ICAO

EUROPEAN AVIATION SYSTEMS PLANNING GROUP

EUR 2020 Annual Safety Report

2021 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 2020-2022 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 (2020-2022)
Goal 1: Achieve a continuous reduction of operational safety risks	1.1 - 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 2022; 85% by 2026 and 95% by 2030 2.2 - By 2022, all EUR States to reach a safety oversight index greater than 1, in all categories
Goal 3: Implement effective State safety programmes (SSPs)	3.1 - By 2022, all EUR States to implement the foundation of an SSP 3.2 - By 2025, all EUR States to implement an effective SSP, as appropriate to their aviation system complexity
Goal 4: Increase collaboration at the regional level	4.1 - By 2020, EUR States that do not expect to meet GASP Goals 2 and 3, to use a regional safety oversight mechanism, another State or other safety oversight organization's ICAO- recognized functions in seeking assistance to strengthen their safety oversight capabilities 4.2 - By 2022, all EUR States to contribute information on safety risks, including SSP safety performance indicators (SPIs), to EASPG-RESG 4.3 - By 2022, all EUR States with effective safety oversight capabilities and an effective SSP, to actively lead RASGs' safety risk management activities
Goal 5: Expand the use of industry programmes	5.1 - By 2020, all service providers to use globally harmonized SPIs as part of their safety management system (SMS) 5.2 - By 2022, increase the number of service providers participating in the corresponding ICAO-recognized industry assessment programmes
Goal 6: Ensure the appropriate infrastructure is available to support safe operations	6.1 - By 2022, all EUR States to implement the air navigation and airport core infrastructure

This ICAO EUR 2020 Annual Safety Report (EUR 2020 ASR) provides the 2020 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.

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

9 ↘	**2.00** ↘	**1** ↘	**0.22** ↘	**3** ↘	**0.008** ↘	**22%** ↗	**46** ↘
2020 EUR Number of accidents (a/c ≥ 5700 kg only)	2020 EUR Accident rate per million departures	2020 EUR Number of fatal accidents	2020 EUR Fatal accident rate per million departures	2020 EUR Number of fatalities	2020 EUR Fatality rate per million passengers carried	2020 EUR Accidents related to HRCs	2020 EUR Number of accidents to a/c ≥ 2250 kg
(29 in 2019)	*(2.96 in 2019)*	*(3 in 2019)*	*(0.31 in 2019)*	*(55 in 2019)*	*(0.064 in 2019)*	*(17% in 2019)*	*(49 in 2019)*

The COVID-19 global pandemic has posed unprecedented challenges to international air transport. Passenger totals plunged by 60 per cent with just 1.8 billion passengers taking to the air during the first year of the COVID pandemic, compared to 4.5 billion in 2019. In that context, the number of accidents involving scheduled commercial operations with aircraft of maximum mass of over 5700 kg and occurring in one of the 55 States in the EUR Region has decreased in 2020 compared to 2019: 9 of such accidents occurred in 2020, including one fatal accident resulting in 3 fatalities. This resulted in a regional accident rate of 2.00 accidents per million departures, down 32% from the 2019 rate of 2.96 accidents per million departures.

