EUR
Regional Aviation Safety Plan

2022-2024

ICAO | EASA

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Foreword

Throughout decades, aviation has proven to be the safest and fastest means of transportation and this is what society expects from the sector along with embracing technological progress and being environmentally friendly. COVID-19 brought disruption to the sector at a scale that nobody could have foreseen. Although we witness some positive signs of the aviation sector recovering from the impact of COVID-19, the operating environment is not the same as that back in 2019. The pandemic has become an integral part of our daily life, and we have been learning to work and live with it, notwithstanding the severe restrictions imposed due to the peculiar circumstances.

One of the lessons learned during the pandemic is that isolated and fragmented solutions in tackling global challenges fail to bring the desired effect. The crisis has demonstrated that effective international collaboration is key for making quick and result-oriented decisions to achieve common goals.

The new edition of the EUR RASP is the product of collaboration. For the first time in history, all 55 States within the EUR/NAT region were involved in its development. This collaboration at the regional level has enabled us to share our experience and best practices and to achieve agreement on common needs and strategies for the largest ICAO region.

The next EUR RASP edition covers areas, such as Unmanned Aircraft Systems (UAS), General Aviation, new technological developments, areas where individual States may lack data and information necessary for effective decision-making. Nevertheless, the EUR RASP supports the identification of emerging threats in those areas and more generally the common challenges to aviation safety.

To deal with those threats and challenges at the regional level effectively, we need to closely follow the actions established in the EUR RASP. Our success in tackling regional challenges depends on our awareness and implementation of safety actions. Safety is the responsibility of each of us and "Safe return to operations" will be a key message and objective during the post-pandemic period.

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Levan Karanadze
EASPG Chairman

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Volume II

Executive Summary

The EUR RASP 2022-2024 edition was compiled by a dedicated EUR RASP Project Team being part of the EUR RESG, supported by the ICAO EUR/NAT Regional Office and by EASA. Considering the impacts of the COVID-19 pandemic on aviation stakeholders, no yearly EUR RASP review had been initiated in 2020. Therefore, EUR RASP 2022-2024, being the third edition of the Regional Plan, considers changes introduced both with EPAS 2021-2025 and with the final draft EPAS 2022-2026.

With EPAS 2022-2026 a new focus area 'Safe Return to Operations' was included. This was subsequently taken over in this EUR RASP edition.

Effective risk management capabilities at EUR, State and industry level are more important than ever to cope with the systemic and operational safety risks and wide-ranging effects of the crisis and constitute an important enabler for building back a more resilient aviation system.

Changes made in Volume I mainly concern:

- The operational context information.

- The EUR RASP development process, updated on the basis of the Project Team proposal

- The description of the EUR RASP monitoring mechanism, following agreement at EUR RESG/02.

- The set of SPIs in Chapter 4, updated to reflect draft GASP 2023-2025 and feedback received through two dedicated EUR RESG sessions held in 2021Q4.

Volume II includes 11 new actions as follows:

- EUR.SPT.0088   Improving the safety of parachuting operations (General Aviation – Aerial Work)

- EUR.SPT.0089   Private Pilot Licence (PPL)/Light Aircraft Pilot Licence (LAPL) learning objectives in the Meteorological Information part of the PPL/LAPL syllabus

- EUR.SPT.0090   Foster a common understanding, regulation and oversight of Human Factors.

- EUR.SPT.0091   Roadshow/ Series of workshops dedicated to fatigue risk management (CAT)

- EUR.SPT.0092   Safety promotion campaign to mitigate aircrew fatigue (CAT)

- EUR.SPT.0093   Promote iConspicuity (General Aviation)

- EUR.SPT.0094   Airspace design, airspace complexity and traffic congestion

- EUR.SPT.0095   Counter-UAS measures and drone incident management at aerodromes

- EUR.RMT.0096   Digital Licence for Aviation Pilots (dLAP)

- EUR.SPT.0097   Safe return to operations 'Ramp up safely'

- EUR.SPT.0098   Reinforce the appropriate reactions of flight crew in response to an ACAS resolution advisory (RA)

Existing actions were reviewed and their timelines extended where required to reflect EPAS 2022-2026 so that EUR RASP actions can build upon the EPAS deliverables (including rulemaking deliverables).

The scope of existing actions SPT.0043 and SPT.0044 on Flight Data Analysis was extended to include additional actions as agreed with the Project Team, reflecting EPAS actions SPT.0112 and SPT.0113 respectively.

To further streamline the EUR RASP actions:

- The actions previously included as EUR.SPT.0006 are now embedded in action EUR.SPT.0004, thereby action number EUR.SPT.0006 is no longer allocated; The actions previously included as EUR.RMT.0003 are now merged into action EUR.SPT.0005, thereby action number EUR.RMT.0003 is no longer allocated.

New actions added with this edition for safety issues that in the EPAS are covered by a Safety Promotion task (SPT) combined with a Member State Task (MST) are included as a single EUR.RASP action (e.g. action EUR.SPT.0097 corresponds to EPAS actions SPT.0122 and MST.0039).'

Volume I

1. Introduction

1.1   Background, objectives and principles

The main objective of this European Regional Aviation Safety Plan (hereafter EUR RASP) is to create a common focus on regional aviation safety issues as a continuation of the European work to improve aviation safety and to comply with ICAO standards. This approach complements the existing system of developing safety regulations, complying with them and investigating accidents and serious incidents when they occur.

The EUR RASP adds a proactive element to the current system by closing the safety management cycle and connecting the safety issues at regional level with the action plans and initiatives launched to mitigate the underlying risks.

The EUR RASP establishes the first layer of priorities which is further complemented at national level by national aviation safety plans (NASPs), framed under the State Safety Programmes. It builds a network for action, thus coordination and close collaboration are key to keeping it up to date and effective.

Since 2017, the ICAO Regional Office for the EUR region and EASA have been working together to develop a Regional Aviation Safety Plan (RASP) based on the European Plan for Aviation Safety (EPAS), thus allowing all States that are part of the EUR region to benefit from this approach. This leverages the European Safety Risk Management (SRM) process for the entire EUR region.

The first EUR RASP edition covering the period 2019-2023[1] 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 Regional Aviation Safety Group – EUR region (RASG-EUR) of ICAO. The second EUR RASP edition, covering the period 2020-2022, was adopted in June 2020.

The EUR RASP is updated on a yearly basis, in order to maintain alignment with EPAS. In consideration of the disruptions caused by the COVID-19 pandemic and its impact on all aviation stakeholders, the main focus both of EPAS 2021-2025 and EPAS 2022-2026 are on adjusting the rulemaking output to alleviate additional burden for stakeholders and ensuring a safe return to operations. This also meant that no significant changes were made to the strategic priorities , thus the EPAS 2021 cycle did not constitute a major EPAS update. Accordingly, the strategic priorities in this EUR RASP edition remain stable.

Considering the impacts of the COVID-19 pandemic on aviation stakeholders no yearly EUR RASP review had been initiated in 2020. Therefore, EUR RASP 2022-2024, being the third edition of the Regional Plan, considers changes introduced both with EPAS 2021-2025 and with the final draft EPAS 2022-2026.

This edition was prepared in coordination with the ICAO EUR Regional Expert Safety Group (RESG), a working group within the European Aviation System Planning Group (EASPG) structure, to support the development and implementation of the EUR RASP, and including safety enhancement initiatives and activities, in line with the objectives of the EASPG.

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

EUR RASP development now entails a dedicated consultation step with EUR States, facilitated by the ICAO Regional Office. EUR States address their own industry associations and industry representatives and collect their feedback. In addition, Industry associations participating in the RESG reach out to their respective members during consultation and collect and consolidate their feedback. This consultation step, first implemented for the 2021 planning cycle, will be further consolidated in the next cycles.

From 2022 onwards the EUR RASP planning activity will be followed up by a reporting phase, during which progress on action implementation and more generally, progress with SSP and NASP implementation, will be assessed by means of a dedicated survey. The data and information gathered will feed not only subsequent planning cycles, but also the EUR RASP implementation reports and safety reviews produced by the ICAO Regional Office.

1.2   The Global Aviation Safety Plan (GASP)

The EUR-RASP supports the objectives and priorities of GASP 2020-2022. 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.

The vision of the GASP is to achieve and maintain the aspirational safety goal of zero fatalities in commercial operations by 2030 and beyond. The plan's mission is to continually enhance aviation safety performance internationally by providing a collaborative framework for States, regions and industry. This is supported by a series of goals:

— Goal 1 is to achieve a continuous reduction of operational safety risks.
— Goal 2 calls for all States to strengthen their safety oversight capabilities.
— Goal 3 is also aimed at individual States and calls for the implementation of effective SSPs.
— Goal 4 calls for States to increase collaboration at the regional level to enhance safety.
— Goal 5 aims to expand the use of industry programmes.
— Goal 6 focuses on the need to ensure the appropriate infrastructure is available to support safe operations.

To achieve the GASP goals, authorities within the State need to provide sufficient resources and qualified technical personnel for the effective implementation of the State's safety enhancement initiatives (SEIs).

The EUR RASP considers in particular the GASP goals to enhance the level of safety in aviation. ICAO, based on USOAP audit results, identified that States' inability to effectively oversee aviation operations remains a global safety concern. Thus, the GASP objectives call 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 aligned with ICAO Standards and Recommended Practices (SARPS) for the implementation of SSP by States and safety management systems (SMS) by service providers, they are addressed in EUR RASP in section 5.1 Safety management.

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 were 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.

It is expected that those high risk categories will remain the same in the next edition of the GASP.

Accordingly, the EUR RASP 2022-2024 continues to address these high risk categories and proposes mitigation actions for the main safety issues identified for these high risk categories of occurrences.

The global operational priorities are addressed in the following sections: **5.3.1.1** Aircraft upset in flight (LOC-I), **5.3.1.2** Runway safety, **5.3.1.3** Airborne conflict (mid-air collisions) and **5.3.1.4** Terrain collision.

1.3   The European Plan for Aviation Safety (EPAS)

The EUR RASP is built upon the experience gathered by EASA, EU and ECAC on the development and implementation of the EPAS. 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.

Originally, EPAS was created to support the future growth of aviation while securing a high and uniform level of safety for all Member States. This approach allows the States, the European Commission and EASA to take the necessary actions at the right time and at the right level so as to ensure safe, secure and environmental friendly implementation of new business models and deployment of new technologies.

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. In consideration of the drastic reduction in traffic volumes due to the COVID-19 crisis and the new risks induced by its impacts EPAS 2022-2026 sets an aspirational safety goal to maintain collectively the pre-pandemic high aviation safety level throughout the recovery phase and improve safety post-recovery. EPAS covers a five-year period and is reviewed and updated on a yearly basis.

Due to specific difference in the areas of coverage for EPAS and EUR RASP, and with due consideration to the legal obligations deriving from the EPAS for EASA Member States pursuant to Regulation (EU) 2018/1139 Chapter II 'Aviation Safety Management' it was agreed to maintain both documents, while ensuring that they are aligned as far as practicable and not contradicting each other.

EPAS strategic priorities are derived from the EU Aviation Strategy. The main safety risks and corresponding mitigating actions feeding the EPAS are developed through the European SRM process. It comprises a set of processes that aim at identifying the safety issues, being the causal and contributing factors of the various accident outcomes, and their mitigations. It involves analysis of data from different sources and collaboration with safety partners from national aviation authorities and the industry through the Collaborative Analysis Groups (CAGs) and the Network of aviation safety Analysts (NoA).

The safety issues are further described and grouped into dedicated domain safety risk portfolios. Such safety risk portfolios, including a portfolio describing COVID-19 related safety issues, are published with EPAS Volume III, which also provides further details on the various steps within the EU SRM process and the prioritisation of safety issues.

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[2] https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0670:FIN:EN:PDF
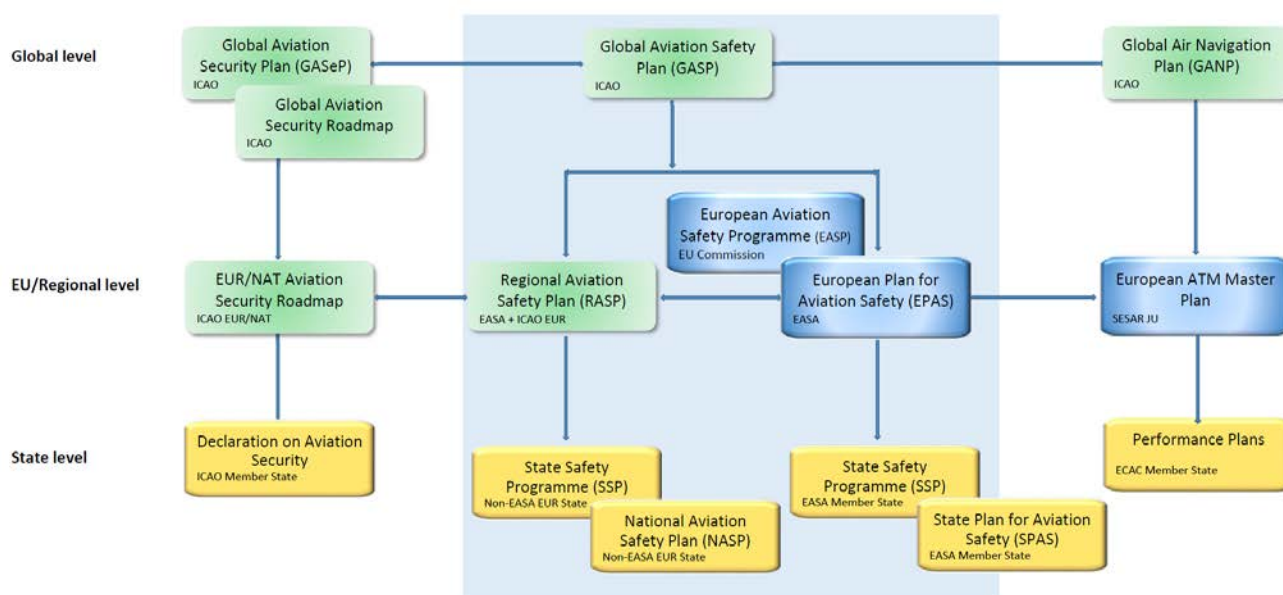
Figure 1: Relationship between the EUR-RASP and other programmes and plans

1.4 Operational context

The EUR region, being the largest ICAO region, encompasses a wide variety of States, with notable differences in terms of aviation industry, traffic volumes and types of aviation activity. Existing historical disputes, different political points of view multiplied by the effect of current pandemic impose safety and efficiency challenges within the EUR region.

While EASA States within the region are subject to a common regulatory framework addressing a vast majority of aspects in civil aviation and are regularly monitored for the uniform application of the Community law, there are differences in applicable aviation regulations in the remaining States, which may be the result of different speeds or different means in the transposition of ICAO SARPs.

All States in the EUR region have received at least one USOAP CMA audit. USOAP CMA results show an average Effective Implementation (EI) score for States in the EUR Region of 78.07%[3]. USOAP CMA results also show that 60% of the States in the EUR Region have already achieved the target of 75% EI by 2022, as outlined in the 2020-2022 edition of the Global Aviation Safety Plan (GASP). The minimum expected capabilities, based on State's aviation traffic, has been reached by 80% of EUR States who have a Safety Oversight Index (SOI) greater than 1 in all of the 3 functional categories: Operations, Air Navigation and Support functions.

EUR States have on average implemented more than 80% of the SSP foundational Protocol Questions of the USOAP CMA, identified as fundamentals and considered as prerequisites for sustainable implementation of the full State Safety Programme. More than half of EUR States have already developed their National Aviation Safety Plan (NASP), as encouraged by the GASP, outlining each State's strategic direction for the management of

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[3] States' effective implementation (EI) score may change slightly due to the introduction of the 2020 edition of the PQs. The effect of the new PQs on a State's EI will vary, particularly for States with a USOAP CMA activity during the migration period.

aviation safety for a set time period. NASPs demonstrate States' commitment to the implementation of activities for the improvement of safety.

There are 160 IOSA certified air operator certificate holders in the region. There are currently 4 (four) States having operational restrictions with regards to the European Airspace in accordance with the EU Safety List. There are no States with significant safety concerns in the AN Region-EUR.

In the EUR Region, 39 (71%) States have no air navigation deficiency classified as having implication with air navigation safety while 13 (24%) States have no air navigation deficiency against the EUR air navigation plan..

In terms of Performance Based Navigation (PBN) implementation, the percentage of instrument runways with PBN approaches is 64,12%, with only 26.92% of the States having PBN approaches on all Instrument runways.

The COVID-19 global pandemic has posed unprecedented challenges to international air transport. Passenger totals plunged by 60 per cent with just 1.8 billion passengers taking to the air during the first year of the COVID pandemic, compared to 4.5 billion in 2019.

In that context, the number of accidents involving scheduled commercial operations with aircraft of maximum mass of over 5700 kg and occurring in one of the 55 States in the EUR Region decreased in 2020 compared to 2019: 9 of such accidents occurred in 2020, including one fatal accident resulting in 3 fatalities. This resulted in a regional accident rate of 2.00 accidents per million departures, down 32% from the 2019 rate of 2.96 accidents per million departures.

The vision of the GASP and of the EUR RASP is to achieve and maintain the goal of zero fatalities in commercial operations. Five high-risk categories of occurrence (HRCs) need to be addressed to mitigate the risk of fatalities: controlled flight into terrain (CFIT), loss of control in-flight (LOC-I), runway excursion (RE), runway incursion (RI) and mid-air collision (MAC). For States in the EUR Region, HRCs represent 22% of all accident categories for accidents involving scheduled commercial operations with aircraft of maximum mass of over 5700 kg. This is a slight increase, but still a comparable number to what it was in 2019 (17%).

After the year 2020 when the global economy experienced the worst crisis since the Great Depression as a consequence of the COVID-19 pandemic, the activity in 2021 was rapidly recovering and the prospects for the following years are that this trend will continue. However, it is too soon to draw firm conclusions, considering the uncertainties on the evolution of a certain threats (not only the pandemic, but also climate change, increasing public debts and geopolitical changes).

The pandemic also affected the job market, the employment conditions and other socio-economic factors. From a worldwide perspective, according to the International Labour Office, the unemployment rate grew by 1.1 point to 6.5 % in 2020, compared to 5.4 % in 2019, and will only slowly decrease to an expected 6.3 % in 2021 and 5.7 % in 2022[4].

The evolution of the pandemic needs to be brought in this overall picture to complete the worldwide view. There is general agreement that a global pandemic picture is difficult to build because, on one hand, there is no single indicator to summarize the pandemic situation and, on the other, there is no reliable forecast how the pandemic situation will evolve in a near future due to the very high complexity to model the evolution of the pandemic. The start of vaccination campaigns at the end of 2020 and the steady increase in vaccination rates in 2021 are strong indicators for a recovery in the short-term.

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[4] https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_795453.pdf, Table 1.2 Employment-to-population ratio, unemployment rate

From a worldwide aviation perspective, large airplane commercial passenger flights, constituting the bulk of the aviation activity, showed an unprecedented drop in 2020 and started to recover in 2021. The closure of borders fundamentally contributed to this drop in traffic, hitting far more airline international traffic than domestic traffic. If the current positive trend of pandemic recovery continues, the domestic traffic in terms of number of airlines' commercial passengers would recover in 2022 in comparison with the 2019 level. International traffic would only recover in 2024. New EUROCONTROL 2021-2027 forecast expects traffic recovery to 2019 levels by the end of 20235.

Throughout 2020 the COVID-19 pandemic led to travel restrictions between States that resulted in flight and cabin crew as well as instructors and examiners not being able to reach their respective training facilities, or examination, testing checking venues, nor complete their yearly medical fitness examination. Where travel was possible, national COVID-19 measures on many occasions led to the closure of said facilities/venues or allowed only for limited training to take place. As a consequence, many crews were not be able to fully complete or perform their required initial or recurrent training and/or checking events.

Short-term blanket and standardised exemptions were therefore issued by the European aviation authorities, in coordination with ICAO and EASA, to enable said stakeholders to continue to function in their roles, subject to various conditions and mitigations that ensure an acceptable level of safety was maintained. Furthermore, the exemptions aimed to reduce the severity of the disruptions that would otherwise occur due to non-availability of a sufficient number of flight and cabin crew members to operate on behalf of their organisations. A similar approach was applied to holders of non-commercial licences. Towards the end of 2020, the number of exemptions was significantly reduced and only used in duly justified cases and limited to what was strictly needed.

On a more positive note, during 2020 and 2021, more emphasis was placed on enabling new innovative technologies, such as augmented reality (AR) and virtual reality (VR), for use in flight and cabin crew training, ultimately leading to the use of FSTD special conditions to qualify a novel device in 2021 for use in initial helicopter licensing training.

During 2020 and 2021, COVID-19 had a high impact on the traffic levels, the related revenue for the Air Navigation Service Providers (ANSPs) and other actors in this sector. Consequently, a decrease in financial resources resulted for ANSPs, with a significant impact on ongoing and planned activities to maintain and further develop the ATM/ANS system. On the other hand, actions implemented during the COVID-19 crisis provided opportunities for more sustainable and flexible provision of service and to make ATM more resilient and scalable.

The reduction in passenger flights and traffic volumes with fewer aircraft operating in Europe continues to have a negative effect also on aerodrome and ground handling operations.

Coupled with overall State's budget losses, the COVID-19 situation ruined the traditional models enabling sustainable funding of the work of civil aviation authorities. ICAO is teaming up with Regional and International Organizations to ensure that alternative / innovative solutions could be found to ensure restart and recovery of effective safety oversight and accident investigation capabilities of States.

While seeing some positive trends it is clear that the recovery from the CoVID-19 crisis and its huge financial impact for aviation stakeholders will require additional and cooperated efforts from all stakeholders to maintain the current level of safety and reach the GASP aspirational safety goal.

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5   https://www.eurocontrol.int/publication/eurocontrol-forecast-update-2021-2027

2. EUR-RASP development and structure

2.1 How EUR RASP is developed

The EASPG was established by the Council of ICAO[6] and is the main body responsible for the development of EUR RASP, monitor its implementation and collect feedback from stakeholders with the assistance of the ICAO Regional Office and EASA.

EASPG created a Working Group under the RESG (Regional Expert Safety Group) that is in charge of drafting and consolidating EUR RASP. The RESG RASP Working Group meets on a regular basis when needed, the frequency of the meetings and dates are discussed and agreed by team members each year.

