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APPROVED
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THE NATIONAL PLAN FOR CIVIL AVIATION SAFETY 2022 – 2026

courtesy translation

Issue 1/2022

National plan for civil aviation safety

2022 – 2026

Legal basis

- Chapter II, Art. 8 of Regulation (EU) 2018/1139 of the European Parliament and of the Council of 4 July 2018 on common rules in the field of civil aviation and establishing a European Union Aviation Safety Agency, amending Regulations (EC) No 2111/2005, (EC) No 1008/2008, (EU) No 996/2010, (EU) No 376/2014 and Directives 2014/30/EU and 2014/53/EU of the European Parliament and of the Council, and repealing Regulations (EC) No 552/2004 and (EC) No 216/2008 of the European Parliament and of the Council and Council Regulation (EEC) No 3922/91

- Art. 11 of The National Plan for Civil Aviation Safety, Issue 3, approved by Order of the Minister of Transport (OMT) No. 1182/2016, published in the Official Gazette, Part I, No 813 of 14 October 2016.

National plan for civil aviation safety

2022 – 2026

Endorsed at the meeting of CTS 30 of 1 March 2022

Adopted at the meeting of CES 18 of 4 March 2022

National plan for civil aviation safety

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VOLUME I – GENERAL AND SAFETY PERFORMANCE

GENERAL

National plan for civil aviation safety

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Introduction

The obligation to develop a National Plan for Civil Aviation Safety is laid down both in Ch. II, Art. 8 of Regulation (EU) No 2018/1139[1] (*New Basic Regulation*), and in Art. 11 of PNSAC, Issue 3[2].

The National Plan for Civil Aviation Safety (pNSAC) sets safety indicators at national level with the related safety targets and alert thresholds, as well as the actions needed to reduce safety risks.

Level of safety performance to be achieved (LSPA) is defined by identifying, on the basis of the assessment of the relevant safety information, the main safety risks affecting the national civil aviation system.

Essentially, the pNSAC groups the entire range of safety actions deemed necessary to be implemented in order to achieve the safety objectives set by the National Civil Aviation Safety Programme (PNSAC).

pNSAC contributes to the implementation of the European Plan for Aviation Safety (EPAS) by taking on board the risks and related actions identified at European level with relevance for civil aviation in Romania.

Both PNSAC and its revisions are drawn up by the Technical Committee for Safety (CTS), endorsed by the Safety Assessment Committee (CES) and approved by the PNSAC accountable manager, in accordance with their responsibilities as set out in the PNSAC.

pNSAC is not a static document, it evolves on the basis of EASA recommendations and analyses supported by data collected at national level.

European Plan for Aviation Safety 2022–2026 (EPAS 2022–2026)

The *European Plan for Aviation Safety* (EPAS) is the tool of which fundamental aim is to avoid the occurrence of accidents and serious incidents in the field of civil aviation at European level.

If by 2018 EU Member States had implemented EPAS on a voluntary basis, it became mandatory with the entry into force of Regulation (EU) 2018/1139 (New Basic Regulation). The Regulation requires that risks and related actions, as determined by EPAS, be included in a document such as a national safety plan. Each Member State is required to analyse and determine the applicable risks and actions, to justify the omission of non applicable ones, and to develop its own Safety Plan.

- *Structure of EPAS 2022-2026*

EPAS 2022-2026 is divided into three volumes, as follows:

- Volume I – includes introduction, strategy elements and performance measurement;

[1] Regulation (EU) 2018/1139 of the European Parliament and of the Council of 4 July 2018 on common rules in the field of civil aviation and establishing a European Union Aviation Safety Agency, and amending Regulations (EC) No 2111/2005, (EC) No 1008/2008, (EU) No 996/2010, (EU) No 376/2014 and Directives 2014/30/EU and 2014/53/EU of the European Parliament and of the Council, and repealing Regulations (EC) No 552/2004 and (EC) No 216/2008 of the European Parliament and of the Council and Council Regulation (EEC) No 3922/91.

[2] OMT No 1182/2016 approving the National Civil Aviation Safety Programme and appointing the Director General of the Romanian Civil Aviation Authority as the accountable manager for the implementation and monitoring of the National Civil Aviation Safety Programme, published in the Official Gazette, Part I No 813 of 14 October 2016.

- Volume II – list of proposed safety actions;
- Volume III – provides a summary of the safety risks affecting the European aviation system in the form of Key Risk Areas (KRAs) and domains, as well as the European Risk Portfolios.

Volume I sets out a number of Strategic Priorities, of which those relating to safety are:

- Safe return to operation;
- Systemic safety;
  - Improving safety by improving safety management;
  - Human factors and human performance;
  - Competence of personnel;
  - Integrated risk management;
  - Impact of socio-economic factors on safety;
  - Data4Safety;
  - Civil-military cooperation și coordination;
  - Oversight;
  - Standardisation.
- Operational safety;
  - Safety risks in commercial air transport operations, air taxi and NCC;
  - Improving safety of helicopter operations;
  - Safety risks in general aviation.
- Safe integration of new technologies and concepts;
  - Artificial intelligence;
  - Aircraft / engine certification process;
  - Unmanned aircraft systems;
  - New air mobility;
  - Electric and hybrid propulsion;
  - Hydrogen propulsion technologies;
  - Implementing SESAR solutions;
  - All weather operations;
  - Digital licences.

Volume II describes the safety actions.

Thus, all actions related to *Systemic safety and Competence of personnel* priority are grouped into a separate chapter divided into 7 sections:

- Safety management;
- Human factors and human performance;
- Competence of personnel:

- Aircraft tracking, search and rescue operations and accident investigations;
- Impact of security on safety;
- Oversight capabilities;
- Miscellaneous.

All other actions are grouped into 11 domains, as follows:

- Flight operations – aeroplanes (CAT & NCC și SPO);
- Rotorcraft;
- General aviation;
- Design and production;
- Maintenance and continuing airworthiness management;
- Air traffic management / Air navigation services (ATM/ANS);
- Aerodromes;
- Groundhandling;
- Unmanned aircraft systems;
- New technologies and concepts;
- Environmental protection.

For domains with a large number of actions, they are further grouped in Key Risk Areas.

Actions under the responsibility of EASA are to be carried out through rulemaking, safety promotion (SPT), evaluation (EVT) or research/study measures. Actions/tasks that are the responsibility of Member States (MS), regardless of their type, are simply noted by MST.xxxx.

The MST actions contained in EPAS 2022-2026 are listed in Table 1.

The comparative situation of EPAS 2021-2025 actions against those of EPAS 2022-2026 is presented in Table 2.

Strategic Priority	Area	MST
Systemic safety	Safety management	MST.0001 MST.0002 MST.0026 MST.0028 MST.0039
	Human factors and human performance	
	• General	MST.0037
	• Flight time limitation	MST.0034
	• Medical	n.a.
	Competence of personnel	
	• General	n.a.
	• Language proficiency	MST.0033
	• Flight crew	MST.0036
	• Cabin crew	n.a.
	• Maintenance staff	MST.0035
	• Personnel involved in ATM/ANS	n.a.
	Aircraft tracking, search and rescue operations and accident investigation	n.a.
	Impact of security on safety	MST.0040
	Oversight capabilities	MST.0032
	Miscellaneous	n.a.
Operational safety	CAT & NCC operations - aeroplanes	
	• Abnormal flight attitude (*Loss of control in flight – LOC-I*)	n.a.
	• Runway safety	n.a.
	• Loss of staggering (*Mid-air collision – MAC*)	MST.0024 MST.0030
	• Ground collision (*Controlled flight into terrain – CFIT*)	n.a.
	• Cabin environment (fire, smoke and pressurization)	n.a.
	• Miscellaneous	MST.0003 MST.0019
	SPO operations	n.a.
	Rotorcraft operations	MST.0015 MST.0031
	General aviation	
	• Systemic enablers	MST.0025 MST.0027
	• Staying in control	n.a.
	• Operation in poor weather conditions	n.a.
	• Loss of staggering prevention	MST.0038
	• Flight management	n.a.
	Design and production	n.a.
	Maintenance and CAMO	n.a.
	ATM/ ANS	n.a.
	Aerodromes	MST.0029
	Groundhandling	n.a.
	Unmanned aircraft systems	n.a.
New technologies and concepts	• New business models	n.a.
	• New products, systems, tehnologies and operations	n.a.
	• SESAR implementation	n.a.
	• All-weather operations (AWO)	n.a.

Table 1 – Strategic priorities of EPAS 2022–2026 and related MST actions

Action	EPAS 2021-2025	EPAS 2022-2026
MST.0001	X	X
MST.0002	X	X
MST.0003	X	X
MST.0004	X by MST.0028	X by MST.0028
MST.0005	X by MST.0028	X by MST.0028
MST.0006	X by MST.0028	X by MST.0028
MST.0007	X by MST.0028	X by MST.0028
MST.0010	X by MST.0028	X by MST.0028
MST.0014	X by MST.0028	X by MST.0028
MST.0015	X	X
MST.0016	X by MST.0028	X by MST.0028
MST.0018	X by MST.0028	X by MST.0028
MST.0019	X	X
MST.0024	X	X
MST.0025	X	X
MST.0026	X	X
MST.0027	X	X
MST.0028	X	X
MST.0029	X	X
MST.0030	X	X
MST.0031	X	X
MST.0032	X	X
MST.0033	X	X
MST.0034	X	X
MST.0035	X	X
MST.0036	X	X
MST.0037	X	X
MST.0038	X	X
MST.0039		X
MST.0040		X

Table 2 – Comparative EPAS actions (2021-2025 vs. 2022-2026)

National Plan for Civil Aviation Safety 2022–2026 (pNSAC 2022–2026)

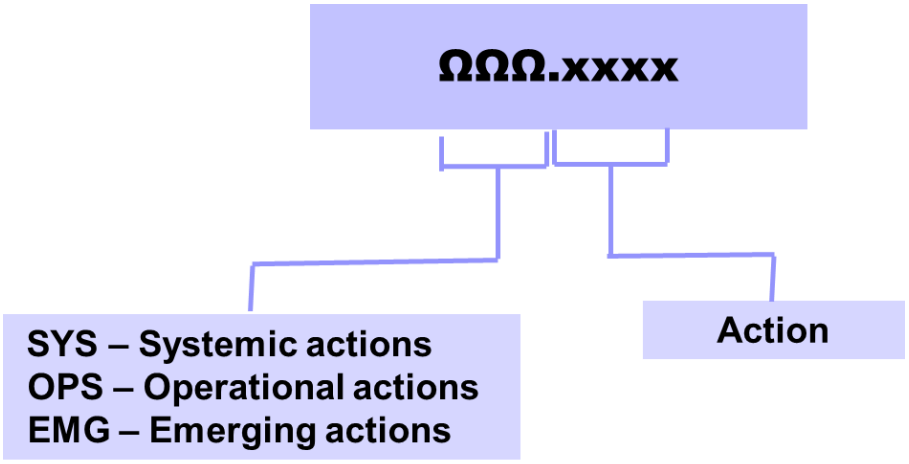
The following information have supported pNSAC ellaboration:

- Actions highlighted at European level, through EPAS;
- The Romanian civil aviation risk portfolio, where specific risks at national level are highlighted;
- The outcome of analyses carried out in the working groups set up in support of the work of the CTS;
- The conclusions of the report on how to comply with the ALoSP established by the previous year's pNSAC.

Similarly to EPAS 2021-2025, pNSAC 2022-2026 is divided into 3 volumes as follows:

Volume I – *General and safety performance*, presents general information about EPAS and pNSAC, how safety performance is measured at European level and sets the performance targets at national level, i.e. the evolution of the number of accidents and serious incidents recorded in our country, having involved a civil aviation agent subject to the Romanian CAA oversight. These targets are similar to those proposed at European level through EPAS 2022-2026.

Volume II – *Safety actions*, presents the actions taken at national level to increase the safety of air transport, both those taken from EPAS and locally developed. All actions in the pNSAC comply with the division into the domains presented in EPAS 2022-2026 (see Table 1). The numbering mode has been simplified compared to that used in previous editions of the PNSAC, with the numbering of actions in accordance with the scheme below:



Actions were grouped as follows:

- SYS – Systemic and competence of personnel;
- OPS – Includes:
  - Flight operations with aeroplanes,
  - Rotorcraft,
  - General aviation,
  - Design and production,
  - Maintenance and continuing airworthiness management,
  - Air traffic management / Air navigation services,
  - Aerodromes,

- Groundhandling,
- Unmanned aircraft systems

- EMG – New technologies and concepts.

Volume III – *Safety Risk Portfolios,* describes the aviation safety risks at national level.

The correlation between the actions contained in pNSAC 2022-2026 and those of the Member States covered by EPAS 2022-2026 is presented in Table 3.

