

Finnish Aviation Safety Programme

Version 7.0



Finnish Transport and Communications Agency Traficom

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Foreword

Commercial air transport is a global, growing and constantly evolving form of transport that has attained a high level of safety through systematic long-term efforts. **In the Finnish aviation safety policy,¹** safety and passenger confidence in the air transport system are key objectives. **The safety programme, the safety plan and the strategic safety objectives and performance indicators and targets** are advanced mechanisms of safety management on the national level. They support the maintenance of the high level of safety achieved by the constantly growing air transport system in its different forms. The ongoing COVID-19 pandemic creates new threats to the safety of the air transport system that affect the operative safety efforts; these threats must be taken into account in safety management.

Because of growing volumes and changes in the operating environment and the industry, such as the increased chaining in the provision of services and new business models, the air transport system must have the capability to identify and manage complex systems' safety risks and in particular anticipate the impact of changes. Safety must be addressed across the board, taking into account not only safety itself but also economy, traffic flow and environmental factors. The effects of the COVID-19 pandemic on the decrease of traffic volumes in 2020 have been massive, and the financial impact throughout the aviation sector has also been considerable. In safety efforts, the financial situation of the operators and its potential effect on increasing the risk levels must also be taken into account in the recovery of traffic.

New technologies and operating models bring about a lot of good things, but they also create new kinds of challenges and threats to safety. Cybersecurity, unmanned aircrafts, powerful weather phenomena and many other topics that emerge from within the system or outside it challenge the traditional way of ensuring the safety of operations. **Advanced safety management** requires **cooperation and interaction** between the operators, the national authorities and the European Union Aviation Safety Agency (EASA). The interaction highlights the role of safety information – especially the ability to assess, analyse and utilise the existing safety information, a risk-based approach, and faster reactions to identified safety threats. It is also important to strengthen the methods of safety promotion in addition to regulation and oversight. The focus areas of oversight include especially assessing the capability and performance of organisations, in addition to monitoring the compliance with the requirements.

This document is the **Finnish Aviation Safety Programme**; it describes the aviation safety management system on the national level.

The role of the authority is increasingly expanding towards partnership and interaction in the spirit of continuous improvement. Safety information is becoming more important. The foundation of safety consists of a good safety culture, effective communications between stakeholders and authorities, and information-based measures undertaken to manage identified safety risks. Our common goal is to ensure safe air travel and uphold passenger confidence in the air transport system.

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Jari Pöntinen, Director General of Civil Aviation (DGCA) Finland, Finnish Transport and Communications Agency Traficom

¹ The safety policy can be found in Chapter 1 of the Finnish Aviation Safety Programme (FASP)

Finnish Aviation Safety Programme, document version history

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Underlying international standards, recommendations and other documents		
Aviation Act (864/2014) Act on Transport Services (320/2017) Convention on International Civil Aviation, Annex 19 (Safety Management) Global Aviation Safety Plan GASP (ICAO Doc 10004) EASA Regulation (EU) 2018/1139 ² The European Aviation Safety Programme European Plan for Aviation Safety (EPAS) COM(2011) 144 White Paper - Roadmap to a single European transport area - Towards a competitive and resource-efficient transport system COM(2015) 598 final, communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: An Aviation Strategy for Europe		
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Date	Version	Change
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10 April 2013	2.0	Update of section numbering, of text content in sections 2.2.1, 2.2.9, 2.2.11, 2.3.2, 3.1.4, 3.1.5, 3.2.2, 3.4, 5.1.3 and Annexes, and addition of section 5.1.5
30 January 2014	3.0	Update: logo, text in sections 3.1.5 and 3.1.6, Trafi process names in section 4.1
11 February 2015	4.0	Underlying international standard updated to Annex 19; references to the new Aviation Act updated; text referring to the Occurrence Regulation added to section 2.2.7; text concerning SMS requirements in section 3.1 updated and text concerning ground handling services added to section 3.1.8; Blacklist Directive deleted; paragraph concerning ramp inspections and related definitions deleted
13 March 2017	5.0	Extensive update: layout and content numbering changed; update to Annex 19 2 nd edition, changes in legislation and changes in the European aviation system taken into account; and description of Trafi practices updated to conform to current situation.
10 January 2018	6.0	Annual update
10 December 2020	7.0	Update: information related to regulations and operating models updates changed, including the change to Traficom. A description of safety cooperation between key organisations on the national level added.

² REGULATION (EU) 2018/1139 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL 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

Abbreviations

Abbreviation	Meaning
ACAM	Aircraft continuing airworthiness monitoring
AoS	Acceptable level of Safety
AoSP	Acceptable level of Safety Performance
AMC	Acceptable Means of Compliance
ATO	Approved Training Organisation
CAPSCA	Collaborative Arrangement for the Prevention and Management of Public Health Events in Civil Aviation
DGCA	Director General of Civil Aviation
DOC 9859	ICAO Safety Management Manual
DTO	Declared Training Organisation
EASA	European Union Aviation Safety Agency
EASP	European Aviation Safety Programme
EPAS	European Plan for Aviation Safety
ECCAIRS	European Coordination Centre for Accident and Incident Reporting Systems
Eurocontrol	European Organisation for Safety of Air Navigation
FASP	Finnish Aviation Safety Programme
FPAS	Finnish Plan for Aviation Safety
FDM	Flight Data Monitoring
GASP	Global Aviation Safety Plan
ICAO	International Civil Aviation Organization
PART TCO	EASA Third Country Operator Certificate
RPAS	Remotely Piloted Aircraft System
RPASP	the Remotely Piloted Aircraft Systems Panel
RSOO	Regional Safety Oversight Organization
SMS	Safety Management System
SPAS	State Plan for Aviation Safety
SSGC	Secretariat Study Group on Cybersecurity
SSP	State Safety Programme
SSPIA	State Safety Programme Implementation Assessment
USOAP	Universal Safety Oversight Audit Programme



1 Finnish aviation safety policy, objectives and resources

1.1 Finnish aviation safety policy

In international civil aviation, safety and safeguarding aviation have been set as the highest goal of joint agreements and regulations. Finland's civil aviation authority Traficom is committed to maintaining and developing the national aviation safety programme. Traficom considers it particularly important that citizens retain a high level of confidence in the air transport system. The foundation pillars of confidence are safety, security and environmental friendliness. In addition, the parties must ensure that economy, reliability and precision form a part of smoothly operating travel chains that support the accessibility of Finland and ensure the safe integration of new technologies and operating models into the aviation system.

The safety standards and procedures observed in Finnish aviation comply with ICAO and EU requirements. Traficom commits to specifying strategic safety objectives and an acceptable level of safety that Traficom and aviation organisations must aim to achieve in their operations in practice. The specification takes the EU-level safety objectives as well as local conditions and the safety topics that have emerged in the risk management in Finnish aviation into account.

The continuous development of safety management and a good safety culture, a performance- and risk-based approach and the organisations' responsibility for the safety of their own activities are the cornerstones of Finnish aviation safety. Traficom oversees and promotes their realisation.

Traficom is committed to ensuring that the resources needed for the duties of the aviation authorities are available and maintaining the expertise required by those duties. This is supported by continuous training and international cooperation.

Jarkko Saarimäki, Deputy Director-General, Traficom

Jari Pöntinen, Director General of Civil Aviation (DGCA) Finland, Traficom



1.2 Strategic safety objectives of Finnish aviation

- The safety of Finnish aviation remains at a high level. There are no aviation accidents where the reasons are caused by the Finnish aviation system.
- Continuous development of the safety performance of Finnish aviation operators in all aviation domains.
- Key threats of Finnish aviation have been identified and they are addressed in the organisations' safety management.
- Risk management in Finnish aviation is systematic, effective and in constant development.
- Finland has procedures and operating models for the management of cyber threats in aviation.
- Unmanned aviation is safely integrated with regard to the Finnish aviation system and third parties. Unmanned aviation operators know the requirements related to their operations and are responsible for the safety of their activities. Authorities will intervene in infringing activities.
- The runway safety of Finnish aviation remains at a high level.
- Reactivity: we react actively to the deficiencies identified and implement corrective measures in the spirit of continuous improvement.
- The safety standards and procedures observed in Finnish aviation comply with ICAO standards and EU requirements.
- Safety culture in Finnish aviation is at a good level. Good safety culture is maintained and developed.

Acceptable levels of safety and safety performance as well as monitoring the realisation of safety objectives have been described in section 3.3.

1.3 Finnish aviation safety management as a part of a global mechanism – international obligations and cooperation

1.3.1 *The role of the International Civil Aviation Organization (ICAO) in safety management*

[ICAO](#) (*International Civil Aviation Organization*) is a specialised agency of the United Nations. Its duties are defined in the Convention on International Civil Aviation (*the Chicago Convention*) signed on 7 December 1944. The purpose of ICAO is to develop the policies, principles, requirements and recommendations followed in international aviation. The agency's specific duties include promoting aviation safety internationally. ICAO currently has 193 member states.

In Annex 19 (Safety Management) to the Convention, ICAO imposes general safety management responsibilities and obligations on member states, having to do with the development and introduction of State Safety Programmes (SSP) and aviation organisations' Safety Management Systems (SMS).

The Global Aviation Safety Plan [GASP](#) was created to facilitate global and coordinated improvement of aviation safety. The GASP is updated every three years and adopted by the ICAO Assembly. The purpose of the GASP is to underline the importance of safety as the main priority in civil aviation and to bring together globally determined key safety objectives and areas of safety performance and to support the achievement of the objectives in all areas (*Appendices A and B to GASP, Global aviation safety roadmap*). The GASP outlines regional and national safety efforts and the structures of safety management.

1.3.2 *ICAO's regional work and coordination in Europe*

ICAO has a Safety Management programme to support regions and governments in the efficient deployment of SSPs and SMSs.

Responsibility for safety management is widely distributed among ICAO, regional organisations (*such as the European Union Aviation Safety Agency, EASA*), national governments and aviation organisations. ICAO's work to implement GASP at the global level is carried out through the system-level tools described below:

- [RASG](#) group (*Regional Aviation Safety Group*): The RASGs are ICAO's seven key regional groups for coordinating the implementation of GASP as well as regional risk management. Unlike other RASGs, the RASG-EUR covering Europe and the North Atlantic region has merged with EANPG (*European Air Navigation Planning Group*). Since 2019, the operations have continued within the framework of [EASPG](#) (*European Region Aviation System Planning Group*). EASPG is responsible for supporting the implementation of both GASP and GANP in the EUR NAT region.
- [RASP](#) (*Regional Aviation Safety Plan*): RASPs are regional safety plans that support the implementation of GASP as well as regional risk management. EPAS is the regional safety plan that applies to the EU. ICAO and EASA cooperate in producing an EUR RASP for the whole EUR (*European and North Atlantic*) region. EPAS is utilised in its creation.
- [NASP](#) (*National Aviation Safety Plan*): NASP is the term ICAO uses for national safety plans. SPAS is a term used within the EU, and it is based on the obligation of Article 8 of the EASA Regulation concerning a State Plan for Aviation Safety. Therefore, the NASP/SPAS for Finland is called FPAS (*Finnish Plan for Aviation Safety*). The EU Member States must take EPAS into account in their national plans. EPAS takes GASP as well as the other relevant global plans into account.

The global safety management mechanism for implementing GASP has been described above. The mechanism is performance- and risk-based. Risk management and safety assurance both regionally and in the member states produce essential information for updating safety objectives, priorities, plans and

roadmaps, among other things. In addition to this, ICAO's member states influence the future practices and the development of ICAO's Annexes, on which the system is based. In regard to Europe, this is implemented in a coordinated manner through cooperation between EASA, ECAC (*European Civil Aviation Conference*) and Eurocontrol.

