ICAO European
Regional Aviation Safety Plan

2026-2028

Volume I

Final

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Section 1 Introduction

1.1 Overview of the EUR RASP

The ICAO European (EUR) Region is committed to enhancing aviation safety, supporting activities, and increasing collaboration at the regional level. The purpose of this European Regional Aviation Safety Plan (EUR RASP) is to continually reduce fatalities and the risk of fatalities through the development and implementation of a regional aviation safety strategy. A safe, resilient, and sustainable aviation system contributes to the economic development of the EUR Region, its States, and their industries.

The EUR RASP promotes the effective implementation of safety oversight systems of States in the EUR Region, a risk-based approach to managing safety at the regional level, and a coordinated approach to collaboration between States and industry. All stakeholders are encouraged to support and implement the EUR RASP as the regional strategy for the continuous improvement of aviation safety.

The EUR RASP aligns with the International Civil Aviation Organization (ICAO) Global Aviation Safety Plan (GASP, Doc 10004), European Plan for Aviation Safety (EPAS) and the national aviation safety plans of States in the region.

1.2 Structure of the RASP

The EUR RASP presents the regional direction for the management of aviation safety at the regional level, for a period of 3 years –2026–2028.

The EUR RASP 2026 – 2028 is composed of two distinct volumes.

In Volume I of the EUR RASP the strategic environment is presented. It consists of six sections and provides the executive summary, the introduction, the interdependencies with other plans (e.g. GASP, EPAS), a description of the overall strategy on improving aviation safety, the regional operational risks and organisational challenges, the EUR Targets and Safety Performance Indicators and how the implementation of the safety actions is monitored.

Volume II contains the detailed EUR RASP safety actions. It is grouped into 10 (ten) dedicated operational domains. To present the safety actions in a uniform way a dedicated template is developed. This template shows the actual status of the action, references and dependencies to other plans or documents, the owner of the action and the affected aviation stakeholders as well the deliverables (what should be achieved or what should be implanted) with a dedicated implementation deadline. If applicable, changes to the safety action (e.g. if an update or change from one revision to another is necessary) and how the successful implementation will be monitored/measured are mentioned. The template with a detailed description of each information provided is presented in Appendix 1 to Volume I of the EUR RASP 2026-2028.

1.3 Process for the EUR RASP development, implementation and monitoring

As mandated by the ICAO European Aviation System Planning Group (EASPG), the Regional Expert Safety Group (RESG) jointly with its working group (RESG RASP WG) is responsible for developing, supporting implementation and monitoring the RASP, in collaboration with ICAO EUR and NAT Regional Office, States, International and Regional Organizations, and with the aviation industry. The EUR RASP was developed in consultation with States and other key aviation stakeholders in the region, and in alignment with the 2026-2028 version of the GASP. Its

implementation requires a collaborative approach to achieve the regional safety strategy. To ensure its relevance, this plan is maintained by REGS RASP WG, in coordination with key aviation stakeholders.

To standardize the process of developing and maintaining the EUR RASP and its actions, the RESG RASP WG prepared guidelines describing the processes, procedures, roles and responsibilities of the parties involved.

Generally, EUR RASP is reviewed and updated every 3 years, corresponding to the three-yearly GASP and EPAS Volume I cycle. If major changes can be expected, a mid-term review will be initiated to update Volume I. Volume II can be also updated on ad hoc basis, to address new (emerging) risk and to update the implementation dates, if the majority of States are not able to finalize the required actions in due time.

1.4 Relationship between GASP, RASP, EPAS and NASP

1.4.1 General Overview

States should develop and implement national aviation safety plans (NASPs), in line with the goals of the Global Aviation Safety Plan (GASP, Doc 10004). At the international level, the GASP sets forth a strategy which supports the prioritization and continuous improvement of aviation safety. Regional and national aviation safety plans should be developed in alignment with the GASP. At the regional level, the regional aviation safety groups (RASGs) coordinate the planning process. Regional and national safety actions should be adapted based on issues faced by the States concerned.

1.4.2 Relationship between EUR RASP and 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[1] (EASP).

EPAS[2] is legally binding and constitutes the common aviation safety plan for EASA Member States. Through the systematic, data-based EU Safety Risk Management process, it identifies the main risks affecting the European aviation system, sets out the strategic priorities and defines the necessary actions to mitigate those risks to further improve aviation safety.

RASP considers EPAS developments to enhance aviation safety adequately to its wider area of coverage. The plans are aligned as far as practicable, and complementary.

1.4.3 Relationship between NASP and EUR RASP

National aviation safety plans should be developed in alignment with the regional plans; hence all EUR states align with EUR RASP. In the case of EASA Members States this is covered by the legal requirement to have a State Plan for Aviation Safety in Article 8 of Regulation (EU) 2018/1139.

[1] EUR-Lex - 52022DC0529 - EN - EUR-Lex (europa.eu)
[2] https://www.easa.europa.eu/en/domains/safety-management/european-plan-aviation-safety

National safety plans indicate the main safety threats and problems at the state level, including those specific to that state. For this reason, they are also a source of information and data for plans at the regional level. Threats identified in individual states become "candidates" for threats at the regional level and are analysed by the regional aviation safety groups (RASGs), which determines whether a given safety problem is also applicable and relevant in other states and at the level of the entire region. The analysis and expertise carried out on a given issue in a single country can also prove useful in analysing the problem at the regional level and deciding whether to include the issue in a new edition of the EUR RASP. The relationship between NASP and EUR RASP is therefore two-way, and the flow of information should work both ways generating mutual safety benefits.