The draft EUR RASP is prepared by a dedicated Working Group under RESG (Regional Expert Safety Group). The Working Group reports to EUR RESG on progress and submits the final draft to EASPG for approval at the end of each planning cycle (normally in December).

The EUR RASP is reviewed and updated as needed on a yearly basis in parallel with the EPAS planning cycle to consider new risks and actions, progress with the implementation of existing actions, maintaining the alignment of both plans in terms of strategic priorities, key risk areas, safety issues and related mitigation actions.

The amendment process consists of four phases, which are shown in the figure below:

1. Development of an initial draft
2. Consultation on the initial draft
3. Comment analysis, comment disposition and preparation of the final draft
4. Approval of the final draft, final editing and publication

EUR RASP development cycle

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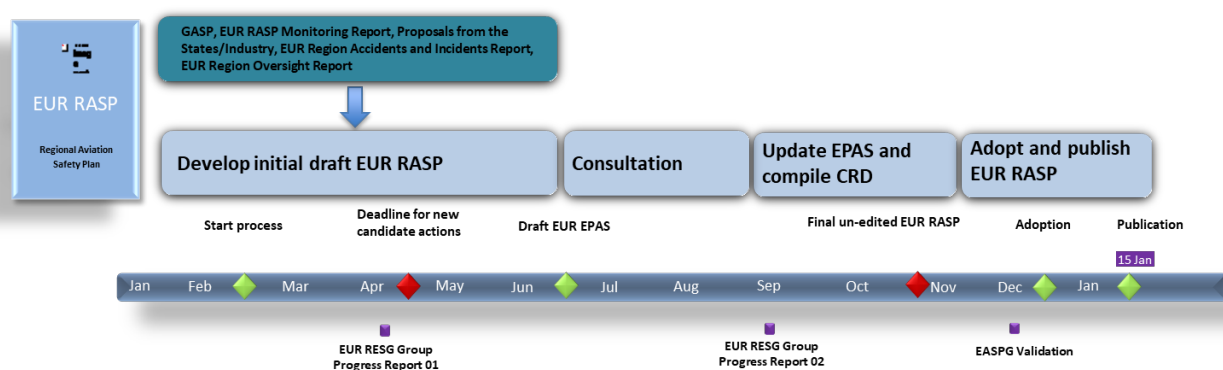
6   EASPG was established in 2019 by the Council of ICAO at the recommendation of the combined EANPG/60 and RASG-EUR/07 meeting in November 2018 where it was agreed to unite their activities under the new European Aviation System Planning Group (EASPG). EASPG meetings are open to all States within the area of accreditation of the European and North Atlantic (EUR/NAT) Office of ICAO in the EUR Region

Two types of revision are defined for the EUR RASP:

- Major revisions: performed every three years to ensure consistency of strategic objectives and priorities with the GASP, as well as to update the EUR safety metrics and targets;
- Minor revisions: performed every year to update the information on operational context, assess the list of actions, update related status information and timelines and determine which new actions proposed for the concurrent EPAS revision should be included.

In practical terms, for all minor revisions, the last EUR RASP version is used as a starting point and a gap analysis is performed with the updated draft EPAS, in particular, to consider any new safety issues and actions in the updated EPAS relevant for the EUR region. For EPAS actions that are completed and therefore removed from the EPAS an assessment will be performed to determine their continued relevance and benefit for the EUR States.

In the first phase, when developing the initial draft the group of experts collects and analyses data and information coming from:

1. GASP (any new SPIs, new items in the roadmap) -> only for major revisions
2. Outcome of EUR RASP implementation survey and EUR RASP Monitoring Report
3. EUR Region Accident and Incident Report
4. EUR Region Oversight Report
5. Proposals from States/industry
6. Other developments that need to be reflected in Plan

Proposals from States/Industry:

Every EUR State or Industry association can propose a new EUR RASP action. Such proposals shall be sent by means of a dedicated form providing justification to the Regional Office . To be able to consider such proposals for the current planning cycle these shall be sent no later than 15 April of each year. Depending on the case, it will be necessary to assess the proposal for inclusion in the EPAS before it can be assessed for the EUR RASP, to maintain alignment between both plans. Based on the information and supporting data received, the group assesses their suitability for the EUR RASP.

Suitability will be assessed on the basis of the following principles:

- The proposal is relevant for the region and not limited to some States or organisations.
- A justification and substantiating data are available
- Specific timelines and deliverables can be defined
- Ownership of the action can be clearly allocated
- Proposed actions are not biased

In the second phase, the group prepares the initial draft EUR RASP based on the assessment of all inputs and submits it for consultation to all EASPG members. This will be done concurrently with the start of EPAS consultation. The consultation period should run for a minimum of 6 weeks. The comments are compiled by the ICAO EUR/NAT Regional Office.

In the third phase The group analyses all comments received and responds to each one accordingly. Comments and responses are recorded in a Comment Response Document (CRD). The final draft EUR RASP will reflect all agreed changes.

The consultation process is coordinated with the EPAS consultation throughout.

In the last phase, the final draft EUR RASP, together with the CRD are submitted to the EASPG for their approval. Following approval the ICAO EUR/NAT Regional Office will publish the EUR RASP on its website and the completed CRD will be shared with EUR States.

An Excel support file, mapping the EUR RASP actions against the EPAS actions, accompanies each EUR RASP edition and provides an overview on the main elements of each action.

2.2 **How EUR RASP is structured**

The 2022 – 2024 EUR RASP is composed of two distinct volumes, complemented by two Appendices

- Volume I provides the introduction, describes the strategy and the EUR Safety Performance Indicators. It consists of Chapters **1** to **4**.

- Volume II contains the list of the detailed EUR RASP Safety actions. It consists of Chapter **5**, grouped by operational domains in 12 subchapters from **5.1** to **5.12**.

- Appendix A: EUR RASP Acronyms and definitions

- Appendix B: List of EUR RASP Stakeholders

Volume I

The executive summary provides the main highlights of this edition.

It is followed by the introductory chapter where the objectives of the Regional Plan as well as its relationship with the GASP and EPAS are explained.

Chapter **2** further explains the development process of the EUR RASP and the structure of the document, including how the EUR RASP actions are presented further down in the Chapter 5.

Chapter **3** describes the strategic safety priorities, based on the EASA's Strategic Plan and domain specific Safety Risk Portfolios.

Chapter **4** contains the safety metrics and targets agreed for the EUR region, together with information on how EUR RASP implementation is monitored and how related safety performance indicators are measured.

Volume II

Chapter 5 contains all detailed EUR RASP safety actions, grouped per domain (systemic and operational) and divided into subchapters **5.1** to **5.12**,. The structure reflects the structure of EPAS Volume II, albeit with different numbering.

Within each subchapter, the following information is provided:

- rationale behind the safety issue (why it has been identified as an issue);

- what it is to be achieved (objective);

- how it is intended to monitor improvement in the future; and

- how it is intend to achieve the objective; here, the various actions contributing to mitigate the identified risk in that area are described.

Chapter 5.1 addresses **systemic issues.** These issues affect the aviation system as a whole. They play a role in accident and incident causation, underlying operational issues; thus their improvement has an implicit effect on operational issues.

Chapter 5.2 addresses all issues related to **competence of personnel,** for all aviation domains.

Chapters 5.3 to **5.11** address **operational issues grouped** by aviation domain. These issues are closely related to the events that are reported during operation. The relationship between this type of issues and the final outcomes or end states can be supported by data.

Chapter 5.12 addresses issues related to the **safe integration of new technologies and concepts**. This area gives some consideration to safety issues derived from operations or regulations that have not been fully deployed and where data is not always available.

EUR RASP Safety Actions:

There are two types of actions included in the EUR RASP[7]:

— **Rulemaking tasks (RMTs)**
RMTs are intended to lead to new or amended regulatory material, however 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).

For EASA Member States such actions are owned by EASA. For other EUR States, all of such actions are owned by individual States or groups formed by ICAO for the purpose of establishing common regulations.

— **Safety Promotion tasks (SPTs)**
SPTs may be owned by States, Industry or other stakeholders and 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 may also address systemic safety, such as, but not limited to, maintaining effective oversight capabilities, the implementation of effective SSPs and related State safety action planning, as well as operational safety issues identified in the safety risk management process, safety priorities identified in GASP or through the EASA Standardisation or ICAO USOAP processes.

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.

The Regional Office may further support the implementation of specific SPTs 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.

All EUR RASP actions, together with the main risks identified in EUR RASP as relevant for the particular State, should be considered for the establishment and implementation of the National Aviation Safety Plan (NASP).

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[7] While all EUR RASP actions are directly relevant to EUR States, the existing EPAS three-letter codes for type of action (RMT, SPT) are maintained to not lose the link with the corresponding EPAS actions. However, SPT actions in EUR RASP may also stem not only from SPT EPAS actions, but also from MST EPAS actions.

How individual safety actions are presented

The information for individual actions is displayed in accordance with the below template:

Action reference	Action title	
(1) Short action description		
Status	*(2) new/ongoing*	
Reference(s)	*(3) References to other plans (e.g. GASP, ATM Master Plan), or to other important documents*	
Dependencies	*(4) Reference to the following categories of information:* - *GASP Goal 1-6* - *EPAS: EPAS reference number* - *Inter-dependencies among EUR RASP actions;*	
Affected stakeholders	*(5) List of main stakeholders affected using ICAO taxonomy and terminology*	
Owner	*(6) Entity responsible for implementing the action (Region, State, Industry, etc.)*	
EXPECTED OUTPUT		
Deliverable(s)		**Timeline**
(7) Short description		*(8) Year/Quarter or 'continuous action'*
CHANGES SINCE LAST EDITION		
(9) What changes were made compared to latest EUR RASP edition		
MONITORING		
Monitoring activities		**Related SPIs**
(10) Short description		*(11) SPI reference*

Each EUR RASP safety action is identified with a unique reference and title.

The action unique reference - **EUR.TTT.nnnn** – contains the following information:

- EUR - actions pertaining to EUR Region

- TTT - provides the type of action, either 'RMT' or 'SPT', in reference to the corresponding EPAS type of action

- nnnn the final number of the EUR RASP action.

Note 1: Only 'RMT', 'SPT' and 'MST' EPAS actions are considered for the EUR RASP. Relevant EPAS Member State Tasks (MSTs) are usually included as EUR RASP SPT actions.

- nnnn will be the unique reference number, allocated in chronological order of actions being added to the EUR-RASP.

Note 2: All existing EUR RASP actions from EUR RASP 2019-2023 were re-identified accordingly.

Note 3: The MS©Excel support file will be maintained across the EUR RASP editions to show references between EUR RASP actions and corresponding EPAS actions. It will be made available upon request.

More information is provided, as follows:

(1) 'Short action description': the issue, objective and rationale are described.

(2) 'Status': new or ongoing.

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

(4) 'Dependencies': may contain the following information:
- GASP Goal 1-6
- EPAS action reference number
- Reference to corresponding GASP SEIs, other relevant EUR RASP actions, relevant IE-REST SEIs and their description*, where applicable.*
- *Inter-dependencies among EUR RASP actions.*

(5) 'Affected stakeholders': list of main stakeholders affected, as per Annex B.

(6) 'Owner' of the action: e.g. States/Industry;

(7) 'Deliverable(s)': e.g. 'Regulatory framework in place', 'Safety Promotion material', etc;

(8) 'Timeline': year/quarter or continuous action;

(9) 'Changes since last edition':
This field provides information on changes in the EUR RASP action since the last EUR RASP edition, including clarification on the new action template and new numbering system introduced for this EUR RASP edition

Possible entries (one or more may apply):

- *n/a*: for newly introduced actions in the current EUR RASP edition. Since they are new, there are no changes to the previous edition of the plan.
- *Action title amended*: when the title of the action has been amended.
- *Action description amended*: when the description of the action has been amended.
- *Timeline (further) extended*.

(10) 'Monitoring activities': where relevant, short description of how the particular action will be monitored.

(11) 'Related SPIs': where applicable, corresponding EUR RASP SPIs (cf. Chapter 4).

In Chapter 5, within each subchapter, actions are grouped per topic and listed in ascending order of the unique EUR RASP action reference number.

2.3   How EUR RASP is monitored

The EUR RASP is monitored by means of two different mechanisms:

- Monitoring by means of specific SPIs, in accordance with **Chapter 4**, which presents the EUR RASP safety performance metrics reflecting the EUR RASP strategic priorities.

- Monitoring of EUR RASP action implementation, as well as of SSP & NASP implementation in general terms.

The second mechanism will rely on annual EUR RASP implementation surveys as a means to regularly collect data and information from individual EUR States on the implementation of selected EUR RASP actions, in a structured manner. Such annual surveys will make use of the tools and processes established for the purpose of European ATM Master Plan Level 3 & Local Single Sky ImPlementation (LSSIP) reporting. The LSSIP mechanism benefits from well-established and proven principles, processes, tools, which are being continuously adapted, while maintaining a yearly reporting cycle. It is already in use for regional GANP related reporting.

The annual surveys will focus on the effective implementation of a selection of EUR RASP actions expected to be completed in the short term, generally those that have a target in the first and second year of the new reference period. A further prioritisation within those actions may be applied, in order to focus on those actions that are considered most relevant to address the various key risks. The list of actions to be included in the annual surveys is proposed to the EUR RESG for endorsement.

EASA Member States will not need to report on EUR RASP RMT actions that are based on equivalent EPAS RMT actions, as the promulgation of primary and secondary legislation is not within their remit. The implementation of EU Regulations by EASA Member States is monitored through an established processes (EASA Standardisation process). Nevertheless, all data and information collected by means of the annual survey will feed a single EUR RASP implementation report covering all EUR States and there will be no separate implementation report addressing EPAS implementation.

In addition to the monitoring of specific EUR RASP actions the annual survey will also be used to collect feedback on SSP and NASP(SPAS) implementation in more general terms, as well as provide a channel for States to inform the EUR RESG on their specific key risks and actions that may be of interest for the whole EUR region. Related data and information collected will be assessed by the EUR RESG and new safety issues will be considered in the subsequent EUR RASP planning cycle. The exchange of information on safety risks, actions and best practice will be encouraged through the survey.

A first formal EUR RASP implementation survey will be initiated in October 2022 as part of the established LSSIP reporting cycle.

3. Strategic priorities

The following strategic priorities are based on the GASP challenges and priorities in safety planning, as well as the EPAS strategic priorities. With EPAS 2022-2026 a new focus area 'Safe Return to Operations' was included and is also included with this EUR RASP edition.

In addition to those priorities, 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 the ICAO EUR/NAT Regional Office with limited effort, so as to ensure the safety, regularity and efficiency of civil aviation, while safeguarding 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.

3.1 Systemic safety

3.1.0 Ensure a safe return to operations

The COVID-19 pandemic resulted in an extreme reduction in operations and caused significant disruption to the aviation sector since late March 2020. While aviation activity started recovering in 2021 it is too soon to draw firm conclusions, considering the uncertainties on the evolution of the various threats, not only resulting from the pandemic, but also related to climate change, increasing public debts and geopolitical changes. Recovering from this crisis without adversely affecting the high level of safety performance is proposed as a new mid-term EUR RASP strategic priority with consideration to the projections that full recovery may take three more years as a minimum.

In addition to the specific operational risks stemming from the crisis, overall an erosion of existing safety margins can be observed at all levels[8]. That means that the aviation system in 2020 and 2021 is not the same as the one which was operating previously and any perception of what can safely be achieved should be challenged.

With the complex aviation system now in a state of significant change for more than a year, it is also likely that the system, when it returns to its normal capacity, will operate differently to that observed in 2019. For instance, within civil aviation authorities and organisations (industry), individuals may have changed roles, others may have had very different experiences and the supply chain may have been completely reconfigured. The connections between organisations and thus between the different elements in the system will have been broken and rebuilt differently. This means that all risk profiles, risk pictures and risk assessments reflecting the pre-pandemic situation require an in-depth review.

A new EUR RASP action is proposed to support safe return to operations: **EUR.SPT.0097** Safe return to operations 'Ramp up safely'

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[8] Refer to https://www.easa.europa.eu/document-library/general-publications/review-aviation-safety-issues-arising-covid-19-pandemic-

3.1.1 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 Safety Risk Management (SRM) principles. Those principles will be strengthened by SMS implementation supported by ICAO Annex 19, strengthening occurrence reporting, follow-up and the protection of safety information. See Chapter **5.1.**

Effective safety management including robust risk management policies and processes are essential in dealing with the multiple impacts of the pandemic on the aviation system both at authority and organisation level.

3.1.2 Human factors and human performance

The role of human beings and the organisation in complex technical systems remains key in order to achieve better safety performance. 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) — is concerned with the application of what we know about human beings, their abilities, characteristics and limitations, to the design of equipment they use, environments in which they function and jobs they perform [9].
- Human performance (HP) — refers to how people perform their tasks. HP represents the human contribution to system performance[10].

The characteristics of the situations in which humans are placed make certain behaviours more likely. The object of Human and Organisational factors is then to consider the contribution to safety of organisational structure, design, operations, training, audit and control work.

The following safety issues are prioritised for more in-depth analysis. These issues are systemic safety issues, while other safety issues that also have human performance element may be addressed as part of the operational safety issue assessments:

- **Human Factors Competence for Regulatory Staff** - Without HF competencies, regulators cannot adequately oversee HF implementation of 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.

- **Senior Management Knowledge, Competence, & Commitment to HF/HP** - Unless senior management takes the lead in implementing human factors, the culture does not permeate throughout 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.

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[9]   Human Factors and Ergonomics Society, 2008
[10]   ICAO Human Performance Manual for Regulators, DOC 10151

- **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.

- **Fatigue (quality sleep)** — Fatigue, including the aspect of quality sleep, has been identified as a safety issue, despite extensive research and regulation in this area.

EUR RASP actions **EUR.RMT.0009** and **EUR.SPT.0090** address **Human Factors Competence for Regulatory Staff**.

EASA identified further HF safety issues as part of its dedicated COVID-19 risk portfolio. The results of the in depth analysis of these issues led to the development of short-term mitigation actions, not qualifying for inclusion in EPAS. The more systemic issues or issues that are expected to remain in the medium to long term will be addressed as part of the regular European SRM cycle.

These COVID-19 related HF safety issues and corresponding mitigation actions are described below:

— **SI-5002 Aviation personnel fatigue**

With redundancy and furlough reducing the available number of personnel, those left working may have to work additional hours. The preparation for and eventual return to (new) normal operations will require significant additional effort in comparison with actual normal operations. The preparation for and eventual return to (new) normal operations will require significant additional effort in comparison with actual normal operations, in particular from the operators and Civil Aviation Authorities (CAAs). These may both contribute to rising levels of fatigue, that need to be effectively mitigated by the operators and overseen by the CAAs. These may both contribute to rising levels of fatigue. For this specific safety issue, the following resources are available:

- [Fatigue Management | EASA Community (europa.eu)](#)
- [Flight Time Limitation – guidelines for CAAs on temporary exemptions under Article 71(1) of Regulation (EU) 2018/1139 (the Basic Regulation) | EASA (europa.eu)](#)

— **SI-5003 Skills and knowledge degradation due to lack of recent practice**

The 90 % reduction in traffic means that most aviation professionals are not performing their normal tasks, sometimes they are doing a substantially different job, and sometimes they are not working at all or at a substantially reduced frequency. Simulator and classroom-based training has also not been taking place. Together, this results in a reduction in the skills and knowledge of aviation professionals and poses safety risks.

For this specific safety issue, the following resources are available:

- https://www.easa.europa.eu/community/topics/skills-and-knowledge-degradation

— **SI-5006 /5007 Decreased well-being of aviation professionals during shutdown**

The pandemic is a significant source of anxiety, stress and uncertainty for almost everyone. Worries about unemployment for aviation staff and their relatives may be exacerbated. During the shutdown, with people working from home and therefore isolated from normal support, the personal wellbeing of professionals is likely to have suffered. For those working, this may lead to task distraction/interruption, workload/task saturation, instructions or requirements not followed. Regardless of whether personnel are working, are employed, furloughed or unemployed, we have a duty of care to support the wellbeing of aviation professionals.

Personnel will be returning to duty with a higher than normal psychological stress, potentially reducing staff performance and increasing safety risks. Organisations and authorities need to understand and develop strategies to mitigate these risks.

For these two safety issues, EASA has created a wellbeing resource hub to support aviation professionals throughout the pandemic and beyond:

- https://www.easa.europa.eu/community/content/wellbeing

Specific information about personal wellbeing can be found in the section "Looking after yourself"

- https://www.easa.europa.eu/community/content/information-looking-after-yourself

Another section of the wellbeing hub provides information on "Managing others"

- https://www.easa.europa.eu/community/content/managing-others

There is also a range of career support material in the section "Managing the impact on your career"

- https://www.easa.europa.eu/community/content/managing-impact-your-career:

3.1.3 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 competences and adapt training methods to cope with new challenges, such as COVID-19.

It is important to recognise the positive contribution that aviation professionals can make in restarting a complex system. The ICAO Handbook for CAAs on the Management of Aviation Safety Risks related to COVID-19 (Doc 10144) advises the following:

'Identifying interfaces and establishing channels for communication provides access to expert opinion, which is valuable in understanding the available information in a dynamic situation. Responding under a crisis situation may require qualitative decision-making using a risk management approach and asking practical questions (e.g. What supporting evidence is available?, What are the consequences of alternative options?, How will delays in decisions impact?, What is the risk tolerability for the specific situation?, What are the available resources?).'

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 in all licences and ratings, and facilitating the availability of appropriate personnel in CAAs. 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 Chapter 5.2.

The CAAs 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: flight crew personnel, aircraft maintenance personnel, air traffic management personnel , flight operations officers/flight disptachers, remote pilots and other aviation personnel. A phased approach to gradually reach the level of maturity required for the full implementation should be adopted. The safety actions for the introduction of the new training concept may initially address pilots, through training organisations and operators.

Aviation personnel competency has also been raised as a safety issue arising from the COVID-19 pandemic. With significant reduction in air traffic most aviation professionals are no longer able to perform their normal

operational activities on a regular basis. Some might be doing substantially different non-aviation related activities and some might not be working at all. The extended period of low activity is longer and affects a larger number of aviation personnel when compared with sick or sabbatical leave periods. The pandemic also reduced the possibilities for training as access to training facilities and FSTDs was severely restricted.