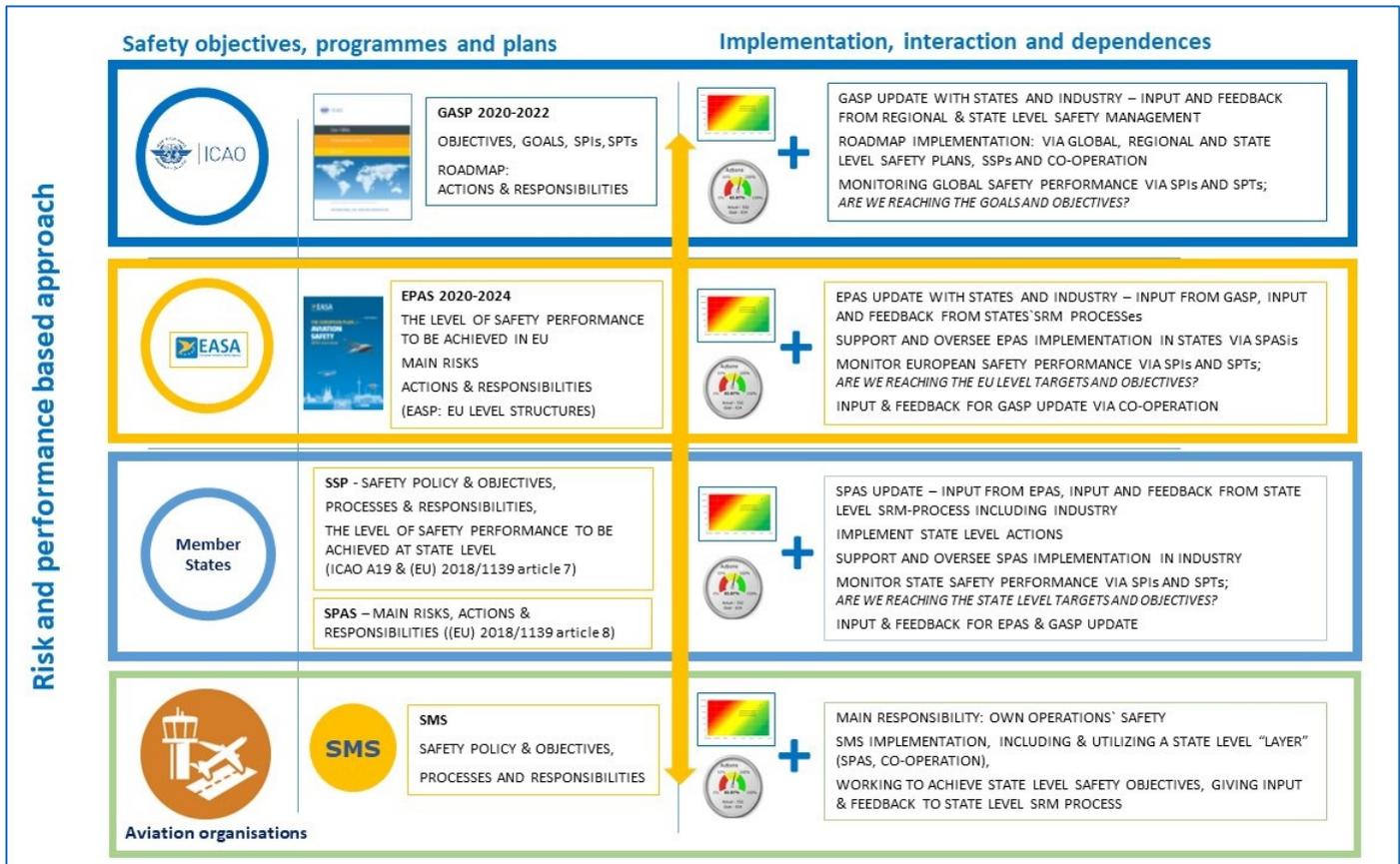


Figure 1. The global operator chain of aviation safety management

1.3.3 The aviation system of the European Union and Finland's role

The European Aviation Safety Programme (EASP) describes aviation safety management at the European level. It provides an overview of the applicable legislation, measures and processes.

The European Plan for Aviation Safety (EPAS) has been published since 2011, being updated annually for a five-year period. It describes the key risks identified in aviation at the European level, as well as strategic safety objectives and action items for attaining them. EPAS takes account of global programmes (*the Global Aviation Safety Plan GASP and the Global Air Navigation Plan GANP, both published by ICAO*) as well as the regional aviation plans and strategy papers (*for more detail, see the Finnish Plan for Aviation Safety FPAS*).

The EASA Regulation (2018/1139) includes obligations concerning the European Aviation Safety Programme and the European Plan for Aviation Safety, as well as the national safety plans and programmes. Similar requirements were earlier imposed on governments in ICAO Annex 19.

The EPAS is produced as part of the Safety Risk Management process (SRM) at EASA. EASA coordinates the identification of key risks as well as the creation and development of the European aviation risk portfolio within its SRM process. Traficom exerts influence on the contents of the EPAS in EASA's SRM process by being involved in the expert and decision-making forums. Through the forums of this process that progresses following an annual cycle, Member States and aviation stakeholders can participate in and influence European aviation risk management. The measures specified as a result of the process are published

annually in the EPAS and implemented in a coordinated manner at the EU level as well as nationally.

Concerning Finland, Traficom incorporates the measures assigned by EPAS to the Member States in the Finnish Plan for Aviation Safety. Aviation organisations must process, document and implement the measures for applicable parts. Traficom implements the measures under its responsibility and monitors the processing and implementation of measures by the organisations. EASA implements the EPAS measures under its responsibility, and oversees the implementation of the Member States' EPAS measures annually through the creation and implementation of national safety plans.

1.3.4 Finnish Aviation Safety Programme (FASP)

The Finnish Aviation Safety Programme (FASP) is a system-level description of Finland's aviation safety management. Finland has described the mandatory nature of the FASP and its Annexes in section 4 of the Aviation Act (864/2014) as follows:

"The Finnish Transport and Communications Agency shall prepare and validate the State Safety Programme referred to in Article 7 of the EASA Regulation as well as the State Plan for Aviation Safety referred to in Article 8, taking into consideration the standards referred to in the Chicago Convention as well as the European Aviation Safety Programme referred to in Article 5 of the EASA Regulation and the European Plan for Aviation Safety referred to in Article 6 of the EASA Regulation.

Aviation operators shall process the national aviation safety programme as well as the plan for aviation safety in their own safety management."

As required by Annex 19, the core of FASP consists of the eight critical elements of safety that ICAO requires the states to manage effectively.

These are as follows:

1. Primary aviation legislation, CE-1
2. Specific operating regulations, CE-2
3. State system and functions, CE-3
4. Qualified technical personnel, CE-4
5. Technical guidance, tools and provision of safety-critical information, CE-5
6. Licensing, certification, authorization and approval obligations, CE-6
7. Surveillance obligations, CE-7
8. Resolution of safety issues, CE-8

These critical elements of safety are incorporated in the four components of the SSP framework, which are:

1. State safety policy, objectives and resources
2. State safety risk management
3. State safety assurance
4. State safety promotion.

The Finnish Plan for Aviation Safety (FASP Annex 1) describes the key risks identified in Finnish aviation as well as the strengths of the aviation system to be fostered, along with Finland's strategic safety objectives and the measures taken to attain them.

Finnish Aviation Safety Objectives and Safety Performance Indicators and Targets (FASP Annex 2) describes aviation safety performance indicators on the national level and their targets. The indicators are used to monitor the realisation of the strategic safety objectives and define an acceptable level of safety that Traficom and aviation organisations must try to achieve in their activities in practice.

1.3.5 Background to FASP development

The first FASP was created between 2009 and 2012, following the four-step technique outlined by ICAO:

1. GAP analysis to establish how national legislation should be improved in order to introduce an SSP
2. Training programme for personnel of the authority responsible for oversight of safety management systems (SMS)
3. Development of regulations concerning SMS for aviation organisations and development of guidance materials for the introduction of SMS
4. Reforming the government enforcement policy to bring it into line with the SMS philosophy.

The FASP fulfils the requirements of Annex 19 and was specifically prepared with a view to both Annex 19 and the recommendations of ICAO DOC 9859 governing its enforcement.

1.4 Aviation legislative framework (ICAO CE-1, CE-2)

Global regulation of aviation safety is based on the Convention on International Civil Aviation, also known as the Chicago Convention (Finnish Treaty Series, No. 11/1949). As a party to the Convention, Finland is committed to comply with the standards and recommendations adopted by ICAO (*for more details on the global safety management mechanism, see section 1.3*).

The most important provisions applied in Finland with regard to aviation safety are the EASA Regulation (EU) 2018/1139, the Finnish Aviation Act (864/2014) and the Act on Transport Services (320/2017). The standards and recommendations mentioned above are implemented through and also supplemented by these regulations, as well as through Commission regulations or national decrees and aviation regulations issued by virtue of them.

1.4.1 EU legislation

A large share of the legislation to be followed in aviation consists of directly applicable regulations of the European Union. The most important EU regulation for aviation safety is the EASA Regulation 2018/1139³; under which more detailed Commission regulations have been issued.

Non-mandatory guidelines are also issued to complement EU regulations and Finnish aviation legislation, such as Acceptable Means of Compliance (AMC) and Guidance Material. The competent authorities for issuing such guidelines are, principally, EASA vis-à-vis EU legislation and Traficom vis-à-vis national legislation. The material is available on EASA and Traficom websites, respectively.

Reporting of civil aviation occurrences is addressed in Regulation (EU) No 376/2014 of the European Parliament and of the Council on the reporting, analysis and follow-up of occurrences in civil aviation, also known as the Occurrence Regulation. Traficom is the competent national authority as referred to in that Regulation, and it has issued more detailed instructions on how to report accidents, incidents and occurrences. The obligation to report occurrences and the handling of occurrence data are described in section 2.5 'Safety information: compiling, analysing, exchanging and confidentiality'.

Another Regulation significant for aviation safety is Regulation (EC) No 2111/2005 of the European Parliament and of the Council on the establishment of a Community list of air carriers subject to an operating ban within the Community and on informing air transport passengers of the identity of the operating air carrier, and repealing Article 9 of Directive 2004/36/EC. Before Traficom issues a permit or operating authorisation for air transport between Finland and third countries, it ensures that the applicant has EASA's Part TCO authorisation and that the applicant is not on the Community list of air carriers subject to an operating ban. Observations made in ramp inspections in Finland as in other EU Member States are relevant when the Community list is updated. Ramp inspections are described in section 3.1.5.

EU legislation is published in EUR-Lex, the EU's website on legislation and court documents (www.eur-lex.europa.eu). Links to the EASA Regulation and the implementing rules issued under it can also be found on the website of the European Union Aviation Safety Agency EASA (www.easa.europa.eu) and partially also the website of Traficom (www.traficom.fi). Guidance materials, such as the Easy Access Rules documents compiled by EASA, can also be found on the EASA website.

³ REGULATION (EU) 2018/1139 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL, 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

1.4.2 National legislation

The principal national legislative instruments in Finland for aviation are the Aviation Act (864/2014) and the Act on Transport Services (320/2017), which specify how aviation operations are overseen, what permits and approvals are required in Finland, what the key requirements for issuing permits and approvals are, and what the administrative consequences are of operating in non-compliance with these requirements. These acts assign Traficom the authority to issue more detailed provisions in various matters.

The national laws, decrees and regulations are available in Finland's online legislation databank Finlex (www.finlex.fi), which can also be accessed via Traficom's website (www.traficom.fi). Issues relating to aviation safety are also provided for in national legislation concerning the transportation of dangerous goods, for instance.

1.4.3 Emerging segments in aviation

Unmanned aviation

Unmanned aviation as an emerging segment in aviation is experiencing strong growth. At the EU level, the regulation of unmanned aviation was published on 11 June 2019, and for the most part, it became applicable on 31 December 2020. Traficom has issued national regulation OPS M1-32 on the use of remotely piloted and model aircraft. While the transition to EU legislation is in progress, the relevant parts of OPS M1-32 will be frozen for 1–2 years in order to enable the transition period. It also applies to state aviation, for which a separate regulation will be drafted by the end of the one-year transition period.

A risk-based approach has been used to establish the EU legislation, even though parts of it are somewhat stricter than the previous national legislation. In drafting the national regulation OPS M1-32, too, an effort has been made to use a performance- and risk-based approach while also emphasising the operators' own safety management.

Regarding remotely piloted aircraft systems (RPAS), the RPAS panel of ICAO is currently preparing amendments to the Annexes of the Chicago Convention to appropriately address unmanned aviation. Anticipating future needs is a particularly challenging component in this work. Technological advancements in this segment are unusually rapid, and we must avoid a situation where standards are already technically outdated even as they are being written. ICAO focuses on transborder RPAS operations.

Aviation cybersecurity

Digitalisation and automation have already been used in aviation for a long time as a part of various equipment, systems and navigation and communication methods. The increasingly rapid digitalisation/automation of the whole society that is currently in progress creates new potential for developing the aviation system, keeping the practices and the operating environment in continuous evolution. As a result, the importance of cyber threats is also increasing. Cybersecurity means ensuring security and safety in the digital operating environment as a whole. Cybersecurity plays a key role in enabling the benefits created by digitalisation.

Cybersecurity in aviation is being developed in broad-based cooperation at many different levels: globally as well as at the European, national and organisation level. Finland is actively involved in cybersecurity work at all levels. On the global level, the changes to ICAO's standards and recommendations on civil aviation security (Annex 17) as well as the Directive on Network and Information Security (NIS) at the EU level have influenced the regulation of aviation in general. More comprehensive regulation on aviation cybersecurity in terms of the aviation

system is currently being drafted on the global level, coordinated by the ICAO SSGC (*Secretariat Study Group on Cybersecurity*), as well as in Europe (EASA RMT.0720 and NPA 2019-07). The goal is to have the EU legislation completed in 2021.

The key principles of work on cybersecurity are performance- and risk-based operations on all levels, and applying tried and tested existing work on aviation safety as far as possible. In order to be able to respond to the challenges of a continuously changing operating environment, cybersecurity work in Europe and Finland must emphasise an integral and balanced whole consisting of evolving regulation, recommendations, best practices and industry standards.

Both the EPAS and the FPAS also contain measures relevant to the aforementioned new areas.

1.5 State system and functions (ICAO CE-3)

As part of the global chain of aviation safety management, Finland will set national target levels for an acceptable level of safety and an acceptable level of safety performance, which Traficom and aviation stakeholders must aim to achieve in practice. Similarly, op organisations must have in place the safety management functions and practices required to attain the target levels (see section 3.3 for more details).

For the purposes of the present document, 'stakeholders' is used as a blanket term to cover both aviation organisations and individual aviation professionals and recreational aviators. 'Organisations' refers to any and all organisations that offer aviation-related services, including but not limited to training organisations, air operators, maintenance organisations, organisations responsible for the design and manufacturing of aircraft, air traffic service providers, aerodrome operators, and organisations providing ground handling services and aeronautical weather services.