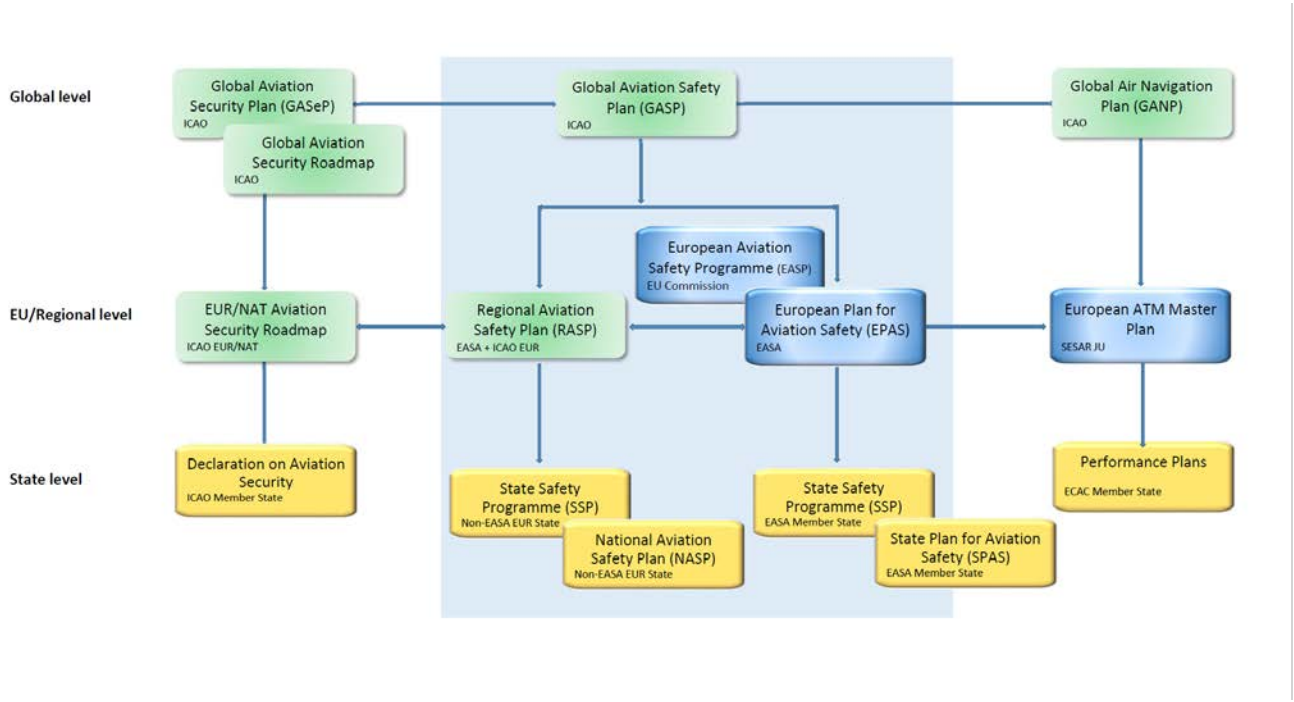


Figure 1 Relationship between the EUR-RASP and other programmes and plans

1.5 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 activities. Existing historical disputes, geopolitical conflicts, different political points of view impose nowadays safety and efficiency challenges within the EUR region.

While EASA States within their 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.

By the end of 2024 there were 20 States (out of 55) in the ICAO EUR Region with a score below 75 per cent for the effective implementation (EI) of the critical elements (CEs) of the State's safety oversight system. One State

has significant safety concern and 3 States have operational restrictions with regards to the European Airspace in accordance with the EU Safety List[3].

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

Due to different groupings of States being applied by international and regional players it is difficult to provide a common forecast for the region. However, major players agree that in 2025 the EUR aviation will almost reach or already passed the pre-pandemic levels and expect further annual growth in passengers and cargo.

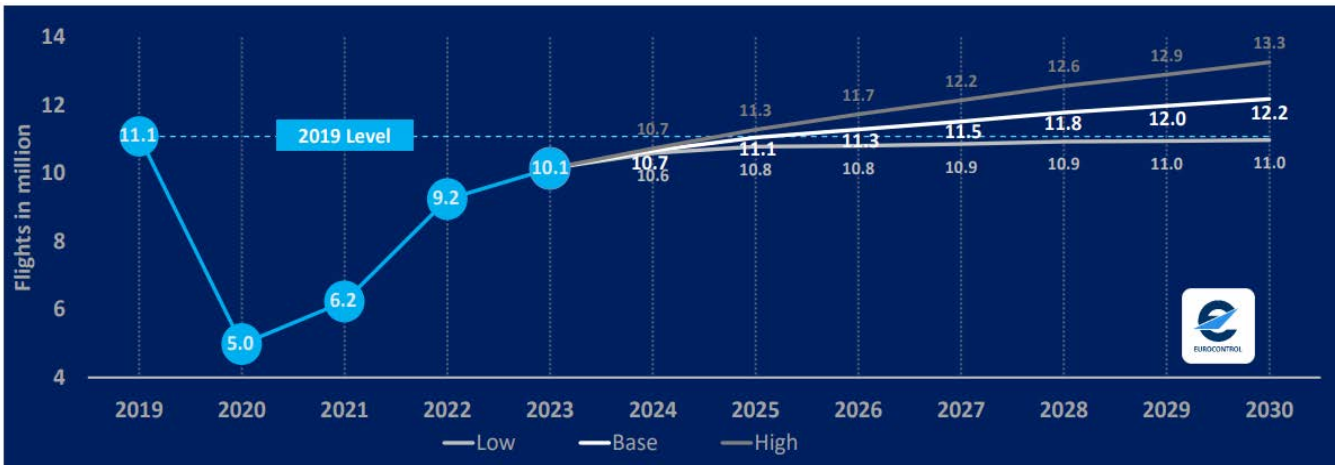
According to ICAO Long-Term Traffic Forecasts around 3.1% average annual growth for passenger traffic in 2026-2028 and an average of 1.8% annual growth for cargo operations in the ICAO EUR Region can be expected.

EUROCONTROL's traffic forecast[4] (covering 44 of 55 EUR States) provides the following expectations:

2026: Growth is anticipated to stabilize, with traffic levels approaching pre-pandemic figures. This year will see a focus on managing capacity and addressing bottlenecks.

2027: Continued moderate growth is expected, driven by economic recovery and increased passenger confidence. Traffic levels are projected to exceed 2019 figures.

2028: The forecast suggests a steady increase in flight movements, with a focus on sustainability and efficiency in air traffic management.



IATA is expecting annual growth of 3.4% for passenger traffic in Europe[5]. Air cargo traffic is projected to grow by around 4.1% annually[6], driven by e-commerce and global trade recovery. The demand for efficient and reliable cargo services will continue to rise.

Main aircraft manufactures also positively look at the market developments. Boeing[7] expects a 3.8% annual growth for Europe Passenger Traffic Average. Similarly, Airbus[8] expects an average of 3.5% annual growth for

[3] https://transport.ec.europa.eu/transport-themes/eu-air-safety-list_en
[4] https://www.eurocontrol.int/sites/default/files/2025-01/eurocontrol-european-aviation-overview-20250123-2024-review.pdf
[5] https://www.iata.org/en/services/data/market-data/20-year-passenger-forecast/
[6] https://www.iata.org/en/iata-repository/publications/economic-reports/global-outlook-for-air-transport-june-2024-report/
[7] https://www.boeing.com/commercial/market/commercial-market-outlook#overview
[8] https://www.airbus.com/en/products-services/commercial-aircraft/global-market-forecast

passenger traffic in EUR region in 2026-2028. Growth primarily is expected to be driven by GDP increase (+2.6% 2023-2043), middle class expansion, first time fliers, and growing trade (+3.1% 2023-2043 CAGR vs. +2.9 % GMF23). Individual State's strategies to attract more tourists are expected to contribute to the increase as well.

Airbus forecasts to maintain a strong delivery pace across its narrow-body and wide-body families. The A320neo continues to be a cornerstone of its portfolio due to its fuel efficiency and versatility. The A220 and A350 families will see steady ramp-ups, while the A321XLR will begin high-volume deliveries in 2027, offering airlines new long-range capabilities in a single-aisle format. In 2028, Airbus will introduce the A350 freighter, expanding its presence in the cargo market, alongside continued deliveries of the A330neo and A220.