Language proficiency constitutes another focus area. 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.

Key actions in the area of **Language proficiency**:

- **EUR.RMT.0021** ICAO requirements for proficiency in languages used for radiotelephony communications language proficiency (ILPR) – rulemaking; and

- **EUR.SPT.0022** ICAO requirements for proficiency in languages used for radiotelephony communications language proficiency (ILPR) - safety promotion

3.1.4 Impact of security on safety

Cybersecurity

The aviation world is more and more digitally connected which provides for advantages but comes also with a huge variety of new challenges as there is an urgent need for protection of critical information and communications technology and data. An example may be the new generation of aircraft with systems connected to the ground in real time, or ATM technologies which function via wireless connections between the various ground centres and the aircraft. The digitalisation of aviation systems increases the vulnerability for cyber-attacks which may impact the whole system and endanger flight safety. It is an urgent need to foster harmonised and improved understanding and means for the protection of systems, security by design, supply chain security, redundancy and maintenance as well as highlight the core need of regular communication and information sharing. It is essential that the aviation industry and authorities find a way to share knowledge and learn from each other's experience to ensure the aviation system can be protected in future, cyber-attacks get managed and business continuity is assured. It is furthermore essential to recognise that cybersecurity is a cross-cutting issue that involves all domains of the aviation sector; safety , security , air navigation etc. which need to cooperate to provide States and industry with a vision of the civil aviation sector as resilient to cyber-attacks, whilst continuing to innovate and grow.

Conflict zones

Since the tragic downing of Malaysian Airlines flight MH17 and recently of Ukraine International Airlines flight 752, there is a strong consensus that States shall share their information about possible risks and threats in conflict zones. Numerous initiatives have been taken to inform the air operator certificate holders 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.

The objective of the alerting system is to join 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 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.

3.1.5   Civil-military coordination and cooperation

The global evolution of the ATM system guided by the Global Air Navigation Plan (Doc 9750) requires global, regional, and national cooperation between civil and State aviation authorities to ensure integration of State aviation needs and ensure planning by the State aviation authorities of the implementation of the ATM evolution. As airspace becomes more of a scarce and sought after resource, States need to take a balanced approach to airspace management. This requires communication, cooperation, coordination and trust.

Optimising both civil and military operations will ultimately be to the State's benefit. Recognizing that the growing civil air traffic and mission-oriented military air traffic would benefit greatly from a more flexible use of airspace, it is recommended that civil and military experts jointly develop advice and guidance on the best practices for civil/military cooperation, including at the level of State safety management. The principle "as civil as possible-as military as necessary" intends to enhance interoperability, performance and military mission effectiveness for military authorities, while providing performance benefits for the whole aviation system.

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 applying the performance equivalence approach.

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, including EPAS and EUR RASP.

Reliable military safety data sharing, primarily for military aerodromes open to public use and civil derivative aircraft, as well as dual-used platforms (mainly rotorcraft but also fixed wings in transport or training type operations), 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)[11] integration into non-segregated airspace. Moreover, close cooperation with the military stakeholders is also essential in scenarios where Counter UAS (C-UAS) measures would have to be developed and implemented.

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 warrant that the requirements for military air operations are met, in particular by promoting a common understanding of key principles, sharing best practices and monitoring their practical implementation.

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[11] '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.

3.2 Operational safety

3.2.1 Address safety risks in Commercial Air Transport Aeroplanes and NCC operations (non-commercial operations with complex-motor powered aircraft, being part of business aviation)

The number of accidents involving scheduled commercial operations with aircraft of maximum mass of over 5700 kg and occurring in one of the 55 States EUR Region has decreased in 2020 compared to 2019: 9 of such accidents occurred in 2020, including one fatal accident resulting in 3 fatalities. Over the same period there was a decrease in scheduled commercial departures which results in a regional accident rate of 2.00 accidents per million departures, down 32% from the 2019 rate of 2.96 accidents per million departures.

This operational domain remains the greatest focus of the EUR safety activities.

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

— *aircraft upset in flight (Loss of Control)*

Aircraft upset or loss of control is the most common accident outcome for fatal accidents in CAT aeroplanes 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. **See Section 5.3.1.1.**

— *runway excursions, runway incursions and collisions*

Runway safety events[12] remain the highest number of events: 11 of the 46 accidents involving aircraft of maximum mass of over 2 250 kg that occurred in the EUR Region in 2020 were runway safety-related, causing 3 fatalities out of a total of 19.

Runway excursion covers materialised runway excursions, both at high and low speed, and occurrences where the flight crew had difficulties 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. In 2020 the highest risk contributors determined as part of the European SRM were occurrences with delayed rotation due to take-off incorrect centre of gravity and actual runway excursions.

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. **See Section 5.3.1.2.**

— *airborne collision*

Airborne collision includes all occurrences involving actual or potential airborne collisions between aircraft while both aircraft are airborne and between aircraft and other airborne objects (excluding birds and wildlife).

In 2020 the highest risk contributors were occurrences with loss of separation whilst performing a missed approach due to windshear encounter and several Airborne Collision Avoidance System (ACAS) resolution advisories cases. **See Section 5.3.1.3.**

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[12] Runway safety-related events include the following ICAO accident occurrence categories: abnormal runway contact (ARC), bird strikes (BIRD), ground collision (G-COL), runway excursion (RE), runway incursion (RI), loss of control on the ground (LOC-G), collision with obstacle(s) during take-off and landing (CTOL) and undershoot/overshoot (USOS).

3.2.2   Address safety risks in rotorcraft operations

In November 2018 EASA delivered a **Rotorcraft Safety Roadmap**[13] aiming 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.

Consequently the **Rotorcraft Safety Roadmap** specifies 3 objectives:

—   Improve overall rotorcraft safety by 50 % within the next 10 years

—   Make positive and visible changes to the rotorcraft safety trends within the next 5 years

—   Develop performance-based and proportionate solutions that help maintain competitiveness, leadership and sustainability of European industry

In 2020, a review of the actions was performed to give priority on those supporting the industry during the pandemic. The external communication and events were cancelled, and the focus was shifted to the Return to Normal Operation project. Several actions of the Roadmap were put on hold or delayed.

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

—   Training Safety and Training Devices

—   Safety Data

—   Safety Promotion

—   Helicopter Design Improvements

—   Certification Specifications Modernisation

—   Simplification – reduction of administrative burden for small helicopter operators

—   Evaluation of new concepts.

Further details on those can be found in EPAS 2022-2026 Section 3.1.2.2.

3.2.3   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 high annual numbers of fatalities in Europe. Adding to that the number of fatal accidents involving micro-light airplanes, sailplanes and balloons makes GA one of the aviation sectors with the highest yearly number of fatalities.

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.

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

3.3 Safe integration of new technologies and concepts

Establishing and maintaining a high uniform level of civil aviation safety remains the highest objective. A more integrated approach will be allowed in the future to the introduction of new technologies, innovative solutions and operating concepts. To continue to maintain the highest possible safety standards in the future to come, such integrated approach considering the total aviation system will be essential.

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 Artificial Intelligence (AI). This domain, no longer the province of science fiction, could well be the next 'game-changer' for aviation . In the near future, new EUR RASP actions may be required to maximise related safety benefits, while mitigating any threats induced by the implementation of these new technologies.

3.3.1 Artificial intelligence (AI)

AI, and more specifically the Machine Learning (ML) field of AI, bears enormous potential for developing applications that would not have been possible with the development techniques that were used so far. AI will affect most aviation domains, not only in terms of products and services provided by the industry, but also in relation to the rise of new business models that need to be accounted for in certification, rulemaking, an oversight. This may in turn affect the competency framework of CAA staff.

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

3.3.2 Engine/aircraft certification

In 2016, EASA and 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 Certification Specifications (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.

The list of recommendations is included as Appendix D in the final report issued by the EACWG in June 2017[14].

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), co-led by EASA and the FAA, and formed by authority and industry representatives of the aircraft and engine communities. The EACWG recommendation are prioritised by the EACTB to be able to proceed to their development in an orderly manner.

The EACTB has also deployed efforts in the direction of settling the appropriate forum for resolution of potential regulatory difficulties in the engine/aircraft interfacing.

Top-three CMT Items:

- Recommendation R-2.8: Issue Papers to Policy
- Recommendation R-4.6: Fire Prevention
- Recommendation R-4.7: Electrical Wiring Interconnection System (EWIS)

Additionally, three items identified by the EACTB:

- Recommendation R-4.1: F&R Testing
- Recommendation R-4.5: Inhibit Engine Protection Systems
- Recommendation R-4.4: Extended Range Operation with Two-Engine Aeroplanes (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.

3.3.3   Ensure the safe operation of UAS (drones)

There is a need to create an adequate regulatory framework that will enable safe operations of UAS and the integration of these new airspace users into the EUR airspace.

As technology advances, consistent requirements and expectations in an already crowded airspace will help manufacturers to design for all conditions and make it easier for operators to comply with requirements.

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 over the last years and it is expected that this will develop even faster in the years to come.

The number of drones within the EUR region has multiplied over the last years. Available data also shows the increase of drones coming closer to manned aviation (both aeroplanes and helicopters), thereby confirming the need to mitigate the associated risk.

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.

In order to avoid a diversity of national measures, EASA had proposed to act as the European coordinator of an action plan containing five objectives and to collaborate with the affected stakeholders, namely the Member

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[14]   https://www.easa.europa.eu/sites/default/files/dfu/EACWG_final_report_June_2017.pdf

States (including CAAs and Law Enforcement Authorities), aerodrome operators, aircraft operators, ANSPs, EUROCONTROL and the EC. This led to the publication of the EASA Counter-UAS Action Plan.

This Plan, which is subject to periodic review and amendment. The latest Issue 3 includes numerous amendments to the C-UAS Action Plan as the work on the implementation progresses.

— The Action Plan is articulated around five objectives: Objective #1: Educate the public to prevent and reduce misuse of drones around aerodromes

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

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

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

— Objective #5: Support adequate occurrence reporting

Key actions in the area of **UAS (drones)**:

• **EUR.RMT.0083**   Introduction of a regulatory framework for the operation of drones

• **EUR.SPT.0084**   European Safety Promotion on civil drones

• **EUR.SPT.0095**   Counter-UAS drone measures and drone incident management at aerodromes

3.3.4   New operating concepts and 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. 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, starting with creating the required certification standards to adapting operational and licensing rules, as well as ATM/ANS and aerodrome rules.

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

Transport modes are increasingly considering the use of electric and hybrid propulsion and aviation is not an exception. In the domain of civil aviation, electric and hybrid propulsion started off in light General Aviation/leisure flying aircraft and the lower end of unmanned aircraft systems. The latest technological developments (e.g. hybrid technology, fuel cell, distributed propulsion and lift, urban air mobility solutions with electric propulsion VTOL aircraft, aeroplanes with a high number of motors and propellers/fans, high voltage levels) are promising to make electrification more and more attractive and feasible in aviation, hence an increasing number of projects developed by the industry for a potentially huge market. While most of those projects currently address smaller aircraft and UAS, some projections foresee that regional aircraft (around 40 seats) could fly fully electrically in the range between 2030 and 2040[15].

The use of electric and hybrid propulsion systems has the potential to significantly reduce the aviation environmental footprint. However, in order to ensure that this objective is met, the full life cycle of the products needs to be taken into account as well as the energy mix used. In addition to their disposal the safe storage of batteries on ground will also need to be addressed.

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 should be enhanced.

To allow such projects to thrive and enable their safe integration into the aviation system, a number of complex issues need to be tackled from a regulatory perspective, given that most of the aviation requirements are still referring to the use of hydrocarbon-based fuel and traditional power plant categories (piston engine, turboprop, turbofan and turbo shaft). This concerns not only **aircraft design requirements** (addressing in particular the hazards created by the carriage of high-voltage systems on-board the aircraft), but also **operational, flight crew licensing, maintenance, air navigation** and **aerodrome** requirements.

An overarching objective should be to apply and ensure a level of safety of electrical and hybrid propulsion products, at least equivalent to that achieved for the *traditional* combustion-based propulsive systems.

3.3.6   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 General Aviation/leisure flying.

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 by accident investigation authorities.

Nine recommendations are proposed to further improve weather information and awareness:

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[15] Source: SAFRAN and aviation's electric future, press kit, 2019 Paris Air Show. SAFRAN. https://www.safran-group.com/sites/group/files/dp_safran_bourget_2019_safran_and_aviations_electric_future_en.pdf

— **Recommendation #1: Education and training:** require specific education and training on 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.

— **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.

4. EUR Safety Metrics and Targets

The following EUR Safety Performance Indicators (EUR SPIs) are defined for the EUR RASP 2022 – 2024, reflecting the goals and targets from draft GASP 2023-2025:

EUR RASP Target	EUR SPI ID	EUR SPI Text
GASP Goal 1: Achieve a continuous reduction of operational safety risks		
1.1 EUR States to maintain a decreasing trend of regional accident rate	EUR.SPI.1.1.01	Number of accidents involving scheduled commercial operations with aircraft of maximum mass of over 5700 kg and occurring in EUR Region
	EUR.SPI.1.1.02	Number of accidents involving scheduled commercial operations with aircraft of maximum mass of over 5700 kg and occurring in EUR Region per million departures (accident rate)
	EUR.SPI.1.1.03	Number of fatal accidents to aircraft of 5700 kg or more occurring in the EUR Region
	EUR.SPI.1.1.04	Number of fatal accidents involving scheduled commercial operations with aircraft of maximum mass of over 5700 kg and occurring in EUR Region per million departures (fatal accident rate)
	EUR.SPI.1.1.05	Number of fatalities in accidents to aircraft of 5700 kg or more occurring in the EUR Region
	EUR.SPI.1.1.06	Number of fatalities in accidents involving scheduled commercial operations with aircraft of maximum mass of over 5700 kg and occurring in EUR Region per passengers carried (fatality rate)
	EUR.SPI.1.1.07	Percentage of accidents to aircraft of 2250 kg or more occurring in the EUR Region related to high-risk categories (HRCs)
	EUR.SPI.1.1.08	Number of accidents to aircraft of 2250 kg or more occurring in the EUR Region
GASP Goal 2: All States to strengthen their safety oversight capabilities		
2.1 EUR States to improve their EI score for critical elements (CEs) of the State's safety oversight system (with focus on priority PQs) as follows: — **by 2024 – 75 per cent** — **by 2026 – 85 per cent** — **by 2030 – 95 per cent**	EUR.SPI.2.1.01	Number of EUR States that met the EI score as per the timelines
	EUR.SPI.2.1.02	Number of EUR States that have fully implemented the priority Protocol Questions (PQ) related to a safety oversight system
	EUR.SPI.2.1.03	Percentage of required corrective action plans (CAPs) submitted by EUR States
	EUR.SPI.2.1.04	Percentage of completed CAPs per EUR State
	EUR.SPI.2.1.05	Number of EUR States maintaining a safety oversight index greater than 1 in all categories
GASP Goal 3: Implement effective State Safety Programmes (SSPs)		
3.1 By 2023, all EUR States to implement the foundation of an SSP	EUR.SPI.3.1.01	Number of EUR States having implemented the SSP foundational PQs
	EUR.SPI.3.1.02	Percentage of required CAPs related to the SSP foundational PQs submitted by EUR States (using OLF)
	EUR.SPI.3.1.03	Percentage of required CAPs related to the SSP foundational PQs completed per EUR State (using OLF)
3.2 By 2024, all EUR States to publish a NASP	EUR.SPI.3.2.01	Number of EUR States having published their NASP
3.3 All States to work towards an effective SSP as follows: **a) by 2025 – Present** **b) by 2028 – Present and effective**	EUR.SPI.3.3.01	Number of EUR States having an SSP that is present
	EUR.SPI.3.3.02	Number of States having an SSP that is present and effective
	EUR.SPI.3.3.03	Number of States that require applicable service providers under their authority to implement an SMS

EUR RASP Target	EUR SPI ID	EUR SPI Text
GASP Goal 4: States to increase collaboration at the regional level to enhance safety		
4.1 By 2023, EUR States that do not expect to meet GASP Goals 2 and 3, to seek assistance to strengthen their safety oversight capabilities or facilitate SSP implementation	EUR.SPI.4.1.01	Number of States actively seeking assistance, by using a regional safety oversight mechanism, another State or other safety oversight organization's ICAO-recognized functions
	EUR.SPI.4.1.02	Number of EUR States that submitted a draft NASP to an ICAO EUR/NAT Regional Office
	EUR.SPI.4.1.03	Number of EUR States registered in the NASP Online Community
4.3 By 2025, all States to contribute information on operational safety risks, including SSP safety performance indicators (SPIs), and emerging issues, to their respective regional aviation safety group (RASG)	EUR.SPI.4.3.01	Number of EUR States registered to the Secure Portal on Emerging Issues and Additional Categories of Operational Safety Risks
	EUR.SPI.4.3.02	Number of EUR States that are sharing their SSP SPIs with EASPG
	EUR.SPI.4.3.03	Number of reports received via the Secure Portal on Emerging Issues and Additional Categories of Operational Safety Risks and validated from EUR entities
GASP Goal 5: Expand the use of industry programmes and safety information sharing networks by service providers		
5.1 Maintain an increasing trend in EUR industry's contribution in safety information sharing networks, including harmonized SPIs as part of their safety management system (SMS), to EUR States and EUR region to assist in the development of national and regional aviation safety plans	EUR.SPI.5.1.01	Number of EUR service providers using globally harmonized metrics for their SPIs
	EUR.SPI.5.1.02	Percentage of EUR service providers participating in the corresponding ICAO-recognized industry assessment programmes
	EUR.SPI.5.1.05	Number of EUR States having established safety data collection and processing systems (SDCPS) to facilitate participation in a safety information-sharing network
GASP Goal 6: Ensure the appropriate infrastructure is available to support safe operations		
6.1 By 2025, maintain an increasing trend of EUR States with air navigation and aerodrome infrastructure that meets relevant ICAO Standards	EUR.SPI.6.1.01	Number of air navigation deficiencies for EUR States against the EUR regional air navigation plans
	EUR.SPI.6.1.03	Number of EUR States having implemented PQs linked to the basic building blocks

Volume II

5. Safety Actions

This chapter groups all EUR RASP actions, allocated to different sub-chapters as per systemic/operational domain. Actions are further grouped by Key Risk Area in sub-chapters **5.3** 'Flight operations – aeroplanes' and **5.5** 'Flight operations – General Aviation/leisure flying'.

5.1   Systemic safety

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.

5.1.1   Safety management

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, the importance of hazard identification and associated risk mitigation, and the significance of addressing human factor/human performance aspects. Authorities and aviation organisations should have agile (safety) management systems (SMS), implementing robust Safety Risk Management (SRM) principles and including whenever possible short-loop safety monitoring processes1 . The situation with the COVID-19 pandemic illustrates that need across all domains.

The SMS principles will be strengthened through SMS implementation supported by ICAO Annex 19.

EUR.RMT.0001	Embodiment of safety management system (SMS) requirements into applicable State's legislation

The objective of this action to ensure the full transposition of ICAO Annex 19 for safety management and to support effective implementation by service providers.

Status	*ongoing*
Reference(s)	*n/a*
Dependencies	*GASP Goal 3* *EPAS RMT.0251*
Affected stakeholders	*CAAs, Air Operator Certificate Holders i.a.w. ICAO Annex 6, Pilots, Approved Maintenance Organisations, Approved Pilot Training Organisations i.a.w. ICAO Annex 1, Organisations responsible for the type design of aircraft, engines, propellers or components i.a.w. ICAO Annex 8, Operators of certified aerodromes i.a.w. ICAO Annex 14 Vol. I, Providers of Air Traffic Management/Air Navigation Services i.a.w. ICAO Annex 11, and Air Traffic Controller Training Organisations i.a.w. ICAO Annex 1*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework in place	*2022Q4*

CHANGES SINCE LAST EDITION
Action description formulated to cater for full transcription of ICAO Annex 19.

MONITORING	
Monitoring activities	**Related SPIs**
Nb and type of differences filed by States on ICAO Annex 19	*n/a*

EUR.RMT.0002	Implement requirements and guidance material on occurrence reporting

Development of the necessary requirements and guidance material for the service providers and the CAA personnel on establishing and effective operation of the mandatory and voluntary reporting systems in line with Annex 19 Chapter 5 and Appendix 3 and considering applicable legislation.

Status	*ongoing*
Reference(s)	*Regulation (EU) 376/2014[16]*
Dependencies	*GASP Goal 3* *EPAS RMT.0681* *IE-REST/TS/02 "Establishment and implementation of effective mandatory and voluntary safety occurrence reporting systems within the States and the industry"*
Affected stakeholders	*Air Traffic Controller Training Organisations i.a.w. ICAO Annex 1, Approved Pilot Training Organisations i.a.w. ICAO Annex 1, Air operators i.a.w. ICAO Annex 6, Pilots, Approved Maintenance Organisations, manufacturers, Providers of Air Traffic Management/Air Navigation Services i.a.w. ICAO Annex 11 and Operators of certified aerodromes i.a.w. ICAO Annex 14 Vol. I*
Owner	*States*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework in place	*2022Q4*

CHANGES SINCE LAST EDITION
n/a

MONITORING	
Monitoring activities	**Related SPIs**
Nb and type of differences filed by States on ICAO Annex 19	*n/a*

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

EUR.SPT.0004	SMS international cooperation

States should 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 SMICG, EASPG and other safety groups and fora.

States should encourage dissemination and implementation of safety promotion material developed by the Safety Management International Collaboration Group (SMICG) and other relevant sources.

The latest SMICG deliverables include:
— *Revised Guidance on SMS for Small Organisations: Considerations for Regulators*
— *Attitudes and Behaviours for effective SMS (brochure)*
— *Revised SMS Integration guidance – Points to Consider*
— *Revised SSP Assessment Tool (reflecting ICAO Annex 19 Amendment 1).*

Forthcoming SMICG material:
— *Effective Surveillance Following the Introduction of SMS*
— *Management of Change at State Level: Considerations*
— *Safety Manager's Role in SMS, including competency and training requirements*
— *Performance-Based/Risk-Based Oversight*
— *Updated Safety Management Terminology*
— *Tool and guidance for evaluating inspector SMS competency*

Status	*ongoing – continuous action*
Reference(s)	*GASP SEI-5 (Industry) Improvement of industry compliance with applicable SMS requirements*
Dependencies	*GASP Goal 3* *GASP Goal 4* *EPAS SPT.0057* *EPAS MST.002*

Affected stakeholders	*All*
Owner	*States/Industry*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Safety promotion material, campaigns	*continuous*

CHANGES SINCE LAST EDITION
Action fully revised.. Former action EUR.SPT.0006 (2020-2022) fully included under this action.