1.5.1 Sharing of responsibility

Finnish aviation organisations and the authority are jointly responsible for the safety of Finnish aviation, each playing its own role. Each party is assigned detailed safety management requirements that make up the overall system. In addition, obligations on safety management coordination at the European and national levels have been imposed in order to achieve the safety objectives set for the different levels. It is the responsibility of each EU Member State to establish a State Safety Programme and, pursuant to this, define an aviation safety policy, safety objectives and acceptable levels of safety and safety performance, issue the necessary legislation, establish mechanisms for oversight, risk management and safety promotion, and determine the competent authority to manage these duties. The Member State is also responsible to ensure safety management at the national level by implementing the State Safety Programme and taking care of its coordination responsibilities as a part of the European-level regional and global safety management mechanism.

It is the duty of organisations to establish and introduce a Safety Management System (SMS) or administration or management systems to ensure the safety of operations. Requirements for organisations' SMSs are given in section 2.2.

Each organisation is responsible for the safety of its own operations. The organisations must, within the scope of their SMS, address any hazards/threats identified by them as well as the risks relevant to the organisations identified in the Finnish Plan for Aviation Safety, assess the risks associated with these hazards/threats and, if necessary, take action to eliminate risks or to mitigate them to an acceptable level (*for more details, see section 2.6*).

1.5.2 Legislative and implementing authority

Legislative authority in aviation safety issues rests principally with the European Union. The European Parliament, Council and Commission are competent authorities for adopting Regulations concerning aviation safety that are binding upon Member States. EASA is the aviation authority responsible for specific duties such as aircraft type certification and approvals of foreign operators. Aircraft and devices listed in Annex I to the EASA Regulation fall within national regulatory competence (*airworthiness, licensing, flight operations, etc.*).

The Finnish Aviation Act designates Traficom as the national aviation authority that also performs the duties assigned to the national authority in EASA legislation. Traficom grants licences and permits, oversees operators and issues aviation regulations complementing the Aviation Act.

Finland is represented in ICAO by the Director General of Civil Aviation (DGCA), appointed by the Director-General of Traficom. It is the responsibility of the Director General of Civil Aviation to ensure that Finland's policy regarding current ICAO issues is formulated at the appropriate level. Finland's delegation to the ICAO Assembly is led by the Minister of Transport and Communications.

The Ministry of Transport and Communications is responsible for the preparation of national Acts and Decrees.

The competent aviation safety investigation authority in Finland is the Safety Investigation Authority (SIA), which operates as an independent entity linked to the Ministry of Justice (see section 2.4).

1.5.3 National coordination of aviation

National coordination of aviation is established and supported with the help of national cooperation forums with regard to the sections that have been identified as necessary. The forums support the processes of continuous interaction and ensure that safety management issues are discussed comprehensively on the national level and among the operators integral to the issue in question.

Work on the National Transport Safety Strategy led by the Ministry of Transport and Communications

The National Transport Safety Strategy covering all transport modes for time span 2022-2026 is being prepared at the Ministry of Transport and Communications. During the preparations, the safety of all transport modes is addressed from the perspective of attitudes, competencies, automation and cybersecurity, among other things. As far as aviation is concerned, the focus is on the safety of unmanned and recreational aviation. The aviation safety measures specified in the strategy are prepared by a working group comprised of aviation stakeholders.

Liikenne12 - The National Transport System Plan

Preparations for Finland's first 12-year National Transport System Plan (*Liikenne12 in Finnish*) started in 2019. The preparations are steered by the parliamentary group led by the Ministry of Transport and Communications. *The first National Transport System Plan* is prepared for time span 2021–2032. The plan is drawn up based on the Highways Act. The objectives of the plan are related to the sustainability, accessibility and efficiency of the transport system, and the measures that will be included in the plan will also promote transport safety.

FASP coordination at the national level

At the national level, FASP coordination is established in the following areas:

- strengthening the safety policy and strategic safety objectives
- monitoring the achievement of the safety objectives and safety assurance (see section 3.3)
- risk management at the national level (see section 2.6)

Traficom–SIA coordination

The roles of SIA and Traficom are described in section 2.4 'Safety investigation'.

Traficom – National Police Board of Finland

Traficom cooperates extensively with different national authorities in connection with the safety of civil aviation. Cooperation with the National Police Board of Finland involves especially discussing the questions, division of tasks and

operating models related to the interface between the responsibility areas of these two supervisory authorities. With regard to the safety of civil aviation, the issues discussed include alcohol and drug tests related to aviation, exchange of information on disruptive and unruly passengers, and the impact of occurrence information on investigations related to civil aviation. Cooperation also strengthens the knowledge and awareness of the Occurrence Regulation as regards criminal pre-trial investigations. More detailed information on safety occurrences can be found in sections 1.7 and 2.5 below.

Cooperation Group on Civil Aviation Security issues

According to Annex 17 of the Chicago Convention, each member state of ICAO must have a coordinating body similar to the cooperation group on civil aviation security issues. The purpose of the cooperation group is to coordinate aviation security issues between ministries, agencies and other government organisations, aerodromes and air carriers, air traffic service providers, and other parties to which the national civil aviation security programme applies or who are responsible for complying with it.

Among other things, the cooperation group is tasked with acting as an advisory body when implementing security measures in order to combat threats to aviation, continuously assessing the use and necessity of such security measures, and issuing recommendations to change them when new threats appear or when equipment and technology develop, or due to other factors. The group is also tasked with ensuring that the coordination of security measures during different kinds of threats also works between ministries, agencies and other organisations responsible for compliance with the national civil aviation security programme.

The following organisations are represented in the cooperation group on civil aviation security issues: The Ministry of Transport and Communications, the National Police Board of Finland, the Eastern Uusimaa Police Department, the Finnish Security Intelligence Service, Finnish Customs, the Finnish Border Guard, the Passenger Information Unit Finland (FI PIU), Traficom, Finavia Corporation, Lappeenranta Airport, Air Navigation Services Finland (ANS Finland), Finnair and Nordic Regional Airlines Oy (Norra). The cooperation group meets 4 times per year, and additional meetings are held as needed.

Even though as a body, the cooperation group on civil aviation security issues primarily coordinates civil aviation security measures, it also discusses matters related to aviation safety. One example is the EASA Regulation on the breathanalysis of personnel in aviation safety-related duties. The matter is a permanent item on the cooperation group's agenda, and will remain so until the related challenges in national legislation can be resolved. The discussions of the cooperation group often also feature unruly and disruptive passengers as well as flying over conflict zones and the route changes they cause. Traficom also brings issues identified as affecting safety to be handled in the national aviation safety risk management process.

SAR Cooperation Group

Traficom has appointed a SAR Cooperation Group. According to section 121 of the Aviation Act, Traficom coordinates the division of tasks between various rescue authorities and the service provider as regards the organisation of aviation search and rescue services.

Traficom is responsible for the activities of the cooperation group and acts as its chair. The group meets twice per year. In addition to Traficom, the group also includes ANS Finland, the Finnish Border Guard, the National Police Board of Finland, the Eastern Uusimaa Police Department, the Emergency Response Centre Agency and the Rescue Department. The Ministry of Transport and Communications is informed of the activities of the group by sending the meeting minutes to the representative of the Ministry of Transport and Communications.

To support the division of tasks between the rescue authorities and the service provider, Traficom has drawn up informative SAR instructions '*Ilmailun etsintä- ja pelastuspalveluohje*' (*Instructions on aviation search and rescue services*), which is published on the Traficom website and updated every three years by the cooperation group.

High Level Airspace Policy Body (HLB)

The High Level Airspace Policy Body (HLB) appointed by the Finnish Government operates under the Ministry of Transport and Communications; it is tasked with agreeing on how the needs of civil and military aviation are integrated and taken into account in the management of airspace and air traffic, provision of air navigation services as well as procedures related to the flexible use of airspace.

HLB has been established under the Aviation Act, and it is related to the requirements of Commission Regulation (EC) 2150/2005 on the flexible use of airspace⁴.

The Government appoints HLB for a period of three years at a time from among representatives of civil and military aviation operators. Its members include the Ministry of Transport and Communications, the Ministry of Defence, the Finnish Military Aviation Authority, Defence Command Finland, Air Force Command Finland, ANS Finland, Finavia Corporation, the Finnish Meteorological Institute and Traficom. HLB can invite experts and representatives of air navigation service providers, airlines, military aviation and other aviation operators to be heard.

HLB is tasked with promoting the flexible use of airspace and handling issues related to the coordination of civil and military aviation as an advisory body and, if necessary, issuing recommendations; participating in the preparation of issues related to airspace management decided by the European Union and international aviation organisations and at the national level, and formulating the Finnish position; processing matters related to the Single European Sky and the North European Functional Airspace Block; and identifying the needs of different airspace users at the strategic level of airspace management, reconciling potential conflicts related to them and issuing statements on issues concerning the airspace.

HLB also takes into account the safety impacts of the issues processed, and the members of HLB take the results further to their own organisations. If necessary, Traficom also brings matters identified as affecting safety to be processed in the national aviation safety risk management process.

National Facilitation Committee

The activities of the National Facilitation Committee are based on the obligations of ICAO Annex 9. The Committee is tasked with coordinating measures related to the smooth flow of air traffic. Section 77 of the Aviation Act (864/2014) provides for Traficom's duty to prepare and establish a national programme for air transport facilitation and support coordination between the companies and authorities regularly operating at airports in order to enhance facilitation. Development of the national programme is a continuous effort carried out by the National Facilitation Committee.

Traficom is the responsible organisation of the Committee. The following authorities participate in the Committee: the Ministry of Transport and Communications, Finnish Police, Finnish Customs, Finnish Border Guard, Finnish Food Authority, the Finnish Institute for Health and Welfare (THL) and key operators. A characteristic of facilitation work is that power is distributed between different authorities. The work of the National Facilitation Committee improves

⁴ Commission Regulation (EC) No 2150/2005 laying down common rules for the flexible use of airspace

coordination and understanding between different actors, but each sector has the final decision-making power.

Facilitation has many interfaces with the security of civil aviation; one example is the close cooperation with security authorities in order to promote safe and smooth operation. Occasionally facilitation also affects aviation safety and vice versa; **the most recent example is health safety in connection with the COVID-19 pandemic.**

Annex 9 includes regulations on issues such as passports, crew member certificates, border formalities with regard to passengers and cargo, **prevention of infectious diseases**, prevention of zoonoses, and passengers with physical disabilities. Facilitation as a whole also includes Advanced Passenger Information (API) transmitted during a border crossing from the airline to the Border Guard as well as Passenger Name Records (PNR) from the airline to the Passenger Information Unit (FI PIU) of the police.

ICAO's requirements and recommendations have been implemented with Union legislation and national regulations. European-level harmonisation is carried out through the EU, and different authorities participate in this work. In addition, authorities cooperate within ECAC. ECAC FAL (*Facilitation Working Group*) produces instructions for promoting the smooth flow of operations (*ECAC Doc 30 part I*).

National FDM forum

The Finnish national Flight Data Monitoring forum (FDM) was established in February 2010, and it has been convened by Traficom ever since. Representatives of Finnish airlines, helicopter operators that use the FDM system, as well as the Safety Investigation Authority, Finavia and the Finnish Air Force have been invited to the group. The FDM group has free-form discussions on topical aviation safety issues based on the participants' FDM analysis. In the group, operators can take advantage of each other's experiences with the use of FDM and learn best practices from each other. It is also a way to harmonise FDM analysis in Finland, and enable a dialogue between airlines and the authorities on the use of FDM analysis data in the development of safety performance indicators as well as safety management on the national level, among other things. Maintaining a national FDM forum is also one of the EPAS and FPAS measures.

Local Runway Safety Team (LRST)

The team operates at Helsinki Airport based on the measures of EPAS and FPAS, the ICAO Doc 9870 (*Manual on the Prevention of Runway Incursions*) as well as the guidance materials (GM) related to Regulation (EU)139/2014. The team is convened by the airport operator Finavia, and its other members include ANS Finland, Finnair, Norra, ground handling companies and Traficom. It handles issues related to local runway safety and proposes corrective measures, if necessary.

The Committee of inquiry to inspect military aviation accidents

In order to improve the safety of military aviation, the Ministry of Defence appoints The committee of inquiry to inspect military aviation accidents for a term of three years at a time. The appointment of the committee and its duties are laid down in the Act on the Investigation of Military Flight Accidents (526/2011). The Act also provides for the number of members and deputy members as well as their required qualifications.

All relevant parties are represented in the committee. In practice, the committee has included representatives of the Finnish Defence Forces, Traficom, SIA as well as other key aviation operators in addition to the Ministry of Defence.

The committee of inquiry to inspect military aviation accident is tasked with issuing a statement to the Military Aviation Authority on the causes of military flight accidents that have occurred as referred to in section 4(1) of the Act, and the adequacy of the measures launched.

Bird Strike Working Group

Traficom convenes the Bird Strike Working Group twice per year. The activities of the working group support risk management at the national level with regard to bird strikes and ensure that the obligations of Regulation (EU) 139/2014 are fulfilled. Matters processed by the working group include e.g. handling safety threats caused by animals and measures related to animal control, as well as current matters related to animal control.

In addition to Traficom, airport operators (Finavia, Lappeenranta, Mikkeli, Seinäjoki), ANS Finland, airlines (Finnair, Norra), the Finnish Air Force, the Finnish Border Guard, the Finnish Meteorological Institute, the Finnish Museum of Natural History, the Finnish Wildlife Agency and FinnHEMS participate in the activities of the working group. In addition, an expert specialising in the observation of marine mammals and birds participates in the working group.