Boeing's delivery strategy over the three years focuses on both wide-body innovation and narrow-body volume. The company will begin deliveries of the 777-9, marking a major milestone in its wide-body evolution. By 2027, production of the 737 MAX will ramp up significantly to meet global demand, with the 737-10 MAX joining the lineup in 2028. That year also sees the debut of the 777-8 freighter, reinforcing Boeing's commitment to the cargo sector.

Bombardier will transition its flagship offering from the Global 7500 to the Global 8000 starting in 2026, with the new model offering superior range and performance. The Global 8000 will become a central focus, with 35–40 units expected per year, supported by improved supply chains for models like the Challenger 3500.

Russian aircraft manufacturers are set to revitalize their domestic aviation sector. Sukhoi plans to resume deliveries of the Superjet 100 (SJ100), redesigned with locally produced components. The Yakovlev MC-21 is forecasted for increased deliveries in 2027, aiming to compete with Western narrow-body aircraft. Ilyushin Il-114-300 turboprop plans to enter into service, targeting regional markets with limited infrastructure, reinforcing Russia's push for aviation self-sufficiency.

Chinese aircraft are expected to enter the European market in the coming years. The Commercial Aircraft Corporation of China (COMAC) has been actively working on its C919 and ARJ21 aircraft, aiming to compete with Western manufacturers like Airbus and Boeing.

Business Jets: New models like the Dassault Falcon 6X and Gulfstream G700 are set to enhance the business aviation sector. The Falcon 6X focuses on passenger comfort with its ultra-wide-body design, while the G700 offers ultra-long-range capabilities

As air traffic continues to grow, many **airports are struggling to expand their capacity** to accommodate the increasing number of flights. This can lead to congestion and delays. Several new airports are expected to open in EUR region between 2026 and 2028.

There will be further **improvements in airspace management** to ensure safer and more efficient use of airspace. Implementing advanced air traffic management systems helps optimize the use of airspace and reduce congestion. Technologies like the Single European Sky ATM Research (SESAR) program aim to enhance coordination and efficiency. The Air Traffic Management (ATM) network[9] in EUR Region is set to undergo significant changes between 2026 and 2028.

The aviation industry is focusing on **reducing its carbon footprint**. This includes the implementation of more stringent environmental regulations and the promotion of sustainable aviation fuels (SAFs) to meet climate goals. The industry is under pressure to adopt sustainable practices and technologies, such as sustainable aviation fuels

[9] https://www.eurocontrol.int/article/european-atm-master-plan-and-eurocontrols-role-wider-atm-transformation
https://www.eurocontrol.int/publication/network-strategy-plan-2025-2029

(SAFs) and more efficient aircraft. Several new aircraft types are expected to enter the European market between 2026 and 2028.

Geopolitical conflicts are likely to continue affecting aviation in Europe in several ways:

- maintain or increase restricted or closed airspaces, forcing airlines to reroute flights, which can increase travel time and fuel consumption;
- higher security measures at airports and on flights may become more prevalent, impacting passenger experience and operational efficiency;
- worsen the economic instability, affecting passenger demands and airline profitability, this can result in reduced flight frequencies and potential route cancellations;
- further disruptions to the supply chain for aircraft parts and fuel, leading to operational challenges for airlines;
- new regulatory requirements in response to conflicts, affecting airline operations and compliance requirements.

Climate change is leading to more frequent and intense extreme weather events, such as storms, heatwaves, heavy precipitation, and flooding10. These events can disrupt flight schedules and airport operations. Changes in temperature and precipitation patterns can affect the predictability of weather, making it more challenging for airlines and air traffic controllers to plan and manage flights. Higher temperatures can impact aircraft performance, particularly during take-off and landing, and may require adjustments in flight operations to ensure safety. Severe weather can affect air traffic flow management, leading to rerouting and increased fuel consumption. Airports will also need to adapt to withstand the extreme weather conditions.

1.6 Regional safety issues, goals and targets

The EUR RASP addresses the following regional safety issues:

1) Operational safety risks
   - R-HRC 1. Controlled Flight into Terrain (CFIT)
   - R-HRC 2. Loss of Control in-flight (LOC-I)
   - R-HRC 3. Mid-air Collision (MAC)
   - R-HRC 4. Runway Excursions (RE)
   - R-HRC 5. Runway Incursions (RI)
   - R-ORC 1. Abnormal Runway Contact (ARC)

2) Organizational challenges
   - R-ORG 1. Lengthy processes to amend primary aviation legislation and operating aviation regulations
   - R-ORG 2. Effectiveness and the sustainability of the State's safety oversight system
   - R-ORG 3. Lack of qualified and competent technical personnel, primarily aircraft accident investigators and aerodrome inspectors
   - R-ORG 4. Effectiveness and independence of the State's authority in charge of aircraft accident and serious incident investigation
   - R-ORG 5. Deficiencies in safety data and safety information collection, analysis, and exchange, to support safety management activities

[10] https://climate.mit.edu/ask-mit/how-climate-change-affecting-weather-today
https://science.nasa.gov/climate-change/extreme-weather/

R-ORG 6. Lack of State's capabilities to identify key aviation safety risks, and determine safety goals, safety targets and priority safety actions
R-ORG 7. Capacity of the CAAs to approve and continuously monitor the service providers' SMS
R-ORG 8. Human factors and human performance
R-ORG 9. Competence of operational personnel and language proficiency
R-ORG 10. Impact of security on safety
R-ORG 11. Civil-military coordination and cooperation

3) Emerging issues
R-EMI 1. Artificial intelligence (AI)
R-EMI 2. Ensure the safe operation of UAS (drones)
R-EMI 3. New operating concepts and business models
R-EMI 4. Electric and hybrid propulsion, vertical take-off and landing (VTOL) aircraft and hydrogen-powered technologies
R-EMI 5. Prepare for safe higher airspace operations
R-EMI 6. Environment

To address the issues listed above and enhance aviation safety at the regional level, the EUR RASP 2026-2028 contains the following goals and targets:

1) GASP Goal 1: Achieve a continuous reduction of operational safety risks

Target 1.1 By 2028, EUR States and industry to decrease the accident rate

Target 1.2 By 2028, EUR States and industry to decrease the rate of accidents for each regional high-risk category of occurrence (R-HRC)

Target 1.3 By 2028, EUR States and industry to decrease the rate of accidents related to the additional categories of occurrences (R-ORC)

2) Goal 2: Strengthen States' safety oversight capabilities

Target 2.1 By 2028, all EUR States to commit to national aviation safety plans that allocate to each safety oversight authority sufficient financial resources to meet national and international obligations, with at least 70% of States having sufficient financial resources