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.SPT.0005	**States to implement effective State Safety Programmes (SSPs)**

In the implementation and maintenance of the SSP, States shall in particular:
- *ensure effective implementation of the Annex 19 Requirements and address deficiencies in oversight capabilities, as a prerequisite for effective SSP implementation,*
- *ensure effective coordination between State authorities having a role in safety management,*
- *ensure that inspectors have the right competencies to support the evolution towards risk- and performance based oversight,*
- *ensure that policies and procedures are in place for risk- and performance based oversight, including a description of how an SMS is accepted and regularly monitored,*
- *establish policies and procedures for safety data collection, analysis, exchange and protection,*
- *establish a process to determine safety performance indicators at State level addressing outcomes and processes,*
- *ensure that an approved SSP document is made available and shared with other States, and*
- *ensure that the SSP is regularly reviewed and that SSP effectiveness is regularly assessed.*

Status	*ongoing*
Reference(s)	*ICAO Annex 19* *GASP SEI-13 — Start of SSP implementation at the national level* *GASP SEI-14 — Strategic allocation of resources to start SSP implementation* *GASP SEI-15 — Strategic collaboration with key aviation stakeholders to start SSP implementation* *GASP SEI-16 — Strategic collaboration with key aviation stakeholders to complete SSP implementation*
Dependencies	*GASP Goal 3* *EPAS MST.0001, EUR.RMT.0001, EUR.RMT.0003*
Affected stakeholders	*All*
Owner	*States*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
SSP fully implemented, SSP document available	*2025Q1*

CHANGES SINCE LAST EDITION
Action fully revised. Former action EUR.RMT.0003 (EUR RASP 2020-2022) fully included under this action.

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*EUR.SPI.4.1.01*

EUR.SPT.0007	SMS Assessment

States should make use of the available tools to support risk- and performance based oversight. States should provide feedback to the tool developers on how they are used, for the purpose of standardisation and continual improvement of the assessment tool.

States should regularly monitor status of compliance with SMS requirements of their industry.

Status	*ongoing – continuous action*
Reference(s)	*SMICG SMS Evaluation Tool[17]* *EASA Management System assessment tool[18];* *GASP SEI-5 (Industry) Improvement of industry compliance with applicable SMS requirements*
Dependencies	*GASP Goal 3* *EPAS MST.0026*
Affected stakeholders	*All*
Owner	*States*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
SMS assessment reports	*continuous*

CHANGES SINCE LAST EDITION
n/a

MONITORING	
Monitoring activities	**Related SPIs**
Feedback on the use of the tool to SMICG & EASA	*n/a*

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[17] https://www.skybrary.aero/index.php/SM_ICG_SMS_Evaluation_Tool
[18] https://www.easa.europa.eu/document-library/general-publications/management-system-assessment-tool

EUR.SPT.0008	**States to establish and maintain a National Aviation Safety Plan (NASP)**

States should ensure that a NASP is maintained and regularly reviewed.

States should identify in NASP 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, States should consider the pan-European safety risk areas identified in EUR RASP for the various aviation domains as part of their SRM process and, when necessary, identify suitable mitigation actions within their NASP. In addition to the actions, NASP shall also consider how to measure their effectiveness. States should justify why action is not taken for a certain risk area identified in EUR RASP.

The pan-European top key risk areas as determined through the European SRM currently are :
— *For CAT and NCC aeroplanes: airborne collision, runway excursions, aircraft upset (cf. Chapter6)*
— *For rotorcraft operations: helicopter upset in flight, obstacle collision, terrain collision and airborne collision (cf. Chapter 7).*
— *For GA/NCO: aircraft upset, terrain collision, obstacle collision in flight*
— *For GA/Sailplanes: aircraft upset, terrain collision, obstacle collision in flight*
— *For GA/Balloons: obstacle collision in flight, balloon landings, fire and smoke (cf. chapter 8).*

In addition, the specific safety risks included in the COVID-19 safety risk portfolio shall be assessed and the State risk picture updated accordingly.

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

States should ensure that their NASP is made available to relevant stakeholders and are invited to share it with the other States and ICAO.

Status	*ongoing*
Reference(s)	*GASP SEI-11 (States) — Strategic collaboration with key aviation stakeholders to enhance safety in a coordinated manner* *GASP SEI-17 (States) — Establishment of safety risk management at the national level (step 1)* *GASP SEI-18 (States) — Establishment of safety risk management at the national level (step 2)* *GASP SEI-19(States) — Acquisition of resources to increase the proactive use of risk modelling capabilities* *GASP SEI-20 (States) — Strategic collaboration with key aviation stakeholders to support the proactive use of risk modelling capabilities* *GASP SEI-21 (States) — Advancement of safety risk management at the national level* *IE-REST SEIs (States) — Mitigate contributing factors to the risks of CFIT, LOC-I, MAC, RE, and RI*
Dependencies	*GASP Goal 3* *EPAS MST.0028*
Affected stakeholders	*All*
Owner	*States*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
SPAS established (EASA Member States)	*2021Q4*
NASP established (non-EASA EUR States)	*2022Q4*

CHANGES SINCE LAST EDITION
List of pan-European top key risk areas updated. Deliverables updated to consider the more stringent timeline for EASA Member States.

MONITORING	
Monitoring activities	**Related SPIs**
Nb of States having shared their NASP with the ICAO EUR Office	*n/a*

EUR.SPT.0097	Safe return to operations 'Ramp up safely'

States should run a dedicated safety promotion campaign to support safe ramp-up/return to operations and support the implementation of a resilient management system.

States should deliver safety promotion material to address the most significant risks.

States may make use of guidance/training material/best practice that will be developed by EASA.

Status	new
Reference(s)	*EASA COVID-19 Safety Risk Portfolio published in April 2021[19]*
Dependencies	*EPAS SPT.0122* *EPAS MST.0039*
Affected stakeholders	All
Owner	States

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Safety Promotion campaign	*2022/2023*

CHANGES SINCE LAST EDITION
n/a

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

5.1.2 Human factors and human performance

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.

EUR.RMT.0009	Implement HF competency framework for regulatory staff and enhance HF training for all categories of regulatory staff

Ensure that regulatory staff have the right skills, knowledge and attitude to deal with HF issues and promote HF principles in regulations, oversight, enforcement and safety promotion.

States shall :
- *implement a HF competency framework for their regulatory staff*
- *implement competency assessment of regulatory staff before and after training.*
- *make available guidance for the appropriate level of HF competency for HF trainers.*

This action mitigates against risks generated through the inadequate understanding, regulation and oversight of human factors.

The ICAO Regional Office shall support the implementation of the HF competency framework , e.g. through dedicated workshops.

Status	*Ongoing*
Reference(s)	*ICAO Human Performance Manual (ICAO Doc 10151)* *ICAO Safety Management Manual (ICAO Doc 9859)*
Dependencies	*GASP Goal 3* *EUR.RASP.0090*
Affected stakeholders	*All*
Owner	*States/ICAO Regional Office*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Competency framework implemented	*2023Q4*

CHANGES SINCE LAST EDITION
Action description clarified, references and dependencies added.

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.SPT.0090	**Foster a common understanding, regulation and oversight of Human Factors.**

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

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

These guidance and tools will be provided to the competent authorities to organise the implementation of the competency framework, and plan and conduct the training for the respective regulatory staff

Furthermore, this action involves expanding the scope of the existing Human Factors competency framework for inspectors to cover all categories of regulatory staff and to mitigate against risks generated through the inadequate understanding, regulation and oversight of HF and supports effective SMS implementation in Industry.

States shall make use of the Human Factors competency framework that will be developed by EASA with the support of its HF CAG. The competency framework will become available in 2022.

Status	*new*
Reference(s)	*ICAO Human Performance Manual* *ICAO Safety Management Manual*
Dependencies	*EPAS SPT.0115* *EPAS MST.0037*

Affected stakeholders	*CAAs and their staff*
Owner	*EASA/HF CAG*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Human Factors competency framework guidance and tools	*2022/2023*

CHANGES SINCE LAST EDITION
n/a

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.RMT.0010	Development of flight time limitation (FTL) rules for CAT operations of emergency medical services (EMS) by aeroplanes and helicopters

Establish harmonised and state-of-the-art rules for EMS

Status	*ongoing*
Reference(s)	*n/a*
Dependencies	*GASP Goal 1* *EPAS RMT.0492*
Affected stakeholders	*Pilots and Aircraft Operators - CAT - Aeroplanes i.a.w. ICAO Annex 6 Part I conducting Emergency Medical Services (EMS) operations*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework in place	*2024Q1*

CHANGES SINCE LAST EDITION
n/a

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.RMT.0011	**Update and harmonisation of flight time limitation (FTL) rules for CAT by aeroplane for air taxi operations and single-pilot operations taking into account operational experience and recent scientific evidence**

Develop harmonised and state-of-the-art-rules for air taxi and single-pilot operations.

Status	*ongoing*
Reference(s)	*n/a*
Dependencies	*GASP Goal 1* *EPAS RMT.0493*
Affected stakeholders	*Aircraft Operators - CAT - Aeroplanes i.a.w. ICAO Annex 6 Part I, Pilots*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework in place	*2024Q1*

CHANGES SINCE LAST EDITION
n/a

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.RMT.0012	Flight time limitation (FTL) rules for helicopter commercial operations

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

Status	*ongoing*
Reference(s)	*n/a*
Dependencies	*GASP Goal 1* *EPAS RMT.0494*
Affected stakeholders	*Aircraft Operators - CAT - Helicopters i.a.w. ICAO Annex 6 Part III, Aircraft Operators - Aerial Work i.a.w. ICAO Annex 6 - Helicopters, Aircraft Operators - International Recreational Aviation - non commercial operations Operators of large or turbojet helicopters i.a.w. ICAO Annex 6 Part II Section, Pilots*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework in place	*2024Q4*

CHANGES SINCE LAST EDITION
Action title, description and timeline udpated to reflect changes made with EPAS 2022-2026.

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.RMT.0013	Flight Time Limitations (FTL) rules for aeroplane commercial operations other than CAT

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

Status	*ongoing*
Reference(s)	*n/a*
Dependencies	*GASP Goal 1* *EPAS RMT.0495*

Affected stakeholders	*Pilots and commercial aeroplane operators other than CAT*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework in place	*2025*

CHANGES SINCE LAST EDITION
Timeline udpated to reflect changes made with EPAS 2022-2026.

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.RMT.0014	Implement preventive measures in the field of aircrew medical fitness

States should implement the following preventive measures:

(1) carrying out a psychological assessment of the flight crew before commencing line flying;

(2) enabling, facilitating and ensuring access to a flight crew support programmes; and

(3) performing systematic drug and alcohol (D&A) testing of flight and cabin crew upon employment.

Status	*ongoing*
Reference(s)	*Regulation (EU) 2018/1042 of 23/07/2018* *EASA ED Decision 2019/002/R of 28/01/2019*
Dependencies	*GASP Goal 1* *EPAS RMT.0700 (completed)*
Affected stakeholders	*CAAs, Aero-Medical Examiners i.a.w. ICAO Annex 1, Aero-Medical Centres i.a.w. ICAO Annex 1, Pilots*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework and guidance material in place	*2022Q4*

CHANGES SINCE LAST EDITION
n/a

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.SPT.0091	Roadshow/ Series of workshops dedicated to fatigue risk management (CAT)

The ICAO Regional Office will explore the possibility of developing the fatigue risk management (FRM) webinars/workshops and of publishing webinar materials on ICAO TV.

IATA will support the organisation of such webinars and workshops.

Note that in March 2021 a webinar on fatigue risk management in cargo and on demand operations was organised: https://www.easa.europa.eu/newsroom-and-events/events/1st-webinar-fatigue-risk-management-cargo-and-demand-operations

Status	*new*
Reference(s)	
Dependencies	*EPAS SPT.0116*
Affected stakeholders	*FTL/FRM inspectors at CAAs, operators' FRM/rostering personnel and aircrew*
Owner	*ICAO Regional Office, Industry (IATA)*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
FRM webinars	*2022/2023*

CHANGES SINCE LAST EDITION
n/a

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.SPT.0092	Safety promotion campaign to mitigate aircrew fatigue

Launch and implement safety promotion making use of practical guides, promotional material and e-learning content developed by EASA to address Aircrew Fatigue.

This will include written and video materials containing explanatory material, examples, FAQs and recommendations.

EASA delivered so far:
- *IFTSS (individual flight time specification scheme) Evaluation Form in 2018;*
- *FTL/FRM Inspector's checklists (parts 1 and 2) in 2019;*
- *FTL/FRM Practical Guide Issue 1 in 2019.*

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

EASA will deliver:
- *FTL/FRM Inspector's checklist (part 3) in 2021*
- *FTL/FRM Practical Guide Issue 2 in 2021*
- *IFTSS Evaluation Form – update in 2022*

Status	*new*
Reference(s)	
Dependencies	*EPAS SPT.0118*
Affected stakeholders	*FTL/FRM inspectors at CAAs and operators FRM/rostering personnel and aircrew*
Owner	*States*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Safety promotion campaign on aircrew fatigue	*2022-2024*

CHANGES SINCE LAST EDITION
n/a

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

5.1.3 Aircraft tracking, rescue operations and accident investigation

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.

EUR.RMT.0015	Amendment of requirements for flight recorders and underwater locating devices

Amend applicable regulations to comply with latest ICAO requirements for flight recorders and underwater locating devices

Status	*ongoing*
Reference(s)	*Regulation (EU) 2015/2338 of 11/12/2015*
Dependencies	*GASP Goal 1* *EPAS RMT.0400 (completed)*
Affected stakeholders	*Air Operator Certificate Holders i.a.w. ICAO Annex 6 and Organisations responsible for the type design of aircraft, engines, propellers or components i.a.w. ICAO Annex 8*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework amended	*2022Q4*

CHANGES SINCE LAST EDITION
e Timeline extended.

MONITORING	
Monitoring activities	**Related SPIs**
Nb and type of differences filed by States on ICAO Annex	*n/a*

5.1.4 Impact of security on safety

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.

EUR.RMT.0016	Cybersecurity risks

Create a regulatory system which efficiently contributes to the protection of the aviation system from cyber-attacks and their consequences. To achieve this objective it is proposed to introduce a regulation covering all the aviation domains (design, production, maintenance, operations, aircrew, ATM/ANS, ADRs), which include high-level, performance-based requirements, supported as applicable by acceptable means of compliance (AMC), guidance material and Industry Standards.

Status	*ongoing*
Reference(s)	*n/a*
Dependencies	*GASP Goal 3*
	EPAS RMT.0720 - EASA Opinion 03/2021 published on 11/06/2021
Affected stakeholders	*CAAs, Approved Maintenance Training Organisations i.a.w. ICAO Annex 1, Air Traffic Controller Training Organisations i.a.w. ICAO Annex 1, Approved Pilot Training Organisations i.a.w. ICAO Annex 1, Air Operator Certificate Holders i.a.w. ICAO Annex 6 – CAT, Organisations responsible for the type design of aircraft, engines, propellers or components i.a.w. ICAO Annex 8, Approved Maintenance Organisations, Providers of Air Traffic Management/Air Navigation Services i.a.w. ICAO Annex 11, and Operators of certified aerodromes i.a.w. ICAO Annex 14*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	Timeline
Regulatory framework in place	*2022Q4*

CHANGES SINCE LAST EDITION
Reference to EASA Opinion added.

MONITORING	
Monitoring activities	Related SPIs
n/a	*n/a*

EUR.SPT.0017	Strategy for Cybersecurity in Aviation

Citizens travelling by air are more and more exposed to cybersecurity threats. The new generation of aircraft have their systems connected to the ground in real time. Air traffic management technologies require internet and wireless connections between the various ground centres and the aircraft. The multiplication of network connections increase the vulnerability of the whole system.

In order to address those concerns, a Strategy for Cybersecurity in Aviation will be developed. This strategy will include, among others, actions in the following areas:
— Information sharing
— Research and studies
— Event investigation and response
— Knowledge and competence building
— International cooperation and harmonization
— Regulatory activities and development of Industry Standards

Status	*ongoing*
Reference(s)	*https://www.easa.europa.eu/easa-and-you/cyber-security/main-easa-activities#group-easa-downloads*
Dependencies	*GASP Goal 3* *EPAS SPT.071 (completed)* *GASeP*
Affected stakeholders	*All*
Owner	*States*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Strategy for Cybersecurity in Aviation adopted	*2023Q4*

CHANGES SINCE LAST EDITION
Timeline extended.

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.SPT.0018	Dissemination of information on conflict zones

Define further actions to be taken at EUR level in order to provide common information on risks arising from conflict zones.

Status	*ongoing - continuous action*
Reference(s)	*n/a*
Dependencies	*GASP Goal 1* *EPAS SPT.0078*
Affected stakeholders	*All*
Owner	*ICAO Regional Office/States*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Information to States	*continuous*

CHANGES SINCE LAST EDITION
n/a

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

5.1.5 Oversight capabilities

The safety actions in this area focus on strengthening the safety oversight capabilities of States. Annex 19 introduced the concept of risk-based oversight with the objective of addressing safety issues with a consideration to efficiency.

The following are enablers of a robust safety oversight system:

- ability and determination to conduct effective oversight;

- ability to identify risks through a process to collect and analyse data;

- ability to mitigate the identified risks in an effective way, implying measurement of performance and leading to continuous improvement;

- willingness and possibility to exchange information and cooperate with other States' Competent Authorities;

- ability to ensure the availability of adequate personnel, where 'adequate' includes the notion of sufficient training and proper qualification; and

- focus on the implementation of effective management systems in industry, wherever required by the regulations in force.

EUR.RMT.0019	Regulation and Oversight of Search and Rescue (SAR) services

Review and improve existing regulatory requirements and guidance material for the establishment and safety oversight of Search and Rescue services, making use of the documents developed by the EUR SAR Task Force.

Status	*ongoing*
Reference(s)	*EUR Doc 039 – EUR SAR Plan*
	EUR Training programme for SAR Inspectorate Staff
	EUR Search and Rescue Inspector's handbook
	EUR Guidance Material for the implementation and monitoring of Preferred SAR Capability Specifications (PSCS) of EUR SAR plan.
Dependencies	*GASP Goal 2*
Affected stakeholders	*CAAs, Providers of Search and Rescue services*
Owner	*States*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework amended	*2023Q4*

CHANGES SINCE LAST EDITION
Reference to the work of the EUR SAR Task Force, reference documents added and timeline extended.

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.RMT.0020	Oversight capabilities/focus areas

To further strengthen the oversight capabilities, CAA should address the following systemic focus areas:

(a) Availability of adequate personnel in CAAs
States to ensure that adequate personnel is available to discharge their safety oversight responsibilities;

(b) Cooperative oversight in all sectors
States to ensure cooperation where the oversight of an organisation involves more than one State, to ensure that those activities are adequately overseen, either with or without an agreed transfer of oversight tasks.

(c) Organisations' (safety) management system in all sectors
States to foster the ability of CAAs to assess and oversee the organisations' (safety) 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 CAAs to adaptation and improvement of their oversight system.

Status	*ongoing*
Reference(s)	*ICAO Annex 19 and GASP 2022-2024 Goal 2 'Strengthen States' safety oversight capabilities'* *GASP SEI-4 & GASP SEI-10 — Strategic allocation of resources to enable effective safety oversight* *GASP SEI-5 — Qualified technical personnel to support effective safety oversight* *GASP SEI-6 — Strategic collaboration with key aviation stakeholders to enhance safety in a coordinated manner*
Dependencies	*GASP Goal 2 and 3* *EPAS MST.0032*
Affected stakeholders	*All*
Owner	*States*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
NASP established and addressing these focus areas	*2022Q4*

CHANGES SINCE LAST EDITION
n/a

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

5.2   Competence of personnel

EUR.RMT.0021	ICAO requirements for proficiency in languages used for radiotelephony communications language proficiency (ILPR) - rulemaking

Review, update existing or develop new regulatory requirements and/or guidance material to ensure high quality of aviation language assessment and harmonised implementation of the ELP for relevant categories of licence holders.

Status	*ongoing*
Reference(s)	*ICAO Annex 1, Annex 6, Annex 10, Annex 11*
Dependencies	*GASP Goal 2*
Affected stakeholders	*Member States, Approved Pilot Training Organisations i.a.w. ICAO Annex 1, Providers of Air Navigation Services i.a.w. ICAO Annex 11, Air Traffic Controllers, Pilots and Student Pilots i.a.w. ICAO Annex 1*
Owner	*States*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework amended	*2024Q1*

CHANGES SINCE LAST EDITION
Timeline extended.

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.SPT.0022	ICAO requirements for proficiency in languages used for radiotelephony communications language proficiency (ILPR) - safety promotion

Stream 1:

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 States.

All relevant stakeholders and 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.

Stream 2:

CAAs to develop promotional material to encourage approved training organisations to conduct pilot training for CPL, ATPL and IR mainly in English language and/or that English language training be delivered in parallel with CPL, ATPL and IR training courses.

Status	*ongoing – continuous action*
Reference(s)	*ICAO Annex 1, Annex 6, Annex 10, Annex 11*
Dependencies	*GASP Goal 2* *EUR.RMT.0021, EPAS SPT.0105*
Affected stakeholders	*CAAs, Approved Pilot Training Organisations i.a.w. ICAO Annex 1, Providers of Air Navigation Services i.a.w. ICAO Annex 11, Air Traffic Controllers, Pilots and Student Pilots i.a.w. ICAO Annex 1*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Stream 1 Guidance/ good practice document	*continuous*
Stream 2 Guidance/ good practice document	*continuous*

CHANGES SINCE LAST EDITION
Task description clarified for Stream 2

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.RMT.0023	**Extend Competency-based Training and Assessment to all licences and ratings and extension of Threat and Error Management (TEM) principle to all licences and ratings**

The principles of CBTA shall be transferred to all licences and ratings, and the multi-crew pilot licence (MPL) should be reviewed in order to address the input from the ICAO MPL symposium and the European MPL Advisory Board. Some action items for the GA, such as modular training and CBT, should be addressed as well.

