



ICAO

SAFETY

EUROPEAN AVIATION SYSTEMS PLANNING GROUP

EUR 2021 Annual Safety Report

2022 Edition



European and North
Atlantic Office

The Annual Safety Report and other EASPG related documentation can be downloaded at:
<https://www.icao.int/EURNAT/Pages/EUR-and-NAT-Document.aspx>









Consistent with the 2020-2022 edition of the *Global Aviation Safety Plan (GASP, Doc 10004)*, the European Regional Aviation Safety Plan (EUR RASP) outlines the EUR Region’s strategic direction for the management of aviation safety for the 2020-2022 time period. It is published on the ICAO EUR/NAT webpage in both English and Russian languages.

The EUR RASP 2022-2024 provides a summary of the regional initiatives to address the high-risk categories of occurrences (HRCs) set out in the GASP as well as to support achieving the GASP goals and EUR RASP targets:

GASP Goals	EUR RASP Targets (2022-2024)
Goal 1: Achieve a continuous reduction of operational safety risks	1.1 – EUR States to maintain a decreasing trend of regional accident rate
Goal 2: Strengthen States’ safety oversight capabilities	2.1 – EUR States to improve their score for the effective implementation (EI) of the critical elements (CEs) of the State’s safety oversight system (with focus on priority PQs) as follows: 75% by 2024; 85% by 2026 and 95% by 2030
Goal 3: Implement effective State safety programmes (SSPs)	3.1 - By 2023, all EUR States to implement the foundation of an SSP 3.2 - By 2024, all EUR States to publish a National Aviation Safety Plan (NASP) 3.3 All States to work towards an effective SSP as follows: a) by 2025 – Present b) by 2028 - Present and effective
Goal 4: Increase collaboration at the regional level	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 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 (<i>for EUR, EASPG RESG</i>)
Goal 5: Expand the use of industry programmes	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
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

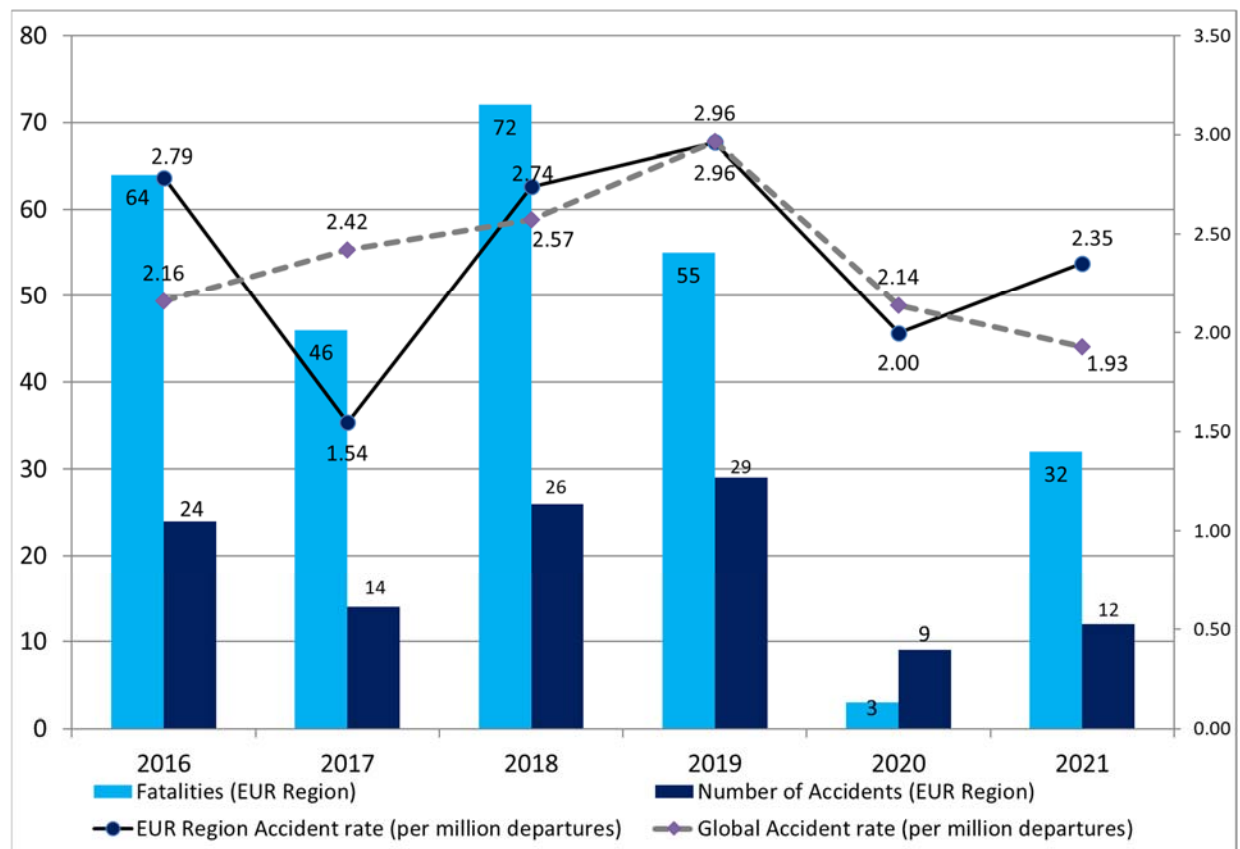
This ICAO EUR 2021 Annual Safety Report (EUR 2021 ASR) provides the 2021 values of a series of Safety Performance Indicators (SPI), including number of fatalities, accident rate, effective implementation of safety oversight system and SSP in an attempt to measure the achievement of the EUR Region towards the EUR RASP targets and ultimately towards the GASP goals 1 to 6.