Target 2.2 By 2028, all EUR States to improve their effective implementation (EI) score for qualified technical personnel (CE-4) for aircraft accident and incident investigation (AIG) and for aerodromes and ground aids (AGA), respectively, with a further commitment that no State has a score of less than the baseline global average

Target 2.3 By 2028, all EUR States to improve their EI score for the resolution of safety issues (CE-8) in AGA with a further commitment that no State has a score of less than the baseline global average

3) Goal 3: Establish and manage State safety programmes (SSP)

Target 3.1 By 2026, all EUR States to assess the level of implementation of their SSP

4) Goal 4: Strengthen collaboration at the regional and national levels to address safety issues

Target 4.1 By 2026, all EUR States to report if they require assistance to address safety issues

Target 4.2 By 2028, EUR to facilitate the required assistance, to the identified States, to address safety issues

Target 4.3 By 2027, EUR to implement a mechanism to make use of the information on operational safety risks and emerging issues for the purpose of aviation safety planning

Target 4.4 By 2028, EUR to increase at or above 70% the percentage of EUR State's participating in ICAO EUR regional safety groups (in person or remotely)

5) Goal 5: Strengthen aviation safety planning

Target 5.1 By 2027, all EUR States to publish an updated national aviation safety plan (NASP), taking into consideration the 2026-2028 edition of the GASP and EUR RASP

6) Goal 6: Expand the use of industry safety assessment and safety data sharing programmes

Target 6.1 By 2028, industry from EUR States to maintain an increasing trend in its use of industry safety assessment and safety data sharing programmes.

Section 2 Purpose of the EUR Regional Aviation Safety Plan

The EUR RASP is the master planning document containing the strategic direction of ICAO EUR Region for the management of aviation safety for a period of 3 years. This plan lists regional safety issues, sets regional safety goals and targets, and presents a series of safety actions to achieve those goals.

Other plans were considered in the development of the EUR RASP, including the following:

a. GASP 2026-2028 (ICAO Doc 10004): https://www.icao.int/GASP

b. EPAS 2026: https://www.easa.europa.eu/en/domains/safety-management/european-plan-aviation-safety

The EUR RASP has been developed using the goals and targets, the global high-risk categories of occurrences (G-HRCs), and the global organizational challenges from the GASP. These are highlighted in the text, where applicable. The safety actions listed in the EUR RASP form the action plan that supports the regional safety strategy. Ultimately, they support the improvement of safety at the individual State level, for States in the region, and contribute to the enhancement of safety at the wider international level. The EUR RASP includes several actions to address specific safety issues and recommends for individual States in the region. It is expected that States in the region adopt these actions and include them in their respective national aviation safety plans.

Section 3 EUR Regional operational safety risks

The EUR RASP includes safety issues that address national operational safety risks, derived from lessons learned from operational occurrences and from a data-driven approach. These safety issues may include actions such as:

- rule-making;
- policy development;
- targeted safety oversight activities;
- safety data analysis; and
- safety promotion.

The ICAO European and North Atlantic Office publishes an Annual Safety Report, available on its website: https://www.icao.int/EURNAT/EUR-NAT-DOCS?fid=5939#block-icao-page-title.

The following regional high-risk categories of occurrences (R-HRCs) were considered of the utmost priority because of the number of fatalities and risk of fatalities associated with such events. They were identified based on analyses from mandatory and voluntary reporting systems. The analysis was conducted by a focused group for analyzing regional safety data under the responsibility of the RESG. The following list contains the result of the performed analysis. These R-HRCs are in line with those listed in the current edition of the GASP[11]:

R-HRC 1. Controlled Flight into Terrain (CFIT);

R-HRC 2. Loss of Control in-flight (LOC-I); and

R-HRC 3. Mid-air Collision (MAC).

The data being used for the analysis performed indicated that current mitigations had reduced the likelihood of Runway Excursions (RE) and Runway Incursions (RI) in EUR Region. However, it was agreed that the potential severity has to be taken into account. Therefore, it was agreed to add the following two additional categories, also reflected in the GASP, as R-HRCs, mainly for monitoring purposes.

R-HRC 4. Runway Excursions (RE); and

R-HRC 5. Runway Incursions (RI)

In addition to the R-HRCs, which are in line with the G-HRCs and are listed above, the analysis performed identified the category of Abnormal Runway Contact (ARC). There was not enough reliable information to sustain the decision to include ARC as a R-HRC, in particular, because the consequences of such risks were, normally, significantly lower compared to the five other G-HRCs. Finally, it was supported to include Abnormal Runway Contact (ARC) as other regional risk category of occurrences for 2026-2028.

R-ORC 1. Abnormal Runway Contact (ARC)

The aviation occurrence categories from the CAST/ICAO Common Taxonomy Team (CICTT)[[12] were used to assess risk categories in the process of determining national operational safety risks. The safety actions that address the regional operational safety risks listed above are detailed in Volume II of the EUR RASP.

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[11] GASP 2026-2028: https://www.icao.int/GASP

[12] The CICTT Taxonomy is found on the ICAO website at https://www.icao.int/safety/airnavigation/AIG/Pages/Taxonomy.aspx.

Due to several reasons, more detailed analysis has not been performed so far. As a result, the R-HRCs are not further divided in operational areas like, helicopter operation, aerodrome and ground handling, air navigation management, general aviation, etc.. However, in Volume II safety actions are grouped for the corresponding domains for the ease of navigation.

Section 4 Organisational challenges

In addition to the regional operational safety risks listed in the EUR RASP, RESG RASP WG has identified organizational challenges and a series of safety actions, selected for the EUR RASP, to address them. These are given priority in the EUR RASP since they are aimed at enhancing and strengthening the management of aviation safety at the regional level.

To address the organizational challenges listed below, EASPG will implement a series of safety actions, some of which are derived from the ICAO ORG roadmap, contained in the ICAO Global Aviation Safety Roadmap (Doc 10161). The full list of the safety actions is presented in Volume II of EUR RASP.

4.1 Improve safety by improving safety management

The eight critical elements (CEs) of a safety oversight system are defined by ICAO. EASPG is committed to the effective implementation of these eight CEs among all States in the region, as part of overall safety oversight responsibilities, which emphasize EASPG's commitment to safety in respect of its aviation activities. The eight CEs are presented in Figure 2.

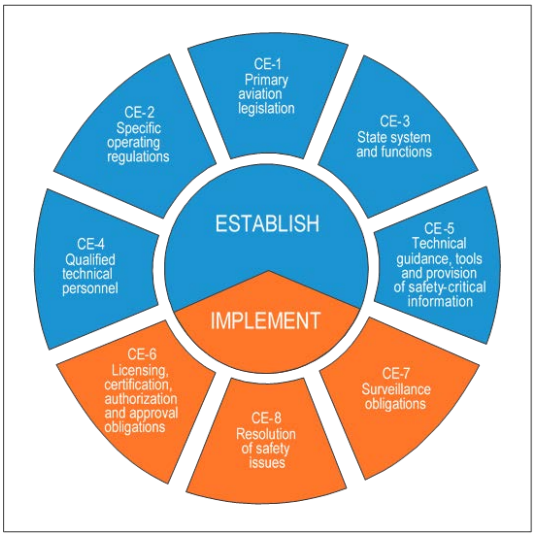


Figure 2: Critical elements of a state's safety oversight system

Certain deficiencies in a specific CE of a safety oversight system are common to most States in the region and are considered a top concern. These deficiencies are addressed as a regional safety issues in the EUR RASP because of their impact on the ability of States to fulfil their safety oversight responsibilities, which impacts the whole region.