Status	*ongoing*
Reference(s)	*n/a*
Dependencies	*GASP Goal 1* *EPAS RMT.0194* *IE-REST/PT/02 "Implementation of Evidence Based Training (EBT)"*
Affected stakeholders	*CAAS, Approved Pilot Training Organisations i.a.w. ICAO Annex 1, Air Operator Certificate Holders i.a.w. ICAO Annex 6. Pilots, Instructors (Flight Crew) i.a.w. ICAO Annex 1, Examiners (Flight Crew) i.a.w. ICAO Annex 1*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework amended	*2024*

CHANGES SINCE LAST EDITION
Action description better formulated.Timeline extended to reflect EPAS 2022-2026.

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.RMT.0024	Improve flight simulation training devices (FSTDs) fidelity

An ICAO harmonisation issue, as the main purpose is to include in the applicable legislation elements from ICAO Doc 9625 for the use of FSTDs in flight training. The task will also address three safety recommendations (SRs) and aims at including results and findings from the loss of control avoidance and recovery training (LOCART) and other working group results. Harmonisation with the Federal Aviation Administration (FAA) should be considered.

Subtask 1 - 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

Subtask 2 - review the technical requirements for training devices to reflect their actual capability and technology advancement.

Subtask 3 - address any relevant and appropriate emerging issues including the feasibility for developing FSTD requirements for Power-lift/Tilt rotor aircraft.

Status	*ongoing*
Reference(s)	*n/a*
Dependencies	*GASP Goal 1* *EPAS RMT.0196*
Affected stakeholders	*Air Operator Certificate Holders i.a.w. ICAO Annex 6, Approved Pilot Training Organisations i.a.w. ICAO Annex 1, DTOs, Pilots, Instructors (Flight Crew) i.a.w. ICAO Annex 1, Examiners (Flight Crew) i.a.w. ICAO Annex 1*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework amended – Subtask 1	*2022Q2*
Regulatory framework amended – Subtask 2	*2024*
Regulatory framework amended – Subtask 3	*2028*

CHANGES SINCE LAST EDITION
Deliverables and timelines clarified for each subtask in line with EPAS 2022-2026.

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.RMT.0025	New training/teaching technologies for maintenance staff

Set up the framework for:
- *e-learning and distance learning;*
- *simulation devices or STDs;*
- *specialised training such as human factors, FTS, continuation training; and*
- *blended teaching methods.*

Status	*ongoing*
Reference(s)	*n/a*
Dependencies	*GASP Goal 1* *EPAS RMT.0255*
Affected stakeholders	*CAAs, Aircraft maintenance licence (AML) holders, Approved Maintenance Training Organisations i.a.w. ICAO Annex 1, Approved Maintenance Organisations*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework in place	*2023*

CHANGES SINCE LAST EDITION
Timelines extended in line with EPAS 2022-2026.

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.RMT.0026	Balloon and sailplane licensing requirements

Address topics identified by the industry balloon and sailplane experts on the aircrew and on the medical side with regards to the balloon and sailplane operations licensing requirements

Status	*ongoing*
Reference(s)	*n/a*
Dependencies	*GASP Goal 1* *EPAS RMT.0654 (completed)*
Affected stakeholders	*CAAs, Aircraft Operators – Sailplanes, Aircraft Operators - Balloons, Pilots, Instructors (Flight Crew) i.a.w. ICAO Annex 1, Examiners (Flight Crew) i.a.w. ICAO Annex 1*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework in place	*2022Q4*

CHANGES SINCE LAST EDITION
n/a

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.SPT.0027	Flight examiner manual

Enhance the application and harmonisation among flight examiners of standards and best practices to ensure that any applicant is qualified by a comparable level of knowledge, competence and skill.
Through a reliable and objective testing and checking guidance, foster the achievement of optimal outcomes in the interest of effectiveness, efficiency, fairness and transparency. Promote the application of common standards for training programmes for examiners among all EUR States' CAAs.

This SPT will entail :
_ developing a 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.
_ providing recommendations to competent authorities on the usefulness of using common standardised forms and, in addition, common notification procedure(s) for examiners with a valid examiner certificate.

Status	*ongoing*
Reference(s)	*EASA flight examiner manual[20]*
Dependencies	*GASP Goal 1* *EPAS SPT.0111*
Affected stakeholders	*CAAs, Examiners (Flight Crew) i.a.w. ICAO Annex 1*
Owner	*EASA/States*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
EASA flight examiner manual	*2022Q2*

CHANGES SINCE LAST EDITION
Timeline extended. Link to EASA deliverable added.

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

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[20] https://www.easa.europa.eu/document-library/general-publications/flight-examiners-manual-fem

EUR.SPT.0028	Promotion of the full range of careers and opportunities in the aviation industry of ICAO EUR Region

Help to address potential shortages of aviation professionals for the future aviation system within ICAO EUR Region by promoting the full range of careers and opportunities that are available.

This covers the full range of aviation activities both on the ground and in the air.This action supports the implementation of the ICAO Next Generation of Aviation Professionals (NGAP) programme.

Status	*ongoing – continuous action*
Reference(s)	*ICAO NGAP*
Dependencies	*GASP Goal 3 (Safety Promotion as part of SSP)* *EPAS SPT.0107*
Affected stakeholders	*All*
Owner	*States*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Promotional web material and social media	*continuous*

CHANGES SINCE LAST EDITION
n/a

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.SPT.0089	Private Pilot Licence (PPL)/Light Aircraft Pilot Licence (LAPL) learning objectives in the Meteorological Information part of the PPL/LAPL syllabus

States should develop proportionate learning objectives in the 'Meteorological Information' part of the PPL and, where applicable, LAPL syllabus.

Such learning objectives should be of a basic, non-academic nature and address key learning objectives in relation to practical interpretation of ground based weather radar, strengths and weaknesses; as well as of meteorological satellite imagery, strengths and weaknesses; forecasts from numerical weather prediction models, strengths and weaknesses.

Status	*new*
Reference(s)	
Dependencies	*EPAS MST.0036*

Affected stakeholders	*CAAs, PPL/LAPL pilots, training organisations*
Owner	*States*

EXPECTED OUTPUT	
Deliverable(s)	Timeline
Learning objectives, with related question bank	*2022 Q4*

CHANGES SINCE LAST EDITION
n/a

MONITORING	
Monitoring activities	Related SPIs
n/a	*n/a*

5.3   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.

5.3.1   CAT & NCC operations

The operational domain CAT and NCC by aeroplane remains the greatest focus of the EUR region 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

5.3.1.1   Aircraft upset in flight (LOC-I)

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 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.

EUR.RMT.0029	Loss of control prevention and recovery training

Review of the provisions for initial and recurrent training in order to address upset prevention and recovery training (UPRT). The review will also address the implementation of the ICAO provisions (namely Annex 1, Annex 6 part I, PANS-TRG, Doc 9868, Doc 10011, Doc 9625). 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).

Status	*ongoing*
Reference(s)	*Regulation (EU) 2018/1974 of 14/12/2018* *EASA ED Decision 2019/025/R of 17/12/2019*
Dependencies	*GASP Goal 1* *EPAS RMT.0581 (completed)* *IE-REST/PT/03 "Reducing LOC-I accidents"*
Affected stakeholders	*CAAs, Approved Pilot Training Organisations i.a.w. ICAO Annex 1, Air Operator Certificate Holders i.a.w. ICAO Annex 6, Pilots, Instructors (Flight Crew) i.a.w. ICAO Annex 1, Examiners (Flight Crew) i.a.w. ICAO Annex 1*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework in place	*2022Q4*

CHANGES SINCE LAST EDITION
Timeline extended.

MONITORING	
Monitoring activities	**Related SPIs**
Monitoring percentage of accidents in this key risk areas	*EUR.SPI.1.1.04*

EUR.SPT.0030	Promotion of the provisions on pilot training

The objective is to complement the new regulatory package on upset prevention and recovery training (UPRT) with relevant safety promotion material.

Status	*ongoing*
Reference(s)	*GASP SEI (States) – Mitigate contributing factors to LOC-I accidents and incidents*
Dependencies	*GASP Goal 1* *EUR.RMT.0029* *EPAS SPT.0012*
Affected stakeholders	*CAAs, Approved Pilot Training Organisations i.a.w. ICAO Annex 1, Air Operator Certificate Holders i.a.w. ICAO Annex 6, Pilots, Instructors (Flight Crew) i.a.w. ICAO Annex 1, Examiners (Flight Crew) i.a.w. ICAO Annex 1*
Owner	*States*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Safety promotion material	*2023Q4*

CHANGES SINCE LAST EDITION
Timeline furtherextended.

MONITORING	
Monitoring activities	**Related SPIs**
Monitoring percentage of accidents in this key risk areas	*EUR.SPI.1.1.04*

EUR.SPT.0031	Raise of awareness of the risk posed by icing in-flight and potential mitigations

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.

An article on "Icing in Flight" was published on 11/12/2020 and can be consulted via that link: https://www.easa.europa.eu/community/topics/icing-flight. Further social media activity as follow up action is planned for 2021.

Status	*ongoing*
Reference(s)	*GASP SEIs (industry) – Mitigate contributing factors to LOC-I accidents and incidents* *https://www.easa.europa.eu/community/topics/icing-flight*
Dependencies	*GASP Goal 1* *EPAS SPT.0109 (completed)*
Affected stakeholders	*Aircraft Operators - CAT i.a.w. ICAO Annex 6, Groundhandling Services Providers i.a.w. ICAO Annex 9 or Annex 14, Pilots*
Owner	*States, ICAO EUR/NAT Regional Office, EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Promotional Web Material and Social Media	*2022Q4*

CHANGES SINCE LAST EDITION
Timeline extended.

MONITORING	
Monitoring activities	**Related SPIs**
Monitoring percentage of accidents in this key risk areas	*EUR.SPI.1.1.04*

5.3.1.2 Runway safety

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 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. Despite the relatively low number, the risk of the reported occurrences was demonstrated to be very real.

EUR.RMT.0032	Review of aeroplane performance requirements for operations

Develop regulatory material to provide improved clarity, technical accuracy, flexibility or a combination of these benefits for the 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.

Status	*ongoing*
Reference(s)	*Regulation (EU) 2019/1387[21]*
Dependencies	*GASP Goal 1* *EPAS RMT.0296 (completed)*
Affected stakeholders	*CAAs, Aircraft Operators - CAT - Aeroplanes i.a.w. ICAO Annex 6 Part I, Organisations responsible for the type design of aircraft, engines, propellers or components i.a.w. ICAO Annex 8*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework in place	*2022Q3*

CHANGES SINCE LAST EDITION
Timeline extended.

MONITORING	
Monitoring activities	**Related SPIs**
Monitoring percentage of accidents in this key risk areas	*EUR.SPI.1.1.04*

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21 *https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019R1387*

5.3.1.3   Airborne conflict (mid-air collisions)

Airborne collision includes all occurrences involving actual or potential airborne collisions between aircraft, while both aircraft are airborne, and between aircraft and other airborne objects (excluding birds and wildlife). This also includes all separation-related occurrences caused by either air traffic control or cockpit crew, AIRPROX reports and genuine ACAS alerts. It does not include false ACAS alerts caused by equipment malfunctions, or loss of separation with at least one aircraft on the ground, which may be coded as ground damage if the occurrence meets the criteria and usage notes for those categories. 22. In 2020 the highest risk contributors were occurrences with loss of separation whilst performing a missed approach due to windshear encounter and several ACAS resolution advisories cases

EUR.SPT.0033	Safety Promotion on Mid-Air Collisions (MAC) and airspace infringement

Develop and implement a pan-EUR region Safety Promotion campaign on preventing airspace infringement and reducing the risk of MAC including awareness of airspace complexity and the use of technology that identifies and shares aircraft position with traffic and air navigation service providers.

Status	*ongoing*
Reference(s)	*https://www.easa.europa.eu/airspace-infringement*
Dependencies	*GASP Goal 1* *EPAS SPT.0089 (completed)*
Affected stakeholders	*CAAs, Approved Pilot Training Organisations i.a.w. ICAO Annex 1, Air Operator Certificate Holders i.a.w. ICAO Annex 6, Pilots, Instructors (Flight Crew) i.a.w. ICAO Annex 1, Examiners (Flight Crew) i.a.w. ICAO Annex 1*
Owner	*ICAO Regional Office/ EASPG*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Safety promotion campaign	*2023Q4*

CHANGES SINCE LAST EDITION
Timeline further extended.

MONITORING	
Monitoring activities	**Related SPIs**
Monitoring percentage of accidents in this key risk areas	*EUR.SPI.1.1.04*

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22 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. For EASA Member States airborne collision is the key risk area ranking highest with regard to its cumulative risk score (see ASR 2021) related to fatal accidents in CAT aeroplane and NCC operations

EUR.SPT.0098	**Reinforce the appropriate reactions of flight crew in response to an ACAS resolution advisory (RA)**

Help to mitigate the risk of mid-air collision by providing safety promotion material and clear messages to pilots on the need to follow the instructions of the ACAS in high-risk situations.

States may make use of material to be developed by EASA by 2022, it will include posters, articles and a video to be developed in conjunction with EUROCONTROL (as part of Skybrary deliverables).

Status	*new*
Reference(s)	*Safety Recommendations IRLD-2014-017; SWTZ-2014-489*
Dependencies	*EPAS SPT.0123*
Affected stakeholders	*Aircraft Operators - CAT, Aircraft Operators - NCC, ATC Providers*
Owner	States

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Safety Promotion campaign	*2023/2024*

CHANGES SINCE LAST EDITION
n/a

MONITORING	
Monitoring activities	**Related SPIs**
ACAS RA occurrence rates	*n/a*

EUR.SPT.0034	'Due regard' for the safety of civil traffic over high seas

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

Several 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.

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

Status	*ongoing*
Reference(s)	*ICAO Doc 10088 'Manual on Civil/Military Cooperation in Air Traffic Management'*
Dependencies	*GASP Goal 1* *EPAS MST.0024*

Affected stakeholders	*Air Operator Certificate Holders i.a.w. ICAO Annex 6, ATC providers*
Owner	*States*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Report (feedback on implementation)	*2023Q4*

CHANGES SINCE LAST EDITION
Title, description and deliverables amended to clarify the objective. Reference to ICAO document added.Timeline further extended.

MONITORING	
Monitoring activities	**Related SPIs**
Monitoring percentage of accidents in this key risk areas	*EUR.SPI.1.1.04*

5.3.1.4   Terrain collision

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.

EUR.RMT.0035	TAWS operation in IFR and VFR and TAWS for turbine-powered aeroplanes under 5 700 kg MTOM able to carry six to nine passengers

Develop a regulatory framework for:

— mitigation of the risks of accidents categorised as CFIT in turbine-powered aeroplanes having a maximum certified take-off mass (MCTOM) below 5 700 kg or a maximum operational passenger seating configuration (MOPSC) of more than five and not more than nine; and

— improvement of the terrain awareness warning system (TAWS) efficiency in reducing CFIT accidents.

Status	*ongoing*
Reference(s)	*Regulation (EU) 2018/1042 of 23/07/2018*
Dependencies	*GASP Goal 1* *EPAS RMT.0371 (completed)*
Affected stakeholders	*Air Operator Certificate Holders i.a.w. ICAO Annex 6*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework in place	2023Q4

CHANGES SINCE LAST EDITION
Timeline extended.

MONITORING	
Monitoring activities	**Related SPIs**
Monitoring percentage of accidents in this key risk areas	*EUR.SPI.1.1.04*

5.3.1.5   Fire, smoke, pressurisation and cabin air quality

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 un-survivable.

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.

The section is maintained as a placeholder for future actions.

5.3.1.6   Miscellaneous

This section gathers the actions that do not relate to any of the KRAs listed in the previous sections They may involve different types of actions in the domain CAT by aeroplane & NCC operations . The need for having such a category was driven by the constant development of EUR RASP towards new safety areas.

EUR.RMT.0036	Requirements for relief pilots
	Address the provisions for the use of relief pilots as regards experience, training, checking and crew resource management.
Status	*ongoing*
Reference(s)	*n/a*
Dependencies	*GASP Goal 1 & GASP Goal 2* *EPAS RMT.0190*
Affected stakeholders	*Approved Pilot Training Organisations i.a.w. ICAO Annex 1 and Air Operator Certificate Holders i.a.w. ICAO Annex 6, Pilots*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework in place	2023Q4

CHANGES SINCE LAST EDITION
Timeline extended to align with EPAS 2022-2026.

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.RMT.0037	Non-commercial operations of aircraft listed in the operations specifications (OpSpecs) by an AOC holder

• Identify the categories of flights considered to be non-commercial flights conducted by air operator certificate (AOC) holders;
• Standardise the unofficial terms used in order to have a clear understanding of the different categories of non-commercial flights;
• Specify standards for non-commercial operations of AOC holders related to the preparation, programme and operational framework, as appropriate;
• Establish the minimum requirements for qualifications and training of the crews for each type of non-commercial flights conducted by AOC holders, as appropriate;
• Harmonise implementation.

Status	*ongoing*
Reference(s)	*Regulation (EU) 2019/1384 of 24/07/2019* *ED Decision 2019/019/R of 17/09/2019*
Dependencies	*GASP Goal 1* *EPAS RMT.0352 (completed)*
Affected stakeholders	*Air Operator Certificate Holders i.a.w. ICAO Annex 6*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework in place	*2023Q4*

CHANGES SINCE LAST EDITION
Timeline further extended .

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.RMT.0038	Update of the rules on air operations

Improve the CAA organisation structure and organisational requirements in the area of the Air OPS Regulation taking into account identified implementation issues;
— Better identify inspector qualifications;
— Take into account new business models, as appropriate;
— Take into account the development of any lessons learned from the implementation of SMS;
— Ensure compliance with the ICAO Standards And Recommended Practices (SARPs);
— Address identified safety issues such as pax seating and briefing;

Status	*ongoing*
Reference(s)	*Regulation (EU) 2019/1384 of 24/07/2019* *EASA ED Decision 2019/019/R of 17/09/2019*
Dependencies	*GASP Goal 2 (oversight capabilities)* *EPAS RMT.0516 (completed)*
Affected stakeholders	*Air Operator Certificate Holders i.a.w. ICAO Annex 6*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework amended	*2023 1Q4*

CHANGES SINCE LAST EDITION
Timeline extended.

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.RMT.0039	Fuel/energy planning and management

Review and update the fuel/energy management regulations, taking into account ICAO amendments and a related SR, and providing for operational flexibility.

Status	*ongoing*
Reference(s)	*(SR) FRAN-2012-026* *Regulation (EU) 2021/1296 of 04/08/2021 amending and correcting Regulation (EU) 965/2012 as regards the requirements for fuel/energy planning and management, and as regards requirements on support programmes and psychological assessment of flight crew, as well as testing of psychoactive substances[23]*
Dependencies	*GASP Goal 1* *EPAS RMT.0573* *EPAS SPT.0097*

Affected stakeholders	*Air Operator Certificate Holders i.a.w. ICAO Annex 6*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework in place	*2022Q1*

CHANGES SINCE LAST EDITION
References and dependencies updated.

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

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[23] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32021R1296

EUR.SPT.0040	Promote the new provisions on fuel/energy planning and management

The objective is to complement the new regulatory package on fuel planning and management with relevant safety promotion material.

Status	*ongoing*
Reference(s)	*n/a*
Dependencies	*GASP Goal 1* *EUR RASP.RMT.0039*

Affected stakeholders	*Air Operator Certificate Holders i.a.w. ICAO Annex 6*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Safety Promotion material	2022Q4

CHANGES SINCE LAST EDITION
Dependencies updated.

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.RMT.0041	Extended diversion time operations

To harmonise extended diversion time operations (EDTOs) regulation with the related ICAO SARPS and modernise the extended-range twin-engine operational performance standards (ETOPS) regulations.

Status	*ongoing*
Reference(s)	*n/a*
Dependencies	*GASP Goal 1* *EPAS RMT.0392*

Affected stakeholders	*CAAs, Air Operator Certificate Holders i.a.w. ICAO Annex 6*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework amended	*2023Q4*

CHANGES SINCE LAST EDITION
Timeline extended.

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.RMT.0042	Transposition of provisions on electronic flight bag from ICAO Annex 6

Transpose ICAO SARPS in applicable regulations and update them in line with the latest EFB developments

Status	*ongoing*
Reference(s)	*Regulation (EU) 2018/1975 of 14/12/2018* *EASA ED Decision 2019/008/R of 27/02/2019*
Dependencies	*GASP Goal 1* *EPAS RMT.0601 (completed)*
Affected stakeholders	*Air Operator Certificate Holders i.a.w. ICAO Annex 6*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework in place	*2023Q4*

CHANGES SINCE LAST EDITION
Timeline further extended .

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.SPT.0043	Flight data analysis (FDA) precursors of main operational safety risks

States in partnership with EASA, industry, other regional and international organisations should complete the good practice documentation which supports the inclusion of main operational safety risks such as RE, RI, LOC-I, CFIT and MAC into operators' FDA (FDM in EU terminology) programmes.

States in partnership with EASA, industry, other regional and international organisations should support effective use of FDA (as part of AOC holders' SMS, in particular by promoting the updated European Operators Flight Data Monitoring forum (EOFDM) document that will become available in 2022 and promoting the use of the EOFDM precursors aligned with the needs of operators and the evolution of the safety risks for large aircraft.

Status	*ongoing*
Reference(s)	*GASP SEIs (industry) – Mitigate contributing factors to CFIT, LOC-I, MAC, RE, and RI accidents and incidents*
Dependencies	*GASP Goal 1 (operational)* *GASP Goal 3* *EPAS SPT.0076 (completed)* *EPAS SPT.0112*

Affected stakeholders	*Air Operator Certificate Holders i.a.w. ICAO Annex 6*
Owner	*States/EASA/Industry*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Good practice documents	*2022Q4*
Promotion campaign	*2023/2024*

CHANGES SINCE LAST EDITION
Timeline further extended.
Scope extended to consider the related EPAS SPT.0112 and resulting EOFDM deliverables.