Maintain a decreasing trend of regional accident rate [EUR RASP Target 1.1]

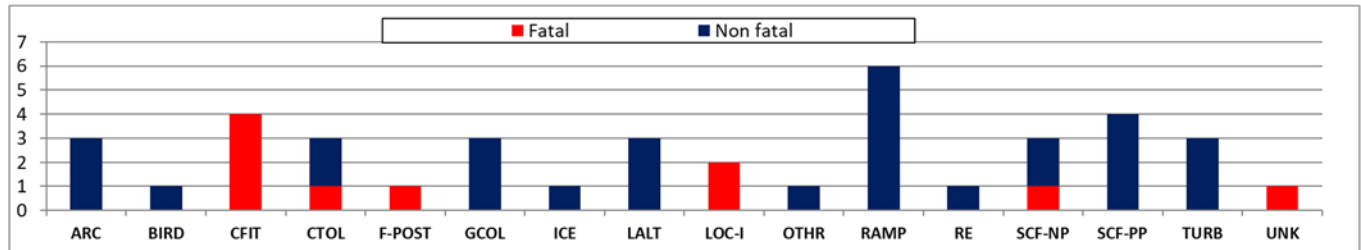
12 	2.35 	2 	0.42 	32 	0.062 	17% 	41 
2021 EUR Number of accidents (a/c ≥ 5700 kg only) <i>(9 in 2020)</i>	2021 EUR Accident rate per million departures <i>(2.00 in 2020)</i>	2021 EUR Number of fatal accidents <i>(1 in 2020)</i>	2021 EUR Fatal accident rate per million departures <i>(0.22 in 2020)</i>	2021 EUR Number of fatalities <i>(3 in 2020)</i>	2021 EUR Fatality rate per million passengers carried <i>(0.008 in 2020)</i>	2021 EUR Accidents related to HRCs <i>(22% in 2020)</i>	2021 EUR Number of accidents to a/c ≥ 2250 kg <i>(46 in 2020)</i>

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 has increased in 2021 compared to 2020: 12 of such accidents occurred in 2021, including two fatal accidents resulting in 32 fatalities. This resulted in a regional accident rate of 2.35 accidents per million departures, up 18% from the 2020 rate of 2.00 accidents per million departures.

The vision of the Global Aviation Safety Plan (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 17% of all accident categories for accidents involving scheduled commercial operations with aircraft of maximum mass of over 5700 kg. This is a decrease to what it was in 2020 (22%).