Item No.	pNSAC action	Domain/ Action	EPAS action
SYSTEMIC AND COMPETENCE OF PERSONNEL			
		Safety management	
1	SYS.0001	PNSAC development and monitoring	MST.0001
2	SYS.0002	Safety management system (SMS) promotion	MST.0002
3	SYS.0003	SMS assessment	MST.0026
4	SYS.0004	pNSAC development and monitoring	MST.0028
5	SYS.0005	Supporting safe return to normal operation	MST.0039
		Human factors and human performance	
		General	
6	SYS.0006	Promoting common understanding and supervision of human factors	MST.0037
		Flight time limitation	
7	SYS.0007	Individual flight time specification schemes	MST.0034
		Competence of personnel	
		Language proficiency (pilots and ATCO)	
8	SYS.0008	Language proficiency requirements (LPR) feedback	MST.0033
		Flight crew	
9	SYS.0009	PPL/LAPL learning objectives in the Meteorological Information part of the PPL/LAPL syllabus	MST.0036
		Maintenance staff	
10	SYS.0010	Oversight capabilities – prevention, detection și reduction of fraud risk in Part-147	MST.0035
		Impact of security on safety	
11	SYS.0011	Mechanism for coordinating safety and security occurrence reporting systems	MST.0040
		Oversight capabilities	
12	SYS.0012	Improving the oversight capabilities of competent authorities	MST.0032
FLIGHT OPERATIONS WITH AEROPLANES			
		CAT and NCC operations	
		Abnormal flight attitude	
13	OPS.0001	Mitigate the risk of *Aircraft upset in flight (LOC-I) occurrences*	MST.0028
		Runway safety	
14	OPS.0002	• Mitigate the risk of RE occurrences	MST.0028
15	OPS.0003	• Mitigate the risk of RI occurrences	
16	OPS.0004	• Increasing the importance of local runway safety teams (LRST)	
17	OPS.0005	• Mitigate the risk of *wildlife strike* occurrences	
18	OPS.0006	• Mitigate the risk of FOD on movement surfaces	
		Loss of staggering	
19	OPS.0007	• Mitigate the risk of mid-air collision (MAC) occurrences	MST.0028
20	OPS.0008	• Mitigate the risk of ”Loss of separation between civil and military aircraft” occurrences	MST.0024
21	OPS.0009	• Implementing SESAR solutions to mitigate the risk of on-route MAC or TMA occurrences	MST.0030

		Ground safety	
22	OPS.0010	Safety of ground operations	
		Terrain collision	
23	OPS.0011	Mitigate the risk of ”Dangerous ground proximity – Controlled flight into terrain (CFIT)” occurrences	
		Fire, smoke, depressurization and air quality in the cabin	
24	OPS.0012	• Mitigate the risk of ”Fire, smoke, and fumes” occurrences (*Aircraft environment*)	
25	OPS.0013	• Mitigate the risk of SCF-NP –depressurization occurrences	
		General	
26	OPS.0014	Mitigate the risk of SCF-PP occurrences	
27	OPS.0015	Member states shall maintain a permanent interaction with their national air operators regarding flight data monitoring (FDM) programmes	MST.0003
28	OPS.0016	A better understanding of air operators’ management structure	MST.0019
ROTORCRAFT OPERATIONS			
29	OPS.0017	Increase safety of rotorcraft operations	MST.0028
30	OPS.0018	Promoting safety actions in rotorcraft operations	MST.0015
31	OPS.0019	Implementation of SESAR solutions for safe IFR operations	MST.0031
GENERAL AVIATION OPERATIONS			
32	OPS.0020	Increase safety of general aviation operations	MST.0028
33	OPS.0021	Improving safety information dissemination	MST.0025
34	OPS.0022	Developing Just Culture in general aviation	MST.0027
35	OPS.0023	Airspace complexity and traffic congestion	MST.0038
AERODROMES			
36	OPS.0024	Implementation of SESAR solutions for runway safety	MST.0029
UNMANNED AIRCRAFT SYSTEMS (DRONES)			
37	OPS.0025	Mitigate the risks associated with civil drone operations	

Table 3 – Correlation between pNSAC and EPAS actions

The following shall be specified for each action:
• Description of the safety problem;
• Status (action in progress, new or closed);
• Reference documents;
• The performance indicator;
• Method of measurement;
• Performance target;
• Measures necessary to achieve the proposed target.

National plan for civil aviation safety

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Abbreviations used in this document are the following:

AACR	**-**	Romanian Civil Aeronautical Authority
AMTO	**-**	Approved maintenance trainin organisation
ADR	**-**	Aerodromes
AIAS		Civil Aviation Safety Investigation and Analysis Authority
ANS	**-**	Air navigation services
AR	**-**	Aeroclub of Romania
ATM	**-**	Air traffic management
ATO	**-**	Approved training organisation
AZLR	**-**	Free Flight Association of Romania
BAS	**-**	Safety Analysis Office (AACR)
BIS	**-**	Best Intervention Strategy
CAMO	**-**	Continuing airworthiness management organization
CAT	**-**	Commercial air transport
CES	**-**	Safety Assessment Committee
CTS	**-**	SafetyTechnical Committee
DCP	**-**	Personnel Certification Directorate (AACR)
DOA	**-**	Air Operations Directorate (AACR)
DN	**-**	Airworthiness Directorate (AACR)
DSA	**-**	Aeronautical Security Directorate (AACR)
EASA	**-**	European Union Aviation Safety Agency
EPAS	**-**	European Plan for Aviation Safety
GASP	**-**	Global Aviation Safety Plan
GH	**-**	Groundhandling
GL-AD	**-**	Working Group - Aerodromes
GL-CAT	**-**	Working Group - CAT
GL-LAGA	**-**	Working Group - LAGA
ICAO	**-**	International Civil Aviation Organization
KRA	**-**	Key Risk Area
LAGA	**-**	Aerial work and general aviation
LAPL	**-**	Light Aircraft Pilot Licence
MC	**-**	Compliance monitoring (AACR)
MTI	**-**	Ministry of Transport and Infrastructure
NCC	**-**	Non-commercial air operations with complex motor-powered aircraft
NCO	**-**	Non-commercial air operations with other-than complex motor-powered aircraft
pNSAC	**-**	National Plan for Civil Aviation Safety
PNSAC	**-**	National Civil Aviation Safety Programme
PPL	**-**	Private Pilot Licence
SA	**-**	Aerodrome Department (AACR)
SATMANS	**-**	ATM/ANS Department (AACR)
SEI	**-**	Safety Enhancement Initiative
SESAR	**-**	Single European Sky ATM Research
SGL-FDM	**-**	Working subgroup - FDM
SGL-HE	**-**	Working subgroup - rotorcraft
SMS	**-**	Safety management system
SPI	**-**	Safety performance indicator
SPO	**-**	Specialised operations
TMA	**-**	Terminal maneuvering area
USOAP	**-**	Universal Safety Oversight Audit Programme

SAFETY PERFORMANCE

Safety performance at European level

In accordance with Article 6 of the New Basic Regulation, EPAS shall specify the level of safety performance at European Union level which the States and the Commission together with EASA aim to achieve. The level of safety performance should be determined on the basis of the Safety Performance Indicators (SPIs) of the EPAS, accompanied, where appropriate, by associated safety targets, but also taking into account the safety related indicators and targets set out in the ATM Performance Scheme.

The principles for establishing EPAS SPIs and associated targets are based on two components:

1. Monitoring the negative consequences of civil aviation activities (accidents, serious incidents and injuries);

2. Monitoring the enablers from the point of view of the systems and processes necessary to maintain safety management at the level of states and organisations.

EASA has decided that the SPI associated targets established by EPAS are more relevant in terms of process-based indicators. As regards consequence-based SPI resulting from safety reporting, not targets will be set but a baseline performance against which the system will be monitored.

In view of the above, the SPI established by EPAS 2021-2025 are as follows:

1. *Monitoring systems and processes*

   a. *Member states oversight capabilities*

   Monitoring is based on the EASA Standardisation rating (as an alternative to the ICAO USOAP Effective Implementation (EI) indicator), currently used for prioritisation of Standardisation Inspections. The Standardisation rating considers elements related to size, nature and complexity of the State authorities and functions, the number and type of open Standardisation findings, as well as the State's reactivity in relation to findings closure, once the final report has been sent.

   Given the impact of the COVID-19 pandemic on civil aviation at European and global level, information on supervisory capability for 2020 is not relevant. Instead, the data collected for the year 2019 will be used as a reference.

   b. *Member States' progress with SSP implementation*

   Related indicators will mainly be based on data available through ICAO iSTARS. Additional information collected from relevant State documents (National Safety Plans and Programmes) will also be used and in the future the results of EASA standardisations for implementation of Articles 6 and 7 of the NBR will be used.

   c. *Effective implementation of SMS in civil aviation organisations*

   In order to be able to monitor the effective implementation of SMS by organisations, it will be necessary to develop a common SMS evaluation methodology as well as a method for scoring the results of evaluations. Such an assessment and scoring methodology is currently only available in the ATM/ANS domain, as part of the SES ATM Performance Scheme. It should also be considered that SMS requirements are not yet applicable in the initial

airworthiness domain and not fully applicable in the continuing airworthiness domain.

For the above reasons, no detailed EPAS indicators and targets are proposed on SMS effectiveness. However, the following will be monitored:

- To what extent Member States use the monitoring tool developed by EASA (see action AS.01.04 — MST.026); this point will be assessed during EASA standardisation inspections;
- The status of compliance with the SMS requirements of the European Regulations, which will be assessed on the basis of the information provided by the competent authorities;

The first exercise to collect this information started in October 2020 and included:

• The number of organisations with open findings in relation to the above requirements, both level 1 and 2, for each category of organisations;

• The average duration (in days) during which level 2 findings have been closed, relating to the above requirements, for each category of organisations;

• The number of organisations for which an extended oversight planning cycle applies, for each category of organisations;

• The number of organisations for which a reduced oversight planning cycle applies, for each category of organisations;

• The 3 main types of findings in the area of the Management Systems requirements for each category of organisations.

2. Monitoring safety outcomes

The main inputs of the outcome-based indicators are:

• Number of accidents with fatalities;

• Number of fatalities; and

• Number of accidents without fatalities and of serious incidents.

EASA has identified two tiers of SPI, namely:

- Tier 1 monitors all the domains from the point of view of safety performance. Tier 1 considers the number of fatal accidents and fatalities in the previous year compared with the average of the preceding decade; the current edition of EPAS considers the decade 2010-2019, against which 2020 data are compared;
- Tier 2 covers the key risk areas at domain level. These are mentioned in the Annual Risk Portfolio developed by EASA on a yearly basis, as part of the risk management system.

Safety performance at national level

ACCIDENTS

Description
The definition laid down in Regulation (EU) No 996/2010[1] shall apply.

Objective
Increasing safety of civil air transport.

Performance indicator
- The number of fatal accidents;
- The number of fatalities;
- Total number of accidents.

Measurement
- The number of fatal accidents and the number of fatalities caused by accidents involving a Romanian civil aeronautical agent, differentiated by type of operation according to the *Air Safety Report* 2021, published by EASA[2] shall be monitored.
- For operations:
  - with aircraft of Annex I to the Regulation (UE) nr. 2018/1139;
  - with parachutes,

  the total number of accidents involving Romanian civil aviation agents, Romanian registered aircraft or pilots licensed in Romania shall be monitored.

Performance target
- The number of fatal accidents and number of fatalities following accidents involving a Romanian civil aeronautical agent in the year preceding pNSAC ellaboration shall not exceed the EU reference levels laid down in the *Air Safety Report* 2021, published by EASA, i.e.:

Domain	Fatal accidents 2010-2019 average	Fatalities 2010-2019 Min – Max	Fatalities 2010-2019 average
Aeroplanes			
CAT	0,6	0 – 150	28,1
NCC	0,5	0 – 4	1,0
SPO	7,4	5 – 33	15,3
NCO	62,1	91 – 132	106,8

[1] Regulation (EU) No 996/2010 of the European Parliament and of the Council of 20 October 2010 on the investigation and prevention of accidents and incidents in civil aviation and repealing Directive 94/56/EC (OJ L 295, 12.11.2010, p. 35).
[2] Operations: with aeroplanes (CAT operators, NCC business, SPO, NCO), helicopters (C, SPO, NCO), balloons, sailplanes, contribution of aerodrome infrastructure and ground handling, ATM/ANS infrastructure contribution; the definitions in Regulation (EU) No 965/2012 shall apply.

Helicopters			
CAT	2,3	2 – 22	9,5
SPO	3,1	0 – 17	5,3
NCO	4,8	2 – 22	10,8
Balloons			
n/a	1,2	0 – 10	2,1
Sailplanes			
n/a	24,3	21 – 40	27,8
ADR / GH			
n/a	0,8	0 – 8	1,8
ATM / ANS			
Contribution	0,0	0	0
Related	5,7	0 – 8	3,6

- For operations:
  - with aircraft of Annex I to Regulation (EU) No 2018/1139;
  - with parachutes,

  there is a decrease in the number of accidents compared to the average over the last 5 years.

SERIOUS INCIDENTS

Description
The definition laid down in Regulation (EU) No 996/2010[1] shall apply.

Obiectiv
Increasing safety of civil air transport.

Performance indicator

- number of serious incidents;

Measurement

- The total number of serious incidents, involving Romanian civil aeronautical agents, differentiated by type of operation according to the *Air Safety Report* 2021, published by EASA[2] shall be monitored;

- For operations;
  - LAGA;
  - with parachutes,

  the total number of serious incidents involving a Romanian civil aeronautical agent, an aircraft registered in Romania or a pilot licensed in Romania shall be monitored.

Performance target

- The total number of serious incidents involving Romanian civil aeronautical agents shall not exceed the EU reference levels laid down in the *Air Safety Report* 2021, published by EASA, as presented below:

Domain	Serious incidents 2010-2019 average
Aeroplanes	
CAT	91,8
NCC	5,5
SPO	8,0
NCO	74,6
Helicopters	
CAT	5,5
SPO	2,7
NCO	5,1
Balloons	
n/a	2,5

[1] Regulation (EU) No 996/2010 of the European Parliament and of the Council of 20 October 2010 on the investigation and prevention of accidents and incidents in civil aviation and repealing Directive 94/56/EC (OJ L 295, 12.11.2010, p. 35).
[2] Operations: with aeroplanes (CAT operators, NCC business, SPO, NCO), helicopters (C, SPO, NCO), balloons, sailplanes, contribution of aerodrome infrastructure and ground handling, ATM/ANS infrastructure contribution; the definitions in Regulation (EU) No 965/2012 shall apply.

Sailplanes	
n/a	12,1
ADR / GH	
n/a	12,7
ATM / ANS	
n/a	13,5

- For operations:
  - LAGA;
  - with parachutes,

  there is a decrease in the number of accidents compared to the average over the last 5 years.

VOLUME II – SAFETY ACTIONS

SYSTEMIC AND COMPETENCE OF PERSONNEL

Action area: Safety management

SYS.0001	**Development and monitoring of the National Civil Aviation Safety Programme (PNSAC)**	**MST.0001**
Description	In particular, the following aspects shall be pursued in the development and monitoring of the PNSAC: - Ensuring the effective implementation of the requirements for competent authorities (AR.X) and managing deficiencies found in the oversight activity; - Ensuring cooperation between the State authorities responsible for civil aviation safety; - Ensuring the powers of inspectors to ensure risk- and performance-based oversight; - Ensuring that risk and performance-based oversight policies and procedures are in place, including a description of how SMS is continuously accepted and monitored; - Identification of possibilities to improve civilian-military coordination in order to achieve the objectives of the PNSAC, where relevant for national safety management activities; - Ensuring the existence of policies and procedures on data collection, analysis, exchange and protection in accordance with Regulation (EU) No 376/2014; - Establishing a process for the identification of SPI at state level; - Ensuring the dissemination of documents relating to PNSAC (including by making them available to other Member States and EASA); - Establishing the processes for regular revision of the PNSAC and monitoring its effectiveness.	
Status	Ongoing (2017)	
ICAO/ EASA References	• ICAO Annex 19 and GASP 2020-2024 Goal 3 ‘Implement effective State Safety Programmes’ • GASP SEI-13 — Start of SSP implementation at the national level • GASP SEI-14 — Strategic allocation of resources to start SSP implementation • GASP SEI-15 — Strategic collaboration with key aviation stakeholders to start SSP implementation • GASP SEI-16 — Strategic collaboration with key aviation stakeholders to complete SSP implementation	

SPI	Degree of implementation of the actions contained in the document "Comparative analysis against ICAO requirements for the implementation of PNSAC" (*GAP Analysis*), current edition.
Measurement	The degree of implementation posted on the ICAO secure website shall be monitored.
Target	100% implementation of actions contained in the *GAP Analysis*.