MONITORING	
Monitoring activities	**Related SPIs**
Monitoring percentage of accidents in these key risk areas	*EUR.SPI.1.1.04*

EUR.SPT.0044	Good practices for the integration of operator's FDA data with other safety data sources and for FDA techniques

States in partnership with ICAO, EASA, industry, other regional and international organisations should establish good practices that help an operator in integrating its FDA data with other safety data sources.

States in partnership with ICAO, EASA, industry, other regional and international organisations should support effective use of FDA as part of AOC holders' SMS, in particular by promoting the good-practice documentation for operators on techniques to implement FDA events and measurements and to tailor FDA results for use by the SMS.

Good practice documentation on FDA techniques developed by the EOFDM will become available before the end of 2021.

Status	*ongoing*
Reference(s)	*https://www.easa.europa.eu/easa-and-you/safety-management/safety-promotion/european-operators-flight-data-monitoring-eofdm-forum#group-easa-downloads*
Dependencies	*GASP Goal 1 (operational) & GASP Goal 3* *EPAS SPT.0113*
Affected stakeholders	*Air Operator Certificate Holders i.a.w. ICAO Annex 6*
Owner	*States/EASA/ ICAO EUR/NAT Regional Office /Industry/EOFDM*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Good practices document	*2023Q4*
Promotion campaign	*2023/2024*

CHANGES SINCE LAST EDITION
Timeline further extended. *Scope extended to consider the related EPAS SPT.0113 and resulting EOFDM deliverables*

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.SPT.0047	States should maintain a regular dialogue with their national aircraft operators on flight data analysis (FDA) programmes

States should maintain a regular dialogue with their operators on flight data analysis (FDA) programmes, with the objectives of:
• promoting the operational safety benefits of FDA and the exchange of experience between subject matter experts,
• encouraging operators to make use of good practice documents produced by EOFDM, IE-FDG and similar safety initiatives.

States that have 10 or more operators running an FDA programme are enocouraged to organise a workshop (physical meeting or teleconference) dedicated to the EOFDM good-practice documents with the FDA specialists at these operators.

Status	*ongoing – continuous action*
Reference(s)	*n/a*
Dependencies	*GASP Goal 3* *EPAS MST.0003*
Affected stakeholders	*Aircraft Operators - CAT i.a.w. ICAO Annex 6*
Owner	*States*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Report on activities performed to promote FDA	*continuous*

CHANGES SINCE LAST EDITION
Task description clarified.

MONITORING	
Monitoring activities	**Related SPIs**
Monitoring percentage of accidents in this key risk areas	*EUR.SPI.1.1.04*

EUR.SPT.0045	Safety Promotion on Disruptive Passengers

Develop Safety Promotion to support operators with the reduction of the risks associated with Disruptive/ Unruly Passengers.

Status	*ongoing*
Reference(s)	*https://www.easa.europa.eu/notonmyflight*
Dependencies	*GASP Goal 1*
Affected stakeholders	*Air Operator Certificate Holders i.a.w. ICAO Annex 6*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Safety Promotion material	*2023Q4*

CHANGES SINCE LAST EDITION
Timeline further extended.

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.SPT.0046	Development of new Safety Promotion material on high profile commercial flight operations safety issues

Develop new Safety Promotion material on high profile commercial flight operations safety issues. Such high profile safety issues are to be determined from important risks identified from the Safety Risk Management process, accidents/ serious incidents and inputs from stakeholders.

Status	*ongoing – continous action*
Reference(s)	*n/a*
Dependencies	*GASP Goal 1* *EPAS SPT.0101*

Affected stakeholders	*Air Operator Certificate Holders i.a.w. ICAO Annex 6*
Owner	*States*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Leaflets, videos, web pages and/or applications	*continuous*

CHANGES SINCE LAST EDITION
n/a

MONITORING	
Monitoring activities	**Related SPIs**
Monitoring percentage of accidents in this key risk areas	*EUR.SPI.1.1.04*

EUR.SPT.0048	Better understanding of operators' governance structure

CAAs to have a thorough understanding of operators' governance structure. This should in particular apply in the area of group operations.

Aspects to be considered include:
- extensive use of outsourcing,
- the influence of financial stakeholders, and
- controlling management personnel, where such personnel are located outside the scope of approval.

Status	*ongoing*
Reference(s)	*n/a*
Dependencies	*GASP Goal 2 (oversight capabilities)* *EPAS MST.0019*
Affected stakeholders	*Air Operator Certificate Holders i.a.w. ICAO Annex 6 - CAT*
Owner	*States*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Guidance material for inspectors	*2023Q4/2025Q1*

CHANGES SINCE LAST EDITION
Timeline extended to align with EPAS 2022-2026.

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.SPT.0049	Oversight capabilities/focus area: flight time specification schemes

States to ensure that the CAAs possess the required competence to approve and oversee operators' flight time limitations/specification schemes; in particular, those including fatigue risk management. CAAs should focus on the verification of effective implementation of processes established to meet operators' responsibilities and to ensure an adequate management of fatigue risks. CAAs should consider the latter when performing audits of the operator's management system.

Status	*ongoing*
Reference(s)	*GASP SEI-5 — Qualified technical personnel to support effective safety oversight*
Dependencies	*GASP Goal 2* *EPAS MST.0034*
Affected stakeholders	*Air Operator Certificate Holders i.a.w. ICAO Annex 6- CAT*
Owner	*States*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Specific actions to foster oversight capabilities (NASP input)	*2023Q4*

CHANGES SINCE LAST EDITION
Timeline extended.

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

5.3.2   Aerial work/Specialised operations (SPO) - aeroplanes

NB: For aerial work/SPO rotorcraft helicopters, please refer to Chapter 5.4.

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 2009-2018 were:

- parachute drop;

- towing; and

- airshow/race

In 2019 for EASA Member States, the top three SPO types in terms of accidents and serious incidents were, parachute drop, airshow/race, towing and calibration flights[24]. The top three KRAs for aeroplane SPO are indicated below**:**

Specialised operations - aeroplanes

KRA 1	KRA 2	KRA 3
Aircraft upset	Terrain collision	Airborne collision

The highest-risk safety issues in this domain all relate to human factors.

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[24] Calibration flights are flights for the purpose of calibrating ground-based instrument approach support systems

EUR.SPT.0088	**Improving the safety of parachuting operations (General Aviation – Aerial Work)**

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

Make use of EASA Safety Promotion material that will become available in 2022.

Status	*new*
Reference(s)	*n/a*
Dependencies	*EPAS SPT.0121*
Affected stakeholders	*CAs, SPO/NCO operators engaged in parachuting operations, training organisations, pilot licence holders and students, ANSPs, ATCOs*
Owner	*States, Air Sports Federations*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Safety promotion campaign	*2022/2023*

CHANGES SINCE LAST EDITION
n/a

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

5.4 Flight operations – rotorcraft

This chapter groups all actions in the area of rotorcraft operations.

Rotorcraft 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 three types of operations involving certified helicopters:

- CAT operations, passenger and cargo conducted by EASA Member States' AOC holders, including passenger and cargo flights to and from offshore oil and gas installations in CAT;

- SPO (aerial work), such as advertisement, photography, with an EASA Member State as the State of operator or State of registry; and

non-commercial operations with helicopters registered in an EASA Member State or for which an EASA Member State is the State of operator; this section includes in particular training flightsThe top three key risk areas for each of the three types of operation are as follows:

CAT operations helicopters

KRA 1	KRA 2	KRA 3
Aircraft upset	Terrain collision	Airborne collision

SPO helicopters (aerial work)

KRA 1	KRA 2	KRA 3
Aircraft upset	Terrain collision	Obstacle collision in flight

Non-commercial operations (NCO) helicopters

KRA 1	KRA 2	KRA 3
Aircraft upset	Terrain collision	Obstacle collision in flight

The European Safety Risk Management process highlighted the following priority 1 key risk areas:

— **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.

— **terrain and obstacle conflict**

This is the second priority key risk area for helicopter operations (offshore, other CAT, SPO and non-commercial operations), 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: **EUR.RMT.0052**.

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.

EUR.RMT.0050	Single-engine helicopter operations

Review the applicable regulations and guidance material in order to re-evaluate:

— Restrictions on piston engine helicopters to operate over hostile environment;
— Restrictions on single-engine helicopters to operate over congested environment.

Status	*ongoing*
Reference(s)	*n/a*
Dependencies	*GASP Goal 1* *EPAS RMT.0318*
Affected stakeholders	*Aircraft Operators - CAT - Helicopters i.a.w. ICAO Annex 6 Part III*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework amended	*2025Q4*

CHANGES SINCE LAST EDITION
Timeline extended to align with EPAS 2022-2026.

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.RMT.0051	Helicopter emergency medical services' performance and public interest sites

To properly address the issues stemming from non-implementation or deviation from OPS regulatory requirements 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)	*UK Safety Directive 2014/003*
Dependencies	*GASP Goal 1* *EPAS RMT.0325*
Affected stakeholders	*HEMS Operators - CAT - Helicopters i.a.w. ICAO Annex 6 Part III and Approved Maintenance Organisations*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework in place	*2024*

CHANGES SINCE LAST EDITION
Timeline extended to align with EPAS 2022-2026.

MONITORING	
Monitoring activities	**Related SPIs**
Monitoring rotorcraft related data as part of annual safety reviews	*Nb of accidents/incidents*

EUR.RMT.0052	Controlled flight into terrain (CFIT) prevention with helicopter terrain avoidance warning systems (HTAWS)

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)[25]. This task will consider mandating the installation of HTAWS on board the helicopter for certain operations. This 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. The cost effectiveness analysis should be performed to identify operations that should not to be considered for the mandate.

Status	*ongoing*
Reference(s)	*n/a*
Dependencies	*GASP Goal 1* *EPAS RMT.0708*

Affected stakeholders	*Aircraft Operators - CAT – Helicopter operations i.a.w. ICAO Annex 6 Part III*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework in place	*2025*

CHANGES SINCE LAST EDITION
Timeline extended to align with EPAS 2022-2026.

MONITORING	
Monitoring activities	**Related SPIs**
Monitoring rotorcraft related data as part of annual safety reviews	*Nb of accidents/incidents related to CFIT*

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[25]   Statistics for EASA Member States

EUR.RMT.0053	Rotorcraft Flight Crew Operating Manuals (FCOMs)

The objective of this task is to improve the operating information provided to rotorcraft flight crew in the aircrew 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.

Status	*ongoing*
Reference(s)	*n/a*
Dependencies	*GASP Goal 1* *EPAS RMT.0724*

Affected stakeholders	*Aircraft Operators - CAT – Helicopter operations i.a.w. ICAO Annex 6*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework/CS in place	*2022Q4*

CHANGES SINCE LAST EDITION
n/a

MONITORING	
Monitoring activities	**Related SPIs**
Monitoring rotorcraft related data as part of annual safety reviews	*Nb of accidents/incidents*

EUR.SPT.0054	Support the development and implementation of flight crew operating manuals (FCOMs) for offshore helicopter operations

To provide support to manufacturers, if needed, in the development of Flight Crew Operational Manuals (FCOM) for different helicopter types and support/encourage operators in their implementation.

Status	*ongoing*
Reference(s)	*n/a*
Dependencies	*GASP Goal 1* *EPAS SPT.0082*
Affected stakeholders	*Aircraft Operators - CAT – Helicopter operations i.a.w. ICAO Annex 6 Part III*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Safety promotion/guidance material/workshops	*2022Q4*

CHANGES SINCE LAST EDITION
n/a

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.SPT.0055	Development of new Safety Promotion material on high profile helicopter issues

In cooperation with the International Helicopter Safety Foundation (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 non-pilot owners of private helicopters.

Status	*ongoing*
Reference(s)	*n/a*
Dependencies	*GASP Goal 1* *EPAS SPT.0093*

Affected stakeholders	*Aircraft Operators - Helicopter operations i.a.w. ICAO Annex 6 Part III*
Owner	*European Safety Promotion Network Rotorcraft (ESPN-R)*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Leaflets, videos, web pages and/or applications	*2023Q4*

CHANGES SINCE LAST EDITION
Timeline extended.

MONITORING	
Monitoring activities	**Related SPIs**
Monitoring rotorcraft related data as part of annual safety reviews	*Nb of accidents/incidents*

EUR.SPT.0056	Helicopter safety and risk management

Review existing helicopter safety & risk management material to check consistency and update (when applicable) material to new rules, standards and international good practice coming for example from the Vertical Aviation Safety Team (VAST, previously International Helicopter Safety Team) and SMICG.

Status	*ongoing*
Reference(s)	*n/a*
Dependencies	*GASP Goal 1* *EPAS SPT.0094*

Affected stakeholders	*Aircraft Operators - Helicopter operations i.a.w. ICAO Annex 6 Part III*
Owner	*European Safety Promotion Network Rotorcraft (ESPN-R)*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Revised helicopter safety & risk management manuals and/or toolkits	*2022Q4*

CHANGES SINCE LAST EDITION
Timeline amened to align with latest EPAS

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.SPT.0057	Helicopter safety events

Depending on size, nature and complexity of helicopter operations in the State CAAs, in partnership with industry representatives, should organise regular helicopter safety events.

The IE-HOST, ESPN-R (previously EHEST), VAST (previously IHSF),, CAA, Heli Offshore or other sources of Safety Promotion materials could be freely used and promoted.

Status	*ongoing - continuous action*
Reference(s)	*n/a*
Dependencies	*GASP Goal 1* *EPAS MST.0015*
Affected stakeholders	*Aircraft Operators - Helicopter operations i.a.w. ICAO Annex 6 Part III*
Owner	*States*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Workshops	*continuous*

CHANGES SINCE LAST EDITION
n/a

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

5.5 Flight operations - General Aviation/leisure flying

This Chapter covers GA non-commercial operations involving aeroplanes with MTOMs below 5 700 kg, as well as all operations with balloons and sailplanes.

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.

Addressing safety risks in GA in a proportionate and effective manner is a strategic priority. Between 2010 and 2019, accidents in Europe involving recreational aeroplanes, i.e. non-commercially operated small aeroplanes with MTOMs below 5 700 kg, led to between 91 and 132 fatalities per year, with an average of 106.8 fatalities per year for the preceding decade. These figures exclude fatal accidents involving micro light airplanes, gliders and balloons. As such, this sector of aviation has the highest average number of fatalities per year. In 2020, there were 58 fatal accidents causing 97 fatalities involving recreational aeroplanes. 2020 shows a 7% reduction of fatal accidents compared to the 10-year average. The reduction in non-fatal accidents is 2% compared to the 10-year average. The number of serious incidents, however, was more than double in 2020 in comparison with the 10-year average. There were 9% fewer serious injuries than during the preceding decade. There were 16 fatalities in sailplane operations in 2020. This is a significant decrease when compared to the 10- year average. The number of serious injuries is, however, a bit higher than the 10-year average. The COVID-19 pandemic has significantly affected sailplane operations. Specifically, during the period from March to May 2020, the flight operations were significantly reduced. As concerns balloons, in 2020 there were 3 fatal accidents with 3 fatalities, 16 non-fatal accidents and 2 serious incidents. These figures are slightly below the average for the preceding decade.

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.

The European Safety Risk Management process identified following top three KRAs in non-commercially operated small aeroplanes (MTOMs below 5 700 kg):

KRA 1	KRA 2	KRA 3
Aircraft upset	Terrain collision	Obstacle collision in flight

For sailplanes, the top three KRAs are indicated below:

KRA 1	KRA 2	KRA 3
Aircraft upset	Terrain collision	Obstacle collision in flight

The associated priority 1 safety issues are:

- approach path management;
- Airborne conflict;
- incomplete winch launches;
- system reliability; and
- in-flight decision-making and planning;

The top three KRAs in balloon operations are as follows:

KRA 1	KRA 2	KRA 3
Obstacle collision in flight	Balloon landings	Fire and smoke

5.5.1   Systemic enablers

This section addresses system-wide or transversal issues that affect GA as a whole and/or that 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.

EUR.SPT.0058	Operational rules for sailplanes and balloons

Establish a set of rules covering Air Operations with sailplanes and balloons as the only regulatory reference for such operations, which addresses the specificities and associated risks in an efficient and proportional manner

Status	*ongoing*
Reference(s)	*Regulation (EU) 2018/1976 and EASA ED Decision 2019/001/R published on 28/01/2019 (Sailplanes)*
	Regulation (EU) 2018/395 and EASA ED Decision 2018/004/R published on 08/04/2019 (Balloons)
Dependencies	*GASP Goal 1*
Affected stakeholders	*Aircraft Operators – Sailplanes, Aircraft Operators - Balloons*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework in place	*2024Q1*

CHANGES SINCE LAST EDITION
n/a

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.SPT.0059	Flight instruction

Develop Safety Promotional material aimed at making more effective use 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	*GASP Goal 1* *EPAS SPT.0083*

Affected stakeholders	*Recreational Aviation – aeroplane - non commercial operations*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Safety Promotion material	*2023Q4*

CHANGES SINCE LAST EDITION
Timeline extended.

MONITORING	
Monitoring activities	**Related SPIs**
Monitoring GA related data as part of annual safety reviews	*Nb of GA accidents/incidents*

EUR.SPT.0060   Promoting safety by improving technology

Encourage the installation and use of modern technology (e.g. weather information, moving maps, envelope protection, tablet applications, avoidance systems, angle of attack indicators, etc.)

Status	*ongoing*
Reference(s)	*https://www.easa.europa.eu/community/topics/easa-ga-safety-award*
Dependencies	*GASP Goal 1*
Affected stakeholders	*Recreational Aviation – aeroplane - non commercial operations*
Owner	*States*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Promotion campaign & incentives programmes	*2023Q4*

CHANGES SINCE LAST EDITION
n/a

MONITORING	
Monitoring activities	**Related SPIs**
Monitoring GA related data as part of annual safety reviews	*Nb of GA accidents/incidents*

EUR.SPT.0061	Improvement in the dissemination of safety messages

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 - continuous action*
Reference(s)	*n/a*
Dependencies	*GASP Goal 1* *EPAS MST.0025*

Affected stakeholders	*Recreational Aviation – aeroplane - non commercial operations*
Owner	*States*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Safety workshops and safety days/evenings	*continuous*

CHANGES SINCE LAST EDITION
n/a

MONITORING	
Monitoring activities	**Related SPIs**
Monitoring GA related data as part of annual safety reviews	*Nb of GA accidents/incidents*

EUR.SPT.0062	Develop Just Culture in General Aviation/leisure flying

CAAs should include in their SSPs provisions for Just Culture in General Aviation/leisure flying to encourage occurrence reporting and foster positive safety behaviours.

Status	*ongoing – continuous action*
Reference(s)	*n/a*
Dependencies	*GASP Goal 3* *EPAS MST.0027* *IE-REST/TS/02 "Establishment and implementation of effective mandatory and voluntary safety occurrence reporting systems within the States and the industry"*
Affected stakeholders	*Recreational Aviation – aeroplane - non commercial operations*
Owner	*States*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Provisions to facilitate and promote just culture as part of SSP/SPAS	*continuous*

CHANGES SINCE LAST EDITION
n/a

MONITORING	
Monitoring activities	**Related SPIs**
Monitoring GA related data as part of annual safety reviews	*Nb of GA accidents/incidents*

5.5.2   Staying in control

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.

EUR.SPT.0063	Campaign on staying in control

Launch a campaign on staying in control covering topics such as aircraft performance, flight preparation and management, role of angle of attack, Threat and error management (TEM), upset and stall avoidance and recovery, and startle and surprise management.

The following Safety Promotion deliverables are available on the EASA website:
• Loss of Control (LOC-I)
• Loss of Control (LOC-I) in Approach and Landing
• Loss of Control (LOC-I) at Take-Off
• Crosswind final turn

Status	*ongoing*
Reference(s)	*https://www.easa.europa.eu/easa-and-you/general-aviation/flying-safely/loss-of-control* *https://www.easa.europa.eu/easa-and-you/general-aviation/flying-safely/loss-of-control-in-approach-and-landing* *https://www.easa.europa.eu/easa-and-you/general-aviation/flying-safely/loss-control-take-off* *https://www.easa.europa.eu/newsroom-and-events/news/sunny-swift-crosswind-final-turn*
Dependencies	*GASP Goal 1* *IE-REST/PT/03 "Reducing LOC-I accidents"*
Affected stakeholders	*Recreational Aviation – aeroplane - non commercial operations*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Safety Promotion campaign	*2023Q4*

CHANGES SINCE LAST EDITION
Timeline further extended.

MONITORING	
Monitoring activities	**Related SPIs**
Monitoring GA related data as part of annual safety reviews	*Nb of GA accidents/incidents*

5.5.3   Coping with weather

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.

EUR.SPT.0064	Weather awareness for pilots

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

Status	*ongoing*
Reference(s)	https://www.easa.europa.eu/newsroom-and-events/news/sunny-swift-weather-briefing-process https://www.easa.europa.eu/newsroom-and-events/news/sunny-swift-density-altitude https://www.easa.europa.eu/newsroom-and-events/news/sunny-swift-weather-radar-information https://www.easa.europa.eu/newsroom-and-events/news/sunny-swift-winter-planning *GASP SEI (industry) - Mitigate contributing factors to LOC-I accidents and incidents*
Dependencies	*GASP Goal 1* *EPAS SPT.0087*
Affected stakeholders	*Recreational Aviation – aeroplane - non commercial operations*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Safety Promotion campaign	*2023Q4*

CHANGES SINCE LAST EDITION
Timeline further extended.

MONITORING	
Monitoring activities	**Related SPIs**
Monitoring GA related data as part of annual safety reviews	*Nb of GA accidents/incidents*

EUR.SPT.0065	Promote instrument flying for General Aviation pilots/leisure flying

Promote easier access of General Aviation pilots to instrument flight rules (IFR) flying in order to ensure that the safety and efficiency benefits materialise across Europe.

Status	*ongoing*
Reference(s)	*Related EASA 'Sunny swift' promotion material:* https://www.easa.europa.eu/newsroom-and-events/news/sunny-swift-easier-and-safer-flying-ifr https://www.easa.europa.eu/newsroom-and-events/news/sunny-swift-weather-radar-information https://www.easa.europa.eu/newsroom-and-events/news/sunny-swift-taf-what-it-means-practice
Dependencies	*GASP Goal 1* *EPAS SPT.0088*
Affected stakeholders	*Recreational Aviation – aeroplane - non commercial operations*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Safety Promotion material	*2022Q4*

CHANGES SINCE LAST EDITION
n/a

MONITORING	
Monitoring activities	**Related SPIs**
Monitoring GA related data as part of annual safety reviews	*Nb of GA accidents/incidents*

5.5.4   Preventing mid-air collisions

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.

