Ministry of Infrastructure
and Water Management

Dutch State Safety Programme 2020-2024

Continuous safety improvement by means of safety risk management

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In case of discrepancy between the Dutch language original text and the English language translation, the Dutch version shall prevail.

Contents

Summary

Flying is one of the safest forms of transportation. Maintaining this high level of safety is and remains to be a top priority. Civil aviation developments can not be implemented at the expense of safety.
The Netherlands is committed to high compliance with the ICAO obligations and has the ambition to continuously be among the best-performing countries. The desired result is that no aviation accidents occur in the Netherlands. The Ministry of Infrastructure and Water Management (IenW) strives for continuous improvement of the safety of Dutch civil aviation through an internationally prescribed proactive approach. The state safety objective is the continuous improvement of aviation safety by knowing the highest national risks and managing them to an acceptable level. This state safety programme distinguishes between three domains: commercial aviation, general aviation and unmanned aviation. Two conditions are important to achieve the state safety objective. Keeping and complying with all laws and regulations and maintaining and promoting a good safety culture.

The Dutch State Safety Programme (SSP) is in line with the second edition of the ICAO Annex 19 and the EU Basic Regulation. It describes the safety management system of the Dutch government. IenW periodically elaborates this programme into a Dutch Plan for Avation Safety (SSP Action Plan), the next edition of which will be published in 2021. The ICAO framework for safety management systems consists of four pillars.

Pillar 1: safety policy and system design

The SSP describes the laws and regulations applicable in the Netherlands as well as the roles and responsibilities of the various organizations within the aviation system. The Minister of IenW has a directing role and is ultimately responsible for the functioning of this system. The (further) development of the Systeemmonitor luchtvaart-veiligheid [Aviation Safety System Monitor] fits in with the strengthening of this management role. Within IenW, the Directoraat-Generaal Luchtvaart en Maritieme Zaken (DGLM) [Directorate General for Aviation and Maritime Affairs] and the Inspectie Leefomgeving en Transport (ILT) [Human Environment and Transport Inspectorate] are important players. Within the ILT, the Analysebureau Luchtvaartvoorvallen (ABL) [Aviation Occurrence Analysis Bureau] is responsible, among other things, for collecting, investigating and assessing occurrences that are reported by the sector, and to report on this. The ILT guarantees the qualifications of its technical personnel and records its procedures in its quality management system.

Pillar 2: safety risk management

The management of safety risks starts with the admission of organizations and persons to the aviation system if all requirements are demonstrably met. Various aviation organizations are required to implement safety management systems. Learning from occurrences and incidents/accidents helps to improve the aviation system. In addition, IenW uses a periodic (national) state safety analysis to identify potential hazards and risks of national interest and develops measures to manage them. IenW involves the aviation organizations in this process. The potential hazards, risks and measures are broken down into three domains.

Pillar 3: safety assurance

Safety assurance is essential for the continuous improvement of aviation safety. The aviation organizations themselves are responsible for their safety performance. ILT ensures that aviation organizations and people continue to meet the requirements. ILT records deficiencies in a system

and monitors the implementation of corrective measures. ILT determines its priorities within aviation surveillance based on risk profiles of individual aviation organizations. ILT publishes the State of Schiphol on an annual basis, which among other things provides insight into the development of flight safety at and around Schiphol.

The results of the state safety analysis are national risks and associated measures. IenW determines indicators and target values for this. The target values guarantee an acceptable level of safety. IenW strives for continuous improvement of the safety level. IenW further develops the approach and sets up the associated organization.

IenW incorporates the results of the state safety analysis and their translation into indicators and target values in the SSP Action Plan. IenW monitors the progress of the SSP Action Plan and evaluates the implementation of this SSP in 2023.

Pillar 4: safety promotion

Safety promotion contributes to the continuous improvement of aviation safety. Safety promotion focuses on awareness, knowledge transfer and behavioural change, both within and outside the government. Safety promotion focuses on themes from the first three pillars. For example, through safety promotion, IenW shares the results of the state safety analysis (risks and measures) and the acceptable level of safety (indicators and target values). In the SSP Action Plan, IenW elaborates how safety promotion is given concrete shape for the three domains. IenW sets up the organization required for this.

Introduction

This document describes the Dutch State Safety Programme (SSP).[1] This third edition covers the period 2020 to 2024. Aviation is safe by knowing the risks and managing them to an acceptable level.[2] This process is called safety management. The SSP is the integral safety management system of the Dutch government for civil aviation. Flying is one of the safest forms of transportation. Maintaining this high level of safety is and remains a top priority. The SSP describes how the safety of civil aviation within the Netherlands, including the Caribbean Netherlands[3], is guaranteed in coherence between policy, oversight and the aviation organizations.

The SSP implements aviation safety management, as laid down in the most recent international standards and recommended practices of the international civil aviation organization (ICAO) and in European regulations.

This SSP describes the safety management of the Netherlands. The Ministry of Infrastructure and Water Management (IenW) periodically elaborates this programme into an action plan: the SSP Action Plan. IenW will publish this document in 2021. In mid-2023, IenW will evaluate the implementation of this SSP in the interim.

Civil aviation security falls outside the scope of this SSP. The National Programme for Civil Aviation Security addresses this issue.[4]

Context

Aviation in the Netherlands has developed strongly in recent decades. For the Dutch people it means the possibility to visit abroad for business, study, family visit or vacation. For foreign companies and visitors it makes the Netherlands an attractive place to do business and invest, study or go on holiday. All this contributes to trade, foreign branches, investments and spending, and new employment. The Netherlands has a large aviation sector with considerable economic significance. This underlines the importance of the continuous management of (national) safety risks in aviation. Safety is and remains top priority in aviation.

Schiphol International Airport has grown considerably in recent years. From around 440 thousand aircraft movements and 55 million passengers in 2014 to 500 thousand aircraft movements and more than 70 million passengers in 2018. The other airports of national importance have also developed. These are Eindhoven Airport, Rotterdam The Hague Airport, Maastricht Aachen Airport and Groningen Airport Eelde. In addition, the Netherlands has a considerable number of activities in the field of aircraft production and maintenance.

Safety is the foundation of all aviation developments. As a result, flying is one of the safest forms of transport worldwide. The average number of accidents and casualties in aviation has been falling for decades due to systematic improvements. The international safety management system is aimed at the continuous improvement of aviation safety. New airspace and airport users, such as unmanned aircraft, are developing rapidly. Making aviation more sustainable also brings new risks for safety. New risks must be identified and managed in a timely manner.

Relevant developments

This section provides an overview of relevant developments since the release of the "State Safety Programme 2015-2019", edition 2.[5]

In Annex 19 (second edition)[6] to the Chicago Convention, ICAO provides the framework for the preparation of a state safety programme by contracting states. In the second edition, ICAO places more emphasis on the continuous improvement of aviation safety through a proactive approach. For the preparation of the SSP, further use was made of the most recent version of the ICAO Safety Management Manual[7] and the recommendations of the Royal Netherlands Aerospace Centre for the preparation of a state safety programme.[8]

EU Regulation 2018/1139[9] (Basic Regulation, Article 7) stipulates that EU member states must prepare and maintain a state safety programme in accordance with international standards and recommended practices. The SSP fulfils this international obligation. In addition, the European Commission publishes a European aviation safety programme. The latest edition appeared on December 7, 2015.[10]

Article 8 of EU Regulation 2018/1139 stipulates that Member States must prepare a national aviation safety plan in addition to a programme. With the SSP Action Plan, IenW implements safety management as described in this SSP.[11]

In 2017, the Onderzoeksraad voor de Veiligheid (OVV) [Dutch Safety Board] published a report on the safety of air traffic at and around Schiphol.[12] The report contains recommendations for Schiphol, Air Traffic Control the Netherlands, airlines and the Minister of Infrastructure and Water Management. The OVV advised the minister to specify her role as the person ultimately responsible for the safety of air traffic at and around Schiphol.

The OVV also advised to periodically provide public accountability for her role of the person ultimately responsible for safety at Schiphol. Annex A specifies the relation between the OVV recommendations and the sections of this SSP.

The above developments have led to a number of changes to this SSP compared to the previous edition.

Reading guide

The SSP describes the way in which the Netherlands achieves the continuous improvement of the safety of Dutch civil aviation. The four chapters of this document deal with the four pillars of an integrated state safety programme as defined by ICAO.

Chapter 1 describes the safety policy and the design of the system. This concerns, among other things, the division of responsibilities within the government[13] and the framework of legislation and regulations. Chapter 2, management of safety risks, deals with admission to the aviation system and the analysis of occurrences and the investigation of incidents and accidents. In addition, this chapter describes the state safety analysis, consisting of the identification of risks and their management. Chapter 3 describes the safety assurance that consists of the oversight of aviation organizations and the establishment of an acceptable level of safety. Finally, Chapter 4 discusses safety promotion that focuses on awareness, knowledge transfer and behavioural change.