MEASURES	**Responsibility**
1. Elaboration of a new PNSAC edition.	BAS
2. Regularly update the GAP Analysis in the ICAO iSTARS platform and arrange the necessary measures to carry out the GAP Analysis actions.	BAS (with the support of specialised compartments)

SYS.0002	**Promoting the safety management system (SMS)**	**MST.0002**
Description	The action consists in encouraging the implementation of safety promotion materials developed by the European Safety Promotion Network, SMICG[1] and other relevant sources of information on the subject of safety management.	
Status	Ongoing (2017)	
ICAO/ EASA References	• GASP SEI-5 (industry) Improvement of industry compliance with applicable SMS requirements	
SPI	Actions to promote SMS (SMS guidance materials, guidelines and safety bulletins specific to the risk areas identified at national level, etc.).	
Measurement	Number of SMS promotion actions.	
Target	Carrying out at least a constant number of actions to promote SMS.	

MEASURES	**Responsibility**
1. Posting on the AACR website the safety promotion documents developed by the European Safety Promotion Network, SMICG and other ESSI working groups (ECAST, EHEST and EGAST).	BAS
2. Promotion of the documents referred to in item 1 through meetings with civil aeronautical agents, workshops, circulars, etc.	DN/ DOA/ DCP/ SA/ SATMANS/ BAS

[1] Safety Management International Collaboration Group

SYS.0003	**SMS assessment**	**MST.0026**
Description	EASA shall encourage the use of the SMS assessment tool by the competent authorities in support of risk- and performance-based oversight. Reporting to EASA on how to use the instrument is also encouraged, with a view to improving it. The instrument shall be used without prejudice to the obligations arising from the SES ATM Performance Scheme.	
Status	Ongoing (2018)	
ICAO/ EASA References	• EASA Management System assessment tool • EASA BIS 'Safety Management' • GASP SEI-5 (industry) Improvement of industry compliance with applicable SMS requirements	
SPI	Number of civil aviation organisations whose SMS has been assessed by the AACR using the assessment tool developed by EASA in the applicable areas.	
Measurement	Of all civil aviation organisations required to implement an SMS in the applicable areas, the percentage of civil aviation organisations in the applicable areas, whose SMS has been assessed by the AACR using the assessment tool developed by EASA.	
Target	Use of the SMS evaluation tool by the AACR when evaluating the SMS of all civil aviation organisations for which the implementation of an SMS is mandatory in the applicable areas.	
MEASURES		**Responsibility**
1. Use of the SMS evaluation tool by the AACR when evaluating the SMS of all civil aviation organisations for which the implementation of an SMS is mandatory in the applicable areas.		DN/ DOA/ DCP/ SA

SYS.0004	**Development and monitoring of the National Plan for Civil Aviation Safety (pNSAC)**	**MST.0028**
Description	Member States are required to develop and regularly update a National Plan for Civil Aviation Safety (pNSAC). Through this plan, the Member State shall identify the main risks to civil aviation safety at national level and establishes the actions necessary to reduce them. In this process, States will take into account the risks identified at European level by the European Safety Plan (EPAS) and, where appropriate, establish actions to reduce them. At the same time, the pNSAC will specify how to measure the effectiveness of these actions. Member States will have to justify their decision not to place the risks identified by EPAS in the pNSAC. In the EPAS current edition, the Key Risk Areas (KRA) identified are the following: - For CAT and NCC operations with aeroplanes: MAC, RE, LOC-I. - For helicopter operations: LOC-I, obstacle collision, GCOL, MAC. - For general aviation operations: LOC-I, GCOL, obstacle collision. - For sailplanes: LOC-I, GCOL, obstacle collision. - For balloons: obstacle collision, landing, fire/smoke. It must also include the applicable risks contained in the Covid-19 Risk Portfolio. pNSAC shall: • describe how it is developed and imposed, including the way in which the bodies involved cooperate (unless it is described in the SSP); • include objectives, indicators, targets; • reflect actions in EPAS that have been taken over; • identify risks at national level, in addition to those identified by EPAS; • ensure how pNSAC is made public internally, to other States and to EASA.	
Status	Ongoing (2017)	
ICAO/ EASA References	• ICAO Annex 19 and GASP 2020-2024 Goal 3 ‘Implement effective State Safety Programmes’	

	• GASP SEI-11 (States) — Strategic collaboration with key aviation stakeholders to enhance safety in a coordinated manner • GASP SEI-17 (States) — Establishment of safety risk management at the national level (step 1) • GASP SEI-18 (States) — Establishment of safety risk management at the national level (step 2) • GASP SEI-19(States) — Acquisition of resources to increase the proactive use of risk modelling capabilities • GASP SEI-20 (States) — Strategic collaboration with key aviation stakeholders to support the proactive use of risk modelling capabilities • GASP SEI-21 (States) — Advancement of safety risk management at the national level • SEIs (States) — Mitigate contributing factors to the risks of CFIT, LOC-I, MAC, RE, and RI
SPI	n/a
Measurement	n/a
Target	n/a

MEASURES	**Responsibility**
1. Development, at least annually, of a National Plan for Civil Aviation Safety.	BAS/ CTS/ CES

SYS.0005	**Supporting safe return to normal operation**	**MST.0039** **MST.0028**

Description	The Covid-19 pandemic has resulted in a dramatic reduction of air transport operations, with an impact on all civil aviation domains, starting in March 2020 and continuing in 2021.
	
	Consequently, in collaboration with Member States, EASA has developed and published a 'Covid-19 Safety Risk Portfolio', which includes safety concerns that may arise due to the pandemic with the highest risks. The April 2021 edition of the portfolio has been in force while drafting this document.
	
	Both civil aviation organisations and competent authorities are encouraged to assess the applicability of the safety concerns highlighted in the Portfolio and introduce the relevant ones into their own management systems.
	
	As a competent authority, the AACR has analysed the following potential risks posed by the Covid-19 pandemic to its own activity:
	• Reducing the capacity of the competent authorities to oversight the industry — see measures at action SYS.0012 - Improving the oversight capabilities of the competent authorities;
	• Risk assessments based on normal operation are no longer valid (from the point of view of the competent authority) — see measure 4;
	• Reduced available financial resources for the work of the competent authorities — for the time being this risk is considered acceptable in view of the existing barriers:
	  ○ Approval of the AACR budget at MTI level;
	  ○ The positive financial results of the AACR for the year 2021;
	  ○ Estimating the reduction of the pandemic impact during 2022.
	
	Also, from the point of view of the relationship with the industry, the AACR specifically follows the risks (see measure 3):
	
	• Risk assessments based on normal operation are no longer valid (from the point of view of the organisation);
	• Reducing the priority given to safety and human and organisational factors.
	
	States should also conduct a dedicated safety promotion campaign in support of a safe return to normal operation, using EASA materials and campaigns for this purpose.	

Status	**New action**	
ICAO/ EASA References	• Updated COVID-19 Safety Risk Portfolio	

SPI	Organisations developing an SMS that have assessed the risks contained in the Covid-19 Risk Portfolio.
Measurement	Number of the above mentioned organisations/ total number of organisations developing an SMS.
Target	All organisations developing an SMS have assessed the risk contained in the Covid-19 Safety Risk Portfolio.

MEASURES	**Responsibility**
1. Promotion of documents developed by EASA relevant to the present action, through meetings with civil aeronautical agents, workshops, circulars, etc.	DN/ DOA/ DCP/ SA/ SATMANS
2. All civil aviation organisations developing an SMS shall assess the applicability of safety issues highlighted in EASA's Covid-19 Safety Risk Portfolio and include the relevant ones into their SMS.	All organisations developing an SMS
3. As part of the oversight activity, the AACR will monitor the implementation of Action 2 by the organisations.	DOA/ DCP/ DN/ SATMANS/ SA
4. The AACR shall review the risk analyses considering at least the following elements: the new operating conditions, the financial capacity of organisations, the number of civil aviation occurrences involving organisations, related to the operating volume.	DOA/ DCP/ DN/ SATMANS/ SA
5. Posting information on EASA materials and campaigns carried out in support of safe return to normal operation on the AACR website.	DN/ DOA/ DCP/ SA/ SATMANS BAS

Action area: Human factors uman and human performance

SYS.0006	**Foster a common understanding and oversight of human factors**	**MST.0037**
Description	The task include some activities which will be performed by EASA with the support of the Human Factor Collaborative Analysis Group (HF CAG), in terms of development of: • guidance and tools for the competency assessment of regulatory staff before and after training; • guidance for the appropriate level of human factors competency for human factors training; • promotion material to be provided as guidance to Member States and encourage implementation. These guidance and tools will be provided to the competent authorities of the Member States in order to organise the implementation of the competency framework, and plan and conduct the training for the respective regulatory staff.	
Status	Ongoing (2020)	
ICAO/ EASA References	• ICAO Doc 10151 - Human Performance (HP) Manual for Regulators - First Edition (Advance unedited) • ICAO Safety Management Manual (ICAO 9859) • EASA BIS 'Human Factors competence for regulatory staff'	
SPI	AACR regulatory staff to be provided with appropriate human factor training.	
Measurement	Number of AACR staff involved in the oversight activity who have completed appropriate human factor training.	
Target	All regulatory staff to complete at least one human factor training course.	

MEASURES	**Responsibility**
1. Human factor training courses shall be included in the annual training plan for AACR staff.	BAS/ DN/ DOA/ DCP/ SA/ SATMANS
2. The implementation, after adoption by EASA, of guidance materials and tools for assessing the competencies of regulatory staff.	BAS/ DN/ DOA/ DCP/ SA/ SATMANS

SYS.0007	**Flight time specification schemes**	**MST.0034**
Description	Member States shall ensure that the national competent authorities possess the required competence to approve and oversee the operators' flight time specification schemes; For this purpose, the competent authority should focus on the verification of effective implementation of processes established to meet requirements on operators responsibilities and to ensure an adequate management of fatigue risks.	
Status	Ongoing (2020)	
ICAO/ EASA References	n/a	
SPI	n.a	
Measurement	n.a.	
Target	n.a.	

MEASURES	**Responsibility**
1. AACR shall ensure that the inspectors involved in flight operations oversight possess the required competence to assess and approve the flight time specification schemes.	DOA

Action area: Competence of personnel

SYS.0008	**LPR (language proficiency requirements) feedback**	**MST.0033**
Description	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, 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. From the mentioned date, LPRs have moved beyond implementation, entering a phase of post implementation. Although LPR systems have been established at national level, there remains difficulties in the harmonisation of testing tools, which may result in safety risks. This is why EASA and ICAO in close coordination conduct a joint EASA/ICAO activity on LPR implementation. With a view to promoting best practices and harmonising language proficiency testing methods, one of the activities carried out by EASA is the analysis at national level of Member States of how language proficiency requirements are implemented.	
Status	Ongoing (2020)	
ICAO/ EASA References	n/a	
SPI	n/a	
Măsurare	n/a	
Țintă	n/a	

MEASURES	**Responsibility**
1. AACR shall prepare updated information on how language proficiency requirements are implemented in Romania, including the degree to which training organisations provide training courses in English.	DCP

SYS.0009	**Development of proportionate learning objectives in the 'Meteorological Information' part of the PPL/LAPL syllabus.**	**MST.0036**
Description	Member States should develop proportionate learning objectives in the 'Meteorological Information' part of the PPL/LAPL syllabus. Such learning objectives should be of a basic, non-academic nature and address key learning objectives in relation to: • practical interpretation of ground-based weather radar, strengths and weaknesses; • practical interpretation of meteorological satellite imagery, strengths and weaknesses; • forecasts from numerical weather prediction models, strengths and weaknesses.	
Status	Ongoing (2021)	
ICAO/ EASA References	• EASA BIS 'Weather Information to Pilots (GA and Rotorcraft) • EASA 'Weather Information to Pilots' Strategy Paper	
SPI	n/a	
Measurement	n/a	
Target	n/a	

MEASURE	**Responsibility**
1. ATO shall modify the PPL/ LAPL syllabus in order to be in line with the mentioned objectives.	ATO/ DTO/ DCP

SYS.0010	**Oversight capabilities – mitigation the risk of fraud in Part-147**	**MST.0035**
Description	EASA is considering revising Part-147, including by introducing new methods and technologies in terms of maintenance training. Their application will lead to a level playing field between training organisations and the training provided amongst the approved maintenance training organisations will be at a similar level. One of the actions considered in this regard is to raise awareness of the methods of fraud during the examinations and to eliminate them.	
Status	Ongoing (2020)	
ICAO/ EASA References	• EVT.0002 - Evaluation report related to the EASA maintenance licensing system and maintenance training organisations (02/03/2018)	
SPI	n/a	
Measurement	n/a	
Target	n/a	

MEASURES	**Responsibility**
1. Focus on the risk of fraud in examinations, by adding specific items in the AMTO audit checklists.	DN
2. Collecting data on the actual cases of fraud and exchange and share information as part of collaborative oversight.	DN/ DCP/ AMTO

Action area: Impact of security on safety

SYS.0011	**Safety and security reporting coordination mechanism**	**MST.0040**
Description	Without prejudice to the obligations stemming from Regulation (EU) No 376/2014, this action aims at ensuring that appropriate coordination mechanisms are established between safety and security reporting systems in order to allow for an integrated approach to the management of risks.	
Status	**New action**	
ICAO/ EASA References	n/a	
SPI	n/a	
Measurement	n/a	
Target	n/a	