Members of the Bird Strike Working Group also participate in the meetings of the Nordic Bird Strike Advisory Group (NBSAG), held every two years.

Operating model for safety work in Finnish recreational aviation

Traficom carries out safety work for general and recreational aviation in accordance with the operating model developed in the project [Improving the safety of general aviation 2015](#) (in Finnish, with links to documents in English). In addition to Traficom, Finavia, ANS Finland, the Finnish Meteorological Institute, the Finnish Aeronautical Association and AOPA Finland have committed to the operating model.

Within the framework of the operating model, the operators committed to it review the safety situation together annually specifying the priorities and needs for measures in safety work for each year in the Finnish Plan for Aviation Safety (FPAS) and as themes of the *Lentoon!* (Take off!) seminar jointly organised every year.

1.5.4 FASP maintenance and update responsibilities

The Deputy Director-General of Traficom and the Director responsible for aviation (DGCA) are responsible for the Finnish Aviation Safety Programme (FASP) and its annexes. The Director General of Civil Aviation (DGCA) of each state is responsible for aviation safety management, as well as comprehensive oversight and coordination of aviation. A FASP coordinator (SSP focal point) responsible for coordinating the maintenance and updating of FASP and its annexes has been appointed to support DGCA. Traficom's FASP team supports the implementation of FASP and developing the operations related to its different aspects.

The need to update FASP and its annexes is assessed once per year.

The contents of the FPAS measures are linked to EPAS as well as to the national safety risk management process (see section 2.6). The contents of the measures are confirmed in a risk panel as a part of the process.

Traficom is responsible for the gathering and monitoring of data defined by the national safety performance indicators. With regard to the realisation of safety, monitoring data are published as a part of the promotion of safety (see section 4.2). The performance indicator monitoring data are used in safety management

to support decision-making at the national level (*for more detail, see sections 2.6 and 3.3.*).

1.5.5 Personnel qualifications and training (ICAO CE-4)

Traficom has defined two levels of qualification and training requirements for its personnel. When recruiting a new inspector, particular attention is paid to the candidate's aviation background, competence and suitability for the position. Inspectors in various sectors of aviation also have position-specific training paths required for qualification. Basic qualification requirements state the areas where all aviation inspectors must be competent, including basic knowledge of management systems and of regulation in their sector of aviation. Beyond this, specific competences are required in narrower fields of specialisation.

Personnel competence is continuously maintained through refresher courses and supplementary training. There are also workplace learning schemes, where a senior colleague provides on-the-job training to new inspectors.

1.6 Technical guidance, tools and sharing of safety critical information (ICAO CE-5)

1.6.1 Technical guidance and tools

Traficom provides its personnel with up-to-date tools, materials and guidelines as required for the acceptable and effective performance of their duties.

Traficom ensures that Finnish aviation stakeholders have timely access to current requirements and to the underlying legislation and guidelines necessary to comply with them. This is effected by maintaining updated information on Traficom's website and by providing information on any changes to the requirements both in advance and when the amendments are implemented. Traficom distributes information not only through its website but also through other channels, directly to operators and at stakeholder events. External communications and training are described in more detail in section 4.2 (*External training and sharing of safety information*).

1.6.2 Sharing of safety critical information

The organisations themselves have a duty and an obligation to keep up with all safety critical information. In addition, Traficom distributes safety critical information, such as Safety Information Bulletins (SIB) published by EASA, to organisations for immediate action as per the relevant work instructions. For this purpose, Traficom maintains a 24h flight operations desk (OPS desk). The person on duty at the desk evaluates any SIBs immediately as they arrive to consider their relevance for Finnish aviation and their urgency, and if necessary, forwards the bulletins to aviation organisations' contact persons immediately. Even in less urgent cases, SIBs are generally communicated to operators on the following day.

The distribution of other safety information is described in more detail in section 4.2 (*External training and sharing of safety information*).

1.7 Enforcement policy (CE-8)

When Traficom is notified of or becomes aware of non-compliant operations through oversight actions, it may intervene with administrative sanctions. Administrative sanctions available for Traficom to impose are provided for in chapter 14 of the Aviation Act and in the Part VII of the Act on Transport Services. The types of sanction available are an admonition; a warning; a ban on operations; modification, limitation or revocation of a certificate; a conditional fine; a conditional order of execution; and a conditional order of suspension. In addition to imposing administrative sanctions, Traficom may report to the police any action that is contrary to law or regulations. For example, causing a traffic hazard and air traffic intoxication are offences punishable under the Criminal Code.

Under the Aviation Act, the Safety Investigation Act and Regulation (EU) No 376/2014 of the European Parliament and of the Council (*the Occurrence Regulation*), each individual person and aviation organisation is obliged to report any accidents, serious incidents and occurrences observed and occurring in their own operations. Traficom will take action as necessary to ensure safety, based on information reported to it. Immediate action may involve contacting the operator and temporarily limiting its rights of operations. Any immediate action and actions taken at a later date will be subject to case-by-case review.

In keeping with the principles of safety management, organisations have the responsibility to address any occurrences they observe in their operations and to take corrective action regardless of whether the occurrences cause Traficom to take action. Organisations must analyse individual occurrences and broader phenomena within their own SMS, in accordance with the requirements of the Occurrence Regulation, and to submit analysis results on identified safety risks to Traficom.

The handling of occurrence reports and other safety information is subject to the 'just culture' principle as described in section 2.5.

2 Safety risk management

2.1 Licensing, certification, authorisation and approvals obligations (ICAO CE-6)

2.1.1 Licences, ratings, qualifications and approvals

Traficom issues licences to aviators. The purpose of the licensing system is to ensure that aviators fulfil the requirements applicable to the operations. Licence holders are responsible for maintaining the prerequisites for safe operations.

Pilot licences comprise airline transport pilot licences, commercial pilot licences and pilot licences for general and recreational aviation. Licences are also issued to air traffic controllers, flight information service officers and aircraft maintenance mechanics. In addition to licences, Traficom issues cabin crew attestations and crew cards. Traficom also maintains a register of approved security screeners. Such approvals are typically granted collectively to groups of people who have satisfactorily completed the relevant training.

Traficom also issues ratings and authorisations expanding the rights of pilot licences concerning operations where these are specifically required. All individual stakeholders are responsible for ensuring that they have the qualifications required for the operations and that they meet any requirements regarding maintenance that may be related to the qualifications.

Licensing requirements are principally based on EU Regulations. Certain recreational aviation licences, such as the ultralight and autogyro licences, are still subject to national legislation. In Finland, Traficom issues licences to persons who fulfil the required criteria. Through the licence administration processes, Traficom also ensures that the staff employed by organisations and individual aviators are in compliance with the qualification requirements (for more information, see section 3.1).

Traficom is also responsible for the selection, training and oversight of flight examiners responsible for assessing the competence of licence holders.

2.1.2 Medical certificates

In addition to the licensing requirements, a medical certificate is required for certain duties. Medical certificates are issued by aeromedical centres or aviation medical examiners authorised and supervised by Traficom.

2.1.3 Organisation approvals

Principally, aviation organisations are subject to an approval. The organisation has the duty to ensure that the requirements are met. Traficom evaluates whether an organisation's operations are in compliance with applicable requirements and issues an approval when the requirements are met. With regard to organisations subject to notification procedures, Traficom evaluates the correctness of the information submitted.

2.1.4 Unmanned aviation

The users of unmanned aircraft systems (UAS) must be registered starting from 31 December 2020. Starting from the same date, remote pilots of UAS must also demonstrate their knowledge by completing an online theory test. In connection with high-risk activities, remote pilots are required to complete an additional theory test. If the UAS operator operates in the 'specific' category, the operator must, depending on the nature of the activities, submit a notification, apply for an operational authorisation, or apply for a Light UAS Operator Certificate (LUC).

2.2 Requirements for organisations' safety management system

A Safety Management System (SMS) is a systematic framework for identifying hazards/threats related to an organisation's operations and for managing safety risks. The organisations must establish a safety policy, administrative structures and responsibilities, safety management procedures including risk management, and procedures for continuous monitoring of safety levels and for improving the SMS performance.

SMSs must be compliant with the relevant requirements and compatible with the organisation's operating environment. Traficom evaluates the functioning and performance of operators' SMSs as part of its approval and certification management process, which is described in more detail in Chapter 3.

Requirements concerning organisations' SMSs applicable in Finland are contained in the ICAO standards (Annex 19) and in EU Regulations. These requirements apply to flight training organisations, air operators, maintenance organisations, aircraft design and production organisations, air traffic service providers, airport operators and ground handling service providers. Requirements for the SMSs of ground handling organisations are given in the Aviation Act in addition to the EASA Regulation (EU) 2018/1139.

2.2.1 Flight training organisations

With regard to Approved Training Organisations (ATO) and Declared Training Organisations (DTO), the requirement concerning an SMS has been implemented in Finland with the EU Regulation 1178/2011 (Aircrew Regulation).

DTO organisations are not required to have a similar SMS as the ATO organisations. However, DTOs must have tools and procedures for identifying threats and risks, implementing mitigating measures and monitoring these measures.

2.2.2 Air operators

With regard to air operators, the requirement concerning an SMS has been implemented in Finland with the EU Regulation 965/2012 (Air Operations Regulation).

2.2.3 Continuing airworthiness management organisations

The requirement for a safety management system for continuing airworthiness management organisations (Part-CAMO) was implemented in the Regulation (EU) 2019/1383 on 24 March 2020. A transition period is currently ongoing; organisations are required to have a safety management system implemented by the end of the period on 24 September 2021. By 24 September 2021, existing Part-M Subpart G organisations must also change their operations and licenses so that they are compliant with the new regulation.

2.2.4 Other technical organisations

For POA, DOA and Part-145 organisations, the requirement for implementing a safety management system is under preparation as amendments to EU Regulations 1321/2014 and 748/2012, in accordance with EASA rulemaking task RMT.0251 (NPA 2019-05). The Opinion is expected to be published in Q4/2020 and the Regulation in Q4/2021. The planned transition period is two years.

With regard to maintenance training organisations (Part-147) as well as Combined Airworthiness Organisations (Part-CAO), no requirements on implementing a safety management system are expected.

2.2.5 Air traffic service providers

For air traffic service providers, the requirement for a safety management system is implemented in 2005 with the EU Regulation 2096/2005. Currently, EU Regulation 2017/373 is applicable.

2.2.6 Airport operators

EU Regulation 139/2014 laying down requirements and administrative procedures related to aerodromes published in 2014 is the current legislative basis applicable to airports. It contains detailed requirements concerning airport operators' safety management systems.

2.2.7 Organisations providing ground handling services

Ground handling services refer to the services provided at airports for their users listed in the EASA Regulation ((EU) 2018/1139). ICAO does not require organisations providing ground handling services to have a safety management system. The EU level requirements on the safety management of ground handling are laid down in the EASA Regulation. Ground handling service providers must maintain and develop a safety management system to ensure the safety of their own activities and promote the safety of the airport as a whole.

The safety management system must state at least the following:

- 1) the division of responsibilities and the decision-making system of the ground handling service provider;
- 2) compliance of the operations with the requirements;
- 3) the subcontractors used and their monitoring;
- 4) document management;
- 5) occurrence reporting and the handling of occurrences;
- 6) training and other development of the personnel; and
- 7) equipment management.

Organisations providing ground handling services must provide information on their SMS to the aerodrome operator and to Traficom. Traficom can issue more specific regulations on ground handling required for safety and traffic flow. The regulations may involve the organisation of ground handling, management of ground handling operation packages and the definition of responsibilities so that ground handling operations do not pose a hazard to air transport.

On the EU level, work on a more specific implementing regulation is ongoing (*RMT.0728 Development of requirements for groundhandling*).

2.2.8 Unmanned aviation

Unmanned aircraft are operated within the limits specified by the EU Regulation on unmanned aircraft (Implementing Regulation (EU) 2019/947) starting from 31 December 2020, or for 1–2 years according to transitional provisions as applicable. There are no specific SMS requirements, but the operators are required to ensure the safety of their own activities, be aware of the risks of their own activities and, if necessary, use risk-based risk management methods. When the specified risk level is exceeded, the operator must apply for an authorisation or a certificate.

2.2.9 Aviation cybersecurity

The current statutory obligations on the safety management of aviation operators aim at managing the risks and ensuring that the likelihood of accidents remains low. With regard to cybersecurity, increased risk has been identified concerning events, in which the weaknesses of different areas of the system are misused intentionally.

From the FASP point of view, the objective of aviation cybersecurity is to contribute effectively to protecting the aviation system from cyberattacks and their negative consequences on aviation safety. For reaching this goal, the management of the aviation system's information security risks is very important. The abbreviation for the Information Security Management System is ISMS. In this context, information security risks refer to risks that may endanger the confidentiality, integrity and availability of information processed in the aviation system.

Requirements on the management of information security risks have been (Aviation Act, sections 128(a) and 128(b)) and will be imposed (Implementing Regulation 2019/1583 and EASA RMT.0720 [NPA 2019-07]) on organisations and the authorities. The aim is to focus on the impact of information security risks on aviation safety in a comprehensive and standardised manner and to ensure that the organisations and authorities that participate in civil aviation activities are able to identify, protect, observe, respond to and recover from information security incidents that affect aviation safety.

