CIVIL AVIATION AGENCY S/A

SAFETY REPORT 2014

Contents

Summary

Globally, there were 641 fatalities from commercial aviation accidents in 2014, which is an increase from 210 in 2013 and the five-year average of 517[1]. The 2014 global Western-built jet accident rate (measured in hull losses per million flights of Western-built jets) was 0.23, the equivalent of one accident for every 4.4 million flights. This is an improvement compared to 2013, when the rate was 0.41. Looked at the rate over the five-year period (2009-2013) – 0.58, 2014 shows a significant improvement. The 2014 Western-built jet hull loss rate for members of IATA was 0.12, which is significantly better than global rate of 0.23 and is an improvement compared to five-year average of 0.33.

2014 flight safety by the numbers:

- 12 accidents with Western built turbofan engine aircraft (6 accidents in 2013). Five-year average is 13.
- 73 accidents (all aircraft types, Eastern and Western built), down from 81 in 2013. Five-year average is 86.
- 12 fatal accidents (all aircraft types) down from 16 in 2012 and the five-year average of 19.
- 641 fatalities (210 in 2013). Five-year average is 517

In 2014, in Latvia, no accidents in commercial aviation occurred. Analysis of this indicator is provided in the safety implementation monitoring section of the report.

4 general aviation accidents occurred in Latvia in 2014, compared to 2 in 2013. In 2013 in Latvian general aviation occurred 2 accidents.

For statistical data analysis of airport and aeronautical services, number of flights is used.

Number of flights in airports of Latvia in 2014, comparing to 2013, decreased.

[1] Data from IATA Safety Report 2014

Introduction

Safety Report has been prepared by the Civil Aviation Agency based upon Item 13 of the Cabinet Regulation No.1033 Procedures for Reporting Occurrences in Civil Aviation adopted 2005, in cooperation with the Transport Accident and Incident Investigation Bureau (TAIIB) to inform public on the flight safety level in civil aviation.

The report summarizes information on occurrences reported within the frame of the Latvian reporting system, and from analysis thereof, risks, safety figures, list of significant factors, as well as efficiency of actions by the Civil Aviation Agency in the area of supervision of flight safety is defined.

The report covers situation in the Latvian civil aviation flight safety, using the following sources of information:

- Mandatory occurrence reporting system
- Voluntary occurrence reporting system
- Flight data analysis
- Recommendations from aviation accident and serious incident investigation (TAIIB and investigation offices in other states) reports
- EASA's and other safety directives, flight safety information
- Inspections and audits
- Inspections by SAFA abroad on aircraft of Latvian operators
- Inspections by SAFA in Latvia on aircraft of foreign operators
- Information acquired during training
- Other sources

The report reflects activities of the Civil Aviation Agency in the area of flight safety.

Reporting system

In Latvia Mandatory occurrence reporting system (MOR) and voluntary occurrence reporting system (VOR) have been established based on the Cabinet Regulation adopted on 25 December 2005 No. 1033 Procedures for Reporting Occurrences in Civil Aviation, as it is stated in DIRECTIVE 2003/42/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 13 June 2003 on occurrence reporting in civil aviation.

The reported occurrences are registered in the database of the European Co-ordination Centre for Aviation Incident Reporting System (hereinafter – ECCAIRS). Database of the European Commission Joint Research Centre (JRC) ECCAIRS is maintained and used since May 2006. It is constantly updated and improved, as well as connected to other databases, thus, making it more functional and usable in more extensive applications.

In the database occurrences (both voluntary and mandatory) are registered: incidents, serious incidents and accidents.

Information contained in the database serves only for flight safety analysis. The Civil Aviation Agency doesn't disclose personal data of those who have reported on occurrences or have been involved in an occurrence, except if required by law or if the involved person itself has authorized such disclosure.

According to the Commission Regulation No.1330/2007 (24 September 2007), laying down implementing rules for the dissemination to interested parties of information on civil aviation occurrences referred to in Article 7(2) of Directive 2003/42/EC of the European Parliament and of the Council, in order to enhance flight safety may be disseminated to interested parties. Further information is available on the Civil Aviation Agency website www.caa.lv.

The Civil Aviation Agency continuously cooperates with ICAO, EU institutions, accident investigation bureaus and national aviation authorities in terms of information exchange.

According to the Commission Regulation (EC) No.1321/2007 (12 November 2007), laying down implementing rules for the integration into a central repository the information on civil aviation occurrences exchanged in accordance with Directive 2003/42/EC of the European Parliament and of the Council, data from the national database since 19 June 2008 is regularly integrated into the unified European repository. Latvia was the fourth state to start the implementation of data integration into the central repository. The Civil Aviation Agency has been assigned restricted access rights to the European Central Repository.

In 2014, reports on 333 occurrences in civil aviation have been submitted to ECCAIRS database of the Civil Aviation Agency of Latvia. For comparison, in 2013 – reports were submitted on 407 occurrences, in 2012 - 392, in 2011 – 482, in 2010 – 589, and in 2009 – 409 occurrences.

Reports are entered into ECCAIRS database using Accident/Incident Data Reporting (ADREP) taxonomy developed by the International Civil Aviation Organization (ICAO), which is an international data entry standard that can describe almost any occurrence. New version of taxonomy, ADREP 2000, includes SHELL human factor module allowing the analyst to state, *why* the occurrence has taken place (if it occurs due to human factor). Latvia actively participates in the process of improvement of ECCAIRS taxonomy.

After receipt of reports, the Civil Aviation Agency:

a) Assesses them and enters in the database,
b) Decides, which occurrence shall require investigation, and, if any further information is required,
c) Verifies, if aircraft operators (ACO), technical service providers, air navigation service providers (ANS) and airport organizations carry out actions to prevent or correct situations stated in the report,
d) Negotiates with foreign aviation authorities to carry out necessary actions to prevent or correct situations stated in the report,
e) Carries out general analysis of reports to establish negative trends, which may not be visible to each individual reporter,
f) Based on law of the Republic of Latvia, publishes information acquired from the reports,
g) Presents the acquired results of the flight safety analysis to those who might benefit therefrom in the area of flight safety,
h) Within the frame of their competence, provides recommendations and instructions for specific sectors of the industry,
i) Within the frame of their competence, carries out activities in relation to changes in regulatory enactments, for instance, developing amendment proposals for law „On aviation", the Cabinet regulations and other binding documents,
j) Participates in the exchange of data from the reports with other EU states.

Mandatory and voluntary occurrence reporting systems serve as a tool for assessment of flight safety level, as well as potential enhancement thereof. A goal of Civil Aviation Agency is to ensure that the flight safety information is announced, collected, saved, protected and distributed. List of persons (or organizations), to whom the reporting provisions shall be applicable, as well as list of occurrences, on which reports shall be submitted, is specified in the Cabinet Regulation No. 1033.

Voluntary reporting system is significant, since it allows acquisition of information on occurrences, which must not be reported mandatory, however, which may disclose latent conditions.

Flight safety analysis must enhance free data exchange. *Just culture* or *reporting culture* principle means that reports are collected to enhance the level of flight safety, understand causes of occurrences and consequences thereof. Data are not collected to punish anyone, but to establish and analyse shortcomings, in particular, systemic shortcomings, and to eliminate them. *Just culture* principle is not applicable to those occurrences, which are obviously related to illegal actions, gross negligence or intentional malicious actions.

Report shall be sent to the Civil Aviation Agency within 72 hours of becoming aware of the occurrence:

E-mail: SIDD@latcaa.gov.lv

Fax: +371 67 507 910

Forms available from website: http://www.caa.lv/lv/veidlapas/gaisa-kugu-drosiba

Phone: + 371 67 830 969; + 371 67 507 968 (business hours)

TNGIIB Phone: + 371 67 288 172

Disclaimer

Data on occurrences contained in this report have been provided for information only. The data from the Civil Aviation Agency database, acquired from the aviation sector, is used, which reflect information available at the time of preparing of the report.

The report has been prepared very carefully; however, the agency shall not guarantee accuracy, completeness of the information content or compliance thereof with the latest data. Within the permissible frame of the European and national law, the agency shall not be liable for any loss, complaints or claims due to faulty, insufficient or invalid information or use, reproduction or disclosure of such information.

Information contained in the report shall not be considered legal statement.

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Safety Analysis

Categories of occurrences

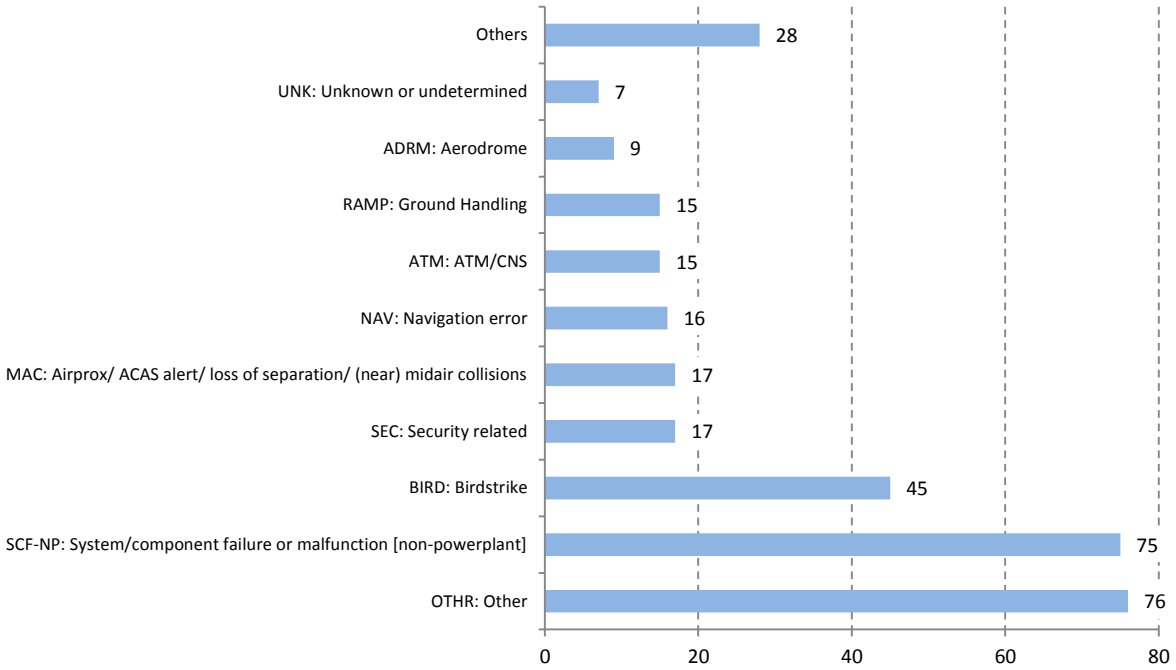

Figure 1: Categories of occurrences (mandatory and voluntary reporting system) in 2014

Event Analysis

In the civil aviation occurrence database of the Civil Aviation Agency, each occurrence is encoded using events, descriptive factors and explanatory factors specified in ADREP2000.

Occurrences are encoded in chronological sequence, creating the chain of occurrences. When filling in the *event* section, answer to the question *WHO*? is provided.

Each occurrence is formed of sequential *events.* It means that one occurrence may include one or more events, which have caused one another. It may be considered that the first event is the cause of the following event, thus, forming a chain of events.

This event analysis includes data from occurrences in civil aviation, registered in the Civil Aviation Agency database and received for 2014 both within the frame of mandatory and voluntary reporting system.

Events may be considered hazards in aviation system. Thus, occurrence reporting system shall be considered one of the ways to determine hazards.

This analysis includes events, which have occurred with aircraft registered in Latvia, or operators whereof have been certified in Latvia, or, in some cases, if the occurrence has taken place within the territory of Latvia.

Since the occurrence category section stated that category OTHR (Other) occurrences were the most frequent ones, Figure 2 shows the most frequent events in occurrences of the category OTHR (Other).