MEASURE	Responsibility
1. Development of a functional coordination mechanism for safety occurrence and security reporting systems managed by the AACR.	BAS/ DSA

Action area: Oversight capabilities

SYS.0012	**Improving oversight capabilities of competent authorities**	**MST.0032**
Description	The purpose of this action is to ensure a strong oversight system across the EU where each competent authority has the capacity to fulfil its oversight responsibilities, with particular emphasis on safety risk management, information exchange and cooperation with other competent authorities. The aim is to implement SMS in all organisations and ensure adequate personnel in all competent authorities to discharge their safety oversight responsibilities. The action is based on three components: a) Ensuring adequate personnel in the competent authorities; b) Uniform application of authority requirements (ARx), contained in the regulations specific to each domain; c) Increase capabilities of competent authorities to assess SMS in all organisations; particular attention will be paid to the safety culture, the governance structure of the organisation, the interaction between the risk identification process, its assessment and monitoring, the use of information resulting from findings and safety information.	
Status	Ongoing (2020)	
ICAO/ EASA References	• ICAO Annex 19 and GASP 2020-2022 Goal 2 ‘Strengthen States’ safety oversight capabilities’ • GASP SEI-4 & GASP SEI-10 — Strategic allocation of resources to enable effective safety oversight • GASP SEI-5 — Qualified technical personnel to support effective safety oversight • GASP SEI-6 — Strategic collaboration with key aviation stakeholders to enhance safety in a coordinated manner	
SPI	AACR oversight programme.	
Measurement	Activities carried out/ planned activities.	
Target	To accomplish 90% of the planned oversight programme	

MEASURES	Responsibility
1. The AACR shall ensure that it has adequate staff in order to fulfil its safety oversight obligations.	DN/ DOA/ DCP/ SA/ SATMANS
2. The authority responsibilities (Arx) are applied in a coherent and uniform manner in all AACR specific areas of activity.	MC/ DN/ DOA/ DCP/ SA/ SATMANS
3. Utilisation of SMS evaluation indicator in all domains subject to AACR oversight, except for ATM/ ANS.	DN/ DOA/ DCP/ SA

FLIGHT OPERATIONS - AEROPLANES

This section includes actions aimed at reducing the key safety risks to commercial operations with CAT and NCC[1] aeroplanes.

The key risk areas at European level are:

- Airborne collision (MAC)
- RE
- Aircraft upset (LOC-I)

The key risk areas at national level are:

- Aircraft upset (LOC-I)
- RE
- GCOL
- SCF-NP – Depressurisation
- SCF-PP

[1] According to Regulation (EU) No 965/2012 laying down technical requirements and administrative procedures related to air operations.

Action area: CAT and NCC operations

OPS.0001	**Mitigate the risk of ”abnormal flight attitude (LOC-I)” occurrences**	**MST.0028**
Description	LOC-I occurrences are situations where the pilot loses total or momentarily control of an aircraft in flight, resulting in a significant deviation from the planned flight path.	
Status	Ongoing (2017)	
References	• GASP SEIs – Mitigate contributing factors to CFIT, LOC-I, MAC, RE and RI occurrences.	
SPI	LOC-I occurrences for CAT operations performed by Romanian air operators	
Measurement	The number of LOC-I occurrences following CAT operations performed by Romanian air operators shall be considered.	
Target	Decrease or maintain the annual number of LOC-I occurrences	

MEASURES[1]	**Responsibility**
1. Air operators involved and approved training organisations shall include in their SMS[2] the LOC-I occurrences and at least the following factors that may lead to LOC-I: • Activation of warning systems for exceeding the flight envelope (including *low speed* or *high speed*); • Icing in flight; • Bad weather conditions/ high turbulence, windshear; • Fire/smoke during flight; • Inappropriate aircraft loading.	Air operators/ ATO
2. ANSP shall include in their SMS the LOC-I occurrences and at least the following factors that may lead to LOC-I: • Bad weather conditions/ high turbulence, windshear; • Laser attacks;	ROMATSA
3. Groundhandling providers shall include in their SMS the LOC-I occurrences and at least the following factors that may lead to LOC-I: • Deicing;	Groundhandling providers

[1] In addition to the listed measures, the measures described in the actions ‘Runway Safety — Mitigate the risk of wildlife strike events’ and ‘Runway Safety — Mitigate the FOD risk on movement areas’ are also considered, as these factors may lead to LOC-I.

[2] The factors included in their SMS will address at least the following:
- Assessment of the risk to own operations;
- The definition of the established safety performance level;
- The definition and implementation of the necessary actions;
- Monitoring the actions effectiveness.

• Inappropriate aircraft loading; • Aircraft strike on ground due to groundhandling activities.	
4. As part of its oversight activities, AACR shall monitor the implementation of actions 1, 2 or 3 by organisations.	DOA/ DCP/ SATMANS/ SA
5. Actions for promoting good practices, as appropriate.	GL-CAT/ GL-AD

OPS.0002	**Mitigate the risk of ”Runway excursion (RE)” occurrences**	**MST.0028**
Description	„Runway excursion” (RE) is a veer off or overrun from the runway surface. (ICAO) A runway excursion occurs when an aircraft departs the runway in use during the take-off or landing run. The excursion may be intentional or unintentional. Types of Runway Excursion - A departing aircraft fails to become airborne or successfully reject the take off before reaching the end of the designated runway; - A landing aircraft is unable to stop before the end of the designated runway is reached; - An aircraft taking off, rejecting take off or landing departs the side of the designated runway. The following occurrences do not fall within ICAO ADREP definitions for runway excursion, however they are considered sufficiently close to be included in this category due to the similarity of the causative and contributory factors or risk mitigation methods: - Aircraft attempting to land and touches the ground before the runway at the perimeter of the aerodrome; - Use of other take-off/landing runways or taxiways than the designated ones. According to the Romanian civil aviation risk portfolio, runway excursion is the highest key risk for CAT operations with aeroplanes, representing the main cause for accidents and serious incidents.	
Status	Ongoing (2017)	
References	• GASP – Mitigate factors contributing to CFIT, LOC-I, MAC, RE and RI occurrences. • European Action Plan for the Prevention of Runway Excursions, Edition 1.0, January 2013 • Global Action Plan for the Prevention of Runway Excursions, Part 1 - Recommendations, EUROCONTROL/Flight Safety Foundation. • Regulation (EU) No 139/2014	
SPI	RE occurrences for CAT operations.	
Measurement	The number of RE occurrences involving a Romanian civil aeronautical agent shall be considered. Such occurrences at airports in Romania and in other countries shall be considered.	
Target	Decrease the number of RE compared to the average over the last 5 years	

MEASURES	Responsibility
1. Air operators involved and ATOs shall include in their SMS[1] the RE occurrences and at least the following factors that may lead to RE: • Unstable approach; • Abnormal runway contact – ARC; • High-speed rejected take-off; • Adverse weather conditions/ turbulențe/ windshear/ lateral wind.	Air operators/ ATO
2. ANSP shall include in their own SMS the RE occurrences and at least the following factors that may lead to RE: • Unstable approach; • Inappropriate aeronautical information on runway condition (GRF); • ATC contribution to RE.	ROMATSA
3. The aerodrome operators shall include in their SMS the RE occurrences and at least the following factor that may lead to RE: • Runway condition and inappropriate related information.	Aerodrome operators
4. The aerodrome operators shall include in their SMS the RE occurred when aircraft removal and minimisation of effects were necessary	Aerodrome operators
5. As part of its oversight activities, AACR shall monitor the implementation of actions 1, 2, 3 and 4 by organisations.	DOA/ DCP/ SATMANS/ SA
6. Continue to promote the implementation of the European Action Plan for the Prevention of Runway Excursion, as well as of those developed by other organisations.	SA/ SATMANS/ DOA/ GL-AD/GL-CAT
7. Establishment of the National Committee for Runway Safety (CNSP)[2].	SA/ BAS

[1] The factors included in their SMS will address at least the following:
- Assessment of the risk to their own operations;
- The definition of the established safety performance level;
- The definition and implementation of the necessary actions;
- Monitoring the effectiveness of the actions.

[2] The CNSP will be established by Decision of the Director General of the AACR and the composition and powers of the Committee will be in line with GM1 ADR.AR.C.010 of Regulation (EU) No 139/2014.

OPS.0003	**Mitigate the risk of ”Runway incursion (RI)” occurrences**	**n.a.**
Description	’Runway incursion’ (RI) is any incident occurred on an aerodrome involving wrong positioning of an aircraft or person in a protected/restricted area designated for aircraft landing or takeoff. ’Wrong positioning’ may be the consequence of deviation of ATC clearance by the pilot or compliance with an incorrect ATC clearance.	
Status	Ongoing (2017)	
References	• GASP – Reduction of factors contributing to CFIT, LOC-I, MAC, RE and RI risks. • ICAO Doc 4444 – PANS-ATM	
SPI	RI occurrences for CAT operations	
Measurement	The number of RI involving Romanian civil aeronautical agents shall be monitored. RI occurred both on the Romanian and foreign aerodromes shall be considered.	
Target	Decrease the number of RI compared to the average over the last 5 years	

Measures	**Responsibility**
1. Air operators involved and the approved training organisations shall include in their SMS[1] the RI occurrences and at least the following factors that may lead to RI: • Deviation of ATC clearance; • Perception and situational awareness;	Air operators/ ATO
2. ANSP shall include in their SMS the RI occurrences and at least the following factors that may lead to RI: • RI with ATC contribution; • RI in LVP operation conditions.	ROMATSA
3. The aerodrome operators shall include in their SMS the RI occurrences and at least the following factor that may lead to RI: • Ground vehicle operation in the movement area.	Aerodrome operators

[1] The factors included in their SMS will address at least the following:
- Assessment of the risk to their own operations;
- The definition of the established safety performance level;
- The definition and implementation of the necessary actions;
- Monitoring the effectiveness of the actions.

4. Groundhandling providers shall include in their SMS the RI occurrences and at least the following factor that may lead to RI: • Ground vehicle operation in the movement area.	Groundhandling providers
5. As part of its oversight activity, AACR shall monitor the implementation of measures 1, 2, 3 and 4 by organisations.	DOA/ DCP/ SATMANS/ SA
6. Promoting the application of the following documents: • Doc 9870: Manual of the Prevention of Runway incursion) • European Action Plan for the Prevention of Runway Incursion; • Related documents developed by other organisations.	SA/ SATMANS/ DOA/ GL-AD/GL-CAT
7. Establishment of the National Committee for Runway Safety (CNSP)[1].	SA/ BAS

[1] The CNSP will be established by Decision of the Director General of the AACR and the composition and powers of the Committee will be in line with GM1 ADR.AR.C.010 of Regulation (EU) No 139/2014.

OPS.0004	**Increasing the importance of local runway safety teams (LRST)**	**n.a.**
Description	Local Runway Safety Teams (LRST) are a key element in the aerodrome runway safety programmes, ensuring focus on runway safety of all parties involved. The LRST shall be composed of at least all parties involved in take-off and landing operations, i.e.: aerodrome operator, aeronautical information provider, air navigation service provider, air operators operating at the aerodrome, associations of local pilots or traffic controllers, other relevant organisations operating in the manoeuvring area, etc.	
Status	Ongoing (2017)	
References	• GASP – Reduction of factors contributing to CFIT, LOC-I, MAC, RE and RI risks.	
SPI	Number of LRST meetings	
Measurement	Number of LRST meetings organised at the Romanian aerodromes.	
Target	At least 2 LRST annual meetings at each aerodrome	

MEASURES	**Responsibility**
1. Ellaboration of guidance materials on the LRST organisation and functioning	SA
2. Include the verification of LRST functioning in oversight audits	SA

OPS.0005	**Mitigate the risk of wildlife strike occurrences**	**n.a.**
Description	Wildlife strike occurrences (bird strike or non avian strike) are defined as the collision between an animal (in the case of birds it is called bird strike) and an aircraft in flight or in the take-off or landing phase. This type of occurrence is relatively common and poses a significant danger to flight safety. It can cause major structural damage, especially for small aircraft. These events may also lead to loss of traction, especially in jet-engined aircraft, following bird ingestion into the engine. Such situations have led to fatal accidents. Bird strikes can occur at any phase of the flight, but most likely occur in the take-off, initial climb, approach and landing phases due to the concentration of birds in flight at low levels. Also, as the activity of most birds takes place in the day, most such events occur during this period	
Status	Ongoing (2019)	
References	• ICAO Doc. 9137 – Aiport Services Manual, Part 3 – Wildlife Hazard Management	
SPI	Number of bird strikes and non avian strikes occurrences on the Romanian aerodromes.	
Measurement	The number of bird strike and non avian strike occurrences at Romanian airports shall be considered separately in relation to the total number of movements at airports.	
Target	Decreasing trend in the number of bird strike and non-avian strike occurrences, relative to the total number of movements at Romanian airports	
MEASURES		**Responsibility**
1. Inclusion of wildlife strike occurrences in aerodrome operators' SMS.		Aerodrome operators
2. Promotion of the measures contained in the Annual analyses of wildlife strike occurrences drawn up at AACR level on the basis of OMTC No 1309/2014 and application by aerodrome operators.		SA/Aerodrome operators
3. Verification of the application of the measure referred to in point 2 as part of the oversight activity		SA
4. Promotion of measures contained in guidance material prepared by specialised bodies, such as ICAO Doc 9137:		SA

Airport Services Manual Part 3 - Wildlife Control and Reduction.	
5. Update OMT No 1309/2014.	BAS
6. In order to provide real aeronautical information, aerodrome/heliport operators will develop and ensure the publication of bird concentrations maps in their vicinity, as required by PIAC-AIM — Aeronautical Information Management, Edition 1/2020, Annex 2, AD.2.24 and AD.3.23 respectively.	Aerodrome operators/ SA
7. Establishment of the National Committee for Runway Safety[1].	SA/ BAS

[1] The CNSP will be established by Decision of the Director General of the AACR and the composition and powers of the Committee will be in line with GM1 ADR.AR.C.010 of Regulation (EU) No 139/2014.

