is the major event conducive to fatalities due to drowning. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | |
|---|---|---|
| **Affected stakeholders** | HE | |
| **Owner** | SM.0.1 | Strategy & Safety Management Director's Office |

| PLANNING MILESTONES | | |
|---|---|---|
| **Starting date** | **Interim Report** | **Final Report** |
| 2020 Q1 | n/a | 2023 Q1 |

**CHANGES SINCE LAST EDITION**

Update of the task title and description. The research action will be funded through H2020; contracting and technical management is delegated to EASA by the European Commission.

| | |
|---|---|
| **RES.011** | **Helicopter, tilt rotor and hybrid aircraft gearbox health monitoring — in-situ failure detection** |
| **Safety** | New technologies for in-situ detection of tilt rotor, helicopter and hybrid aircraft gearbox failures. |
| **Status** | Not started |
| **Reference(s)** | (SR) UNKG-2011-041<br>Cleansky 2 iGear project: Intelligent Gearbox for Endurance Advanced Rotorcraft<br>https://www.researchgate.net/publication/333827990_Vibration_analysis_under_varying_operating_conditions_for_rotorcraft_gearbox_monitoring;<br>UK MENtOR project: Methods and Experiments for NOvel Rotorcraft<br>https://gtr.ukri.org/projects?ref=EP%2FS013814%2F1. |
| **Dependencies** | |

| | | |
|---|---|---|
| **Affected stakeholders** | HE | |
| **Owner** | EASA SM.0.1 | Strategy & Safety Management Director's Office |

| PLANNING MILESTONES | | |
|---|---|---|
| **Starting date** | **Interim Report** | **Final Report** |
| Not planned yet | tbd | tbd |

| CHANGES SINCE LAST EDITION |
|---|
| n/a |

| | |
|---|---|
| **MST.015** | **Helicopter safety events** |
| **Safety** | CAs, in partnership with industry representatives, to organise helicopter safety events annually or every two years. The EHEST, IHST, CA, Heli Offshore or other sources of safety promotion materials could be freely used and promoted. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | |
|---|---|---|
| **Affected stakeholders** | HE | |
| **Owner** | Member States | |

| EXPECTED OUTPUT | |
|---|---|
| **Deliverable(s)** | **Timeline** |
| Workshop | Continuous |

| CHANGES SINCE LAST EDITION |
|---|
| n/a |

| | |
|---|---|
| **MST.031** | **Implementation of SESAR solutions aiming to facilitate safe instrument flight rules operations** |
| **Safety** | Member States together with their ANSPs and their flight procedure designers (if different from ANSPs) should 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 that are designed to improve safety, should be implemented as far as it is feasible.<br>See SESAR Solutions Catalogue2019 Third Edition: https://www.sesarju.eu/sites/default/files/documents/reports/SESAR_Solutions_Catalogue_2019_web.pdf |
| **Status** | Ongoing |
| **Reference(s)** | ATM Master Plan (Level 3 Ed 2019) action NAV12 (ATS IFR Routes for Rotorcraft Operations) |
| **Dependencies** | |
| **Affected stakeholders** | HE |
| **Owner** | Member States |

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

| **CHANGES SINCE LAST EDITION** |
|---|
| Updated Reference to SESAR Solutions Catalogue |

In addition to the above RMTs, the following RMTs are directly relevant to rotorcraft safety:

| | |
|---|---|
| **RMT.0709** | **Prevention of catastrophic accidents due to rotorcraft hoist issues** |
| **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.0713** | **Human factors in rotorcraft design** |
| **RMT.0725** | **Rotorcraft chip detection system** |
| **RMT.0726** | **Rotorcraft occupant safety in the event of a bird strike** |

The full description for these actions is included in **Chapter 9.**

| | |
|---|---|
| **RMT.0379** | **All-weather operations** |

The full description for this action is included in **Section 15.1.4.**

## 7.2 Level playing field

| | |
|---|---|
| **RMT.0318** | **Single-engine helicopter operations** |
| **Level playing field** | Review the applicable rules and the associated AMC and GM in order to re-evaluate:<br>— restrictions on piston engine helicopters to operate over hostile environment; and<br>— restrictions on single-engine helicopters to operate over congested environment. |
| **Status** | This task is de-prioritised in accordance with the criteria described in Chapter 3. |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | Helicopter operators | | | |
| **Owner** | | EASA FS.2 | Air Operations Department | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0318 06/02/2018 | tbd | tbd | tbd | tbd |

**CHANGES SINCE LAST EDITION**

The BIS for the task will be updated, which might lead to different prioritisation/status.

## 7.3 Efficiency/proportionality

| | |
|---|---|
| **EVT.0010** | **Evaluation on helicopter operations** |
| **Efficiency/ proportionality** | In compliance with the EASA Rotorcraft Safety Roadmap, an evaluation on small helicopter operations (criteria for defining small operation will be spelled out in the assessment) is foreseen to assess the administrative burden put on the operators and to identify proposals for simplification as well as reduction of the administrative burden and the cost for the operators. |
| **Status** | New |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | |
|---|---|---|
| **Affected stakeholders** | Rotorcraft operators, pilots and CAs | |
| **Owner** | EASA FS.2 and EASA CT.3 | Air Operations Department and Vertical Take-Off and Landing (VTOL) Department |

| **EXPECTED OUTPUT** | |
|---|---|
| **Deliverable(s)** | **Timeline** |
| Evaluation report | 2020 |

| **CHANGES SINCE LAST EDITION** |
|---|
| n/a |

In addition to the above actions, the following RMTs are directly relevant to Rotorcraft efficiency/proportionality:

| | |
|---|---|
| **RMT.0494** | **Flight time limitation rules for helicopter operations** |

The full description for this action is included in **Section 5.2**.

| | |
|---|---|
| **RMT.0134** | **Regular update of rotorcraft AMC** |
| **RMT.0714** | **Enablement of the safe introduction of rotorcraft fly-by-wire technology** |

The full description for these actions is included in **Chapter 9.**

# 8. General Aviation

This Chapter covers GA non-commercial operations involving aeroplanes with MTOMs below 5 700 kg registered in an EASA Member States, as well as all operations with balloons and sailplanes.

GA is remaining a high priority for EASA and the EC. This has been emphasized by Patrick Ky, Executive Director, during the EASA Annual Safety Conference 2018 in Vienna, and by the EC during Aero Friedrichshafen 2019.

GA in Europe is maintaining a stable activity involving 10 times more aircraft and airfields than CAT. GA has been since its origin the cradle for innovation and recruitment of young professionals (ATCOs, mechanics, pilots, etc.) and a means to connect people across Europe.

Recognising the importance of GA and its contribution to a safe European aviation system, EASA in partnership with the EC and other stakeholders has created the GA roadmap and is now starting a new phase of the project called GA Roadmap 2.0.

EASA is dedicating effort and resources to make GA safer and cheaper.

Addressing safety risks in GA in a proportionate and effective manner is a strategic priority. In the last years, accidents involving recreational aeroplanes have led to an average of 86 fatalities per year in Europe (based on 2008-2017 figures, excluding fatal accidents involving microlight airplanes, gliders and balloons), which makes it one of the sectors of aviation with the highest yearly number of fatalities. In 2018, there were 49 accidents causing 95 fatalities in non-commercial operations with aeroplanes and 16 fatal accidents causing 17 fatalities in the domain of sailplane operations (the 2008-2017 average was 28 fatalities per year in Europe). The GA roadmap is key to the EASA strategy in this domain. 2018 seems to show an improvement for gliders, and a deterioration for GA fixed wing.

Although it is difficult to precisely measure the evolution of safety performance in GA due to lack of consolidated exposure data (e.g. accumulated flight hours), the above statistics justify the various initiatives and efforts already undertaken, ongoing or planned, to mitigate risks leading to those fatalities; these are explained on the following pages.

Based on the data supporting the SRP for non-commercially operated small aeroplanes (MTOMs below 5 700 kg), the following top three KRAs can be highlighted (refer to ASR 2019 Table 11):

| **Non-commercially operated small aeroplanes** | | |
|---|---|---|
| KRA 1 | KRA 2 | KRA 3 |
| Aircraft upset | Terrain collision | Obstacle collision in flight |

For sailplanes, the top three KRAs are indicated below (refer to ASR 2019 Table 23):

| **Sailplanes** | | |
|---|---|---|
| KRA 1 | KRA 2 | KRA 3 |
| Aircraft upset | Landing area excursions | Terrain collision |

The associated priority 1 safety issues are:

— stall/spin;

— collision with hill;

— loss of control (other);

— perception and situational awareness;

— incomplete winch launches; and

— decision-making and planning.

The top three KRAs in balloon operations are as follows (refer to ASR 2019 Table 21):

| **Balloons** | | |
|---|---|---|
| KRA 1 | KRA 2 | KRA 3 |
| Balloon landings | Obstacle collision in flight | Balloon upset |

## 8.1 Safety

This section is further subdivided to group actions per main safety issue (see 8.1.1 to 8.1.5). While the current EPAS may not include mitigation actions for each of those, the safety issue description is maintained to raise awareness.

### 8.1.1 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 risk domains.

**What we want to achieve**

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

**How we monitor improvement**

Increase safety by continuously monitoring safety issues identified in the SRP for non-commercially operated small aeroplanes as well as for sailplanes and balloons. (refer to ASR 2019 Tables 11, 23 and 21 respectively).

**How we want to achieve it: actions**

| | |
|---|---|
| **SPT.083** | **Flight instruction** |
| **Safety** | 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. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | RMT.0678 |

| | | |
|---|---|---|
| **Affected stakeholders** | GA | |
| **Owner** | EASA SM.1 | Safety Intelligence & Performance Department |

| **EXPECTED OUTPUT** | |
|---|---|
| **Deliverable(s)** | **Timeline** |
| Safety Promotion material | 2020 |

| **CHANGES SINCE LAST EDITION** |
|---|
| n/a |

| | |
|---|---|
| **MST.025** | **Improvement in the dissemination of safety messages** |
| **Safety** | Improve the dissemination of safety promotion and training material by authorities, associations, flying clubs, insurance companies targeting flight instructors and/or pilots through means such as safety workshops and safety days/evenings. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |
| **Affected stakeholders** | GA |
| **Owner** | Member States |

| EXPECTED OUTPUT | |
|---|---|
| **Deliverable(s)** | **Timeline** |
| Safety workshops and safety days/evenings | Continuous |

| CHANGES SINCE LAST EDITION |
|---|
| n/a |

| | |
|---|---|
| **MST.027** | **Promotion of safety culture in GA** |
| **Safety** | CAs should include provisions to facilitate and promote safety culture (including just culture) in GA as part of their State safety management activities in order to foster positive safety behaviours and encourage occurrence reporting. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |
| **Affected stakeholders** | GA |
| **Owner** | Member States |

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

| CHANGES SINCE LAST EDITION |
|---|
| Adjustment of task title and description. |

### 8.1.2 Staying in control

**Issue/rationale**

This section addresses subjects such as flying skills, pilot awareness and the 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 crew involved. Loss of control accidents are both frequent and severe.

With 409 higher-risk occurrences recorded in the period 2015 to 2017, aircraft upset, including loss of control, is the most significant key risk area for EASA Member States' non-commercial operations with aeroplanes with MTOMs below 5 700 kg with an EASA State of registry.

**What we want to achieve**

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

**How we monitor improvement**

Continuous monitoring of safety issues identified in the SRP for non-commercially operated small aeroplanes as well as for sailplanes and balloons (refer to ASR 2019 Tables 11, 23 and 21 respectively).

**How we want to achieve it: actions**

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

### 8.1.3 Coping with weather

**Issue/rationale**

This section addresses subjects such as entering 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. In the future, the EASA work on weather information to pilots, currently focusing on CAT, will be extended to also include recommendations and possible actions for GA[101].

**What we want to achieve**

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

**How we monitor improvement**

Continuous monitoring of safety issues identified in the SRP for non-commercially operated small aeroplanes as well as for sailplanes and balloons (refer to ASR 2019 Tables 11, 23 and 21 respectively).

[101] https://www.easa.europa.eu/sites/default/files/dfu/EASA-Weather-Information-to-Pilot-Strategy-Paper.pdf

**How we want to achieve it: actions**

| | |
|---|---|
| **SPT.087** | **Weather awareness for pilots** |
| **Safety** | 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 air traffic control (ATC), inadvertent entry into IMC, TEM, and HF. |
| **Status** | Ongoing |
| **Reference(s)** | GASP SEI (industry) - Mitigate contributing factors to LOC-I accidents and incidents |
| **Dependencies** | |

| | | |
|---|---|---|
| **Affected stakeholders** | GA | |
| **Owner** | EASA SM.1 | Safety Intelligence & Performance Department |

| **EXPECTED OUTPUT** | |
|---|---|
| **Deliverable(s)** | **Timeline** |
| Video/media products | 2019 |

| **CHANGES SINCE LAST EDITION** |
|---|
| n/a |

| | |
|---|---|
| **SPT.088** | **Promote instrument flying for GA pilots** |
| **Safety** | 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. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | RMT.0677 |

| | | |
|---|---|---|
| **Affected stakeholders** | GA | |
| **Owner** | EASA SM.1 | Safety Intelligence & Performance Department |

| **EXPECTED OUTPUT** | |
|---|---|
| **Deliverable(s)** | **Timeline** |
| Safety Promotion material | 2020 Q1 |

| **CHANGES SINCE LAST EDITION** |
|---|
| Enhancement of the task description. |

### 8.1.4 Preventing mid-air collisions

**Issue/rationale**

This section addresses subjects such as airspace complexity, airspace infringement and use of technology. Statistics show that 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 collision 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 safety issues identified in the SRP for non-commercially operated small aeroplanes as well as for sailplanes and balloons (refer to ASR 2019 Tables 11, 23 and 21 respectively).

**How we want to achieve it: actions**

| | |
|---|---|
| **RMT.0376** | **Anti-collision and traffic awareness systems for aircraft with MTOMs less than 5 700 kg or less than 19 passengers** |

The full description for this action is included in **Section 6.1.1.3.**

| | |
|---|---|
| **RES.021** | **SESAR 2020 research projects aiming to prevent mid-air collision risks** |
| **Safety** | The following research activities are being addressed under the SESAR 2020 programme:<br>— Enhanced rotorcraft and general aviation operations around airports (TMA) (PJ.01-06);<br>— Enhanced airborne collision avoidance for GA (PJ. 11-A4) – ACAS XP |
| **Status** | Ongoing |
| **Reference(s)** | SESAR solution PJ.01-06 https://www.sesarju.eu/index.php/projects/ead;<br>PJ.11-A4 https://www.sesarju.eu/sesar-solutions/airborne-collision-avoidance-general-aviation-and-rotorcraft-acas-xp |
| **Affected stakeholders** | GA |
| **Owner** | SESAR |

| PLANNING MILESTONES | | |
|---|---|---|
| **Starting date** | **Interim Report** | **Final Report** |
| 2016 | n/a | 2019 Q4 (for PJ.01-06) |

| CHANGES SINCE LAST EDITION |
|---|
| Project planning |

### 8.1.5 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 the pilot's actions, including decisions made while preparing the flight, or due to changing circumstances during the flight. Pilot decisions, including their ability to prioritise workload, affect safety of the aircraft and 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 safety issues identified in the SRP for non-commercially operated small aeroplanes as well as for sailplanes and balloons. (refer to ASR 2019 Tables 11, 23 and 21 respectively).

**How we want to achieve it: actions**

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

## 8.2 Efficiency/proportionality

**Issue/rationale**

This section provides references to 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 and underlying safety issues will continue to be monitored as part of the SRPs for non-commercially operated small aeroplanes, sailplanes and balloons respectively.

The GA Committee (GA.COM) and the GA TeB regularly provide feedback on the effectiveness of the activities that aim at improving efficiency/proportionality and ensuring a level playing field.

**How we want to achieve it: actions**

| | |
|---|---|
| **RMT.0654** | **Revision of the balloon licensing requirements** |
| **RMT.0677** | **Easier access of general aviation (GA) pilots to instrument flight rules (IFR) flying** |
| **RMT.0678** | **Simpler, lighter and better flight crew licensing requirements for general aviation** |
| **RMT.0701** | **Revision of the sailplane licensing requirements** |

The full description for these actions is included in **Section 5.3.**

| | |
|---|---|
| **RMT.0502** | **Regular update of CS for balloons** |
| **RMT.0605** | **Regular update of CS-LSA** |
| **RMT.0690** | **Regular update of CS-STAN** |
| **RMT.0727** | **Alignment of Part 21 with Regulation (EU) 2018/1139 (including simple and proportionate rules for General Aviation)** |

The full description for these actions is included in **Chapter 9.**

| | |
|---|---|
| **RMT.0547** | **Task force for the review of Part-M for general aviation (PHASE II)** |

Refer to **Chapter 10** for the detailed action description.

# 9. Design and production

This chapter includes all the actions that are relevant to design and production, for the drivers safety, efficiency/proportionality and level playing field.

## 9.1 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 accident. 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. For example, the handling of technical failures ranked 7$^{th}$ in the list of safety issues identified in the CAT by aeroplane & NCC operations SRP in 2018 (based on the aggregated ERCS score of those occurrences where this safety issue was present). 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.

In terms of efficiency/proportionality, and 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 technological advancements.

In terms of level playing field, rules may need to be harmonised within the EU as well as with the main international trade partners in order to either ensure fair competition or facilitate the free movement of goods, persons and services.

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

**How we monitor improvement**

Continuous monitoring of safety issues identified in the SRPs for the different types of air operations (see ASR 2019). The EASA ABs regularly provide feedback on the effectiveness of actions in the area of efficiency/proportionality and level playing field.

| | |
|---|---|
| **RMT.0049** | **Aeroplane-level safety assessments of critical systems, specifications for flight control systems and aeroelastic stability** |
| **Safety** | The objective of this RMT is to define a standardised criterion for conducting aeroplane-level safety assessment of specific risks that encompasses all critical aeroplane systems on large aeroplanes (i.e. in particular,r update AMC to CS 25.1309), based on the results of the Aviation Rulemaking Advisory Committee (ARAC) Airplane-level Safety Analysis Working Group (ASAWG).<br>In addition, this RMT will consider<br>— the amendment of AMC 25.1309 taking into account the latest updates of industry documents, such as ED79A/ARP4754A; and<br>— the update of CS 25.671 on safety assessment of flight control systems, based on the results of the ARAC Flight Controls Harmonisation Working Group (FCHWG).<br>Harmonisation with the FAA, the TCCA and ANAC will be ensured as much as possible. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | DAHs | | | |
| **Owner** | | EASA CT.5 | Certification Strategy & Programming Department | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | Yes |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | 25.029 (RMT.0049) Issue 2 18/03/2013 | 2014-02 27/01/2014 | n/a | n/a | 2020 Q1 |

**CHANGES SINCE LAST EDITION**

n/a

| | |
|---|---|
| **RMT.0070** | **Additional airworthiness specifications for operations: fire hazard in Class D cargo compartments** |
| **Safety** | The objective of this RMT is to improve the protection of occupants on board large aeroplanes operated in CAT, by removing the risk of uncontrollable fire in Class D compartments and to harmonise with similar requirements existing in the regulatory framework of bilateral partners. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | Air operators and POA holders | | | |
| **Owner** | | EASA CT.5 | Certification Strategy & Programming Department | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | Yes |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0070 17/09/2010 | 2019-02 01/03/2019 | Opinion 04/2019 07/10/2019 | 2021 Q2 | 2021 Q2 |

**CHANGES SINCE LAST EDITION**

Enhancement of the task description.

| | |
|---|---|
| **RMT.0118** | **Analysis of on-ground wings contamination effect on take-off performance degradation** |
| **Safety** | The objective of this task is to assess the need for an amendment of CS-23 and CS-25 to require applicants performing an assessment of the effect of aircraft aerodynamic surfaces on-ground contamination on take-off performance and on aircraft manoeuvrability and controllability. |
| **Status** | Ongoing |
| **Reference(s)** | CS-23 and CS-25 |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | DOA holders | | | |
| **Owner** | | EASA CT.5 | Certification Strategy & Programming Department | | |
| **Priority** | Yes | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0118 21/03/2017 | 2020 Q1 | n/a | n/a | 2021 Q1 |

**CHANGES SINCE LAST EDITION**

Revision of the task description.

**RMT.0225** **Development of an ageing aircraft structure plan**

**Safety**

The objective of this RMT is to harmonise with existing requirements in the legal framework of bilateral partners and to develop the technical elements for an ageing aircraft structure plan:

- Review and update the supplemental structural inspection programme (SSIP) for effectiveness;
- Review existing corrosion prevention programmes and develop a baseline corrosion prevention/control programme to maintain corrosion to an acceptable level;
- Review all structurally-related service actions/bulletins and determine which require mandatory terminating action or enforcement of special repetitive inspections;
- Develop guidelines to assess the damage tolerance of existing structural repairs, which may have been designed without using damage tolerance criteria. Damage tolerance methodology needs to be applied to future repairs; and
- Evaluate individual aeroplanes design regarding the susceptibility to widespread fatigue damage (WFD) and develop a programme for corrective action.