1 Safety policy and system design

Chapter 1 of this Dutch state safety programme (SSP) describes in section 1.1 the Dutch policy for civil aviation safety and in section 1.2 the laws and regulations. Subsequently, section 1.3 discusses the roles and responsibilities of the various organizations within the aviation system. Section 1.4 describes the way in which it is guaranteed that the technical personnel of the Human Environment and Transport Inspectorate (ILT) in particular have the correct qualifications.

Finally, section 1.5 deals with the way in which ILT personnel are provided with the necessary technical guidance, resources and information for the effective performance of their duties.

Main achievements of pillar 1:

- IenW pays continuous attention to the full implementation of international obligations and recommended safety assurance methods. The Netherlands is committed to high compliance with the ICAO obligations and has the ambition to continuously be among the best-performing countries.
- IenW periodically publishes the Aviation Safety System Monitor that provides insight into the functioning of the safety system for which IenW is ultimately responsible.
- IenW guarantees the qualifications of the technical staff working at ILT and at organizations that perform mandated tasks.
- ILT determines the number of people and resources required to perform the statutory duties, partly on the basis of the size and complexity of the Dutch aviation sector.
- ILT works on the basis of procedures and checklists based on international obligations and recommended practices. ILT keeps this up-to-date in a quality management system in accordance with the applicable quality standards.

1.1 Civil aviation safety policy

Safety remains a top priority in aviation. The Netherlands strives for continuous improvement of aviation safety. Knowing and managing the risks better and working together on safety management contribute to this. It is the ambition that accidents do not occur in Dutch aviation. Developments in aviation must not be at the expense of safety.

IenW is in charge of strengthening the Dutch aviation safety system and continuously wants to be among the best performing Member States. IenW has an integrated safety analysis carried out for important decisions in aviation. The analysis provides a comprehensive overview of the possible consequences of operational changes. In addition, IenW is committed to strengthening cooperation between the sector parties at the various airports. The aim is for the parties to improve safety by collaborating more intensively at the interfaces of their activities. The sector parties have developed an integral system for safety management at Schiphol.

On the basis of the experiences at Schiphol, among other things, the Central Government decides whether the system will also be introduced at regional airports with large commercial traffic.

1.1.1 Aviation safety management

Safety does not occur automatically. A high level of safety requires an orchestrated effort from many parties, both internationally and nationally. Nationally, safety is the joint product of government and sector. Safety cannot only be enforced by legislation and regulations. It requires a system approach. If all parts of the system function well, this optimally contributes to the maintenance and continuous improvement of civil aviation safety. The SSP is the safety management system of the Dutch government and is intended to guarantee this.

The safety management system of the Netherlands is described in this document. Among other things, it gives substance to the eight *critical elements (CE) defined by ICAO in Annex 19:*

CE-1. Primaire luchtvaartwetgeving (paragraaf 1.2);
CE-1. Primary aviation legislation (section 1.2);
CE-2. Specific operating regulations (section 1.2);
CE-3. State system and functions (section 1.3);
CE-4. Qualified technical personnel (section 1.4);
CE-5. Technical guidance, tools and provision of safety-critical information (section 1.5);
CE-6. Licensing, certification, authorization and approval obligations (section 2.1);
CE-7. Surveillance obligations (section 3.1);
CE-8. Resolution of safety issues (section 3.1).

It is important that the Netherlands demonstrably complies with and continues to comply with the implementation of these eight critical elements. In addition, the SSP examines the identification of national potential hazards and risks and their management (section 2.4) to an acceptable level of safety (section 3.2).

1.1.2 State safety objective

Flying is one of the safest forms of transportation. Maintaining this high level of safety is and remains a top priority. IenW strives for continuous further improvement of the safety of Dutch civil aviation through the internationally prescribed proactive approach. The Netherlands has the ambition to continuously be among the best performing countries. The desired result is that no accidents occur in Dutch aviation.

The SSP gives substance to the ambitions with the following state safety objective:

> Continuously improving aviation safety by knowing the highest national risks and managing them to an acceptable level.

To guarantee an acceptable level of safety, IenW periodically determines indicators and target values. IenW strives for continuous improvement of the safety level. The indicators and target values are based on the results of the state safety analysis: the highest national risks and associated measures. In order to have the maximum effect on improving safety, it is important to give priority to the highest risks.

IenW periodically publishes the Aviation Safety System Monitor that provides insight into the functioning of the safety system for which IenW is ultimately responsible (see section 1.3.1).

Three domains

SSP distinguishes three domains, namely: *commercial aviation*[14], *general aviation*[15] *and unmanned aviation*[16]. The nature and size of these domains is so different that they have other risks and therefore require other management measures.

In commercial aviation there are passengers who have no influence whatsoever on flight operations and risk management. Passengers must be able to trust that safety is guaranteed in the best possible way. That is why commercial aviation is highly regulated. This has resulted in a strong development of safety management in commercial aviation. Very few accidents occur worldwide and flying is one of the safest forms of transport. The average number of accidents and casualties in aviation has been falling for decades due to systematic improvements. For the Netherlands, any developments in aviation must not be at the expense of safety. The probability of an accident per year may therefore not increase. The probability of an accident per year is equal to the product of the number of movements per year and the probability of an accident per movement.

Within the policy and regulations for general aviation, the emphasis is more on personal responsibility and the possibility of influencing the risks. IenW promotes the use of safety management systems in general aviation.

The use of unmanned aircraft, including drones, is increasing sharply. In recent years, their technology and availability have developed considerably. The use of unmanned aircraft also creates new risks. International regulations are still being developed. Guaranteeing the safety of third parties in the air and on the ground (third party risk) is paramount here. IenW collects operational information about these new airspace users and makes relevant information easily accessible. It must be clear that legislation and regulations and their compliance are necessary for safety.

Section 3.2 elaborates on the acceptable level of safety for these three domains and explains how IenW will describe this level in the SSP Action Plan.

1.1.3 Conditions

The international system of laws and regulations has been drawn up to reduce risks to an acceptable level of safety. The Netherlands is committed to high compliance with ICAO standards, recommendations and EU obligations. The Netherlands has the ambition to continuously be among the best performing countries. International regulations are subject to change. This requires continuous attention for keeping current and complying with the laws and regulations applicable in the Netherlands.

Safety culture

A positive safety culture[17] makes an important contribution to aviation safety. An essential starting point for aviation policy, legislation, oversight and safety promotion is that it contributes to maintaining and promoting the positive safety culture in the aviation sector.

An essential element of safety management is that all parties involved in aviation report risks, potential hazards and all types of occurrences. This concerns mandatory and voluntary reports. These reports only come from employees and companies if they are not concealed because of shame or fear of punishment. This requires an attitude from companies and government that encourages reporting and uses reports to learn from. In addition, the House for Whistle-blowers is designated in the Act on Aviation[18] [Wet Luchtvaart] as the body where employees can report suspected infringements and incidents about their employer, without risk to suffer any disadvantage.

1.2 Legislation and regulations

1.2.1 Global and European framework

Due to the international nature of aviation, almost all aviation safety regulations are drawn up in an international context. As an ICAO contracting state, the Kingdom of the Netherlands has the obligation to implement the standards contained in the annexes to the Chicago Convention. In addition to the standards, ICAO provides recommended practices. In principle, the Netherlands implements both the standards and the recommended practices (SARPs).

The implementation of ICAO standards and recommended practices is largely done through European regulations in the form of regulations that are directly applicable in the EU member states. All regulatory proposals are provided with an assessment of safety risks. In the structure of European legislation (see Figure 1), the EU distinguishes between the basic regulation, the implementing rules and soft law consisting of Acceptable Means of Compliance, Guidance material and Certification Specifications.

The islands of Bonaire, Sint Eustatius and Saba are not part of the European Union and therefore the EU regulations are not directly effective on these islands. The Netherlands ensures the correct implementation of the ICAO obligations in the Caribbean Netherlands. Being autonomous countries within the Kingdom, Curacao, Sint Maarten and Aruba each have their own national regulations with their own responsibility. All countries are therefore working on their own state safety programme. It is essential that safety is sufficiently guaranteed throughout the Kingdom. To promote this, there is regular coordination within the Kingdom about cooperation in the field of aviation safety.

1.2.2 Primary aviation legislation

This section describes the framework of primary laws and regulations.

EU-regulations

European rules are laid down in EU regulations, including the Single European Sky Regulations, the Incidents Regulation, the Accident Investigation Regulation and the European Basic Regulation, and related implementing rules. The European framework is described in detail in the European aviation safety programme.[19] The European regulations are made public in the Official Journal of the European Union.[20] These regulations directly affect the Dutch legal order and contain rules with regard to the following subjects:

- certification, design and production;
- continuing airworthiness;
- environmental protection;
- aviation crew;
- flight operations;
- airports;
- air traffic management services and air navigation services;
- air traffic controllers;
- reporting, investigating and following up of incidents;
- investigation into accidents and serious incidents;
- surveillance and enforcement.