Notice: one occurrence may include more than one event

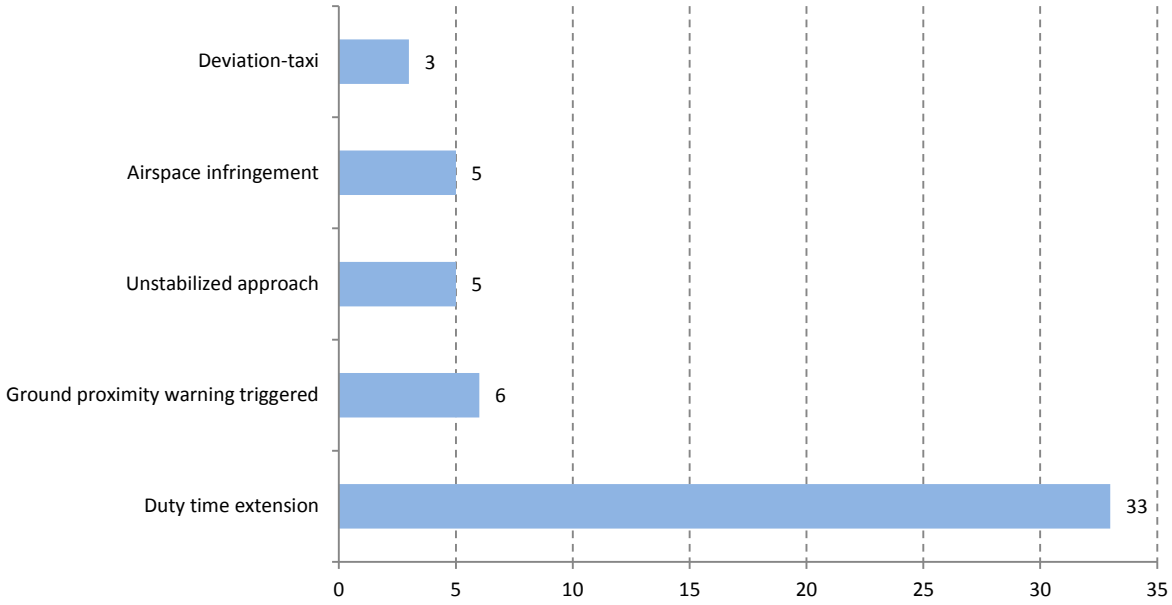

Figure 2: The most frequent events in occurrences of the category OTHR in 2014

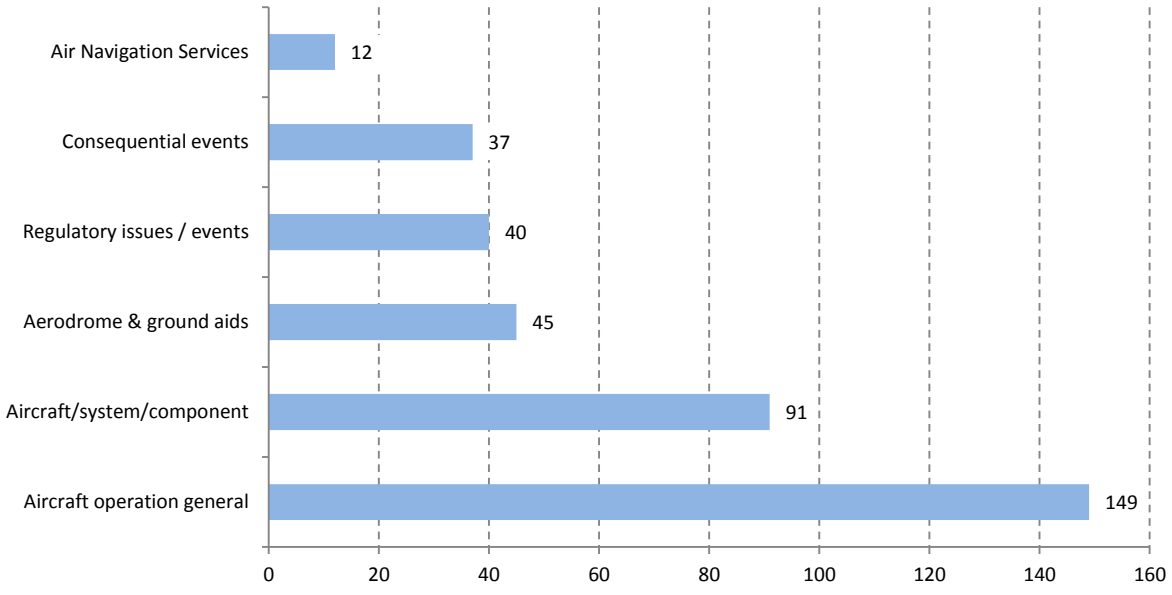

Figure 3: Division by type of the event – all events in 2014

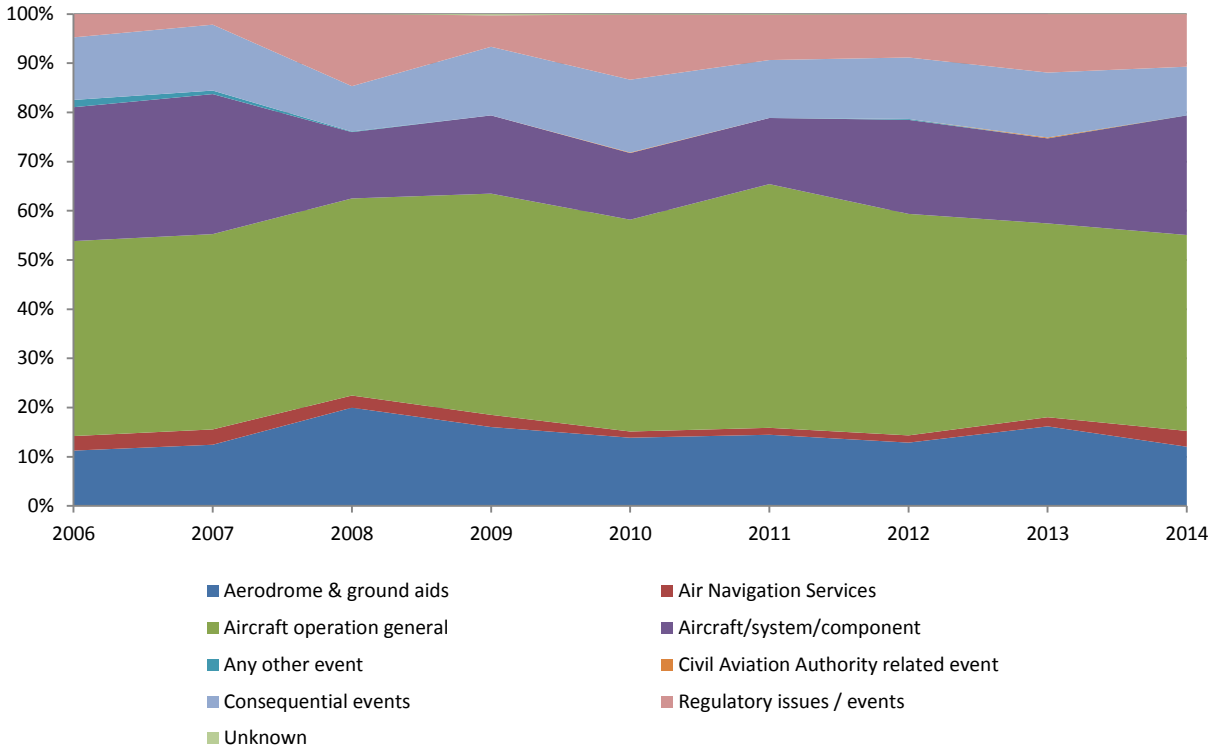

Figure 4: Division by type of the event – all events (2006 – 2014)

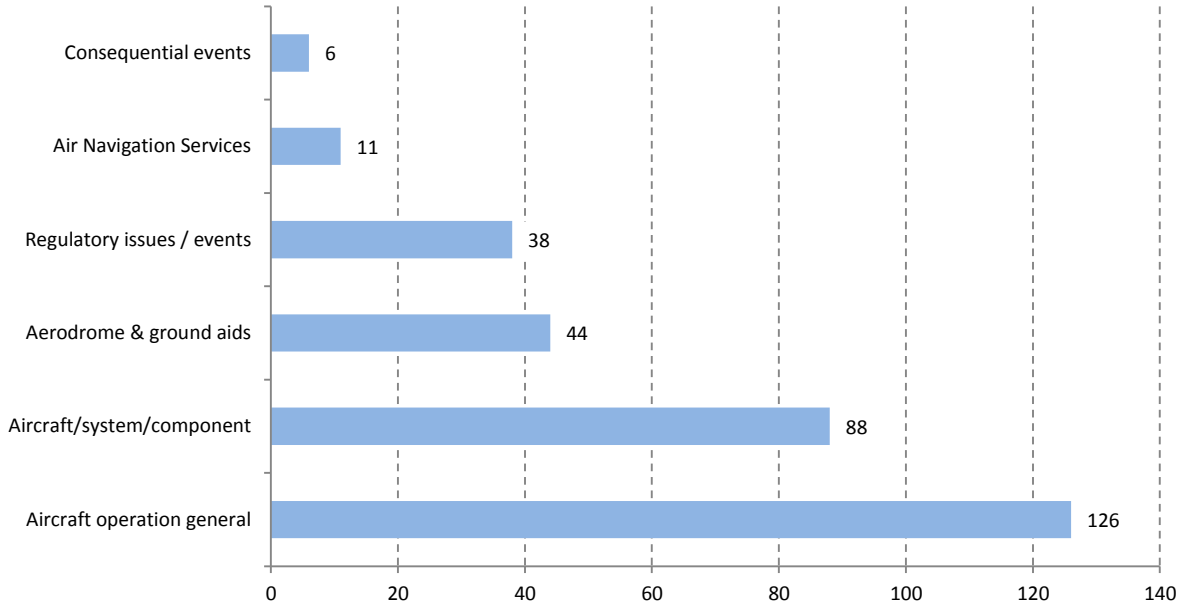

Figure 5: Division by type of the event – first event in 2014

Aircraft operations
Commercial aviation

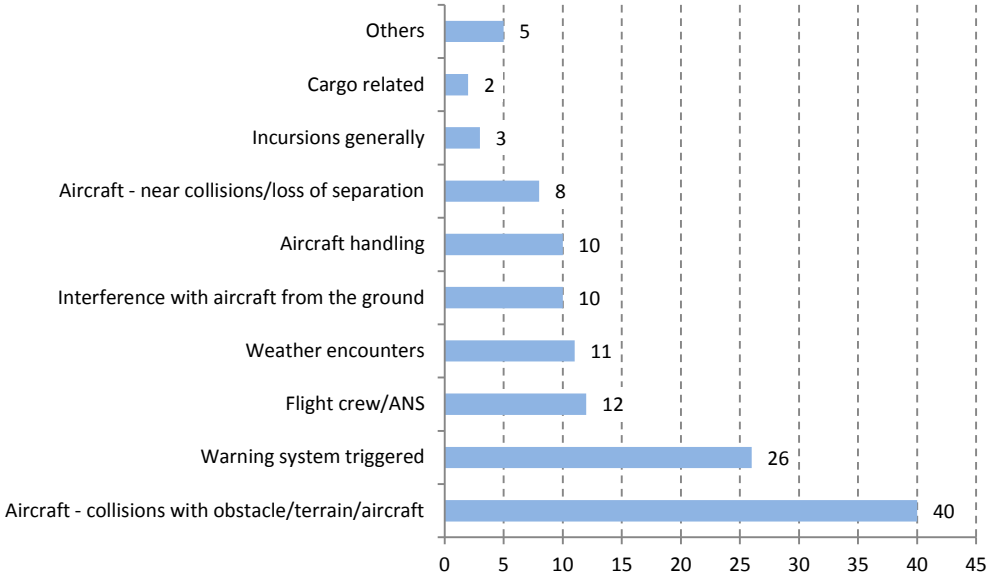

Figure 6: Hazards – operation of commercial aviation aircraft (control of aircraft) in 2014

General aviation

Information on occurrences in general aviation is imprecise, since there still is a trend to report on serious occurrences only, which cannot be *hidden*. In general aviation, it is necessary to enhance flight safety culture – this issue is discussed at flight instructor workshops.

Apart from serious incidents and accidents, as well as ATS reports on airspace violations in general aviation, there is a low number of reports submitted, and that is a very small part of the *small aviation.* Currently, CAA has access only to TNGIIB reports allowing reactive actions, i.e. carrying out actions when the accident has already occurred, rather than proactive actions – based upon the reports received and other significant information.

Non-reporting and distrust to regulatory bodies has been, in part, inherited from the previous experience when the offender was severely punished, because there was an opinion that one shall never make mistakes. Currently, there is different opinion, which is based upon mutual confidence and exchange of safety information, admitting that anyone can make mistakes and these mistakes may become valuable lesson for every participant of civil aviation. This issue has been discussed at flight instructor workshops, since instructors may help to teach this culture to the existing and prospective participants of aviation system.

Figure 7 lists the most frequent hazards registered in the database of the Civil Aviation Agency in relation to aircraft operations in general aviation (including serious incidents and accidents).

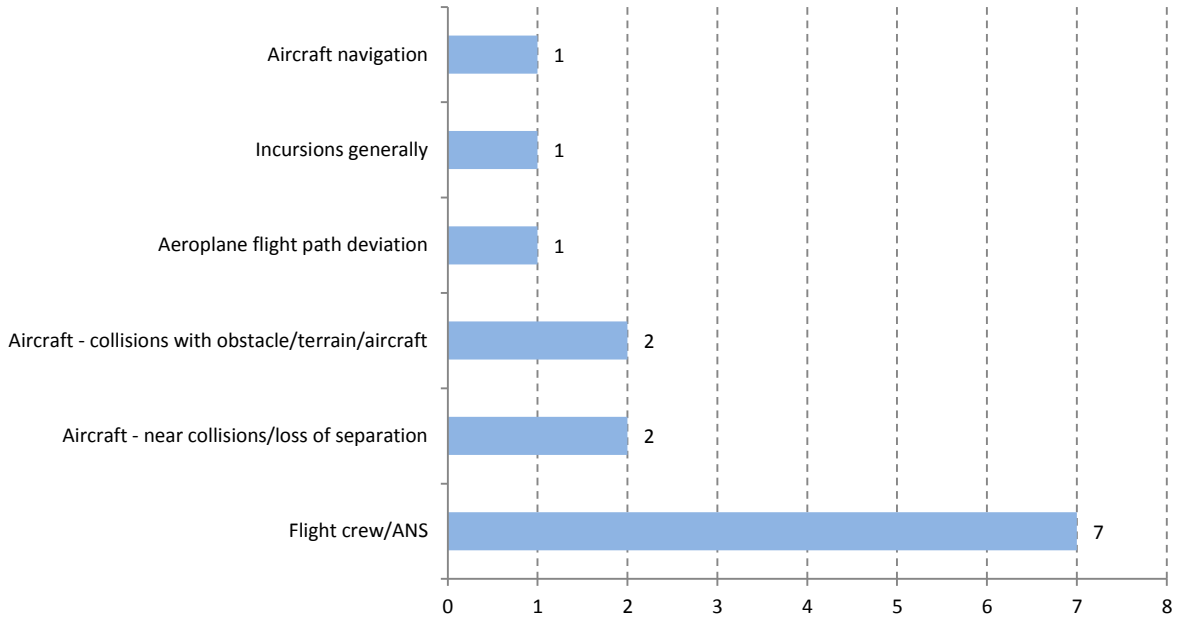

Figure 7: Hazards – operation of general aviation aircraft in 2014

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Technical condition of aircraft