Information security management must be effective and appropriate in order to ensure the safety of aviation.

An effective overall management system that ensures the optimal balance between the three goals (aviation safety (SMS), security issues (SeMS) and information security (ISMS)) in risk management is recommended.

2.3 Requirements for Traficom's management systems

Requirements for national aviation safety management are set not only by ICAO but also in the EASA Regulation. For ICAO requirements and those set in the EASA Regulation, see sections 1.3 *'Finnish aviation safety management as a part of a global mechanism – international obligations and cooperation'*, and *'Aviation legislative framework'*.

The EASA Regulation and Commission Regulations issued by virtue of it contain requirements for authorities.

Annex II to the Commission's implementing regulation (EU) No 965/2012 on air operations, section ARO.GEN, contains requirements for the competent authority's management system (ARO.GEN.200), changes thereto (ARO.GEN.210), record-keeping (ARO.GEN.220) and the implementation of a system for immediate reaction to a safety problem (ARO.GEN.135).

The Finnish Aviation Safety Programme and Traficom's operations system form part of the management system and compliance monitoring system as required.

Oversight of Traficom's management systems is described in section 3.17.

2.4 Safety investigation

2.4.1 Role and responsibilities of the Safety Investigation Authority

The competent authority in Finland for investigating accidents and serious incidents in aviation is the Safety Investigation Authority (SIA) operates as an independent entity linked to the Ministry of Justice. The Safety Investigation Authority is an independent government agency, separate from the administrative and oversight organisations of all forms of transport and rescue services.

The Safety Investigation Authority is governed by the Safety Investigation Act (525/2011). Aviation accidents and incidents are investigated as specified in Regulation (EU) No 996/2010 of the European Parliament and of the Council and in the Convention on International Civil Aviation (*Finnish Treaty Series 11/49*), particularly Annex 13 - Aircraft Accident and Incident Investigation. Investigation requirements are also specified in chapter 11 of the Aviation Act (*Aviation accidents, search and rescue services, incidents and occurrences*).

When making a decision on initiating a safety investigation, the Safety Investigation Authority operates according to relevant international requirements and Safety Investigation Act (525/2011) taking into consideration the severity of the event and how likely it is to recur. An event or incident with minor consequences may be subject to an investigation if it is considered that such an investigation may yield significant information for improving overall safety and for preventing accidents.

The end product of a safety investigation is an investigation report, concluding as necessary with safety recommendations for the competent authorities and other parties. Safety recommendations are a summary of the investigators' views as to how similar accidents could be avoided in the future. The Safety Investigation Authority monitors the implementation of these recommendations. The purpose of a safety investigation is solely to improve safety; its purpose is not to apportion blame or responsibility nor to adjudicate liability for compensation.

2.4.2 Role and responsibilities of Traficom

Traficom may conduct studies and analyses of accidents, serious incidents and occurrences independently of the Safety Investigation Authority and take oversight actions intended to ensure that the continuation of aviation operations will not compromise safety.

Traficom works in close collaboration with the Safety Investigation Authority and provides assistance as necessary in compliance with the Safety Investigation Act. The Safety Investigation Authority informs Traficom in the course of an investigation of any emerging matters that may require immediate action.

Traficom issues a statement on the final draft of the investigation report, particularly addressing the safety recommendations issued to Traficom. When an investigation is completed, the Safety Investigation Authority sends the investigation report to Traficom for information or for action. Traficom processes and documents any safety recommendations addressed to it and responds to the Safety Investigation Authority within 90 days, informing the authority of its decisions.

Traficom seeks to leverage the results of both national and international safety investigations in its safety risk management efforts and also encourages aviation organisations to use this information in their safety management work.

2.5 Safety information: compiling, analysing, exchanging and confidentiality

2.5.1 Safety information

Traficom extensively compiles safety information from numerous sources. Air Safety Reports constitute one of the most important sources. Other sources of safety information include: audit and inspection findings and observations; analyses by organisations as required in the Occurrence Regulation; safety analyses made by organisations based on flight data monitoring (FDM) data (*N.B. FDM data is not provided to the aviation authorities, only selected analyses produced by the organisation are addressed at the national FDM forum*); other information obtained from assessing organisations' SMS performance; safety investigation reports; observations on check flights; interviews; information published in the media; data obtained through financial monitoring; ramp inspection results; data gained from Traficom's own analyses; research results; and information from other national and international sources.

2.5.2 Air Safety Reports and occurrence information

Under the Occurrence Regulation (376/2014), any persons engaged in aviation operations or any person employed by an entity engaged in aviation operations and any persons in aviation safety related duties must report to Traficom any incidents, interruptions, defects, errors or other exceptional circumstances (occurrences) that have to do with the operation, maintenance, repair or manufacture of aircraft, the operations of an aerodrome, ground handling services or air navigation services, and any occurrences which endanger or which, if not corrected or addressed, would endanger an aircraft, its occupants or any other person.

The reporting obligation also applies to aircraft referred to in Annex I to the EASA Regulation. Employees of aviation organisations and their contracted personnel should primarily report under the organisation's own safety management system. Private pilots submit their reports directly to Traficom.

Persons subject to the reporting obligation and Traficom itself must immediately notify the Safety Investigation Authority of any accidents and serious incidents.

Any private individual who becomes aware of a matter or circumstance with aviation safety relevance may submit a voluntary report even if they are not subject to mandatory reporting. A voluntary report can be submitted also anonymously.

Traficom is the competent national authority as referred to in the Regulation. More detailed instructions on how to report accidents, incidents and occurrences are given in Advisory Circular GEN T1-4.

Reports to Traficom shall be submitted using an online form on Traficom's website. If responsibility for submitting reports to Traficom has been assigned to an aviation organisation, a person submitting a report in that organisation does not need to file the report in person. The organisation must have a procedure in place that ensures that reports are duly submitted.

For accidents and serious incidents, the Safety Investigation Authority evaluates the event and decides whether to initiate an investigation. Traficom also informs the Safety Investigation Authority of any events that do not constitute an accident or serious incident, but that Traficom estimates might warrant an investigation.



Figure 2. Keys to a good safety culture, based on 'The Components of Safety Culture' by James Reason

2.5.3 Confidentiality of occurrence information and Just Culture as elements of a good safety culture

Traficom is responsible for the confidentiality and appropriate handling of occurrence information as defined in the Occurrence Regulation, and enters the reports received in the European occurrence database (ECCAIRS) without personal identity details. Finland exchanges information with other countries using the ECCAIRS database according to the Just Culture principles.

The 'Just Culture' principles are followed in the handling of data received through Air Safety Reports; the authorities will not take legal action because of an unplanned or unintentional offence that comes to their attention because of compliance with occurrence reporting procedures, except in the event of gross negligence or an action punishable under the Criminal Code.

Just Culture principles guarantee an atmosphere of trust with and between authorities and stakeholders, encouraging individuals to report safety information and assuring them that the information will be appropriately handled and taken into account in safety management.

Organisations are not allowed to discriminate against any employee who reports an incident that has come to their knowledge.

Employees and contracted personnel may notify the appeals body at Traficom⁵ of any alleged breaches of Just Culture principles as established in the Occurrence

⁵ More detailed instructions: Advisory Circular GEN T1-4

Regulation. Notifications concerning such alleged breaches must not result in sanctions to those employees or contracted personnel.

Safety culture means the organisation's ability and willingness to:

- prioritise safety in its operations
- understand what safe operation is like,
- identify what kind of threats are related to the organisation's activities,
- manage the risks related to its activities and operate safely,
- commit to safe operation at all levels of its own organisation and concerning all outsourced operations,
- identify, foster and constantly develop elements that maintain and promote safety.

Safety culture is never created purely by the organisation alone; it always includes national, educational and professional elements. The most important task of organisations is to identify the elements that are directly related to their sphere of influence and create recruitment, training and their own development policy based on this.

The key of safety culture is people's belief in the importance of safety, including the experience of safe actions and priorities being reflected throughout the operating chain; their own organisation and all other actors. That is why safety culture can be either positive, negative or neutral.

Good reporting culture and a Just Culture environment are essential elements in the safety culture of aviation organisations and a prerequisite for the good performance of their SMS.

Confidentiality of occurrence information is provided for in the Occurrence Regulation (376/2014), in chapter 11 of the Aviation Act (864/2014) and in section 24 of the Act on the Openness of Government Activities. Traficom may also decide not to disclose details of occurrence information if disclosure would compromise the availability of information in the future.

2.5.4 Using safety information

Traficom evaluates the risk in every individual occurrence reported to it and also analyses broader occurrence scenarios and phenomena. All safety information gathered is used to perform analyses for identifying significant safety trends, factors contributing to the events reported, the functioning of protective measures and safety barriers, and current and forthcoming changes in operations or in the operating environment. Analyses are also used for monitoring safety indicators.

One important application for safety information is the steering of Traficom's own operations as an authority and the performance- and risk-based definition of necessary safety measures on the national level. This is done in the FASP process (see section 2.6) and in performance- and risk-based operations management (see section 3.2).

2.6 Hazard/threat identification, safety risk assessment and management (ICAO CE-8)

2.6.1 *Operating model for safety management in Finnish aviation: the FASP process*

The operating model for safety management in Finnish aviation, known as the FASP process, was created to ensure that safety is taken into account in decision-making across the board. It also makes sure that safety management in Finnish aviation complies with international requirements, that the Finnish aviation safety policy and objectives are implemented in everyday operations and policies, that we are able to information driven to identify key risks in Finnish aviation and to take the necessary action to manage those risks, and that our safety management is systematic, proactive and capable of responding rapidly when necessary. The whole procedure must be functional, effective and well documented (see also section 3.3. 'Acceptable levels of safety and safety performance').

The key tools in assessing risk level in Finnish aviation are the risk picture generated by the FASP process and the operator profile information produced through assessing aviation organisations' SMS performance (see section 3.2, 'Performance- and risk-based operations management (ICAO CE-7, CE-8)'). The results affect the Finnish Aviation Safety Plan, oversight and communication plans and practical aviation authority activities, and they are communicated to the organisations in the aviation segment in question to be taken into consideration in the organisation's own safety management.

The European Plan for Aviation Safety (EPAS) describes the key risks identified in aviation at the European level, as well as strategic safety objectives and action items for attaining them. Finland incorporates the action items required of Member States in the EPAS into the Finnish Plan for Aviation Safety (FPAS), and contributes to the content of the EPAS through EASA's SRM process (for more details, see section 1.3.3. 'The aviation system of the European Union and Finland's role').

National policy programmes concerning the transport system and the measures and objectives defined in them are also taken into account as applicable in Finnish aviation safety risk management.

2.6.2 *Gradual introduction of the FASP process*

The gradual introduction of the FASP process started in the autumn of 2016. A risk picture was formed first for each aviation domain in Traficom's internal risk workshops while practicing the method and developing it further. Afterwards, the picture has been updated both in the internal workshops and annually in joint risk workshops held together with operators.

The development and introduction of the FASP process was prepared in a two-year research project entitled [Risk-Based Safety Management Process – From Data to Action](#), which involved developing risk assessment procedures and decision-making processes for the needs of transport system authorities.

2.6.3 *Elements of the FASP process*

Hazard/threat identification and safety risk assessment for Finnish aviation are performed at risk workshops forming part of the FASP process, and then used to form the national risk picture for each domain. All relevant nationally and internationally available information, including occurrence information, information from oversight and performance assessments, safety investigations and studies, are used in the hazard/threat identification and risk assessment. The

method also involves assessing the reliability and scope of the available information and the accuracy of the final assessment.

The risk panel establishes the risk picture, determines the Acceptable level of Safety for Finnish aviation, and determines the priority actions; the Finnish aviation safety risk management picture is established. The risk panel also confirms the EPAS comments and focus areas of influence on updates to EPAS, and it follows the realisation of strategic safety objectives based on the safety performance indicator monitoring information (see section 3.3.).

2.6.4 Risk workshops as part of the FASP process

Risk workshops are expert forums in the FASP process. Their key task is to process safety information into the risk picture in each domain and to plan measures in support of the line organisation on the basis of the policies and decisions of the risk panel.

Risk workshops also have an important purpose in ensuring full and efficient leveraging of Traficom's expertise and improving it through exchange of information and mutual learning. The risk workshops use a method and a risk picture tool developed at Traficom. The method includes the identification of hazards and threats, initial risk assessments, more detailed risk assessment of risk scenarios selected based on the initial assessments, and determining the need for measures.

The method produces information on trigger factors as well as safety barriers that need to be strengthened and ones that work well both on the operative and the system level. The method makes it possible to combine safety 1 and safety 2 thinking; we remove and/or reduce risks to an acceptable level and **strengthen identified elements and activities that work well and produce safety and resilience.**

The risk picture tool accumulates valuable safety information. This enables long-term safety risk management work based on the principle of continuous improvement. The time invested during the phase of building the risk pictures is recouped during the maintenance phase, when the accumulated information speeds up risk assessment and updating the assessments as well as determining the measures.

The risk workshops are convened and facilitated by the risk management coordinator, who also maintains the risk picture tool. The risk workshop groups consist of Traficom experts of the domain in question; they have been specifically formed to produce risk pictures for each of the 14 aviation domains. In addition, a separate risk picture is produced on the risks of the authority's own operations.