The vision of the 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 22% of all accident categories for accidents involving scheduled commercial operations with aircraft of maximum mass of over 5700 kg. This is a slight increase, but still a comparable number to what it was in 2019 (17%).
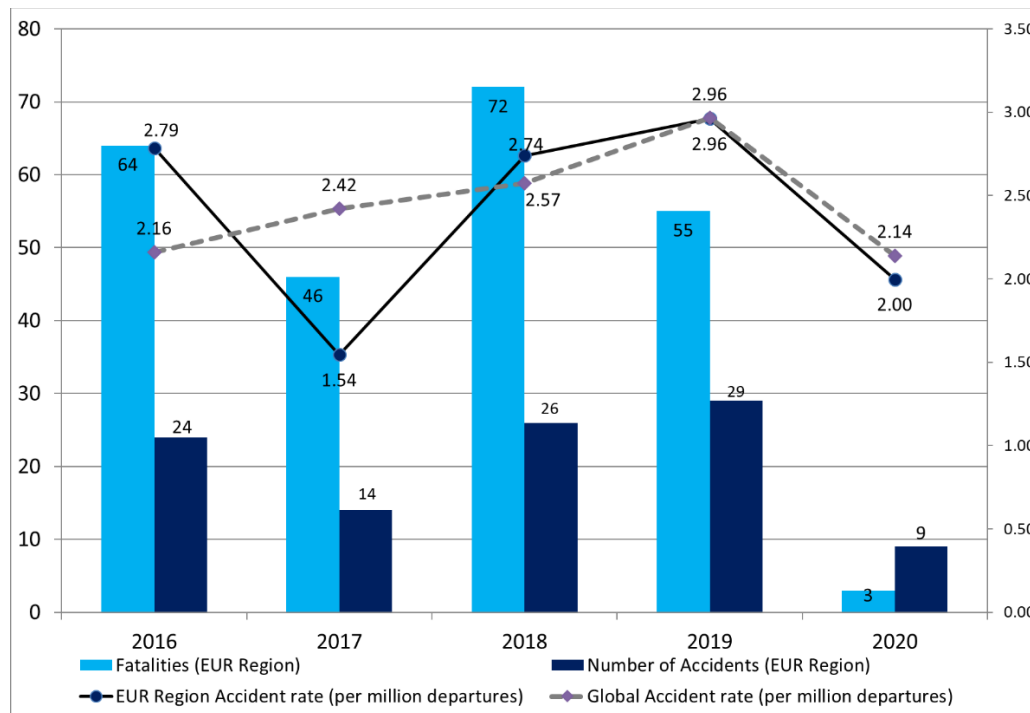
Annex 13 — Aircraft Accident and Incident Investigation requires that the State of Occurrence forward a notification of an accident to ICAO when the aircraft involved is of maximum mass of over 2 250 kg or is a turbojet-powered aeroplane. In 2020, 46 accidents involving aircraft of maximum mass of over 2 250 kg occurred in the EUR Region, including 10 fatal accidents, causing 19 fatalities. The breakdown by Occurrence Categories is on the figure below:
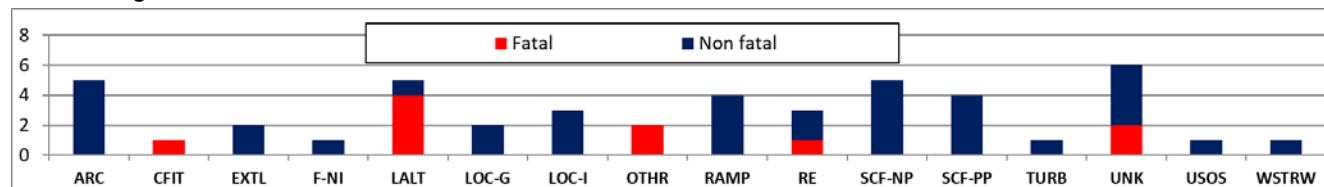
Date of Occurence	State Of Occurence	Registration	Aircraft Type	Phase Of Flight	Fatalities	Occurrence Category
07-Jan-20	France	I-AMVV	AS350 Écureuil	Take-off	1	OTHR
07-Jan-20	Turkey	TC-CCK	BOEING 737	Landing	0	RE
10-Jan-20	Turkey	VQ-BRS	AIRBUS A321	Landing	0	ARC
13-Jan-20	Finland	OH-LXD	AIRBUS A320	Standing	0	RAMP
20-Jan-20	Germany	OK-PHM	EMBRAER EMB-505 Phenom 300	Landing	0	RAMP
20-Jan-20	Italy	SE-RLC	BOEING 767	Taxi	0	RAMP
03-Feb-20	Spain	C-GHOZ	BOEING 767	Landing	0	SCF-NP
05-Feb-20	Turkey	TC-IZK	BOEING 737	Landing	3	RE
07-Feb-20	Russian Federation	RA-01893	BELL 407	En Route	1	UNK
07-Feb-20	Iceland	TF-FIA	BOEING 757	Landing	0	SCF-NP
09-Feb-20	Russian Federation	VQ-BPS	BOEING 737	Landing	0	USOS
20-Feb-20	Russian Federation	RA-40642	ANTONOV AN-2	Take-off	0	LOC-I
26-Feb-20	Kazakhstan	UP-A0001	ANTONOV AN-2	En Route	0	SCF-PP
27-Feb-20	Turkey	TC-JSH	AIRBUS A321	Landing	0	ARC
08-Mar-20	Ireland	N477AX	BOEING 767	Landing	0	ARC
21-Mar-20	United Kingdom	G-FLYW	BEECHCRAFT SUPER KING AIR	Landing	0	ARC