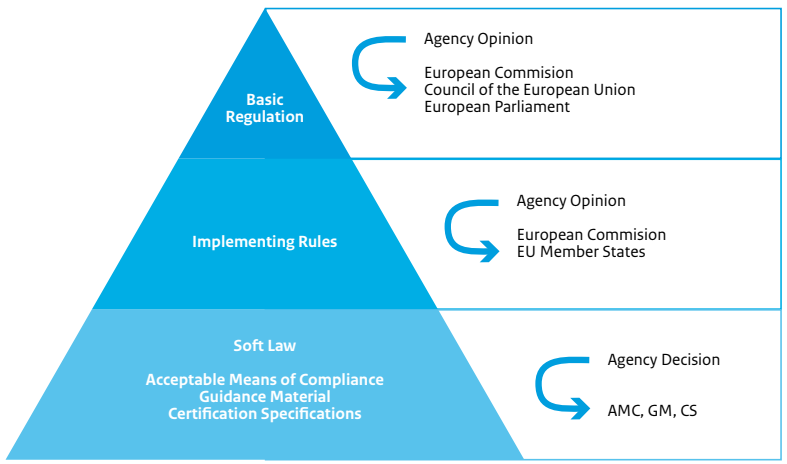


Figure 1: Structure of European regulations (source: EASA)

For unmanned aviation, EU regulations apply from 1 July 2020.[21] This is a first and important step in creating a common European market that allows free movement of goods and services within the EU. The EU is progressively developing this regulation so that large unmanned aircraft can safely participate in air traffic in the long term.

National regulations

In addition to the directly applicable European regulations, the regulations for aviation in the Netherlands are laid down in the Act on Aviation [Wet luchtvaart], the Aviation Act [Luchtvaartwet] and lower regulations based on them.[22] This national regulation concerns both the national implementation of ICAO rules that are not covered by European rules, and national implementation rules based on the European regulations.[23]

In addition, the Safety Investigation Board Act [Rijkswet Onderzoeksraad voor Veiligheid] contains the legal framework for investigations by the OVV. The OVV is responsible for investigating accidents and (serious) incidents in civil aviation in the Netherlands.

The jurisdictions of supervisors are laid down in the General Administrative Law Act [Algemene Wet Bestuursrecht]. Some additional powers and regulations are laid down in the Act on Aviation and the Aviation Act.

Caribbean Netherlands legislation

The Netherlands is responsible for the correct implementation of the ICAO obligations in the BES Aviation Act (Bonaire, Sint Eustatius and Saba Aviation Act) and the associated lower regulations (general administrative measures and ministerial regulations). In addition, certain parts of the Act on Aviation and the related regulations also apply in the Caribbean Netherlands and some EU regulations in national regulations have been declared correspondingly applicable in the Caribbean Netherlands. The powers of regulators in the Caribbean Netherlands are laid down in the BES Aviation Act.

1.2.3 Specific operating regulations

Operating regulations can be found both in European implementing regulations and in national regulations, whereby the regulations are laid down in general administrative measures and ministerial regulations. The subjects to which these regulations relate are already mentioned in section 1.2.2.

1.2.4 Compliance with obligations of the Netherlands

ILT has a management system to ensure continuous implementation and compliance with ICAO and EU obligations in the Netherlands. ICAO and EASA monitor the compliance with international obligations through audits.

Management system

ILT has drawn up detailed process descriptions and instructions based on the applicable laws and regulations. These are laid down in the quality management system for aviation. When setting up this management system, account was taken of the European requirements imposed on an aviation authority and the ISO standards. ILT periodically evaluates whether the procedures are still in line with legislation and regulations through internal audits. ILT also evaluates whether its activities demonstrably meet the procedures. In this way it is guaranteed that the certificates issued by ILT comply with the legislation and that oversight has been adequately carried out. Internal audits are conducted according to the internal audit plan.

ICAO

ICAO assesses whether contracting states meet the standards through the so-called Universal Safety Oversight Audit Programme (USOAP). An audit was last conducted in the Netherlands in 2008. Annually, ICAO provides website publications on the extent of implementation of the ICAO standards in the contracting states. Part of the ICAO audit system is the so-called Continuous Monitoring Approach (CMA). In this system, the Netherlands records how compliance is regulated for all subjects of legislation and regulations.

This is a continuous process. It is important to take into account changes in the aviation system and developments in aviation. This way, ICAO can monitor the Netherlands and the operation of the government with regard to aviation safety and compliance with standards and recommendations (particularly from a distance). The Netherlands is continuously strengthening the aviation safety system and permanently wants to be one of the best performing member states.

EASA

EASA monitors Member States through standardization inspections.[24] The purpose of these inspections is to monitor the implementation of all regulations covered by the basic Regulation and to maintain the so-called level playing field. Level playing field means that all EU member states implement the same regulations in the same way. EASA conducts samples on how the ILT supervises aviation organizations. Since EASA determines the level playing field, it is possible for EU member states to accept a certificate from another member state. This is possible since the same regulations apply and compliance is done in the same way.

In 2010, a memorandum of cooperation with ICAO was signed, setting out the framework for structured cooperation between ICAO and EASA. Cooperation concerns in particular the exchange of information on safety. This means that EASA and ICAO inspection programmes are better aligned. EASA publishes an annual report to the Commission on the permanent monitoring and inspections carried out by EASA on Member States.

Section 3.1 discusses ILT's oversight of compliance with obligations by aviation organizations.

1.3 State system and functions

In the Netherlands, various organizations have a role and responsibility for civil aviation safety. This section describes these roles and responsibilities.

1.3.1 Directing role

Nationally, safety is the joint product of government and sector. The sector parties have the primary responsibility for daily operational safety. Safety cannot be enforced by legislation and regulations only. This requires a system approach. If all parts of the system function well, this optimally contributes to the maintenance and continuous improvement of civil aviation safety. The Minister of IenW is ultimately responsible for the functioning of this system and has a coordinating role within it. The (further) development of the Aviation Safety System Monitor fits in with the strengthening of this management role.

Based on her management role, the Minister of IenW is responsible for drawing up the SSP and the associated SSP Action Plan. Under her responsibility, the actual implementation takes place in a cooperation between policy and inspection. Coordination of this lies with the Aviation Directorate within the Directorate-General for Aviation and Maritime Affairs (DGLM). The Minister of IenW is also responsible for coordination within and outside the government.

Within IenW, the Departmental Crisis Management Coordination Centre is responsible for the coordination and provision of information in the event of an aviation crisis or a threat thereof.

Aviation Safety System Monitor

IenW is developing the Aviation Safety System Monitor as an instrument to monitor the functioning of the aviation safety system.[25] This monitor provides insight into the functioning of the total set of rules, processes and activities aimed at achieving safety. A distinction is made within the system monitor between:

1. Regulations and frameworks;
2. Admission and enforcement;
3. Organization of (flight) operation and
4. Reflection.

Figure 2 illustrates the model of the Aviation Safety System Monitor

In the first edition of this system monitor, the focus is on safety at Schiphol. This is in line with the OVV's recommendations to further specify the minister's final responsibility. In the coming years, I&W will continue to develop the system monitor to visualize the aviation safety system of the entire Dutch aviation sector.

In addition to the system monitor, ILT annually issues the State of Schiphol [Staat van Schiphol] to provide insight into the development of safety at and around Schiphol (see also section 3.1).

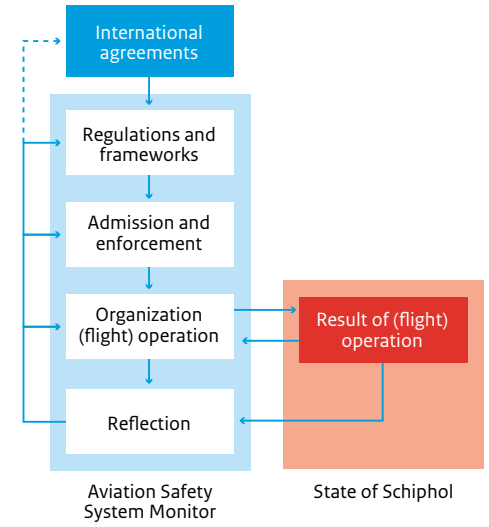


Figure 2: Aviation Safety System Monitor (source: IenW)

1.3.2 Policy and legislation

European Union

The European Aviation Safety Agency (EASA) is responsible for the preparation of EU regulations. EASA does this on the basis of the ICAO standards and recommendations, among other things. The Netherlands is actively involved in drafting and reviewing legislation and changes.

Ministry of Infrastructure and Water Management

Within IenW, the Directorate-General for Administrative and Legal Affairs is responsible for legislation and regulations. DGLM, and within it the Aviation Directorate, is responsible for the policy in the field of the safety of Dutch civil aviation. IenW participates in the EASA committee[26] that passes all regulations and is a member of various advisory and working groups. In this way, IenW guarantees that the regulations support the Dutch situation and interests as much as possible.

Ministry of Justice and Security

The Ministry of Justice and Security (JenV) and IenW are responsible for the regulations and policy for accident investigation, the policy with regard to whistle-blowers and criminal enforcement.

1.3.3 Admission and enforcement

EASA

EASA is responsible for carrying out the tasks entrusted to the European Commission, including certification and validation of aircraft and their modifications, and including the oversight of design organizations.