Annex 13 — Aircraft Accident and Incident Investigation requires that the State of Occurrence forward a notification of an accident to ICAO when the aircraft involved is of maximum mass of over 2 250 kg or is a turbojet-powered aeroplane. In 2021, 41 accidents involving civilian aircraft of maximum mass of over 2 250 kg occurred in the EUR Region, including 10 fatal accidents, causing 69 fatalities. The breakdown by Occurrence Categories is on the figure below:



Date of Occurrence	State Of Occurrence	Registration	Aircraft Type	Phase Of Flight	Fatalities	Occurrence Category
17-Jan-21	United Kingdom	N25XL	CESSNA 310	Landing	0	SCF-NP
19-Jan-21	United Kingdom	G-JTOR	AVRO RJ85	Standing	0	RAMP
19-Jan-21	United Kingdom	G-JMCY	BOEING 737	Landing	0	ARC
08-Feb-21	France	9H-FAM	EMBRAER EMB-500 PHENOM 100	Landing	0	RE
26-Feb-21	Kazakhstan	UP-A0351	ANTONOV AN-2	Landing	0	SCF-PP
07-Mar-21	France	F-GIBM	AS350 Écureuil	Take-off	2	CTOL
23-Mar-21	Poland	SP-KPU	SAAB 340	Standing	0	GCOL
02-Apr-21	Malta	9H-QCJ	BOEING 737	Taxi	0	GCOL
22-Apr-21	United Kingdom	G-TAAS	AGUSTA WESTLAND AW109	Approach	0	BIRD
28-Apr-21	United Kingdom	G-RNHF	HAWKER SEA FURY	Approach	0	SCF-PP
12-May-21	Spain	EI-EGA	BOEING 737	Standing	0	RAMP
14-May-21	Italy	I-HSKC	PILATUS PC-6	Landing	2	F-POST
30-May-21	Greece	SX-THR	ATR ATR72	Taxi	0	GCOL
13-Jun-21	Spain	EI-EVE	BOEING 737	Standing	0	RAMP
18-Jun-21	United Kingdom	G-ZBJB	BOEING 787	Standing	0	RAMP
24-Jun-21	Russian Federation	RA-01430	ANTONOV AN-2	Take-off	0	CTOL
25-Jun-21	Netherlands	PH-FST	CESSNA 208 CARAVAN	Take-off	0	SCF-PP
26-Jun-21	France	F-HTYH	AIRBUS A350	Standing	0	RAMP
27-Jun-21	Belarus	EW-164SS	Mil Mi-2	En Route	0	LALT
04-Jul-21	Kazakhstan	UP-A0135	ANTONOV AN-2	Maneuvering	0	LALT
06-Jul-21	Russian Federation	RA-26085	ANTONOV AN-26	Landing	28	CFIT
11-Jul-21	Spain	EC-MTS	BELL 412	Maneuvering	0	SCF-PP
11-Jul-21	Greece	D-AICP	AIRBUS A320	Take-off	0	SCF-NP
16-Jul-21	Russian Federation	RA-28728	ANTONOV AN-28	En Route	0	ICE
17-Jul-21	United Kingdom	G-OJMP	CESSNA 208 CARAVAN	Landing	0	ARC
17-Jul-21	Spain	EC-LBS	BELL 407	Landing	0	CTOL
25-Jul-21	Italy	SE-RPE	BOEING 737	Approach	0	TURB
26-Jul-21	Germany	D-FLEC	CESSNA 208 CARAVAN	Approach	1	UNK
31-Jul-21	Spain	EI-EPC	BOEING 737	Approach	0	TURB
12-Aug-21	Russian Federation	RA-24744	Mil Mi-8	En Route	8	CFIT
06-Sep-21	Norway	LN-ORJ	AS350 Écureuil	Maneuvering	0	LALT
12-Sep-21	Russian Federation	RA-67042	LET L-410	Approach	4	CFIT
13-Sep-21	Spain	EC-NBT	EUROCOPTER SUPERPUMA AS 332	Landing	0	ARC
15-Sep-21	Germany	OE-LBY	AIRBUS A320	Taxi	0	RAMP
22-Sep-21	Russian Federation	RA-26673	ANTONOV AN-26	En Route	6	CFIT
25-Sep-21	Belgium	OO-FFB	CESSNA 208 CARAVAN	Landing	0	USOS
03-Oct-21	Italy	YR-PDV	PILATUS PC-12	Climb	8	LOC-I
22-Oct-21	Spain	EC-JEA	AS350 Écureuil	Maneuvering	0	OTHR
03-Nov-21	Russian Federation	EW-518TI	ANTONOV AN-12B	Approach	9	LOC-I
05-Dec-21	France	F-HNET	AIRBUS A350	Approach	0	TURB
27-Dec-21	Russian Federation	RA-15671	Mil Mi-2	En Route	1	SCF-NP