The rulemaking framework for such issues is complex as it is necessary to address the following items:

- Amendment to CS to improve the standards for ageing aircraft issues. This will address the case of future TC and future amendments to TC, as well as future STC in accordance with the changed product rule; and
- Requirements on existing DAHs to review their existing designs to demonstrate compliance with the amended CS. Requirements on operators to introduce modifications in individual aircraft and maintenance programmes resulting from the design review.

| | |
|---|---|
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | DAHs and air operators | | | |
| **Owner** | | EASA CT.5 | Certification Strategy & Programming Department | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | Yes |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0225<br>(MDM.028)<br>08/05/2007 | 2013-07<br>23/04/2013 | 12/2016<br>10/10/2016 | 2020 Q1 | 2020 Q1 |

**CHANGES SINCE LAST EDITION**

Adjustment of the task description.

| | |
|---|---|
| **RMT.0453** | **Aeroplane ditching survivability** |
| **Safety** | The objective is to amend the certification specifications for large aeroplanes in order to improve the survivability after a ditching.<br>Amendments should be proposed in the structure and cabin safety areas. EASA will take into account the related recommendations issued by the TACDWG (Transport Aircraft Crashworthiness and Ditching Working Group) to the FAA in 2018.' |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | DAHs | | | | |
| **Owner** | EASA CT.5 | Certification Strategy & Programming Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | 2021 Q1 | 2022 Q2 | n/a | n/a | 2023 Q1 |

**CHANGES SINCE LAST EDITION**

Adjustment of the task title.

| | |
|---|---|
| **RMT.0570** | **Reduction of runway excursions** |
| **Safety** | The objective of this task is to increase the level of safety by reducing the number of runway excursions through mandating existing technologies on aeroplanes that allow measurement of the remaining runway left and thus support pilot-decision-making.<br><br>Due to the nature of the comments received on NPA 2013-09, EASA has decided to publish a new NPA on the reduction of runway excursions putting more emphasis on safety objectives against the risk of runway excursions, while providing more flexibility in terms of design solutions. The proposed means to achieve these objectives is to refer to technical standards developed jointly by industry and CAs with the support of an international standardisation body (EUROCAE).<br><br>The Agency issued an Opinion (04/2019) proposing amendments to Part-26, which will be followed by a Decision with related CS-26 (SubT 1). As part of this RMT the Agency will also issue a Decision amending CS-25 (SubT 2). |
| **Status** | Ongoing |
| **Reference(s)** | ATM Master Plan Level 3 – Plan (2019): SAF11 – Improve runway safety by preventing runway excursions |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Air operators, POA holders, applicants for TC/STC | | | | |
| **Owner** | EASA CT.5 | Certification Strategy & Programming Department | | | |
| **Priority** | Yes | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| 1 | RMT.0570<br>09/10/2012 | 2013-09<br>10/5/2013<br>2018-12<br>15/10/2018 | Opinion 04/2019<br>07/10/2019 | 2021 Q2 | 2021 Q2 |
| 2 | | n/a | n/a | n/a | 2019 Q4 |

**CHANGES SINCE LAST EDITION**

Reference to ATM Master Plan Level 3 updated

| | |
|---|---|
| **RMT.0586** | **Tyre pressure monitoring system** |
| **Safety** | The specific objective of this RMT is to ensure that tyres inflation pressure of large aeroplanes remains within the pressure specifications defined by the aircraft manufacturer.<br>The rulemaking proposal should consider better enforcing the operator's responsibility to ensure regular tyre pressure checks, and also the aircraft manufacturer's obligation to define the tyre pressure check procedures and intervals in the instructions for continued airworthiness (ICA); as different practices exist in terms of content and presentation of the information in the aircraft maintenance manual (AMM), it could be proposed to better standardise this ICA item among manufacturers and aircraft.<br>Since a tyre pressure check legal obligation would not always guarantee that the tyres are correctly inflated (e.g. air leakage in the tyre/wheel assembly, maintenance error or negligence, failure/inaccuracy of the inflation equipment, operator not correctly performing the regular checks, etc.), the rulemaking proposal should also include the installation of a tyre pressure monitoring system which will alert the pilots when a tyre pressure is abnormal or out of tolerance.<br><br>The Agency plans to issue a Decision amending CS-25 (Subtask 2), as well as an opinion proposing to the EC an amendment of Part 26; once Part-26 is amended, the Agency will issue a second decision with the related CS-26 specifications to Part-26 (subtask 2). Both subtasks are planned to be conducted in parallel (i.e. common NPA and the opinion on Part 26 in parallel as the Decision amending CS-25). |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | Aeroplane Operators | | | |
| **Owner** | | EASA CT.5 | Certification Strategy & Programming Department | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| 1 | 30/05/2017 | 2020 Q1 | 2021 Q1 | 2022 Q3 | 2022 Q3 |
| 2 | | 2020 Q1 | n/a | n/a | 2021 Q1 |

**CHANGES SINCE LAST EDITION**

Enhancement of the task description. Introduction of Subtask 2. The task status is changed to 'ongoing' from 'de-prioritised'.

| | |
|---|---|
| **RMT.0686** | **HP rotor integrity and loss-of-load (due to shaft failure)** |
| **Safety** | The objective of this RMT is to review and amend CS-E 840 and CS-E 850 to address certification issues for new designs. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | DAHs | | | |
| **Owner** | | EASA CT.5 | Certification Strategy & Programming Department | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | Yes |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | 2021 Q1 | 2022 Q1 | n/a | n/a | 2023 Q1 |

**CHANGES SINCE LAST EDITION**

Adjustment of the task description.

| | |
|---|---|
| **RMT.0709** | **Prevention of catastrophic accidents due to rotorcraft hoist issues** |
| **Safety** | Improvements in the certification specifications and standards relating to the certification of rotorcraft hoists is expected to significantly reduce the risk of catastrophic accidents due to rotorcraft hoists. The current certification specifications relating to the certification of rotorcraft hoists are not being appropriately applied. In addition, some failure modes are not consistently taken into consideration and this is reflected in service experience. A high number of safety occurrences have been reported that are attributed to rotorcraft hoists. The development of an ETSO may allow new hoist designs, which address some existing design shortfalls along with improvements to the rotorcraft external load certification specifications. Moreover, cargo hook aspects will also be considered along with the safety effects to people on the ground during non-human external cargo operations. The task is planned to be developed in cooperation with the FAA. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | DOA holders, POA holders and helicopter operators | | | |
| **Owner** | | EASA CT.5 | Certification Strategy & Programming Department | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | Yes |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | 2020 Q2 | 2021 Q1 | n/a | n/a | 2021 Q3 |

**CHANGES SINCE LAST EDITION**

Enhancement of the task description.

| | |
|---|---|
| **RMT.0710** | **Improvement in the survivability of rotorcraft occupants in the event of a crash** |
| **Safety** | 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 upgrade 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 by the FAA for the ARAC 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 for application to the existing European fleet. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | DOA and POA holders | | | | |
| **Owner** | EASA CT.5 | Certification Strategy & Programming Department | | | |
| **Priority** | Yes | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | 2020 Q1 | 2020 Q3 | 2022 Q1 | 2023 Q1 | 2023 Q1 |

**CHANGES SINCE LAST EDITION**

n/a

| | |
|---|---|
| **RMT.0711** | **Reduction in accidents caused by failures of critical rotor and rotor drive components through improved vibration health monitoring systems** |
| **Safety** | The use of vibration health monitoring (VHM) systems to detect imminent failures of critical rotor and rotor drive components have 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.<br><br>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 to the existing legacy systems. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | DOA and POA holders | | | | |
| **Owner** | EASA CT.5 | Certification Strategy & Programming Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | 2020 Q2 | 2021 Q1 | n/a | n/a | 2021 Q3 |

**CHANGES SINCE LAST EDITION**

n/a

| | |
|---|---|
| **RMT.0713** | **Human factors in rotorcraft design** |
| **Safety HF** | It is widely recognised that human factors contribute either directly or indirectly to a majority of aircraft accidents and incidents and that the design of the flight deck and systems can strongly influence the crew performance and the potential for crew errors.<br><br>Currently, the certification specifications for rotorcraft do not contain any specific requirements for a human factors assessment to be carried out. Large transport aircraft have benefitted from human factor assessments of the design of the flight deck and associated systems. New generation helicopters are characterised by having a high level of integration of cockpit equipment, displays and controls. It is also likely that the future rotorcraft projects, embodying fly-by-wire technology flying controls, will pose new and additional challenges from a human factors perspective.<br><br>The development of certification specifications for human factors in the design of rotorcraft cockpits would mitigate the probability of human factors and pilot workload issues leading to an accident. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | DOA holders | | | |
| **Owner** | | EASA CT.5 | Certification Strategy & Programming Department | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | 31/08/2018 | 2019-11<br>24/10/2019 | n/a | n/a | 2020 Q3 |

**CHANGES SINCE LAST EDITION**

n/a

**RMT.0725** **Rotorcraft chip detection system**

**Safety**

Subtask 1:
CS-27 and CS-29 require the installation of chip detectors to detect particles of ferromagnetic material that are released by elements of the rotor drive system as a result of damage or wear. Chip detectors provide a warning to the crew when particles of a sufficient size (or accumulation of particles) are detected and allow the crew to check the correct operation of the relevant drive system components. However, there is no explicit provision in the CS, nor detailed AMC, for consistently demonstrating that the chip detectors perform their intended function (i.e. particles are collected at a sufficient rate to provide the intended means of detection).

Subtask 2:
The task will also consider proportionate retrospective application of the currently applicable CS-27 and CS-29 to existing fleets and types that are not compliant with the latest provisions.

| | |
|---|---|
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | DOA and POA holders | | | | |
| **Owner** | EASA CT.5 | Certification Strategy & Programming Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| 1 | 2020 Q1 | 2021 Q1 | n/a | n/a | 2022 Q1 |
| 2 | n/a | n/a | 2022 Q1 | 2023 Q3 | 2023 Q3 |

**CHANGES SINCE LAST EDITION**

n/a

| | |
|---|---|
| **RMT.0726** | **Rotorcraft occupant safety in the event of a bird strike** |
| **Safety** | Since the 1980s there have been an increasing number of accidents involving rotorcraft bird strikes where the rotorcraft was not certified in accordance with the latest bird strike protection provisions. 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 provisions for bird strike based on the recommendations of the ARAC Bird Strike WG (rev. B) and also considering proportionate retrospective application of the currently applicable CS-27 and CS-29 to existing fleets and types that are not compliant with the latest provisions. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | DOA and POA holders | | | | |
| **Owner** | EASA CT.5 | Certification Strategy & Programming Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| 1 | 2020 Q3 | 2021 Q3 | n/a | n/a | 2022 Q3 |
| 2 | | | 2022 Q3 | 2024 Q1 | 2024 Q1 |

**CHANGES SINCE LAST EDITION**

Addition recommendation to the task description of the ARAC Bird Strike WG (rev. B)

| | |
|---|---|
| **RMT.0727** | **Alignment of Part 21 with Regulation (EU) 2018/1139 (including simple and proportionate rules for General Aviation)** |
| **Efficiency/ proportionality** | The objective of this RMT is to revisit Part 21 in view of the new and amended requirements introduced with the Basic Regulation. The focus of this task is to introduce simple rules that will allow the application of a proportionate approach for sports and recreational aircraft. It will take into account the various risk levels in GA in the initial airworthiness process, and is aiming at achieving a reduction of 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'.<br><br>In the first phase of this RMT, EASA will develop proposals required by Article 140 (3) of the Basic Regulation and a few other topics such as e.g. the certification of non-installed equipment. EASA will use different means of consultation, which is shown under subtasks 1a and 1b; in the second phase, EASA will develop proposals for the implementation of all amendments to Part 21 as required by the Basic Regulation. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | DOA and POA holders and CAs including EASA | | | | |
| **Owner** | EASA CT.5 | Certification Strategy & Programming Department | | | |
| **Priority** | Yes | **RM Procedure** | See field 'SubT' | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | Consultation | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| 1a: AP | 28/08/2019 | 2019/20 (FoC[102]) | 2020 Q4 | 2022 Q1 | 2022 Q1 |
| 1b: ST | | 2020 Q1 (NPA) | 2020 Q4 | 2022 Q1 | 2022 Q1 |
| 2: ST | | 2022 Q1 | 2023 Q1 | 2024 Q3 | 2024 Q3 |

**CHANGES SINCE LAST EDITION**

n/a

[102] Focused Consultation

| | |
|---|---|
| **RES.010** | **Ice crystal detection** |
| **Safety** | Ice crystal icing phenomenon is still posing 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 is proposed in order to better detect the presence of ice crystal icing and to develop an equipment suitable to detect such a phenomenon. |
| **Status** | Ongoing |
| **Reference(s)** | EU funded project SENS4ICE https://www.sens4ice-project.eu/ |
| **Dependencies** | |

| | | |
|---|---|---|
| **Affected stakeholders** | CAT | |
| **Owner** | EASA SM.0.1 | Strategy & Safety Management Director's Office |

| PLANNING MILESTONES | | |
|---|---|---|
| **Starting date** | **Interim Report** | **Final Report** |
| 2019 Q1 | n/a | 2022 Q4 |

| CHANGES SINCE LAST EDITION |
|---|
| n/a |

| | |
|---|---|
| **RES.014** | **Air data enhanced fault detection and diagnosis** |
| **Safety** | 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).<br><br>They will serve to improve EASA certification standards, and to prepare the evaluation of new designs proposed by the aircraft manufacturers. |
| **Status** | Not started |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | |
|---|---|---|
| **Affected stakeholders** | CAT | |
| **Owner** | EASA SM.0.1 | Strategy & Safety Management Director's Office |

| PLANNING MILESTONES | | |
|---|---|---|
| **Starting date** | **Interim Report** | **Final Report** |
| Not planned yet | Not planned | Not planned |

| CHANGES SINCE LAST EDITION |
|---|
| n/a |

| | |
|---|---|
| **RES.017** | **Icing hazard linked to super cooled large droplet (SLD)** |
| **Safety** | Characterisation of phenomena (SLD icing) and analysis of impact/mitigation for safety in order to develop relevant airworthiness standards and means of compliance.<br><br>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 permit 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 regulation authorities.<br><br>EASA is contributing to this research project in an advisory role. |
| **Status** | Ongoing |
| **Reference(s)** | EU funded project ICE GENESIS |
| **Dependencies** | |

| | | |
|---|---|---|
| **Affected stakeholders** | CAT, DO | |
| **Owner** | EASA SM.0.1 | Strategy & Safety Management Director's Office |

| PLANNING MILESTONES | | |
|---|---|---|
| **Starting date** | **Interim Report** | **Final Report** |
| 2019 Q1 | n/a | 2022 Q4 |

| CHANGES SINCE LAST EDITION |
|---|
| Enhancement of the task description. This research action is followed up by the H2020 funded research project ICE GENESIS. |

| | |
|---|---|
| **RES.027** | **Sandwich structured composites** |
| **Safety** | This research project shall help to develop further insight and 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 regulatory material for initial and continuous airworthiness. This project has a high priority from a safety and environmental perspective. |
| **Status** | New. Not started |
| **Reference(s)** | Composite Material Handbook 17 (CMH-17) |
| **Dependencies** | n/a |

| | | |
|---|---|---|
| **Affected stakeholders** | DO, MO | |
| **Owner** | EASA SM.0.1 | Strategy & Safety Management Director's Office |

| PLANNING MILESTONES | | |
|---|---|---|
| **Starting date** | **Interim Report** | **Final Report** |
| 2021 Q1 | 2022 Q4 | 2024 Q1 |

| CHANGES SINCE LAST EDITION |
|---|
| n/a |

## 9.2 Level playing field

| | |
|---|---|
| **RMT.0252** | **Instructions for continued airworthiness (ICA)** |
| **Level playing field** | The objective of this RMT is to revisit the existing requirements on ICA as follows:<br><br>Subtask 1:<br>— Definition and identification of ICA (to be provided during the certification process);<br>— Completeness of ICA (during the certification process); and<br>— LOI of the CA (during the certification process).<br><br>Subtask 2:<br>— Availability of ICA (to owners, operators, MOs, etc.)<br><br>Subtask 3:<br>MRB scheduling Information (guidance on the MRB process) -> **cancelled**<br><br>Subtask 4:<br>— Acceptance/approval of ICAs by other than the authority.<br><br>Subtask 5:<br>— Certification maintenance requirements.<br>With regard to Subtasks 1, 2 and 4, EASA developed an NPA, which was published in 2018. Following the NPA public consultation, EASA will develop an opinion proposing amendments to Regulation (EU) No 748/2012 (Initial Airworthiness) and Regulation (EU) No 1321/2014 (Continuing Airworthiness). Subtask 5, is completed with the amendment to CS-25 (ED Decision 2017/018/R issued on 30/08/2017). |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | DAHs and POA holders | | | | |
| **Owner** | EASA CT.5 | Certification Strategy & Programming Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| 5 | RMT.0252<br>15/05/2013 | 2016-15<br>23/11/2016 | n/a | n/a | 2017/018/R<br>30/8/2017 |
| 1,2,4 | | 2018-01<br>29/01/2018 | 2019 Q4 | 2021 Q3 | 2021 Q3 |

**CHANGES SINCE LAST EDITION**

n/a

| | |
|---|---|
| **RMT.0348** | **Flights related to design and production activities** |
| **Level playing field** | To establish IRs and associated AMC & GM on operational requirements for flights related to design and production activities ('manufacturers flights'). |
| **Status** | On hold (until further notice) |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | DOA and POA holders | | | | |
| **Owner** | EASA FS.2 | Air Operations Department | | | |
| **Priority** | No | **RM Procedure** | tbd | **Harmonisation** | tbd |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | | | | | |

**CHANGES SINCE LAST EDITION**

This task is put on hold due to resource restrictions, giving priority to more pressing matters. Nonetheless, EASA is still following the development and envisages integrating it into next available rulemaking opportunities.

| | |
|---|---|
| **RMT.0561** | **Update of AMC-20 — in-flight entertainment (IFE), lead-free soldering, harmonisation of safety and software criteria** |
| **Level playing field** | The objective of this task is to address issues related to those parts of AMC-20 that contain provisions on airworthiness for various systems that can be installed on different aircraft categories; namely, related to the criteria for safety assurance and software development, lead-free soldering and IFE systems.<br>While the Decision amending AMC-20 on all other subjects was published in 2019, the guidance on lead-free soldering will be finalised in a separate Decision to be published in 2020 |
| **Status** | ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | AOC holders, POA holders of aircraft and equipment | | | | |
| **Owner** | EASA CT.5 | Certification Strategy & Programming Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0561<br>20/07/2015 | 2017-09<br>22/06/2017 | n/a | n/a | ED Decision<br>2019/019/R<br>17/09/2019 |
| | | | | | 2020 Q2 |

**CHANGES SINCE LAST EDITION**

n/a

| | |
|---|---|
| **RMT.0695** | **Non-ETOPS operations using performance class A aeroplanes with an MOPSC of 19 or less** |
| **Level playing field** | The objective is to accommodate new business-jet aeroplanes operated by European CAT operators in the 180' non-ETOPS category. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | DOA holders, AOC holders (CAT) | | | | |
| **Owner** | EASA FS.2 | Air Operations Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0695<br>15/12/2015 | 2017-15<br>25/09/2017 | 2019-02<br>22/02/2019 | 2020 Q2 | 2020 Q2 |

**CHANGES SINCE LAST EDITION**

n/a

## 9.3 Efficiency/proportionality

| | |
|---|---|
| **RMT.0031** | **Regular update of AMC & GM to Part 21** |
| **Efficiency/ proportionality** | The objective of this RMT is to regularly address miscellaneous issues of non-controversial nature, which are required to ensure that the AMC & GM to Part 21 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 transpose 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. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Design and production organisations, NAAs, the Agency (on a case-by-case basis) | | | | |
| **Owner** | EASA CT.5 | Certification Strategy & Programming Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| DOA issues | RMT.0031 15/12/2016 | 2019 Q4 | n/a | n/a | 2020 Q2 |
| POA issues | | 2021 Q2 | n/a | n/a | 2022 Q1 |

**CHANGES SINCE LAST EDITION**

Addition of the task description.

| | |
|---|---|
| **RMT.0037** | **Regular update of CS-22** |
| **Efficiency/ proportionality** | The objective of this RMT is to regularly address miscellaneous issues of non-controversial nature, which are required to ensure that the CS are fit for purpose, cost-effective andcan be implemented in practice.In particular, a regular update is used to transpose special conditions, 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. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Sailplane and powered sailplane manufacturers and other design organisations dealing with supplemental type certificates (STCs), repairs or changes to sailplanes or powered sailplanes. | | | | |
| **Owner** | EASA CT.5 | Certification Strategy & Programming Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0037 14/01/2016 | 2020 Q2 | n/a | n/a | 2020 Q4 |

**CHANGES SINCE LAST EDITION**

Addition of the task description.

| | |
|---|---|
| **RMT.0128** | **Regular update of CS-27&29, and CS-VLR** |
| **Efficiency/ proportionality** | The objective of this RMT is to regularly address miscellaneous issues of non-controversial nature, which are required 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 transpose special conditions, 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. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | DAHs; rotorcraft manufacturers and other design organisations dealing with Supplemental Type Certificates, repairs or changes to rotorcraft | | | | |
| **Owner** | EASA CT.5 | Certification Strategy & Programming Department | | | |
| **Priority** | No | RM Procedure | Standard | Harmonisation | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| Current | RMT.0128 29/09/2016 | 2021 Q1 | n/a | n/a | 2021 Q4 |
| Next | | 2022 Q4 | n/a | n/a | 2023 Q3 |

**CHANGES SINCE LAST EDITION**

Addition of the task description.

| | |
|---|---|
| **RMT.0134** | **Regular update of rotorcraft AMC** |
| **Efficiency/ proportionality** | The objective of this RMT is to regularly address miscellaneous issues of non-controversial nature, which are required to ensure that the AMC to CS-27&29, CS-VLR 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 transpose special conditions, 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. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | DAHs | | | |
| **Owner** | | EASA CT.5 | Certification Strategy & Programming Department | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| Current | RMT.0134 20/10/2010 | 2021 Q1 | n/a | n/a | 2021 Q4 |
| Next | | 2022 Q4 | n/a | n/a | 2023 Q3 |

**CHANGES SINCE LAST EDITION**

Addition of the task description.

| | |
|---|---|
| **RMT.0180** | **CS-E engine testing, endurance/IMI/ETOPS** |
| **Efficiency/ proportionality** | The objective of this RMT is to review the existing engine test requirements that are required prior to entry into service in order to assess their suitability for all engines. Consideration will be given to introducing an alternate endurance test and also tests to identify any reliability and integrity issues prior to the engine entering service. The current requirements may not adequately address the current state of the art and technological advancements in modern engines. Prior to the issue of a TC, these engine tests should be conducted at conditions that are representative of those expected to occur in service. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | DAHs | | | |
| **Owner** | | EASA CT.5 | Certification Strategy & Programming Department | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | 2021 Q1 | 2022 Q1 | n/a | n/a | 2023 Q1 |

**CHANGES SINCE LAST EDITION**

Addition of the task description.

| | |
|---|---|
| **RMT.0184** | **Regular update of CS-E** |
| **Efficiency/ proportionality** | The objective of this RMT is to regularly address miscellaneous issues of non-controversial nature, which are required 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 transpose special conditions, 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. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | Engine manufacturers | | | |
| **Owner** | | EASA CT.5 | Certification Strategy & Programming Department | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| Current | RMT.0184 27/07/2015 | 2021 Q1 | n/a | n/a | 2022 Q1 |
| Next | | 2023 Q2 | n/a | n/a | 2024 Q1 |

**CHANGES SINCE LAST EDITION**

Addition of the task description.

| | |
|---|---|
| **RMT.0457** | **Regular update of CS-ETSO** |
| **Efficiency/ proportionality** | The objective of this RMT is to regularly address miscellaneous issues of non-controversial nature, which are required 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 transpose special conditions, 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. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | RMT.0230 |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | Design and production organisation | | | |
| **Owner** | | EASA CT.5 | Certification Strategy & Programming Department | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| Current | RMT.0457 21/08/2015 | 2019-06 22/05/2019 | n/a | n/a | 2020 Q1 |
| Next | | 2021 Q1 | n/a | n/a | 2022 Q1 |
| Next | | 2022 Q3 | n/a | n/a | 2023 Q1 |

**CHANGES SINCE LAST EDITION**

Adjustment of the task title. Addition of the task description.

| | |
|---|---|
| **RMT.0499** | **Regular update of CS-MMEL** |
| **Efficiency/ proportionality** | The objective of this RMT is to regularly address miscellaneous issues of non-controversial nature, which are required 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 transpose special conditions, 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. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Design organisations of complex motor-powered aircraft and other design organisations dealing with changes or supplemental type certificates to these aircraft,<br>Design organisations of other-than-complex motor-powered aircraft | | | | |
| **Owner** | EASA CT.5 | Certification Strategy & Programming Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0499<br>09/04/2018 | 2018-08<br>22/08/2018 | n/a | n/a | 2020 Q1 |

**CHANGES SINCE LAST EDITION**

Addition of the task description.