30-Mar-20	France	LX-JFD	PILATUS PC-12	En Route	0	WSTRW
06-Apr-20	Norway	LN-OFQ	AS350 Écureuil	Maneuvering	0	EXTL
25-Apr-20	Russian Federation	RA-06268	MIL Mi-26T	Landing	0	UNK
15-May-20	France	F-AZHN	NORTH AMERICAN MUSTANG T-28	Landing	0	SCF-NP
31-May-20	Portugal	D-HAUO	AS350 Écureuil	Maneuvering	0	LOC-I
01-Jun-20	United Kingdom	G-HRLI	HAWKER HURRICANE 1	Landing	0	LOC-G
01-Jun-20	Russian Federation	RA-15746	Mil Mi-2	En Route	0	UNK
16-Jun-20	United Kingdom	G-JECK	DE HAVILLAND CANADA DHC-8	Standing	0	RAMP
20-Jun-20	Italy	I-MLTA	AS350 Écureuil	Maneuvering	0	LALT
24-Jun-20	United Kingdom	N120HH	BELL 407	Landing	0	SCF-PP
06-Jul-20	Russian Federation	RA-14397	Mil Mi-2	Maneuvering	1	LALT
06-Jul-20	Spain	EC-MVV	AS350 Écureuil	En Route	2	UNK
11-Jul-20	Spain	EC-MPL	BELL 412	Take-off	0	EXTL
13-Jul-20	Russian Federation	RA-40851	ANTONOV AN-2	En Route	2	LALT
04-Aug-20	United Kingdom	G-INVN	HAWKER SEA FURY	En Route	0	SCF-PP
08-Aug-20	Spain	EC-HET	CANADAIR CL-215	Maneuvering	1	LALT
10-Aug-20	France	N413JF	CESSNA 340 A	Approach	0	SCF-PP
12-Aug-20	Spain	EC-IEF	AIRBUS A320	Maneuvering	0	TURB
28-Aug-20	Romania	N423AX	BOEING 767	Landing	0	SCF-NP
28-Aug-20	Germany	N401JP	CESSNA 402	Landing	0	LOC-I
17-Sep-20	Russian Federation	RA-24532	Mil Mi-8	Landing	0	LOC-G
20-Sep-20	Italy	T7-SKY	PILATUS PC-6	Maneuvering	2	OTHR
04-Oct-20	Russian Federation	RA-23731	Mil Mi-2	En Route	0	UNK
30-Oct-20	France	N517HC	CESSNA 402	Approach	0	F-NI
23-Nov-20	Switzerland	HB-GJM	BEECHCRAFT SUPER KING AIR	Approach	0	SCF-NP
04-Dec-20	France	HB-LUV	CESSNA T303	Landing	0	RE
08-Dec-20	France	F-HJAF	AIRBUS HELICOPTERS EC135	En Route	5	LALT
12-Dec-20	Ukraine	UR-33642	ANTONOV AN-2	Landing	1	CFIT
13-Dec-20	France	F-BRAK	BEECHCRAFT 58 BARON	Landing	0	ARC
23-Dec-20	Russian Federation	RA-07328	AS350 Écureuil	Take-off	0	UNK