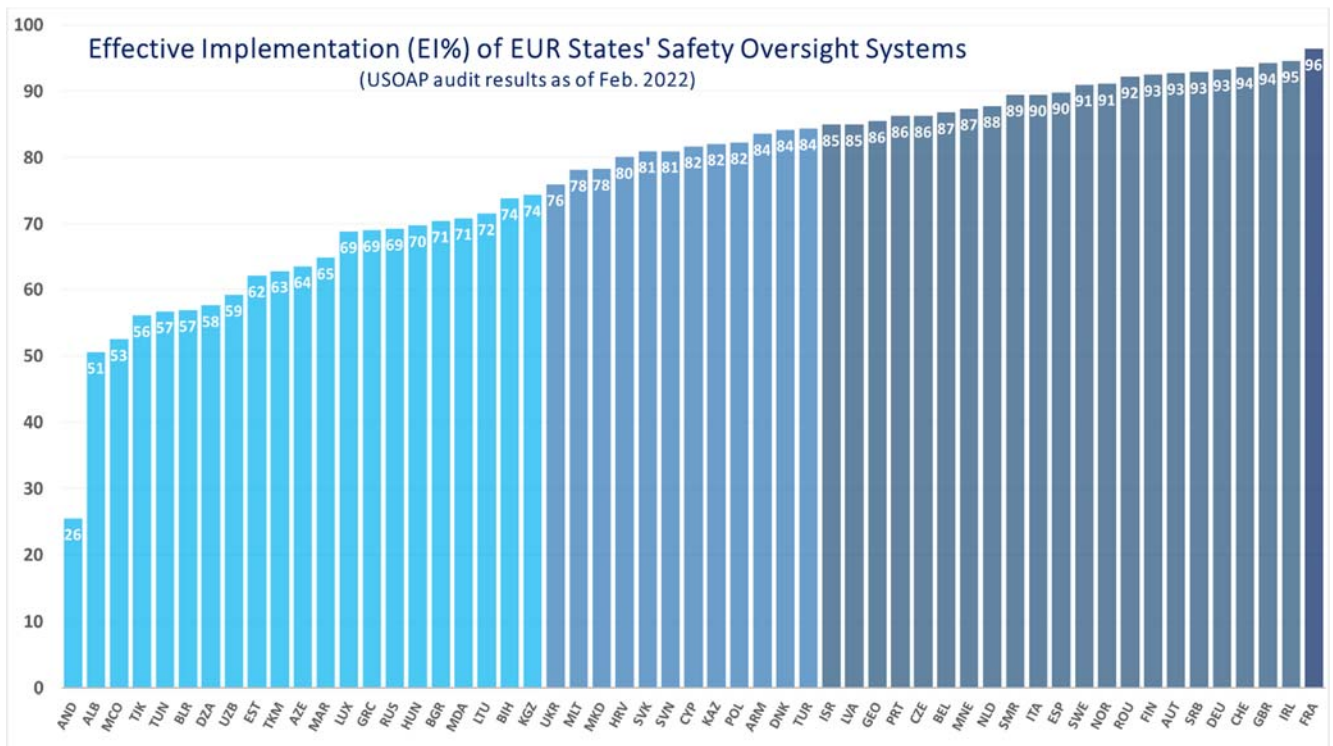
Strengthen EUR States' safety oversight capabilities [EUR RASP Target 2.1]

<p style="font-size: 1.5em; font-weight: bold;">76.4%</p> <p>Average USOAP EI score for EUR States</p>	<p style="font-size: 1.5em; font-weight: bold;">34 (62%)</p> <p>of EUR States with an EI>75%</p>	<p style="font-size: 1.5em; font-weight: bold;">22 (40%)</p> <p>of EUR States with an EI>85%</p>	<p style="font-size: 1.5em; font-weight: bold;">1 (2%)</p> <p>of EUR States with an EI>95%</p>
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The Universal Safety Oversight Audit Programme Continuous Monitoring Approach (USOAP CMA) measures the effective implementation of a State's safety oversight system. In 2021, 8 USOAP-CMA related activities were completed in the EUR Region, while two had to be postponed due to the COVID-19 pandemic.