Commercial aviation

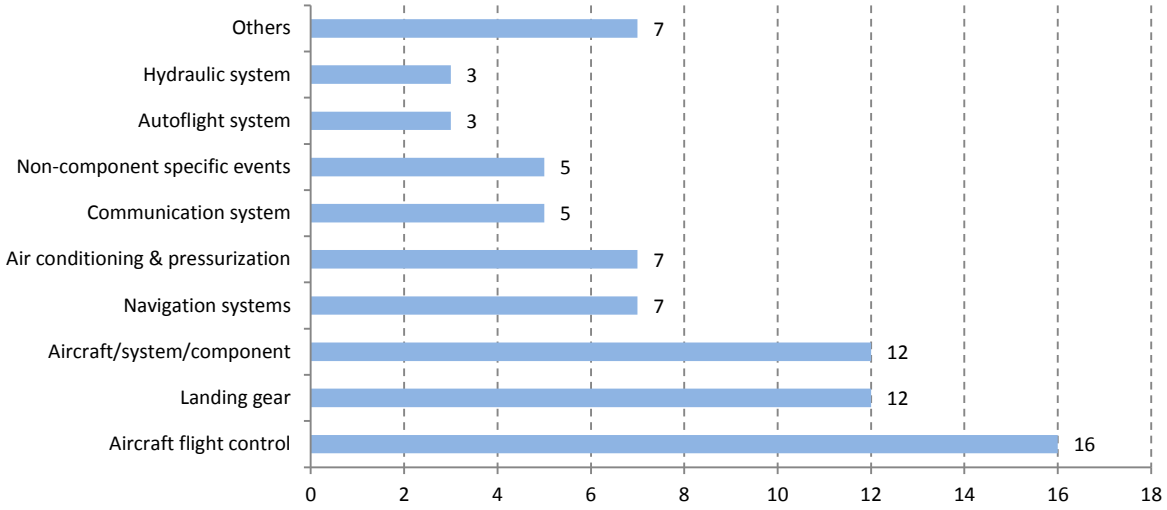


Figure 8: Hazards – technical condition of commercial aviation aircraft in 2014

General aviation

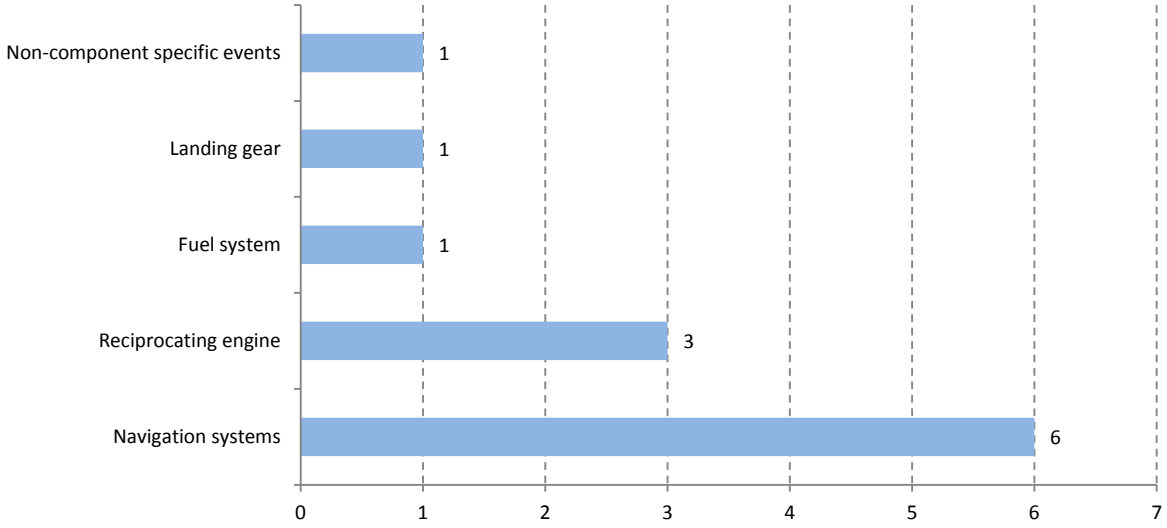


Figure 9: Hazards – technical condition of general aviation aircraft in 2014

Air navigation services

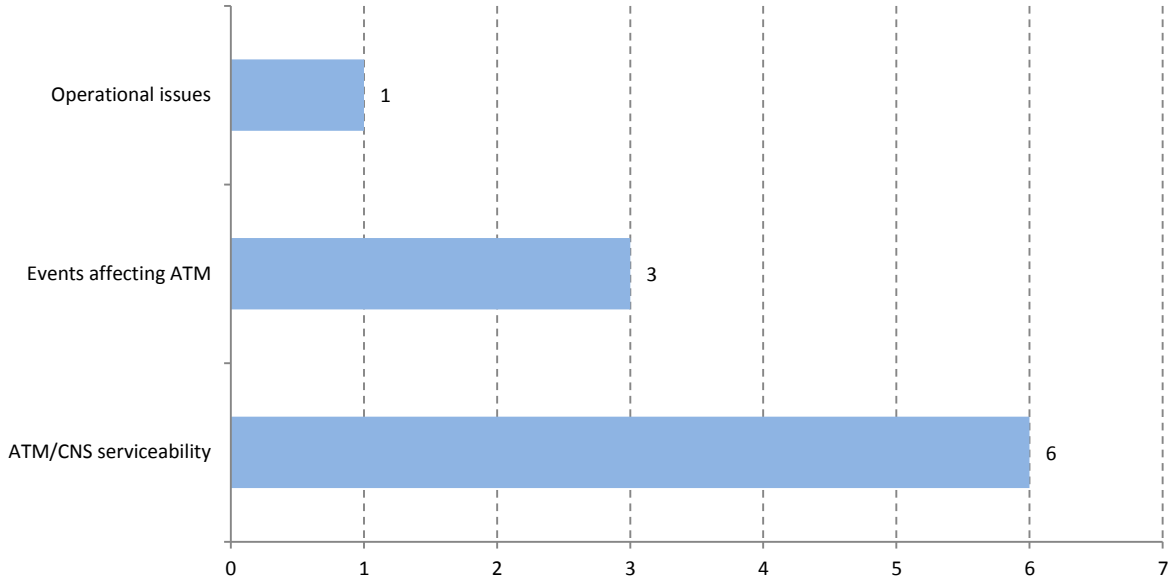


Figure 10: Hazards – air navigation services in 2014

Airports and ground services

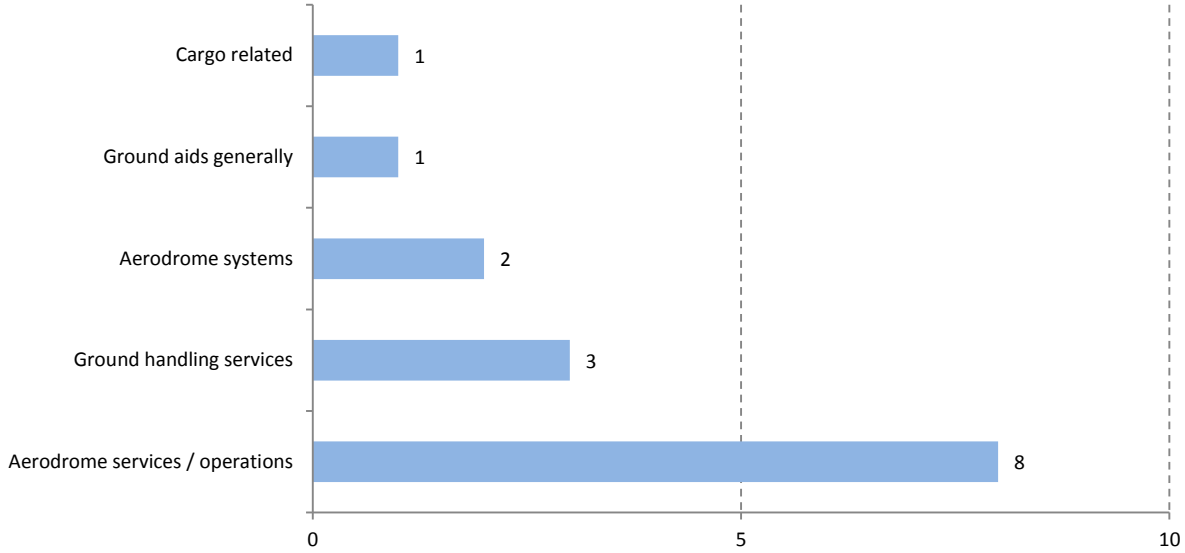


Figure 11: Hazards – airports and ground services in 2014

Bird strikes

Aircraft bird strikes are considered hazard for flight safety. Along with increase in air traffic, number of such collisions increases as well. Since implementation of the *ICAO Bird Strike Information* System (IBIS), it is possible to assess scale of the issue more accurately. In global civil aviation, approximately 40'000 bird strikes occur each year.

IBIS[2] information shows that 96% of strikes occur in the vicinity of airports. Airports and vicinity thereof attract birds due to various reasons; mostly, they are related to physiological needs, for instance, searching for food. Bird strikes mostly have no effect on flight safety; however, in 11% they cause damage to the aircraft. From the aspect of operation of airports, the rejected take-offs, emergency or precautionary landing are considered the most hazardous ones. Globally, approximately 6% or approximately 2'400 bird strikes result in rejected take-offs or precautionary landing. These disturbances in operation of airports are not only inconvenient to passengers – they cause also additional costs and affect flight safety.

The safety level to be achieved, which has been specified in ICAO SMS, is 1 bird strike per 1'000 flights with 50% decrease in the number of such occurrences within 5 years.

Form of the report on bird-related incidents is available from the Civil Aviation Agency website – section *Flight Safety*.

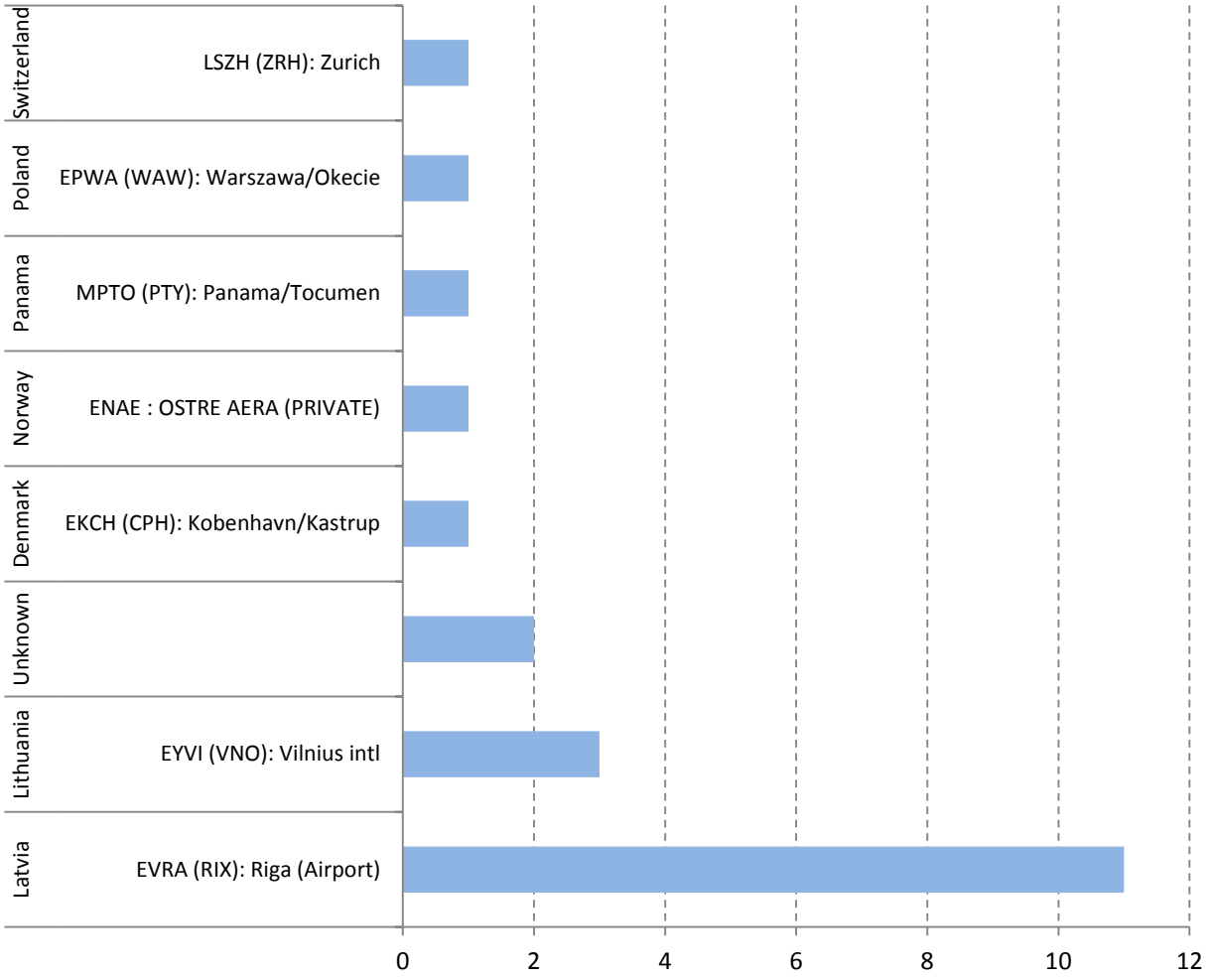


Figure 12: Damaged aircraft due to a bird strike, registered in Latvia and operated by aircraft operators, in the period 2000–2014

[2] ICAO - ELECTRONIC BULLETIN (EB 2009/37), 11 December 2009

Figure 12 presents statistics of occurrences when the aircraft has been damaged at bird strike since 2000 with distribution by airports (for aircraft operators or aircraft registered in Latvia). In all occurrences, the damage has been minor.