Topics that intersect several domains are assessed by assembling a separate risk workshop for the purpose or by supplementing an existing risk workshop group with the necessary experts. Recurring themes identified in several risk pictures have also been collected in a list of generic risks, and it is ensured that they will be discussed in all of the necessary risk workshops.

These domains are:

1. aerodromes and ground aids (ADR)
2. remotely piloted aircraft systems (RPAS)
3. commercial air transport fixed-wing operations (OPS CAT FW)
4. ground handling (GH)
5. air navigation services (ANS/ATM)
6. commercial air transport rotary wing operations and aerial work (OPS CAT RW + AW FW/RW)
7. flight training (ATO)

8. general and recreational aviation (OPS GA)
9. commercial air transport airworthiness (AIR CAT)
10. general and recreational aviation airworthiness (AIR GA)
11. commercial air transport operations with hot air balloons (OPS CAT Balloon)
12. security (SEC)
13. aviation medicine (MED)
14. cybersecurity (KYBER)
15. the authority's own operations.

The main tasks of the risk workshops are:

- Identifying key hazards/threats in the sector of aviation in question (phenomena, trends, changes and concerns related to safety or with a potential safety impact) and defining scenarios for identified hazards/threats
- Risk assessments (initial assessment as well as more detailed risk assessments on the necessary scenarios)
- Proposals on the need for further action and on further actions
- After decisions of the risk panel, the actions are defined in more detail in support of Traficom's work
- Maintaining the risk picture, including evaluating needs for update before each risk panel and as needed, such as when the operating environment or operations change or when new, significant information is received, as well as identifying and assessing new hazards/threats. In addition, scenarios that resulted in measures are reassessed after a suitable period in order to assess the effectiveness of measures.

2.6.5 The risk panel as part of the FASP process

The risk panel is a forum in the FASP process. Its main task is strategic decision-making for the management of safety risks in Finnish aviation.

The risk panel meets regularly according to a pre-determined annual schedule. The meeting times are linked to key policy, decision-making, communications, reporting and influencing needs in the aviation sector.

The risk panel is chaired by the Director General of Civil Aviation (DGCA), and its members are designated experts and the Heads of aviation-related service areas, which are organisational units responsible for the supervision of different aviation sectors. The risk panel is convened by the FASP coordinator. Traficom's FASP team supports the aviation service areas in the preparations of the risk panel and the work related to the process in between panels.

The key duties of the risk panel are:

- Confirming the Finnish aviation risk pictures established at risk workshops
- Defining and monitoring the Acceptable level of Safety (see section 3.3.)
- Prioritisation (strategic safety priorities)
- Deciding on the necessary actions (to be executed by Traficom/organisations) that should be planned further and implemented by the line organisation and the implementation means (safety promotion, focused oversight, regulation, research, influencing)
- Monitoring the implementation and effectiveness of actions and deciding on the necessary changes
- At the annual level, confirming the Finnish aviation safety risk management picture and measures for the Finnish Aviation Safety Plan

- Monitoring and ensuring that Finnish aviation safety management fulfils the applicable criteria.

The results of the Finnish aviation safety risk management process are taken into account in Traficom's operations system and they affect:

- The Finnish Plan for Aviation Safety (FPAS)
- Focus areas of Finland's influencing in international aviation, including the EPAS update
- Assessments of the organisations' performance
- Selection of priorities for the oversight plan and planning of oversight
- Selection of priorities for safety promotion and planning of promotion
- Prioritisation and content of aviation events organised by Traficom.

Informing the organisations about the safety risk management picture

- Finnish Plan for Aviation Safety FPAS (annually)
- Through measures decided in risk panels
- Priorities of oversight
- National safety performance indicators and targets (*FASP Annex 2, SPI/SPT*)
- Assessments of the organisations' performance; an organisation's performance in proportion to the assessed risks of the activities in question (*see section 3.2, 'Performance- and risk-based operations management'*)
- Safety discussions (*see Chapter 3. Safety assurance*)
- Safety promotion measures (*see section 4.2*)
- Measures in which immediate action is required of the organisations

2.6.6 Stakeholders responsibility and interaction in national risk management

The safety data produced by stakeholders, obtained through oversight, occurrence reporting and other interaction, is an essential information source for forming the risk picture. In addition, organisations are taken along in the risk workshops of each domain; the goal is to do this at least once per year. The exception to this is the cybersecurity risk workshop, in which key operators have been included from the start. Traficom also uses other methods, such as surveys, to ensure that the views and know-how of the organisations are taken into account when forming the risk picture (see figure on page 39).

It must be noted that the national risk picture of each domain describes the situation of the domain with regard to key risks and strengths as well as the safety situation as a whole; it does not describe individual organisations. For instance, on the systemic level, the strengths and areas in need of improvement of an SMS of an individual organisation may differ from the situation on the national level.

With systematic cooperation, we save the limited resources of all parties and ensure that in safety work we focus on the correct issues with effective measures . It is important for all organisations to also seek further information for their risk management from sources other than the organisation's own. The information produced by the work on the national risk picture on threats/hazards, risks and strengths as well as the safety measures included in FPAS are considered important on the national level; the goal is to ensure that the organisations can manage the risks related to the themes in question.

Stakeholders are responsible for the safety of their operations. Each aviation organisation must, within the scope of its SMS, identify hazards/threats and assess risks in its own operations and take any necessary actions to eliminate risks or to reduce them to an acceptable level.

Organisations must also process the Finnish Plan for Aviation Safety and risks identified at the national level as regards their operations and, where necessary, take action to eliminate such risks or to reduce them to an acceptable level.

Organisations also have the responsibility to demonstrate to the supervisory authority the performance of their SMS (or other management system), on the basis of which Traficom targets its actions. Acceptable levels of safety and safety performance are described in sections 3.2 and 3.3.

2.6.7 Advanced risk management tools – continuous development

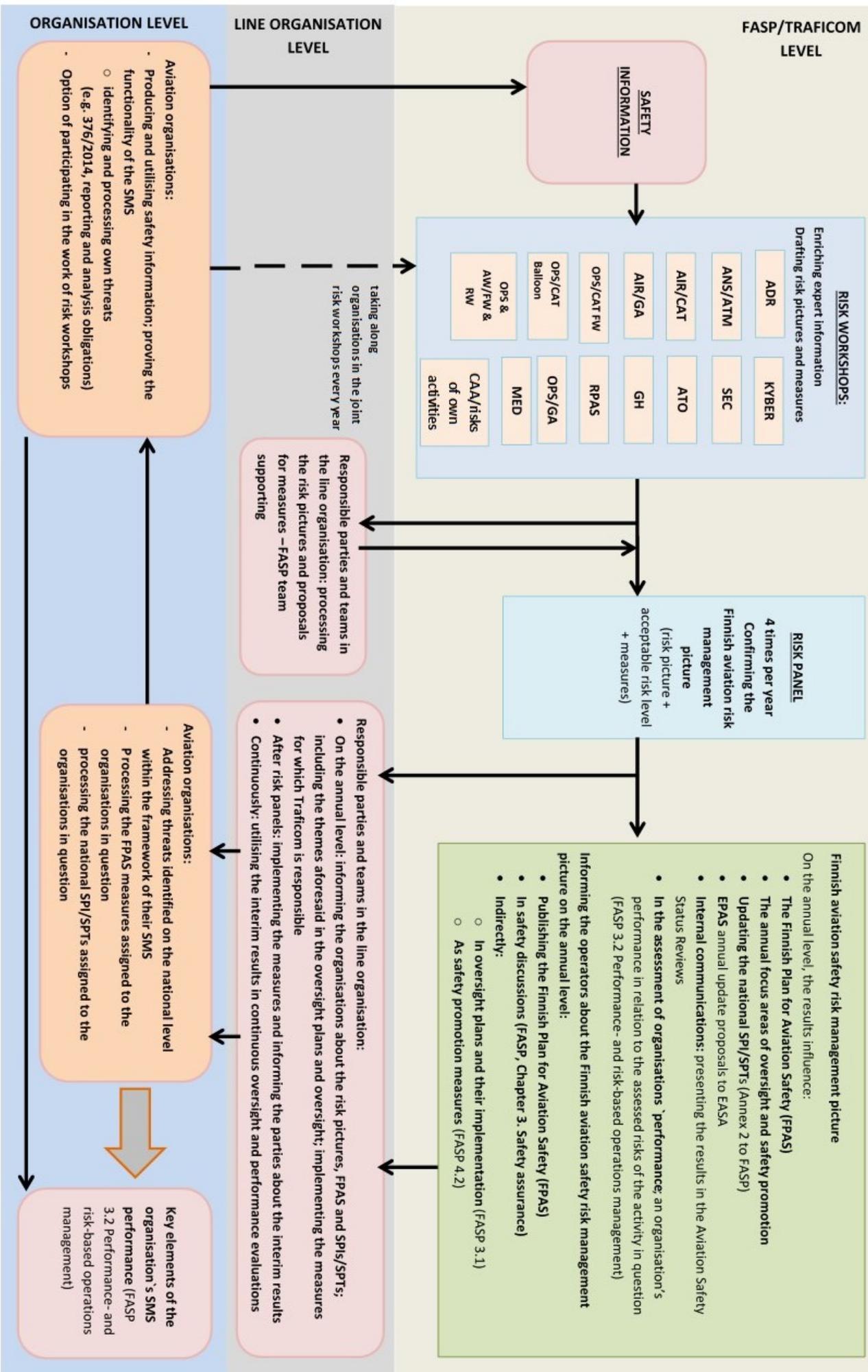
Traficom develops the risk management tools it uses on a long-term basis. The efficient and real-time management of the risk portfolio, i.e. the risk assessments, forming the risk picture and the measures, requires appropriate tools. The development work started by Traficom means that all of this will be covered by one software tool. The software is developed and customised to meet the needs of risk management by the aviation authority. The aim is to share the end result as open source code to all interested parties so that they can adapt it to their own use and develop it further.

Utilising different types of safety information, regardless of whether the source was risk assessment work, oversight measures, organisation profiling or occurrence information, requires analysing the information. Because the volume of information currently available is massive, it is important that the tools used to carry out and support analysis are also advanced. Traficom utilises BI (*Business Intelligence*) tools for analysing and reporting safety information. These tools make it possible to combine and visualise information from different sources (such as flight operation information and occurrence information) and use it to support analysis. With the tools, large volumes of information can be combined and analysed faster and more efficiently than before.

In addition, Traficom is testing and using software robotics in the automated processing of occurrence information. The aim is to take more and more advantage of the possibilities of artificial intelligence in the future via text analytics, for instance, in analysing large masses of data. Advanced data processing tools allow aviation analysts and other experts to focus on their main task, which is analysing safety information and producing information to support decision-making in safety management.

The figure 3 on page 39 presents the safety risk management process in Finnish aviation.

Safety risk management in Finnish aviation (FASP, Chapter 2.6)





3 Safety assurance

3.1 Safety oversight (ICAO CE-7)

3.1.1 Principles of oversight

Responsibility for overseeing aviation stakeholders is defined both at the EU and national level, as described in Chapter 1. Chapter 2 describes stakeholders' responsibilities for managing the safety of their operations. The focus in oversight is on evaluating the functioning and performance of the organisations' own management systems (compliance monitoring and safety management).

The means of oversight employed include audits, inspections and surveys, such as requests for information, enquiries and analyses. Oversight also includes meetings between the supervisory authority and stakeholders, known as safety discussions, intended to ensure that both parties are aware of issues that are significant for compliance monitoring and safety management.

Oversight is executed according to plan, the results are documented and reported, and the implementation of any corrective actions required as a result of findings and observations is monitored.

An oversight plan or programme is prepared on an annual basis and maintained continuously. It includes requirements on oversight, results of the FASP process (see section 2.6), focus areas and priorities determined through the performance- and risk-based steering of operations (see section 3.2), the Finnish Plan for Aviation Safety, resourcing, and cost-efficiency. The annual oversight plan or programme forms part of a longer-term framework programme.

Traficom engages in oversight cooperation with other Finnish authorities, with aviation authorities in other states and with international authorities, particularly

EASA, as well as international organisations. Procedures for cooperation in oversight are agreed upon separately. Cooperation includes notifying authorities in other countries of observations made concerning their client organisations.

One factor that determines the focus of Traficom's oversight actions in aviation is the following order of priority:

- 1) non-participating bystanders
- 2) paying passengers in commercial air transport
- 3) participating bystanders (e.g. audience at an air show, ground staff at an airport)
- 4) aircrew/aviation personnel
- 5) passengers on flights other than commercial air transport ('participants')
- 6) private pilots on non-commercial flights.

3.1.2 Approval and certification management

Traficom has described the approval and certification management processes for overseeing aviation safety. These processes incorporate the international and national requirements for each domain of aviation.

At the beginning of the approval and certification management process, Traficom verifies whether the aviation organisations' facilities, systems, procedures and any changes thereto comply with the relevant national and international requirements and with the organisation's own requirements. It is evaluated in the approval and certification management process whether the organisation, in accordance with safety management requirements, has assessed the risks related to the facility, system, procedure or change being submitted for approval and mitigated those risks so as to attain the safety objectives.

Based on the evaluation, Traficom will either approve or reject the application, request further information, impose additional conditions or perform an inspection visit to the applicant organisation.

As part of the licence administration process, Traficom ensures that the organisation's personnel and individual aviators are in compliance with any qualification requirements applicable to them.