2. Strengthen EUR States' safety oversight capabilities [EUR RASP Targets 2.1 & 2.2]

78.07% Average USOAP EI score for EUR States	33 (60%) of EUR States with an EI>75%	23 (42%) of EUR States with an EI>85%	2 (4%) of EUR States with an EI>95%	44 (80%) of EUR States with a SOI >1 in all categories	87.3% of EUR States with a SOI>1 in Operations (PEL/OPS/AIR)	92.7% of EUR States with a SOI>1 in Air Navigation (AGA/ANS)	90.9% of EUR States with a SOI>1 in Support functions (LEG/ORG/AIG)

The Universal Safety Oversight Audit Programme Continuous Monitoring Approach (USOAP CMA) measures the effective implementation of a State's safety oversight system. In 2020, 13 USOAP-CMA related activities were completed in the EUR Region, while 6 had to be postponed mostly due to the COVID-19 pandemic.

State	Type of USOAP Activity	Dates	Status
Azerbaijan	Off-site validation activity	November 2020	Completed
Croatia	ICVM (Virtual)	30 November to 16 December 2020	Completed
Denmark	Off-site validation activity	April 2020	Completed
France	Off-site validation activity	August 2020	Completed
Germany	Off-site validation activity	November 2020	Completed
Iceland	Off-site validation activity	April 2020	Completed
Kyrgyzstan	Off-site validation activity	November 2020	Completed
Poland	Off-site validation activity	November 2020	Completed
Portugal	Off-site validation activity	January 2020	Completed
San Marino	ICVM (Virtual)	9 to 24 November 2020	Completed
Spain	Off-site validation activity	March 2020	Completed
Tunisia	Audit	3 to 14 February 2020	Completed
Ukraine	ICVM	25 February to 3 March 2020	Completed
Albania	ICVM	--	Postponed due to the COVID-19 pandemic.
Azerbaijan	ICVM	--	Postponed at the request of the State
Belarus	Audit	--	Postponed due to the COVID-19 pandemic.
Italy	SSPIA	--	Postponed due to the COVID-19 pandemic.
Luxembourg	ICVM	--	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 78.07%. USOAP CMA results also show that 60% of the States in the EUR Region have already achieved the target of 75% EI by 2022, as outlined in the 2020-2022 edition of the Global Aviation Safety Plan (GASP). The minimum expected capabilities, based on State's aviation traffic, has been reached by 80% of EUR States who have a Safety Oversight Index (SOI) greater than 1 in all functional categories, Operations, Air Navigation and Support functions.

65%
of priority PQs
implemented
by EUR States

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%**.

88%
*of required
corrective
action plans
(CAPs)
submitted by
EUR States*

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.

Initial proposed CAPs and subsequent CAP updates should meet the following six criteria:
- **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.

27%
*of CAPs
completed by
EUR States*

For the EUR Region, 88 % of required CAPs have been submitted to ICAO and 27% have been reported as completed.

76%
*Average
completion
rate for the
filing of
differences for
safety related
ICAO
Annexes*

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).

EUR States have an average completion rate of 76% for the filing of differences for safety related ICAO Annexes.