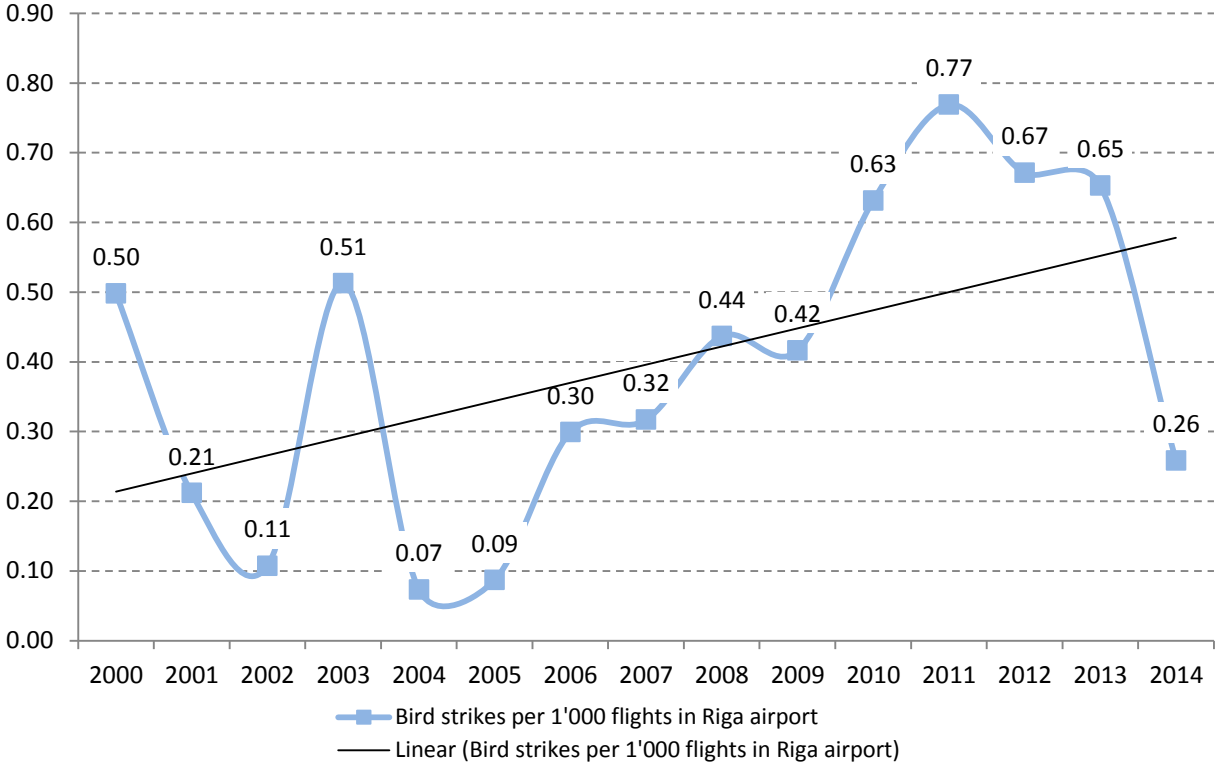


Figure 13: Bird strikes per 1’000 flights in Riga airport

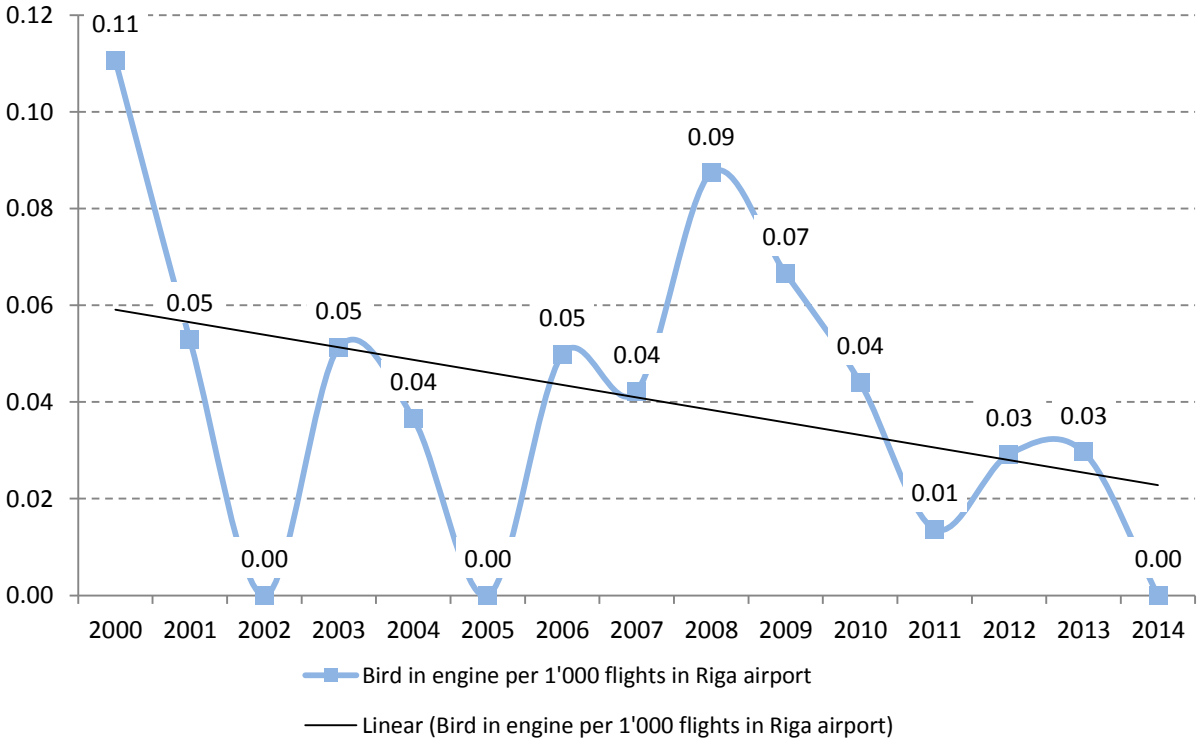


Figure 14: Bird strikes with bird in engine per 1’000 flights in Riga airport

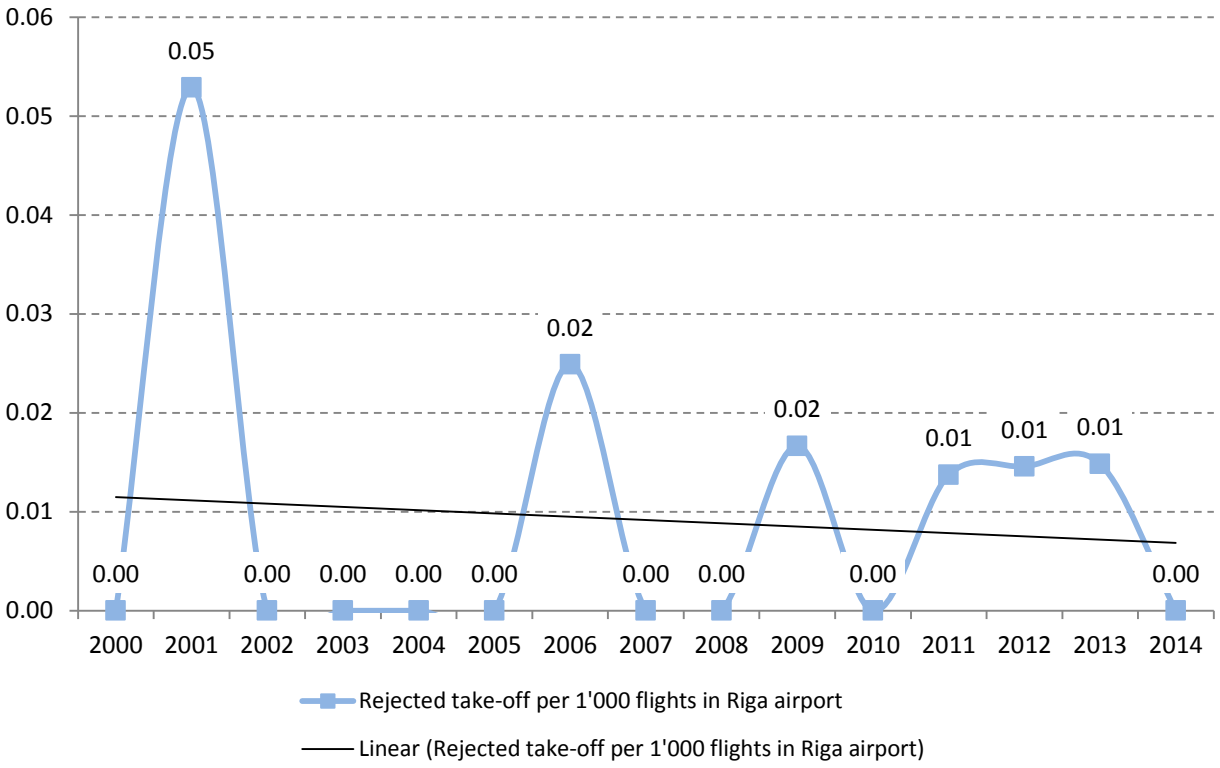


Figure 15: Rejected take-off due to bird strikes per 1’000 flights in Riga airport

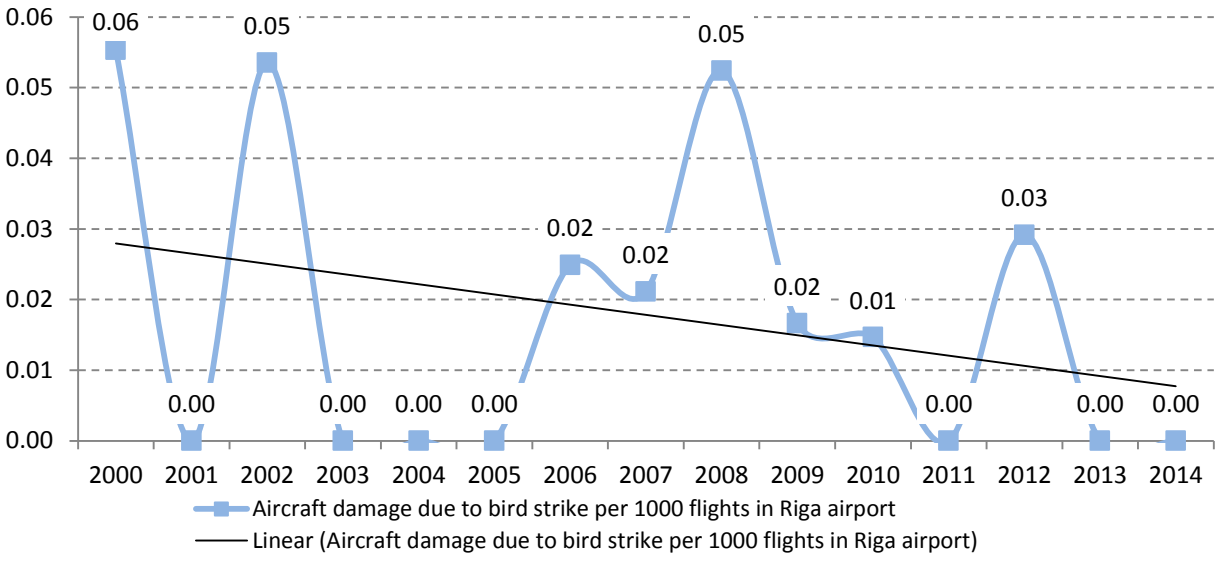


Figure 16: Damage to the aircraft due to bird strikes per 1’000 flights in Riga airport

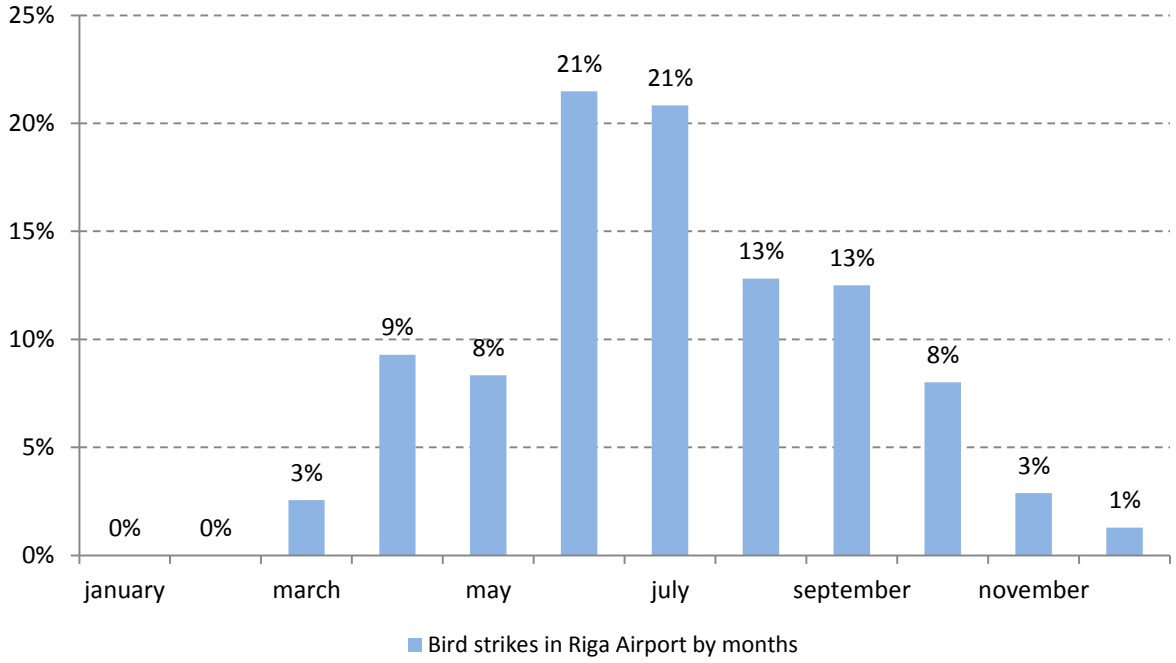


Figure 17: Bird strikes in Riga airport by months

Seasonality of bird strikes is shown in Figure 17, where distribution of all bird strikes registered in the database of Riga airport by month (2000–2014). The highest activity can be observed from June to September; during the latest years, number of bird strikes in June has increased proportionally.

SAFA inspections


foto: Uldis Mauriņš

Inspections of the European Community SAFA Programme are carried out for aircraft of member states of the European Union or the European Economic Area, as well as for aircraft of third parties to verify their compliance with the international flight safety requirements. Information is summarized in the database of the European SAFA Programme. If aircraft inspections show any serious deviations from international flight safety requirements (especially, if they repeat), competent authorities of civil aviation shall immediately report it to the European Commission. Such action in the area of air transport is necessary to ensure high level of safety and protecting passengers against safety risks. In order to inform the passengers, European Union has prepared list of those air carriers, who fail to comply with the respective safety criteria. Decision on actions at the Community level shall be taken according to the point of matter (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).

Aircraft and aircraft operators are inspected according to both the principle of randomness and in accordance with prioritisation of ramp inspections on aircraft using Community airports.

ARO.RAMP.130 (Annex II of Regulation No 965/2015) distinguishes 3 categories of non-compliance:

– non-compliance Category 3 – the non-compliance of the aircraft creates a direct threat to the safety of the aircraft;
– non-compliance Category 2 – the non-compliance of the aircraft may have a significant influence on the safety of the aircraft;
– non-compliance Category 1 – the non-compliance of the aircraft is minor and does not have a significant effect on the flight safety of the aircraft.

SAFA inspections carried out by foreign authorities on aircraft of operators registered in Latvia

In accordance with data of the European Union SAFA Programme database, 119 SAFA inspections have been carried out in aircraft operators registered in Latvia in 2014, which is 6 inspections less than in 2013. During these inspections, 66 non-compliances have been established, which is 23 non-compliances less than in 2013. The non-compliances have been assigned the following categories:

12 times – first category, in 2013 – 16,

30 times – second category, in 2013 – 44,

24 times – third category, in 2013 – 29.

Shortcomings established during SAFA inspections draws attention to shortcomings of technical maintenance and those in aircraft operation procedures or documentation.

Responding to the established shortcomings, the Civil Aviation Agency has requested the respective aircraft operators to implement effective corrective actions to prevent these shortcomings and avoid re-occurrence thereof.