Human Environment and Transport Inspectorate

In the Institutional Decree on the Human Environment and Transport Inspectorate,[27] ILT is, among other things, charged with the duties of the competent authority, as referred to in the basic regulation and the implementing regulations. The ILT is authorized and responsible to perform admission and enforcement tasks for civil aviation. The tasks in the field of licensing and enforcement are functionally separated.

For the performance of specific tasks in the field of admission of persons, a mandate has been granted to Kiwa,[28] the Central Agency for Certificates of Driving Proficiency [Centraal Bureau Rijvaardigheidsbewijzen] CBR[29] and the Ballooning and Gliding Examination Theory Foundation [Stichting Theorie Examens Ballonvaren and Gliding] (STEBZ).[30] ILT supervises the organizations that carry out mandated work. ILT remains responsible for the performance of these tasks.

To determine the required number of people and resources to adequately perform its statutory duties, ILT takes into account the size and complexity of the Dutch aviation sector. In addition to the size and complexity of the aviation sector, the preparation of the inspection programme is also determined by safety risks.

National supervisory authority

In the ILT Institutional Decree, ILT is also charged with the safety duties of the national supervisory authority, as referred to in EU Regulation 549/2004[31] regarding the Single European Sky. ILT is thus responsible for the admission and enforcement of air navigation service providers:

- Air Traffic Control the Netherlands [Luchtverkeersleiding Nederland] (LVNL);
- Royal Netherlands Meteorological Institute [Koninklijk Nederlands Meteorologisch Instituut] (KNMI) and
- Eurocontrol Maastricht Upper Area Control Centre.

Military Aviation Authority

Within the Ministry of Defence, the Military Aviation Authority [Militaire Luchtvaart Autoriteit] (MLA) has been designated with the admission and enforcement of military aviation. Two activities are important within the scope of the SSP. Firstly, it concerns the oversight of the MLA at the military airports Eindhoven, De Kooij and Woensdrecht with civilian use. ILT ensures that civil aviation requirements are met through adequate agreements between the civilian operator and the military owner of these airports. Secondly, the MLA supervises air navigation services for military airspace with civilian use.

Prosecution

The Public Prosecutor's Office [Openbaar Ministerie] (OM) is responsible for the criminal enforcement of the legal order. One prosecutor has been designated by the OM as coordinator for aviation matters.

Police

The police have the task of investigating accidents and incidents, as defined in the Act on Aviation.

1.3.4 Incident and accident investigation

Aviation Occurrence Reporting Bureau

Pursuant to the Regulation on occurrence reporting in civil aviation 2019,[32] within ILT, the Aviation Occurrence Reporting Bureau [Analysebureau Luchtvaartvoorvallen] (ABL) is charged with the analysis of incidents.

Dutch Safety Board

The Dutch Safety Board (OVV) is charged with the investigation of accidents and (serious) incidents in aviation on the basis of the National Safety Board Act. In the interest of maintaining a good safety culture, the OVV explicitly does not have the task of determining the fault or liability. Section 2.3 describes the incident and accident investigation in more detail.

1.4 Qualified technical personnel Admission and enforcement

Admission and enforcement

ILT guarantees the qualifications of its technical staff (inspectors). This process consists of three elements. Firstly, the minimum qualifications in terms of competencies, training and personal development have been determined based on the requirements of the regulations per function. Secondly, on the basis of these minimum qualifications, a training course has been drawn up per employee, based on the specific knowledge, competences and work experience of that inspector. Before an inspector is allowed to supervise independently, he or she must have the relevant authorizations. Finally, the annual training plan for each inspector includes the education and training required to maintain the authorization.

Organizations that perform mandate tasks for the ILT in the context of admission must correspondingly guarantee the qualifications for their technical staff.

SSP and associated SSP Action Plan

IenW guarantees that the personnel responsible for the establishment and implementation of the SSP and the associated SSP Action Plan have the required competences and qualifications.

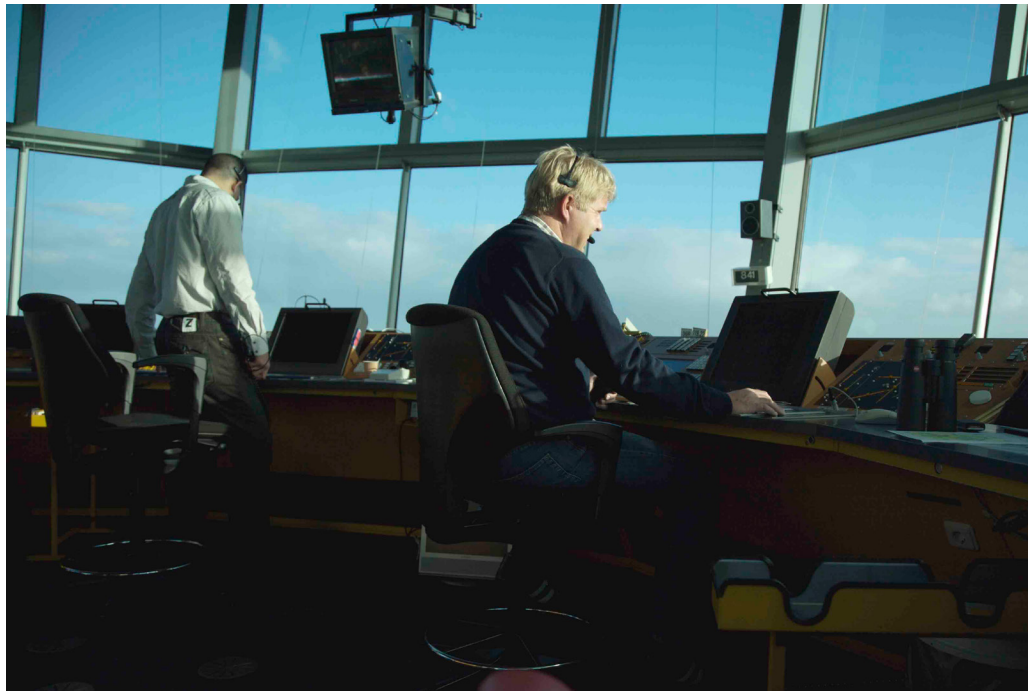
1.5 Technical guidance, tools and provision of safety-critical information

ILT has included in procedures and checklists the requirements imposed on the authority related to the performance of its duties. These guidelines are laid down in the ILT management system. ILT updates the guidelines when legislation and regulations are changed. ICAO and EASA supervise the completeness, implementation and correct application of these guidelines.

For the performance of the duties of the inspectors, ILT conducts a working conditions policy based on a risk inventory and evaluation for working conditions. This is recorded in the management system. This concerns, among other things, the required standard and personal equipment that is necessary for an effective and safe performance of that function.

ILT provides its inspectors with the available safety information and the results of the risk analyses, see also Chapter 2.

2 Safety risk management



Chapter 2 describes how IenW manages the aviation safety risks. Section 2.1 deals with admission to the aviation system. Section 2.2 discusses the requirements that have been imposed on safety management systems of aviation organizations. The reporting and analysis of incidents and accidents is described in section 2.3.

The final section discusses the process by which IenW identifies the potential hazards and risks of national interest, as required by the state safety objective. Finally, this section describes the process for arriving at measures to manage safety risks.

Main achievements of pillar 2:

- ILT guarantees that the admission of aircraft, individuals and organizations to the aviation system only takes place if all safety requirements are demonstrably met.
- If safety management systems are mandatory for aviation organizations, ILT will assess whether these systems are properly set up.
- ABL makes high-quality analyses for policymakers, supervisors and sector parties based on the incident reports.
- The OVV investigates aviation accidents and (serious) incidents and makes recommendations for the targeted resolution of safety problems.
- IenW has a methodology developed for the implementation of the state safety analysis based on the Dutch state safety programme (SSP) and sets up the organization required for this.
- IenW's state safety analysis provides insight into the risks of national importance for the three domains. IenW formulates measures to manage them.
- IenW publishes the result of the state safety analysis in the SSP Action Plan.

2.1 Licencing, certification, authorization and approval obligations

Compliance with legislation and regulations is an important precondition for achieving an acceptable level of safety. The granting of permits and therefore the admission to the aviation market of aircraft, individuals and organizations takes place only if all prescribed safety requirements are demonstrably met. ILT assesses whether an organization has implemented all safety requirements and has recorded it in a management system. ILT lays down the procedures in its internal management system to guarantee unambiguous and correct admission.

Kiwa, CBR and STEBZ record their admission procedures in management systems. ILT supervises the quality supplied by Kiwa, CBR and STEBZ.

For all applications, ILT, Kiwa, CBR and STEBZ test whether the documentation supplied meets the requirements set in the regulations (compliance). One of the requirements may be to provide a risk analysis for assessment (performance).

2.2 Safety management systems of aviation organizations

Safety management is part of the management system of an aviation organization.[33] ILT assesses whether these systems are suitable for the size of the organization and in line with the nature and complexity of the activities.

It is mandatory for all airlines, training organizations, airports, air navigation service providers and maintenance management organizations to have a management system. In 2020, the EU will introduce the obligation to have a management system for major maintenance companies and for aviation design and production organizations.