| RMT.0502 | **Regular update of CS for balloons** |
|---|---|
| **Efficiency/ proportionality** | The objective of this RMT is to regularly address miscellaneous issues of non-controversial nature, which are required to ensure that the CS are fit for purpose, cost-effective andcan be implemented in practice.In particular, a regular update is used to transpose special conditions, 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. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | Balloon DAHs | | | |
| **Owner** | | EASA CT.5 | Certification Strategy & Programming Department | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

| PLANNING MILESTONES | | | | | |
|---|---|---|---|---|---|
| **SubT** | **ToR** | **NPA** | **Opinion** | **Commission IR** | **Decision** |
| | tbd | tbd | n/a | n/a | tbd |

| CHANGES SINCE LAST EDITION |
|---|
| Addition of the task description. |

| RMT.0503 | **Regular update of CS-APU** |
|---|---|
| **Efficiency/ proportionality** | The objective of this RMT is to regularly address miscellaneous issues of non-controversial nature, which are required 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 transpose special conditions, 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. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | DAHs | | | |
| **Owner** | | EASA CT.5 | Certification Strategy & Programming Department | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

| PLANNING MILESTONES | | | | | |
|---|---|---|---|---|---|
| **SubT** | **ToR** | **NPA** | **Opinion** | **Commission IR** | **Decision** |
| | tbd | tbd | n/a | n/a | tbd |

| CHANGES SINCE LAST EDITION |
|---|
| Addition of the task description. |

| | |
|---|---|
| **RMT.0508** | **Regular update of CS-CCD (Certification Specifications for Cabin Crew Data)** |
| **Efficiency/ proportionality** | The objective of this RMT is to regularly address miscellaneous issues of non-controversial nature, which are required 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 transpose special conditions, 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. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Design Organisations of complex motor-powered aircraft and other design organisations dealing with changes or supplemental type certificates to these aircraft | | | | |
| **Owner** | EASA CT.5 | Certification Strategy & Programming Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | 10/09/2019 | 2020 Q2 | n/a | n/a | 2020 Q4 |

**CHANGES SINCE LAST EDITION**

Addition of the task description.

| | |
|---|---|
| **RMT.0519** | **Regular update of CS-ACNS** |
| **Efficiency/ proportionality** | The objective of this RMT is to regularly address miscellaneous issues of non-controversial nature, which are required 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 transpose special conditions, 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. |
| **Status** | Ongoing |
| **Reference(s)** | ATM Master Plan Level 3 – Plan (2019): ITY-SPI – Surveillance performance and interoperability |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Aircraft operators, POA holders, DOA holders, and NAAs | | | | |
| **Owner** | EASA CT.5 | Certification Strategy & Programming Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0519<br>12/09/2015 | 2018-02<br>22/02/2018 | n/a | n/a | Decision<br>2019/011/R<br>30/04/2019 |
| Current | | 2020 Q3 | n/a | n/a | 2021 Q2 |
| Next | | 2022 Q3 | n/a | n/a | 2023 Q2 |

**CHANGES SINCE LAST EDITION**

Addition of the task description. ATM Master Plan reference updated.

| | |
|---|---|
| **RMT.0605** | **Regular update of CS-LSA** |
| **Efficiency/ proportionality** | The objective of this RMT is to regularly address miscellaneous issues of non-controversial nature, which are required 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 transpose special conditions, 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. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | LSA DAHs | | | |
| **Owner** | | EASA CT.5 | Certification Strategy & Programming Department | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0605 14/01/2016 | 2021 Q2 | n/a | n/a | 2022 Q1 |

**CHANGES SINCE LAST EDITION**

Addition of the task description.

| | |
|---|---|
| **RMT.0643** | **Regular update of AMC-20** |
| **Efficiency/ proportionality** | The objective of this RMT is to regularly address miscellaneous issues of non-controversial nature, which are required 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 transpose special conditions, 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.<br><br>Subtask 1: AMC 20-152 on Airborne Electronic Hardware and AMC 20-189 on Management of Open Problem Reports; harmonised with the FAA<br>Subtask 2: HIRF and lightning<br>Subtask 3: Multi core processors<br>Subtask 4: ETOPS, EWIS<br>Subtask 5: Next cycle |
| **Status** | Ongoing |
| **Reference(s)** | ATM Master Plan Level 3 – Plan (2019): NAV10 – RNP Approach procedures to instrument RWY |
| **Dependencies** | RMT.0681 |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Manufacturers, maintenance organisations and air operators | | | | |
| **Owner** | EASA CT.5 | Certification Strategy & Programming Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | SubT 1: Yes |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| 1 | RMT.0643 20/07/2015 | 2018-09 24/08/2018 | n/a | n/a | 2019 Q4 |
| 2 | | 2020 Q2 | n/a | n/a | 2021 Q2 |
| 3 | | 2020 Q3 | n/a | n/a | 2021 Q3 |
| 4 | | 2020 Q2 | n/a | n/a | 2021 Q1 |
| 5 | | 2022 Q3 | n/a | n/a | 2023 Q1 |

**CHANGES SINCE LAST EDITION**

Addition of the task description and subtasks. ATM Master Plan reference updated.

| | |
|---|---|
| **RMT.0673** | **Regular update of CS-25** |
| **Efficiency/ proportionality** | The objective of this RMT is to regularly address miscellaneous issues of non-controversial nature, which are required 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 transpose special conditions, 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. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | Large aeroplane DAHs | | | |
| **Owner** | | EASA CT.5 | Certification Strategy & Programming Department | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| Current | RMT.0673 27/04/2015 | 2019 Q4 | n/a | n/a | 2020 Q3 |
| Next | | 2021 Q1 | n/a | n/a | 2022 Q1 |

**CHANGES SINCE LAST EDITION**

Addition of the task description.

| | |
|---|---|
| **RMT.0684** | **Regular update of CS-P** |
| **Efficiency/ proportionality** | The objective of this RMT is to regularly address miscellaneous issues of non-controversial nature, which are required 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 transpose special conditions, 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. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | Propeller DAHs | | | |
| **Owner** | | EASA CT.5 | Certification Strategy & Programming Department | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | tbd | tbd | n/a | n/a | tbd |

**CHANGES SINCE LAST EDITION**

Addition of the task description.

| | |
|---|---|
| **RMT.0687** | **Regular update of CS-23** |
| **Efficiency/ proportionality** | The objective of this RMT is to regularly address miscellaneous issues of non-controversial nature, which are required 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 transpose special conditions, 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.<br><br>Note: SubT 2 is the current cycle, SubT 3 is the next cycle.<br><br>*Instead of an NPA public consultation, the procedure in Article 15 or that in Article 16 of MB Decision No 18-2015 will be applied (the date indicates the end of the consultation) |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | DAHs | | | |
| **Owner** | | EASA CT.5 | Certification Strategy & Programming Department | | |
| **Priority** | No | **RM Procedure** | See SubT | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA* | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| 1(AP) | RMT.0687 09/08/2017 | 06/09/2019* | n/a | n/a | 2019/020/R 08/10/2019 |
| 2(ST) | | 2021 Q1 | n/a | n/a | 2021 Q3 |
| 3(DP) | | 2022 Q2* | n/a | n/a | 2022 Q3 |

**CHANGES SINCE LAST EDITION**

Addition of the task description.

| | |
|---|---|
| **RMT.0688** | **Regular update of CS-SIMD** |
| **Efficiency/pro-portionality** | The objective of this RMT is to regularly address miscellaneous issues of non-controversial nature, which are required 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 transpose special conditions, 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. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Applicants for aircraft type certificates for which the pilot type rating training makes use of approved full flight simulators (level B, C, D) or flight training devices for helicopters, and other applicants dealing with changes to an already approved definition of scope of validation source data | | | | |
| **Owner** | EASA CT.5 | Certification Strategy & Programming Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | 16/10/2019 | 2020 Q3 | n/a | n/a | 2021 Q1 |

**CHANGES SINCE LAST EDITION**

Addition of the task description.

| | |
|---|---|
| **RMT.0690** | **Regular update of CS-STAN** |
| **Efficiency/pro portionality** | The objective of this RMT is to regularly address miscellaneous issues of non-controversial nature, which are required to ensure that the CS are fit for purpose, cost-effective, can be implemented in practice. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Operators other than airlines, AMOs (Part-145 and Part-M Subpart F) , and maintenance engineers or mechanics | | | | |
| **Owner** | EASA CT.5 | Certification Strategy & Programming Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| Current | RMT.0690 09/06/2016 | 2021 Q1 | n/a | n/a | 2022 Q1 |
| Next | | 2023 Q1 | n/a | n/a | 2024 Q1 |

**CHANGES SINCE LAST EDITION**

Addition of the task description.

| | |
|---|---|
| **RMT.0712** | **Enhancement of the safety assessment processes for rotorcraft designs** |
| **Efficiency/ proportionality** | The safety assessment of the design of aircraft systems and equipment can help to identify shortfalls in the robustness of the design and also help aircraft designers to 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.<br><br>The safety requirements for equipment, systems and installations contained in the CSs should be improved for small and large rotorcraft to reflect current best practice for safety assessment.<br>The FAA is also developing new rules for the safety assessment of rotorcraft and these changes will create significant standard differences between the EU and US regulations and are likely to result in a lower regulatory efficiency. The proposed RMT also aims at reviewing these changes to achieve harmonisation where possible. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | DAHs and POA holders | | | |
| **Owner** | | EASA CT.5 | Certification Strategy & Programming Department | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | Yes |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0712 15/10/2018 | 2021 Q1 | n/a | n/a | 2022 Q1 |

**CHANGES SINCE LAST EDITION**

n/a

| | |
|---|---|
| **RMT.0714** | **Enablement of the safe introduction of rotorcraft fly-by-wire technology** |
| **Efficiency/ proportionality** | Currently, civil rotorcraft are equipped with mechanical flight controls (with or without hydraulic assistance), and trim and automatic flight control system (AFCS) functions are typically introduced in the mechanical flight control chains. Fly-by-wire (FbW/FBW) technology has been in service on civil large aeroplanes for more than 40 years and this technology is now being applied to civil rotorcraft. This technology allows the introduction of advanced flight control laws and flight control protections which greatly increase the complexity of the flight control system and integration with the other systems and interaction with the aircraft handling qualities. FbW flight control systems are both highly complex and highly safety-critical.<br><br>EASA has already been involved in a validation activity with a US applicant, for which a set of dedicated and bespoke requirements are being developed by the FAA and EASA. It is expected that there will be an application for a design containing FBW technology from an EU applicant shortly.<br>It is for these reasons that appropriate certification specifications for rotorcraft FbW systems should be developed in cooperation with the FAA to enable the safe introduction of this technology to rotorcraft. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | DAHs and POA holders | | | | |
| **Owner** | EASA CT.5 | Certification Strategy & Programming Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | Yes |

| PLANNING MILESTONES | | | | | |
|---|---|---|---|---|---|
| **SubT** | **ToR** | **NPA** | **Opinion** | **Commission IR** | **Decision** |
| | 2020 Q1 | 2021 Q3 | n/a | n/a | 2022 Q2 |

| CHANGES SINCE LAST EDITION |
|---|
| n/a |

In addition to the above RMTs, the following RMT is directly relevant to design and production:

| | |
|---|---|
| **RMT.0018** | **Installation of parts and appliances that are released without an EASA Form 1 or equivalent** |

The full description for this action is included in **Chapter 10.**

| | |
|---|---|
| **EVT.0007** | **Evaluation on Regulation (EU) No 748/2012** |
| **Efficiency/ proportionality** | 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** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | |
|---|---|---|
| **Affected stakeholders** | EASA Part 21 organisations (DOA and POA holders, ETSOA holders, etc.), CAs | |
| **Owner** | EASA CT.5 | Certification Strategy & Programming Department |

**EXPECTED OUTPUT**

| **Deliverable(s)** | **Timeline** |
|---|---|
| Evaluation report | 2021 |

**CHANGES SINCE LAST EDITION**

Adjustment of the task description.

# 10. Maintenance and continuing airworthiness management

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.

**Issue/rationale**

Like in the case of design and manufacture improvements, maintenance 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 accident. 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. 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.

Certain existing requirements are either not efficient or not proportionate to the risks involved.

In terms of level playing field, rules may need to be harmonised within the EU as well as with the main international trade partners in order to either ensure fair competition or facilitate the free movement of goods, persons and services.

**What we want to achieve**

Increase safety by continuously assessing and improving risk controls related to maintenance. Increase proportionality and efficiency in the continuing airworthiness field. Harmonise requirements where this ensures fair competition or facilitates the free movement of goods, persons and services.

**How we monitor improvement**

Continuous monitoring of safety issues identified in the SRPs for the different types of air operations (see ASR 2019). The EASA ABs regularly provide feedback on the effectiveness of the actions in terms of efficiency/proportionality and level playing field.

## 10.1 Safety

| | |
|---|---|
| **RMT.0097** | **Functions of B1 and B2 support staff and responsibilities** |
| **Safety** | Introduce principles for increased robustness of the maintenance certification process eliminating potential 'safety gaps' by clarifying the roles and responsibilities of certifying staff, support staff and 'sign-off' staff, both in line and base maintenance. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | Part-145 MOs | | | |
| **Owner** | | EASA FS.1 | Maintenance & Production Department | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0097<br>02/11/2011 | 2014-11<br>13/05/2014 | 2021 Q3 | 2022 Q3 | 2022 Q3 |

**CHANGES SINCE LAST EDITION**

The task status is changed to 'ongoing' from 'de-prioritised'.

| **RMT.0217** | **CAMOs' and Part-145 organisations' responsibilities** |
|---|---|
| **Safety** | Establishment of the principles to mitigate the risks linked to a faulty assessment and coordination of the responsibilities of CAMOs and Part-145 organisations, especially in complex, multi-tier and subcontracted maintenance. |
| **Status** | This task is de-prioritised in accordance with the criteria described in Chapter 3. |
| **Reference(s)** | n/a |
| **Dependencies** | RMT.0251 |

| **Affected stakeholders** | Air operators and CAMOs | | | | |
|---|---|---|---|---|---|
| **Owner** | EASA FS.1 | Maintenance & Production Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0217<br>12/03/2013 | 2014-27<br>02/12/2014 | tbd | tbd | tbd |

**CHANGES SINCE LAST EDITION**

n/a

| **RMT.0276** | **Technical records** |
|---|---|
| **Safety** | Clarification of criteria for preventing incomplete records. Incomplete records may lead to a wrong assessment of the airworthiness status of the product with a consequent safety risk, development of back-to-birth concept, components traceability, and use of radio frequency identification devices (RFIDs). |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| **Affected stakeholders** | Air operators, CAMOs and AMOs (Part-145 and Part-M Subpart-F) | | | | |
|---|---|---|---|---|---|
| **Owner** | EASA FS.1 | Maintenance & Production Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0276<br>28/11/2011 | 2014-04<br>07/02/2014 | 13/2016<br>17/11/2016 | 2019/1383 of<br>08/07/2019[103] | 2020 Q1 |

**CHANGES SINCE LAST EDITION**

n/a

[103] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L_.2019.228.01.0001.01.ENG&toc=OJ%3AL%3A2019%3A228%3ATOC

| | |
|---|---|
| **RMT.0521** | **Airworthiness review process** |
| **Safety** | Performance of 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. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | Air operators, CAMOs and CAs | | | |
| **Owner** | | EASA FS.1 | Maintenance & Production Department | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0521/2<br>07/05/2013 | 2015-17<br>05/11/2015 | 2021 Q3 | 2022 Q3 | 2022 Q3 |

**CHANGES SINCE LAST EDITION**

The task status is changed to ‘ongoing’ from ‘de-prioritised’.

| | |
|---|---|
| **RMT.0588** | **Aircraft continuing airworthiness monitoring — review of key risk elements** |
| **Safety** | Considering the implementation experience (including Standardisation feedback), the objective 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:<br>— assess if the requirements adequately address the processing of key risk elements (KREs) requiring annual reviews to ensure that all regulatory references remain up to date; and<br>— assess the appropriateness of each KRE,<br>— determine the need for additional KREs, and<br>— review the adequacy and pertinence of typical inspection items included. |
| **Status** | Ongoing |
| **Reference(s)** | AMC3 M.B.303(b), GM1 M.B.303(b) and Appendix III to GM1 M.B.303(b) |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | CAs, CAMOs | | | |
| **Owner** | | EASA FS.1 | Maintenance & Production Department | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | 2021 Q1 | 2022 Q1 | n/a | n/a | 2023 Q1 |

**CHANGES SINCE LAST EDITION**

n/a

| | |
|---|---|
| **SPT.104** | **Develop new safety promotion material on high-profile maintenance safety issues** |
| **Safety** | Develop new safety promotion material on high-profile safety issues in the maintenance domain. Such high-profile safety issues are to be determined from important risks identified from the SRM process, accidents/serious incidents and inputs from EASA stakeholders. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | |
|---|---|---|
| **Affected stakeholders** | ALL | |
| **Owner** | EASA SM.1 | Maintenance & Production Department |

| **EXPECTED OUTPUT** | |
|---|---|
| **Deliverable(s)** | **Timeline** |
| Leaflets, videos, web pages and/or applications | Continuous |

| **CHANGES SINCE LAST EDITION** |
|---|
| n/a |

## 10.2 Level playing field

| | |
|---|---|
| **RMT.0096** | **Amendments (IRs and AMC & GM) in line with the process of granting foreign Part-145 approvals** |
| **Level playing field** | The objective of this RMT is to modify existing or adopt additional AMC to Part-145, in order to solve current shortcomings and inconsistencies when dealing with foreign maintenance organisations, i.e. 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.<br><br>In most of the cases, these proposals cover issues that have already been discussed with accredited CAs working on behalf of the Agency or issues where the Agency has provided interpretation. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | AMOs (Part-145) | | | |
| **Owner** | | EASA FS.1 | Maintenance & Production Department | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0096 (145.023) 17/06/2008 | 2013-12 11/07/2013 | n/a | n/a | 2020 Q3 |

**CHANGES SINCE LAST EDITION**

n/a

## 10.3 Efficiency/proportionality

| | |
|---|---|
| **RMT.0018** | **Installation of parts and appliances that are released without an EASA Form 1 or equivalent** |
| **Efficiency/proportionality** | The intent of this task is:<br>— to provide a consistent interpretation of the definition of 'parts & appliances' and other terms used in the various rules;<br>— to develop criteria for the acceptance of parts and appliances with different production background for installation in certified aircraft;<br>— to create a parts classification for commercial parts, allowing an installer to install commercial parts on a type-certified product without having to obtain parts manufactured under a POA. This proposal will also allow manufacturers to continue to use parts now categorised as commercial parts in their type designs. The added benefit of the proposal is to have the manufacturers identify for EASA approval the commercial parts they intend to use;<br>— to develop criteria for production and release of parts and appliances proportionate to the potential impact on safety as determined in the design certification process;<br>— to develop the draft amendments to Regulations (EU) Nos 748/2012 and 1321/2014 as necessary to incorporate the above concepts and integrate the existing alleviations for sailplanes and European light aircraft (ELA);<br>— to develop the necessary AMC and GM to accompany the amendments to the regulations;<br>— to develop AMC and GM to support the interpretation of the above-mentioned provisions in the Basic Regulation related to parts and appliances; and<br>— to elaborate the AMC and GM related to standard parts. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | DAHs, POA holders, aircraft operators, AMOs (Part-145 and Part-M Subpart F) and maintenance personnel | | | | |
| **Owner** | EASA FS.1 | Maintenance & Production Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0018<br>01/11/2012 | 2017-19<br>14/12/2017 | 2019 Q4 | 2021 Q3 | 2021 Q3 |

**CHANGES SINCE LAST EDITION**

n/a

| | |
|---|---|
| **RMT.0547** | **Task force for the review of Part-M for general aviation (PHASE II)** |
| **Efficiency/proportionality** | The following important topics are part of this task:<br>— Light Part-M;<br>— Defect management; and<br>— Time between overhaul (TBO) extension. |
| **Status** | Ongoing. |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | AMOs (Part-145 and Part-M Subpart F), CAMOs, operators other than airlines, GA and CAs | | | | |
| **Owner** | EASA FS.1 | Maintenance & Production Department | | | |
| **Priority** | Yes | **RM Procedure** | Standard | **Harmonisation** | No |

| PLANNING MILESTONES | | | | | |
|---|---|---|---|---|---|
| **SubT** | **ToR** | **NPA** | **Opinion** | **Commission IR** | **Decision** |
| | RMT.0547<br>23/10/2012 | 2015-08<br>09/07/2015 | 05/2016<br>13/04/2016 | 2019/1383 of<br>08/07/2019[104] | 2020 Q1 |

| CHANGES SINCE LAST EDITION |
|---|
| n/a |

In addition to the above RMTs, the following RMT is directly relevant to maintenance and continuing airworthiness management:

| | |
|---|---|
| **RMT.0690** | **Regular update of CS-STAN** |

The full description for this action is included in **Chapter 9.**

Finally, the below actions are directly relevant to maintenance and continuing airworthiness management:

| | |
|---|---|
| **SPT.106** | **Prevention, detection and mitigation of fraud cases in Part-147 organisations** |

| | |
|---|---|
| **MST.035** | **Oversight capabilities/focus area: fraud cases in Part-147** |

The full description is included in Section **5.3.5**.

[104] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L_.2019.228.01.0001.01.ENG&toc=OJ%3AL%3A2019%3A228%3ATOC

# 11. Air traffic management/air navigation services

**Issue/rationale**

There is still a lack of harmonised rules based on ICAO SARPs in order to ensure compliance with the essential requirements that apply to ATM/ANS. In addition, Regulation (EC) No 552/2004 has been repealed, so new rules must ensure that ATM/ANS systems and their constituents are successfully designed, manufactured and installed. If not, the achievement of the overall objectives of ATM/ANS may be compromised.

**What we want to achieve**

Regulation (EU) 2017/373 requires the inclusion of additional requirements concerning flight procedure design, ATS, AIS/AIM. Safe and cost-effective ATM/ANS provision also needs to ensure harmonised conformity assessment of their supporting systems and constituents, so that the equipment involved performs as expected during the intended operation. After the adoption of the new rules, implementation issues associated with ATM/ANS systems and constituents should decrease, especially those related to lack of interoperability and performance that may have an impact on operations.

**How we monitor improvement**

The key risk areas and underlying safety issues will continue to be monitored as part of the SRP for ATM and ANS, with the support of the ATM CAG. The EASA ABs regularly provide feedback on the efficiency/proportionality of the actions.