3.1.3 Inspections and audits

Inspections and audits form a part of ongoing approval and certification management. They are used to ensure that an organisation's operations and SMS continuously comply with the relevant national and international requirements and with the organisation's own requirements. Organisations are audited according to the oversight plan.

Audits are performed by trained auditors. After the audit, the organisation is sent an audit report detailing the findings and requesting the organisation to take any necessary corrective actions. Traficom evaluates whether the proposed corrective actions are sufficient and either approves them or requests further clarification.

Operations are also monitored through spot inspections, SAFA/SACA/SANA inspections, check flights and training events.

3.1.4 Monitoring the continuing airworthiness of aircraft (ACAM)

Traficom monitors the continuing airworthiness of aircraft according to the risk-based survey programme in order to determine the airworthiness of the registered aircraft. The survey programme includes sample product surveys of aircraft. In the product survey, achieving the airworthiness level is inspected

according to the applicable requirements with the aim of identifying defects, if any. All defects discovered are categorised and reported to the person or organisation responsible for airworthiness. Traficom evaluates whether the proposed corrective actions are sufficient and either approves them or requests further clarification.

3.1.5 Ramp inspections

SAFA/SACA/SANA inspections of aircraft are performed according to the requirements specified by EASA. These inspections are carried out by at least two qualified and authorised inspectors.

SAFA inspections of aircraft from outside the EU are based on ICAO standards. SACA inspections of EU-based operators and SANA inspections of domestic operators are based on EU requirements.

Inspections are performed according to a standardised checklist. Inspections focus on the technical condition of the aircraft, crew qualifications, documentation, devices, equipment, safety equipment and cargo on board.

3.1.6 Check flights

Traficom grants Finnish flight examiner authorisations based on either the national Aviation Regulation PEL M2-16 or EASA's Part-FCL. Traficom selects and trains the flight examiners, assisted by experienced flight examiners from outside Traficom (senior examiners). Traficom's goal is to ensure that the flight examiners, who hold an essential position in the chain of aviation safety management, comply with the valid legislation and do their part to improve aviation safety and prevent accidents.

Traficom maintains a list of flight examiners in accordance with the EASA Part-ARA.FCL.205, and it has published procedures on its website for assigning flight examiners for test flights, check flights and qualification assessments in accordance with said section. In addition, Traficom produces the content of the section concerning Finland in the EASA Examiner Differences Document.

The oversight of flight examiners is carried out in accordance with Traficom's flight examiner oversight plan. The oversight plan is risk-based, and it schedules the qualification assessments carried out by Traficom as an oversight measure according to the personal risk assessment of each flight examiner. In addition, desk top oversight is also carried out in connection with recording the check flight statements as well as case by case, based on the observations that we have received.

3.1.7 Quality control of Traficom's own operations

Traficom's operations system contains process descriptions and instructions to be followed in approval and certification management and oversight.

Internal audits made under the operations system are for evaluating how the actual operations meet the requirements and follow the descriptions specified in the operations system. Internal audits are performed according to the auditing process and an annual plan.

Traficom is also subject to external audits. These are performed by ICAO (USOAP programme), the European Commission and EASA, each according to its own role and operating model. In addition, Finland regularly reports to EASA and ICAO about the content and implementation of the national safety programme. EASA also monitors the implementation of EPAS measures and the EASA Regulation annually through drawing up and implementing the national safety plans.

3.2 Performance- and risk-based operations management (ICAO CE-7, CE-8)

3.2.1 Principles in the operations management

In performance- and risk-based operations management, Traficom evaluates the performance of client organisations' management systems and prioritises its own approval and certification management operations – including oversight – according to the findings.

'Performance' is understood as an organisation's overall capability to manage its operations in continuous compliance with requirements and at a satisfactory level of safety. This is evaluated according to pre-determined criteria. If an organisation's performance is found to be at a high level, Traficom will subject the operations to lighter oversight actions and seek to support further development of the organisation's safety management through other means. If, on the other hand, performance is found to be weak, Traficom will prioritise the organisation in its oversight plan. Evaluation results influence the frequency of oversight actions aimed at the organisation and the selection of means for oversight. Traficom determines the following points on the basis of performance assessment results:

- which areas in the client organisation's operations oversight actions will primarily be aimed at,
- what authority actions the organisation will be subjected to,
- what is the scope and content of the actions the organisation will be subjected to,
- when the oversight actions will be implemented,
- how often recurrent actions will be performed vis-à-vis the organisation,
- what resources the actions will require.

Each organisation is fully responsible for the safety of its own operations. The frequency, focus and scope of Traficom's oversight depends on the performance of the operator's own administrative or management system as well as the risks related to the nature of the organisation's activities or its operating environment. The relationship between Traficom's oversight and the operator's self-monitoring is illustrated in the figure below.

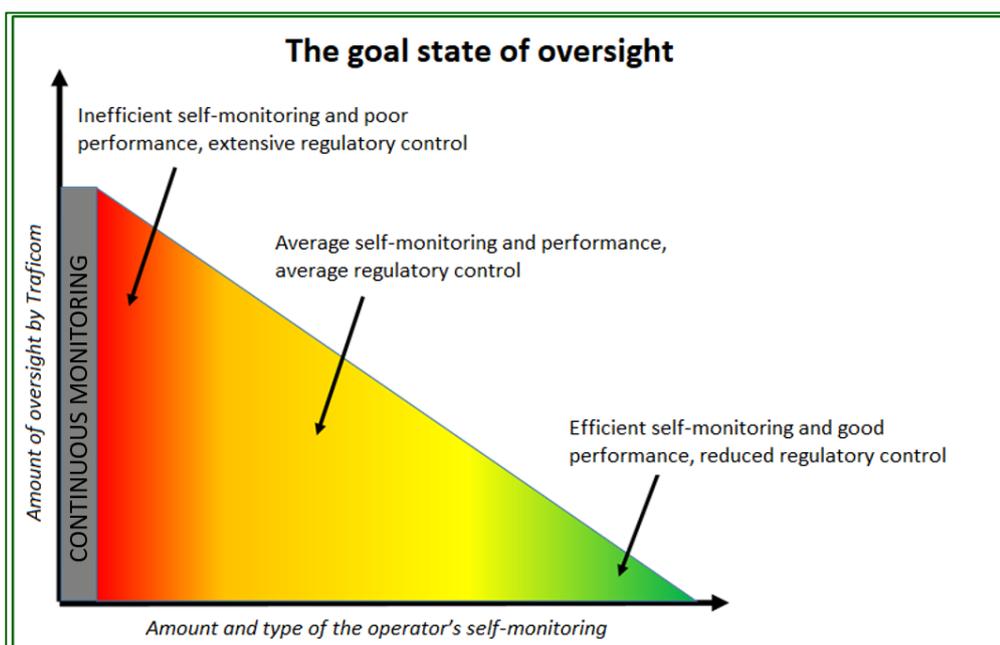


Figure 4. Traficom's oversight in relation to the effectiveness of an organisation's self-monitoring and operating performance

3.2.2 *Planning of oversight and approval and certification management*

Operations are planned based on information available to Traficom. This includes the safety information described in section 2.5 and particularly the results of performance assessment of the organisation's SMS. Information relevant for operations planning is constantly accumulated in client work, including the results of earlier oversight actions, licensing and approval and their processing, information about the relevant domain in the risk picture established under the FASP process including the risk factors that arise from the activity's operating environment, the Finnish Plan for Aviation Safety, and other details. The nature and scope of client organisations' operations are also taken into account in planning.

Oversight intervals are determined on the basis of risks, performance level and requirements. The oversight interval is assessed annually at minimum, and its length can be changed if there are changes in the organisation's operating environment or if the organisation's ability to carry out continuous compliance monitoring or risk management of its operations is reduced.

The performance- and risk-based approach in oversight planning and implementation is reflected in Traficom's approval and certification management processes and work instructions.

When needed for support in an inspection or audit of an organisation or part thereof, Traficom's safety and incident information services produce an analysis to identify particular risk areas in the object of the inspection or audit and issue recommendations for the focus areas of oversight, based on safety information compiled. A picture of the state of the organisation based on the occurrence information reported by the organisation is also used to focus the oversight.

3.3 Acceptable levels of safety and safety performance

3.3.1 ***Reaching the strategic safety objectives, specifying the Acceptable level of Safety, the Acceptable level of safety performance and the performance indicators and targets***

A safety policy (see section 1.1) and strategic safety objectives (see section 1.2) have been specified for Finnish aviation. In order to monitor the achievement of the safety objectives and specify an acceptable level of safety performance, Safety Performance Indicators (SPI) on the national level and their Safety Performance Targets (SPT) have been specified for Finnish aviation.

The strategic safety objectives and SPIs and SPTs have been used to specify an acceptable level of safety/safety performance for Finnish aviation (*Acceptable level of safety performance ALoSP required by Annex 19/acceptable level of safety required by Article 7 of the EASA Regulation*) that Traficom and aviation organisations must reach in practice. This also implements the safety policy. When specifying and updating the safety objectives and safety performance indicators and targets, the international level and especially the European-level objectives and the information on national focus areas obtained through national safety risk management are taken into account.

SPIs and SPTs have been specified to monitor the performance of Traficom, different groups of aviation organisations and Finnish aviation as a whole, and to support improvement. The success and effectiveness of safety management is observed on the national level as well as by aviation domain and organisation (see section 3.3.5) by monitoring the safety performance level. If the level is not reached, the operations are dealt with.

This means a process of safety assurance, a performance- and risk-based approach that follows the principles of continuous improvement. The state of safety and the level of performance are in a constant flux. The national SPIs and SPTs are a tool for monitoring the situation to support decision-making in safety management in order to specify the necessary actions.

Setting the national SPTs is always also a statement on the balance between safety and other values, such as finances, environmental friendliness and the smooth flow of operations.

As a part of the FASP process, Traficom also defines an Acceptable Level of Safety for Finnish aviation with regard to risks. In national risk pictures, this means a risk level zone that must not have any risk assessment results; if the assessment reaches the zone in question, the measures required to remove the risk or reduce it to an acceptable level must be specified.

The strategic safety objectives and safety performance indicators and targets of Finnish aviation have been published in FASP Annex 2. Information on the use of the indicators as well as domain-specific indicators and targets can be found in the Annex.

In addition to the national safety performance indicators and targets, as regards air navigation service providers (designated air traffic and meteorological service providers), the EU Regulation 2019/317 laying down a performance and charging scheme in the single European sky has also been issued at the EU level. This Regulation defines performance indicators concerning safety, the environment, capacity and cost-efficiency. As a key safety performance indicator, air traffic service providers are required to reach a minimum level of efficiency with regard to safety management. This indicator measures the extent to which safety policy and objectives, safety risk management, safety assurance, safety promotion and maintaining and strengthening a good safety culture have been implemented.

In addition, the regulation has defined indicators for monitoring that concern runway incursions and separation minima infringements with regard to safety. The themes of the regulation's indicators have also been included in the national performance and monitoring indicators of FASP Annex 2.

Regulation 2019/317 also requires that the key performance indicators and the performance targets in the key performance area of safety are consistent with the European Plan for Aviation Safety referred to in Article 6 of Regulation (EU) 2018/1139.

3.3.2 Organisations' responsibilities

Aviation stakeholders are responsible for the safety of their operations. In their safety management, the organisations are obliged to identify the hazards/threats and assess risks in their own operations and take any necessary actions to eliminate risks or to reduce them to an acceptable level. EU obligations also require that the organisations' safety management include the monitoring and measurement of the safety level. The SPIs at the national level complement the organisations' safety level monitoring and are one of the links between the national and organisation-level safety management. In addition to the indicators on the national level, organisations must specify the other indicators and targets they require for the needs of their safety management.

Traficom monitors the performance of the organisations' safety management. The use of national SPIs as a part of their own safety management is a part of the organisations' performance.

3.3.3 Key intersections of safety management on the national and organisational levels

National aviation safety objectives (FASP 1.2 and 3.3. as well as FASP Annex 2)
 - achieved together through the safety efforts of the authorities and organisations
 - realisation is monitored with the monitoring indicators specified

Traficom:

- safety efforts as an authority to reach targets and objectives
- overseeing the SMS performance of organisations
- monitoring national performance (SPIs, SPTs) and the achievement of targets and objectives



Organisation:

- management of the organisation's own safety, and as a part of it;
- monitoring SMS performance (own SPIs and SPTs)
- national performance indicators applicable to its own activities support SMS monitoring

Key safety hazards/threats in Finnish aviation (FASP.2.6)

- identified together through systematic safety information exchange and by utilising the information

Traficom:

- hazard/threat identification and safety risk assessment at risk workshops – forming national risk pictures
- utilising of organisations' expertise and all available safety information, including the hazards/threats identified at European level and the European Plan for Aviation Safety (EPAS)
- communicating the national risk picture to stakeholders



Organisation:

- hazard/threat identification in the organisation's own activities and safety risk assessment
- taking advantage of all available safety information (occurrence reporting, analyses and studies, the national risk picture)
- participating in the formation of the national risk picture in joint risk workshops and by producing safety information within the SMS framework

Key measures in managing the risks of Finnish aviation (FASP 2.6 and FPAS)

- implemented by each party for their own operations, taking advantage of cooperation

Traficom:

- decisions in risk panels on the acceptable level of safety and the necessary measures based on national risk pictures and EPAS
- measures in practice in everyday work, such as in promotion, oversight and regulatory activities
- key measures included annually in the safety plan (FPAS) – implemented with regard to Traficom itself, communicated to organisations, oversight of the implementation



Organisation:

- managing the risk of the organisation's own activities; decisions on the acceptable level of safety and the necessary measures, implementing the measures and monitoring the effectiveness
- processing the FPAS measures concerning the organisation's own activities, implementing the necessary measures as a part of SMS risk management

Safety promotion (FASP 4.2)

- cooperation in utilising the information, sharing expertise and active safety communications

Traficom:

- sharing and utilising safety information and expertise (communications, risk workshops, the FDM forum, other cooperation forums)
- participating in EASA's safety promotion efforts and sharing the results with stakeholders for their use



Organisation:

- safety promotion measures included in the organisation's own SMS
- sharing information and expertise (risk workshops, the FDM forum, other cooperation forums)
- taking advantage of the existing material and best practices (national, EASA, ICAO...)