The latest ICAO activities, which aim to measure the effective implementation of the eight CEs of States' individual safety oversight systems, as part of the ICAO Universal Safety Oversight Audit Programme (USOAP), have resulted in the following scores, compiled as an average for the European region of as a whole:

Overall EI score for EUR region[13]							
77.67%							
EI score by CE for							
CE-1	**CE-2**	**CE-3**	**CE-4**	**CE-5**	**CE-6**	**CE-7**	**CE-8**
84.77%	77.42%	78%	66.91%	78.12%	81.52%	76.16%	69.63%
EI score by audit area[14] for							
LEG	**ORG**	**PEL**	**OPS**	**AIR**	**AIG**	**ANS**	**AGA**
82.93%	79.27%	83.14%	78.49%	86.86%	65.22%	75%	73.78%

To identify systemic issues, considered to be regional organizational challenges, RESG conducted an analysis, guided by the criteria defined in the Standardized Framework for the Identification of ORG Challenges (refer to Doc 10131, 3rd Edition). These criteria include but are not limited to aggregated status of States' safety oversight systems and capabilities at the global level; consideration of regional organizational challenges in setting global ones; and State Safety Programme (SSP) implementation and maintenance.

Information generated by the USOAP CMA OLF was used as the primary source for the analysis. Among the main points analysed were:

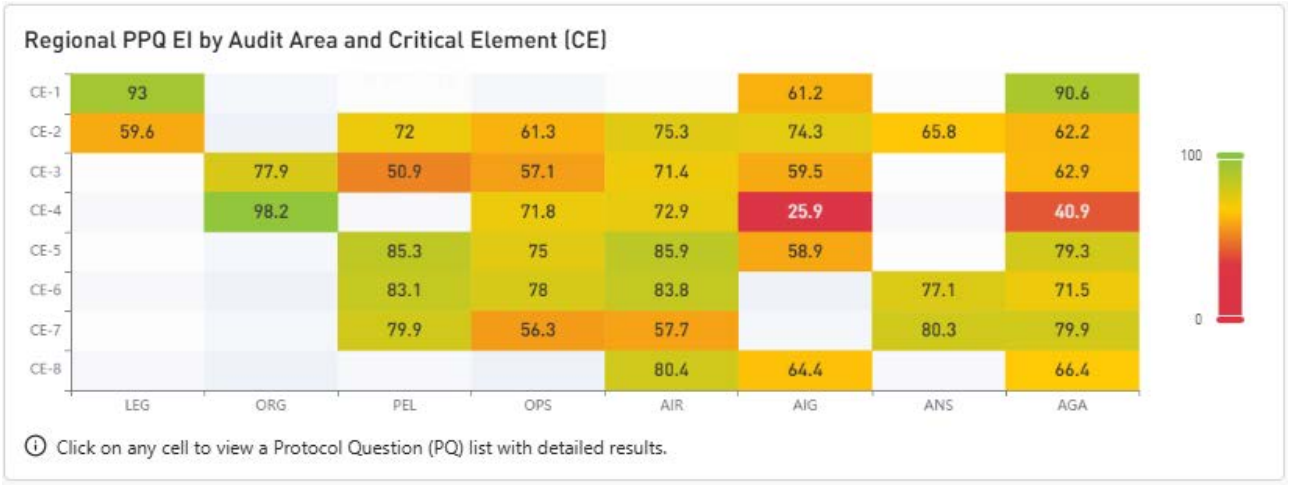
a) the five lowest scoring global PPQs by AA and CE combination, based on a consolidated global "Heat Map";
b) PQs used to assess the civil aviation organization & state system and functions (ORG/CE-3) at the regional level;
c) the lowest scoring regional PPQ; and
d) results from EUR RASP Implementation Surveys.

The main findings from the analysis included the following:

a) the five lowest scoring global PPQs by AA and CE combination (in ascending order) were:
   a. aircraft accident and incident investigation & qualified technical personnel (AIG/CE-4);
   b. aerodromes and ground aids & qualified technical personnel (AGA/CE-4);
   c. personnel licensing and training & state system and functions (PEL/CE-3) – related to organization, staffing and training;
   d. aircraft operations & surveillance obligations (OPS/CE-7) – in the areas of dangerous goods and risk-based oversight of foreign air operators; and
   e. aircraft operations & state system and functions (OPS/CE-3) – related to organization, staffing and training.

[13] As per iStars data taken on 27 November 2025

[14] Eight audit areas pertaining to USOAP, that is, primary aviation legislation and civil aviation regulations (LEG); civil aviation organization (ORG); personnel licensing and training (PEL); aircraft operations (OPS); airworthiness of aircraft (AIR); aircraft accident and incident investigation (AIG); air navigation services (ANS); and aerodromes and ground aids (AGA).



b) for PQs used to assess ORG/CE-3:
    a. PQ 2.053, looks at the establishment of a mechanism by the State to ensure that each safety oversight authority has sufficient personnel to meet its national and international obligations – The regional score was 54.55%;
    b. PQ 2.103, focuses on each safety oversight entity/investigation authority's ability to attract, recruit, and retain sufficiently qualified/experienced technical personnel – The regional score was 56.36%; and
    c. PQ 2.011 (the only PPQ in the list), focuses on clear definition of the functions and responsibilities of each authority with functions related to safety oversight or aircraft accident and incident investigation - The regional score was 76.36%;
c) the lowest scoring regional PPQ was under the AA and CE combination of primary aviation legislation and civil aviation regulations & specific operating regulations (LEG/CE-2): PQ 1.205, looks at the establishment and implementation of a process by the State to ensure the identification and publication in the State's aeronautical information publication (AIP) of significant differences between the SARPs/Procedures for Air Navigation Services (PANS)/Regional Supplementary Procedures (SUPPS) and the State's regulations and practices – related specifically to AIP;
d) top 3 organizational challenges reported in EUR RASP Implementation Surveys:
    a. Lengthy legislative processes
    b. Insufficient number of experienced staff in the authorities
    c. Lack of competencies in the authorities
e) top 5 systemic issues as reported in EUR RASP 2024 Implementation Survey were related to:
    a. Effective occurrence reporting
    b. Effective assessment of SMS for service providers
    c. Competencies of regulatory staff
    d. Overall safety oversight capabilities
    e. Effective oversight of search and rescue operations (SAR)

Therefore, the following organizational challenges in the European context were considered of the utmost priority because they impact the effectiveness of safety risk controls. These issues are typically systemic in nature and relate to challenges associated with the conduct of States' safety oversight functions, implementation of SSP at the regional level and the level of SMS implementation by industry in the region.