## 11.1 Safety

The top three KRAs for ATM/ANS are listed below (refer to ASR 2019 Figure 86 and Table 30).

| **ATM/ANS** | | |
|---|---|---|
| KRA 1 | KRA 2 | KRA 3 |
| Runway collision | Airborne collision | Runway excursion |

**How we want to achieve it: actions**

| | |
|---|---|
| **RMT.0469** | **Assessment of changes to functional systems by service providers in ATM/ANS and the oversight of these changes by CAs** |
| **Safety** | Development of the necessary AMC & GM for the service providers and the CAs. |
| **Status** | This RMT is completed in 2019. |
| **Reference(s)** | n/a |
| **Dependencies** | RMT.0470 |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | ANSPs, CAs | | | | |
| **Owner** | EASA FS.4 | ATM/ANS & Aerodromes Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| 1 | RMT.0469 and RMT.0470 19/06/2012 | 2014-13 24/06/2014 | 03/2014 16/12/2014 | 2017/373 of 01/03/2017[105] | 2017/001/R 08/03/2017 |
| 2 | | 2017-10 28/06/2017 | n/a | n/a | 2019/022/R 30/10/2019 |

**CHANGES SINCE LAST EDITION**

n/a

| | |
|---|---|
| **SPT.103** | **Development of new safety promotion material on high-profile air traffic management safety issues** |
| **Safety** | Develop new safety promotion material on high-profile safety issues for ATM. Such high-profile safety issues are to be determined from important risks identified from the SRM process, accidents/serious incidents and inputs from EASA stakeholders. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | |
|---|---|---|---|
| **Affected stakeholders** | CAT | | |
| **Owner** | EASA SM.1 | Safety Intelligence & Performance Department | |

**EXPECTED OUTPUT**

| Deliverable(s) | Timeline |
|---|---|
| Leaflets, videos, web pages and/or applications | Continuous |

**CHANGES SINCE LAST EDITION**

n/a

[105] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32017R0373

## 11.2 Efficiency/proportionality

| | |
|---|---|
| **RMT.0161** | **Conformity assessment** |
| **Efficiency/ proportionality** | The development and introduction of systems necessitate that ground systems and constituents used in the provision of ATM/ANS demonstrate compliance with relevant requirements for safety, performance and interoperability in order to ensure the proper functioning of European ATM operations. Noting that the existing requirements for the issuance of EC declarations in Regulation (EC) No 552/2004 will cease to apply, this task will develop harmonised and mutually recognised mechanisms to attest compliance. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | ATM/ANS providers, organisations involved in the design, production and maintenance of ATM/ANS systems and constituents, and CAs (including EASA) | | | | |
| **Owner** | EASA FS.4 | ATM/ANS & Aerodromes Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | 2020 Q1 | 2021 Q3 | 2022 Q3 | 2023 Q2 | 2023 Q2 |

**CHANGES SINCE LAST EDITION**

Update of the task description. The task status is changed to ‘ongoing’ from ‘de-prioritised’.

| | |
|---|---|
| **RMT.0445** | **Technical requirements and operating procedures for airspace design, including flight procedure design** |
| **Efficiency/ proportionality** | Development of the necessary organisational and technical requirements on airspace design, thus ensuring that the specific safety objectives of the Basic Regulation are met. Basically, the scope of the task is to establish the requirements for the design of flight procedures and ATS routes, to support the implementation of PBN operations, and to evaluate the need for extension to other airspace structures and flight procedure design. This will include an analysis of the need to include procedures for airspace design in the ATM/ANS certification scheme. |
| **Status** | Ongoing |
| **Reference(s)** | Commission Implementing Regulation (EU) 2018/1048 of 18 July 2018 ( OJ L 189 26.7.2018 p. 3)<br>ATM Master Plan Level 3 – Plan (2019): NAV03.1 – RNAV1 in TMA Operations<br>ATM Master Plan Level 3 – Plan (2019): NAV03.2 – RNP1 in TMA Operations<br>ATM Master Plan Level 3 – Plan (2019): NAV10 – RNP Approach procedures to instrument RWY |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Member States, CAs, ANSPs, ADR operators and air operators | | | | |
| **Owner** | EASA FS.4 | ATM/ANS & Aerodromes Department | | | |
| **Priority** | Yes | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0445<br>14/07/2014 | 2016-13<br>25/10/2016 | 02/2018<br>08/03/2018 | 2020 Q1 | 2020 Q1 |

**CHANGES SINCE LAST EDITION**

ATM Master Plan references updated.

| | |
|---|---|
| **RMT.0464** | **Requirements for air traffic services** |
| **Efficiency/ proportionality** | Transposition of the relevant ICAO provisions on ATS. The objective is to establish a sufficient level of harmonisation throughout the EU, based on mandatory and flexible requirements, and to define proportionate and cost-effective rules. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Member States, CAs, ANSPs, ATCOs, ADR operators, aircraft operators, pilots and trade unions | | | | |
| **Owner** | EASA FS.4 | ATM/ANS & Aerodromes Department | | | |
| **Priority** | Yes | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0464<br>09/07/2014 | 2016-09<br>14/09/2016 | 03/2018<br>22/05/2018 | 2020 Q1 | 2020 Q1 |

**CHANGES SINCE LAST EDITION**

n/a

| | |
|---|---|
| **RMT.0476** | **Regular update of the standardised European rules of the air (stemming from ICAO SL)** |
| **Efficiency/ proportionality** | Review of the implementing rule to assure alignment with the new/amended ICAO annexes, including the development of AMC/GM.<br><br>The scope of the currently planned update includes the loss of radio communication procedures, the SID and STAR phraseology and necessary corrections of the text identified during the implementation. |
| **Status** | Ongoing |
| **Reference(s)** | This RMT may be affected by the recommendations stemming from the WPGR and the AAS. |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Member States, CAs/NSAs, ATM/ANS providers, airspace users (e.g. aircraft operators), aerodrome operators and EASA | | | | |
| **Owner** | EASA FS.4 | ATM/ANS & Aerodromes Department | | | |
| **Priority** | No | **RM Procedure** | DP | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0476 18/08/2017 | 2021 Q4 | 2022 Q3 | 2023 Q4 | 2023 Q4 |

**CHANGES SINCE LAST EDITION**

Addition of the task description.

| | |
|---|---|
| **RMT.0477** | **Technical requirements and operational procedures for aeronautical information services and aeronautical information management** |
| **Efficiency/ proportionality** | Development of the necessary harmonised requirements and AMC & GM for the provision of aeronautical information and data, mainly based on the transposition of ICAO Annex 15 and ICAO Annex 4. The task will also fulfil specific needs stemming from the SES implementation. |
| **Status** | Ongoing |
| **Reference(s)** | ATM Master Plan Level 3 – Plan (2019): ITY-ADQ – Ensure quality of aeronautical data and aeronautical information |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Member States, CAs, ANSPs, ADR operators and air operators | | | | |
| **Owner** | EASA FS.4 | ATM/ANS & Aerodromes Department | | | |
| **Priority** | Yes | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0477 11/10/2013 | 2016-02 27/04/2016 | 02/2018 08/03/2018 | 2020 Q1 | 2020 Q1 |

**CHANGES SINCE LAST EDITION**

n/a

| | |
|---|---|
| **RMT.0719** | **Regular update of air traffic management/air navigation services rules (IRs and AMC & GM)** |
| **Efficiency/ proportionality** | Subtask 1:<br>The objective is to transpose the latest amendments of ICAO Annex 3 provisions to Part-MET and V (Part-MET).<br><br>Subtask 2:<br>The objective is to maintain the set of AMC & GM on Subpart-ATSEP up-to date.<br><br>Subtask 3:<br>The objective is to introduce a set of additional AMC & GM, which are based on SESAR Safety Reference Material, as regards the scope of the change, the risk analysis process and the safety criteria determination by the providers of ATM/ANS.<br><br>Subtask 4:<br>The objective is o the transposethe relevant latest amendments of ICAO Annex 3 provisions to Part-MET. |
| **Status** | Ongoing |
| **Reference(s)** | This RMT may be affected by the recommendations stemming from the WPGR and the AAS. |
| **Dependencies** | RMT.0681, RMT.0445, RMT.0477. |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | ATM/ANS service providers, Network Manager, aircraft operators, CAs | | | | |
| **Owner** | EASA FS.4 | ATM/ANS & Aerodromes Department | | | |
| **Priority** | No | **RM Procedure** | see SubT | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| 1(DP) | 18/08/2017 | 20/12/2017[106] | 02/2018<br>8/3/2018 | 2020 Q1 | 2020 Q1 |
| 2(DP) | | 2020 Q1 | n/a | n/a | 2020 Q2 |
| 3(ST) | | 2019-04<br>11/04/2019 | n/a | n/a | 2020 Q2 |
| 4(ST) | | 2020 Q3 | 2021 Q1 | 2021 Q3 | 2021 Q3 |

**CHANGES SINCE LAST EDITION**

Addition of the task description and subtasks.

[106] AB consultation.

| | |
|---|---|
| **RMT.0723** | **Regular update of development of AMC & GM for SKPI (ATM performance IRs)** |
| **Efficiency/ proportionality** | Reference Period 3<br>The material will be published as European Commission material, not as AMC and GM. Therefore, no Decision will be published by the Agency. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | ANSPs and CAs | | | | |
| **Owner** | EASA SM.1 | Safety Intelligence & Performance Department | | | |
| **Priority** | No | **RM Procedure** | ST | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | 29/06/2018 | 2019-10<br>19/09/2019 | n/a | n/a | n/a |

**CHANGES SINCE LAST EDITION**

Adjustment of the task title; Addition of the task description.

In addition to the above, the following RMTs are is also relevant for ATM/ANS:

| | |
|---|---|
| **RMT.0486** | **Alignment with the ICAO Standards and Recommended Practices as regards the provisions for air traffic controller fatigue management** |

The full description for this action is included in **Section 5.2.1.**

| | |
|---|---|
| **RMT.0519** | **Regular update of CS-ACNS** |

The full description for this action is included in **Section 9.3.**

| | |
|---|---|
| **RMT.0524** | **Data link services** |
| **RMT.0624** | **Remote aerodrome air traffic services** |
| **RMT.0679** | **Revision of surveillance performance and interoperability (SPI)** |
| **RMT.0682** | **Implementation of the regulatory needs of the SESAR common projects** |

The full description for these actions is included in **Section 15.1.3**.

# 12. Aerodromes

This Chapter addresses aerodrome design and operations, as well as aerodrome operators. 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 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.

Actions in this Chapter aim at maintaining a high uniform level of safety in the Member States, ensuring compliance with the ICAO SAPRs and a harmonised approach which will support the free movement of services within the Member States.

**How we monitor improvement**

The key risk areas and underlying safety issues will continue to be monitored as part of the joint SRP for ADR and GH, with the support of the ADR CAG. The EASA ABs will provide feedback on the efficiency/proportionality of the actions.

## 12.1 Safety

The top three KRAs for aerodromes and groundhandling are listed below (refer to ASR 2019 Figure 75 and Table 25)**.**

| **Aerodromes and groundhandling (ADR and GH)** | | |
|---|---|---|
| KRA 1 | KRA 2 | KRA 3 |
| Ground collision | Aircraft upset | Runway excursion |

**How we want to achieve it: actions**

| | |
|---|---|
| **RMT.0703** | **Runway safety** |
| **Safety** | EAPPRI and EAPPRE contain several recommendations addressed to CAs, ADR operators and EASA in order to mitigate the risks.<br>In the ADR domain, EASA had included in Regulation (EU) No 139/2014[107] and in the relevant AMC & GM and CS many of these recommendations; however, there are some of them that have not been addressed. |
| **Status** | Ongoing |
| **Reference(s)** | GASP SEIs (States) – Mitigate contributing factors to the risks of RE and RI;<br>ATM Master Plan Level 3 – Plan (2019): SAF11 – Improve runway safety by preventing runway excursions<br>ATM Master Plan Level 3 – Plan (2019): INF07 – Electronic Terrain and Obstacle Data (e-TOD) |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Aerodrome operators, AOC holders, GA, ANSPs and CAs | | | | |
| **Owner** | EASA FS.4 | ATM/ANS & Aerodromes Department | | | |
| **Priority** | Yes | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0703<br>14/0/2017 | 2018-14<br>17/12/2018 | 03-2019<br>24/06/2019 | 2020 Q2 | 2020 Q2 |

**CHANGES SINCE LAST EDITION**

n/a

| | |
|---|---|
| **RMT.0722** | **Provision of aeronautical data by the aerodrome operator** |
| **Safety** | 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 in regard to the provision of aeronautical data by the ADR operator. |
| **Status** | This task is de-prioritised in accordance with the criteria described in Chapter 3. |
| **Reference(s)** | ATM Master Plan Level 3 – Plan (2019): INF07 – Electronic Terrain and Obstacle Data (e-TOD)<br>ATM Master Plan Level 3 – Plan (2019): ITY-ADQ – Ensure quality of aeronautical data and aeronautical information |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Aerodrome operators | | | | |
| **Owner** | EASA FS.4 | ATM/ANS & Aerodromes Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | tbd | tbd | tbd | tbd | tbd |

**CHANGES SINCE LAST EDITION**

References to ATM Master Plan updated.

[107] Commission Regulation (EU) No 139/2014 of 12 February 2014 laying down requirements and administrative procedures related to aerodromes pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council.

| | |
|---|---|
| **SPT.102** | **Development of new safety promotion material on high-profile aerodrome and groundhandling safety issues** |
| **Safety** | Develop new safety promotion material on high-profile safety issues for aerodromes and groundhandling. Such high-profile safety issues are to be determined from important risks identified from the SRM process, accidents/serious incidents, inputs from EASA stakeholders and groundhandling safety topics that have been defined by the groundhandling roadmap, including groundhandling safety topics stemming from the Basic Regulation. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | |
|---|---|---|
| **Affected stakeholders** | A Aerodrome operators, AOC holders, ANSPs and CAs | |
| **Owner** | EASA SM.1 | Safety Intelligence & Performance Department |

| EXPECTED OUTPUT | |
|---|---|
| **Deliverable(s)** | **Timeline** |
| Leaflets, videos, web pages and/or applications | Continuous |

| CHANGES SINCE LAST EDITION |
|---|
| n/a |

| | |
|---|---|
| **MST.029** | **Implementation of SESAR runway safety solutions** |
| **Safety**<br>**HF** | Member States should evaluate together with the ADR operators and ANSPs the needs for implementing the related SESAR solutions such as those related to ground situational awareness, airport safety net vehicles and enhanced airport safety nets[108].<br><br>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.<br>See SESAR Solutions Catalogue 2019 third edition:<br>https://www.sesarju.eu/sites/default/files/documents/reports/SESAR_Solutions_Catalogue_2019_web.pdf |
| **Status** | Ongoing |
| **Reference(s)** | GASP SEIs (States) – Mitigate contributing factors to the risks of RE and RI |
| **Dependencies** | |

| | | |
|---|---|---|
| **Affected stakeholders** | Aerodrome operators, AOC holders, ANSPs and CAs | |
| **Owner** | Member States | |

| EXPECTED OUTPUT | |
|---|---|
| **Deliverable(s)** | **Timeline** |
| SPAS | 2020 |

| CHANGES SINCE LAST EDITION |
|---|
| n/a |

[108] https://www.atmmasterplan.eu/exec/operational-changes

## 12.2 Level playing field

| | |
|---|---|
| **RMT.0485** | **Requirements for apron management services at aerodromes** |
| **Level playing field** | The changes proposed allow the AMS to be provided either by the ADR operator or by the ANSP (or any subcontractor to them). The changes are expected to ensure compliance with ICAO SARPs on the provision of AMS, maintain a uniform and high level of safety in the Member States and ensure a harmonised approach which will support the free movement of services within the Member States and reduce the administrative burden especially for those providers providing AMS in different Member States. Opinion No 02/2014 will be reviewed in 2019 and updated as necessary to be in line with the Basic Regulation. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Aerodrome operators, ANSPs, AOC holders and CAs | | | | |
| **Owner** | EASA FS.4 | ATM/ANS & Aerodromes Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0485 and 0465 20/07/2012 | 2013-24 18/12/2013 | 02/2014 24/09/2014 | 2020 Q4 | 2020 Q4 |

**CHANGES SINCE LAST EDITION**

n/a

## 12.3 Efficiency/proportionality

| | |
|---|---|
| **RMT.0591** | **Regular update of aerodrome rules** |
| **Efficiency/ proportionality** | The first stream is for the update of CS, while the second one is for the update of IRs and AMC/GM. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | RMT.0681 |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Aerodrome operators, CAs | | | | |
| **Owner** | EASA FS4 | ATM/ANS & Aerodromes Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| 1 | RMT.0591 29/07/2016 | 2020 Q3 | n/a | n/a | 2021 Q3 |
| 2 | | 2020 Q3 | 2021 Q2 | 2022 Q1 | 2022 Q1 |

**CHANGES SINCE LAST EDITION**

Addition of the task description.

| | |
|---|---|
| **EVT.0012** | **Evaluation on Commission Regulation (EU) No 139/2014 (the 'Aerodrome Regulation')** |
| **Efficiency/ proportionality** | Commission Regulation (EU) No 139/2014 – Aerodrome Regulation was adopted in 2014. Since 2018, rules are subject to monitoring through EASA Standardisation. An evaluation is envisaged to assess the relevance, effectiveness and efficiency of the rules. |
| **Status** | New |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | |
|---|---|---|---|
| **Affected stakeholders** | Aerodrome operators, CAs | | |
| **Owner** | EASA FS.4 | ATM/ANS & Aerodromes Department | |

**EXPECTED OUTPUT**

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

**CHANGES SINCE LAST EDITION**

n/a

# 13. Groundhandling

This Chapter 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.

## 13.1 Safety

**Issue/rationale**

This risk area includes all groundhandling 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 collisions on the runway. Baggage and cargo loading in passenger aircraft is the top safety issue based on the number of occurrences in the ECR. The second issue that will be assessed in the European SRM process will be ground staff movement around aircraft (see ASR 2019).

**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 and underlying safety issues will continue to be monitored as part of the joint SRP for ADR and GH, with the support of the ADR CAG. The EASA ABs regularly provide feedback on the efficiency/proportionality of the actions and on the effect on level playing field.

**How we want to achieve it: actions**

| | |
|---|---|
| **RMT.0728** | **Development of requirements for groundhandling** |
| **Safety** | Develop IRs/AMC & GM to ensure compliance with the essential requirements contained in Annex VII to the Basic Regulation. This will consider operational requirements, organisational requirements and authority requirements, as deemed necessary. Detailed objectives and actions are defined by the Groundhandling Roadmap which was subject to a focused consultation in Q1/2019. In addition, the task will include RMT.0705.<br>Develop requirements for:<br>— the establishment of the methods for the delivery, storage, dispending and handling of dangerous goods at the ADR; and<br>— ADR operators to train their personnel in the handling of dangerous goods, in the case the ADR operator is acting as sub-contractor (handling agent) of air operators. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | CAs, groundhandling service providers, aerodrome operators, AOC holders and groundhandling staff | | | | |
| **Owner** | EASA FS.4 | ATM/ANS & Aerodromes Department | | | |
| **Priority** | Yes | **RM Procedure** | AP | **Harmonisation** | No |

| PLANNING MILESTONES | | | | | |
|---|---|---|---|---|---|
| **SubT** | **ToR** | **NPA** | **Opinion** | **Commission IR** | **Decision** |
| 1 | 2019 Q4 | 2020 Q1[109] | 2021 Q4 | 2022 Q4 | 2022 Q4 |

| CHANGES SINCE LAST EDITION |
|---|
| The task description is updated. This RMT now includes RMT.0705. |

In addition to the above, the following SPT is also directly relevant to groundhandling:

| | |
|---|---|
| **SPT.102** | **Development of new safety promotion material on high-profile aerodrome and groundhandling safety issues** |
| **SPT.109** | **Raise of awareness of the risk posed by icing in-flight and potential mitigations** |

The full description for these actions is included in **Chapter 6** (SPT.109) **and Chapter 12** (SPT.102).

[109] FoC

# 14. Unmanned aircraft systems

This chapter includes all the actions that are relevant to ensure the safe integration of civil unmanned aircraft systems into the aviation system.

## 14.1 Safety

**Issue/rationale**

Most of the EU Member States have adopted national regulations to *ensure safe operations* of UASs with MTOMs below 150 kg. With the extension of the scope of the EU competence through Regulation (EU) 2018/1139 to regulate UASs with MTOMs below 150 kg and the recent adoption of the EU requirements for the operation of UASs in the 'open' and 'specific' categories (Commission Implementing Regulations (EU) 2019/947 and 2019/945), Member States will need to modify the already adopted national regulations.

The already adopted regulations need to be complemented with additional actions as explained in **Section 3.1.1.4.** These actions aim at completing this framework and thus enable harmonised rules at EU level. They are also linked with other actions in EPAS (such as RMT.0731) and aim at enabling standardised UAS operations as well as more complex operations of UAS such as operations in an urban environment (e.g. urban air mobility).

While regulating UAS has multiple drivers due to its very nature, there are also very strong efficiency and level playing field aspects.

In order to ensure safe UAS operations, it is extremely important to manage the safe integration of UASs into the airspace. SJU has worked with the support of EASA and all relevant stakeholders on the development of what is named U-space[110]. U-space is a set of new services and specific procedures designed to support the safe, efficient and secure access to airspace for large numbers of drones. In 2017, the SJU prepared the U-space Blue Print[111] describing the vision for U-space. In addition, the European Roadmap for safe integration of drones in all airspace classes[112] was also prepared by the SJU with EASA support and adopted by the EC. The ATM Master Plan reflects the details about the integration of UASs into the EU airspace.

**What we want to achieve**

To create a level playing field in all EU Member States, using an operation-centric concept, which is proportionate and risk- and performance-based, so that all companies can make best use of 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 activities.

**How we want to achieve it: actions**

[110] U-space is the European name for unmanned traffic management (UTM).

[111] https://www.sesarju.eu/u-space-blueprint

[112] https://www.sesarju.eu/sites/default/files/documents/reports/European%20ATM%20Master%20Plan%20Drone%20roadmap.pdf

**RMT.0230** **Introduction of a regulatory framework for the operation of drones**

**Safety**

Development of IRs (including implementing and delegated acts) for UASs, implementing Articles 55 to 57 of and Annex IX to Regulation (EU) No 2018/1139.

This task will also cover the development of a high-level regulatory framework on U-space, which is expected to result in an Opinion early 2020.

There are three categories of UAS defined:

— 'Open' category: low-risk operation not requiring authorisation or declaration before flight
— 'Specific' category: medium-risk operation requiring authorisation or declaration before flight
— 'Certified' category: high-risk operation requiring certification process

In order to implement an innovative new set of rules for the three categories and to address U-space, the following seven subtasks were identified:

1 'Open' and 'specific' category with development of new, dedicated implementing and delegated acts

2 'Certified' category with amendments to IAW, CAW, FCL, OPS, SERA, ADR, ATM/ANS for 3 types of operations:

— Operations type #1: IFR operations of certified UAS cargo flying in airspace classes A-C and taking-off and landing at aerodromes under EASA's scope

— Operations type #2: UAS operations in urban environment using predefined routes in volume of airspaces where U-space services are provided. This includes operations of UAS VTOL type carrying passengers (i.e. air taxis) and small UAS cargo providing delivery services.

— Operations type #3: Operations as in type#2 conducted with manned VTOL.

This task will among others address electric and hybrid propulsion for all domains with the exception of CAW. Indeed, considering the extent of the modifications expected for this specific domain, it has been decided to manage the CAW development for electric and hybrid propulsion in the dedicated RMT.0731.

3 Covered by RMT.0729 and RMT.0730

4 'Certified' category with amendments to CS-ETSO and CS-36

5 'Certified' category with development of a new CS-UAS and a new CS-Light UAS

6 Development of high-level regulatory framework on U-space

7 'Certified' category with further amendments to ATM/ANS, ATCO, SERA, ACAS and CS-ACNS mainly in relation to the introduction of detect and avoid systems/capabilities, but not only.