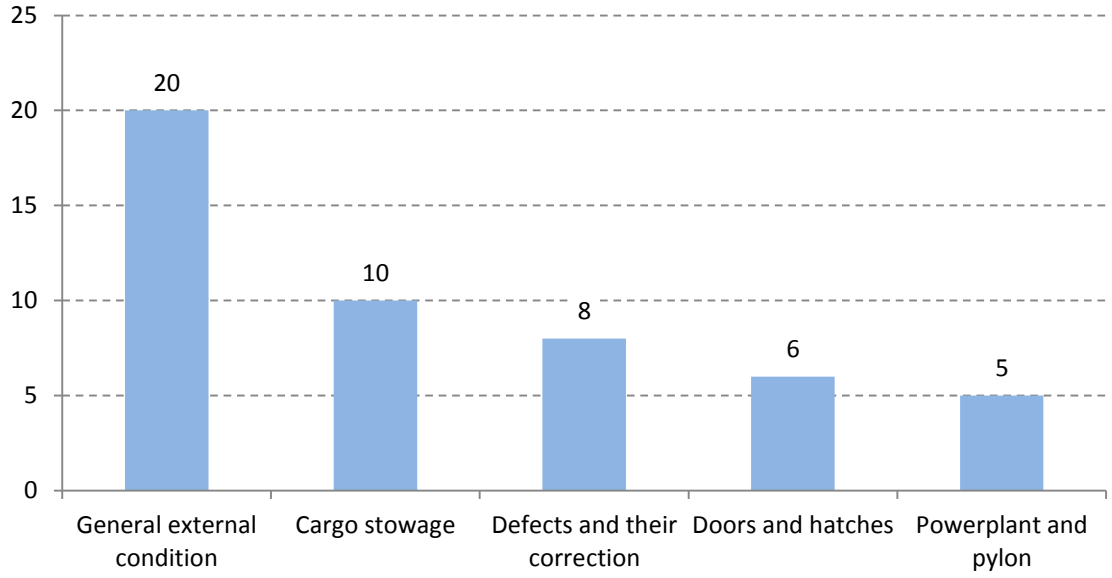


Figure 18: The most frequent shortcomings, as well as observations in relation to aircraft operators registered in Latvia

SAFA inspections carried out by the Civil Aviation Agency on foreign aircraft

The Civil Aviation Agency, in 2013, in Latvia, has carried out 50 inspections on foreign aircraft (Figure 19). All inspections have been carried out in the Riga International Airport.

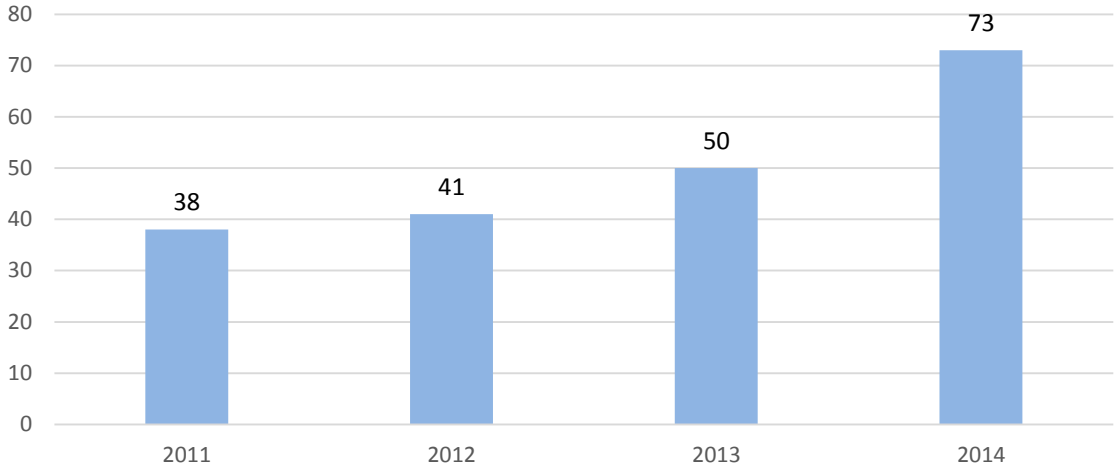


Figure 19: Distribution of SAFA inspections by the Civil Aviation Agency by years

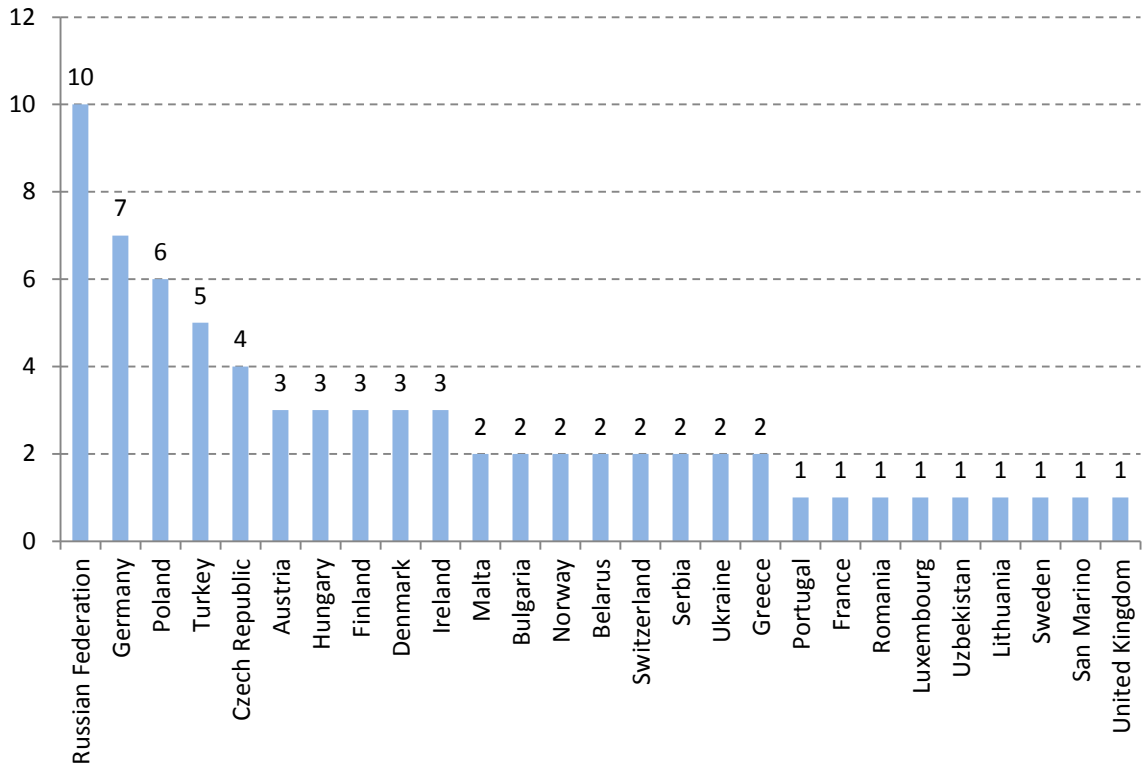


Figure 20: Distribution of SAFA inspections carried out in Latvia by the state of registration of the aircraft operators

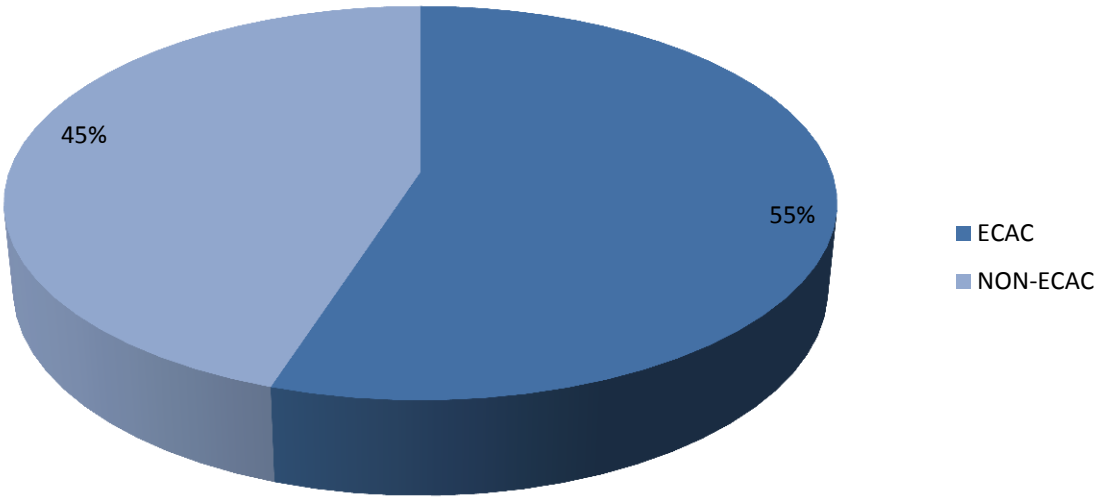


Figure 21: Distribution of SAFA inspections carried out in Latvia in 2014 on ECAC /non-ECAC operator aircraft

During inspections, the following actions have been carried out and the following decisions have been taken in accordance with procedures: See Table 1.

Action	2012	2013	2014	Total
1) Information reported to the pilot-in-command	31	23	34	88
2) Information delivered to ACO and ACO	8	3	10	21
3a) Aircraft operation restriction established	0	0	0	0
3b) Corrective actions carried out prior to departure	4	0	3	7
3c) Prohibition to depart	0	0	0	0
3d) Restrictions for repeated flights	0	0	0	0

Table 1: Actions taken during SAFA inspections in Latvia (number thereof)

Number of non-compliances	Number of inspections
Inspections with no non-compliances	64
1 non-compliance	10
2 non-compliances	1

Table 2: Number of non-compliances and number of inspections in 2014

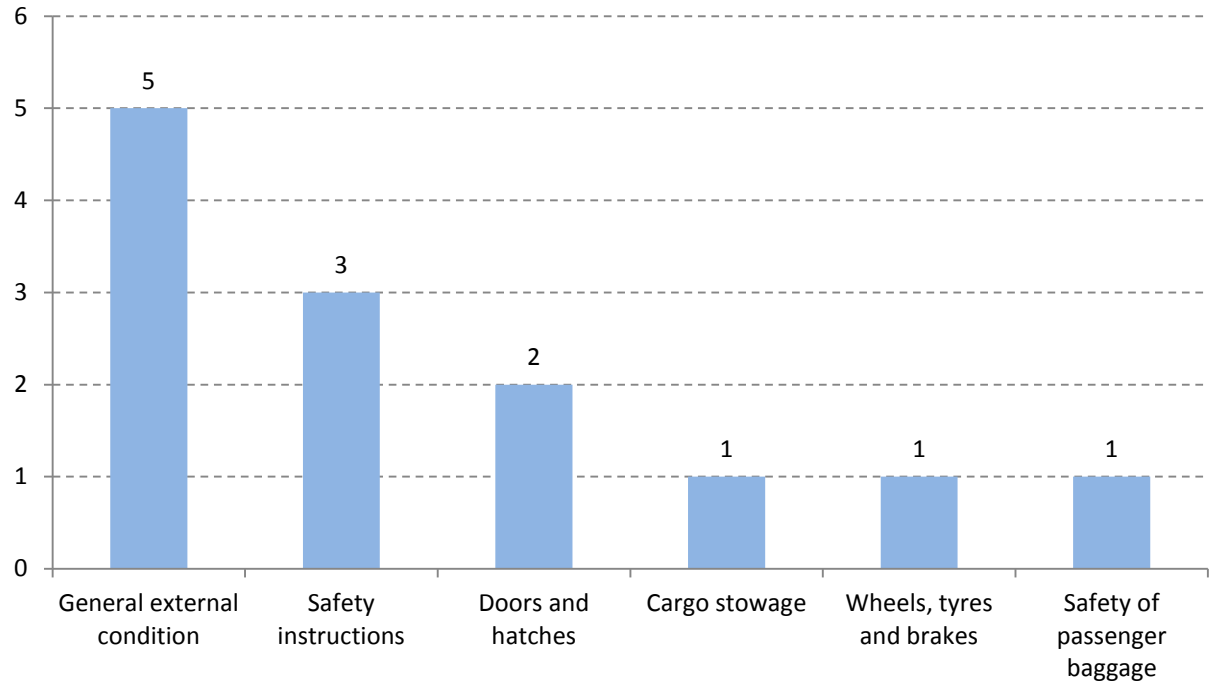


Figure 22: The most frequent non-compliances and observations on foreign aircrafts in Latvia

Collection of information

The Civil Aviation Agency actively collects information on the safety of aircraft flights. Passengers and other persons involved in civil aviation operations or being witnesses of any occurrence may report to the Civil Aviation Agency on the existing or potential flight safety hazards. The acquired information may give reason to verify the facts specified in the report, performing inspections on the planes of aircraft operators certified abroad. These reports are confidential - identity of the reporter is not disclosed to any third parties.

For more information on reporting options, please refer to the Civil Aviation Agency webpage http://www.caa.lv/lv/lidojumu-drosiba/arvalstu-aviokompanijas

More on SAFA Programme

For more information on the European Union SAFA Programme – please see the European Commission webpage (in English)
http://ec.europa.eu/transport/modes/air/safety/safa_en.htm

Implementation of recommendations (FACTOR)

In the Civil Aviation Agency, database of follow-up action on occurrence report (FACTOR) operates. This database registers recommendations received from accident and incident investigation bureaux in Latvia and abroad. Thus, it is possible to register applicability of recommendations, to follow-up recommendation status and to control operations of the Civil Aviation Agency to implement recommendations into ACO operation. Thus, implementation of recommendations in ACO, ANS, airports, technical service organizations, training organizations etc. will be controlled.

Safety implementation monitoring and indicators

Flight safety performance indicators (SPI) – information from the database of the Civil Aviation Agency in Latvia expressed against flight data (number of flights or number of flight hours), acquired from airlines, representatives of general aviation (owners of aircraft and operators of aircraft, pilots and clubs), airports and air navigation service provider.

Indicators are stated for those occurrences, which recur, outline trends and create direct hazard to safety of flights.

This section presents actual figures – in accordance with the data registered in the Civil Aviation Agency database.

Commercial aviation

In commercial aviation, the ICAO proposed flight safety level shall be less than 0.2 lethal aviation accidents per 100’000 flight hours.