Annex B contains the relevant EU regulation related to management system requirements for the aforementioned organizations.

The EU regulations also specify which part of general aviation is required to develop a safety management system. IenW promotes the voluntary use of safety management systems for the part of general aviation for which this obligation does not apply.

Requirements

As included in the EU regulations, a safety management system of an aviation organization contains the same four pillars as the SSP, namely:
1. Policy and objectives;
2. Management of safety risks;
3. Safety assurance and
4. Safety promotion.

A safety management system aims to systematically identify risks within the aviation organization and to manage these to an acceptable level.

The regulations oblige aviation organizations to draw up safety indicators and targets, to report and investigate incidents, to identify the highest risks within the organization and to implement measures.

In addition to the safety management systems of the aviation organizations operating at Schiphol, an integral safety management system (ISMS) has been developed. The ISMS identifies the risks on the interfaces between the different organizations and develops measures to manage them. ISMS includes these measures in a Schiphol Safety Improvement Roadmap.[34] Agreements between the government and the parties involved about the further development of ISMS and about the Roadmap are laid down in a covenant.[35]

2.3 Occurrence analysis and accident investigation

2.3.1 Occurrences

The SSP focuses on a proactive and empirically supported approach. Accidents are often preceded by incidents and occurrences. Information about occurrences is an important source for discovering existing or potential safety risks. Aviation organizations must report occurrences to ABL, which in its turn collects, stores, protects, analyses and disseminates this information. The European regulations on occurrence reporting in civil aviation[36] are the framework within which the ABL carries out its duties.

Reporting obligation

The EU regulations indicate which persons and aviation organizations are obliged to report occurrences. They also indicate which types of occurrences are concerned. ABL also offers the possibility to voluntarily report occurrences. If there is a factual or potential safety risk, aviation organizations must also report the (provisional) results of their analyses to ABL. This report includes the measures required to manage aviation safety risks. ABL enriches the occurrence report in the database with the above information. ABL also enriches the database with the results from the investigations conducted by the OVV into accidents and (serious) incidents.

Reporter protection

Reporting occurrences requires openness and the courage to share experiences. Learning from occurrences is paramount. That is why ABL saves the occurrence report in its database anonymously. This contributes to a positive safety culture. ABL does not have the objective to generate information for criminal prosecution, unless there is gross negligence or intent.

Access and dissemination of safety information

The ABL publishes regularly about its analyses. The ABL analyses are an important source for state safety analyses and monitoring. Chapter 4 describes safety promotion activities to disseminate analyses within and outside the government.

2.3.2 Accidents and serious incidents

The OVV has the obligation to investigate aviation accidents and (serious) incidents with an aircraft on or above the territory of the Netherlands, with a Dutch aircraft above the high seas or abroad if the state concerned does not investigate. The OVV also investigates accidents and serious incidents if the Minister of IenW, the King's Commissioner, the mayor or the governor of the Public Entity Bonaire, Sint Eustatius or Saba make a request to do so. The independent position of the OVV ensures that all parties involved in an accident or (serious) incident can be the subject of the investigation. This can lead to recommendations to the aviation organizations and governments involved.

Research content

On the basis of EU Regulation 996/2010,[37] the OVV can make an assessment of the depth of an investigation. The OVV must take into account the expected improvements with regard to aviation safety. The OVV uses three categories in this context:
- a full investigation;
- a brief examination or
- an entry in the quarterly report.

The OVV can choose to investigate incidents or a combination thereof if the expected learning effect will be large.

After the investigation into an accident or incident has been completed, the OVV will prepare a final report. Such a report contains an analysis of the circumstances, the determination of the (probable) causes and consequences. If there is reason to do so, the report also includes the observation of structural safety deficiencies and any recommendations. The OVV publishes all final reports on the OVV website. Prior to publication, the OVV gives interested parties or persons the opportunity to comment on the draft report.

Follow-up investigation

Organizations to which a recommendation is addressed must inform the OVV within 90 days about the receipt of the recommendation, the method of follow-up and the expected period of handling. Within 60 days, the OVV must then indicate whether it considers the follow-up to be adequate. If an organization does not follow up on recommendations, they must substantiate this. The OVV must indicate whether it accepts the substantiation.

The OVV is authorized to investigate the state of affairs with regard to the implementation of recommendations made by the OVV in previous investigations. The reports of these studies are also published. The causes, conclusions and recommendations of the OVV are included in the ABL database.

The minister of JenV annually sends the States General an overview of the recommendations of the OVV, the positions determined thereon and the way in which the recommendations have been followed. JenV does this in consultation with the Minister of IenW.

2.4 State safety analysis

The state safety objective is the continuous improvement of aviation safety by knowing the highest national risks and managing them to an acceptable level. To achieve this goal, IenW periodically performs a safety analysis. This consists of identifying potential hazards, risks and possible trends for the entire aviation sector (section 2.4.1) and formulating measures (section 2.4.2). The state safety analysis focuses on the risks that cannot be managed at the level of an individual aviation organization, but require cooperation between aviation organizations and governments. The ministry publishes the result in the SSP Action Plan at least once every five years.

On the basis of the SSP, IenW has a methodology developed for conducting the state safety analysis and sets up the organization required for this.

2.4.1 State safety risks

IenW uses the following proactive and reactive safety data in the analysis to arrive at potential hazards and risks of national interest:

- the analyses of ABL;
- results and findings of the audits and inspections carried out;
- ILT signal reports;
- OVV investigations;
- external data sources and reports, for example from an aviation organization and ISMS;
- safety analyses;
- international reports, such as the European action plan and
- recommendations from an aviation safety expert group.

Classification of risks

After the identification of the potential hazards, the risk classification is determined based on the probability of occurrence. IenW uses safety data as much as possible to substantiate this. IenW involves the aviation organizations in this process. Figure 3 gives an example for the classification of risks.

Risk = Probability x Effect		**Effect**				
		Catastrophic	Substantial	Major	Minor	Negligible
Probability	Very frequent					
	Frequent					
	Possible					
	Unlikely					
	Negligible					

Figure 3: Example of a risk classification matrix (source: ICAO)

The risks in this example are classified into three categories. Risks classified in the red category require stopping activities or taking immediate measures to manage the risk to an acceptable level. Risks in the amber category require a further consideration between the safety effect to be achieved and, among other things, the costs and side effects of the additional measures. Risks in the green category do not require additional measures and are therefore acceptable.

In the SSP Action Plan, IenW includes the highest risks, for example a top 5, that require management at national level.

2.4.2 Managing state safety risks

IenW is developing measures to manage state safety risks. This contributes to achieving an acceptable level of safety. IenW periodically evaluates these measures, including their effect on safety risks.

Control measures

The probability of occurrence multiplied by the effect of the consequences determines the risk (risk = probability x effect). Measures to manage the risks can be divided into three categories:

1. Avoidance: eliminate the risk entirely by terminating or adjusting the activity;
2. Reduction: reducing the probability of occurrence or reducing the effect;
3. Segregation: isolate the effect or build in redundancy.

For the purpose of safety improvement, IenW identifies one or more measures per safety risk. IenW involves the relevant aviation organizations in this process. When determining the measures, it is important to find a balance between effectiveness, costs, time, feasibility and side effects. Examples of measures can be: development or tightening of laws and regulations, adjustment of admission and oversight, tightening of procedures of an aviation organization or safety promotion.

3 Safety assurance

The international system of laws and regulations has been drawn up to reduce risks to an acceptable level of safety. Safety assurance is essential for the continuous improvement of aviation safety.

Section 3.1 describes how the oversight of ILT is set up to guarantee the continuous compliance of the aviation organizations. Section 3.2 describes the basic principles for monitoring state safety performance and the process of establishing an acceptable level of safety.

Main achievements of pillar 3:

- By using a monitoring programme, ILT ensures that aviation organizations and persons continue to meet the requirements attached to the admission. ILT records deficiencies in a system and ILT monitors the implementation of measures.
- ILT determines its priorities within the monitoring programme based on risk profiles of individual aviation organizations.
- ILT performs inspections on foreign airlines that land on Dutch territory.
- Every year, the ILT issues the State of Schiphol, which provides insight into the development of safety, sustainability and living environment at and around Schiphol.
- IenW is working on an approach to determine the nationally acceptable level of safety on the basis of indicators and target values for the three domains. IenW sets up the associated organization.
- IenW monitors state safety performance and evaluates the implementation of this Dutch state safety programme (SSP).

3.1 Oversight of aviation organizations

The basic principle is that every individual and every aviation organization is primarily responsible for their own safety performance. Compliance with laws and regulations is an important precondition for achieving an acceptable level of safety. Safety cannot be enforced by legislation and regulations only. Aviation organizations must continuously identify potential hazards and risks and take measures to manage them. This is part of the safety management of aviation organizations.

Among other things, ILT checks, on the basis of the regulations, whether the safety performance of the aviation organizations is sufficient. ILT also monitors compliance with the obligation for companies to report occurrences with a safety risk to the ABL. ILT also supervises the functioning of the ISMS at Schiphol.