State	Type of USOAP Activity	Dates	Status
Armenia	Off-site validation activity	July 2021	Completed
Germany	ICVM	30 September to 11 October 2021	Completed
Kazakhstan	ICVM	2 to 11 August 2021	Completed
Malta	ICVM	6 to 21 April 2021	Completed
Morocco	Off-site validation activity	January 2021	Completed
Slovenia	Off-site validation activity	October 2021	Completed
Spain	Focused audit	22 to 23 June 2021	Completed
Switzerland	Off-site validation activity	July 2021	Completed
Italy	SSPIA and focused audit	--	Postponed due to the COVID-19 pandemic.
Republic of Moldova	Audit	--	Postponed due to the COVID-19 pandemic.

USOAP CMA results show an average Effective Implementation (EI) score for States in the EUR Region of 76.4%, down from the 2020 value of 78.07%. USOAP CMA results also show that 62% of the States in the EUR Region have already achieved the target of 75% EI by 2024, as outlined in the 2022-2024 edition of the EUR RASP.

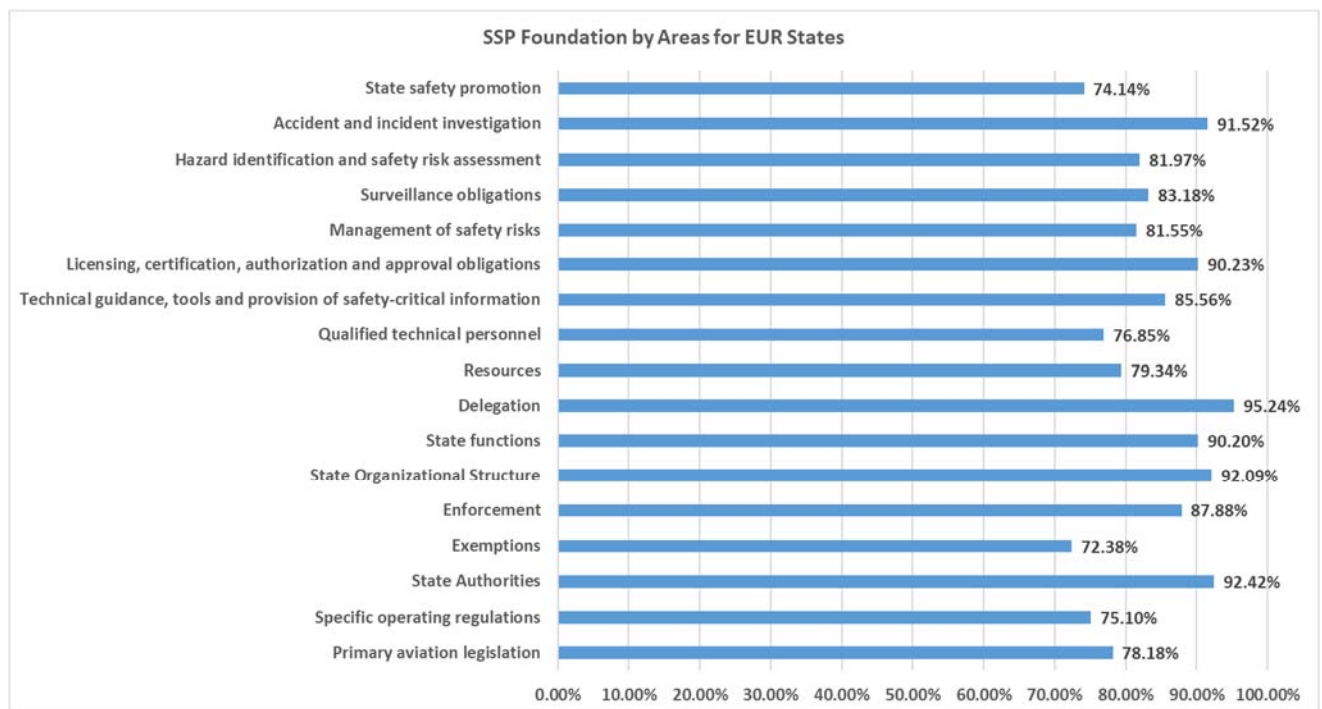


<p>65% of priority PQs implemented by EUR States</p>	<p>The GASP and the EUR RASP call for States to improve their score for the Effective Implementation (EI) of the Critical Elements (CEs) of the State's safety oversight system, with a particular focus on the priority PQs. Priority PQs are defined as a subset of protocol questions (PQ) that, if found not satisfactory, may indicate a lack of capability by a State to identify and/or resolve operational safety and fundamental accident investigation deficiencies effectively. The level of implementation of priority PQs by EUR States is 65%.</p>
<p>72% of required corrective action plans (CAPs) submitted by EUR States</p>	<p>When deficiencies in the form of non-satisfactory PQs have been identified a State's safety oversight system, Corrective Action Plans (CAP) should be submitted by States to ICAO, with specific actions and estimated implementation dates to correct the deficiencies identified.</p> <p>Initial proposed CAPs and subsequent CAP updates should meet the following six criteria:</p> <ul style="list-style-type: none"> • Relevant — CAPs should address the issues and requirements related to the finding and corresponding PQ and Critical Element (CE). • Comprehensive — CAPs should be complete; including all elements or aspects associated with the finding. • Detailed — CAPs should be laid out in a step-by-step approach, as required, to outline the implementation process. • Specific — CAPs should identify who will do what, when, in coordination with the responsible office or entity. • Realistic — CAPs should be realistic in terms of contents and implementation timelines. • Consistent -- CAPs should be consistent in relation to other CAPs and with the State self-assessment.
<p>24% of CAPs completed by EUR States</p>	<p>For the EUR Region, 72 % of required CAPs have been submitted to ICAO and 24% have been reported as completed.</p>