OPS.0006	**Mitigate the risk of FODs on movement areas**	**n.a.**
Description	Foreign Object Debris (FOD) are objects found in inappropriate locations on the movement surfaces of an aerodrome and which, as a result of their presence in that location, may cause damage to equipment or injuries to persons. FOD include a wide range of materials such as disassembled parts, paving fragments, catering items, building materials, stones, sand, luggage, animal debris. The main areas considered for this action are: - Runway FOD (RWY FOD) – refers to different objects present on the runway that may affect high-speed aircraft (landing or take-off). RWY FOD represents the greatest safety hazard; - Taxiway/ apron FOD (TWY/APRON FOD) – these types of FOD pose a lower risk than RWY FOD. However, there were situations where they were moved on the runway, e.g. due to the air jet generated by aircraft; - Maintenance FOD (MTN FOD) – refers to various objects used in the maintenance activity, which may cause damage to the aircraft.	
Status	Ongoing (2019)	
References	• ICAO Annex 19, Edition 2	
SPI	FOD occurrences on the movement surfaces at the Romanian aerodromes	
Measurement	The number of FOD on movement areas occurred at Romanian aerodromes, per RWY FOD, TWY/APRON FOD and MTN FOD shall be considered.	
Target	Decreasing trend in the number of FOD occurrences compared to the average over the last 5 years	

MEASURES	**Responsibility**
1. Aerodrome operators shall include in their SMS the FOD occurrences on the movement surfaces and at least the following factors that may lead to FOD: • Management of construction works in the airport perimeter; • Efficiency of the FOD control programme	Aerodrome operators
2. As part of its oversight activity, AACR shall monitor the implementation of measure 1 by organisations.	SA
3. FOD related documents issued by specialised bodies shall be promoted.	SA/DN
4. Establishment of the National Committee for Runway Safety [1].	SA/ BAS

[1] The CNSP will be established by Decision of the Director General of the AACR and the composition and powers of the Committee will be in line with GM1 ADR.AR.C.010 of Regulation (EU) No 139/2014.

OPS.0007	Mitigate the risk of ”Mid-air collision – (MAC)” occurrences	MST.0028
Description	This type of occurrence refers to the potential collision between two aircraft in flight. Also included are direct precursors such as loss of staggering, actual TCAS RA (Traffic Collision Avoidance System – Resolution advisories), airspace infringements alerts.	
Status	Ongoing (2017)	
References	• ICAO Annex 19 and GASP 2020-2024 Objective 3 ‘Effective implementation of national safety programmes’ • GASP SEIs – Reduction of factors contributing to CFIT, LOC-I, MAC, RE and RI risks.	
SPI	MAC occurrences in the Romanian airspace involving aircraft operating CAT and NCC flights	
Measurement	The number of MAC occurred in the Romanian airspace, involving aircraft operating CAT and NCC flights shall be considered.	
Target	Decreasing trend in the annual number of MAC occurrences	

MEASURES	Responsibility
1. The air operators and approved training organisations shall include in their SMS[1] the MAC occurrences and at least the following factors that may lead to MAC: • Stagger breach due to aircraft; • Airspace infringement; • Level bust; • Incorrect response to TCAS-RA (air operators only); • Navigation error;	Air operators/ ATO
2. ANSP will include in their SMS the MAC occurrences and at least the following factors that may lead to MAC: • Stagger breach due to ATC; • Airspace infringement; • Level bust; • COM malfunction. • Actions following TCAS-RA reporting. • Loss of identification or surveillance equipment failure	ROMATSA
3. As part of its oversight activity, AACR shall monitor the implementation of measures 1 and 2 by organisations.	DOA/ DCP/ SATMANS

[1] The factors included in their SMS will address at least the following:
- Assessment of the risk to their own operations;
- The definition of the established safety performance level;
- The definition and implementation of the necessary actions;
- Monitoring the effectiveness of the actions.

OPS.0008	**Mitigate the risk of ”Loss of separation between civil and military aircraft” occurrences**	**MST.0024**
Description	A number of occurrences have been reported at European level concerning the loss of separation between civil and military aircraft, as well as an increase in non-cooperating military traffic over ’High Seas’.	
Status	Ongoing (2017)	
References	• Doc. 10088 ICAO – ”*Manual on Civil / Military Cooperation in Air Traffic Management*”.	
SPI	’Loss of separation between civil and military aircraft’ occurrences in the Romanian airspace	
Measurement	Number of ’Loss of separation between civil and military aircraft’ occurrences in the Romanian airspace	
Target	Decreasing trend in the annual number of ’Loss of separation between civil and military aircraft’ occurrences	
MEASURE		**Responsibility**
1. Application of the provisions of ICAO Doc. 10088 – ”*Manual on Civil/Military Cooperation in Air Traffic Management”, as applicable*		SATMANS/ ROMATSA

OPS.0009	**Implementation of SESAR solutions aiming to reduce the risk of MAC enroute and in TMA**	**MST.0030**
Description	This action is based on the evaluation together with the ANSPs of the needs for implementing SESAR solutions related to MAC. These solutions should be implemented as far as it is feasible. The SESAR solutions catalogue can be accessed at the following link: https://www.sesarju.eu/sites/default/files/documents/reports/SESAR_Solutions_Catalogue_2019_web.pdf	
Status	Ongoing (2019)	
References	• ATM Master Plan (Level 3 Ed 2019), action ATC02.9 - Enhanced Short Term Conflict Alert (STCA) for TMAs	
SPI	n/a	
Measurement	n/a	
Target	n/a	

MEASURES	**Responsibility**
1. Periodical evaluation (at least every 2 years) of the needs and feasibility of the implementation of SESAR solutions related to MAC occurrences. 2. Verification, as part of the oversight, of the implementation of the SESAR solutions considered.	ROMATSA SATMANS

OPS.0010	**Ground safety**	**n.a.**
Description	This action area refers to actions to reduce the risk of occurrence of events involving the collision of an aircraft with other aircraft, obstacle or vehicle while the aircraft is moving on the ground, either under its own power or being towed. Groundhandling occurrences related to aircraft loading, fuelling, etc. and Ground collision (GCOL) are also included in this category.	
Status	Ongoing (2017)	
References	n/a	
SPI	Occurrences affecting safety of groundhandling involving a Romanian aeronautical agent	
Measurement	The number of occurrences affecting the "safety of groundhandling" which involve Romanian aeronautical agents shall be considered in relation to the number of movements at Romanian airports. TWY Incursion events will be considered separately.	
Target	Decreasing trend in the number of "safety of groundhandling" occurrences / 100,000 total movements compared to the average over the last 5 years	

MEASURES	**Responsibility**
1. Aerodrome operators and groundhandling providers shall include in their SMS[1] the conditions leading to groundhandling safety reduction and at least the following factors that may lead to them: • Non compliance with the Aerodrome Manual in respect of the apron management. • Poor serviceability due to adverse weather conditions. • Communication and language barriers.	Aerodrome operators/ Groundhandling providers
2. As part of its oversight activity, AACR shall monitor the implementation of measures 1 and 2 by organisations.	SA
3. Establishment of the National Committee for Runway Safety[2].	SA/ BAS

[1] The factors included in their SMS will address at least the following:
- Assessment of the risk to their own operations;
- The definition of the established safety performance level;
- The definition and implementation of the necessary actions;
- Monitoring the effectiveness of the actions.

[2] The CNSP will be established by Decision of the Director General of the AACR and the composition and powers of the Committee will be in line with GM1 ADR.AR.C.010 of Regulation (EU) No 139/2014.

OPS.0011	**Mitigate the risk of ”Dangerous ground proximity – Controlled flight into terrain (CFIT)” occurrences**	**n.a.**
Description	This type of event refers to the collision or quasi-collision of an aircraft with the ground, a water surface or obstacle, without any indication of loss of aircraft control.	
Status	Ongoing (2017)	
References	n/a	
SPI	CFIT occurred in the Romanian airspace	
Measurement	The number of CFIT occurrences in the Romanian airspace shall be considered.	
Target	Decreasing trend in the annual number of CFIT occurrences	

MEASURES	**Responsibility**
1. The air operators involved and the approved training organisations will include in their SMSO[1] CFIT occurrences and at least the following factors that may lead to CFIT: • Incorrect setting of altimeter; • GPWS warnings (air operators only); • Errors in the air navigation maps; • Deviation below glideslope; • Adverse weather conditions.	Air operators/ ATO
2. ANSPs will include in their SMS the CFIT occurrences and at least the following factors that may lead to CFIT: • Errors in providing information on pressure; • MSAW alerts – actions; • *Visual approach* clearance in adverse weather conditions • Conditions and authorisations for VFR or SVFR flights.	ROMATSA
3. Aerodrome operators will include in their SMS the CFIT occurrences and at least the following factor that may lead to CFIT: • Lack of information or incorrect information on obstacles.	Aerodrome operators
4. As part of its oversight activity, AACR shall monitor the implementation of measures 1, 2 and 3 by organisations.	DOA/ DCP/ SATMANS/ SA

[1] The factors included in their SMS will address at least the following:
- Assessment of the risk to their own operations;
- The definition of the established safety performance level;
- The definition and implementation of the necessary actions;
- Monitoring the effectiveness of the actions.

OPS.0012	**Mitigate the risk of ”Fire, smoke and fumes” occurrences**	**n.a.**
Description	Uncontrolled fire on board an aircraft, in particular when in flight, constitutes one of the most serious safety hazards. Fires in the event of an aircraft crash shall also be included in this action area. In-flight fires may eventually lead to a loss of control over the aircraft, either due to structural failures or control systems or due to crew incapacitation. If the response to the emergency is not adequate, ground fires tend to rapidly expand and cause casualties. Also smoke and fumes, whether associated with fire or not, can lead to the incapacitation of passengers or crew, thus constituting a major hazard.	
Status	Ongoing (2017)	
References	n/a	
SPI	”Fire, smoke and fumes” occurrences involving Romanian aeronautical agents.	
Measurement	The number of ”Fire, smoke and fumes” occurrences involving Romanian aeronautical agents shall be considered.	
Target	Decreasing trend in the number of ”Fire, smoke and fumes” occurrences.	
MEASURES		**Responsibility**
1. The air operators involved, the approved training organisations and CAMO organisations shall include in their SMS[1] the conditions for fire/ smoke/ fumes.		Air operators/ ATO/ CAMO
2. As part of its oversight activity, AACR shall monitor the implementation of measure 1 by organisations.		DOA/ DCP/ DN
3. The implementation and follow-up of the safety bulletin recommendations issued by ICAO and EASA relating to the hazards of lithium batteries or other fire-related occurrences.		Air operators/ groundhandling providers

[1] The factors included in their SMS will address at least the following:
- Assessment of the risk to their own operations;
- The definition of the established safety performance level;
- The definition and implementation of the necessary actions;
- Monitoring the effectiveness of the actions.

OPS.0013	**Mitigate the risk of ”System/Component Failure or Malfunction – Non Powerplant (SCF-NP)” – Depressurisation occurrences**	**n.a.**
Description	Actions are considered to mitigate the risk of SCF-NP occurrences.	
Status	Ongoing (2017)	
References	n/a	
SPI	Certain SCF-NP occurrences recorded by the Romanian air operators performing CAT operations.	
Measurement	The number of SCF-NP occurrences in relation to the number of movements in the national airspace recorded by Romanian air operators in the ‘Depressurisation’ category shall be considered. “Rejected take-off” due to non-SCF-PP causes shall be considered.	
Target	Decreasing trend in the number of SCF-NP occurrences.	
MEASURES		**Responsibility**
1. The air operators involved and CAMO organisations shall include the SCF-NP – Depressurisation occurrences in their SMS[1]. 2. As part of its oversight activity, AACR shall monitor the implementation of measure 1 by organisations.		Air operators/ CAMO DOA/ DN

[1] The factors included in their SMS will address at least the following:
- Assessment of the risk to their own operations;
- The definition of the established safety performance level;
- The definition and implementation of the necessary actions;
- Monitoring the effectiveness of the actions.

OPS.0014	**Mitigate the risk of ”System/Component Failure or Malfunction – Powerplant (SCF-PP)” occurrences**	**n.a.**
Description	Actions shall be taken to mitigate the risk of SCF-PP occurrences.	
Status	Ongoing (2017)	
References	n/a	
SPI	Certain SCF-PP occurrences recorded by the Romanian air operators	
Measurement	The number of SCF-PP occurrences in relation to the number of movements in the national airspace recorded by Romanian air operators in the category ‘engine failure’ shall be considered.	
Target	Decreasing trend in the number of SCF-PP occurrences.	
MEASURES		**Responsibility**
1. The air operator involved, the approved training organisations and CAMO organisations shall include in their SMS[1] the SCF-PP – engine failure occurrences.		Air operators/ ATO/ CAMO
2. As part of its oversight activity, AACR shall monitor the implementation of measure 1 by organisations.		DOA/ DCP/ DN

[1] The factors included in their SMS will address at least the following:
- Assessment of the risk to their own operations;
- The definition of the established safety performance level;
- The definition and implementation of the necessary actions;
- Monitoring the effectiveness of the actions.

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OPS.0015	**Maintaining a regular dialogue with the Romanian air operators on Flight Data Monitoring (FDM) programmes**	**MST.0003**
Description	Many safety indicators used to monitor the safety performance at the industry level are based on information contained in FDM programmes. FDM is a proactive way of using safety information obtained from operation, besides that provided by Air Safety Reports, in order to highlight safety trends and eliminate risk factors. At EASA level, a working group called European Authorities coordination group on FDM (EAFDM) has been established to support Member States in standardising FDM occurrences relevant to national civil aviation safety programmes.. FDM programmes are mandatory for aircraft with Maximum Certificated Take-Off Mass (MCTOM) of more than 27,000 kg. The action consists of maintaining a permanent dialogue with operators on FDM programmes, for: - Promoting the operational benefits of the application of the FDM and the exchange of experience; - Encouraging operators to implement the documents generated by EAFDM and other similar materials.	
Status	Ongoing (2017)	
References	• ”*Guidance for National Aviation Authorities on setting up a national flight data monitoring forum*” – EAFDM	
SPI	Inclusion in the FDM programmes of occurrences relevant to the risks identified at national level, contained in the pNSAC, by Romanian air operators for which the implementation of the FDM programmes is mandatory.	
Measurement	The percentage of Romanian air operators that have included in their FDM programmes the occurrences relevant to the risks identified at national level, included in the pNSAC, of the total number of Romanian operators for which the implementation of the FDM programmes is mandatory.	
Target	Inclusion in their FDM programmes of occurrences relevant to the risks identified at national level, contained in the pNSAC, by all Romanian operators for which the implementation of the FDM programmes is mandatory.	