3.3.4 Organisations' acceptable level of safety performance

For the purposes of Traficom's performance- and risk-based operations management, customised safety performance levels and areas have been defined for each domain of aviation. The extent and nature of Traficom's oversight depends on the individual organisation's assessed performance level. Performance levels are determined taking into account the average performance in those operations as well as the nature, scope and special characteristics of the organisation's own operations. Because the acceptable level of performance varies from one sector of aviation to another, no overall estimation can be made for Finnish aviation as a whole. Figure 5 shows the acceptable level of performance in one sector of aviation in Finland.

Traficom reviews the specified performance levels annually and, at the same time, makes the decision on the new safety level set on the activity in question from the perspective of continuous improvement. Individual target levels can also be set for the different elements of the management system – such as risk management – if Traficom determines that improving the effectiveness of the operation of certain management system elements is necessary. Performance areas identified as focus areas of continuous improvement are focus areas in the measures of the safety plan FPAS as well as the oversight plans.

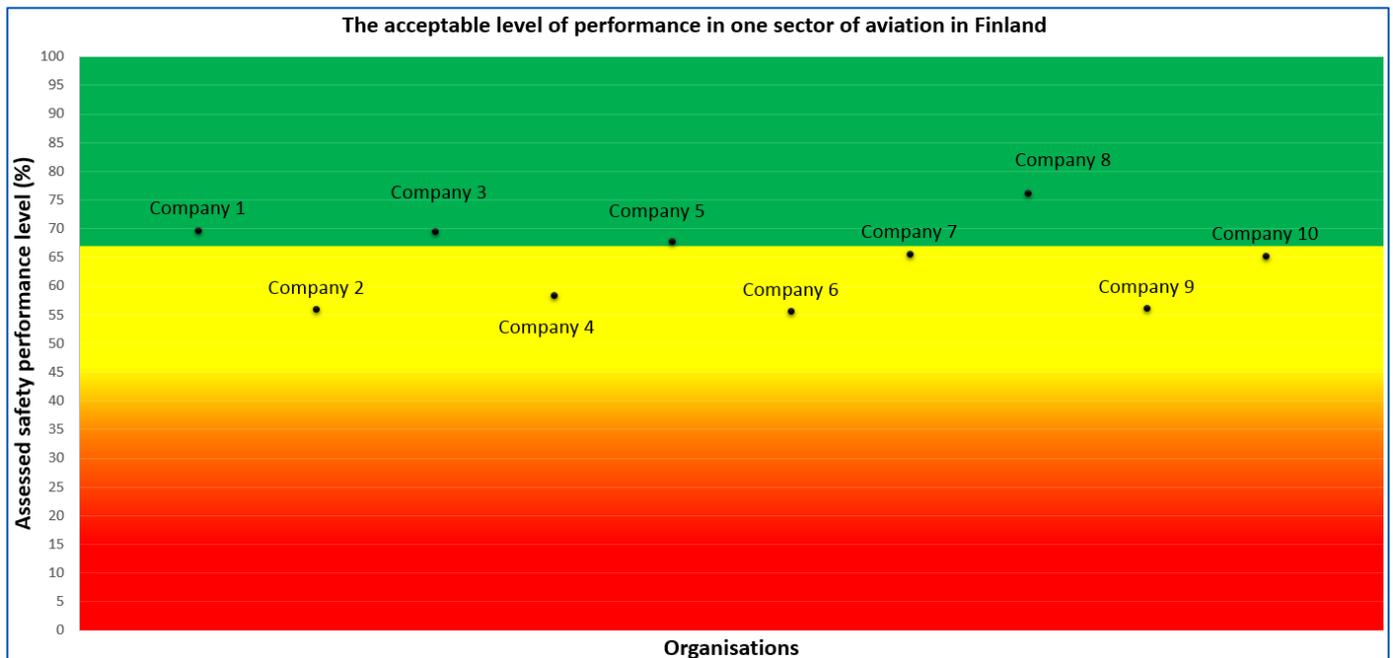


Figure 5. Example of the acceptable level of safety performance in one sector of aviation in Finland.

Traficom also aims to set performance targets for individual organisations and to assist organisations in attaining them. This is particularly the case with organisations whose operations currently do not satisfy the acceptable level of performance in the domain. In addition to more extensive and more frequent oversight actions, Traficom offers one-on-one safety discussions, further instructions, training and any other support that the organisation may need to improve its operations.

4 Safety promotion

4.1 Internal training and sharing of safety information

4.1.1 Personnel training

Traficom maintains and improves the professional competence of its personnel to ensure that they have the necessary experience, training and up-to-date knowledge that they need to perform their duties. Employees are also provided briefings on current matters, such as changes in regulations and instructions, objectives, contribution to cooperation in international aviation, research results and new phenomena. Traficom also encourages employees to participate in external training that is essential for their work.

Traficom's personnel have access to job rotation both within and outside the agency. Traficom also encourages cooperation with other transport authorities and international aviation organisations. The purpose of job rotation and cooperation is to promote the improvement of operating practices and to boost personnel competence.

Traficom's operations system involves maintaining documented records of all personnel training. Staff development discussions are held every year to review employees' strengths and improvement needs with regard to general and job-specific competence requirements. Following the discussions, competence development plans are drawn up for employees. This information is also taken into account when planning the training schedules for Traficom as a whole.

In addition to training, Traficom's personnel participate in external national and international events which augment their expertise, personally or in the context of Traficom, or which provide opportunities for influencing.

4.1.2 Sharing safety information

At Traficom's regular internal safety status reviews, the status of safety based on the Safety Performance Indicators and other analysed information is presented to experts and management representatives and any other current safety-related issues are discussed.

The safety status reviews also feature a presentation of the results of risk management in Finnish aviation at the national level. This includes the aviation domain-specific risk pictures and the measures to manage risks (for more details, see section 2.6). The risk workshops and risk panel under the risk management process, as well as the working groups where organisation profiles are specified, are also important forums for processing and sharing expert information.

Safety information received by Traficom on a daily basis concerning accidents, serious incidents and other events that may require immediate action is shared within Traficom using the immediate reaction process.

In addition to the safety information published on Traficom's website, the following are published in the intranet and in electronic workspaces: aviation safety status review materials, the results of the risk management process, performance indicator monitoring information, information on the safety analyses conducted, and other essential safety information produced by Traficom's units. However, confidential information is only handled on a need-to-know basis.

Traficom's representatives attend national and international events that support the safety work of Traficom or of stakeholders in the domain.



4.2 External training and sharing of safety information

4.2.1 Focus areas of safety promotion and annual planning at EASA level

EASA has specified a [Safety Promotion Programme](#) to support European aviation as well as a Safety Promotion Plan for implementing the programme.

The Safety Promotion Network (SPN) coordinates EASA's safety promotion efforts. It is a permanent network with the aim of promoting the safety of European aviation through cooperation between EASA, the Member States and other aviation operators. SPN shares information and best practices, coordinates safety promotion functions, implements targeted campaigns through cooperation, shares the results of work done by different parties, and aims to strengthen the effectiveness of safety promotion. The SPN is also tasked with carrying out the tasks assigned to it in the European Plan for Aviation Safety (EPAS). The safety promotion efforts of helicopter activities are coordinated by the ESPN-R network (*the European Safety Promotion Network Rotorcraft*). EASA and representatives of the Member States take care of the coordination between SPN and ESPN-R.

In safety promotion, EASA invests in effective communications, a multi-channel approach and taking the target groups into account. The aim is also to support the implementation of EU regulations and the related guidelines in practice and increase their effectiveness by means of safety promotion. Safety information on the different aviation domains is available on EASA's '[Community](#)' safety promotion website. There you can also find an opportunity to join the safety promotion network of each domain.

4.2.2 The objectives of Traficom's safety promotion efforts

Safety promotion is one of the key tools of aviation safety management in addition to oversight and regulation, and its importance as a solution for managing safety risks and safety assurance has increased year by year.

Traficom takes care of its official aviation safety promotion obligations by using the means described below. In addition to these, Traficom participates in and

contributes to the work of EASA's SPN and ESPN-R groups and uses the results on the national level whenever possible. If necessary, Traficom also utilises other safety promotion material produced by international parties after checking that it is applicable. Safety promotion is a part of the job description of everyone working in official aviation duties, including oversight.

4.2.3 Advisory services and communications

In its official capacity, Traficom offers advisory services and information to aviation stakeholders in topical issues under the responsibility of the aviation authority. Advice is provided in the form of briefings and advisory meetings, at personal meetings or through communications. Current issues are published on Traficom's website as well as in the regularly published aviation safety bulletins, among other things. [Traficom's media bulletins](#) and [aviation safety bulletins](#) (in Finnish) are available via e-mail by subscribing to the bulletins via Traficom's website; [the website news](#) can be followed via RSS feeds.

4.2.4 Seminars and events

Traficom organises stakeholder events for aviation stakeholders regularly. These include for example the SMS seminar, the national FDM forum, regulatory briefings for stakeholders, a refresher seminar in aviation medicine, an FSTD event, a refresher course for flight examiners, the airworthiness seminar, and the helicopter safety day. Events on topical issues are also held when needed. Traficom also actively participates in aviation safety events organised by stakeholders.

Traficom aims to organise targeted briefings and training sessions on a variety of topics selected on the basis of trend analyses and performance evaluations, for instance. What this means in practice is that if Traficom notes that all or most aviation organisations in a particular group are showing declining performance in a specific area, campaigns and events for exchanging experiences in that area will be held to support organisations in bringing their operations back up to standard.

Traficom also uses virtual solutions for organising events.

You can find Traficom's aviation events and their materials on [Traficom's website](#). In addition to the events listed on the website, Traficom organises domain-specific risk workshops for stakeholders annually as a part of the risk management on the national level (for more details, see section 2.6).

4.2.5 Website

Information is published on Traficom's website (<https://www.traficom.fi>) on safety management principles in Finnish aviation and its various areas, such as performance- and risk-based operations management, national and international legislation and amendments thereto, and their impact on the operations of organisations and private individuals in the aviation sector. On the website, you can find the following pages, among others:

- Aviation main page [in Finnish](#) and [in English](#), from which you can navigate to the different domains (ground handling, general aviation, airlines, aerodrome and ground aid operators)
- [Flight safety report](#)
- [Finnish aviation safety programme, plan and performance targets and indicators](#)
- [Liikennefakta](#) (Transport facts) pages (aviation safety monitoring information in Finnish)
- [Droneinfo.fi](#) website (safety of unmanned aviation, in Finnish)
- [Helikopteriturvallisuus](#) (Helicopter safety, in Finnish)

- [Aviation safety information](#)

4.2.6 Traficom publications

Traficom publishes a quarterly [aviation safety review](#) (*in Finnish*), discussing the previous quarter's major safety themes and trends and trends in the safety situation based on performance indicators (*operative safety performance and monitoring indicators*). A similar but more extensive review is published annually.

Traficom also publishes [Safety Bulletins](#) (*in Finnish*), to which you can subscribe via e-mail through Traficom's website, and newsletters for different target groups. In addition, Traficom publishes analyses, statistical reviews and other safety-related material such as posters and videos.

Key risks identified in the national aviation risk management process and the themes to be fostered and strengthened are published as part of the Finnish Plan for Aviation Safety (FPAS) in connection with the national safety measures.

4.2.7 Other channels and forms of cooperation

Traficom makes wide use of various channels in its safety communications: social media, safety blogs, participating in aviation chatrooms in an official capacity, and video streaming of events. Due to the COVID-19 situation, the events are organised as virtual events as a rule. An operating model for safety work in Finnish general and recreational aviation is an example of safety promotion cooperation. It was developed in the national project on the safety of general and recreational aviation ([Harrasteilmailun turvallisuusprojekti](#)), in which Traficom, AOPA Finland, the Finnish Aeronautical Association, Finavia, ANS Finland and the Finnish Meteorological Institute committed to promoting safety together. This operating model involves jointly organising the annual Lentoon! (Take off!) safety seminar for general and recreational aviation.

5 Annexes

5.1 FASP Annex 1, Finnish Plan for Aviation Safety

The Finnish Plan for Aviation Safety is published as a separate document available at the address <https://www.traficom.fi/en/liikenne/ilmailu/suomen-ilmailun-turvallisuusohjelma>.

5.2 FASP Annex 2, Finnish Aviation Safety Objectives and Safety Performance Indicators and Targets

Finnish aviation safety objectives and safety performance indicators and targets are published as a separate document available at the address <https://www.traficom.fi/en/liikenne/ilmailu/suomen-ilmailun-turvallisuusohjelma>.

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