<p>76% Average completion rate for the filing of differences for safety related ICAO Annexes</p>	<p>In accordance with Article 38 of the Chicago Convention, a Contracting State must notify ICAO at all times (or at any time) if it does not comply with a Standard in all respects; does not bring its regulations or practices into full accord with any Standard; or adopts regulations or practices differing in any particular respect from the Standard. Member States are urged to notify ICAO of any differences that exist between their national regulations and practices and the provisions of SARPs, as well as the date or dates by which they will comply with the SARPs (Assembly Resolution A39-22).</p> <p>EUR States have an average completion rate of 76% for the filing of differences for safety related ICAO Annexes (same rate as in 2020).</p>

Implement effective State Safety Programmes (SSPs) [EUR RASP Targets 3.1, 3.2 and 3.3]

<p>24 (44%) EUR States having implemented at least 90% of the foundation of an SSP</p>	<p>82.64% Average SSP foundation implementation of EUR States</p>	<p>10 (18%) EUR States that require all applicable service providers under their authority to implement an SMS (as reported in EFOD for Annex 19 std. 3.3.2.1)</p>	<p>30 (55%) of EUR States have issued a national aviation safety plan</p>
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State safety programme (SSP) is an integrated set of regulations and activities aimed at improving safety. “Foundation of an SSP” refers to a subset of the Universal Safety Oversight Audit Programme (USOAP) protocol questions (PQs) that have been identified as fundamentals and are considered as prerequisites for sustainable implementation of the full SSP. EUR States have on average implemented 82.64% of these SSP foundational PQs. 44 % of EUR States have implemented at least 90% of the foundation of an SSP, and 2% of EUR States have done so fully. SSP foundational PQs are grouped into subject areas derived from Annex 19:



Effective SSPs include the implementation of SMS by service providers within individual States. In the EUR Region, States require service providers implement an SMS, as part as their safety management system obligations defined in Annex 19. However, only 18% of EUR States have reported that they require all applicable service providers under their authority to implement an SMS.

About half of the 55 EUR States have issued a National Aviation Safety Plan (NASP), where the CAA and other entities involved in the management of aviation safety target resources over the coming years.

States to increase collaboration at the regional level to enhance safety [EUR RASP Target 4.1]

54 (98%)
 EUR States
 requiring
 assistance/support
 (EI<75%, or SOI<1
 or Overall SSP
 foundation<100%)

The GASP calls for States to continually improve their EI score as part of their responsibilities for the management of safety and to ultimately implement an effective SSP. The safety oversight index (SOI) is used to identify and prioritize States that will receive assistance, from ICAO and other entities, to help them improve their safety oversight system. In the EUR Region, 54 States have either an EI score below the GASP target for 2022 (75%), or an SOI that would indicate that their oversight system is insufficient taking into consideration the traffic volume, or not yet the prerequisites for sustainable implementation of the full SSP.