They take into consideration organizational culture, policies and procedures within States and those of service providers. These organizational challenges are in line with those listed in the GASP:

R-ORG 1. Lengthy processes to amend primary aviation legislation and operating aviation regulations;

R-ORG 2. Effectiveness and the sustainability of the State's safety oversight system;

R-ORG 3. Lack of qualified and competent technical personnel, primarily aircraft accident investigators and aerodrome inspectors;

R-ORG 4. Effectiveness and independence of the State's authority in charge of aircraft accident and serious incident investigation;

R-ORG 5. Deficiencies in safety data and safety information collection, analysis, and exchange, to support safety management activities;

R-ORG 6. Lack of State's capabilities to identify key aviation safety risks, and determine safety goals, safety targets and priority safety actions; and

R-ORG 7. Capacity of the CAAs to approve and continuously monitor the service providers' SMS.

4.2 Human factors and human performance

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:

- **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.
- **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.

Overall, this area presents:

R-ORG 8. Human factors and human performance

4.3 Competence of operational personnel

The safety actions related to aviation personnel are aimed at introducing competency-based training in all licenses 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.

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 dispatchers, remote pilots and other aviation personnel. A phased approach to gradually reaching 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.

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 language competency development and testing tools that meet ICAO LPRs which may result in safety risks.

Overall, this area presents:

R-ORG 9. Competence of operational personnel and language proficiency

4.4 Impact of security on safety

Impact of GNSS interferences on civil aviation operations and safe transition to Performance-Based Navigation (PBN)

Recently, Global Navigation Satellite System (GNSS) jamming and spoofing incidents have increasingly threatened the integrity of Positioning, Navigation, and Timing (PNT) services at global level. GNSS is a service based on satellite constellations such as the US Global Positioning System (GPS) and EU's Galileo. Due to the extremely weak radio signal and lack of authentication mechanism, the system is prone to jamming and spoofing.

Jamming blocks the satellite signal, whereas spoofing sends false information.

This poses a substantial threat to the aviation system as a whole – both on the ground and in the air – due to its potential impact on communication, navigation, surveillance, and flight systems. Furthermore, it has a cross-organisational dimension, affecting aircraft manufacturers, air navigation service providers, airports, and airline operators on a global scale. The implications are particularly significant for countries with, or in proximity to, affected airspaces, as is currently the case in the EUR Region.

The implementation of PBN routes and approach procedures is being undertaken through harmonized navigation specifications and functionalities.

For EU States, Regulation (EU) 2018/1048[15] prescribes the transition to a PBN environment in the single European sky (SES). Implementation priorities are defined by setting three implementation milestones, namely, 3 December 2020, 25 January 2024, and 6 June 2030. Other EUR States have also various PBN implementation commitments.

The restrictions to use most conventional navigation procedures from 6 June 2030, which are meant to be replaced by the aforementioned PBN routes and procedures. Then, PBN is intended to be used as the predominant means of navigation in all phases of flight, except in the event of PBN contingencies and when CAT II/III approaches are required.

[15] https://eur-lex.europa.eu/eli/reg_impl/2018/1048/oj/eng

Deployment of contingency measures by ATM/ANS service providers to deal with situations where PBN flight operations cannot be performed because the signals used to fly PBN (e.g., GNSS) are temporarily unavailable.

Cybersecurity

The aviation sector is increasingly interconnected through digital technologies, offering substantial operational advantages while simultaneously introducing a wide array of new challenges. Chief among these is the urgent need to safeguard critical information and communications technology systems and data. Examples include next-generation aircraft equipped with real-time connectivity to ground systems, and Air Traffic Management technologies that rely on wireless communication between ground centres and aircraft.

The digitalisation of aviation systems significantly heightens vulnerability to cyber-attacks, which can compromise system integrity and jeopardise flight safety. Addressing this risk requires a harmonised and enhanced understanding of cybersecurity principles, including system protection, security-by-design, supply chain security, redundancy, and maintenance. Equally important is the establishment of regular communication and information-sharing mechanisms across stakeholders.

It is essential that aviation authorities and industry actors collaborate to exchange knowledge and learn from one another's experiences. This collective, whole domain, effort is critical to ensuring the aviation system remains resilient against cyber threats, that incidents are effectively managed, and that business continuity is maintained. Furthermore, cybersecurity must be recognised as a cross-cutting issue that spans all aviation domains — including safety, security, and air navigation — and demands coordinated action to support a vision of a civil aviation sector that is both secure and capable of sustainable innovation and growth.

Conflict zones

Military or terrorist conflicts may occur in any State at any time and pose risks to civil aviation. This is why it is important for governments, aircraft operators, and other airspace users such as air navigation service providers (ANSPs), to work together to share the most up-to-date conflict zone risk-based information possible to assure the safety of civilian flights. In the EUR region those risks have increased and remain under focus of regional safety activities as a safety priority.

Per their responsibilities as signatories to the Convention on International Civil Aviation (Chicago Convention), ICAO Member States are obliged to promptly communicate potential risks to safe and secure civil aviation operations in their sovereign or delegated airspace, including those relating to conflict zones. In addition, the airlines registered in States should also conduct their own proprietary conflict zone risk assessments, in order to safely plan their routes and operations based on the latest information available. To address this requirement the industry has adopted several tools to access information on conflict zones.

To support these safety risk mitigation actions ICAO amended its provisions and issued guidance to assist States, operators and ANSPs regarding conflict zone risks: Doc 10084, Risk Assessment Manual for Civil Aircraft Operations Over or Near Conflict Zones.

In European Union area Member States, European Institutions and EASA have established an alerting system with the objective of joining 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. It complements national infrastructure mechanisms, when they exist, by adding, when possible, a European level common risk picture and corresponding recommendations.

Overall, this area presents:

R-ORG 10. Impact of security on safety

4.5 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. The airspace requirements of all civil and State (including military) users should be accommodated on a fair and equitable basis while respecting State sovereignty, national and international security, defense and law enforcement obligations.

Civil and military operations differ in nature and in purpose. While civil aviation supports global interaction and contributes to the global economy, military operations are conducted for national security or defense reasons. However, both types of operations take place in a single continuum of airspace and, therefore, civil aviation and military stakeholders need to cooperate to ensure their mutual safety. Successful cooperation is based on transparency and understanding of operational parameters. Optimizing airspace for both civil aviation and military operations result in nation-wide benefits. The flexible use of airspace (FUA) is a fundamental aspect in supporting the optimization process. It is recommended that civil and military experts jointly develop advice and guidance on the best practices for civil-military cooperation and coordination, 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.