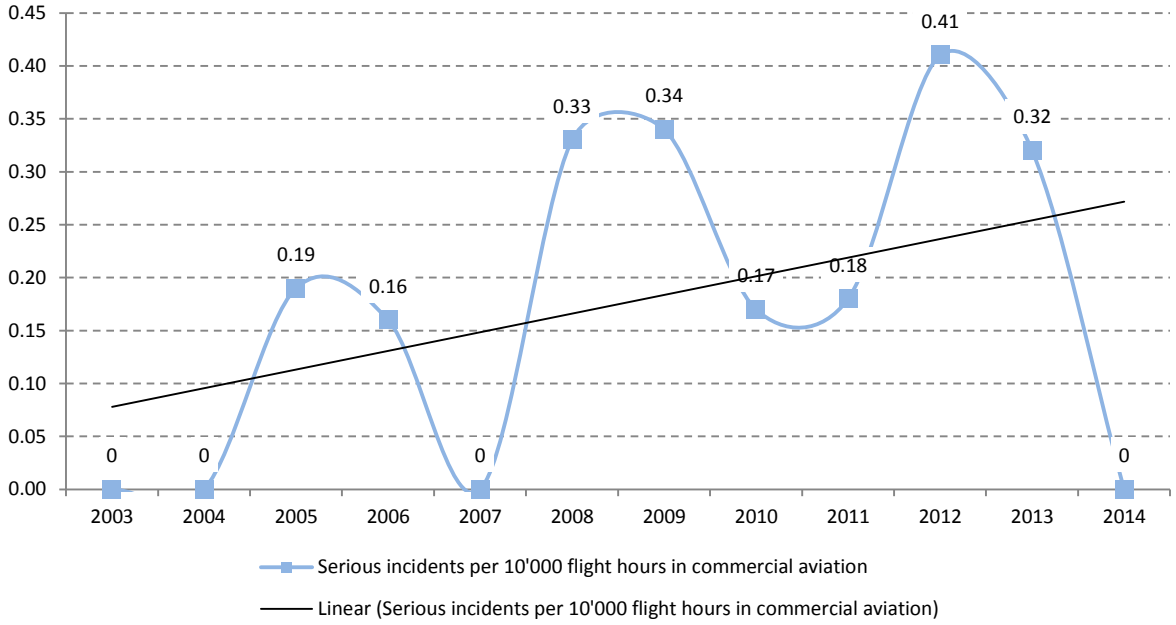
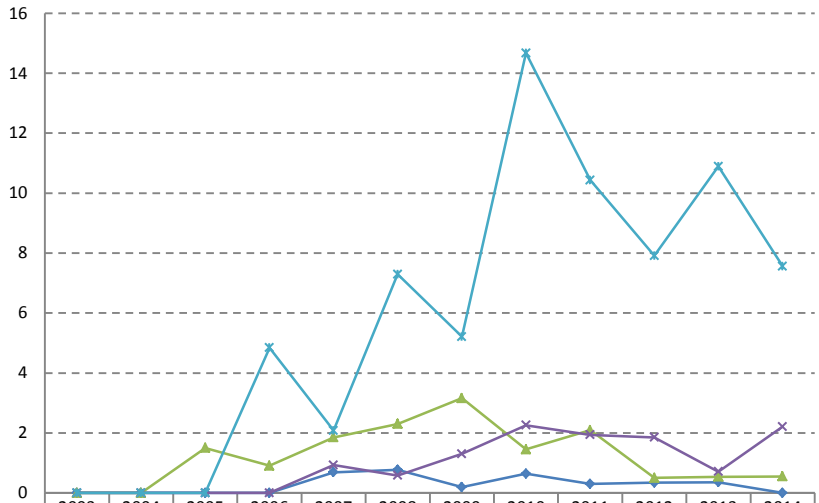
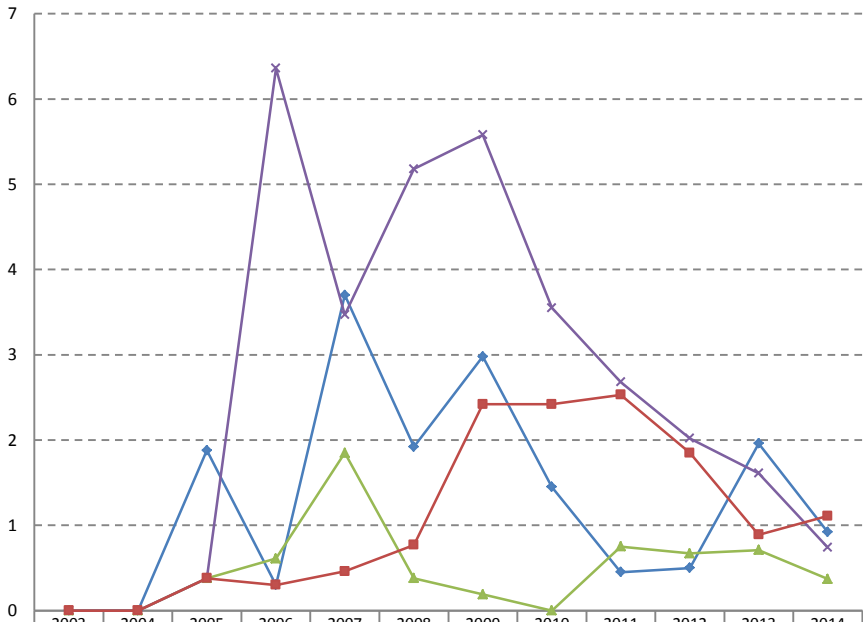


Figure 23: Serious incidents in commercial aviation per 10’000 flight hours



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Runway incursions by aircraft per 10'000 flights	0	0	0	0	0.69	0.77	0.19	0.64	0.3	0.34	0.36	0
Level busts per 10'000 flights	0	0	1.5	0.91	1.85	2.3	3.16	1.45	2.09	0.5	0.54	0.55
TCAS triggered per 10'000 flights	0	0	0	0	0.93	0.58	1.3	2.26	1.94	1.85	0.71	2.21
Duty time extended more than 1h per 10'000 flights	0	0	0	4.84	2.08	7.29	5.21	14.67	10.43	7.91	10.89	7.56

Figure 24: Flight safety performance indicators in commercial aviation



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
A/C flight controls on approach per 10'000 flights	0	0	1.88	0.3	3.7	1.92	2.98	1.45	0.45	0.5	1.96	0.92
A/C landing gear on approach per 10'000 flights	0	0	0.38	0.61	1.85	0.38	0.19	0	0.75	0.67	0.71	0.37
RTO per 10'000 flights	0	0	0.38	6.36	3.47	5.18	5.58	3.55	2.68	2.02	1.61	0.74
Unstabilised approaches per 10'000 flights	0	0	0.38	0.3	0.46	0.77	2.42	2.42	2.53	1.85	0.89	1.11

Figure 25: Runway excursion risk factors in commercial aviation

Figure 25 shows runway excursion risk factors in commercial aviation. These risk factors (which are actual events in occurrences) could lead to a potential runway excursion of an aircraft, therefore monitoring of these factors is essential in pro-actively identifying actual hazards.

General aviation

Safety performance indicators have been established for aircraft registered in the Aircraft Register of Latvia.

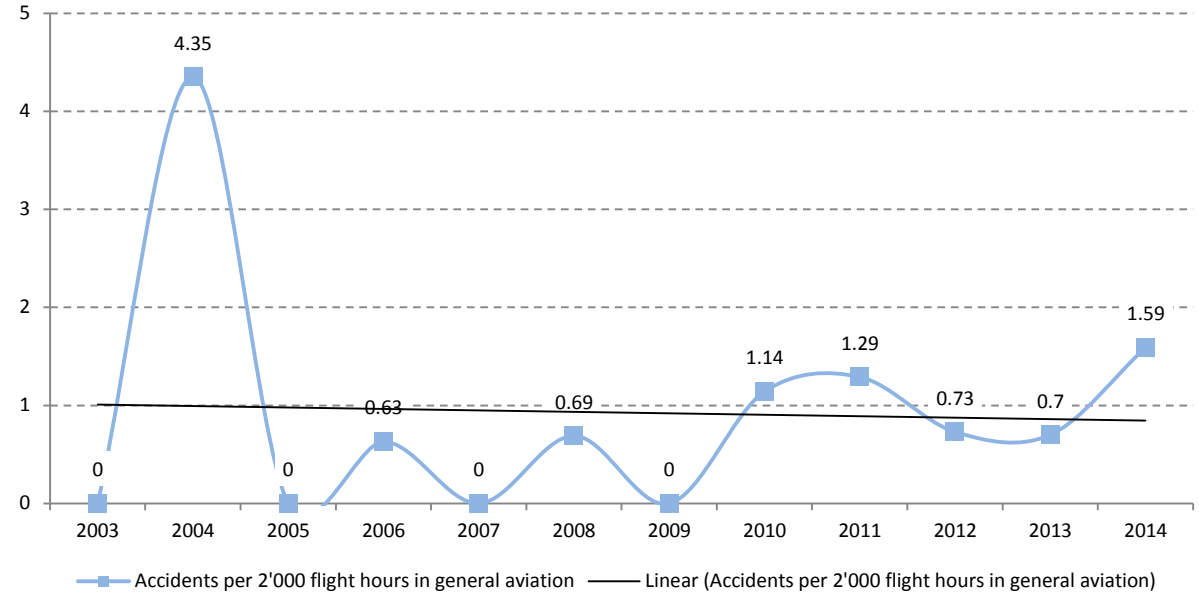


Figure 26: Number of accidents in GA per 2'000 flight hours

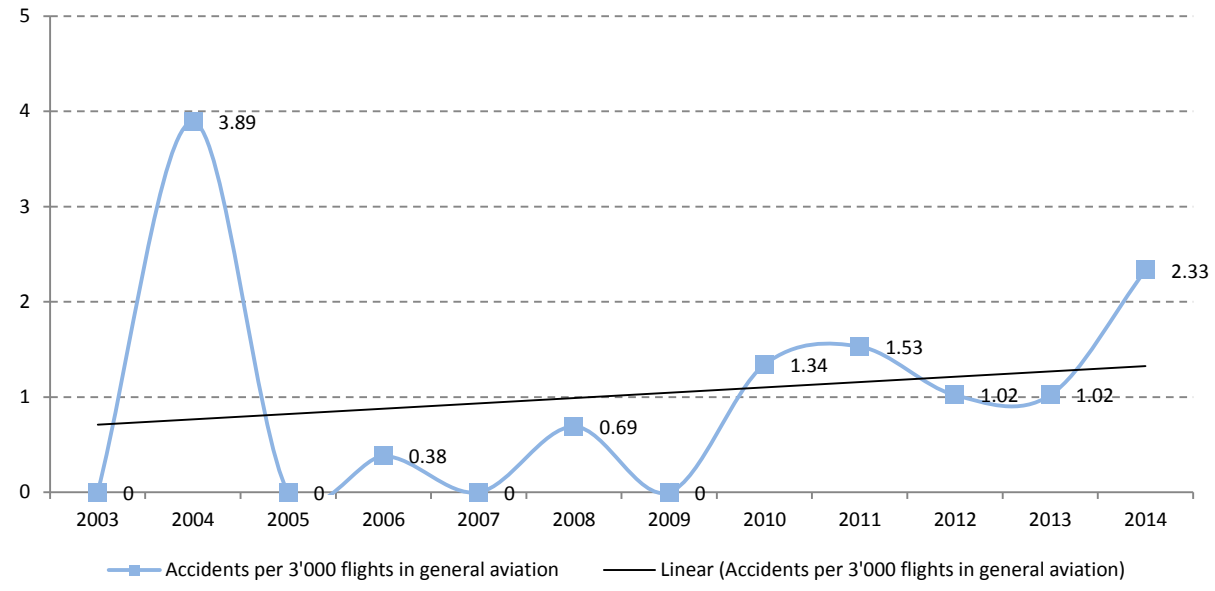


Figure 27: Accidents in GA per 3'000 flights

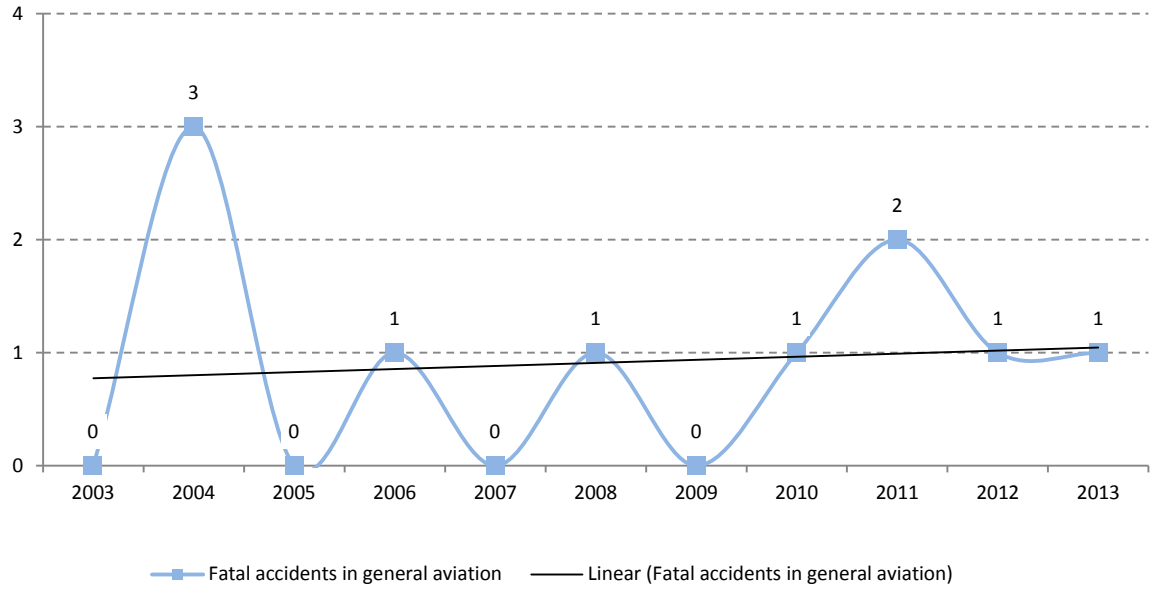


Figure 28: Accidents in GA resulting in victims with fatal injuries

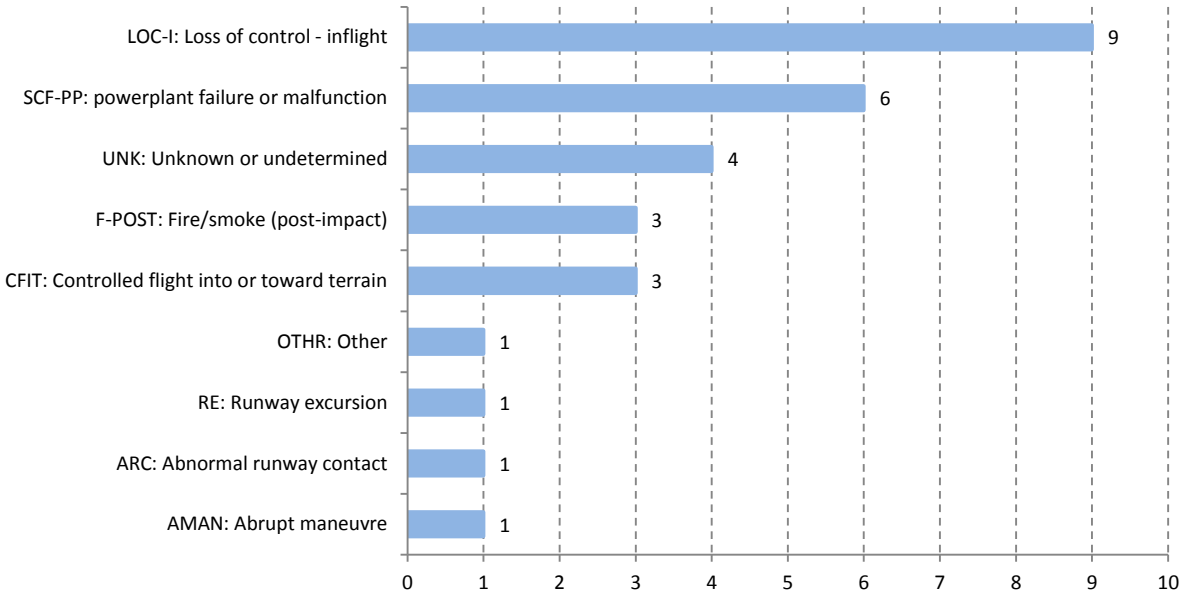


Figure 29: Distribution of occurrence categories in GA accidents

Figure 29 shows occurrence categories in GA accidents during the time period from 2003 to 2014. The most frequent category has been LOC-I (loss of aircraft control when in the air). Number of occurrences of SCF-PP category (aircraft engine failure) has increased in most recent years.