For the maintenance of the Regulation and the AMC & GM developed under subtasks one and three, two new RMTs have been created. Please refer to RMT.0729 and RMT.0730.

| | |
|---|---|
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | RMT.0729, RMT.0730, RMT.0731 |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Member States, UAS operators (individuals and organisations), UAS manufacturers, manned aviation community, model aircraft community, ATM/ANS service providers, U-space service providers, ADR operators, all airspace users | | | | |
| **Owner** | EASA ED.0 | Executive Director's Office | | | |
| **Priority** | Yes | **RM Procedure** | See SubT | **Harmonisation** | No |

**RMT.0230 Introduction of a regulatory framework for the operation of drones (continued)**

| PLANNING MILESTONES | | | | | |
|---|---|---|---|---|---|
| **SubT** | **ToR** | **NPA** | **Opinion** | **Commission IR** | **Decision** |
| 1(ST) | 22/12/2016 | 04/05/2017 | 01/2018<br>06/02/2018 | 2019/945 of 12/03/2019[113]<br>2019/947 of 24/05/2019[114] | ED 2019/021/R<br>10/10/2019 |
| 2(ST) | | 2020 Q4 | 2021 Q4 | 2022 Q4 | 2023 Q1 |
| 3 | | n/a | n/a | n/a | n/a |
| 4(ST) | | 2021 Q4 | n/a | n/a | 2022 Q3 |
| 5(DP) | | 2021 Q4 | n/a | n/a | 2022 Q3 |
| 6(AP) | | 2019 Q4 | 2020 Q1 | 2020 Q4 | 2021 Q1 |
| 7(ST) | | 2022 Q4 | 2023 Q4 | 2024 Q4 | 2025 Q1 |

**CHANGES SINCE LAST EDITION**

Enhancement of the task description and further details on the different subtasks.

[113] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32019R0945

[114] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32019R0947

| | |
|---|---|
| **RMT.0729** | **Regular update of Regulations (EU) 2019/945 & 2019/947 (drones in the 'open' and 'specific' categories)** |
| **Safety** | Addition of two standard scenarios (STSs) in Appendix 1 to the Annex to Regulation (EU) 2019/947, defining the conditions when a UAS operator can start an operation after having submitted a declaration to the competent authority. Moreover, the inclusion of two new Parts in the Annex to Regulation (EU) 2019/945 is proposed, including the technical requirements that UAS need to meet in order to be operated in the STSs, and establishing two new UAS classes — classes C5 and C6.<br><br>Subtask 1:<br>It covers two standard scenarios:<br>— VLOS (visual line of sight) in urban over controlled area; and<br>— BVLOS (beyond visual line of sight) in sparsely populated environment over controlled area using visual observers.<br><br>Subtask 2:<br>It will cover another standard scenario for operation over powerlines (in BVLOS and atypical airspace). |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | RMT.0230 |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | UAS operators (private and commercial); competent authorities; flight crews; remote pilots; maintenance staff; design and production organisations; other airspace users (manned aircraft); service providers of air traffic management/air navigation services (ATM/ANS) and other ATM network functions; air traffic services (ATS) personnel; aerodrome operators; general public; model aircraft associations | | | | |
| **Owner** | EASA ED.0 | Executive Director's Office | | | |
| **Priority** | No | **RM Procedure** | DP | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| 1 | 26/07/2019 | 2019 Q4[115] | 05/2019<br>07/11/2019 | 2020 Q2 | n/a |
| 2 | 26/07/2019 | 2021 Q1[116] | 2021 Q1 | 2021 Q3 | n/a |

**CHANGES SINCE LAST EDITION**

Adjustment of the task title. Addition of the task description and subtasks.

[115] Instead of an NPA public consultation, the procedure laid down in Article 16 of MB Decision No 18-2015 was applied.

[116] Instead of an NPA public consultation, the procedure laid down in Article 15 of MB Decision No 18-2015 will be applied.

| | |
|---|---|
| **RMT.0730** | **Regular update of the AMC & GM to Regulations (EU) 2019/945 & 2019/947 (drones in the 'open' and 'specific' categories)** |
| **Safety** | Predefined risk assessment (PDRA) and recognition of industry standards in support of the specific operations risk assessment (SORA) methodology<br><br>Subtask 1:<br>PDRA for BVLOS operations over sparsely populated areas at less than 150 m above the overflown surface and in uncontrolled airspace<br><br>Subtask 2:<br>Additional PDRA and additional industry standards |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | UAS operators (private and commercial); competent authorities; flight crews; remote pilots; maintenance staff; design and production organisations; other airspace users (manned aircraft); service providers of air traffic management/air navigation services (ATM/ANS) and other ATM network functions; air traffic services (ATS) personnel; aerodrome operators; general public; model aircraft associations | | | | |
| **Owner** | EASA ED.0 | Executive Director's Office | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| 1 | 26/07/2019 | 2020 Q3 | n/a | n/a | 2021 Q2 |
| 2 | 26/07/2019 | 2021 Q3 | n/a | n/a | 2022 Q2 |

**CHANGES SINCE LAST EDITION**

Adjustment of the task title. Addition of the task description and subtasks.

| | |
|---|---|
| **SPT.091** | **European safety promotion on civil drones** |
| **Safety** | Coordinate European activities to promote safe operation of drones to the general public. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | |
|---|---|---|
| **Affected stakeholders** | UAS operators (private and commercial); | |
| **Owner** | SPN | Safety Promotion Network |

**EXPECTED OUTPUT**

| Deliverable(s) | Timeline |
|---|---|
| Safety Promotion material | 2021 |

**CHANGES SINCE LAST EDITION**

n/a

| | |
|---|---|
| **RES.015** | **Vulnerability of manned aircraft to drone strikes** |
| **Safety** | 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. |
| **Status** | Ongoing |
| **Reference(s)** | n/a |
| **Dependencies** | |
| **Affected stakeholders** | Air operators in CAT & NCC, SPO, HE, GA |
| **Owner** | EASA SM.0.1 Strategy & Safety Management Director's Office |

| PLANNING MILESTONES | | |
|---|---|---|
| **Starting date** | **Interim Report** | **Final Report** |
| 2020 Q1 | n/a | 2023 Q1 |

**CHANGES SINCE LAST EDITION**

The research action will be funded through H2020; contracting and technical management has been delegated to EASA by the EC.

| | |
|---|---|
| **RES.022** | **SESAR 2020 research projects aiming to safely integrate drones in the airspace** |
| **Safety** | The following research activities are being addressed under the SESAR 2020 programme: surface operations by UAS (PJ.03a-09); IFR UAS Integration (PJ. 10-05).<br><br>A first project for large-scale demonstrations (SESAR-VLD1-10-2016 (PODIUM project)) was launched in 2017, followed by Explorary Research calls in 2019, SESAR-ER4-28-2019 and SESAR-ER4-29-2019 (proposals under evaluation). |
| **Status** | Ongoing |
| **Reference(s)** | SESAR solution PJ.03a-09, PJ.10-05 - https://www.sesarju.eu/projects/podium |
| **Dependencies** | |
| **Affected stakeholders** | UAS, OEM |
| **Owner** | SESAR |

| PLANNING MILESTONES | | |
|---|---|---|
| **Starting date** | **Interim Report** | **Final Report** |
| 2017 | n/a | 2022 |

**CHANGES SINCE LAST EDITION**

Update of the task description.

| | |
|---|---|
| **RES.023** | **SESAR exploratory projects on U-space** |
| **Safety** | SESAR JU has launched U-space exploratory research as a step towards realising the European Commission's U-space vision for ensuring safe and secure access to airspace for drones.<br><br>Implemented through SESAR Call for proposal H2020-SESAR-2016-1 (CORUS project) and Exploratory Research call SESAR-ER4-31-2019 (proposals under evaluation). |
| **Status** | Ongoing |
| **Reference(s)** | SESAR[117] - https://www.sesarju.eu/projects/corus |
| **Dependencies** | n/a |
| **Affected stakeholders** | UAS/drones |
| **Owner** | SESAR |

| PLANNING MILESTONES | | |
|---|---|---|
| **Starting date** | **Interim Report** | **Final Report** |
| 2017 Q3 | n/a | 2022 |

| CHANGES SINCE LAST EDITION |
|---|
| Update of the task description. |

[117] https://www.sesarju.eu/news/sesar-launches-u-space

# 15. New technologies and concepts

This Chapter addresses the safe integration of new technologies and innovative solutions into the aviation system, with the exception of civil drones, which are addressed in the previous Chapter.

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, 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 European emerging technologies and innovative concepts, while ensuring their safe integration into the aviation system.

## 15.1 Safety

### 15.1.1 New business models

**Issue/rationale**

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, urban air mobility; the increased digitalisation in 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. CAs 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 tasked a working group of CAs to assess airlines' emerging 'new' business models and to identify related safety risks posed to the aviation system.

The same approach could be applied to monitor the development of urban air mobility should the Member States request EASA to do so. So far, no actions have been foreseen in this EPAS update.

Managing current and future safety risks arising from new and emerging business models is a strategic priority.

**What we want to achieve**

Increase safety by continuously assessing and mitigating 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**

| | |
|---|---|
| **RMT.0300** | **Operations with airships** |
| **Safety** | Development of rules for the safe operation of airships. |
| **Status** | On hold (until further notice) |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | Airship operators and airship DOA/POA holders | | | |
| **Owner** | | EASA FS.2 | Air Operations Department | | |
| **Priority** | No | **RM Procedure** | tbd | **Harmonisation** | tbd |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | | | | | |

**CHANGES SINCE LAST EDITION**

This task is put on hold due to resource restrictions, giving priority to more pressing matters. Nonetheless, EASA is still following the development and envisages integrating it into next available rulemaking opportunities. One such opportunity might exist, partially, with RMT.0731 ‘New air mobility’.

| | |
|---|---|
| **RMT.0414** | **Operations and equipment for high-performance aircraft (HPA)** |
| **Safety** | Review of IRs/AMC & GM in relation to the operation of HPA. |
| **Status** | On hold (until further notice) |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | CAT, SPO, NCC helicopter operators, flight crew | | | |
| **Owner** | | EASA FS.2 | Air Operations Department | | |
| **Priority** | No | **RM Procedure** | tbd | **Harmonisation** | tbd |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | | | | | |

**CHANGES SINCE LAST EDITION**

This task is put on hold due to resource restrictions, giving priority to more pressing matters. Nonetheless, EASA is still following the development and envisages integrating it into next available rulemaking opportunities.

| | |
|---|---|
| **RES.028** | **Single pilot operations risk assessment framework** |
| **Safety** | Development of the risk assessment framework to assess the main hazards associated to the pproposed concepts for reduced crew operations or single pilot operations, investigation of hazard timitigations and means to perform compliance demonstrations. |
| **Status** | New. Not started |
| **Reference(s)** | Reduced-Crew Operations (ReCO) & Single-Pilot Operations (SiPO) Agency's project ToR |
| **Dependencies** | n/a |

| | | |
|---|---|---|
| **Affected stakeholders** | CAT operators and aircrew | |
| **Owner** | EASA SM.0.1 | Strategy & Safety Management Director's Office |
| | and CT | Certification Directorate |

| PLANNING MILESTONES | | |
|---|---|---|
| **Starting date** | **Interim Report** | **Final Report** |
| 2020 | 2021 | 2022 |

| CHANGES SINCE LAST EDITION |
|---|
| n/a |

### 15.1.2 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 safety risks related to 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.0266** | **Powered lift (tilt rotor) applicable requirements (pilot licensing with synthetic training devices, air operations and maintenance)** |
| **Safety** | To develop IRs for powered lift pilot licensing and operations. |
| **Status** | On hold (until further notice) |
| **Reference(s)** | n/a |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | Pilots, ATOs, and CAs | | | |
| **Owner** | | EASA FS | Flight Standards Directorate | | |
| **Priority** | No | **RM Procedure** | tbd | **Harmonisation** | tbd |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | | | | | |

**CHANGES SINCE LAST EDITION**

This task is put on hold due to resource restrictions, giving priority to more pressing matters. Nonetheless, EASA is still following the development and envisages integrating it into next available rulemaking opportunities. One such opportunity might exist, partially, with RMT.0731 ‘New air mobility’.

**RMT.0731** **New air mobility**

**Safety**

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 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 vehicles 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 in line with 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 is expected to lead to different streams of activity. A first stream has been defined, indicated here below as subtask 1. Potentially, more streams to cover other future projects will be added, including the development of CSs based on experience gained in certification projects applying SCs such as for VTOL or electric and hybrid propulsion.

Subtask 1:

Electric and hybrid propulsion: Continuing airworthiness requirements for electric and hybrid propulsion for all types of aircraft.The activities in the context of this subtask need to be coordinated with those of RMT.0230.

Note:

* e-VTOL electric propulsion aspects related to ADR, ATM, FCL, OPS domains are being addressed through RMT.0230,

* A first set of FCL and OPS electric and hybrid propulsion-related requirements for other aircraft types are being addressed through RMT.0678 (FCL) and RMT.0573 (OPS) respectively.

| | |
|---|---|
| **Status** | New |
| **Reference(s)** | n/a |
| **Dependencies** | RMT.0230; RMT.0678; RMT.0573. |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | All | | | |
| **Owner** | | EASA SM.2 | Strategy & Programmes Department | | |
| **Priority** | Yes | **RM Procedure** | ST | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| 1 | 2020 Q1 | 2020 Q3 | 2021 Q1 | 2022 Q1 | 2022 Q1 |

**CHANGES SINCE LAST EDITION**

n/a

### 15.1.3 SESAR deployment

**Issue/rationale**

This section includes relevant EPAS actions to implement the regulatory needs supporting the modernisation of the Single European Sky ATM System, with the exception of SESAR items that are only relevant to UAS (and therefore are included in **Chapter 14**).

**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 and cloud-based architecture and remote tower operations) by enabling the use of new working methods, operational improvements and technologies developed by the SESAR programme. Interoperability, civil-military cooperation and international compatibility (e.g. such as but not limited to ICAO GANP/ASBUs and NextGen alignment) will form an integral part of EASA's work. In addition, consolidated and coordinated implementation support actions 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

| | |
|---|---|
| **RMT.0524** | **Data link services** |
| **Safety** | Subtask 1: Provide regulatory clarity and alignment with the latest ICAO documents and industry standards on the operational usage of Downlink Message (DM) 89 'MONITORING', while ensuring a negligible impact on data link installations that already comply with Commission Regulation (EC) No 29/2009.<br>Subtask 2: Consider regulatory recommendations resulting from the analysis of the technical issues observed during the deployment of Regulation (EC) No 29/2009 to support the data link operations, including regulatory needs to support the ELSA Model D multi-frequency implementation, the identification and development of an 'end-to-end certification/validation' framework and the clarification of the notion of 'best in class' performance and the related avionics improvements. Furthermore, to improve the predictability of the aircraft trajectory leading to less tactical interventions and improved deconfliction, this RMT will address elements of the 'Pilot Common Project' (PCP) air traffic management (ATM) functionality 6 requirements ('Initial Trajectory Information Sharing'); in particular, the regulatory support for the implementation of the 'Extended Projected Profile' (EPP).<br><br>*Instead of an NPA public consultation, the procedure in Article 15 or that in Article 16 of MB Decision No 18-2015 will be applied. |
| **Status** | Ongoing |
| **Reference(s)** | ATM Master Plan Level 3 – Plan (2019): ITY-AGDL – Initial ATC air-ground data link services |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | CAs, ANSPs, ADR operators, air operators, manufacturers and ATCOs | | | | |
| **Owner** | EASA FS.4 | ATM/ANS & Aerodromes Department | | | |
| **Priority** | Yes | **RM Procedure** | See field 'SubT' | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| 1(DP) | RMT.0524 29/01/2018 | 17/10/2019* | 2019 Q4 | 2019 Q4 | 2019 Q4 |
| 2(ST) | n/a | 2021 Q2 | 2022 Q2 | 2023 Q4 | 2023 Q4 |

**CHANGES SINCE LAST EDITION**

Addition of Subt 1 information.
Note: This RMT supports the CNS infrastructure and services Essential Operational Change (EOC) of the ATM Master Plan fourth edition.

| | |
|---|---|
| **RMT.0624** | **Remote aerodrome air traffic services** |
| **Safety** | The development and introduction of new technologies enables provision of aerodrome ATS (aerodrome air traffic control service or aerodrome flight information service) from geographically independent locations/facilities, rather than by direct visual observation.<br>As a follow-up of the substantial work undertaken to produce, develop and further expand soft law on remote aerodrome ATS provision, EASA intends to continue monitoring the rapid evolution of the research and implementation on remote/virtual tower from its various perspectives, in particular the technological, operational and human performance developments. For this purposes, EASA will amend the ToR for RMT.0624 to set the objectives, the processes and the deadlines to maintain its regulatory framework up to date with the evolution of the remote/virtual tower concept. |
| **Status** | Ongoing |
| **Reference(s)** | ATM Master Plan (Level 3 Ed 2019) action AOP14 (Remote Tower Services) |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | | CAs, ANSPs and aerodrome operators | | | |
| **Owner** | | EASA FS.4 | ATM/ANS & Aerodromes Department | | |
| **Priority** | Yes | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| 1 | 2019 Q4 | 2022 Q1 | n/a | n/a | 2023 Q1 |

**CHANGES SINCE LAST EDITION**

Update of the task description.

| | |
|---|---|
| **RMT.0679** | **Revision of surveillance performance and interoperability (SPI)** |
| **Safety** | The current SPI Regulation (Regulation (EU) No 1207/2011[118]) details the requirements for the carriage and operation of airborne surveillance equipment by both civil and State registered aircraft, and the dates by which qualifying aircraft must be equipped with such equipment.<br><br>Note: Based on the CBAs results, EASA has decided not to propose significant changes to the present SPI Regulation. Therefore, EASA will not publish an NPA but prepare a report to the EC. However, there is a proposal to change the Regulation.<br>In addition, EASA may decide to provide some GM on items already identified by the rulemaking group. Therefore, the date for the ED Decision is also kept.<br><br>*Instead of an NPA public consultation, the procedure in Article 15 or that in Article 16 of MB Decision No 18-2015 will be applied. |
| **Status** | Ongoing |
| **Reference(s)** | ATM Master Plan Level 3 – Plan (2019): ITY-SPI – Surveillance performance and interoperability |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Member States, CAs, ANSPs, aircraft operators and Air Traffic Controllers. | | | | |
| **Owner** | EASA FS.4 | ATM/ANS & Aerodromes Department | | | |
| **Priority** | Yes | **RM Procedure** | DP | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA* | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | RMT.0679 18/03/2016 | 2020 Q1* | n/a | 2020 Q1 | 2020 Q1 |

**CHANGES SINCE LAST EDITION**

This RMT supports the CNS infrastructure and services Essential Operational Change (EOC) of the ATM Master Plan fourth edition. It is expected to be completed by the end of 2019/early 2020, subject to the publication of the corresponding Implementing Regulation.

[118] Commission Implementing Regulation (EU) No 1207/2011 of 22 November 2011 laying down requirements for the performance and the interoperability of surveillance for the single European sky

| | |
|---|---|
| **RMT.0682** | **Implementation of the regulatory needs of the SESAR common projects** |
| **Safety** | The objective of the task is the development of the necessary measures as required for the timely and safe deployment of SESAR Solutions that enable the Essential Operational Changes and other operational changes stemming from the SESAR programme, the European ATM Master Plan and the AAS. For these purposes, this task addresses those issues which are not covered by specific RMTs. |
| **Status** | Ongoing |
| **Reference(s)** | This RMT may be affected by the recommendations stemming from the WPGR and the AAS and supports eight of the Essential Operational Changes (EOC) of the ATM Master Plan fourth edition. |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | Member States, CAs, ANSPs, air operators, ADR operators, POA holders | | | | |
| **Owner** | EASA FS.4 | ATM/ANS & Aerodromes Department | | | |
| **Priority** | No | **RM Procedure** | Standard | **Harmonisation** | No |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| | 2019 Q4 | 2021 Q2 | 2022 Q4 | 2023 Q1 | 2023 Q1 |

**CHANGES SINCE LAST EDITION**

Enhancement of the task description. This task is rescheduled in accordance with the criteria described in Chapter 3.

| | |
|---|---|
| **SPT.108** | **Promotion of the new European provisions on performance-based navigation and the associated ATM Master Plan essential operational changes** |
| **Safety** | The objective is to complement Regulation (EU) 2018/1048 with respect to airspace usage requirements and operating procedures concerning performance-based navigation with relevant promotion material. |
| **Status** | New |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | | |
|---|---|---|---|
| **Affected stakeholders** | ANSPs, ADR operators, aircraft operators, procedure designers, Network Manager | | |
| **Owner** | EASA FS.4 | ATM/ANS & Aerodromes Department | |

**EXPECTED OUTPUT**

| Deliverable(s) | Timeline |
|---|---|
| Safety Promotion material | 2020 |

**CHANGES SINCE LAST EDITION**

n/a

### 15.1.4 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 rules 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 rules across 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 safety and economic benefits generated through new technologies and operational experience.

**How we monitor improvement**

Continuous monitoring of safety issues related to AWOs will be ensured on the basis of the CAT SRP for CAT by aeroplane & NCC operations. The EASA ABs regularly provide feedback on the effectiveness of the activities.

**How we want to achieve it: actions**

**RMT.0379** **All-weather operations**

**Safety**

Review and update the AWO rules in all aviation domains, as regards:

- possibility of applying safety performance principle in redrafting of current rules with the aim of allowing a better integration of new and future technologies supporting AWOs, as e.g. enhanced flight vision systems (EFVSs), synthetic vision systems (SVSs), synthetic vision guidance systems (SVGSs), combined vision systems (CVSs), head-up displays (HUDs);
- conventional low-visibility operations (LVOs), such as instrument landing system (ILS)-based CAT II and CAT III approach operations or low-visibility take-offs (LVTOs);
- operations other than AWOs, such as CAT I operations using ILS, GLS or SBAS, or approach operations to higher minima using area navigation (RNAV)(GNSS), non-directional beacons (NDBs) or very high frequency (VHF) omnidirectional ranges (VORs);
- miscellaneous items, such as the improvement of existing rules text and the transposition of the new ICAO approach classification;
- harmonisation with bilateral partners (e.g. FAA) to the extent possible;
- introduction of operations with operational credits such as newly introduced SA CAT I[119] not being yet part of the ICAO regulatory system.

Recommendations and consequent follow-up actions to the Weather Information to Pilots Strategy Paper, also an outcome of RMT.0379, are now being taken forward as a stand-alone project.
Phase 2 (subtask 2) will address AWOs for helicopters.

Substask 3 is addressing Certification Specifications.

**Status** Ongoing

**Reference(s)** n/a

**Dependencies**

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | POA holders, air operators, ATOs, ADR operators and ATM/ANS | | | | |
| **Owner** | EASA FS.2 | Air Operations Department | | | |
| **Priority** | Yes | **RM Procedure** | Standard | **Harmonisation** | Yes |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| 1 | RMT.0379 09/12/2015 | 2018-06 13/07/2018 | 2020 Q3 | 2022 Q2 | 2022 Q2 |
| 2 | | 2019-09 12/09/2019 | 2020 Q3 | 2022 Q2 | 2022 Q2 |
| 3 | | n/a | n/a | n/a | 2020 Q2 |

**CHANGES SINCE LAST EDITION**

Addition of phase (Subtask) 3.

[119] Special authorisation CAT I represents a type of LVOs with operational credits with the following provisions:

- the decision height (DH) of an SA CAT I operation should not be lower than the highest of the minimum DH specified in the AFM (if stated), the applicable obstacle clearance height (OCH) for the category of aeroplane, the DH to which the flight crew is qualified to operate; or 150 ft; and
- the lowest RVR minima to be used are specified vs approach lighting system and are typically between 400 and 700 m.