The section is maintained as a placeholder for future actions.

5.5.5   Managing the flight

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.

EUR.SPT.0066	Fuel management for pilots

Compile and disseminate to the community available material on fuel management.

Status	*ongoing*
Reference(s)	*Related EASA 'Sunny swift' promotion material:* *https://www.easa.europa.eu/newsroom-and-events/news/sunny-swift-fuel-caution-light*
Dependencies	*GASP Goal 1*
Affected stakeholders	*Recreational Aviation – aeroplane - non commercial operations*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Safety Promotion material	*2023Q4*

CHANGES SINCE LAST EDITION
Timeline extended.

MONITORING	
Monitoring activities	**Related SPIs**
Monitoring GA related data as part of annual safety reviews	*Nb of GA accidents/incidents*

EUR.SPT.0093	Promote iConspicuity (General Aviation)

iConspicuity (or in-flight electronic conspicuity plus) is defined as in-flight capability to transmit position of aircraft and/or to receive, process and display positions of other aircraft in a real time with the objective to enhance pilots' situational awareness about surrounding traffic. This includes a range of technologies and solutions, whether airborne or on the ground, that can help airspace users and other affected stakeholders to be more aware of other aircraft in their vicinity or in a given airspace.

Technological developments in the area of non-certified anti-collision and traffic awareness devices/systems hold potential to significantly reduce the airborne collision risk involving uncontrolled traffic. These systems are however not mutually compatible.

The installation of iConspicuity devices in all EUR/NAT registered General Aviation aircraft should be facilitated and their use by airspace users promoted at an affordable cost.

The objective of this action is to support initiatives enhancing interoperability of iConspicuity devices/systems, making use of EASA safety promotion material and monitoring the outcome of related EASA Research Projects (refer to EPAS actions RES.0021, RES.0031 and RES.0032 introduced with the EPAS 2020-2024 edition).

Status	*new*
Reference(s)	*n/a*
Dependencies	*EPAS SPT.0119*
Affected stakeholders	*Pilots, aircraft operators, CAAs, ANSPs, Industry (e.g. avionics manufacturers)*
Owner	*States, General Aviation associations and Air Sports Federations*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Safety promotion campaign	*2022-2024*

CHANGES SINCE LAST EDITION
n/a

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.SPT.0094	Airspace design, , airspace complexity and traffic congestion

States should adress and promote good practices in airspace design that reduce 'airspace complexity' and 'traffic congestion' with the aim of reducing the risk of airborne collisions involving uncontrolled traffic, including the changes along international borders.

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

Related EASA safety promotion material will become available in 2022/2023.

Status	*new*
Reference(s)	*European Action Plan for Airspace Infringement Risk Reduction (EAPAIRR)*
Dependencies	*EPAS SPT.0120* *EPAS MST.0038*
Affected stakeholders	*Pilots, aircraft operators, CAs, ANSPs, industry (e.g. avionics manufacturers)*
Owner	*States*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Safety promotion campaign	*2023/2024*

CHANGES SINCE LAST EDITION
n/a

MONITORING	
Monitoring activities	**Related SPIs**
n/a	n/a

5.6   Design and production

This chapter includes all the actions that are relevant to design and production.

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. 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.

EUR.RMT.0067	Reduction of runway excursions

The objective of this task is to increase the level of safety by reducing the number of REs through mandating existing technologies on aeroplane that allow to measure remaining runway left and thus support pilot-decision-making. Put more emphasis on safety objectives against the risk of REs, while providing more flexibility in terms of design solutions. The means to achieve these objectives will be provided in a technical standard developed jointly by industry and CAAs with the support of an international standardisation bodies (like EUROCAE).

Status	*ongoing*
Reference(s)	*ATM Master Plan Level 3 – Plan (2019): SAF11 – Improve runway safety by preventing runway excursions* *Regulation (EU) 2020/1159 of 05/08/2020[26]*
Dependencies	*GASP Goal 1* *EPAS RMT.0570 (completed)*
Affected stakeholders	*Air Operator Certificate Holders i.a.w. ICAO Annex 6, Organisations responsible for the type design of aircraft, engines, propellers or components i.a.w. ICAO Annex 8, Applicants for TC/STC i.a.w. ICAO Annex 8*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework in place	*2023Q4*

CHANGES SINCE LAST EDITION
Timeline extended.

MONITORING	
Monitoring activities	**Related SPIs**
Monitoring percentage of accidents in this key risk areas	*EUR.SPI.1.1.04*

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[26]   https://eur-lex.europa.eu/legal-content/DE/TXT/PDF/?uri=CELEX:32020R1159

5.7 Maintenance and continuing airworthiness management

This chapter includes all the actions that are relevant to maintenance and continuing airworthiness management.

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.

Certain existing requirements are either not efficient or not proportionate to the risks involved.

EUR.RMT.0068	Functions and responsibilities of maintenance certifying staff and support staff

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	*GASP Goal 1* *EPAS RMT.0097*

Affected stakeholders	*Approved Maintenance Organisations*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework amended	*2024Q4*

CHANGES SINCE LAST EDITION
n/a

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.RMT.0069	Technical records

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 (RFID).

Status	*ongoing*
Reference(s)	*Regulation (EU) 2019/1383 of 08/07/2019* *EASA ED Decision 2020/002/R of 13/03/2020*
Dependencies	*GASP Goal 1* *EPAS RMT.0276 (completed)*
Affected stakeholders	*Air Operator Certificate Holders i.a.w. ICAO Annex 6, Approved Maintenance Organisations*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework amended	*2022Q2*

CHANGES SINCE LAST EDITION
Reference to EASA ED Decision added (AMCs and GM to Regulation (EU) 2019/1383)

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.RMT.0070	Maintenance check flights (MCFs)

Establish operational requirements and crew competence criteria for the performance of maintenance check flights to reduce the probability of incidents and accidents of this type of flights. This will apply not only for AOC holders, but also for any operator performing these flights.

Status	*ongoing*
Reference(s)	*Regulation (EU) 2019/1384 of 04/09/2019* *EASA ED Decision 2019/019/R of 17/09/2019*
Dependencies	*GASP Goal 1*
Affected stakeholders	*Aircraft Operators, Approved Maintenance Organisations*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework in place	*2023Q4*

CHANGES SINCE LAST EDITION
Timeline extended.

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.SPT.0071	Develop new Safety Promotion material on high profile maintenance safety issues

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 Safety Risk Management process, accidents/ serious incidents and inputs from stakeholders.

Status	*ongoing - continuous action*
Reference(s)	*n/a*
Dependencies	*GASP Goal 1* *EPAS SPT.0104*
Affected stakeholders	*CAAs, Approved Maintenance Organisations*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Leaflets, videos, web pages and/or applications	*continuous*

CHANGES SINCE LAST EDITION
n/a

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

5.8 Air traffic management/air navigation services

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. 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.

This may entail 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. Implementation issues associated with ATM/ANS systems and constituents should also be addressed, especially those related to lack of interoperability and performance that may have an impact on operations.

The European Safety Risk Management process identified following top three KRAs for ATM/ANS**.**

KRA 1	KRA 2	KRA 3
Airborne collision	Runway collision	Runway excursion

EUR.RMT.0072	Technical requirements and operating procedures for airspace design, including flight procedure design

Development of the necessary organisational and technical requirements on airspace design. 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 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)	*Regulation (EU) 2018/1048 of 18/072018* *ATM Master Plan Level 3 – Plan (2019): NAV03.1 – RNAV1 in TMA Operations* *ATM Master Plan Level 3 – Plan (2019): NAV03.2 – RNP1 in TMA Operations* *ATM Master Plan Level 3 – Plan (2019): NAV10 – RNP Approach procedures to instrument RWY*
Dependencies	*GASP Goal 2* *GASP Goal 6* *EPAS RMT.0445*
Affected stakeholders	*CAAs, Air Operator Certificate Holders i.a.w. ICAO Annex 6, Providers of Air Navigation Services i.a.w. ICAO Annex 11, Operators of certified aerodromes i.a.w. ICAO Annex 14 Vol. I*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework in place	*2023Q4*

CHANGES SINCE LAST EDITION
Timeline further extended.

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.RMT.0073	Harmonisation of requirements for air traffic services

Transposition of the relevant ICAO provisions on ATSs contained in Annex 11 and other applicable ICAO Annexes and documents. The objective is to establish a mechanism to ensure a sufficient level of harmonisation throughout the EUR region, through a combination of mandatory and flexible requirements, with proportionate and cost-efficient rules.

Status	*ongoing*
Reference(s)	*Regulation (EU) 2020/469 of 14/02/2020* *EASA ED Decisions 2020/007/R and 2020/017/R*
Dependencies	*GASP Goal 1* *GASP Goal 2* *EPAS RMT.0464 (completed)*
Affected stakeholders	*CAAs, Aircraft Operators i.a.w. ICAO Annex 6, Providers of Air Navigation Services i.a.w. ICAO Annex 11, Air Traffic Controllers, Operators of certified aerodromes i.a.w. ICAO Annex 14 Vol. I, Pilots and Trade Unions*
Owner	*States*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Harmonisation mechanism in place	*2023Q4*

CHANGES SINCE LAST EDITION
Timeline extended.

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.RMT.0074	Assessment of changes to functional systems by service providers in ATM/ANS and the oversight of these changes by CAAs

Development of the necessary requirements and guidance material for the service providers and the CAAs.

Status	*ongoing*
Reference(s)	*Regulation (EU) 2017/373 of 01/03/2017* *EASA ED Decisions 2017/001/R of 08/03/2017 and 2019/022/R of 30/10/2019*
Dependencies	*GASP Goal 6* *EPAS RMT.0469 (completed)*
Affected stakeholders	*CAAs, Providers of Air Navigation Services i.a.w. ICAO Annex 11*
Owner	*States*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework amended, Guidance material available	*2023Q4*

CHANGES SINCE LAST EDITION
Timelinefurther extended.

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.RMT.0075	Technical requirements and operational procedures for aeronautical information services and aeronautical information management

Development of the necessary harmonised requirements and guidance material for the provision of aeronautical information and data, mainly based on the transposition of ICAO Annex 15 and ICAO Annex 4.

Status	*ongoing*
Reference(s)	*ATM Master Plan Level 3 – Plan (2019): ITY-ADQ – Ensure quality of aeronautical data and aeronautical information* *Regulation (EU) 2020/469 of 14/02/2020*
Dependencies	*GASP Goal 1* *GASP Goal 2* *EPAS action RMT.0477 (completed)*
Affected stakeholders	*CAAs, Aircraft Operators i.a.w. ICAO Annex 6, Providers of Air Navigation Services i.a.w. ICAO Annex 11 and Operators of certified aerodromes i.a.w. ICAO Annex 14 Vol. I*
Owner	*States*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework in place	*2022Q4*

CHANGES SINCE LAST EDITION
Timeline extended.

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.SPT.0076	Development of new safety promotion material on high-profile air traffic management safety issues

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 Safety Risk Management process, accidents/ serious incidents and inputs from stakeholders.

Status	*ongoing – continuous action*
Reference(s)	*n/a*
Dependencies	*GASP Goal 1* *EPAS SPT.0103*
Affected stakeholders	*Aircraft Operators i.a.w. ICAO Annex 6, Providers of Air Navigation Services i.a.w. ICAO Annex 11*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Leaflets, videos, web pages and/or applications	*continuous*

CHANGES SINCE LAST EDITION
n/a

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

5.9 Aerodromes

This Chapter addresses aerodrome design and operations, as well as aerodrome operators. Actions in this Chapter address safety in terms of developing and maintaining a legal framework commensurate with the complexity of ADR activities and management of potential risks.

Actions in this Chapter aim at ensuring compliance with the ICAO SAPRs and a harmonised approach which will support the free movement of services within the EUR NAT States.

The European Safety Risk Management process identified following top three KRAs for Aerodromes and groundhandling:

KRA 1	KRA 2	KRA 3
Ground damage	Aircraft upset	Runway collision

EUR.RMT.0077	Certification requirements for VFR heliports located at the international aerodromes

Ensure a high uniform level of safety at aerodromes aligning applicable regulations with ICAO Annex 14, Volume II, Heliports; develop necessary certification standards and guidance material for design and, if necessary, for operation and oversight of visual flight rules (VFR) heliports co-located at the international aerodromes.

Status	*ongoing*
Reference(s)	*Regulation (EU) No 139/2014 of 12/02/2014* *EASA ED Decision 2019/012/R of 23/05/2019*
Dependencies	*GASP Goal 2* *GASP Goal 6*
Affected stakeholders	*Operators of certified aerodromes i.a.w. ICAO Annex 14 Vol. II*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Certification standards and Guidance material in place	*2022Q4*

CHANGES SINCE LAST EDITION
Timeline extended.

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.RMT.0078	Runway safety

Global Action Plans for the Prevention of Runway Incursions (GAPPRI) and Excursions (GAPPRE) contain several recommendations to CAAs, aerodrome operators and EASA in order to mitigate the risks. Those actions should be reviewed to be included into relevant regulatory provisions. This includes revision and update of relevant regulations and guidance material to incorporate relevant changes of Annex 14 and PANS ADRs.

Note:

EASA ED Decision 2021/003/R amends the Acceptable Means of Compliance (AMC) and Guidance Material (GM) to Annex I (Definitions), Annex II (Part-ADR.AR), Annex III (Part-ADR.OR) and Annex IV (Part-ADR.OPS) to Regulation (EU) 139/2014

EASA ED Decision 2021/004/R updates the certification specifications (CSs) and guidance material (GM) for aerodrome design (CS-ADR-DSN) in line with the International Civil Aviation Organization (ICAO) developments and other technical improvements, and maintains a high and uniform level of safety in terms of aerodrome design

Status	*ongoing*
Reference(s)	*GASP SEIs (States) – Mitigate contributing factors to the risks of RE and RI;* *ATM Master Plan Level 3 – Plan (2019): SAF11 – Improve runway safety by preventing runway excursions* *ATM Master Plan Level 3 – Plan (2019): INF07 – Electronic Terrain and Obstacle Data (e-TOD)* *EASA ED Decision 2021/003/R of 04/03/2021* *EASA ED Decision 2021/004/R of 04/03/2021*
Dependencies	*GASP Goal 1* *EPAS RMT.0703 (completed)* *IE-REST/RSG/02 "Establishment of local runway safety team"*
Affected stakeholders	*CAAs, Air Operator Certificate Holders i.a.w. ICAO Annex 6, Recreational Aviation – aeroplane - non commercial operations, Providers of Air Navigation Services i.a.w. ICAO Annex 11 and Operators of certified aerodromes i.a.w. ICAO Annex 14 Vol. I*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework amended	*2022Q4*

CHANGES SINCE LAST EDITION
Timeline extended, task description clarified.

MONITORING	
Monitoring activities	**Related SPIs**
Monitoring percentage of accidents in this key risk areas	*EUR.SPI.1.1.04*

EUR.RMT.0079	Addition of a new requirement for the handling of dangerous goods at aerodromes

Establish relevant regulatory requirements for aerodrome operators to designate appropriate areas for the storage of dangerous goods, establish methods for the delivery storage, dispending and handling of dangerous goods at the aerodrome . Include requirement for aerodrome operators to train their personnel in the handling of dangerous goods, in the case that the aerodrome operator is acting as sub-contractor (handling agent) of air-operators.

Status	*ongoing*
Reference(s)	*n/a*
Dependencies	*GASP Goal 1 & GASP Goal 2* *EPAS RMT.0728*

Affected stakeholders	*Operators of certified aerodromes i.a.w. ICAO Annex 14 Vol. I*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework in place	*2024*

CHANGES SINCE LAST EDITION
Timeline extended in acordance with EPAS 2022-2026.

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.RMT.0080	Provision of aeronautical data by the aerodrome operator

Revision and update of relevant regulations and guidance material in order to include the provisions of Chapter 2 of ICAO Annex 14 and the provisions of ICAO Annex 15 in regards to the provision of aeronautical data by the aerodrome operator.

Status	*ongoing*
Reference(s)	*ATM Master Plan Level 3 – Plan (2019): INF07 – Electronic Terrain and Obstacle Data (e-TOD)* *ATM Master Plan Level 3 – Plan (2019): ITY-ADQ – Ensure quality of aeronautical data and aeronautical information*
Dependencies	*GASP Goal 1* *EPAS RMT.0722*
Affected stakeholders	*Operators of certified aerodromes i.a.w. ICAO Annex 14 Vol. I*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Timeline extended in acordance with EPAS 2022-2026.	*2023*

CHANGES SINCE LAST EDITION
n/a

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.SPT.0081	Development of new Safety Promotion material on high profile aerodrome and ground handling safety issues

Develop new Safety Promotion material on high profile safety issues for aerodromes and ground handling. Such high profile safety issues are to be determined from important risks identified from the Safety Risk Management process, accidents/ serious incidents and inputs from EASA stakeholders.

Status	*ongoing – continuous action*
Reference(s)	*n/a*
Dependencies	*GASP Goal 1* *EPAS SPT.0102* *IE-REST/RSG/02 "Establishment of local runway safety team"*
Affected stakeholders	*CAAs, Air Operator Certificate Holders i.a.w. ICAO Annex 6, Providers of Air Navigation Services i.a.w. ICAO Annex 11 and Operators of certified aerodromes i.a.w. ICAO Annex 14 Vol. I*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Leaflets, videos, web pages and/or applications	*continuous*

CHANGES SINCE LAST EDITION
n/a

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

EUR.SPT.0095	Counter-UAS measures and UAS incident management at aerodromes

States should support the aerodrome operators, ATS providers and aircraft operators in preventing and managing incidents of unauthorised UAS operations in the vicinity of aerodromes, while at the same time keeping operational disruptions at a minimum.

EASA is acting as the European coordinator of the Counter Drones (C-UAS) Action Plan, with the five objectives to deliver safety promotion and guidance material to educate the public and raise awareness to reduce the misuse of UAS around the aerodromes, to prepare the aerodromes to mitigate such risks, to assess the safety risks amd ensure that the C-UAS measurea are swiftly considered from a global safety perspective and to ensure an adequate occurrence reporting.

The following material has been already delivered:
- https://www.easa.europa.eu/sites/default/files/dfu/easa_printmotif01_version005.pdf
- https://www.easa.europa.eu/document-library/general-publications/infographics-drones
- https://www.easa.europa.eu/sites/default/files/dfu/drone_incident_management_at_aerodromes_part1_website_suitable.pdf

Status	*new*
Reference(s)	*EPAS C-UAS Action Plan Objective #2: Prepare aerodromes to mitigate risks from unauthorised drone use (completed)*
Dependencies	*EPAS SPT.0091*
Affected stakeholders	*CAAs, UAS operators (individuals and organisations), UAS manufacturers, manned aviation community, model aircraft community, Providers of Air Navigation/Air Traffic Management Services i.a.w. ICAO Annex 11, U-space service providers, Operators of certified aerodromes i.a.w. ICAO Annex 14 Vol. I, all airspace users*
Owner	States/EASA

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Counter-UAS action plan as part of or referenced in the NASP	*2022Q4*

CHANGES SINCE LAST EDITION
n/a

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

5.10 Groundhandling

This Chapter addresses all ground handling related aspects, with the exception of aerodrome design and operations, as well as aerodrome operators, being dealt with in the previous Chapter. 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[27]. The second issue that will be assessed in the European Safety Risk Management process will be ground staff movement around aircraft.

EUR.RMT.0082	Development of requirements for groundhandling and promoting safety management

Develop a regulatory framework and guidance for the safety of ground handling.
This shall consider operational requirements, organisational requirements and authority requirements, as deemed necessary.

Promote safety management in groundhandling, e.g. on the basis of Industry standards, by providing guidance and best practice.
Encourage collaborative safety management among all parties involved in aerodrome operations

Status	*ongoing*
Reference(s)	*n/a*
Dependencies	*GASP Goal 1* *GASP Goal 2* *EPAS RMT.0728*
Affected stakeholders	*CAAs, Air Operator Certificate Holders i.a.w. ICAO Annex 6, Operators of certified aerodromes i.a.w. ICAO Annex 14 Vol. I, Groundhandling Services Providers i.a.w. ICAO Annex 9 or Annex 14 and groundhandling staff*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Safety promotion campaign	*2022/2023*
Regulatory framework in place	*2024Q2*

CHANGES SINCE LAST EDITION
Scope extended to address promotion of safety management in groundhandling and collaborative safety management

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

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[27]   Based on the number of occurrences in the European Central Repository.

5.11 Unmanned aircraft systems (UAS)

This chapter includes all the actions that are relevant to ensure the safe integration of civil unmanned aircraft systems into the aviation system, while enabling standardised UAS operations as well as more complex operations of UAS such as operations in an urban environment (e.g. urban air mobility).

In order to ensure safe UAS operations, it is extremely important to manage the safe integration of UASs into the airspace. European stakeholders are developing rules for what is named U-space[28]. 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.[29]

EUR.RMT.0083	Introduction of a regulatory framework for the operation of drones

Development of regulatory framework for the three categories of RPAS defined:

— Open category: Low-risk operation not requiring authorisation or declaration before flight

— Specific operation category: Medium-risk operation requiring authorisation or declaration before flight

— Certified category: High-risk operation requiring certification process

Development of adequate rules to enable U-space implementation

Status	*ongoing*
Reference(s)	*n/a*
Dependencies	*GASP Goal 1* *EPAS RMT.0230*
Affected stakeholders	*States, UAS operators (individuals and organisations), UAS manufacturers, manned aviation community, model aircraft community, Providers of Air Navigation/Air Traffic Management Services i.a.w. ICAO Annex 11, U-space service providers, Operators of certified aerodromes i.a.w. ICAO Annex 14 Vol. I, all airspace users*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework in place for all categories	*2025Q4*

CHANGES SINCE LAST EDITION
n/a

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

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[28] U-space is the European name for unmanned traffic management (UTM).

[29] The ATM Master Plan reflects the details about the integration of UASs into the EU airspace.

EUR.SPT.0084	European Safety Promotion on civil UAS (drones)

Coordinate EUR activities to promote safe operation of UAS (drones) to the general public.