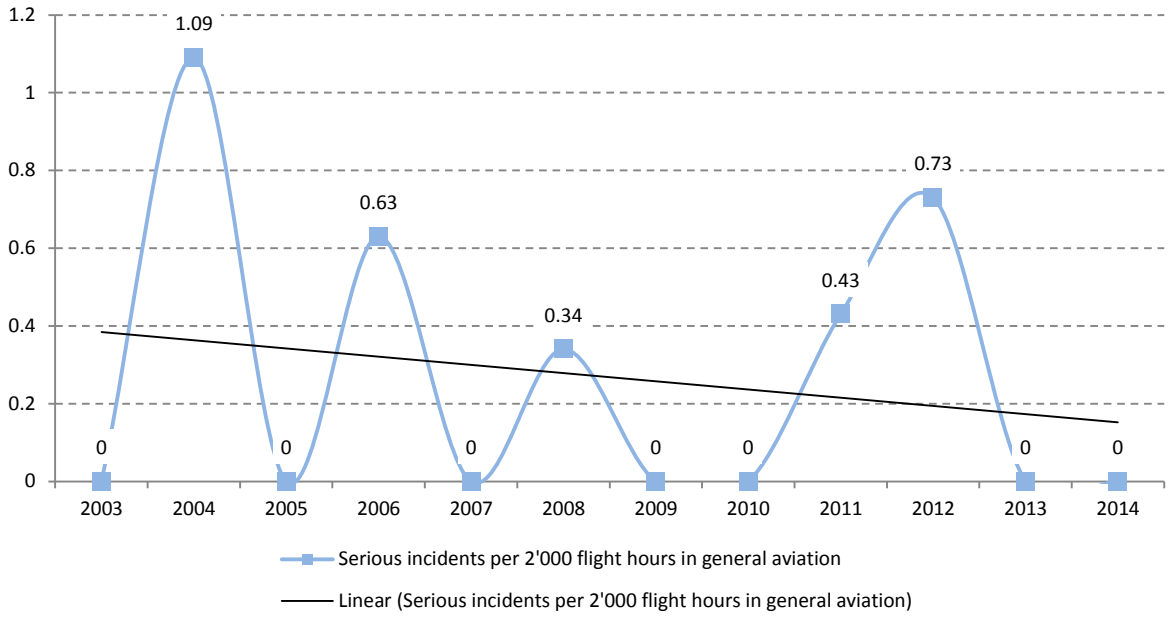


Figure 30: Number of serious incidents in GA per 2’000 hours

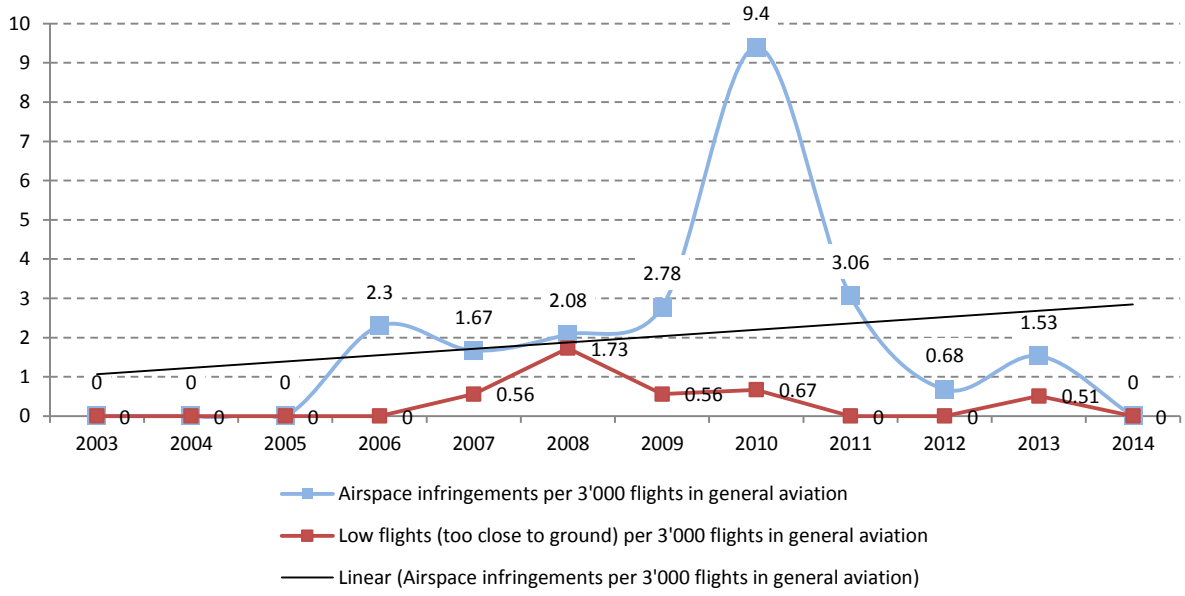


Figure 31: Safety performance indicators in GA per 3’000 flights

Air navigation

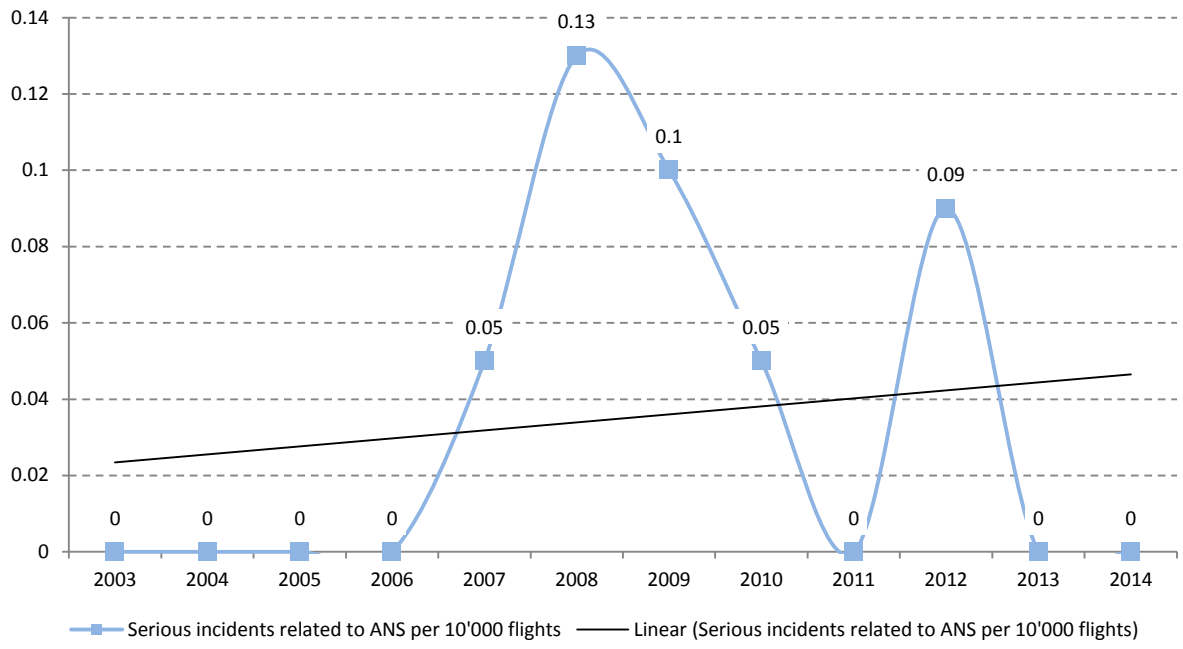


Figure 32: Serious incidents per 10’000 flights

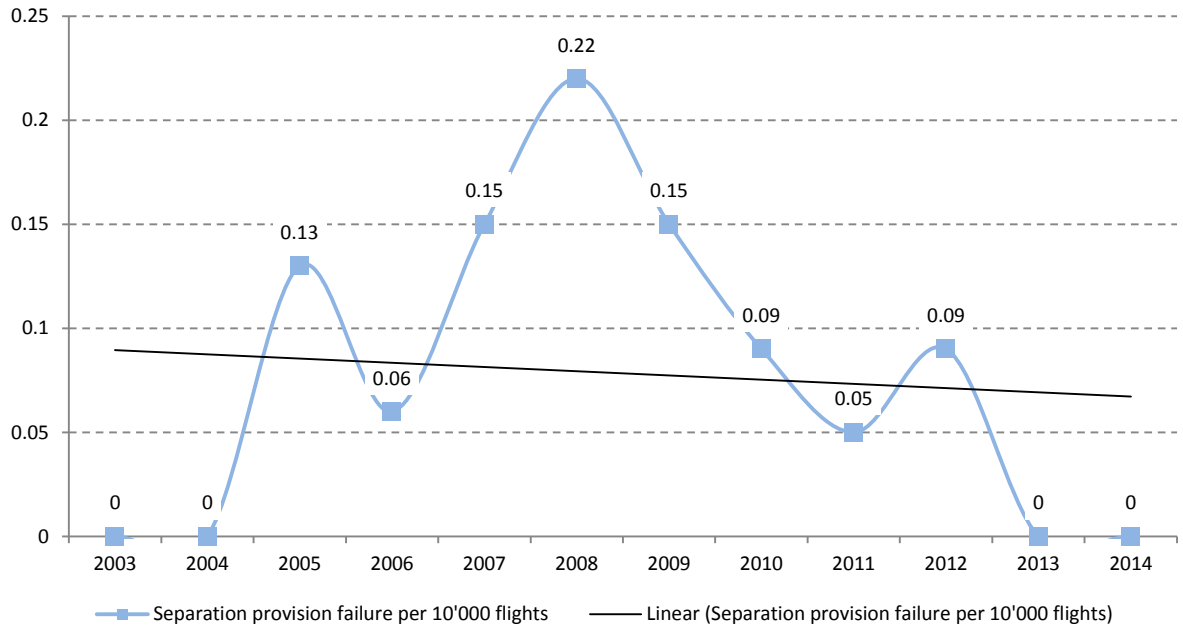


Figure 33: Separation provision failure per 10’000 flights

Airports and ground services

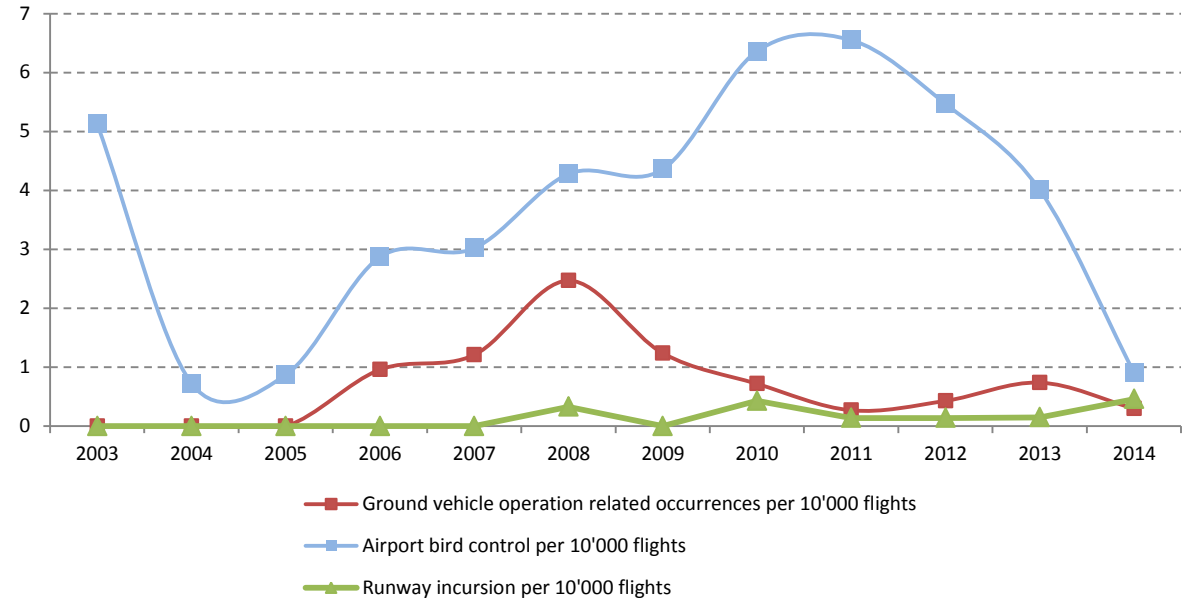


Figure 34: Safety performance indicators for airports and ground services

Significant issues list – SIL

SIL list has been developed to attract more attention to those occurrences, which repeat and may be hazardous. SIL is prepared considering information from the following sources:

- Mandatory occurrence reporting system;
- Voluntary occurrence reporting system;
- Inspections and audits;
- Flight data analysis (FDA);
- Other sources.

The Civil Aviation Agency carries out analysis of factors and operations to increase level of flight safety. SIL list is dynamic; it shall be reviewed once a year and is supplemented by high risk factors, while factors where the risk has decreased (proportion of probability and seriousness) are excluded. In Latvia, this list is prepared by use of statistics for all the previous years, since statistics for several years allows identification of risks more accurately than the statistics for one year – due to comparatively low flight intensity. When analyzing global and European trends within the area of flight safety and assessing situation in Latvia, risk factors are included in the list.