# 16. Environmental protection

Environmental protection and sustainability are key challenges for the aviation industry, Member States, the EC and EASA. Sustainable aviation is about combatting climate change, and reducing the health effects from aircraft noise and air pollution. This needs to be considered in the global context in order to ensure a level playing field such that European industry remains competitive in a rapidly changing world. Environmental standards are key to achieving this.

EASA is helping 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 reports on the status of environmental standards. For the full picture, including stakeholder actions and market-based measures, see the EAER, which provides an overview of the historic, current and forecasted 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 $CO_2$ 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 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.

## 16.1 Noise, local air quality and climate change standards

**Issue/rationale**

Implement the ICAO Annex 16 Volume I, Volume II and Volume III standards in Europe.

**What we want to achieve**

Align the:

— Basic Regulation;

— Implementing Rules (currently, Regulation (EU) No 748/2012);

— AMC & GM to the Implementing Rules; and

— CS-34, CS-36 and CS-$CO_2$.

with the ICAO SARPs and guidance material resulting from the CAEP/11 work cycle.

**How we monitor improvement**

Continuous monitoring of ICAO adoption process.

Continuous monitoring of ICAO/CAEP work related to Annex 16 Volume I, Volume II and Volume III.

Monitoring of aviation environmental impact through the EAER.

**How we want to achieve it: actions**

**RMT.0514** **Implementation of the CAEP amendments**

The implementation of CAEP/11 ICAO SARPs will start in 2020 under Subtask 2 and will align the:

— Basic Regulation;
— Implementing Rules (currently, Regulation (EU) No 748/2012);
— AMC & GM to the Implementing Rules; and
— CS-34, CS-36 and CS-$CO_2$

with the ICAO SARPs and guidance material resulting from the CAEP/11 work cycle.

NB: The below timelines under Subtask 1 are related to the implementation of CAEP/10 ICAO SARPs. The implementation of CAEP/10 ICAO SARPs (RMT.0513 and RMT.0514) was finalised for the AMC & GM to Part 21 and the CS-34, CS-36 and CS-$CO_2$ through Decisions 2019/014/R, 2019/015/R and 2019/016/R.

The content of RMT.0513 is incorporated in RMT.0514.

| | |
|---|---|
| **Status** | Ongoing |
| **Reference(s)** | Basic Regulation Article 9, Basic Regulation Implementing Rules, AMC&GM to Part 21, CS-34, CS-36 and CS-$CO_2$ |
| **Dependencies** | |

| | | | | | |
|---|---|---|---|---|---|
| **Affected stakeholders** | DOA and POA holders | | | | |
| **Owner** | EASA CT.4 | Environment & Propulsion Systems Department | | | |
| **Priority** | Yes | **RM Procedure** | Standard | **Harmonisation** | n/a |

**PLANNING MILESTONES**

| SubT | ToR | NPA | Opinion | Commission IR | Decision |
|---|---|---|---|---|---|
| 1 | RMT.0513 & RMT.0514 13/06/2016 | 2017-01 17/01/2017 | 09/2017 07/11/2017 | 2019/897 of 12/03/2019[120] | 2019/014/R 2019/015/R 2019/016/R 29/07/2019 |
| 2 | n/a | 2020 Q1 | 2020 Q4 | 2022 Q1 | 2022 Q1 |

**CHANGES SINCE LAST EDITION**

Enhancement of the task description.

[120] https://eur-lex.europa.eu/legal-content/GA/TXT/?uri=CELEX:32019R0897

**RES.024** **Assessment of environmental impacts — engine emissions**

Development of extended and more robust standards for the purpose of supporting the assessment of engine emissions. The emphasis shall be on robust methods for nvPM mass and number determination including, notably, particle size measurement and sampling techniques, consideration of the effect of both ambient conditions and volatile PM, and sensitivity and uncertainty analyses.

| | |
|---|---|
| **Status** | New |
| **Reference(s)** | n/a |
| **Dependencies** | |
| **Affected stakeholders** | DOA holders, air operators (CAT) |
| **Owner** | SM.0.1 Strategy & Safety Management Director's Office |

**PLANNING MILESTONES**

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

**CHANGES SINCE LAST EDITION**

RES.018 and RES.019 have been merged to RES.024. The research action will be funded through H2020; contracting and technical management has been delegated to EASA by the EC.

**RES.025** **Assessment of environmental impacts — aircraft noise**

Development of extended and more robust standards for the purpose of supporting the assessment of aircraft noise footprints. The focus will be twofold:

— extension of current helicopter noise models towards ensuring the coverage of current types of helicopters within the European fleet;

— extension of prevailing modelling approaches in view of the assessment of the noise footprint of new aircraft concepts prior to their certification – centred on supersonic aircraft and VTOL aircraft.

| | |
|---|---|
| **Status** | New |
| **Reference(s)** | n/a |
| **Dependencies** | |
| **Affected stakeholders** | DOA holders and organisations intending to develop new aircraft concepts (VTOL, supersonic, etc.) |
| **Owner** | SM.0.1 Strategy & Safety Management Director's Office |

**PLANNING MILESTONES**

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

**CHANGES SINCE LAST EDITION**

n/a

## 16.2 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 around 2.5 billion tonnes of $CO_2$ 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.

Currently 78 States, representing 76 % of international aviation activity, have volunteered to start offsetting their $CO_2$ emissions under CORSIA in 2021; others will 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 emission units and the related offsetting requirements.

**How we monitor improvement**

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

**How we want to achieve it: actions**

| | |
|---|---|
| **RES.026** | **Market-based measures (ETS[121] and CORSIA)**<br><br>Extension and update of existing capabilities for 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 (EC, Member States) and international (ICAO) level. |
| **Status** | New |
| **Reference(s)** | n/a |
| **Dependencies** | |

| | | |
|---|---|---|
| **Affected stakeholders** | Air operators | |
| **Owner** | SM.0.1 | Strategy & Safety Management Director's Office |

| PLANNING MILESTONES | | |
|---|---|---|
| **Starting date** | **Interim Report** | **Final Report** |
| 2020 Q1 | n/a | 2023 Q1 |

| CHANGES SINCE LAST EDITION |
|---|
| n/a |

[121] https://www.emissions-euets.com/carbon-market-glossary/872-european-union-emissions-trading-system-eu-ets

# Appendix A: Opinions and Decisions published in 2019[122]

| Title of official publication | Date | Task Number | Task Title |
|---|---|---|---|
| ED Decision 2019/001/R | 28/01/2019 | **RMT.0698** | Revision of the operational rules for sailplanes |
| ED Decision 2019/002/R | 28/01/2019 | **RMT.0287** | Updating Part-MED and related AMC and GM |
| ED Decision 2019/002/R | 28/01/2019 | **RMT.0700** | Germanwings task force |
| ED Decision 2019/003/R | 13/02/2019 | **RMT.0689** | 'Part 21 proportionality' — Introduction of proportionality and simplification of airworthiness and environmental certification regulations for small aircraft |
| ED Decision 2019/004/R | 19/02/2019 | **RMT.0624** | Remote aerodrome air traffic services |
| ED Decision 2019/005/R | 27/02/2019 | **RMT.0581** | Loss of control prevention and recovery training |
| ED Decision 2019/006/R | 27/02/2019 | **RMT.0069** | Seat crashworthiness improvement on large aeroplanes — Dynamic testing 16g |
| ED Decision 2019/006/R | 27/02/2019 | **RMT.0071** | Additional airworthiness specifications for operations: Thermal/acoustic insulation material |
| ED Decision 2019/006/R | 27/02/2019 | **RMT.0560** | Halon — Update of Part-26 to comply with ICAO standards |
| ED Decision 2019/007/R | 27/02/2019 | **RMT.0721** | RAMP simplification |
| ED Decision 2019/008/R | 27/02/2019 | **RMT.0601** | Transposition of provisions on electronic flight bag from ICAO Annex 6 |
| ED Decision 2019/009/R | 28/03/2019 | **RMT.0135** | B2L and L Part-66 aircraft maintenance licences |
| ED Decision 2019/009/R | 28/03/2019 | **RMT.0697** | Part-66 basic examinations performed by Part-147 maintenance training organisations (MTOs) |
| ED Decision 2019/009/R | 28/03/2019 | **RMT.0555** | Control of suppliers |
| ED Decision 2019/010/R | 04/04/2019 | **RMT.0690** | Regular update of CS-STAN |
| ED Decision 2019/011/R | 30/04/2019 | **RMT.0519** | Regular update of CS-ACNS |
| ED Decision 2019/012/R | 23/05/2019 | **RMT.0638** | Certification requirements for VFR heliports located at aerodromes falling under the scope of the Basic Regulation |
| ED Decision 2019/013/R | 16/07/2019 | **RMT.0249** | Installation and maintenance of recorders — certification aspects |
| ED Decision 2019/013/R | 16/07/2019 | **RMT.0673** | Regular update of CS-25 |
| ED Decision 2019/014/R | 29/07/2019 | **RMT.0514** | Implementation of the CAEP amendments – CS-34 |
| ED Decision 2019/015/R | 29/07/2019 | **RMT.0514** | Implementation of the CAEP amendments – CS-36 |
| ED Decision 2019/016/R | 29/07/2019 | **RMT.0514** | Implementation of the CAEP amendments – CS-CO2 |
| ED Decision 2019/017/R | 28/08/2019 | **RMT.0595** | Technical review and regular update of learning objectives and syllabi for commercial licences (IR) |
| ED Decision 2019/018/R | 28/08/2019 | **RMT.0262** | Embodiment of level of involvement (LOI) requirements into Part 21 |
| ED Decision 2019/019/R | 17/09/2019 | **RMT.0352** | Non-commercial operations of aircraft listed in the operations specifications (OpSpecs) by an AOC holder |
| ED Decision 2019/019/R | 17/09/2019 | **RMT.0393** | Maintenance check flights |
| ED Decision 2019/019/R | 17/09/2019 | **RMT.0516** | Update of the rules on air operations (Air OPS Regulation - all Annexes & related AMC/GM) |
| ED Decision 2019/019/R | 17/09/2019 | **RMT.0561** | Update of AMC-20 — in-flight entertainment (IFE) |
| ED Decision 2019/020/R | 08/10/2019 | **RMT.0687** | Regular update of CS-23 |
| ED Decision 2019/021/R | 10/10/2019 | **RMT.0230** | Introduction of a regulatory framework for the operation of drones – SubT 1 |
| ED Decision 2019/022/R | 30/10/2019 | **RMT.0469** | Assessment of changes to functional systems by service providers in ATM/ANS and the oversight of these changes by CAs |

[122] Publications considered between 01/01/2019 and 07/11/2019

| Title of official publication | Date | Task Number | Task Title |
|---|---|---|---|
| Opinion No 01/2019 | 19/02/2019 | **RMT.0654** | Revision of the balloon licensing requirements |
| Opinion No 01/2019 | 19/02/2019 | **RMT.0677** | Easier access of General Aviation (GA) pilots to instrument flight rules (IFR) flying |
| Opinion No 01/2019 | 19/02/2019 | **RMT.0701** | Revision of the sailplane licensing requirements |
| Opinion No 02/2019 | 22/02/2019 | **RMT.0249** | Installation and maintenance of recorders — certification aspects |
| Opinion No 02/2019 | 22/02/2019 | **RMT.0271** | In-flight recording for light aircraft |
| Opinion No 02/2019 | 22/02/2019 | **RMT.0296** | Review of aeroplane performance requirements for operations |
| Opinion No 02/2019 | 22/02/2019 | **RMT.0695** | Non-ETOPS operations using performance class A aeroplanes with an MOPSC of 19 or less |
| Opinion No 03/2019 | 24/06/2019 | **RMT.0703** | Runway safety |
| Opinion No 04/2019 | 07/10/2019 | **RMT.0070** | Additional airworthiness specifications for operations: Fire hazard in Class D cargo compartments |
| Opinion No 04/2019 | 07/10/2019 | **RMT.0570** | Reduction of runway excursions |
| Opinion No 05/2019 | 07/11/2019 | **RMT.0729** | Standard scenarios for UAS operations in the 'specific' category |
| planned | 2019 Q4 | **RMT.0524** | Data link services (SubT 1) |
| planned | 2019 Q4 | **RMT.0018** | Installation of parts and appliances that are released without an EASA Form 1 or equivalent |
| | | **RMT.0252** | Instructions for continuing airworthiness (ICA) |
| planned | 2019 Q4 | **RMT.0599** | Update of Subpart FC of Part-ORO (evidence-based training) |

## Overview of publications for research and safety promotion actions:

| Type | Date | Task Number | Task Title | Publication (link) |
|---|---|---|---|---|
| **RES** | 29/11/2018 | **RES.005** | Startle effect management | https://www.easa.europa.eu/document-library/research-reports/easarepresea20153 |
| **SPT** | 06/09/2019 | **SPT.063** | Continuous monitoring of ATM safety performance | https://webgate.ec.europa.eu/eusinglesky/news/prb-annual-monitoring-report-2018-preliminary-results_en |
| | 10/09/2019 | **SPT.071** | Strategy for Cybersecurity in Aviation | https://www.easa.europa.eu/easa-and-you/cyber-security/main-easa-activities#group-easa-downloads |
| | 02/05/2019 | **SPT.077** | Good practices for the integration of operator's FDM data with other safety data sources | https://www.easa.europa.eu/easa-and-you/safety-management/safety-promotion/european-operators-flight-data-monitoring-eofdm-forum#group-easa-downloads |
| | 01/10/2019 | **SPT.084** | Promoting safety by improving technology | https://www.easa.europa.eu/community/topics/easa-ga-safety-award |
| | 01/07/2019 | **SPT.100** | Safety Promotion on Disruptive Passengers | https://www.easa.europa.eu/notonmyflight |

# Appendix B: Deliverables expected in 2020

## Terms of Reference (ToR):

| Driver | Baseline Quarter | Task Number | Task Title | Count |
|---|---|---|---|---|
| Safety | 1 | **RMT.0127** | Pilot compartment view | 1.0 |
| | 1 | **RMT.0710** | Improvement in the survivability of rotorcraft occupants in the event of a crash | 1.0 |
| | 1 | **RMT.0725** | Rotorcraft chip detection system | 1.0 |
| | 1 | **RMT.0731** | New air mobility | 1.0 |
| | 2 | **RMT.0709** | Prevention of catastrophic accidents due to rotorcraft hoists issues | 1.0 |
| | 2 | **RMT.0711** | Reduction in accidents caused by failures of critical rotor and rotor drive components through improved Vibration Health Monitoring Systems | 1.0 |
| | 3 | **RMT.0724** | Rotorcraft flight crew operating manuals (FCOMs) | 1.0 |
| | 3 | **RMT.0726** | Rotorcraft occupant safety in the event of a bird strike | 1.0 |
| Efficiency / proportionality | 1 | **RMT.0161** | Conformity assesment | 1.0 |
| | 1 | **RMT.0392** | Regular updates of air operations rules | 1.0 |
| | 2 | **RMT.0714** | Enablement of the safe introduction of rotorcraft fly-by-wire technology | 1.0 |
| Level playing field | 3 | **RMT.0494** | FTL rules for helicopter operations | 1.0 |
| TOTAL | | | | 12.0 |

## Notices of Proposed Amendment (NPAs):

| Driver | Baseline Quarter | Task Number | Task Title | Count |
|---|---|---|---|---|
| Safety | 1 | **RMT.0118** | Analysis of on-ground wings contamination effect on take-off performance degradation | 1.0 |
| | 1 | **RMT.0120** | Helicopter ditching and water impact occupant survivability | 1.0 |
| | 1 | **RMT.0196** | Update of flight simulation training device requirements – SubT 2A | 0.5 |
| | 1 | **RMT.0196** | Update of flight simulation training device requirements – SubT 2B | 0.5 |
| | 1 | **RMT.0586** | Tyre pressure monitoring system | 1.0 |
| | 1 | **RMT.0727** | Alignment of Part 21 with Regulation (EU) 2018/1139 (including simple and proportionate rules for General Aviation) | 1.0 |
| | 3 | **RMT.0710** | Improvement in the survivability of rotorcraft occupants in the event of a crash | 1.0 |
| | 3 | **RMT.0730** | Regular update of the AMC & GM to Regulation (EU) 2019/945 & 2019/947 (drones in the 'open' and 'specific' categories) | 1.0 |
| | 4 | **RMT.0230** | Introduction of a regulatory framework for the operation of drones – SubT 2 | 1.0 |
| | 4 | **RMT.0544** | Review of Part-147 | 1.0 |
| Efficiency / proportionality | 1 | **RMT.0509** | Regular update of CS-FCD | 1.0 |
| | 2 | **RMT.0037** | Regular update of CS-22 | 1.0 |
| | 2 | **RMT.0508** | Regular update of CS-CCD | 1.0 |
| | 2 | **RMT.0643** | Regular update of AMC-20 | 1.0 |
| | 2 | **RMT.0678** | Simpler, lighter and better flight crew licensing requirements for general aviation | 1.0 |
| | 3 | **RMT.0519** | Regular update of CS-ACNS | 1.0 |
| | 3 | **RMT.0591** | Regular update of aerodrome rules - IRs and AMC&GM | 0.5 |
| | 3 | **RMT.0591** | Regular update of aerodrome rules - CS | 0.5 |
| | 3 | **RMT.0688** | Regular update of CS-SIMD | 1.0 |
| | 4 | **RMT.0255** | Review of Part-66 | 1.0 |
| Environment | 1 | **RMT.0514** | Implementation of the CAEP amendments | 1.0 |
| TOTAL | | | | 19.0 |

## Decisions:

| Driver | Baseline Quarter | Task Number | Task Title | Count |
|---|---|---|---|---|
| Safety | 1 | **RMT.0049** | Aeroplane-level safety assessments of critical systems, specifications for flight control systems and aeroelastic stability | 1.0 |
| | 2 | **RMT.0400** | Amendment of requirements for flight recorders and underwater locating devices | 1.0 |
| | 3 | **RMT.0249** | Recorders installation and maintenance thereof — certification aspects | 1.0 |
| | 3 | **RMT.0713** | Human factors in rotorcraft design | 1.0 |
| | 4 | **RMT.0196** | Update of flight simulation training device requirements | 1.0 |
| Efficiency / proportionality | 1 | **RMT.0457** | Regular update of CS-ETSO | 1.0 |
| | 1 | **RMT.0499** | Regular update of CS-MMEL | 1.0 |
| | 2 | **RMT.0031** | Regular update of AMC & GM to Part 21 | 1.0 |
| | 3 | **RMT.0509** | Regular update of CS-FCD | 1.0 |
| | 3 | **RMT.0673** | Regular update of CS-25 | 1.0 |
| | 4 | **RMT.0037** | Regular update of CS-22 | 1.0 |
| | 4 | **RMT.0508** | Regular update of CS-CCD | 1.0 |
| Level playing field | 2 | **RMT.0561** | Update of AMC-20 — 'In-flight entertainment (IFE)' | 1.0 |
| | 3 | **RMT.0096** | Amendments (IR and AMC & GM) in line with the process of granting foreign Part-145 approvals | 1.0 |
| TOTAL | | | | 14.0 |

## Opinions:

| Opinion | Task Number | Driver | Task Title | Baseline Quarter |
|---|---|---|---|---|
| 1 | **RMT.0230** | Safety | Introduction of a regulatory framework for the operation of drones - SubT 6 | 1 |
| 2 | **RMT.0668** | Efficiency / Proportionality | Regular update of air traffic controller licencing rules (IR/AMC/GM) | |
| 3 | **RMT.0196** | Safety | Update of flight simulation training device requirements | 2 |
| | **RMT.0379** | | All-weather operations | |
| | **RMT.0599** | | Update of Subpart FC of Part-ORO (evidence-based training) - SubT 1b | |
| 4 | **RMT.0573** | | Fuel/energy planning and management | |
| 5 | **RMT.0720** | | Managmenet of information security risks | |
| 6 | **RMT.0251** | | Embodiment of safety management system requirements into Commission Regulations (EU) Nos 1321/2014 and 748/2012 (Phase II) | 3 |
| 7 | **RMT.0727** | | Alignment of Part 21 with Regulation (EU) 2018/1139 (including simple and proportionate rules for General Aviation) | 4 |
| | **RMT.0514** | Environment | Implementation of the CAEP amendments | |

## Decisions pending IR:

| Driver | Baseline Quarter | Task Number | Task Title | Count |
|---|---|---|---|---|
| Safety | 1 | **RMT.0225** | Development of an ageing aircraft structure plan | 1.0 |
| | 1 | **RMT.0251** | Embodiment of safety management system requirements into Commission Regulations (EU) Nos 1321/2014 and 748/2012 (Phase I) | 1.0 |
| | 1 | **RMT.0276** | Technical records | 1.0 |
| | 1 | **RMT.0703** | Runway Safety | 1.0 |
| | 3 | **RMT.0271** | In-flight recording for light aircraft | 1.0 |
| | 3 | **RMT.0296** | Review of aeroplane performance requirements for operations | 1.0 |
| Efficiency / proportionality | 1 | **RMT.0445** | Technical requirements and operating procedures for airspace design, including flight procedure design | 1.0 |
| | 1 | **RMT.0464** | Requirements for air traffic services | 1.0 |
| | 1 | **RMT.0477** | Technical requirements and operational procedures for aeronautical information services and aeronautical information management | 1.0 |
| | 1 | **RMT.0547** | Task force for the review of Part-M for General Aviation (PHASE II) | 1.0 |
| | 2 | **RMT.0654** | Revision of the balloon licensing requirements | 1.0 |
| | 2 | **RMT.0677** | Easier access of General Aviation (GA) pilots to instrument flight rules (IFR) flying | 1.0 |
| | 2 | **RMT.0701** | Revision of the sailplane licensing requirement | 1.0 |
| | 2 | **RMT.0719** | Regular update of air traffic management/air navigation services rules (Irs and AMC & GM) | 1.0 |
| Level playing field | 2 | **RMT.0695** | Non-ETOPS operations using performance class A aeroplanes with an MOPSC of 19 or less | 1.0 |
| | 4 | **RMT.0485** | Requirements for Apron Management Services at aerodromes | 1.0 |
| TOTAL | | | | 16.0 |

# Appendix C: New actions, deleted actions and de-prioritised actions overview

## New actions:

| Type | Strategic Priorities | Driver | Task Number | Task Title |
|---|---|---|---|---|
| RMT | strategic | Safety | RMT.0731 | New air mobility |
| SPT | | Safety | SPT.105 | Language proficiency requirements — raise awareness on language proficiency requirements implementation, together with ICAO, the industry and the Member States |
| | | | SPT.106 | Prevention, detection and mitigation of fraud cases in Part-147 organisations |
| | | | SPT.107 | Promotion of the full range of careers and opportunities in the European aviation industry |
| | | | SPT.108 | Promotion of the new European provisions on performance-based navigation and the associated ATM Master Plan essential operational changes |
| | | | SPT.109 | Raise of awareness of the risk posed by icing in-flight and potential mitigations |
| | | | SPT.110 | Standardisation of flight examiners |
| | | | SPT.111 | Flight examiner manual |
| MST | | | MST.032 | Oversight capabilities/focus areas |
| | | | MST.033 | Language proficiency requirements — share best practices, to identify areas for improvement for the uniform and harmonised language proficiency requirements implementation |
| | | | MST.034 | Oversight capabilities/focus area: flight time specification schemes |
| | | | MST.035 | Oversight capabilities/focus area: fraud cases in Part-147 |
| EVT | standard | Efficiency / proportionality | EVT.0008 | Commission Regulation (EU) No 452/2014 (the 'third-country operator (TCO) Regulation') |
| | | | EVT.0009 | European Operators Flight Data Monitoring |
| | | | EVT.0010 | Helicopter Operations |
| | | | EVT.0011 | Effectiveness of the provisions concerning support programmes, the psychological assessment of flight crew and the systematic and random testing of psychoactive substances |
| | | | EVT.0012 | Commission Regulation (EU) No 139/2014 (the 'Aerodrome Regulation') |
| RES | strategic | Environment | RES.024 | Assessment of environmental impacts — engine emissions |
| | | | RES.025 | Assessment of environmental impacts — aircraft noise |
| | | | RES.026 | Market-based measures (ETS and CORSIA) |
| | | Safety | RES.027 | Sandwich structured composites |
| | | | RES.028 | Single pilot operations risk assessment framework |
| | | | RES.030 | Cabin Air Quality – Chronic exposure to contamination events |