3.1.1 Planning of oversight

ILT carries out its oversight according to international obligations in a planned manner. ILT reports and documents the results. It monitors the implementation of the improvement measures by the aviation organizations in response to oversight findings or risk priorities.

The safety risks are included in the admission requirements. The regulations require matching the oversight with the scope and complexity of the aviation domains (commercial, general and unmanned aviation) and the aviation organizations that operate within them. Broadly speaking, the following types of aviation organizations with corresponding regulations are involved,
for example:

- production organizations;
- airlines;
- maintenance companies;
- airports;
- ground handling companies;

- air traffic control;
- training institutions;
- organizations of flight simulators;
- medical examination authorities and
- bodies that perform mandated tasks.

The monitoring cycle of the aforementioned aviation organizations is defined or otherwise determined in the relevant regulations. The monitoring cycle determines the period within which all requirements of the relevant regulations must be checked for compliance, for example 24 months.

ILT draws up a monitoring programme for each aviation organization and / or domain. This is based on the supervisory cycle and the risk profile. ILT can shorten or extend the supervisory cycle depending on the risk profile. ILT can also intensify or extensify the frequency of the number of inspections and audits based on this. ILT adjusts the scope and depth of the inspections based on the risks.

ILT uses information from the above activities when drawing up the long-term plan. ILT updates this plan annually. ILT draws up the annual inspection programme based on this and translates it into operational plans. ILT continuously monitors the implementation of this.

Risk profiles

ILT's approach is information and risk-driven. The ILT uses internal and external information to determine the focus in its own oversight. ILT also uses this information to alert policy makers and aviation organizations to risks. Aviation organizations look broadly at the possibilities to improve safety and sustainability. ILT also involves information about culture and governance of aviation organizations in determining the focus. ILT draws up a risk profile for each individual or type of aviation organization. This process starts with the admission of an organization. The following topics play a role in determining these risk profiles, among other things:

- financial health;
- staff turnover;
- competence and performance of management;
- results from the monitoring and follow-up thereof;
- proactive identification of risks and timely implementation of adequate measures;
- exposure to (national) safety risks;
- complexity and size of the organization and its activities and
- maturity of the management system and safety culture.

Figure 4 shows the method schematically.

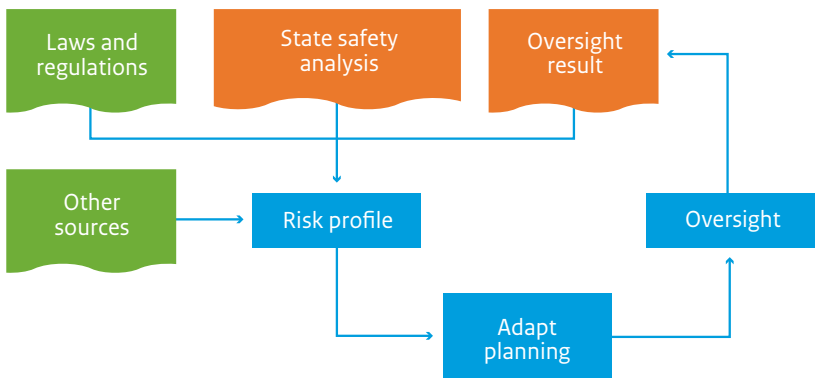


Figure 4: Risk-based oversight process (source: ICAO)

3.1.2 Methods of oversight

The methods of oversight include inspections and audits, planned and unplanned company visits, thematic investigations and information retrieval. The oversight relates to aircraft, products, people, equipment, procedures and operations of aviation organizations.

Based on the outcomes of the risk analyses and / or signals from day-to-day operations, ILT carries out thematic studies in order to gain more insight into, for example, the scope and nature of the problem.

3.1.3 Schiphol monitoring programme

Specifically for Schiphol, the ILT will bundle its oversight in the "Safe and sustainable Schiphol"[38] programme in the coming years. The programme focuses on flight safety, among other things. ILT broadens the classical oversight of admitted organizations to all aviation organizations operating at and around Schiphol and the interfaces between them. The programme is risk-based and therefore dynamic. The emphasis in the programme shifts depending on changes in risks.

State of Schiphol

Every year, the ILT issues the State of Schiphol, thus giving insight into the development of safety, sustainability and living environment at and around Schiphol. In addition to general factual information, this report provides a broad and up-to-date insight into the theme of 'safe flying'. The State of Schiphol will be further developed in the coming years, whereby the ILT will express an opinion on their observations. ILT also continuously improves the indicators and the available data in collaboration with stakeholders.

3.1.4 Foreign airlines

ILT can inspect foreign airlines that land on Dutch territory on the basis of a programme prescribed by the EU: Safety Assessment of Foreign Aircraft (SAFA). The programme is based on the minimum requirements, as set by ICAO. At European level it is laid down how many of these safety inspections ILT must perform. It has also been laid down how often Dutch airlines abroad can expect a SAFA inspection. These SAFA inspections follow a standard checklist, which covers the technical condition of the aircraft, crew, documentation, equipment, safety equipment and cargo on board.

3.1.5 Resolving shortcomings

After an inspection or audit, ILT sends the report to the aviation organization. This includes the shortcomings that are classified. Based on the shortcomings, the organization draws up the necessary measures and submits these to the ILT. The ILT assesses whether the measures are sufficient and monitors their implementation, progress and effectiveness. With this, ILT determines the acceptable level of safety of aviation organizations.

Intervention options

If ILT finds that aviation organizations or individuals do not comply with the law, ILT can intervene. ILT has drawn up the intervention ladder[39] to be able to assess for various forms of non-compliance which intervention is appropriate. This extends from misapplication of the regulations unknowingly but in good faith, to consciously ignoring them. The purpose of an intervention is to prevent, terminate, correct or punish a violation situation.

3.1.6 Police

The police supervise commercial, general and unmanned aviation. Among other things, the police are responsible for checking on alcohol consumption, loading, airworthiness, flight operations, licenses and flight bans. In addition, they are responsible for the criminal investigation of aviation accidents and incidents on behalf of the OM. ILT and the police make agreements on the distribution of oversight with regard to unmanned aircraft.

3.2 State safety assurance

The state safety objective is the continuous improvement of aviation safety by knowing the highest risks and managing them to an acceptable level. Section 2.4 describes the state safety analysis, with which IenW identifies the risks, prioritises them and establishes measures to manage the risks. This section deals with state safety performance and determining the acceptable level of safety.

3.2.1 Acceptable level of safety

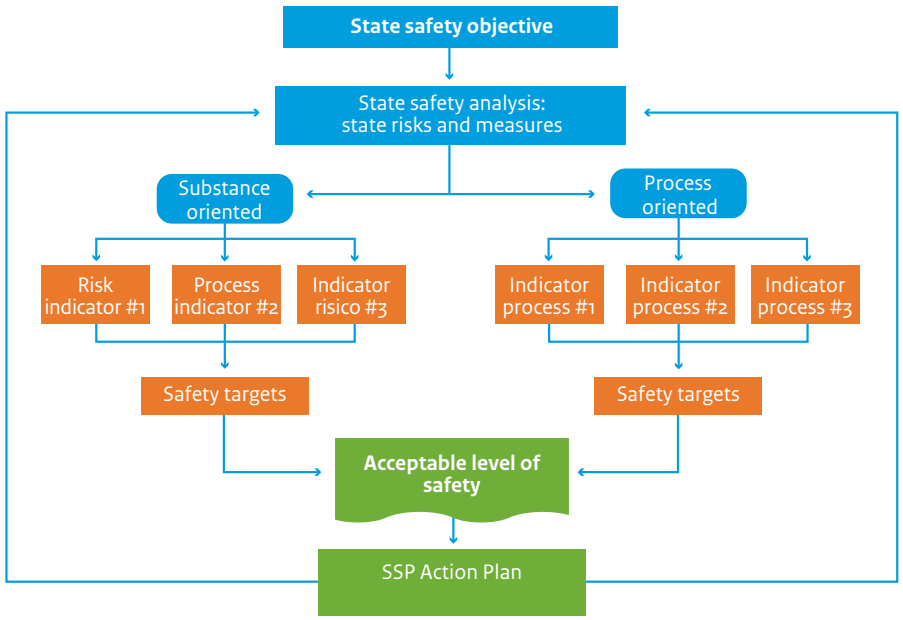
The results of the state safety analysis are the national risks and associated measures. IenW determines indicators and target values for this. This guarantees an acceptable level of safety. IenW strives for continuous improvement of the safety level. IenW incorporates the results of the state safety analysis and its translation into indicators and target values in the SSP Action Plan.

IenW sets indicators and target values according to the SMART principle.[40] The safety indicators must be specific and realistic and must take into account the potential of the organizations. Target values are defined in absolute numbers as much as possible. The figure below shows the intended approach schematically.

The sections below discuss the principles for the indicators and target values in more detail. In the coming years, based on this, IenW will elaborate the approach and set up the required organization.