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)[16] integration into non-segregated airspace.

[16] '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.

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.

Overall, this area presents:

R-ORG 11. Civil-military coordination and cooperation

Section 5 Strategic direction for the management of aviation safety

The EUR RASP includes the following regional safety goals and targets for the management of aviation safety, as well as a series of indicators to monitor the progress made towards their achievement. They are tied to the goals, targets and indicators listed in the GASP and include additional regional safety goals, targets and indicators.

EUR RASP Target	EUR SPI ID	EUR SPI text
GASP Goal 1: Achieve a continuous reduction of operational safety risks		
1.1 By 2028, EUR States and industry to decrease the 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 per million of international departures (accident rate)[17]
	EUR.SPI.1.1.02	Number of fatal accidents involving scheduled commercial operations with aircraft of maximum mass of over 5700 kg and occurring in EUR Region per million of international departures (fatal accident rate).
	EUR.SPI.1.1.03	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).
1.2 By 2028, EUR States and industry to decrease the rate of accidents for each regional high-risk category of occurrence (R-HRC)	EUR.SPI.1.2.01.1	Number of CFIT 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.1.2.01.2	Number of LOC-I 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.1.2.01.3	Number of MAC accidents involving scheduled commercial operations with aircraft of maximum

[17] It is recognized that it would be beneficial to have an indicator that in addition to commercial scheduled operations also considers non-scheduled commercial operations. However, due to absence of validated exposure data (number of non-scheduled flight departure) for the whole EUR region, it was decided to keep the accident rates only calculated for scheduled international commercial operations (passenger and cargo).

EUR RASP Target	EUR SPI ID	EUR SPI text
		mass of over 5700 kg and occurring in EUR Region per million departures (accident rate).
	EUR.SPI.1.2.01.4	Number of RE 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.1.2.01.5	Number of RI accidents involving scheduled commercial operations with aircraft of maximum mass of over 5700 kg and occurring in EUR Region per million departures (accident rate).
1.3 By 2028, EUR States and industry to decrease the rate of accidents related to the additional categories of occurrences (R-ORC) identified in the EUR RASP	EUR.SPI.1.3.01	Number of ARC accidents involving scheduled commercial operations with aircraft of maximum mass of over 5700 kg and occurring in EUR Region per million departures (accident rate) by additional category of occurrence
Goal 2: Strengthen States' safety oversight capabilities		
2.1 By 2028, all EUR States to commit to national aviation safety plans that allocate to each safety oversight authority sufficient financial resources to meet national and international obligations, with at least 70% of States having sufficient financial resources	EUR.SPI.2.1.01	Percentage of EUR States with a "satisfactory" rating for the Universal Safety Oversight Audit Programme (USOAP) protocol question (PQ) 2.051[18]
2.2 By 2028, all EUR States to improve their effective implementation (EI) score for	EUR.SPI.2.2.01	Number of EUR States that meet the EI score of equal or greater than the baseline global average for CE-4/AIG

[18] PQ 2.051: Has the State established and implemented a mechanism to ensure that each safety oversight authority has sufficient financial resources to meet its national and international obligations?

EUR RASP Target	EUR SPI ID	EUR SPI text
qualified technical personnel (CE-4) for aircraft accident and incident investigation (AIG) and for aerodromes and ground aids (AGA), respectively, with a further commitment that no State has a score of less than the baseline global average[19]	EUR.SPI.2.2.02	Number of EUR States that meet the EI score of equal or greater than the baseline global average for CE-4/AGA
2.3 By 2028, all EUR States to improve their EI score for the resolution of safety issues (CE-8) in AGA with a further commitment that no State has a score of less than the baseline global average	EUR.SPI.2.3.01	Number of States that meet the EI score of equal or greater than the baseline global average for CE-8/AGA
Goal 3: Establish and manage State safety programmes (SSP)[20]		
3.1 By 2028, all EUR States to assess the level of implementation of their SSP	EUR.SPI.3.1.01	Percentage of EUR States having completed their SSP PQ self-assessment, using the ICAO Online Framework (OLF) and/or confirmed through EASA SYS inspection.
Goal 4: Strengthen collaboration at the regional and national levels to address safety issues		
4.1 By 2026, all EUR States to report if they require assistance to address safety issues	EUR.SPI.4.1.01	Percentage of States in the region that need assistance to address a low level of SSP implementation as reported through the EUR RASP 2026 Survey, including safety data and safety information collection, analysis and exchange to support State's safety management activities
	EUR.SPI.4.1.02	Percentage of States in the region that need assistance to address operational safety risks, including HRCs and ORCs as reported through the EUR RASP 2026 Survey

[19] The global average is calculated using Year 2025 as a baseline.
[20] This goal should be considered met by EASA Member States as per Art 7 of Regulation (EU) 2018/1139. The implementation of this Article is monitored by EASA standardization activities.

EUR RASP Target	EUR SPI ID	EUR SPI text
4.2 By 2028, EUR to facilitate the required assistance, to identified States, to address safety issues	EUR.SPI.4.2.01	Percentage of EUR States that receive any assistance to address a low level of SSP implementation as reported through the annual EUR RASP Surveys by States identified in 4.1, including any assistance to address deficiencies in safety data and safety information collection, analysis and exchange, to support State's safety management activities.
	EUR.SPI.4.2.02	Percentage of EUR States that receive any assistance to address operational safety risks, including HRCs and ORCs as reported through the annual EUR RASP Surveys by States identified in 4.1
4.3 By 2027, EUR to implement a mechanism to make use of the information on operational safety risks and emerging issues for the purpose of aviation safety planning[21]	EUR.SPI.4.3.01	Number of studies/analyses conducted by EASPG RESG based on reports received via Secure Portal on Operational Safety Risks and Emerging Issues
4.4 By 2028, EUR to increase at or above 70% the percentage of EUR State's participating in ICAO EUR regional safety groups (in person or remotely)	EUR.SPI.4.4.01	Percentage of EUR State's that are listed at least in one of the participation lists for a consecutive 2 bi-annual meetings as in-person or remote participants.
Goal 5: Strengthen aviation safety planning		
5.1 By 2027, all EUR States to publish an updated national aviation safety plan (NASP), taking into consideration the 2026-2028 edition of the GASP and EUR RASP	EUR.SPI.5.1.01	Percentage of EUR States that published an updated NASP
Goal 6: Expand the use of industry safety assessment and safety data sharing programmes		

[21] For EASA Member States the EPAS covers all common safety risks and emerging issues.