## Deleted actions:

| Task Number | Task Title | Driver | Reason |
|---|---|---|---|
| **RMT.0384** | Open rotor engine & installation | Level playing field | This RMT is deleted from EPAS, as there is no immediate need for an amendment of CS-E, and in order to allow the Agency to focus its resources on more pressing safety issues.<br>Should EASA receive an application for type certification which includes an open rotor design, it will develop a special condition. This special condition will be based on the work already completed or discussed in the context of this RMT.<br>In the mid term, based on the experiences gathered in first certification projects with engine open rotor design, CS provisions may be developed based on that special condition (using the regular update RMTs). |
| **RMT.0116** | Real weight and balance of an aircraft | Safety | This RMT is deleted from EPAS because the updated BIS no longer shows the need for rulemaking to contribute to this action area. In case a future BIS shows rulemaking as an intervention strategy, EASA will consider the programming of a new task. |
| **RES.020** | Identify helicopter technologies with safety benefits | Safety | Following the publication of the EHEST Study 'The potential of technologies to mitigate helicopter accident factors' (Ref: NLR-TP-2014-311) in 2014, there was no need to update that report via the launch of a new research project. Consequently, RES.020 is deleted and replaced by the safety promotion task, SPT.095. |
| **MST.020** | Loss of radar detection | Safety | The provision of Regulation (EU) 1207/2011 Article 6 states, "….Member States shall ensure that a secondary surveillance radar transponder on board any aircraft flying over a Member State is not subject to excessive interrogations that are transmitted by ground-based surveillance interrogators and which either elicit replies or whilst not eliciting a reply are of sufficient power to exceed the minimum threshold level of the receiver of the secondary surveillance radar transponder" enter into force on 2nd January 2020. This provision addresses the same issue as MST.020 thus this action is no longer applicable and is thus deleted from EPAS. |

## De-prioritised actions:

| Driver | Task Number | Task Title | Domains |
|---|---|---|---|
| Safety | **RMT.0217** | CAMOs' and Part-145 organisations' responsibilities | CAW |
| | **RMT.0486** | Alignment with ICAO Standards and Recommended Practices as regards the provisions for air traffic controller fatigue management | ATM/ANS |
| | **RMT.0706** | Update of authority and organisation requirements | All |
| | **RMT.0722** | Provision of aeronautical data by the aerodrome operator | ADR |
| Efficiency / proportionality | **RMT.0412** | Update of the authority and organisation requirements pertaining to Part-FCL (Annex I) of Commission Regulation (No) 1178/2011 | Aircrew |
| | **RMT.0424** | Regular update of Part-MED (Annex IV) of Commission Regulation (EU) No 1178/2011 | Aircrew |
| | **RMT.0587** | Regular update of regulations regarding pilot training, testing and checking and the related oversight | Aircrew |
| Level playing field | **RMT.0312** | Review of standard weights | OPS |
| | **RMT.0318** | Single-engine helicopter operations | OPS |
| | **RMT.0707** | Medical regulation — combine Part-MED (Annex IV) of Commission Regulation (EU) No 1178/2011 and Part ATCO MED (Annex IX) of Commission Regulation (EU) 2015/340 | Aircrew |

# Appendix D: Overview of new and ongoing Best Intervention Strategies to be launched/progressed in 2019-2020

Note: BIS reports were called 'Preliminary Impact Assessments' before 2019.

Please note that this list and the planning are indicative. It could be subject to changes according to new priorities defined by EASA and the ABs.

| BIS title | Short description | Status |
|---|---|---|
| Flight crew licences | The assessment will examine several issues which will be addressed consequentially:<br>**Package 1:** Modernise the EU training system by supply of competent flight instructors and change in the pilot age limitation<br>**Package 2:** Introduce competency-based training for the appropriate pilot licences and ratings<br>Note: This BIS is supported by two detailed evaluations of the existing rules shared with ABs. | AB consultation planned for<br>○ Package 1: Q4 2019 / Q1 2020<br>○ Package 2: to be decided beginning of 2020 |
| Human factors competencies for regulatory staff | The analysis addresses the need of the regulatory staff to have specific HF competencies to be able to perform their duties on overseeing how effectively human factors are managed within organisations, as it is a significant contributor in assuring a high level of safety.<br><br>Some more safety issues which are underway and could result into further development of this BIS or elaborating new one(s) are: design and use of procedures; senior management knowledge, competence, and commitment to HF/HP; organisational and individual resilience; training effectiveness and competence. | AB consultation planned for Q2 2020 |
| Ice in flight (CAT FW) | This analysis is part of the safety issue 'Flight in adverse weather conditions for CAT FW' (BIS 'Ice in flight' was consulted early 2019).<br>Short outcome:<br>- 2 SPTs will be developed on training techniques and on crew awareness on the threat of icing conditions; and<br>3 RMTs to develop certification specifications are planned to start in 2022, subject to validation through a full impact assessment. | AB consultation: 14 March – 30 April 2019 (closed) |
| Weather information to pilots | This analysis is part of the safety issue 'Flight in adverse weather conditions for CAT FW'. | AB consultation planned for Q1 2020 |
| Airborne collision risk | The BIS addressed the safety issue 'De-confliction of IFR/VFR airspace' and includes in its analysis the issues raised by RMT.0376 'Anti-collision and traffic awareness systems for aircraft with MTOMs less than 5 700 kg or carrying less than 19 passengers'. | AB consultation planned for Q4 2019 |
| Flight crew interoperability | This BIS addresses the increasing practice in the European airline operators to exchange flight crews freely across several different AOCs in one or several Member States. | AB consultation planned for Q1 2020 |

| BIS title | Short description | Status |
|---|---|---|
| Flight time limitation | The BIS on aircrew fatigue has three main objectives:<br>1. Follow up on a scientific evaluation on the rules on flight time limitations.<br>2. Strengthen fatigue risk management by operators and aircrew.<br>3. Raise awareness of shared responsibilities. | Q4 2019 |
| Road / gyroplane | The BIS addresses the issue of regulatory gap in the Continuous Airworthiness, Flight Crew Licensing and OPS rules for gyroplane operations. The BIS is to support Subtask 1 of RMT.0731 'New air mobility'. | AB Consultation: 8 July – 16 Sept 2019, extended to 30 September.<br>EASA decision for next step pending analysis of the AB comments |
| Electric and hybrid propulsion | The BIS addresses address electric and hybrid propulsion systems and the regulatory gap with the current regulations, certification specifications and procedures.. | AB consultation planned for Q4 2019 |
| Rotorcraft | The BIS will assess the topic single-engine helicopter operations to operate over hostile and congested environment with a full impact assessment. | Study to start by end of 2019 |
| Safety management | Update of the existing BIS on safety management. | AB consultation planned for Q1 2020 |
| Erroneous take-off parameters | Update of the BIS on the use of erroneous take-off parameters consulted in 2019 | AB Consultation: 14 March – 30 April 2019<br><br>Next AB consultation: to be decided beginning of 2020 |

# Appendix E: European Commission's strategic priorities for aviation

This Appendix is reserved to include information on the priorities to be established by the new European Commission.

# Appendix F: Acronyms and definitions

**List of EASA frequently used abbreviations:** https://www.easa.europa.eu/abbreviations

| | |
|---|---|
| **14 CFR Part 25** | US Code of Federal regulations (CFR) Title 14 Part-25 Airworthiness Standards: Transport Category Airplanes |
| **14 CFR Part 33** | Code of Federal regulations (CFR) Title 14 Part 33 Airworthiness Standards: Aircraft Engines |
| **4G** | fourth generation of wireless mobile telecommunications technology |
| **AAD** | advanced anomaly detection |
| **AAS** | Airspace Architecture Study — Proposal for the future architecture of the European airspace created by SESAR Joint Undertaking, 2019 |
| **ABs** | Advisory Bodies |
| **ACARE** | Advisory Council for Aviation Research and Innovation in Europe |
| **ACAS** | airborne collision avoidance system |
| **ACNS** | airborne communications, navigation and surveillance |
| **ADR** | aerodromes |
| **ADS-B** | automatic dependent surveillance - broadcast |
| **ADS-C** | automatic dependent surveillance - contract |
| **AeMC** | aero-medical centre |
| **AEMS** | aeroplane emergency medical service |
| **AFM** | aircraft flight manual |
| **airprox** | An airprox is a situation in which, in the opinion of a pilot or air traffic services personnel, the distance between aircraft as well as their relative positions and speed have been such that the safety of the aircraft involved may have been compromised. (ICAO Doc 4444: PANS-ATM). |
| **AFCS** | automatic flight control system |
| **AI** | artificial intelligence |
| **AIS** | aeronautical information services |
| **AltMoC** | alternative means of compliance |
| **AMC** | acceptable means of compliance |
| **AMC-20** | general Acceptable Means of Compliance for airworthiness of products, parts and appliances |
| **AME** | aero-medical examiner |
| **AML** | aircraft maintenance licence |
| **AMM** | aircraft maintenance manual |
| **AMO** | approved maintenance organisation |

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|---|---|
| **AMS** | apron management services |
| **AMTO** | approved maintenance training organization (Part-147) |
| **ANAC** | Agência Nacional de Aviação Civil (Portuguese national aviation authority) |
| **ANS** | air navigation services |
| **ANSP** | air navigation service provider |
| **AOC** | air operator certificate |
| **AP** | Accelerated (rulemaking) procedure |
| **ARA** | authority requirements (in the Aircrew Regulation) |
| **ARAC** | Aviation Rulemaking Advisory Committee |
| **ART** | Eurocontrol Agency Research Team |
| **ASAWG** | ARAC Airplane-level Safety Analysis Working Group |
| **ASBUs** | Aviation System Block Upgrades |
| **ASISP** | Aircraft Systems Information Security/Protection |
| **ASR** | annual safety review |
| **ATC** | air traffic control |
| **ATCO** | air traffic controller |
| **ATM** | air traffic management |
| **ATO** | approved training organisation |
| **ATPL** | air transport pilot licence |
| **ATS** | air traffic services |
| **ATSEP** | air traffic safety electronics personnel |
| **AWOs** | all-weather operations |
| **B777** | Boeing 777 |
| **BASA** | Bilateral Aviation Safety Agreement |
| **BEA** | Bureau d'Enquêtes et d'Analyses (French Safety Investigation Authority) |
| **BIS** | Best Intervention Strategy |
| **BPL** | balloon pilot licence |
| **BVLOS** | beyond visual line of sight |
| **CA** | competent authority |
| **CAA** | civil aviation authority |
| **CABA** | Certification Authorities for Bilateral Agreements & Certification Procedures |
| **CAE** | Continued Aviation Education |
| **CAEP** | Committee on Aviation Environmental Protection (ICAO) |
| **CAEP/10** | tenth meeting of the committee on Aviation Environmental Protection |

| | |
|---|---|
| **CAEP/11** | eleventh meeting of the committee on Aviation Environmental Protection |
| **CAG** | Collaborative Analysis Group |
| **CAMO** | continuing airworthiness management organisation |
| **CAPP** | certification authorities for propulsion |
| **CASA** | Civil Aviation Safety Authority of Australia |
| **CAT** | commercial air transport |
| **CAT I, II, III** | category I, II, III |
| **CATA** | certification authorities for transport airplane |
| **CAW** | continuing airworthiness |
| **CB** | cumulonimbus |
| **CBA** | cost-benefit analysis |
| **CBTA** | competency-based training and assessment |
| **CE** | Critical Element |
| **CEA** | cost-effectiveness analysis |
| **CERT-EU** | Computer Emergency Response Team |
| **CFIT** | controlled flight into terrain |
| **CIR** | candidate issue register |
| **CME** | continued medical education |
| **CMH** | composite material handbook |
| **CMPA** | complex motor-powered aircraft |
| **CMT** | Certification Management Team |
| **CNN** | Convolutional Neural Network (artificial intelligence) |
| **CNS** | communication, navigation and surveillance |
| **CO/$CO_2$** | carbon monoxide/carbon dioxide |
| **CofA** | certificate of airworthiness |
| **CORAL** | Certification and ORganisation ApprovaL information hub programme |
| **CORSIA** | Carbon Offsetting and Reduction Scheme for International Aviation |
| **CPL** | commercial pilot licence |
| **CRD** | comment-response document |
| **CRM** | crew resource management |
| **CS(s)** | certification specification(s) |
| **CS SIMD** | Certification Specifications for Simulator Data |
| **CS VLR** | Certification Specifications for Very Light Rotorcraft |
| **CS-22** | Certification Specifications for sailplanes and powered sailplanes |

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|---|---|
| **CS-23** | Certification Specifications for normal, utility, aerobatic and commuter aeroplanes |
| **CS-25** | Certification Specifications for large aeroplanes |
| **CS-26** | Certification Specifications for additional airworthiness specifications for operations |
| **CS-27** | Certification Specifications for small rotorcraft |
| **CS-29** | Certification Specifications for large rotorcraft |
| **CS-34** | Certification Specifications for aircraft engine emissions and fuel venting |
| **CS-ACNS** | Certification Specifications for Airborne Communication, Navigation and Surveillance |
| **CS-APU** | Certification Specifications for Auxiliary Power Units |
| **CS-CCD** | Certification Specifications for cabin crew data |
| **CS-CO2** | Certification Specifications for Aeroplane CO2 Emissions |
| **CS-E** | Certification Specifications for Engines |
| **CS-ETSO** | Certification Specifications for European Technical Standard Orders |
| **CS-FCD** | Certification Specifications for Flight Crew Data |
| **CS-LSA** | Certification Specifications for Light Sport Aeroplanes |
| **CS-MMEL** | Certification Specifications for Master Minimum Equipment List |
| **CS-STAN** | Certification Specifications for Standard Changes/Standard Repairs |
| **CS-VLA** | Certification Specifications for Very Light Aeroplanes |
| **CTIG** | Common Training Initiative Group |
| **C-UAS** | Counter Unmanned Aircraft Systems |
| **CVR** | cockpit voice recorder |
| **CVS** | combined vision systems |
| **CZ** | Czech Republic |
| **DA** | (Commission) delegated act |
| **DAH** | design approval holder: used only if all of the following items are included: holder of a type-certificate, a restricted type-certificate, a supplemental type-certificate, a European Technical Standard Order (ETSO) authorisation, a major repair design approval, a major change design approval or any other relevant approval or authorisation for the design of aeronautical products, parts and appliances deemed to have been issued under Commission Regulation (EU) No 748/2012. |
| **DAT provider** | (aeronautical) data provider, indirectly, competent authority |
| **DL** | deep learning (Artificial Intelligence) |
| **DLS** | data link services |
| **DM** | downlink message |
| **DOA** | design organisation approval |
| **DP** | direct publication (rulemaking procedure) |
| **DTO** | declared training organisation |

| | |
|---|---|
| **EACTB** | Engine/Aircraft Certification Tracking Board |
| **EACWG** | Engine/Aircraft Certification Working Group |
| **EAEG** | ECAC European Aviation Environmental Group |
| **EAER** | European Aviation Environmental Report |
| **EAFDM** | European Authorities Coordination Group on Flight Data Monitoring |
| **EAPPRE** | European Action Plan for the Prevention of Runway Excursions |
| **EAPPRI** | European Action Plan for the Prevention of Runway Incursions |
| **EASA** | European Union Aviation Safety Agency |
| **EASA MB** | European Union Aviation Safety Agency Management Board |
| **EASP** | European Aviation Safety Programme |
| **EATMN** | European air traffic management network |
| **EBT** | evidence-based training |
| **EC** | European Commission |
| **ECAC** | EASA European Civil Aviation Conference |
| **ECCSA** | European Centre for Cyber Security in Aviation |
| **ECHA** | European Chemicals Agency |
| **ECQB** | European Central Question Bank |
| **ECR** | European Central Repository for accident and incident reports in aviation |
| **EDTO** | extended diversion time operation |
| **EEA** | European Environment Agency |
| **EFVS** | enhanced flight vision systems |
| **EHEST** | European Helicopter Safety Team |
| **EHPU** | electric and hybrid propulsion unit |
| **EHSIT** | European Helicopter Safety Implementation Team |
| **EI** | Effective Implementation |
| **ELA** | European light aircraft |
| **ELA1 aircraft** | ELA1 aircraft' means the following manned European light aircraft:<br>— an aeroplane with a maximum take-off mass (MTOM) of 1 200 kg or less that is not classified as a complex motor-powered aircraft;<br>— a sailplane or powered sailplane of 1 200 kg MTOM or less;<br>— a balloon with a maximum design lifting gas or hot air volume of not more than 3 400 $m^3$ for hot air balloons, 1 050 $m^3$ for gas balloons, and 300 $m^3$ for tethered gas balloons. |
| **EMS** | emergency medical services |
| **EOFDM** | European Operators Flight Data Monitoring forum |
| **EPAS** | European Plan for Aviation Safety |

| | |
|---|---|
| **EOC** | essential operational changes |
| **ERCS** | European Risk Classification Scheme |
| **EREA** | European Research Establishments in Aeronautics |
| **ESCP** | European Strategic Coordination Platform |
| **ESPN-R** | European Safety Promotion Network Rotorcraft |
| **ETOPS** | extended-range twin-engine operational performance standards |
| **ETS** | European Union Emissions Trading System (EU ETS) is the cornerstone of the European Union's policy to tackle climate change and its key tool for cost-effective reduction of emissions of carbon dioxide ($CO_2$) and other greenhouse gases (GHG) in the power, aviation and industrial sectors. The EU ETS works on the 'cap and trade' principle and is a market-based measure where participants are required to monitor and report their emissions and surrender sufficient emission allowances to cover their reported emissions in each year. |
| **ETSO** | European technical standard order |
| **ETSOA** | European technical standard order (authorisation) |
| **EU** | European Union |
| **EUROCAE** | European Organisation for Civil Aviation Equipment |
| **EVT** | evaluation task |
| **EWIS** | Electrical Wiring Interconnection System |
| **FAA** | Federal Aviation Administration |
| **FAR 33.90** | Federal Aviation Regulation Section 33.90 — Initial maintenance inspection test |
| **FbW/FBW** | fly-by-wire |
| **FC** | flight crew |
| **FCD** | flight crew data |
| **FCL** | flight crew licensing |
| **FCHWG** | ARAC Flight Controls Harmonization Working Group |
| **FCOM** | flight crew operating manual |
| **FDM** | flight data monitoring |
| **FDR** | flight data recorder |
| **FEM** | flight examiner manual |
| **FIS** | flight information services |
| **FL** | flight level |
| **FoC** | Focused Consultation |
| **FOT** | Focussed Attention Topics |
| **FR** | France |
| **FRM** | fatigue risk management |

| | |
|---|---|
| **FS** | flight standards |
| **FSTD** | flight synthetic training device |
| **FTL** | flight time limitation |
| **FTS** | flight time specifications |
| **FW** | fixed wing |
| **GA** | General Aviation: It means any civil aircraft operation other than aerial work or commercial air transport (Commission Implementing Regulation (EU) 2017/373) |
| **GA.COM** | General Aviation Committee (EASA Advisory Body) |
| **GANP** | Global Air Navigation Plan |
| **GASP** | Global Aviation Safety Plan (ICAO) |
| **GBAS** | ground-based augmentation system |
| **GH** | Groundhandling |
| **GHG** | greenhouse gas |
| **GLS** | GBAS (ground-based augmentation system) landing system |
| **GM** | guidance material |
| **GMP** | general medical practitioner |
| **GNSS** | global navigation satellite system |
| **GPS** | global positioning system |
| **H2020** | Horizon 2020 |
| **HA** | higher airspace (above FL 600/650) |
| **HE** | helicopter manufacturers, operators, training organisations, maintenance organisations |
| **HEMS** | helicopter emergency medical services |
| **HF** | human factors |
| **HF CAG** | Human Factors Collaborative Analysis Group |
| **HOSSWG** | Helicopter Offshore Safety and Survival Working Group |
| **HP** | human performance |
| **HPA** | high-performance aircraft |
| **HTAWS** | helicopter terrain awareness warning systems |
| **HUD** | head-up display |
| **IA** | (Commission) implementing act |
| **IAW** | initial airworthiness |
| **ICA** | instructions for Continued Airworthiness |
| **ICAO** | International Civil Aviation Organization |
| **ICAO SL** | ICAO State letter |

| | |
|---|---|
| **IFE** | in-flight entertainment |
| **IFR** | instrument flight rules |
| **IHST** | International Helicopter Safety Team |
| **ILS** | instrument landing system |
| **IMC** | instrument meteorological conditions |
| **IMI** | initial maintenance inspection |
| **INF** | information management (in reflection to ATM Master Plan Level 3) |
| **IPC** | Innovation Partnership Contract |
| **IR** | (Commission) implementing rule |
| **IR** | instrument rating |
| **ITY** | interoperability (in reflection to ATM Master Plan Level 3) |
| **JAA** | Joint Aviation Authorities |
| **KPI** | key performance indicator |
| **KRE** | key risk element |
| **LAFI** | light aircraft flight instructor |
| **LAPL** | light aircraft pilot licence |
| **LO** | learning objective |
| **LOCART** | loss of control avoidance and recovery training |
| **LOC-I** | loss of control – in-flight |
| **LOI** | level of involvement |
| **LPR** | language proficiency requirements |
| **LVO** | low-visibility operation |
| **MA** | medical assessor |
| **MAB** | Member States Advisory Body |
| **MB** | Management Board |
| **MAC** | mid-air collision |
| **MCA** | multi-criteria analysis |
| **MCF** | maintenance check flight |
| **MET** | meteorology/meteorologic |
| **MET provider** | meteorological service provider, indirectly, competent authority |
| **MGB** | main gearbox |
| **MH17** | Malaysia Airlines flight 17 |
| **ML** | Machine Learning (artificial intelligence) |
| **MMEL** | master minimum equipment list |