In 2021, the ICAO EUR/NAT Office continued to address COVID-19 induced safety risks, starting with a dedicated seminar on vaccine transportation covering multiple topics to include safety related aspects pertaining to the dangerous goods. A transition from COVID-19 related differences (CCRD) to Targeted Exemptions (TE) system and gradual removal of TEs to ensure return to normal operations was pursued.

Another milestone was pilot implementation of the Aviation Safety Risk Management related to COVID-19 iPack for CAA in Georgia which laid the basis to cope with COVID-19 national safety risks and enabling the improvement of national State Safety Risk Management tools. The application of project management principals embraced in iPack is seen as a good practice for State Safety Programme implementation or improvement in the States.

The Regional Expert Safety Group (RESG) was established as a main safety branch of the European Aviation System Planning Group (EASPG) and produced the revised 2022-2024 version of the European Regional Aviation Safety Plan. Simultaneously, RESG continued its work on safety enhancement initiatives in the areas of pilot training and runway safety. Competency-based training and assessment (CBTA) projects for Russia and Kazakhstan are successfully progressing and the combined experience with EASA is a very good way forward to build on for further improvement in other States.

Runway Safety related risks (both traditional and COVID-19 introduced) were closely monitored and addressed during RESG meetings and through dedicated global and regional webinars. The ICAO EUR/NAT Regional Office placed emphasis on the implementation of the new Global Reporting Format (GRF) for runway surface conditions. To support this implementation, the ICAO EUR/NAT Regional Office conducted three virtual events in 2021. The first event was a webinar on the implementation of the new GRF for runway surface conditions in the EUR Region and was held in English, French and Russian languages in May 2021. The webinar addressed questions raised on GRF implementation resulting in a summary of GRF clarification and mitigation of concerns by subject (e.g. runway condition report, SNOWTAM, airline operations, etc.). Two more events were conducted for Kyrgyzstan in July 2021 and the Interstate Aviation Committee in November 2021.

The joint ICAO-Interstate Aviation Committee (IAC) regional project continued its successful operation throughout 2021 with the full support of ICAO EUR/NAT Office. In particular, an Aircraft Accident and Incident Investigation (AIG) workshop was held in April 2021 with the participation of 32 States and 3 international organizations. The objective was to develop competencies to enable States to conduct independent and effective investigations of aircraft accidents and incidents.

By 2025, maintain an increasing trend of EUR States with air navigation and aerodrome infrastructure that meets relevant ICAO Standards [EUR RASP Target 6.1]

82%
Level of implementation of the basic building blocks (BBB) for EUR States

13 (24%)
Number of EUR States having no air navigation deficiency against the EUR air navigation plan

39 (71%)
Number of EUR States having no air navigation deficiency classified as having implication with air navigation safety

GASP Goal 6 focuses on the need to ensure the appropriate infrastructure is available to support safe operations and the EUR RASP calls for all States to implement the air navigation and airport core infrastructure by 2022. Basic Building Blocks (BBB) is a baseline defined by the basic services agreed by the States under the Convention on International Civil Aviation so that international civil aviation may be developed in a safe and orderly manner. The BBB framework describes the backbone of any robust air navigation system by defining the essential air navigation services to be provided for international civil aviation according to ICAO SARPs and Procedures for Air Navigation Services (PANS).

The level of provision of essential air navigation services (BBBs) and the capability to oversee them, measured by the effective implementation of the USOAP PQs linked to BBB is 82% for EUR States. The relationship between BBB and USOAP PQs is available at <https://www4.icao.int/ganportal/bbbsusoapmapping>

Air Navigation Deficiency is a situation where a facility, service or procedure does not comply with a regional air navigation plan approved by the Council, or with related ICAO SARPs, or Procedures for Air Navigation Services (PANS) and which has a negative impact on safety, regularity and/or efficiency of international civil aviation. 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. As December 2021, one deficiency having a direct impact on safety and requiring immediate corrective actions was identified in the EUR region. An additional 29 deficiencies classified as having top priority requirements necessary for air navigation safety were identified, and 40 with intermediate requirements necessary for air navigation regularity and efficiency.