EUR RASP Target	EUR SPI ID	EUR SPI text
6.1 By 2028, industry from EUR States to maintain an increasing trend in its use of industry safety assessment and safety data sharing programmes	EUR.SPI.6.1.01	Number of service providers from EUR States participating in IOSA as reported annually by IATA
	EUR.SPI.6.1.02	Number of service providers from EUR States participating in ISAGO as reported annually by IATA
	EUR.SPI.6.1.03	Number of service providers from EUR States participating in IDX as reported annually by IATA
	EUR.SPI.6.1.04	Number of service providers from EUR States participating in the APEX as reported annually by ACI Europe
	EUR.SPI.6.1.05	Number of service providers from EUR States participating in the CANSO/EUROCONTROL Standard of Excellence as reported annually by CANSO Europe

Volume II of EUR RASP presents the safety actions that were developed based on the organizational challenges (ORG) and operational safety risks (OPS) roadmaps, as presented in the ICAO Global Aviation Safety Roadmap (Doc 10161), safety actions presented in Volume II of EPAS as well as region-specific issues identified by the RESG RASP WG. This plan is developed and maintained by RESG RASP WG, in coordination with key aviation stakeholders and is updated at least every 3 years.

The safety actions in this plan are implemented through the working arrangements of the ICAO European Aviation System Planning Group (EASPG) and its safety subgroups, as well as the existing safety oversight capabilities and service providers' safety management systems (SMS) at the individual States' level. Safety actions derived from the ICAO Global Aviation Safety Roadmap (Doc 10161) and EPAS Volume II were identified to achieve the regional safety goals presented in the EUR RASP.

The EUR RASP also addresses emerging issues, which include concepts of operations, technologies, public policies, business models or ideas that might impact safety in the future, for which insufficient data exists to complete a typical data-driven analysis. Due to the lack of data, emerging issues cannot automatically be considered as operational safety risks. It is important that remain vigilant on emerging issues to identify hazards and safety deficiencies, collect relevant data and proactively develop mitigations to address any associated risks.

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.

R-EMI 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, and oversight. This may in turn affect the competency framework of CAA staff.

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

R-EMI 2. 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 at Oslo airport and Copenhagen airport in September 2025 have 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 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.

R-EMI 3. New operating concepts and business models

Some new business models[22] 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

[22] 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

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.

R-EMI 4. Electric and hybrid propulsion, vertical take-off and landing (VTOL) aircraft and hydrogen-powered technologies

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.

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[23].

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.

[23] 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

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.

In order to meet the environmental targets for climate neutrality by 2050, there is an increased focus by the industry on the potential use of hydrogen as an energy carrier in aviation that could then either be used by fuel cells to produce electricity or burnt in a combustor in a similar way to kerosene today. The properties of hydrogen raise a number of challenges from storage and distribution right through to conversion into the final energy used to propel the aircraft.

R-EMI 5. Prepare for safe higher airspace operations

Several suborbital operations were performed in the US already in 2021 and 2022 and their operators are considering future flights in Europe, facilitated by the development of spaceports in some European states. In addition, the Joint Communication on Space Traffic Management (STM)69 highlights the close interaction between space and air traffic, during the launch and re-entry phases of space flights, and calls for a coordinated approach.

Operations in the higher airspace will be either manned or unmanned and may pose safety risks when transiting through the current air operations in the airspace below FL 660 or when cruising above that altitude. They may also entail a negative environmental impact, notably in terms of noise or emissions. To provide the necessary protection, regulations need to be adapted or new ones adopted, among others, in the field of airworthiness, operations, personnel, ATM/ANS, aerodromes/spaceports and environment.

R-EMI 6. Environment

Environmental protection and the sustainability of the aviation sector has been growing in importance over the years. The aviation industry has itself committed to achieving net-zero carbon emissions by 2050, aligning with global climate goals. This ambitious target requires a multifaceted approach, including the widespread adoption of sustainable aviation fuels (SAF), the development of new technologies like electric and hydrogen-powered aircraft, and the implementation of operational efficiencies and carbon offsetting strategies.

Section 6 Monitoring implementation of the EUR RASP

RESG RASP WG will continuously monitor the implementation of the safety actions listed in the EUR RASP and will measure safety performance of the regional civil aviation system to ensure the intended results are achieved, using the mechanisms presented in the appendix to this plan.

In addition to the above, RESG will review the EUR RASP every 3 years or earlier, if required, to keep the identified operational safety risks, organizational challenges and selected safety issues updated and relevant. Through close monitoring of the safety actions, RESG will adjust the EUR RASP and its safety actions, if needed, and update the EUR RASP accordingly. An EUR RASP annual implementation report will be presented for endorsement to the EASPG and will be published on ICAO's website to provide stakeholders with relevant up-to-date information on the progress made in the implementation status of the safety actions.

RESG will periodically review the effectiveness of safety actions listed in the EUR RASP to ensure the achievement of regional safety goals and present the key findings to the EASPG.

In addition, ICAO EUR and NAT Regional Office will use the indicators listed in Section 5 of this plan to measure safety performance of the regional civil aviation system and to monitor each regional safety target. An EUR Annual Safety Report will be presented for endorsement to EASPG and will be published on ICAO's website to provide stakeholders with relevant up-to-date information on the progress made in achieving the regional safety goals.

If RESG identifies critical operational safety risks, reasonable measures will be taken to mitigate them as soon as practicable, possibly leading to an earlier revision of the EUR RASP.

Any questions regarding the EUR RASP and its safety actions, and further requests for information, may be addressed to the following:

ICAO European and North Atlantic Office

E-mail: eurrasp@icao.int

Website: https://www.icao.int/EURNAT/EUR-RASP

Appendix 1: How individual safety actions are presented

There are three types of actions included in the EUR RASP:

— **Rulemaking tasks (RMTs)**

RMTs are intended to lead to new or amended regulatory material, however the related work is usually not limited to drafting rules. 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.

For consistency, any action requiring amendment of primary aviation legislation and specific operating regulations (CE-1 and CE-2) should be presented as a separate RMT action.

An RMT may also be supported by a dedicated safety promotion task (SPT).

For EASA Member States actions that has a corresponding RMT task in EPAS are owned by EASA. For other EUR States, all such actions are owned by individual States.

— **State's Safety Management tasks (SMTs)**

SMTs are intended to strengthen safety management capacities of the states, to include state's safety oversight and accident and serious incident investigation, addressing primarily CE-3, CE-4 and CE-5, and other state safety risk management capacities (refer to Chapter 3.3 of Annex 19).

For EASA Member States corresponding actions in EPAS are normally referred to as MSTs.

Some of SMT actions would depend on related RMT actions, some would require proper coordination with other authorities at the State, such as military, juridical authorities, etc.

An SMT may also be supported by a dedicated safety promotion task (SPT).

— **Safety Promotion tasks (SPTs)**

SPTs may be owned by States, industry or other stakeholders and involve safety training, safety awareness and safety education as well dissemination of safety relevant information to further engage and interact with relevant aviation stakeholders 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 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 RESG 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.

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 other important documents, including safety promotion or guidance material that supports the EUR RASP action*
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', 'SMT' or 'SPT', in reference to the corresponding EUR RASP 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 SMT actions.

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

Note 2: 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. Section 5).

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