3. By 2022, all EUR States to implement the foundation of an SSP [EUR RASP Target 3.1]

 By 2025, all EUR States to implement an effective SSP, as appropriate to their aviation system complexity [EUR RASP Target 3.2]
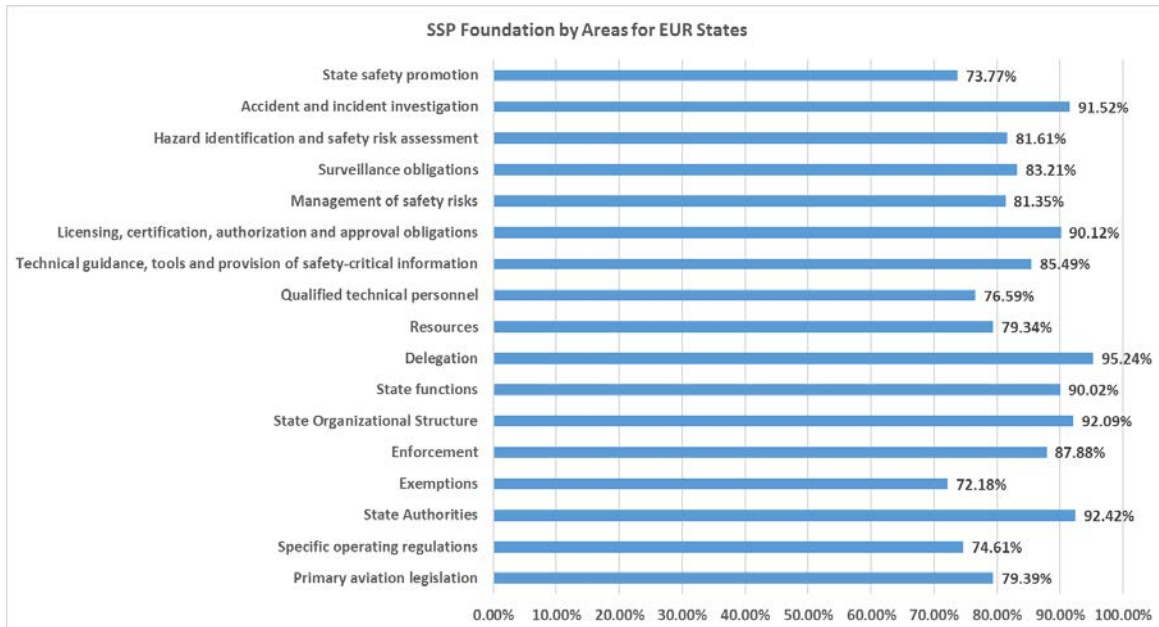
2 (4%)	82.46%	1 (2%)	30 (55%)
EUR States having fully implemented the foundation of an SSP	Average SSP foundation implementation of EUR States	EUR States that require all applicable service providers under their authority to implement an SMS (as reported in EFOD for Annex 19 std. 3.3.2.1)	of EUR States have issued a national aviation safety plan

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 82.46% of these SSP foundational PQs, and 4% of EUR States have done so fully. SSP foundational PQs are grouped into subject areas derived from Annex 19:

SSP Foundation by Areas for EUR States

Area	Percentage
State safety promotion	73.77%
Accident and incident investigation	91.52%
Hazard identification and safety risk assessment	81.61%
Surveillance obligations	83.21%
Management of safety risks	81.35%
Licensing, certification, authorization and approval obligations	90.12%
Technical guidance, tools and provision of safety-critical information	85.49%
Qualified technical personnel	76.59%
Resources	79.34%
Delegation	95.24%
State functions	90.02%
State Organizational Structure	92.09%
Enforcement	87.88%
Exemptions	72.18%
State Authorities	92.42%
Specific operating regulations	74.61%
Primary aviation legislation	79.39%

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 2% of EUR States have reported that they require <u>all</u> 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.

4. By 2020, EUR States that do not expect to meet GASP Goals 2 and 3, to use a regional safety oversight mechanism, another State or other safety oversight organization's ICAO- recognized functions in seeking assistance to strengthen their safety oversight capabilities [EUR RASP Target 4.1]

53 (96%)
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, 53 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.

A wide variety of Technical Assistance (TA) activities conducted by the ICAO EUR/NAT Regional Office in close coordination with States, regional and international organizations in the EUR Region benefited to over 4500 experts in 2020. The repartition by number of experts who benefited of these TA activities is depicted below. These TA activities supported EUR States' effective implementation of ICAO's policies, plans and SARPs.