Consider the following safety Promotion material for creating public awareness and understanding of the existence and purpose of geographical zones

- *https://www.easa.europa.eu/sites/default/files/dfu/easa_printmotif01_version005.pdf;*
- *https://www.easa.europa.eu/document-library/general-publications/infographics-drones*

Status	*ongoing*
Reference(s)	*n/a*
Dependencies	*GASP Goal 1* *EPAS SPT.0091*
Affected stakeholders	*CAAs, UAS operators (individuals and organisations), UAS manufacturers, manned aviation community, model aircraft community, Providers of Air Navigation/Air Traffic Management Services i.a.w. ICAO Annex 11, U-space service providers, Operators of certified aerodromes i.a.w. ICAO Annex 14 Vol. I, all airspace users*
Owner	*ICAO Regional Office/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Safety Promotion material	*2023Q2*

CHANGES SINCE LAST EDITION
Timeline extended.

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

5.12 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, the EUR RASP must give due consideration to the safety issues deriving from new technologies, new operational concepts or novel business models[30].

5.12.1 New business models

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. CAAs should work better together and should evaluate, as part of their SSP, whether the existing safety regulatory system adequately addresses current and future safety risks arising from new and emerging business models. This may concern in particular air operator certificate holders' emerging 'new' business models, to identify related safety risks posed to the aviation system.

EUR.RMT.0085	Operations with airships

Development of regulations for the operation of airships

Status	*ongoing*
Reference(s)	*n/a*
Dependencies	*GASP Goal 1* *EPAS RMT.0731 (former EPAS RMT.0300, merged into EPAS RMT.0731 in EPAS 2022-2026 edition)*
Affected stakeholders	*Airship operators and Organisations responsible for the type design and production of airships*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework in place	*2025Q1*

CHANGES SINCE LAST EDITION
Dependencies clarified.

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

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[30] In the ATM domain, for For EASA Member States the 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.

5.12.2 New products, systems, technologies and operations

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.

EUR.RMT.0086	New air mobility

Current regulatory frameworks for aviation safety were initially designed for conventional fixed wing aircraft, rotorcraft, balloons and sailplanes. The existing frameworks rely 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 those frameworks, e.g. to to cater for the new role of the human in the system or allow the safe integration of electric/hybrid propulsion systems.

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. A general principle that should govern related rulemaking is that future requirements should be technology-neutral where possible, while ensuring legal certainty.

Status	*ongoing*
Reference(s)	*n/a*
Dependencies	*GASP Goal 1* *EPAS RMT.0731*
Affected stakeholders	*All*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	Timeline
Regulatory framework in place	*2024Q2*

CHANGES SINCE LAST EDITION	
n/a	

MONITORING	
Monitoring activities	Related SPIs
n/a	*n/a*

EUR.RMT.0096	Digital Licence for Aviation Pilots (dLAP)

The objective of this action is to establish mandatory requirements regarding the introduction of a digital licence into existing pilot licensing systems and regulations and to support the implementation of the required IT infrastructure, catering for data security, data protection, interoperability, mutual recognition, as appropriate.

The feasibility of a shared IT system should be explored for non-EASA EUR States.

The action addresses amendment 178 to ICAO Annex 1 regarding implementation of an electronic personnel licensing system envisaged for applicability from 03/11/2022. It arises from the ICAO Electronic Personnel Licence Task Force (cf. AN-WP/9522 of 13/10/2021).

Status	*new*
Reference(s)	*State Letter AN 12/1.1.25-20/112*
Dependencies	*EPAS RMT.0737*
Affected stakeholders	*Pilots, CAAs.*
Owner	*States*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Mandatory requirements for digital pilot licenses	*2022/Q4*
System for issuing and maintaining digital pilot licenses	*2024*

CHANGES SINCE LAST EDITION
n/a

MONITORING	
Monitoring activities	**Related SPIs**
n/a	n/a

5.12.3 All-weather operations (AWOs)

AWOs are typically addressed by regulations in the following aviation domains: airworthiness, air operations, aircrew, aerodromes, ATM/ANS as well as in rules of the air. The existing rules in these domains may not be sufficiently addressing technological advancements, or not yet fully 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). Rulemaking in this area will increase consistency of rules across different domains, encourage cross-domain risk assessments, ensure that better weather information is provided to pilots, as well as harmonise with the FAA and other regulators.

EUR.RMT.0087	All Weather Operations

Review and update the all-weather operations (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 AWO operations, as e.g. enhanced flight vision systems (EFVS), synthetic vision systems (SVS), synthetic vision guidance systems (SVGS), combined vision systems (CVS), head-up displays (HUD);*

— *conventional low visibility operations (LVO), such as instrument landing system (ILS)-based CAT II and CAT III approach operations or low visibility take-offs;*

— *other than AWO, 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 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 not being yet part of ICAO regulatory system.*

Status	*ongoing*
Reference(s)	*n/a*
Dependencies	*GASP Goal 1* *GASP Goal 2* *EPAS RMT.0379*
Affected stakeholders	*Approved Pilot Training Organisations i.a.w. ICAO Annex 1, Organisations responsible for the type design and manufacture of aircraft, engines, propellers or components i.a.w. ICAO Annex 8, Air Operator Certificate Holders i.a.w. ICAO Annex 6, , , Providers of Air Navigation/Air Traffic Management Services i.a.w. ICAO Annex 11 and Operators of certified aerodromes i.a.w. ICAO Annex 14 Vol. I*
Owner	*States/EASA*

EXPECTED OUTPUT	
Deliverable(s)	**Timeline**
Regulatory framework in place	*2023Q2*

CHANGES SINCE LAST EDITION
Timeline extended considering that EPAS RMT.0379 will be completed by 2022Q2.a

MONITORING	
Monitoring activities	**Related SPIs**
n/a	*n/a*

Appendix A: EUR RASP acronyms and definitions

List of EASA frequently used abbreviations: https://www.easa.europa.eu/abbreviations

ACAS	airborne collision avoidance system
ADR	aerodromes
ADS-B	automatic dependent surveillance - broadcast
AI	artificial intelligence
AIM	aeronautical information management
AIR	air navigation services
AIS	aeronautical information services
AMC	acceptable means of compliance
AML	aircraft maintenance licence
AMO	approved maintenance organisation
AMTO	approved maintenance training organisation (Part-147)
ANS	air navigation services
AN Region – EUR	Air Navigation Region Europe. It includes 55 out of the 56 Contracting States to which the ICAO EUR/NAT Office is accredited.
AOC	air operator certificate
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
ATSs	air traffic services
ATSEP	air traffic safety electronics personnel
AWOs	all-weather operations
CAA(s)	civil aviation authority(s)
CAG	Collaborative Analysis Group
CANSO	Civil Air Navigation Services Organization
CAPP	Certification Authorities for Propulsion
CAPs	corrective action plans
CAQ	cabin air quality
CAT	commercial air transport
CAT I, II, III	category I, II, III
CATA	Certification Authorities for Transport Airplane

CBT	computer based training
CBTA	competency-based training and assessment
CE	Critical Element
CE-6	Critical Element 6: Licensing, certification, authorisation and/or approval obligations
CE-7	Critical Element 7: Surveillance obligations
CE-8	Critical Element 8: Resolution of safety concerns
CFIT	controlled flight into terrain
CMT	Certification Management Team
CPL	commercial pilot licence
CRM	crew resource management
C-UAS	Counter Unmanned Aircraft Systems
CVS	combined vision systems
D&A	drug and alcohol testing
EACTB	Engine Aircraft Certification Tracking Board, under the CMT
EACWG	Engine/Aircraft Certification Working Group (EACWG), initiated by EASA and FAA
EANPG	European Air Navigation Planning Group
EAPAIRR	European Action Plan for Airspace Infringement Risk Reduction
EASP	European Aviation Safety Programme
EASPG	European Aviation System Planning Group
EC	European Commission
ECAC	EASA European Civil Aviation Conference
ED	EASA Executive Director Decision
EDTO	extended diversion time operation
EFB	electronic Flight Bag
EFVS	enhanced flight vision systems
EHEST	European Helicopter Safety Team
EI	Effective Implementation
ELP	English Language Proficiency
EMS	emergency medical services
EOFDM	European Operators Flight Data Monitoring forum
EPAS	European Plan for Aviation Safety
ERCS	European Risk Classification Scheme
ESCP	European Strategic Coordination Platform
ESPN-R	European Safety Promotion Network Rotorcraft (previously EHEST)
e-TOD	Electronic Terrain and Obstacle Data
ETOPS	extended-range twin-engine operational performance standards

EU	European Union
EUR region	ICAO region Europe (55 States)
EUROCAE	European Organisation for Civil Aviation Equipment
FAA	United States Federal Aviation Administration
FCOM	flight crew operating manual
FDA	flight data analysis (ICAO)
FDM	flight data monitoring (EASA)
FEM	flight examiner manual
FIS	flight information services
FRM	fatigue risk management
FRMS	fatigue risk management system
FSTDs	flight synthetic training device
FTL	flight time limitation
FTS	flight time specifications
FUA	Flexible Use of Airspace
GA	General Aviation/leisure flying
GANP	Global Air Navigation Plan
GAPPRE	Global Action Plan for the Prevention of Runway Excursions
GAPPRI	Global Action Plan for the Prevention of Runway Incursions
GASeP	Global Aviation Security Plan
GASP	Global Aviation Safety Plan (ICAO)
GH	Groundhandling
GLS	GBAS (ground-based augmentation system) landing system
GM	guidance material
GNSS	global navigation satellite system
GPS	global positioning system
HEMS	helicopter emergency medical services
HF	human factors
HF CAG	Human Factors Collaborative Analysis Group
HP	human performance
HTAWS	helicopter terrain awareness warning systems
HUD	head-up display
ICAO	International Civil Aviation Organization
IE-FDG	ICAO EUR - Flight Data Analysis and Air Operator Safety Management System Group
IE-HOST	ICAO EUR - Helicopter Operations Safety Team
IE-REST	Former ICAO EUR - Regional Expert Safety Team

IFR	instrument flight rules
IFTSS	individual flight time specification scheme
IHST	International Helicopter Safety Team
ILS	instrument landing system
IMC	instrument meteorological conditions
INF	information management (in reflection to ATM Master Plan Level 3)
IR	(European Commission) implementing rule
IR	instrument rating
ITY	interoperability (in reflection to ATM Master Plan Level 3)
ITY-ADQ	Ensure Quality of Aeronautical Data and Aeronautical Information
KRA	Key Risk Area
LAPL	Light Aircraft Pilot Licence
LOCART	loss of control avoidance and recovery training
LOC-I	loss of control – in-flight
LPRI	Language Proficiency Requirements Implementation
LVO	low-visibility operation
MAC	mid-air collision
MCTOM	Maximum Certified Take-off Mass
MH17	Malaysia Airlines flight 17
ML	Machine Learning (artificial intelligence)
MO	maintenance organisation
MOPSC	maximum operational passenger seating configuration
MPL	multi-crew pilot licence
MS	Member State
MST	Member States' task
MTOM	maximum take-off mass
NAA	national aviation authority
NASP	National Aviation Safety Plan
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.	
NDBs	non-directional beacon
NGAP	Next Generation of Aviation Professionals Programme (ICAO)

NoA	Network of Analysts
OPS	air operations
OpSpecs	operations specifications
PANS	procedures for air navigation services (ICAO)
PANS-TRG	Procedures for Air Navigation Services - Training
Part-145	EU Maintenance Organisation Regulation
Part-66	EU Maintenance Certifying Staff Regulation
Part-M	EU Continuing Airworthiness Management Regulation
PBN	performance-based navigation
PBAOM	performance based aerodrome operating minima
PEL	Personnel Licensing
PIS	public interest sites
PPL	Private Pilot Licence
PQ`	Protocol Question (USOAP)
PSCS	Preferred SAR Capability Specifications
RASG	Regional Aviation Safety Group
RASP	Regional Aviation Safety Plan
RE	runway excursion
RFID	radio frequency identification device
RI	runway incursion
RMT	rulemaking task
RNAV	area navigation
RNP	Required Navigation Performance
RPAS	Remotely Piloted Aircraft Systems
RWY	runway
SAF	Safety Management (in reflection to ATM Master Plan Level 3)
SAR	Search and Rescue
SARPs	Standards and Recommended Practices (ICAO)
SBAS	satellite-based augmentation system
SEI	Safety Enhancement Initiative (ICAO) as defined in GASP
SESAR	Single European Sky ATM Research
SMICG	Safety Management International Collaboration Group
SMS	safety management system
SPAS	State Plan for Aviation Safety
SPI	surveillance performance and interoperability
SPI	safety performance indicator

SPTs	safety promotion task
SR	safety recommendation
SRM	safety risk management
SSP	state safety programme
SSR	secondary surveillance radar
ST	standard (rulemaking) procedure
STC	supplemental type certificate
STDs	synthetic training device
SVGS	synthetic vision guidance system
SVS	synthetic vision system
TAWS	New Terrain Awareness and Warning System
TC	type certificate
TeB	Member State technical body
TEM	threat and error management
TMA	terminal manoeuvring area
TO	training organisation
UAS	unmanned aircraft systems
UK	United Kingdom
UPRT	upset prevention and recovery training
U-space	unmanned traffic management in Europe
USOAP	Universal Safety Oversight Audit Programme (ICAO)
UTM	unmanned traffic management
VAST	Vertical Aviation Safety Team (previously International Helicopter Safety Team – IHST)
VAST	Vertical Aviation Safety Team
VFR	visual flight rules
VHF	very high frequency
VOR	VHF omnidirectional range
VTOL	vertical take-off and landing aircraft

Appendix B: List of EUR RASP Stakeholder designations

Stakeholders EUR-RASP	Stakeholders EPAS	Acronym
Aero-Medical Centres i.a.w. ICAO Annex 1	Aero-Medical Centres	n/a
Operators of certified aerodromes i.a.w. ICAO Annex 14 Vol. 1	Aerodrome Operators	n/a
Aero-Medical Examiners i.a.w. ICAO Annex 1	Aero-Medical Examiners	n/a
Air Operator Certificate Holders i.a.w. ICAO Annex 6	Air Operator Certificate Holders	AOC Holders
Air Traffic Controller Training Organisations i.a.w. ICAO Annex 1	Air Traffic Controller Training Organisations	n/a
Air Traffic Controllers	Air Traffic Controllers	ATCOs
Air Traffic Safety Electronics Personnel	Air Traffic Safety Electronics Personnel	n/a
Aircraft Operators - Balloons	Aircraft Operators - Balloons	n/a
Aircraft Operators - CAT i.a.w. ICAO Annex 6	Aircraft Operators - CAT	n/a
Aircraft Operators - CAT - Aeroplanes i.a.w. ICAO Annex 6 Part I	Aircraft Operators - CAT - Aeroplanes	n/a
Aircraft Operators - CAT - Helicopters i.a.w. ICAO Annex 6 Part III	Aircraft Operators - CAT - Helicopters	n/a
Aircraft Operators - CAT - Helicopters - HEMS i.a.w. ICAO Annex 6 Part III	Aircraft Operators - CAT - Helicopters - HEMS	n/a
Aircraft Operators - CAT - Helicopters - HHO i.a.w. ICAO Annex 6 Part III	Aircraft Operators - CAT - Helicopters - HHO	n/a
Aircraft Operators - CAT - Helicopters - HOFO i.a.w. ICAO Annex 6 Part III	Aircraft Operators - CAT - Helicopters - HOFO	n/a
Aircraft Operators - International General Aviation Operators of large or turbojet aircraft i.a.w. ICAO Annex 6 Part II Section 3	Aircraft Operators - NCC	n/a
Aircraft Operators - International General Aviation Operators of large or turbojet aeroplanes i.a.w. ICAO Annex 6 Part II Section 3	Aircraft Operators - NCC - Aeroplanes	n/a
Aircraft Operators - International General Aviation Operators of large or turbojet helicopters i.a.w. ICAO Annex 6 Part II Section 3	Aircraft Operators - NCC - Helicopters	n/a
Aircraft Operators - other than large or turbojet aircraft, used in non-commercial operations	Aircraft Operators - NCO	n/a
Aircraft Operators - other than large or turbojet aircraft, used in non-commercial operations - Aeroplanes	Aircraft Operators - NCO - Aeroplanes	n/a
Aircraft Operators - other than large or turbojet aircraft, used in non-commercial operations - Helicopters	Aircraft Operators - NCO - Helicopters	n/a
Aircraft Operators - Sailplanes	Aircraft Operators - Sailplanes	n/a
Aircraft Operators - Aerial Work i.a.w. ICAO Annex 6	Aircraft Operators - SPO	n/a
Aircraft Operators - Aerial Work i.a.w. ICAO Annex 6 - Aeroplanes	Aircraft Operators - SPO - Aeroplanes	n/a
Aircraft Operators - Aerial Work i.a.w. ICAO Annex 6 - Helicopters	Aircraft Operators - SPO - Helicopters	n/a
Aircraft Operators - Aerial Work i.a.w. ICAO Annex 6 - Helicopters - HEC	Aircraft Operators - SPO - Helicopters - HEC	n/a
Aircraft Operators - Aerial Work i.a.w. ICAO Annex 6 - Helicopters - HESLO	Aircraft Operators - SPO - Helicopters - HESLO	n/a
Applicants for TC/STC i.a.w. ICAO Annex 8	Applicants for TC/STC	n/a
Applicants for TC/STC i.a.w. ICAO Annex 8	Applicants for TC/STC for large aeroplanes or large rotorcraft	n/a

Stakeholders EUR-RASP	Stakeholders EPAS	Acronym
Approved Pilot Training Organisations i.a.w. ICAO Annex 1	Approved Training Organisations	n/a
Assessors (ATCO) i.a.w. ICAO Annex 1	Assessors (ATCO)	n/a
Cabin Crew i.a.w. ICAO Annex 6 Part I	Cabin Crew	n/a
Competent Aviation Authorities: CAAs used in the EUR RASP	Competent Authorities	CAAs
Organisations responsible for the manufacture of aircraft, engines, propellers or components i.a.w. ICAO Annex 8	POA	n/a
Organisations responsible for the type design of aircraft, engines, propellers or components i.a.w. ICAO Annex 8	Design Organisation Approval Holders	n/a
Examiners (Cabin Crew) i.a.w. ICAO Annex 6 Part I	Examiners (Cabin Crew)	
Examiners (Flight Crew) i.a.w. ICAO Annex 1	Examiners (Flight Crew)	
General Aviation/leisure flying (non-commercial operations)	General Aviation	GA
Groundhandling Service Providers i.a.w. ICAO Annex 9 or Annex 14	Groundhandling Services Providers	n/a
Instructors (ATCO) i.a.w. ICAO Annex 1	Instructors (ATCO)	n/a
Instructors (Cabin Crew) i.a.w. ICAO Annex 6 Part I	Instructors (Cabin Crew)	n/a
Instructors (Flight Crew) i.a.w. ICAO Annex 1	Instructors (Flight Crew)	n/a
Approved Maintenance Organisations	Maintenance Organisations	n/a
Approved Maintenance Training Organisations i.a.w. ICAO Annex 1	Maintenance Training Organisations	n/a
EUR States	Member States	n/a
Military/State Aviation	Military/State Aviation	n/a
Model Aircraft Associations	Model Aircraft Associations	n/a
Operator of an unmanned aircraft	Operator of an unmanned aircraft	n/a
Organisations involved in the design, production and maintenance of safety related aerodrome equipment used or intended for use at aerodromes	Organisations involved in the design, production and maintenance of safety related aerodrome equipment used or intended for use at aerodromes	n/a
Organisations involved in the design, production or maintenance of ATM/ANS systems and ATM/ANS constituents	Organisations involved in the design, production or maintenance of ATM/ANS systems and ATM/ANS constituents	n/a
Organisations involved in unmanned aircraft design, production, maintenance, operations, related services and training	Organisations involved in unmanned aircraft design, production, maintenance, operations, related services and training	n/a
Organisations responsible for provision of apron management services at aerodromes i.a.w. ICAO Annex 14	Organisations responsible for provision of Apron Management Services at aerodromes	n/a

Stakeholders EUR-RASP	Stakeholders EPAS	Acronym
Pilots[31]	Pilots	n/a
Organisations responsible for the manufacture of aircraft, engines, propellers or components i.a.w. ICAO Annex 8	Production Organisation Approval Holders	n/a
Providers of Aeronautical Information Services i.a.w. ICAO Annex 15	Providers of Aeronautical Information Services	AIS Providers
Providers of Air Navigation Services i.a.w. ICAO Annex 11	Providers of Air Navigation Services	ANS Providers
Providers of Air Traffic Control Services i.a.w. ICAO Annex 11	Providers of Air Traffic Control Services	ATC Providers
Providers of Air Traffic Flow Management i.a.w. ICAO Annex 11	Providers of Air Traffic Flow Management	ATFM Providers
Providers of Air Traffic Management i.a.w. ICAO Annex 11	Providers of Air Traffic Management	ATM Providers
Providers of Air Traffic Management/Air Navigation Services i.a.w. ICAO Annex 11	Providers of Air Traffic Management/Air Navigation Services	ATM/ANS Providers
Providers of Air Traffic Services i.a.w. ICAO Annex 11	Providers of Air Traffic Services	ATS Providers
Providers of Airspace Design Services i.a.w. ICAO Annex 8 to Annex 11	Providers of Airspace Design Services	ASD Providers
Providers of Airspace Management i.a.w. ICAO Annex 11 and Annex 2	Providers of Airspace Management	ASM Providers
Providers of Communication, Navigation or Surveillance Services i.a.w. ICAO Annex 10	Providers of Communication, Navigation or Surveillance Services	CNS Providers
Providers of Data Services i.a.w. ICAO Annex 11	Providers of Data Services	DAT Providers
Providers of Meteorological Services i.a.w. ICAO Annex 3	Providers of Meteorological Services	MET Providers
Remote pilots operating an Unmmaned Aircraft System	Remote pilot operating UAS	n/a
Safety Investigation Authorities	Safety Investigation Authorities	SIAs
Student Air Traffic Controllers i.a.w. ICAO Annex 1	Student Air Traffic Controllers	Student ATCOs
Student pilots i.a.w. ICAO Annex 1	Student pilots	n/a
Unmanned Aircraft System Operators	Unmanned Aircraft System Operator	UAS operators

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[31] Excluding remote pilots operating UAS