MEASURES	Responsibility
1. Nomination of an AACR representative in EAFDM.	DOA
2. Promotion of documents developed by the EAFDM, including "GM for national aviation authorities on the organisation of a national forum on FDM".	SGL-FDM/ DOA
2. Regular meetings with the Romanian air operators for: • promoting FDM benefits on operational safety; • exchange of FDM information within Just *Culture*; • encouraging operators to use good practices documentation issued by EAFDM or other bodies.	DOA
3. Encourage operators to include in their FDM programmes occurrences relevant at least to the safety risks outlined in this document (see operational action area) and monitor the progress of this action.	DOA

OPS.0016	**A better understanding of air operators' governance structure**	**MST.0019**
Description	The action consists of AACR's correct understanding of the governance structures of operators or groups of operators applying the same SMS and belonging to the same 'mother company'. Aspects to be considered include: • extensive use of outsourcing, • the influence of financial stakeholders, and • controlling management personnel, where such personnel are located outside the scope of approval. EASA will support this action by providing guidance on this matter.	
Status	**New action**	
References	• EASA Practical Guide: Management of hazards related to new business models of commercial air transport operators	
SPI	n/a	
Measurement	n/a	
Target	n/a	

MEASURE	**Responsibility**
1. Implementation of applicable measures contained in EASA documentation.	DOA/ BAS

ROTORCRAFT OPERATIONS

Includes actions aimed at mitigating the key safety risks to rotorcraft operations.

Key risk areas at European level are:

- Aircraft upset (LOC-I)
- Terrain collision (including CFIT)
- Airborne collision (MAC)
- Obstacle collision

Key risk areas at national level are:

- Aircraft upset (LOC-I, LOC-G)
- Terrain collision (including CFIT)
- ARC

OPS.0017	**Increasing the safety of rotorcraft operations**	**MST.0028**
Description	The purpose of the action is to reduce the number of rotorcraft accidents and incidents. Rotorcraft operations include: • Commercial operations (CAT), also including cargo flights to and from offshore oil and gas installations; • SPO (aerial work), such as advertisement, photography; • Non-commercial operations.	
Status	Ongoing (2017)	
References	n/a	
SPI	LOC-I, LOC-G, CFIT, ARC, AI, MAC occurrences in rotorcraft operations.	
Measurement	The number of LOC-I, LOC-G, CFIT, ARC, AI, MAC occurrences will be considered.	
Target	Decreasing trend in the annual number of such occurrences.	

MEASURES	**Responsibility**
1. The air operator involved, the approved training organisations and CAMO organisations will include in their SMS[1] the LOC-I, LOS-G, CFIT, ARC, AI, MAC occurrences and at least the following factors that may lead to such occurrences: • Poor take-off management; • Human performance and human factors; • Adverse weather conditions; • Crew experience/ training/ competence.	Air operators/ ATO/ CAMO
2. As part of its oversight activity, AACR will monitor the implementation of measure 1 by organisations.	DOA/ DCP/ DN

[1] The factors included in their SMS will address at least the following:
- Assessment of the risk to their own operations;
- The definition of the established safety performance level;
- The definition and implementation of the necessary actions;
- Monitoring the effectiveness of the actions.

OPS.0018	**Actions to promote safety of rotorcraft operations**	**MST.0015**
Description	AACR, in collaboration with rotorcraft operators, shall promote the safety of operations, using for this purpose all guidance materials provided by various working groups (ESPN-R – ex EHEST –, VAST – fost IHSF – NCA, Hell Ofshore etc.)	
Status	Ongoing	
References	Documentation issued by ESPN-R, VAST, NCA, Hell Ofshore etc.	
SPI	Actions to promote the safety of rotorcraft operations	
Measurement	The number of actions taken to promote the safety of rotorcraft operations shall be considered.	
Target	At least a steady number of actions to promote the safety of helicopter operations	

MEASURES	**Responsibility**
1. Promotion of guidance materials provided by various working groups (ESPN-R – ex EHEST – VAST – ex IHSF – NCA, Hell Ofshore etc.)	DOA/ GL-LAGA/ SGL-HE
2. Organisation of annual or bi-annual safety meetings with rotorcraft operators.	DOA/ GL-LAGA/ SGL-HE

OPS.0019	**Implementation of SESAR solutions aiming to facilitate safe IFR operations**	**MST.0031**
Description	This action should be based on the evaluation, together with ANSPs and their flight procedure designers, of the possibility to establish a network of low-level IFR routes in their airspace to facilitate safe helicopter operations. The SESAR solutions should be implemented as far as it is feasible. See SESAR Solutions Catalogue at the following link: https://www.sesarju.eu/sites/default/files/documents/reports/SESAR_Solutions_Catalogue_2019_web.pdf	
Status	Ongoing (2019)	
References	• ATM Master Plan (Level 3 Ed 2019) action NAV12 (ATS IFR Routes for Rotorcraft Operations)	
SPI	n.a.	
Measurement	n.a.	
Target	n.a	

MEASURES	**Responsibility**
1. Evaluation, as required, of the needs and feasibility of implementing SESAR solutions related to the safe conduct of IFR rotorcraft operations.	ROMATSA
2. Verification, as part of the oversight activity, of SESAR solutions implemented.	SATMANS

GENERAL AVIATION

Includes actions aimed at mitigating the key safety risks to general aviation operations with aircraft other than helicopters (small aircraft, ULM, AUN, sailplanes, parachutes). The current edition does not include balloon operations, given the small scale of these operations in Romania and the fact that no occurrences have been reported in these operations.

Key risk areas at European level are:

- Aircraft upset (LOC-I)
- Terrain collision (CFIT)
- Obstacle collision in flight

Key risk areas at national level are:

- Aircraft upset (LOC-I)
- Terrain collision (CFIT)
- ARC
- SCF-PP

OPS.0020	**Increasing the safety general aviation operation**	**MST.0028**
Description	The key risk areas highlighted at both European and national level shall be taken into account in this action: - Aircraft upset (LOC-I) - Terrain collision (including CFIT) - Obstacle collision - ARC - SCF-PP As being relatively frequent, the ”*Airspace infringement*” occurrences are taken into account, even if they did not constitute serious incidents or accidents.	
Status	Ongoing (2017)	
References	European Action Plan for Airspace Infringement Risk Reduction (EAPAIRR)	
SPI	LOC-I, CFIT, Obstacle collision, ARC, SCF-PP and ”Airspace infringement” occurrences involving operators/pilots under the responsibility of the Romanian competent authorities.	
Measurement	The number of LOC-I, CFIT, Obstacle collision, ARC, SCF-PP and ”Airspace infringement” occurrences involving operators/pilots under the responsibility of the Romanian competent authorities is considered	
Target	Decreasing trend in the annual number of LOC-I, CFIT, Obstacle collision, ARC, SCF-PP and ”Airspace infringement” occurrences.	

MEASURES	**Responsibility**
1. LOC-I, CFIT, Obstacle collision, ARC, SCF-PP and ”Airspace infringement” occurred in general aviation shall be monitored.	DOA/ AR/ AZLR
2. Actions to promote safety shall be adapted to be in line with the evolution of the targeted occurrences.	DOA/ DCP/ AR/ AZLR/ GL-LAGA

OPS.0021	**Improving the dissemination of safety information**	**MST.0025**
Description	The action consists in the dissemination of materials to promote the safety of general aviation operations by AACR, Aeroclub of Romania and/or associations in the field (AZLR), by organising safety workshops/meetings or other safety promotion actions. Dissemination actions will focus in particular on reducing the risk of occurrences such as LOC-I, CFIT, obstacle collision in flight, ARC, SCF-PP.	
Status	Ongoing (2017)	
References	n.a.	
SPI	Actions to promote safety in collaboration with civil aeronautical agents performing general aviation operations.	
Measurement	Number of safety promoting actions taken.	
Target	Carrying out at least a constant number of actions to promote the safety of general aviation operations.	

MEASURES	**Responsibility**
1. Posting safety promotion materials on their own websites.	DOA/DCP/ AR/ AZLR/ GL-LAGA
2. Promoting the safety materials through workshops, circulars to civil aeronautical agents.	DOA/DCP/ AR/ AZLR/ GL-LAGA

OPS.0022	**Systemic enablers – Promotion of Safety Culture in general aviation**	**MST.0027**
Description	Includes actions affecting the general aviation system as a whole, covering several specific safety risks in this area. The action consists in including in the PNSAC of provisions specific to Just Culture in general aviation in order to encourage occurrence reporting and promote positive safety behaviour.	
Status	Ongoing (2018)	
References	n.a.	
SPI	Number of reports made by civil aeronautical agents performing general aviation operations.	
Measurement	Number of reports made by general aviation operators.	
Target	Increasing number of reports made by civil aeronautical agents performing general aviation operations.	

MEASURES	**Responsibility**
1. Include in PNSAC provisions on Just Culture in general aviation.	BAS
2. Promote the provisions on Just Culture among civil aeronautical agents performing general aviation operations.	DOA/DCP/DN/ GL-LAGA/ AR/ AZLR

OPS.0023	**Loss of separation – Airspace complexity and traffice congestion in general aviation**	**MST.0038**
Description	Member States should consider ‘airspace complexity’ and ‘traffic congestion' as safety-relevant factors in airspace changes affecting general aviation.	
Status	**New action**	
References	European Action Plan for Airspace Infringement Risk Reduction (EAPAIRR)	
SPI	n.a.	
Measurement	n.a.	
Target	n.a.	

MEASURE	**Responsibility**
1. The procedures applied to airspace changes affecting general aviation operations shall be adapted to take into account ‘airspace complexity’ and ‘traffic congestion’ as safety-relevant factors.	SATMANS/ ROMATSA

AERODROMES

OPS.0024	**Runway safety – Implementation of SESAR runway safety solutions**	**MST.0029**
Description	This action is based on the evaluation together with the ADR operators and ANSPs the needs for implementing the related SESAR solutions related to runway safety. These SESAR solutions are designed to improve runway safety and should be implemented as far as it is feasible. See SESAR Solutions Catalogue at the following link: https://www.sesarju.eu/sites/default/files/documents/reports/SESAR_Solutions_Catalogue_2019_web.pdf	
Status	Ongoing (2019)	
References	• SESAR Solutions Catalogue 2019 – Third Edition	
SPI	n.a.	
Measurement	n.a.	
Target	n.a.	

MEASURES	**Responsibility**
1. Periodical evaluation (at least every 2 years) by CNAB and ROMATSA of the needs and feasibility of SESAR solutions implementation related to runway safety; the evaluation shall also include other aerodromes, if their recorded traffic will reach values for which SESAR solutions implementation is feasible.	Aerodrome operators/ GL-AD/ ROMATSA
2. As part of the oversight activity, verification of applied SESAR solutions mentioned at para. 1 above.	SA/ SATMANS

UNMANNED AIRCRAFT SYSTEMS

OPS.0025	**Mitigate the risks associated with unmanned aircraft systems operation**	**n.a.**
Description	Unmanned aircraft means any aircraft operating or designed to operate autonomously or to be piloted remotely without a pilot on board [1]. Following the entry into force of Regulation (EU) No 1139/2018, in order to harmonise European requirements for the planning and conduct of flight activities with unmanned aircraft in European airspace, a few delegated or implementing regulations have been issued. As of 31 December 2020, for the planning and conduct of unmanned aircraft flight activities in EU airspace, including that of Romania, the operators of these aircraft are required to comply with both Regulation (EU) 2019/947 and national legislation.	
Status	Ongoing (2017)	
References	• Commission Delegated Regulation (EU) 2019/945 • Commission Implementing Regulation (EU) 2019/947	
SPI	Civil unmanned aircraft occurrences during operation in the Romanian airspace	
Measurement	The number of occurrences resulting from the operation of unmanned civil aircraft in national airspace/number of unmanned aircraft recorded will be considered.	
Target	To reduce the number of occurrences resulting from the operation of unmanned civil aircraft in national airspace.	

MEASURES	**Responsibility**
1. To monitor such occurrences in Romania.	BAS
2. To promote materials for safe unmanned aircraft operation.	DOA/ DN/ DCP

[1] Air Code of Romania

VOLUME III – SAFETY RISK PORTFOLIO

General

National plan for civil aviation safety

2022 – 2026

The purpose of this volume is to identify the main hazards to civil aviation in Romania and to highlight the risk posed by them. The risks thus identified form the **Risk Portfolio**.

This approach is part of the Safety Risk Management process carried out at the level of the Romanian Civil Aeronautical Authority and consists of 5 distinct stages:

1. **Identification of safety issues** — is the main purpose of this document, embodied in the Risk Portfolio. This phase is based on both the statistical information contained in the national database on reported civil aviation occurrences and the experience gained by specialists from the AACR and industry.
2. **Assessment of safety issues** –The risk portfolio is subject to a technical safety assessment, which is also initiated by this analysis, based on both statistical and human factors.
3. **Definition of safety actions** – starting from the Risk Portfolio, but also taking into account other elements such as EPAS, actions to increase safety are addressed in the National Plan for Civil Aviation Safety, approved annually by the responsible manager, i.e. the Director General of AACR.
4. **Implementation of safety actions** – this step consists of the implementation of the actions set out in the National Plan for Civil Aviation Safety, both by the authorities involved and by the industry..
5. **Safety Performance Monitoring** — AACR prepares an annual Report on the compliance with the safety performance indicators established by the National Plan for Civil Aviation Safety for each safety action. On the basis of this report, the actions already established shall be maintained or new actions shall be initiated.

Considering the specificities of civil aviation operations, the analysis was carried out separately for the following types of operations, which are also reflected in the National Plan for Civil Aviation Safety :

- Commercial air transport operations with aeroplanes;

- Rotorcraft operations;

- General aviation operations other than with helicopters.

For each type of operation, the following analysis steps have been taken:

1. **Safety performance** – the number of accidents, serious incidents and incidents occurred between 2012 – 2021 the National was considered. The source of information is the National Database of civil aviation occurrences reported;
2. **Causes** – the main causes of accidents and serious incidents occurred between 2012-2021 were highlighted. The source of information is the National Database of civil aviation occurrences reported, Investigation Reports prepared by AIAS, Internal Investigation Reports prepared by the aeronautical agents, analyses carried out by AACR;
3. **Risk portofolio** – by gathering the above mentioned information the Risk portfolio is established for the operations category analysed and it consists in:

a. *Key risk areas* – categories of occurrences that may lead to accidents / serious incidents, or their immediate precursors. Their prioritisation was made depending on accidents / serious incidents outcome, as well as based on AACR and industry specialists' experience. Additionally, accidents were classified in fatal, with injuries or without casualties.

b. *Safety issues* – the safety issues leading to key risk areas have been considered. They are prioritised depending on the contribution to the occurrence of accidents and serious incidents. This includes the views of specialists in the committees and working groups supporting the pNSAC development.