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|---|---|
| **MO** | maintenance organisation |
| **MoC** | Memorandum of Cooperation |
| **MOPSC** | maximum operational passenger seating configuration |
| **MPL** | multi-crew pilot licence |
| **MRB** | Maintenance Review Board |
| **MST** | Member States' task |
| **MTO** | maintenance training organisation |
| **MTOM** | maximum take-off mass |
| **NAA** | national aviation authority |
| **NAV** | Navigation (in reflection to ATM Master Plan Level 3) |
| **NCC** | non-commercial air operations with complex motor-powered aircraft* |
| **NCO** | non-commercial air operations with other-than complex motor-powered aircraft* |
| * The term 'complex motor-powered aircraft' is no longer defined in Regulation (EU) 2018/1139. Article 140(2) of that Regulation provides that no later than 12 September 2023, implementing rules adopted under Regulations (EC) Nos 216/2008 and 552/2004 shall be adapted to the new Basic Regulation. Until then, deleted or altered definitions will continue to apply. | |
| **NDB** | non-directional beacon |
| **NextGen** | next generation |
| **NGAP** | Next Generation of Aviation Professionals programme (ICAO) |
| **NGO** | non-governmental organisation |
| **NN** | Neural Networks (artificial intelligence) |
| **NO** | Norway |
| **NoAs** | Network of Analysts |
| **NPA** | notice of proposed amendment |
| **NSA** | national supervisory authority |
| **nvPM** | non-volatile particulate matter |
| **OEM** | original equipment manufacturer |
| **OHMPs** | occupational health medical practitioners |
| **OJ** | Official Journal of the European Union |
| **OPS** | air operations |
| **OpSpecs** | operations specifications |
| **ORO.FC** | organisation requirements for air operations — flight crew |
| **PANS** | procedures for air navigation services (ICAO) |
| **Part-145** | maintenance organisation approvals |
| **Part-147** | training organisations requirements |

| | |
|---|---|
| **Part 21** | airworthiness and environmental certification of aircraft and related products, parts and appliances, as well as for the certification of design and production organisations |
| **Part 21 Subpart H** | airworthiness certificates and restricted certificates of airworthiness |
| **Part-26** | additional airworthiness requirements for operations |
| **Part-66** | certifying staff |
| **Part-ARO** | authority requirements for air operations |
| **Part-FCL** | flight crew licensing |
| **Part-M** | continuing airworthiness requirements |
| **Part-MED** | medical certification of pilots, medical fitness of cabin crew, certification of AMEs and requirements of GMPs and OHMPs |
| **Part-MET** | specific requirements for providers of meteorological services |
| **Part-ORA** | organisation requirements for aircrew |
| **Part-ORO** | organisation requirements for air operations |
| **Part-SPO** | specialised operations |
| **PBN** | performance-based navigation |
| **PBAOM** | performance based aerodrome operating minima |
| **PBR** | performance-based regulation |
| **PCP** | pilot common project (SESAR) |
| **PDRA** | predefined risk assessment |
| **PED** | personal electronic device |
| **PIS** | public interest sites |
| **PM** | particulate matter |
| **POA** | production organisation approval |
| **PoC** | proof of concept |
| **PPL** | private pilot licence |
| **Q** | quarter |
| **QMS** | quality management system |
| **RAMP** | aerodrome ramp |
| **RASG** | Regional Aviation Safety Group |
| **RASP** | Regional Aviation Safety Plan |
| **RE** | runway excursion |
| **REACH** | Registration, Evaluation, Authorisation and Restriction of Chemicals — Regulation (EC) No 1907/2006 |
| **ReCo** | reduced-crew operations |
| **RES** | research actions |

| | |
|---|---|
| **RFFS** | rescue and firefighting services |
| **RFID** | radio frequency identification device |
| **RI** | runway incursion |
| **RIA** | regulatory impact assessment |
| **RMT** | rulemaking task |
| **RNAV** | area navigation |
| **RNN** | Recurrent Neural Network (artificial intelligence) |
| **R.COM** | Rotorcraft Committee (Advisory Body) |
| **RSC** | Rotorcraft Sectorial Committee |
| **RSOO** | Regional Safety Oversight Organisation |
| **RT** | radio telephony |
| **RVR** | runway visual range |
| **RWY** | runway |
| **R&D** | research and development |
| **SAB** | Stakeholders Advisory Body |
| **SA CAT I** | special authorisation CAT I |
| **SAF** | Safety Management (in reflection to ATM Master Plan Level 3) |
| **SAR** | Standardisation Annual Report |
| **SARPs** | Standards and Recommended Practices (ICAO) |
| **SATCOM** | satellite communications |
| **SBAS** | satellite-based augmentation system |
| **SC** | special condition |
| **SEI** | Safety Enhancement Initiative (ICAO) as defined in GASP |
| **SID** | Standard Instrument Departure |
| **SENS4ICE** | EU funded project: SENSors and certifiable hybrid architectures for safer aviation in ICing Environment |
| **SERA IR** | standardised European rules of the air — implementing rule |
| **SES** | Single European Sky |
| **SESAR** | Single European Sky ATM Research |
| **SIA** | safety issue assessment |
| **SIB** | Safety Information Bulletin |
| **SiPo** | single pilot operations |
| **SJU** | SESAR Joint Undertaking |
| **SKPI** | safety key performance indicator |

| | |
|---|---|
| **SLD** | super-cooled large droplets |
| **SMICG** | Safety Management International Collaboration Group |
| **SMS** | safety management system |
| **SM TeB** | Safety Management Technical Body |
| **SORA** | specific operations risk assessment |
| **SPAS** | State Plan for Aviation Safety |
| **SPD** | Single Programming Document |
| **SPI** | surveillance performance and interoperability |
| **SPI** | safety performance indicator |
| **SPN** | Safety Promotion Network |
| **SPO** | specialised operations |
| **SPT** | safety promotion task |
| **SR/SRs** | safety recommendation/safety recomendations |
| **SRIA** | Strategic Research and Innovation Agenda |
| **SRM** | safety risk management |
| **SSIP** | supplemental structural inspection programme |
| **SSP** | state safety programme |
| **SST** | supersonic transport |
| **ST** | standard (rulemaking) procedure |
| **STAR** | Standard Terminal Arrival Route (USA), Standard Instrument Arrival (ICAO) |
| **STC** | supplemental type certificate |
| **STD** | synthetic training device |
| **SVGS** | synthetic vision guidance system |
| **SVS** | synthetic vision system |
| **SYS inspections** | Standardisation Domain 'Systemic Enablers for Safety Management'. Standardisation inspections in this domain focus on the implementation of Regulation (EU) No 376/2014 on occurrence reporting and the verification of the CA management system. |
| **TACDWG** | Transport Aircraft Crashworthiness and Ditching Working Group |
| **TAG** | Thematic Advisory Group |
| **TBD** | to be determined |
| **TBO** | time between overhaul |
| **TC** | type certificate |
| **TCAS** | traffic collision avoidance system |
| **TCCA** | Transport Canada Civil Aviation |

| | |
|---|---|
| **TCO** | third-country operator |
| **TeB** | Member State technical body |
| **TeC** | Stakeholder technical body |
| **TEM** | threat and error management |
| **TMA** | terminal manoeuvring area |
| **TMG** | touring motor glider |
| **TO** | training organisation |
| **ToR** | terms of reference |
| **TSO** | technical standard order |
| **UA** | unmanned aircraft |
| **UAS** | unmanned aircraft systems |
| **UK** | United Kingdom |
| **UPRT** | upset prevention and recovery training |
| **USOAP** | Universal Safety Oversight Audit Programme |
| **UTM** | unmanned traffic management |
| **VFR** | visual flight rules |
| **VHF** | very high frequency |
| **VHM** | vibration health monitoring |
| **VLD** | very large-scale demonstration |
| **VLOS** | visual line of sight |
| **VOR** | VHF omnidirectional range |
| **VR** | virtual reality |
| **VTOL** | vertical take-off and landing aircraft |
| **WFD** | widespread fatigue damage |
| **WG** | working group |
| **WIDDCWG** | Water Impact, Ditching Design and Crashworthiness Working Group |
| **WP** | working paper/working package |
| **WPGR** | Report of the Wise Person Group on the future of the Single European Sky, April 2019 |

# Appendix G: Working groups and Bodies having a role in EPAS

**ACARE Working Group 'Safety – Security' (WG4)**

**Web Link**

The Advisory Council for Aeronautics Research in Europe (ACARE) serves as the European technology platform for the aviation and air transport sectors.

ACARE gathers the main actors involved in aviation research, i.e. industry, research centres, universities, public authorities. The ACARE Strategic Research and Innovation Agenda (SRIA) provides the strategic roadmap for aviation research, development and innovation developed by ACARE that accounts for both evolutionary and revolutionary approaches. It aims to provide a guide to future actions in public and private funding programmes to ensure that research is adequately supported and funded.

As aviation is marked by the high complexity of its products and their components which are subject to very long R&D cycles (up to 20 years) and is technology- and capital-intensive, research efforts need to be based on a long-term programming approach.

ACARE WG4 maintains the list of research actions dedicated to safety and security identified to meet the long-term objectives of EU aviation in those fields.

**Advisory Bodies**

**Web Link**

The **Advisory Bodies (ABs)** provide EASA with a forum for consultation of interested parties and national authorities. The main purpose of the ABs is to:

— facilitate the discussion of strategic/technical priorities as well as controversial or horizontal issues at early Agency programming stage; and

— provide EASA with a forum to consult on strategic safety priorities.

When the proposed actions affect the Member States, the purpose of the ABs is to:

— provide advice to EASA on content, priorities and execution of its safety programmes; and

— provide advice on ongoing efforts to improve EPAS, rulemaking, standardisation, safety promotion, and research programming process.

The following ABs are relevant for EPAS:

**Member States' Advisory Body (MAB)**: MAB is a forum to consult Member States on strategic safety priorities. MAB ensures that horizontal or strategic issues arising at TEB level are discussed in MAB meetings with the objective of providing a harmonised position to the Agency, including for EPAS.

**Member States Technical Bodies (TeBs)**: TeBs provide the Agency with a forum to consult Member States on technical safety priorities. Their scope encompasses advice on rulemaking deliverables, standardisation and also include safety promotion activities.

**Stakeholder Advisory Body (SAB)**: Within the European SRM process, SAB is responsible for advising on strategic developments and strategic priorities for EPAS.

**Stakeholder Technical Committees (TeCs)**: Technical Committees with specific technical expertise: Flight Standards, Design and Manufacturing, Engineering and Maintenance, Aerodromes, Air Traffic Management and Air Navigation Services. TeCs are responsible for reviewing and committing to concrete actions that address the specific safety issues at sectorial and technical level.

**COMs:** Overarching industry committees, with a transverse and overarching role: Commercial Aeroplane Safety, General Aviation, Rotorcraft and Certification.

**Commercial Aeroplane Safety Committee (CAS.COM):** CAS.COM was created by SAB to complement the existing Committees with a view to focusing on safety risk management and safety strategic developments in the field of CAT by aeroplane.

The **Safety Management TeB (SM TeB)** is particularly relevant for EPAS. It encompasses and extends the scope of the EASp summits and is the forum to:

— advise Member States with the implementation and maintenance of their SSPs and SPASs by exchanging information and addressing implementation issues;

— provide input and feedback on the implementation of the EPAS in regard to systemic issues;

— provide recommendations to EASA/the EC on further actions required to support SSP/EPAS implementation;

— address issues stemming from the Standardisation SYS inspections; and

— discuss and provide recommendations where action is required on any safety management implementation issues.

**ARAC/ARC**

Rulemaking deliberations often start years before a formal rulemaking process is launched. Sometimes the FAA finds it beneficial to get industry and the public's advice and recommendations prior to starting rulemaking to prepare and facilitate the development of the draft regulations. There are two different types of consultative bodies FAA can employ for this purpose:

— The **Aviation Rulemaking Advisory Committee (ARAC)** standing committee, which aims to build a consensus amongst aviation stakeholders on certain issues, which the FAA in its subsequent rulemaking process may (or may not) consider.

— The **Aviation Rulemaking Committee (ARC)** is formed on an ad hoc basis for specific purposes with limited duration. It is essentially a group of aviation specialists who are selected to evaluate issues and provide advice and recommendations to the FAA.

Both Committees provide FAA with information, advice and recommendations. Both mechanisms hold the benefit that they allow to take advantage of industry technical expertise and experience, they help resolving controversies in an open forum by broadening public and industry participation in the process, and they may resolve issues before the formal rulemaking process begins.

EASA is a non-voting member of the ARAC, and it is invited and decides on a case-by-case basis whether to join specific task groups of these committees.

**CAG**

The **Collaborative Analysis Groups (CAGs)** are expert groups, responsible for analysing the safety of European aviation. Each CAG works on a domain and its membership is derived from key stakeholders in the domain. These stakeholders may come from industry or from EASA's regulatory partners. Each CAG meets up to three times per year to review available safety information, arrange in-depth safety issue analyses and identify emerging issues. They monitor the safety performance of their domain and provide feedback on the effectiveness of actions taken.

**CTIG**

The **Common Training Initiative Group (CTIG)** is composed of training managers from CAs. The CTIG plays a crucial role in the implementation of the new EASA aviation training strategy. The Group is mandated to harmonise training and assessment standards for aviation inspectors, with the aim of providing for highly qualified and sufficiently trained authority inspectors across Europe.

**EACWG**

**Engine/Aircraft Certification Working Group (EACWG)** is an initiative of the FAA and EASA to streamline the overall certification process by improving engine/aircraft interface certification and standard-setting practices. The EACWG aims at reducing unnecessary burden in the certification process and better address the interdependencies between aircraft and engine certification programmes of transport category aircraft with turbine engines.

**EAFDM**

**Web Link**

EASA and CAs formed a group of experts called the **European Authorities Coordination Group on FDM (EAFDM)**. It was a voluntary and independent safety initiative with the objectives of contributing to:

— improving the implementation of FDM programmes and to making them more safety effective;

— EASA's objective of a high and uniform level of safety in Europe; and

— a better overview of air transport operational safety in Europe for EASA and CAs.

The good-practice documents produced by EAFDM cover:

— development of national FDM forums;

— oversight of FDM programmes by CAs; and

— FDM-based indicators.

**EOFDM**

**Web Link**

The **European Operators Flight Data Monitoring (EOFDM)** forum is a voluntary partnership between European operators and EASA in order to:

— facilitate the implementation of FDM by operators; and

— help operators draw the maximum safety benefits from an FDM programme.

The EOFDM steering group manages its work with a series of working groups. Depending on the group, the following organisations may participate: operators, operator associations, flight crew associations, aircraft manufacturers, FDM software vendors, research and educational institutions, regulators (CAs and international aviation regulators) and EASA. Non-European organisations are encouraged to join this safety initiative.

**ESPN-R**

**Web Link**

The **European Safety Promotion Network Rotorcraft (ESPN-R)** is a mixed industry-authorities team established by the Rotorcraft Sectorial Committee (RSC) in January 2017.

The ESPN-R develops, disseminates and evaluates SP material and actions on a voluntary basis in support of the RSC, of EASA and of the industry. The ESPN-R can also contribute to SP campaigns and ensure that SP material reaches the target audience.

The ESPN-R contributes to the implementation of rotorcraft safety promotion actions from EPAS, rotorcraft section, and can suggest safety promotion actions for inclusion in EPAS . Its scope includes but is not limited to operations and SMS, training and emerging safety-enhancing technologies.

Members come from the former European Helicopter Safety Team (EHEST) community and the former European Helicopter Safety Implementation Team (EHSIT) — the implementation team of the EHEST. The ESPN-R leverages the former EHSIT competencies for development, dissemination and evaluation of safety promotion material and actions.

**EUFALDA**

**Web link**

The **European Federation of Airline Dispatcher Associations (EUFALDA)** is the leading organisation to serve the Flight Dispatchers all over Europe.

**Eurocontrol Agency Research Team (ART)**

**Web Link**

The Agency Research Team (ART) is an advisory body of the Eurocontrol Agency. It disseminates research topics, projects and results with relevance for ATM amongst its members.

**NoAs**

The **Network of Analysts** was established in 2011 to provide a collaborative framework for the EASA Member States to work together on safety analysis activities. The NoAs was formalised within Regulation (EU) No 376/2014. It has the purpose (at Union level) of:

— reporting of, analysing and following up occurrences in civil aviation using the European Central Repository ;

— assisting States in assessing their priorities for the State Safety Programmes (SSPs);

— supporting in assessing priorities both for EPAS and for the SSPs; and

— working closely with the CAGs in the identification of safety issues, performance of safety risk assessments and the monitoring of safety performance.

**SM ICG**

**Web Link**

The **SMS International Collaboration Group (SMICG)** was created in February 2009. It is a joint collaboration activity between aviation regulatory authorities in order to:

— promote a common understanding of and collaboration for the implementation of SMS/SSP principles and requirements in different countries, facilitating their implementation across the international aviation community;

— share lessons learned;

— encourage the progression of a harmonised SMS; and

— collaborate with international organisations such as ICAO and civil aviation authorities that have implemented or are implementing SSP/SMS.

The SMICG consists of a core group and a participant group. The core group is comprised of authorities with resources and expertise for product development. It includes members from the FAA, the TCCA, EASA, the DGAC France, AESA Spain, ENAC Italy, FOCA Switzerland, the Irish Aviation Authority, Trafi Finland, the UK CAA, CASA of Australia, the CAA of the Netherlands, the JCAB of Japan, the CAA of New Zealand, ANAC of Brazil, the United Arab Emirates General Civil Aviation Authority, the Civil Aviation Authority of Singapore and the Civil Aviation Department of Hong Kong. ICAO is an observer to this group.

**SPN**

**Web Link**

The **Safety Promotion Network (SPN)** is a voluntary partnership between EASA and other aviation organisations. The objective of the SPN is to enhance aviation safety in Europe by providing a framework for the collaboration of safety promotion activity throughout the Member States.

For mutual benefit and a common purpose, the members of the SPN:

— exchange information;

— coordinate activities;

— cooperate and share joint activities; and

— collaborate to increase the capacity for activities.

The SPN activities will include coordination, cooperation and collaboration with respect to the design, development, publication, translation and dissemination of safety information. The SPN will also explore common tools and develop means to measure the effectiveness of safety promotion products that have been disseminated.

# Appendix H: Volume II — new structure

| EPAS 2019-2023 | | EPAS 2020-2024 | |
|---|---|---|---|
| **§** | **Title** | **§** | **Title** |
| **5.1.1** | Safety management | **5.1** | Systemic safety - Safety management |
| **5.1.2** | **Human factors** and competence of personnel | **5.2** | Systemic Safety - Human factors and human performance |
| **5.1.2** | Human factors and **competence of personnel** | **5.3** | Systemic Safety - Competence of personnel |
| **5.1.3** | Aircraft tracking, rescue operations and accident investigation | **5.4** | Systemic Safety - Aircraft tracking, rescue operations and accident investigation |
| **5.1.4** | Impact of security on safety | **5.5** | Systemic Safety - Impact of security on safety |
| **5.1.5** | Standardisation and oversight | **5.6** | Systemic Safety – Oversight and standardisation |
| **5.2.1** | Aircraft upset in flight (LOC-I) | **6.1** | Flight operations - CAT & NCC operations |
| **5.2.2** | Runway safety | **6.1** | Flight operations - CAT & NCC operations |
| **5.2.3** | Airborne conflict (Mid-air collisions) | **6.1** | Flight operations - CAT & NCC operations |
| **5.2.4** | **Design** and maintenance improvements | **9** | Design and production |
| **5.2.4** | Design and **maintenance** improvements | **10** | Maintenance and continuing airworthiness management |
| **5.2.5** | Ground safety (ADR) | **12** | Aerodromes |
| **5.2.5** | Ground safety (Groundhandling) | **13** | Groundhandling |
| **5.2.6** | Terrain collision (CAT) | **6.1.1.4** | Flight operations – aeroplanes - CAT & NCC operations - Terrain collision |
| **5.2.7** | Aircraft environment (CAT aeroplanes) | **6.1.1.5** | Flight operations – aeroplanes - CAT & NCC operations - Aircraft environment |
| **5.2.8** | Miscellaneous (CAT) | **6.1.1.6** | Flight operations – aeroplanes - CAT & NCC operations - Miscellaneous |
| **5.3.0** | Rotorcraft operations | **7** | Rotorcraft |
| **5.4.1** | Systemic enablers (GA) | **8.1.1** | General Aviation - Systemic enablers |
| **5.4.2** | Staying in control (GA) | **8.1.2** | General Aviation - Staying in control |
| **5.4.3** | Coping with weather (GA - NCO) | **8.1.3** | General Aviation - Coping with weather |
| **5.4.4** | Preventing mid-air collisions (GA) | **8.1.4** | General Aviation - Preventing mid-air collisions |
| **5.4.5** | Managing the flight (GA) | **8.1.5** | General Aviation - Managing the flight |
| **5.5.1** | Civil drones (Unmanned Aircraft Systems) | **14** | Unmanned Aircraft Systems |
| **5.5.2** | New business models (new technologies and concepts) | **15.1.1** | New business models |
| **5.5.3** | New products, systems, technologies and operations | **15.1.2** | New products, systems, technologies and operations |
| **5.5.4** | SESAR deployment | **15.1.3** | SESAR deployment |
| **5.5.5** | All Weather Operations | **15.1.4** | All-weather operations (AWOs) |
| **6.1** | Climate change and air quality | **16.1** | Noise , local air quality and climate change standards |
| **6.2** | Aircraft noise | **16.1** | Noise , local air quality and climate change standards |
| **7.1** | Aerodrome design and operations | **12** | Aerodromes |
| **7.2** | Evaluations | **n/a** | reallocated as per operational domain |
| **7.3** | ATM/ANS | **11** | Air traffic management/air navigation services |
| **7.4** | Airlines (AOC holders in CAT) | **6.1.3** | Flight operations – aeroplanes - CAT & NCC operations - Efficiency/proportionality |
| **7.5** | General Aviation | **8.2** | General Aviation - Efficiency/proportionality |

| EPAS 2019-2023 | | EPAS 2020-2024 | |
|---|---|---|---|
| **§** | **Title** | **§** | **Title** |
| **7.5** | General Aviation (Balloons and sailplanes) | **8.2** | General Aviation - Efficiency/proportionality |
| **7.6** | Manufacturers (Design and Production) | **9.3** | Design and production - Efficiency/proportionality |
| **7.7** | Rotorcraft operations | **7.3** | Rotorcraft - Efficiency/proportionality |
| **7.8** | Specialised operations | **6.2** | Flight operationsSpecialised operations (SPO) |
| **7.9** | Maintenance training organisations | **5.3.5** | Systemic Safety & competence of personnel – Maintenance staff |
| **7.10** | Maintenance organisations | **10.3** | Maintenance and continuing airworthiness management – Efficiency/proportionality |
| **7.11** | Regular updates | **n/a** | reallocated as per operational domain |
| **8.1** | Aerodromes operators | **12.2** | Aerodromes – Level playing field |
| **8.2** | Airlines (AOC holders) | **6.1.2** | Flight operations – Level playing field |
| **8.3** | Manufacturers (Design and Production) | **9.2** | Design and Production – Level playing field |
| **8.4** | Operators other than airlines (AOC holders): e.g. air taxi, EMS | **n/a** | all FTL tasks moved to 5.2 - remaining ones reallocated per operational domain |
| **8.5** | Maintenance organisations – CAMOs | **10.2** | Maintenance and continuing airworthiness management – Level playing field |
| **8.6** | Medical requirements | **5.2.2** | Systemic Safety & competence of personnel - Medical |

# Appendix I: Index

## EValuation Tasks



## Member State Tasks



## RESearch Tasks



## RuleMaking Tasks

## Safety Promotion Tasks