3.2.2 Indicators

IenW translates the results of the state safety analysis into safety performance indicators. With this smart set of indicators, IenW monitors both the development of the risks and the effectiveness of the measures. This process consists of two parts: a part that focuses on the substantive performance and a part that focuses on the performance of the process.



Figuur 5: Een acceptabel niveau van veiligheid (bron: ICAO)

Substantive indicators

The indicators that are linked to the substantive performance focus on circumstances that can cause an undesirable outcome. The substantive indicators are strongly linked to the risks of the operation of the aviation organizations.

Process indicators

The indicators associated with process performance focus on the effectiveness of the resources and processes necessary to manage operational risks. These indicators are related to the functioning of the aviation system. This concerns policy, oversight and the operation.

3.2.3 Target values

Achieving the state safety target is difficult to measure. Therefore, IenW also formulates a target value for an indicator, if appropriate. In order to determine a target value, information about the indicator is needed to determine the current status. If insufficient information is available, it may be necessary to monitor the performance of the indicator over a period of time. The realization of these target values thus contributes to the continuous improvement of aviation safety.

3.2.4 Monitoring and evaluation

Monitoring the safety performance on the basis of the established indicators and target values contributes to the state safety analysis that IenW carries out periodically. It may give cause to updating the measures to manage the risks in the SSP Action Plan.

In addition to monitoring safety performance, IenW evaluates the implementation of this SSP. Among other things, attention is paid to the process for determining safety risks and their management. It is expected that the advancing insights in the field of risk and data analysis methods will contribute to improving the management of aviation safety risks.

4 Safety promotion

The fourth pillar of the Dutch state safety programme (SSP) is safety promotion. The promotion contributes to the continuous improvement of aviation safety. Section 4.1 discusses the objectives, organization and resources that are important for safety promotion. Section 4.2 describes the various themes and activities.

Main achievements of pillar 4:

- In the SSP Action Plan, IenW elaborates on how safety promotion is given concrete shape for the three domains and sets up the required organization for this.
- IenW organizes an annual aviation safety network day for aviation organizations and governments.
- IenW informs aviation organizations about (changes to) laws and regulations and supports compliance with them.
- In general aviation, IenW encourages the voluntary use of safety management systems.
- ABL publishes about its analyses, so that aviation organizations and governments can use them for their safety management.
- IenW shares the results of the state safety analysis (risks and measures) and the acceptable level of safety (indicators and target values).
- ILT signals safety problems in signal reports and enforcement reports.

4.1 Objectives, organization and resources

The safety promotion focuses on awareness, knowledge transfer and behavioural change, both within and outside the government. IenW uses European initiatives[41] and experiences in the field of safety promotion.

Objectives

Safety promotion contributes to the internal and external active sharing of the state safety analysis (risks and measures) and the acceptable level of safety (indicators and target values). In addition, IenW facilitates mutual sharing of practical experiences within the three domains. The safety promotion also focuses on themes that have been elaborated in section 4.2.

In the SSP Action Plan, IenW determines how the safety promotion is given concrete form. IenW works out how safety promotion in the three domains takes shape and develops the resources to be deployed. In the coming years, special attention will be given to safety promotion for general and unmanned aviation. Relevant stakeholders include aviation organizations, local authorities, umbrella organizations and citizens.

Organization

Safety promotion requires an effort from policy and inspection. Depending on the promotional objective, policy and / or inspection carries out the safety promotion. IenW can also approach an organization outside the government, such as an aviation organization, a training or research institute. Policy and the inspectorate coordinate safety promotion per target group and theme, including the moments when the promotion activities take place. Policy and inspection work together based on their own responsibility.

Means of communication

For the purpose of safety promotion, IenW uses the following resources, among other things:

- promotional material and training syllabus;
- press releases and social media;
- ILT signal reports, enforcement reports and ABL fact sheets;
- research reports;
- websites and
- apps.

IenW carries out its own promotional activities and also links up with third-party initiatives. It is important to find a good balance between the provision of information and dialogue with the aviation sector. The activities include:

- promotional campaigns;
- training courses;
- workshops;
- congresses and symposia;
- information meetings;
- consultations and annual network days.

4.2 Themes and activities

In addition to general communication on aviation topics, IenW will pay extra attention to a number of themes in the context of safety promotion over the next five years. IenW formulates a promotional objective for each theme. These themes can be classified according to the first three pillars of the SSP:

1. Policy and system design;
2. Management of safety risks and
3. Safety assurance.

Policy and system design

Two conditions for achieving the state safety objective are that stakeholders are familiar with current legislation and regulations and that they put into practice a good safety culture. The safety promotion is aimed at disseminating new laws and regulations (policy) and at supporting individuals and aviation organizations in compliance (inspection).

The SSP and the associated SSP Action Plan are guidelines for improving aviation safety for the next five years. Disseminating knowledge about their content and involving the relevant parties in their implementation are therefore important. It is also important that stakeholders are familiar with the results of the state safety analysis and how IenW monitors performance.

IenW stimulates the development of a positive safety culture. This increases the effectiveness of activities and measures that have been taken to improve safety.

Management of safety risks

A safety management system is not always mandatory in EU legislation. This is the case for a part of general aviation, for example. Safety promotion is aimed at stimulating the voluntary application of safety management systems.

Experience has been gained at Schiphol with an integrated safety management system. IenW uses positive experiences with this to encourage the introduction of comparable systems at other airports.

The ABL database is an important source for identifying safety risks. The analyses of the ABL are an important source for safety management by aviation organizations and governments. The ABL therefore publishes their analyses. The safety promotion with regard to ABL is aimed at improving the quality of reports, among other things. The (voluntary) reporting of events to learn from them (just culture) will also receive a lot of attention.

Safety assurance

ILT has a signalling function with regard to safety problems. The Inspectorate shares information on potential hazards and risks with the sector, other aviation authorities, EU member states and EASA. The extent and urgency of the problem determines which instrument is used by the inspection. Signals from other Member States can also be a reason to set up promotional activities. In special cases, an urgent social safety problem leads to the publication of a signal report and its submission to the parliament. Parties involved can take measures based on a signal report.

Annex A OVV-recommendations Schiphol

In 2017, the OVV published a report on the safety of air traffic at and around Schiphol.[42] Recommendations 1 to 6 are addressed to the aviation organizations.

The table below provides an overview of the recommendations to the Minister of IenW[43] with a reference to the sections that are related to this.

OVV-recommendation	Section
7. Further specify the role and ultimate responsibility for the safety of air traffic at and around Schiphol by, among other things:	1.3
a. Drafting a *clearly verifiable criterion* for the safety of air traffic at and around Schiphol, and the formulation of a *transparent method of how safety is interpreted as a precondition.*	3.2 1.2, 2.1 and 3.1 2.4 and 3.2
b.	-
c.	-
d. stablishing *enforceable standards and targets* for safety at and around the airport and using these to permanently improve safety.	3.2
e. actively *monitoring* safety aspects of air traffic and regularly performing trend *analyses.*	2.4 and 3.2
f. increasing the effectiveness of air traffic oversight at and around Schiphol by deploying more manpower and resources by investing in substantive knowledge of regulators, by having more substantive inspections carried out and by improving the *functioning of the Aviation Occurrence Reporting Bureau.*	2.1 and 3.1 1.4 and 1.5 1.4 3.1 and 2.3
g.	-
h. Monitoring the organization and functioning of the *Safety Platform Schiphol* (ISMS) and making adjustments if necessary.	3.1
i.	-
8. *Periodically providing public accountability* for the role of the person *ultimately responsible* for safety at Schiphol.	1.3.1

Note: The paragraphs mentioned in column 2 refer to the italicized part of the recommendation in the same line.

Annex B Overview of SMS obligations

An overview is given below of the regulations for the various organizations, which include the requirements for safety management systems.

Organisation	Regulation
Airlines	EU Regulation 965/2012
Training organizations, training and certification	EU Regulation 1178/2011
Airports of national importance	EU Regulation 139/2014
Airports of regional importance	Safe use of airports and other areas
Air Navigation Service Providers	EU Regulation 2017/373
Maintenance Management	EU Regulation 1321/2014
Maintenance companies	Introduction in 2020
Aviation design and production organizations	Introduction in 2020

Abbreviations

ABL	Analysebureau Luchtvaartvoorvallen [Aviation Occurrence Analysis Bureau]
CE	Critical Elements
CMA	Continuous Monitoring Approach
DGLM	Directoraat-Generaal Luchtvaart en Maritieme Zaken [Directorate-General for Aviation and Maritime Affairs]
EASA	European Aviation Safety Agency
ICAO	International Civil Aviation Organisation
IenW	Ministerie van Infrastructuur en Waterstaat [Ministry of Infrastructure and Water Management]
ILT	Inspectie Leefomgeving en Transport [Human Environment and Transport Inspectorate]
ISMS	Integral Safety Management System
LVNL	Luchtverkeersleiding Nederland [Air Traffic Control the Netherlands]
JenV	Ministerie van Justitie en Veiligheid [Ministry of Justice and Security]
KNMI	Koninklijk Nederlands Meteorologisch Instituut [Royal Netherlands Meteorological Institute]
MLA	Militaire Luchtvaart Autoriteit [Military Aviation Authority]
NALV	Nederlands Actieplan voor Luchtvaartveiligheid [SSP Action Plan]
NLVP	Nederlands Luchtvaartveiligheidsprogramma [State Safety Programme]
NSA	National Supervisory Authority
OM	Openbaar Ministerie [Public Prosecutor's Office]
OVV	Onderzoeksraad voor de Veiligheid [Dutch Safety Board]
SAFA	Safety Assessment Foreign Aircraft
SMS	Safety Management System
SSP	State Safety Programme
STEBZ	Stichting Theorie Examens Ballonvaren en Zweefvliegen [Balloon Sailing and Gliding Examination Theory Foundation]
USOAP	Universal Safety Oversight Audit Programme

Glossary

Acceptable level of safety: The results of safety analyses and their translation into indicators and target values that determine the acceptable level of safety.