4. **Conclusions**.

The following **definitions** and **abbreviations** are used in this document:

- The Civil Air Code;
- Regulation (EU) No 2018/1139 – *Basic Regulation*;
- Regulation (EU) No 376/2014 on reporting, analysis and follow-up of occurrences in civil aviation;
- Regulation (EU) No 965/2012 of the Commission laying down technical requirements and administrative procedures related to air operations.

Aeroplane operations

All commercial operations with aeroplanes (CAT) and non-commercial complex aeroplanes (NCC) are analysed in this chapter.

This type of air operations, in particular the air transport of passengers is the top priority in civil aviation safety management,.

Safety performance - CAT+NCC with aeroplanes

According to the National Database the following accidents (fatal, with injuries and without casualties) and serious incidents occurred during the last decade (2012-2021):

TOTAL number of accidents: 3, of which:

- fatal: 1
- non-fatal (injuries): 1
- non-fatal (without casualties): 1

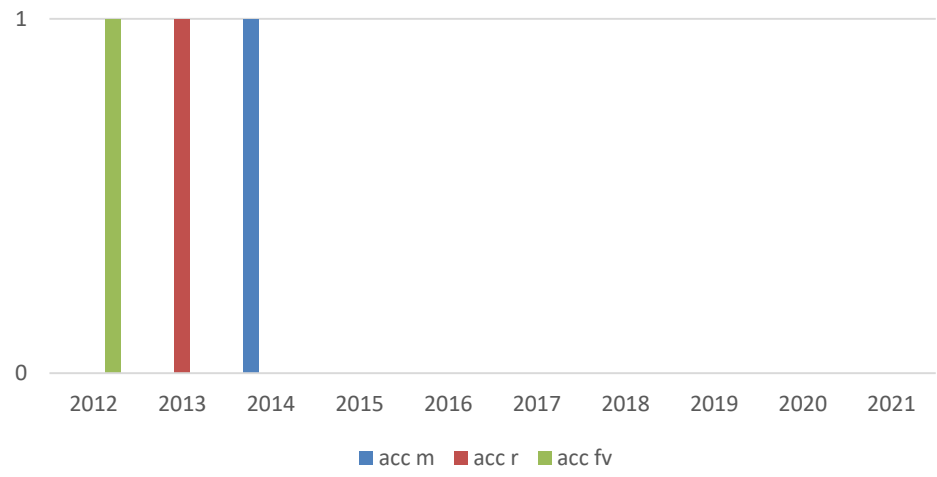
TOTAL number of serious incidents: 22

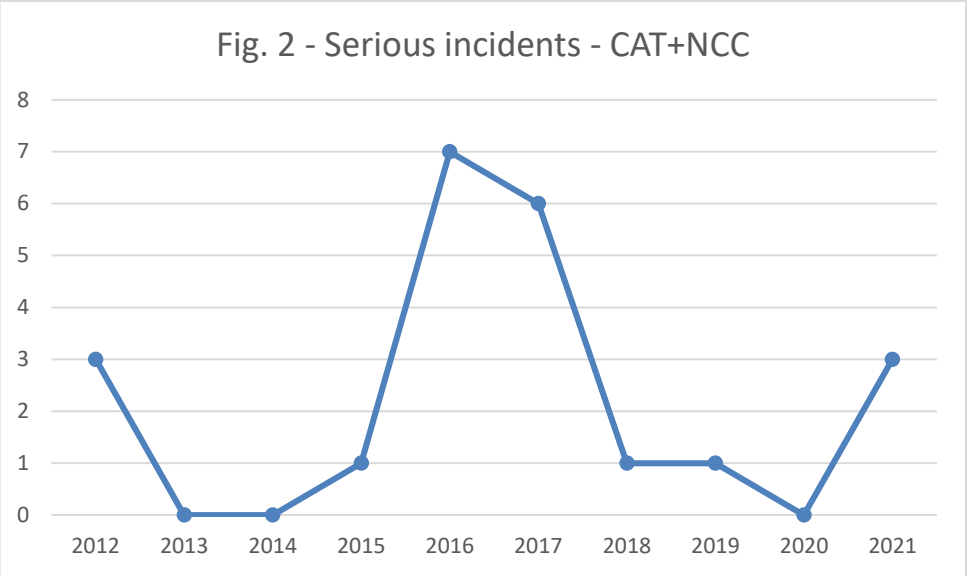
The distribution of these events per year is shown in Table 4, as well as in Figures 1 and 2.

Table 4

CAT aeroplanes	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
accidents	1	1	1	0	0	0	0	0	0	0
fatal accidents	0	0	1	0	0	0	0	0	0	0
non-fatal accidents (injuries)	0	1	0	0	0	0	0	0	0	0
non-fatal accidents without casualties	1	0	0	0	0	0	0	0	0	0
serious incidents	3	0	0	1	7	6	1	1	0	3

Fig. 1 - CAT+NCC aeroplane accidents



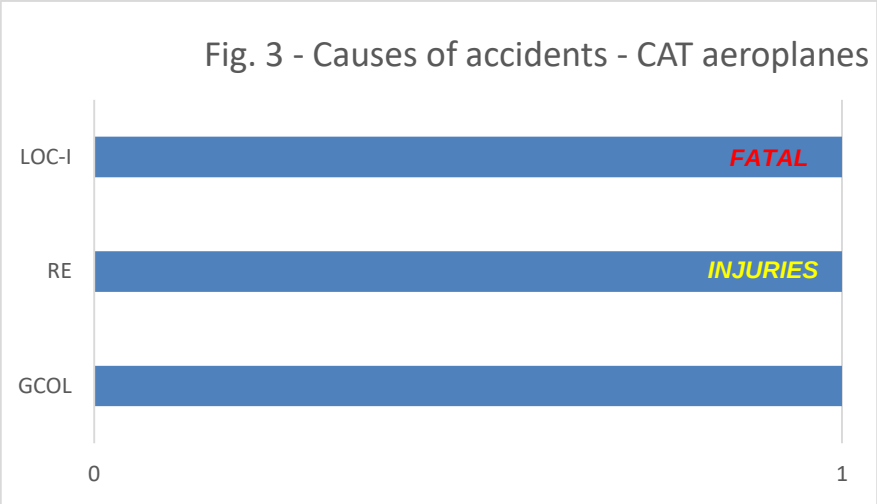


Causes of accidents / serious incidents - CAT aeroplanes

The analysis of the safety reports in the National Database as well as of the Investigation Reports prepared by AIAS so far revealed the main causes of accidents/serious incidents analysed in this chapter, which are presented in the table below and in Figures 3 and 4.

Table 5

Cause	Fatal accidents	Non-fatal accidents (injuries)	Non-fatal accidents (without casualties)	Serious incidents
LOC-I	1			
RE		1		8
GCOL			1	2
SCF-PP				3
SCF-NP (depressurisation)				3
SCF-NP (tyre)				2
ARC				1
NAV				1
MED				1
UNK				1



Compared to the previous edition of the Risk Portfolio, there is an increase in the impact of SCF-PP and SCF-NP (Depressurisation) events, as causes of serious incidents, as well as the emergence of a new type of events — MED.

Risk portfolio for aeroplane operations

In view of the above, the key risk areas resulting for aeroplane operations are:

Table 6

Aeroplane operations							
% fatal accidents	1	100%	0%	0%	0%	0%	0%
% non-fatal accidents (injuries)	1	0%	100%	0%	0%	0%	0%
% non-fatal accidents (without casualties)	1	0%	0%	100%	0%	0%	0%
% serious incidents	22	0%	36%	9%	14%	14%	9%

Precursors[1]	Key risk areas					
	LOC-I	RE	GCOL	SCF-NP (Depres)	SCF-PP	SCF-NP (Tyre)
Activation of flight envelope exceedance warning system	x					
Icing in flight	x					
Adverse weather conditions/ turbulence/ windshear	x	x				
Laser illumination	x					
Fire/ smoke in flight	x			x	x	
Inappropriate aircraft loading	x					
Misinterpretation of markings			x			
Aircraft maintenance	x			x	x	x
Unsteady approach		x				
ARC		x	x			x
High-speed rejected take-off	x	x	x			x
Runway condition and appropriate related information		x	x			

Conclusions:

- The main key risk area is LOC-I (*Loss of control in flight*), which caused the only fatal accident in the type of operations analysed;
- RE (*Runway excursion*) key risk area is the main cause of serious incidents and of the only accident with injured people;
- SCF-NP (*System/ component failure – non-powerplant*) risk area refers to events like *Depressurisation*, responsible for 3 serious incidents; the same outcome for SCF-PP (*System/ component failure – powerplant)* risk area.

*Key risk areas***:**

- Priority 1:
  - 1 a – LOC-I (*Loss of control in flight*)
  - 1 b – RE (*Runway excursion*)
  - 1 c – GCOL (*Ground collision*)
  - 1 d – SCF-NP (*System/ component failure – non-powerplant*) – Depressurisation
  - 1 e - SCF-PP (*System/ component failure – powerplant*) – Fire/smoke
  - 1f - SCF-NP (*System/ component failure – non-powerplant*) – Landing gear

[1] Will be completed with GL-CAT conclusions.

- Priority 2:
  - ARC – *Abnormal runway contact*
  - TWY E (Taxiway excursion)
  - Med (Medical crew)

Rotorcraft operations

All comercial operations with rotorcraft, including offshore operations are analysed in this chapter.

Helicopter air operations represent a very small number of total air operations in Romania (less than 1%). However, a significant number of events, including fatal accidents, have been recorded, which requires consideration of key risk areas for this type of operations.

Safety performance - HEL

According to the National Database the following accidents (fatal, non-fatal and without casualties) and serious incidents occurred during the last decade (2012-2021):

TOTAL number of accidents: 11, of which:

- Fatal accidents: 3
- With casualties: 0
- without victims: 8

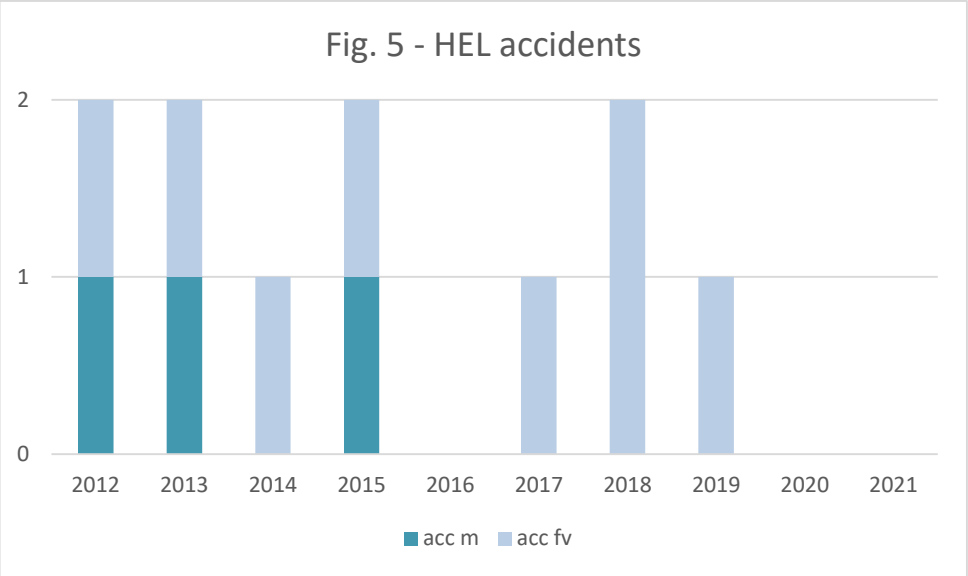
TOTAL number of serious incidents: 1

The distribution of these events per year is shown in Table 7, as well as in Figure 5.

Table 7

HEL	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
accidents	2	2	1	2	0	1	2	1	0	0
fatal accidents	1	1	0	1	0	0	0	0	0	0
accidents with injuries	0	0	0	0	0	0	0	0	0	0
accidents without casualties	1	1	1	1	0	1	2	1	0	0
serious incidents	0	0	0	0	0	0	0	0	0	0

It can be noted that there have been no changes to the types of events since the previous edition of this document.

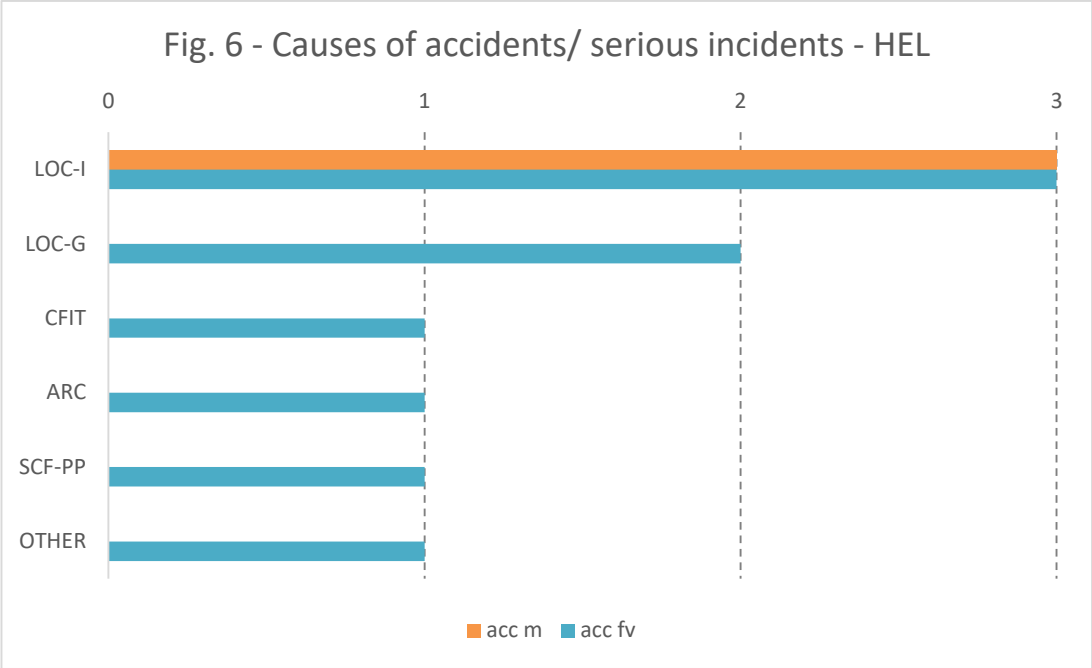


Causes of accidents / serious incidents - HEL

The analysis of the safety reports in the National Database as well as of the Investigation Reports prepared by AIAS so far revealed the main causes of accidents/serious incidents analysed in this chapter, which are presented in Table 8 and Figure 6 below.