5. Expand the use of industry programmes [EUR RASP Targets 5.1 and 5.2]

Goal 5 of the GASP is directed at industry and aims to expand the use of industry programmes. EUR RASP Targets 5.1 and 5.2 are linked to this goal and call for service providers in EUR States to:

- use globally harmonized Safety Performance Indicators (SPI) as part of their SMS by 2020, taking into account operational needs. The term "globally harmonized SPIs" refers to the use of globally harmonized metrics for the development and monitoring of service providers' SPIs. The use of these harmonized metrics facilitates safety risk management at the regional and international levels.
- participate in the corresponding ICAO-recognized industry assessment programmes. While such programmes do not replace the need for safety oversight by States, ICAO recognizes the benefits of these programmes, which have a positive effect on operational safety among service providers.
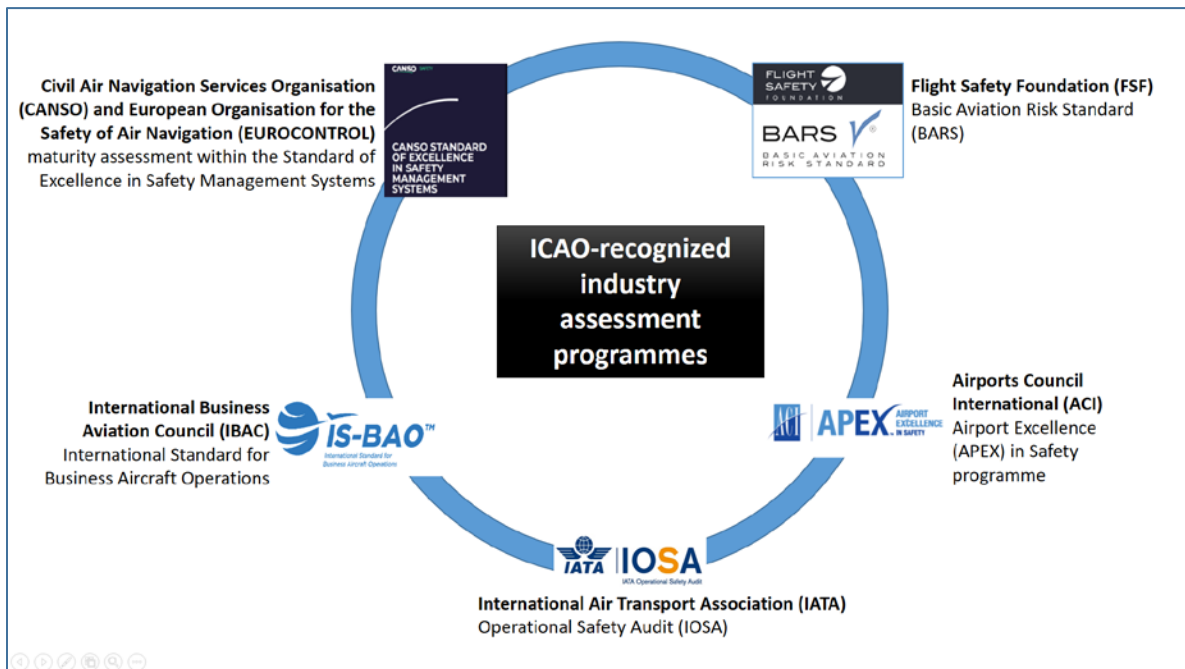
The six industry organizations ACI, CANSO, EUROCONTROL, FSF, IATA and IBAC are all invited to participate in the European Aviation System Planning Group (EASPG) with an observer status. They are encouraged to report to EASPG on the number of their members using their respective assessment programmes. In 2020, 4 of the 6 organizations participated in EASPG 02 meeting.

6. By 2022, all EUR States to implement the air navigation and airport core infrastructure [EUR RASP Target 6.1]

82%	13 (24%)	39 (71%)
Level of implementation of the basic building blocks (BBB) for EUR States	Number of EUR States having no air navigation deficiency against the EUR air navigation plan	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/ganpportal/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 June 2021, one deficiency having a direct impact on safety and requiring immediate corrective actions was identified in the EUR region. An additional 32 deficiencies classified as having top priority requirements necessary for air navigation safety were identified, and 41 with intermediate requirements necessary for air navigation regularity and efficiency.