A**viation organization:** Organization that is allowed to undertake aviation activities after admission.

Commercial aviation: A flight operation to transport passengers, cargo or mail for a fee or other reward.

General aviation: This concerns aviation activities outside commercial scheduled flights, charters, military and unmanned aviation.

Hazard: A condition or object that can cause or contribute to an incident or accident.

Indicator: A parameter to monitor or assess safety performance.

National competent authority: The entity designated by the Netherlands with the authority and responsibility to perform the certification, monitoring and enforcement tasks in accordance with the EU Basic Regulation and the delegated and implementing acts adopted on that basis, and Regulation (EC) No 549 / 2004.

Oversight: The permanent verification, by or on behalf of ILT, of the continued compliance with the legislation and regulations on the basis of which a permit has been issued or a statement has been submitted.

Permit: A certificate, approval, license, permit, or other document issued as a result of an authorization and in which compliance with the applicable requirements is recognized.

Product: An aircraft, engine or propeller.

R**isk:** The probability of occurrence multiplied by the effect of the consequences determines the risk (risk = probability x effect).

Risk management: Taking measures to manage the risks to an acceptable level.

Safety: The extent to which risks are managed with measures to an acceptable level.

Safety assurance at national level: Ensuring with indicators and target values that measures to manage state risks lead to an acceptable level of safety.

Safety assurance at organization level: The totality of activities by ILT to ensure the subsequent delivery of laws and regulations by individuals and aviation organizations.

Safety information: Processed, ordered or analysed safety data to be used for managing safety risks.

Safety management or control: The process to identify safety risks and manage them with measures to an acceptable level.

Safety management system: A safety management system aims to use a systematic working method to identify risks and to manage them to an acceptable level of safety. It describes the policy and objectives, safety risk management, safety assurance and safety promotion.

Safety performance: The level of safety that an aviation organization or state achieves based on the established indicators and target values.

Safety promotion: The totality of activities aimed at raising awareness, transferring knowledge and changing behaviour to promote safety.

Safety risk: The estimated probabilities and outcome of the consequences of a hazard.

Target values: a planned or intended target for the performance of a safety indicator over a certain period that contributes to the state safety objective.

Unmanned aviation: Any aircraft with which flights are carried out or which is designed to operate flights autonomously or remotely without pilot on board.

Endnotes

1 In the Netherlands, the ICAO State Safety Programme (SSP) is referred to as NLVP (Nederlands luchtvaartveiligheidsprogramma).
2 See Annex 19 to the Chicago Convention (ICAO).
3 The Caribbean Netherlands consists of Bonaire, Sint Eustatius and Saba.
4 The latest edition was released in January 2014 by the Ministry of Justice and Security.
5 he second edition described the programme for the period 2015 up to and including 2019 (Parliamentary documents 24 804, no. 86).
6 Annex 19 to the Convention on International Civil Aviation. Safety Management. ICAO, published July 2016, the second edition/amdt 1 is applicable November 7, 2019.
7 Safety Management Manual (Doc 9859). Edition 4. ICAO, 2018.
8 Recommendations for a Risk-Based State Safety Programme. Royal Netherlands Aerospace Centre, December 2018.
9 Regulation (EU) 2018/1139 of the European Parliament and of the Council of 4 July 2018 on common rules in the field of civil aviation and establishing a European Union Aviation Safety Agency and amending the 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, PbEU 2018, L 212
10 The European Aviation Safety Programme (2nd edition). European Commission, December 7, 2015.
11 The latest edition of the Dutch SSP Action Plan has been published on the internet under the name “Dutch plan for Aviation Safety 2019-2020.” Ministry of Infrastructure and Water Management, December 13, 2018.
12 Veiligheid vliegverkeer luchthaven Schiphol [Safety of air traffic Schiphol Airport]. Onderzoeksraad voor veiligheid [Dutch Safety Board], April 6, 2017.
13 This particularly concerns the Human Environment and Transport Inspectorate and the Directorate-General for Aviation and Maritime Affairs (policy) within the Ministry of Infrastructure and Water Management and the Dutch Safety Board.
14 Commercial aviation to which the SSP relates concerns all civil aviation with Dutch aircraft, at Dutch airports, in Dutch airspace and with aircraft maintained by Dutch companies.
15 The general aviation to which this SSP relates, concerns all Dutch aviation activities outside of commercial scheduled flights, charters, military and unmanned aviation. It is a group of airspace users ranging from recreational users to small commercial users, such as sightseeing flights or advertising flights.
16 Remotely steered, unmanned small aircraft
17 There are three elements to a safety culture, namely that: 1) safety within the organization is the most important, 2) reporting incidents is essential to be able to learn from them and 3) reports are only used to learn from and not to penalize reporters (Just Culture).
18 Art. 7.2

19 The European Aviation Safety Programme Document (2nd edition). European Commission, December 7, 2015. 20

21 See: eur-lex.europa.eu

22 The requirements for operations with unmanned aircraft are laid down in EU regulation 2019/945 and EU regulation 2019/947.

23 These are general administrative measures and ministerial regulations.

24 All Dutch legislation can be found on the website www.wetten.nl.

25 The report 'Opzet Systeemmonitor luchtvaartveiligheid' ['Aviation Safety System Monitor set-up'] describes the set-up of the system monitor, see Parliamentary Papers II, 2019-2020, 29665, No 379.

26 Committee for the application of common safety rules in the field of civil aviation

27 Stcrt. 2011, 23871, as updated

28 Besluit mandaat en machtiging Kiwa N.V. (luchtvaart) [Mandate and authorization decision Kiwa N.V. (aviation)], stcrt. 2014, 24347

29 This concerns the written exam for ATPL, CPL, IR, EIR, PPL, LAPL (A) and LAPL (H), as referred to in Commission Regulation (EU) No 1178/2011 of 3 November 2011 laying down technical requirements and administrative procedures with regard to the crew of civil aircraft, in accordance with Regulation (EC) No 216/2008 of the European Parliament and of the Council, PbEU 2011, L 311. See the 2004 Examination Regulations for Airfarers (Government Gazette 2004, 187, as amended) and the Decree on mandate and authorization of theory exams for airfarers 2016 (Government Gazette 2016, 7520).

30 This concerns the theory exam for BPL, CPL (FB), SPL, LAPL (B) and LAPL (S), as referred to in EU Regulation 1178/2011. See the Exam Regulations for Airfarers 2004 (BWBR0017237).

31 Regulation (EC) No 549/2004 of the European Parliament and of the Council of 10 March 2004 establishing the framework for the creation of the Single European Sky ("the framework regulation"), OJ 2004, L 96

32 Stcrt. 2019, 35918

33 In Dutch, Safety Management System (SMS) is referred to as veiligheidsmanagementsysteem.

34 https://integralsafetyschiphol.nl/

35 Stcrt. 2018, 38844

36 REGULATION (EU) Nr. No 376/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 3 April 2014 on the reporting, investigation and follow-up of occurrences in civil aviation and amending Regulation (EU) No 996/2010 of the European Parliament and of the Council and repealing Directive 2003/42 / EC of the European Parliament and of the Council and Commission Regulations and IMPLEMENTING REGULATION (EU) 2015/1018 of 29 June 2015 establishing a list of civil aviation occurrences that are required to be notified in accordance with Regulation (EU) No 376/2014 of the European Parliament and of the Council are classified in categories

37 REGULATION (EU) Nr. 996/2010 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 20 October 2010 on the investigation and prevention of civil aviation accidents and incidents and repealing Directive 94/56 / EC

38 Multi-year plan for the Human Environment and Transport Inspection 2020 - 2024, parliamentary document II 35300-XII, no. A

39 https://www.ilent.nl/over-ilt/handhaving-en-toezicht/interventie/interventieladder

40 SMART principle = Specific, Measurable, Acceptable, Realistic and Time-bound

41 One of the European initiatives is the Safety Promotion Network (SPN): a voluntary partnership between EASA and other aviation organizations.

42 Veiligheid vliegverkeer luchthaven Schiphol. Onderzoeksraad voor veiligheid, 6 april 2017. Safety of air traffic at Schiphol airport. Dutch Safety Board, April 6, 2017

43 Recommendations 1 to 6 are addressed to the aviation organizations and are therefore not included here.

Colophon

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