Table 8

Cause	Fatal accidents	Non-fatal accidents (without casualties)	Serious incidents
LOC-I	3	2	1
LOC-G		2	
CFIT		1	
ARC		1	
OTHER		1	
SCF-NP, SCF-PP		1	



As in the case of aeroplane operations, LOC-I events remain the main cause of fatal accidents in helicopter operations as well.

Risk portfolio for HEL operations

In view of the above, the key risk areas resulting for rotorcraft operations are:

Table 9

Rotorcraft operations (HEL)								
% fatal accidents	3	100%	0%	0%	0%	0%	0%	0%
% accidents without casualties	8	25%	25%	12,5%	12,5%	12,5%	12,5%	0%
% serious incidents	0	0%	0%	0%	0%	0%	0%	0%
Precursors[1]		Key risk areas						
		LOC-I	LOC-G	CFIT	ARC	OTHER	SCF-PP	MAC (Air. Infr.)
Improper management of take-off		x			x			
Improper management of landing				x				
Human performance				x				
Adverse weather conditions			x	x				
Crew experience/ training/ competence			x		x	x		

[1] To be completed with GL-HEL conclusions.

The risk areas for helicopter operations do not change compared to the previous edition.

MAC – Airspace infringement is considered a high-risk event as the number of such incidents is increased.

Conclusions:

- The main key risk area is LOC-I (*Loss of control in flight*), which was the cause of all fatal accidents, as well as of the accidents without casualties and serious incidents for this type of operations;
- Risk areas LOC-G (*Loss of control on ground*), CFIT (*Controlled flight into terrain*), ARC (*Abnormal runway contact*) SCF-PP (*System/ component failure – powerplant) and OTHER* constitute the main causes for the accidents without casualties;
- SCF-PP (*System/ component failure – powerplant) and OTHER* also constitute the main causes of incidents.

Principalele zone de risc:

- Priority 1:
  - 1 a – LOC-I (*Loss of control in flight*)
  - 1 b – LOC-G (*Loss of control on ground*)
  - 1 c – CFIT (*Controlled flight into terrain*)
  - 1 d – ARC (*Abnormal runway contact*)
  - 1 e – OTHER
  - 1 f – SCF-PP (*System/ component failure powerplant*)
  - și MAC (*Mid-air collision*) – Airspace infringement

General aviation operations

This chapter analyses general aviation operations with aircraft other than helicopters - that have been described in the previous chapter. Consequently, operations with light aeroplanes, ultra-light motor-powered aircraft (ULM) and ultra-light non-motorised aircraft (AUN) are included.

Safety performance of general aviation

According to the National Database the following accidents (fatal, with injuries and without casualties) and serious incidents occurred during the last decade (2012-2021):

TOTAL number of accidents: 108, of which:

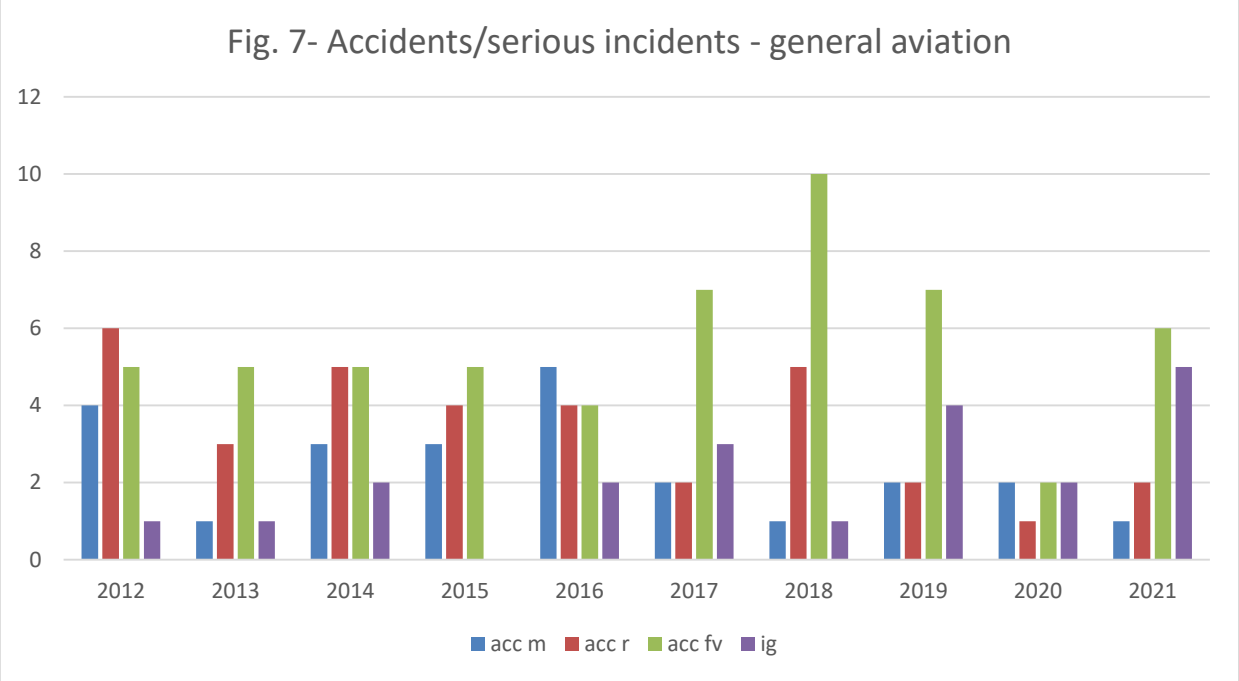
- fatal accidents: 24
- non-fatal accidents (with injuries): 34
- non-fatal accidents (without casualties): 56

TOTAL number of serious incidents: 21

The distribution of these events per year is shown in Table 10, as well as in Figure 7:

Table 10

LAGA	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
accidents, of which	15	9	12	10	12	10	16	10	5	9
fatal accidents	4	1	3	3	5	2	1	2	2	1
non-fatal accidents (with injuries)	6	3	5	4	4	2	5	2	1	2
non-fatal accidents (without casualties)	5	5	5	5	4	7	10	7	2	6
serious incidents	1	1	2	0	2	3	1	4	2	5



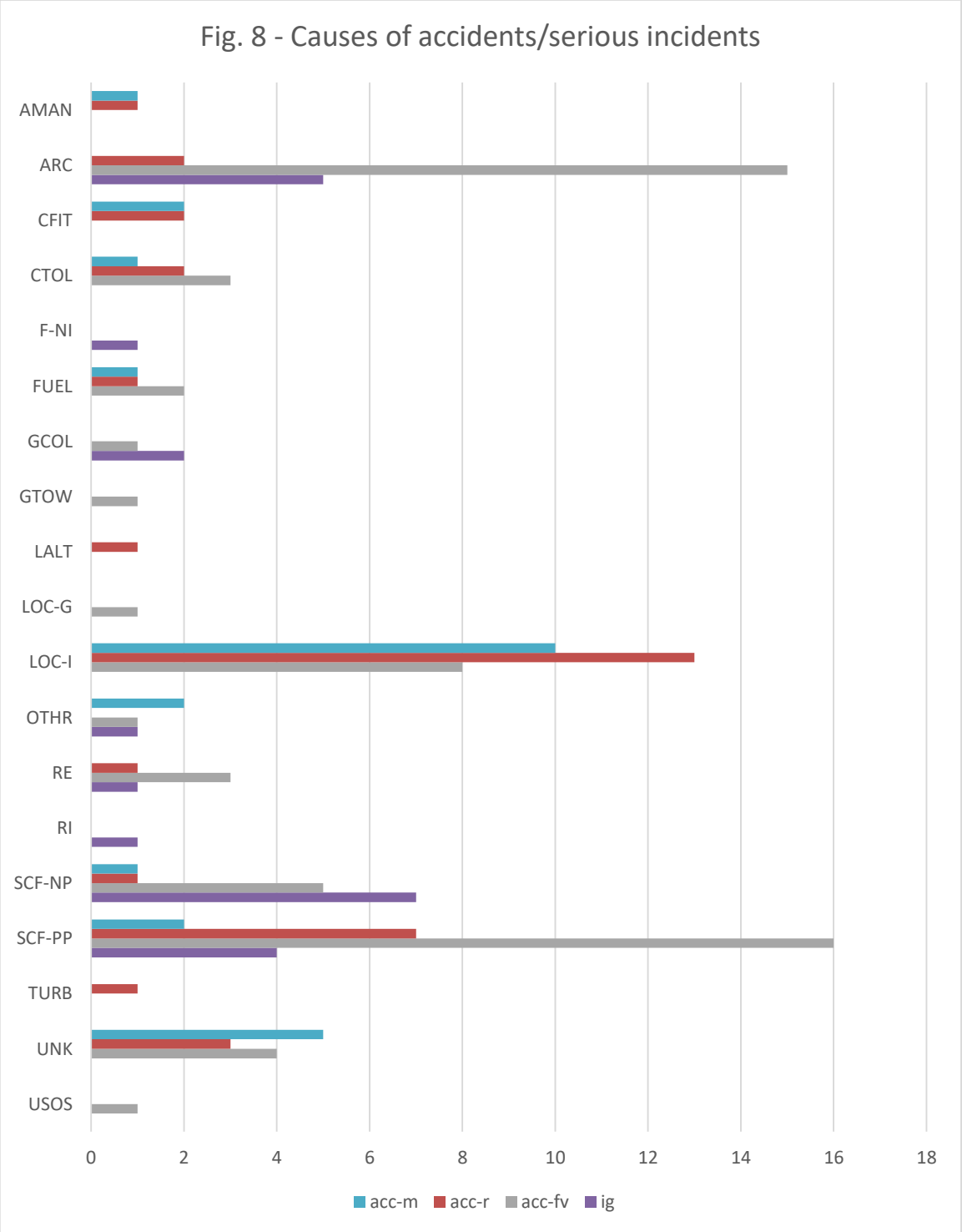
Causes of accidents and serious incidents - general aviation

The analysis of the safety reports in the National Database as well as of the Investigation Reports prepared by AIAS so far revealed the main causes of accidents/serious incidents analysed in this chapter, which are presented in Table 11 and Figure 8 below.

Table 11

Cause	Fatal accidents	Non-fatal accidents (with Injuries)	Non-fatal accidents (without casualties)	Serious incidents
AMAN	2	1	1	
ARC	17		2	15
CFIT	4	2	2	
CTOL	6	1	2	3
F-NI				
FUEL	4	1	1	2
GCOL	1			1
GTOW	1			1
LALT	1		1	
LOC-G	1			1
LOC-I	28	1	13	8
OTHR	3	2		1
RE	4		1	3
RI				
SCF-NP	7	1	1	5
SCF-PP	24	2	7	16

TURB	1		1	
UNK	1	5	3	4
USOS	1			1



Risk portfolio for general aviation operations

In view of the above, the key risk areas resulting for general aviation operations are:

Table 12

GENERAL AVIATION operations													
% fatal accidents	25	40%	20%	8%	8%	8%	4%	4%	4%	4%	0%	0%	0%
% accidents with injuries	35	37%	9%	20%	6%	0%	6%	3%	3%	3%	6%	3%	0%
% accidents without casualties	61	13%	7%	26%	0%	2%	5%	8%	3%	0%	25%	5%	2%
% serious incidents	22	0%	0%	18%	0%	5%	0%	32%	0%	0%	23%	5%	9%
Precursors	Total Events	Key risk areas											
		LOC-I	UNK	SCF-PP	CFIT	OTHR	CTOL	SCF-NP	FUEL	AMAN	ARC	RE	GCOL
Lack of crew training /experience		x					x		x		x	x	x
Inappropriate aircraft maintenance		x		x				x			x		
Engine shut-down in flight (lack of fuel, technical failure)		x		x					x				
Wrong landing field		x		x		x	x				x		
Improper management of landing/emergency				x	x			x				x	
Loss of control in flight/taxiing		x						x				x	
Engine malfunction				x							x		
Undetermined causes						x						x	
Adverse weather conditions					x						x		
Technical failures				x							x		
Aircraft interference in aerobatic flight		x											
Misappreciation of flight altitude					x								
Hard landing				x									
Accidental opening of emergency parachute in aircraft			x										
Intoxicated pilot performing flight					x								
Attempt of aerobatic manoeuvre during landing										x			
Non-compliance with safe altitude							x						

Incomplete crew in flight	x											
Loss of control in paragliding	x											
Erroneous airspace observation by parachutist		x										
Inadequate speed on taxiway												x

Conclusions:

- For accidents with casualties, the key risk areas are: LOC-I, SCF-PP, CFIT and OTHR. A significant number of accidents with casualties (5) are classified as UNK.
- For accidents with injuries, the key risk areas are: LOC-I, SCF-PP, CFIT, CTOL and ARC. Three of the events are classified as UNK.
- For accidents without casualties, the risk areas identified are: SCF-PP, ARC, LOC-I are SCF-NP.
- The main precursors identified are: pilot lack of experience/training, inappropriate aircraft maintenance, engine shut-down in flight (caused by lack of fuel, technical failures etc.) and wrong choice of the landing field.

Key risk areas:

- Priority 1:
  - 1 a – LOC-I (*Loss of control inflight)*
  - 1 b – CFIT *(Controlled flight into terrain)*
  - 1 c – ARC *(Abnormal runway contact)*
  - 1 d – SCF-PP (*System/ component failure – powerplant*)
- Priority 2:
  - SCF-NP (*System/ component failure – non-powerplant*)
  - CTOL *(Collision with obstacle during takeoff and landing)*