Table 3: Significant issues list in 2014

Area	Significant factor	Commentary Explanation
Commercial aviation	Aircraft control (unstabilised approach)	Unstabilised approach is such approach, where aircraft has not been duly prepared for landing, for instance, approach is carried out at an inadequate speed or reducing the height of the flight, the required configuration is failed to be achieved (landing gear or wing flaps have not been extended, inadequate engine power mode applied etc.). Instead of missed approach, continuing of unstabilised approach, after minimum height, is considered the most frequent cause of accidents and serious incidents at landing. This has been identified by EASA as a significant hazard.
	SAFA inspection results abroad	Results of aircraft operator SAFA inspection in Latvia may serve as reflection of efficiency of the aviation authority and, mainly, reflection of actions of aircraft operators itself.
	Cooperation of crew with air navigation service provider	Incapability to agree on unification of procedures among airlines, Riga airport and LGS in relation to non-standard situations. Extraordinary

		situation levels *readiness* or *emergency* have been announced frequently, even when not required. Considering the stir in such case, there is a risk that pilots may cease to report less significant occurrences to controllers, thus, affecting the overall reporting culture.
	Duty time extensions more than 1 hour.	When exceeding duty time of crew and reducing time for rest, consequences of the crew's fatigue may appear as loss of guard, inattentiveness, inability to respond adequately to stress or load etc.
Specific aviation works	Reporting culture	Currently, there are practically no reports on any issues with actions by operators or flight crew. Only reports on violations by third parties, organizational issues etc. have been received.
	Hazards in the environment where specific aviation works have been carried out (runway incursions, possible collision with an object in the air etc.)	Runway incursion as significant hazard is recognized by EASA
General aviation	Low reporting culture	Low reporting culture prevents from identification of risks, carrying out of analysis of reasons and from carrying out actions to minimize the risk.
	Airspace infringement	In 2014, number of infringements has decreased. Risk in infringements of this kind can be considered aircraft collisions in the air.
	Flights with unregistered aircraft and flights without adequate pilot's certificate	The situation has not improved comparing to the previous year.
	Loss of control during the flight	In accordance with data from the Civil Aviation Agency database, loss of control has been one of the most frequent causes for accidents and serious incidents in general aviation.

	Low flights (aircraft too close to ground)	Low flights – especially over the places where large number of people gather, – is considered to be of very high risk. When flying at low speed, for instance, above seaside, the low speed reduces opportunities to land the aircraft successfully. Electric power and communication lines, other obstacles, as well as sharp manoeuvring at low height are considered additional hazards, which have caused accidents before.
Air navigation services	Separation provision issues	This has been recognized as significant hazard also by EASA.
Airport and ground aid	Airport bird control	See section *Bird Strike*
	Damages to aircraft caused by ground service vehicles	See Section *Airport and ground aids*

Abbreviations and terms used in the report

APPBREVIATIONS AND TERMS	EXPLANATION
ADREP	Accident/Incident Data Reporting to ICAO
ANS	Air Navigation Services
Hazard	Condition with the potential to cause injuries to people or damages to property or environment
Occurrence	Interruption in operation, defect, shortcoming or any other extraordinary conditions affecting flight safety, but not in the way as to cause any accident or serious incident (occurrence)
ATM	Air Traffic Management
Accident	An occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, in which: 1) a person is fatally or seriously injured as a result of: a) being in the aircraft, or, b) direct contact with any part of the aircraft, including parts which have become detached from the aircraft, or, c) direct exposure to jet blast; 2) the aircraft sustains damage or structural failure which: a) adversely affects the structural strength, performance or flight characteristics of the aircraft, and, b) would normally require major repair or replacement of the affected component, except for engine failure or damage, when the damage is limited to the engine, its cowlings or accessories, or for damage limited to propellers, wing Type, antennas, tires, brakes, fairings, small dents or puncture holes in the aircraft skin; 3) the aircraft is missing or is completely inaccessible. Event, during which in cases specified in Item 1, when the injuries are from natural causes, self-inflicted or inflicted by other persons, or when the injuries are to stowaways hiding outside the areas normally available to the passengers and crew, shall not be considered accident.
Hazard category	Hazard value is assigned after assessment of potential hazard of the occurrence with the value scale from A to E, where A means *Extremely hazardous* and E means *No effect on safety*
CAA	*Civil Aviation Agency* S/A
CAST	Commercial Aviation Safety Team
CICTT	CAST/ICAO Common Taxonomy Team
CFIT	Controlled flight into terrain
CNS	Communication, Navigation and Surveillance
CRM	Crew Resource Management
Regulatory safety requirements	Requirements established by the Community or governmental regulatory enactments in relation to provision of services or functions related to technical and operational competence and suitability to ensure safety management thereof

APPBREVIATIONS AND TERMS	EXPLANATION
Safety requirements	Risk minimization measures as defined in the Risk Minimization Strategy, by which to achieve specific safety goal, including organizational operation procedures, functional, performance and compatibility requirements or environmental description
Safety Management System	A systematic approach to managing safety including the necessary organizational structure, accountabilities, policies and procedures, and at least: 1) Defining flight safety hazards, 2) Ensuring corrective measures required for maintenance of acceptable safety level, 3) Ensuring continuous monitoring and assessment of the achieved safety level, 4) Tending to continuous enhancement of safety level
SMS	Safety Management System
EASA	European Aviation Safety Agency
EASp	European Aviation Safety Plan
ECAC	European Civil Aviation Conference
ECCAIRS	European Co-ordination Centre for Aviation and Incident Reporting Systems
FACTOR	Follow-up Action on Occurrence Report
FCL	Flight crew licensing
FDA	Flight Data Analysis
FDM	Flight data monitoring
FSTD	Flight Simulation Training Device
A/C	Aircraft
ACO	Aircraft operator
GPS	Global Positioning System
ATS	Air Traffic Control Service
IATA	The International Air Transport Association
ICAO	International Commercial Aviation Organization
IFR	Instrument Flight Rules
Incident	An occurrence, other than an accident, associated with the operation of an aircraft which affects or could affect the safety of operation
IOSA	IATA Operational Safety Audit
JAA	Joint Aviation Authorities
JAR	Joint Aviation Requirements
JRC	Joint Research Centre
JSSI	JAA Safety Strategy Initiative
QMS	Quality Management System
LGS	Latvijas Gaisa Satiksme
Flight safety	Condition, in which the risk of hazard to person or risk of damage to property is limited to acceptable level, ensuring continuous management of hazard identification and risk prevention and minimization process
FIR	Flight information region
MTOW	Maximum takeoff weight

APPBREVIATIONS AND TERMS	EXPLANATION
Serious incident	An incident involving circumstances indicating that an accident nearly occurred. Note: The difference between an accident and a serious incident lies only in the result
PEL	Personnel licensing
RA	An indication by TCAS/ACAS given to the flight crew recommending a manoeuvre intended to provide separation from all threats
RE	Runway excursion
Risk gradation	Based upon five values of hazard category and five values of probability category, each occurrence shall be assessed, inserting it into the table where in 5 x 5 cell matrix flight safety level shall be marked as *Safe* (green), *Satisfactory* (yellow) and *Unsafe* (red)
Risk	Possibility of loss or injury measured in terms of severity and probability. Possibility that something will happen, and possible consequences, if it happens
SAFA	Safety Assessment of Foreign Aircraft
SID	Standard Instrument Departure
SIL	Significant Instrument List
MT	Ministry of Transport
SHELL	SHELL model, which is used to assess interrelation between the person and other people, equipment, procedures and environment, giving response to the question *WHY?*
SMS	Safety Management System
SPI	Safety Performance Indicators
Statistical data	Data on A/c hours, number of flights, number of passengers, number of flights within the Riga flight information district etc. (Exposure data)
TCAS/RA	Automatic warning on expected collision with another aircraft; traffic collision avoidance system
TNGIIB	Transport Accident and Incident Investigation Bureau
State Safety Programme	Complex of regulations and measures to improve safety of civil aviation aircraft flights
SSP	State Safety Programme
GA	General aviation

List of figures

List of tables

Accidents and serious incidents from 01.01.2009 to 31.12.2014

Occurrence registration number:	20141228A
Occurrence class:	Accident
Occurrence category:	SCF-PP Powerplant failure
Aircraft:	IN-02
Headline:	Aircraft loses engine power and collides with terrain
Date of occurrence (UTC):	28.12.2014
Location of occurrence:	
State of occurrence:	Latvia
Damage to the aircraft:	Substantial
The most severe injuries:	Fatal

Occurrence registration number:	20140920C
Occurrence class:	Accident
Occurrence category:	SCF-PP Powerplant failure
Aircraft:	
Headline:	Powerplant failure
Date of occurrence (UTC):	20.09.2014
Location of occurrence:	
State of occurrence:	Latvia
Damage to the aircraft:	Destroyed
The most severe injuries:	None

Occurrence registration number:	20140625A
Occurrence class:	Accident
Occurrence category:	UNK: Unknown
Aircraft:	Microlight
Headline:	Aircraft collision with terrain
Date of occurrence (UTC):	25.06.2014
Location of occurrence:	
State of occurrence:	Latvia
Damage to the aircraft:	
The most severe injuries:	Fatal

Occurrence registration number:	20140508B
Occurrence class:	Accident
Occurrence category:	LOC-I: Loss of control inflight
Aircraft:	PITTS-S2-B
Headline:	Aircraft collision with terrain
Date of occurrence (UTC):	08.05.2014
Location of occurrence:	EVLA (Liepāja)
State of occurrence:	Latvia
Damage to the aircraft:	Destroyed
The most severe injuries:	Fatal

Occurrence registration number:	20140312A
Occurrence class:	Accident
Occurrence category:	SCF-PP: Engine malfunction
Aircraft:	Skyranger
Headline:	Emergency landing, due to engine problem, a/c collision with trees and ground. A/c overturned.
Date of occurrence (UTC):	12.03.2014
Location of occurrence:	
State of occurrence:	Latvia
Damage to the aircraft:	Substantial
The most severe injuries:	Serious

Occurrence registration number:	20131026C
Occurrence class:	Serious incident
Occurrence category:	OTHR: Other
Aircraft:	Airbus A320
Headline:	Go around in AEY
Date of occurrence (UTC):	26.10.2013
Location of occurrence:	BIAR
State of occurrence:	Iceland
Damage to the aircraft:	None
The most severe injuries:	None

Occurrence registration number:	20131013A
Occurrence class:	Serious incident
Occurrence category:	OTHR: Other
Aircraft:	DHC-8-402
Headline:	Pilot health event (possible food poisoning)
Date of occurrence (UTC):	13.10.2013
Location of occurrence:	130 NM from EVRA
State of occurrence:	Latvia
Damage to the aircraft:	None
The most severe injuries:	Minor

Occurrence registration number:	20131010A
Occurrence class:	Serious incident
Occurrence category:	MAC: Airprox/ ACAS alert/ loss of separation/ (near) midair collisions
Aircraft:	Antonov 148, M20J
Headline:	Loss of separation
Date of occurrence (UTC):	10.10.2013
Location of occurrence:	2 NM from EVRA
State of occurrence:	Latvia
Damage to the aircraft:	None
The most severe injuries:	None

Occurrence registration number:	20130908A
Occurrence class:	Accident
Occurrence category:	OTHR: Other
Aircraft:	Hang glider
Headline:	hang glider collision with trees
Date of occurrence (UTC):	08.09.2013
Location of occurrence:	EVJA
State of occurrence:	Latvia
Damage to the aircraft:	Substantial
The most severe injuries:	Fatal

Occurrence registration number:	20130831A
Occurrence class:	Serious incident
Occurrence category:	MAC: Airprox/ ACAS alert/ loss of separation/ (near) midair collisions
Aircraft:	DHC-8-402, Airbus A320
Headline:	Infringement of seperation standards
Date of occurrence (UTC):	31.08.2013
Location of occurrence:	EVRA
State of occurrence:	Latvia
Damage to the aircraft:	None
The most severe injuries:	None

Occurrence registration number:	20130830A
Occurrence class:	Serious incident
Occurrence category:	SCF-PP: powerplant failure or malfunction
Aircraft:	CESSNA F 172 K
Headline:	Engine malfunction (loss of power after take off)
Date of occurrence (UTC):	30.08.2013
Location of occurrence:	Cesis
State of occurrence:	Latvia
Damage to the aircraft:	Minor
The most severe injuries:	None

Occurrence registration number:	20130722A
Occurrence class:	Accident
Occurrence category:	ARC: Abnormal runway contact
Aircraft:	WT-9 DYNAMIC
Headline:	Abnormal runway contact, collision with terrain
Date of occurrence (UTC):	22.07.2013
Location of occurrence:	Valloire
State of occurrence:	France
Damage to the aircraft:	Destroyed
The most severe injuries:	Minor

Occurrence registration number:	20121113B
Occurrence class:	Accident
Occurrence category:	UNK: Unknown or undetermined
Aircraft:	Tecnam 2006T
Headline:	Accident
Date of occurrence (UTC):	13.11.2012
Location of occurrence:	Bukulti
State of occurrence:	Latvia
Damage to the aircraft:	Destroyed
The most severe injuries:	Fatal

Occurrence registration number:	20121020A
Occurrence class:	Serious incident
Occurrence category:	ATM: ATM/CNS
Aircraft:	Boeing 737-800
Headline:	Infringement of separation
Date of occurrence (UTC):	20.10.2012
Location of occurrence:	In vicinity of point ATRAK
State of occurrence:	Latvia
Damage to the aircraft:	None
The most severe injuries:	None

Occurrence registration number:	20120909B
Occurrence class:	Serious incident
Occurrence category:	OTHR: Other
Aircraft:	DHC-8-402
Headline:	Pressurization problem
Date of occurrence (UTC):	09.09.2012
Location of occurrence:	EVRR FIR
State of occurrence:	Latvia
Damage to the aircraft:	None
The most severe injuries:	None

Occurrence registration number:	20120820A
Occurrence class:	Serious incident
Occurrence category:	SCF-PP: powerplant failure or malfunction
Aircraft:	Tecnam P92
Headline:	Powerplant failure, emergency landing
Date of occurrence (UTC):	20.08.2012
Location of occurrence:	
State of occurrence:	Latvia
Damage to the aircraft:	None
The most severe injuries:	None

Occurrence registration number:	20120804A
Occurrence class:	Accident
Occurrence category:	LOC-I: Loss of control - inflight
Aircraft:	Microlight
Headline:	Paraplane crash
Date of occurrence (UTC):	04.08.2012
Location of occurrence:	Krustpils novads, Kuku pagasts
State of occurrence:	Latvia
Damage to the aircraft:	None
The most severe injuries:	Serious

Occurrence registration number:	20120712A
Occurrence class:	Accident
Occurrence category:	SCF-PP: powerplant failure or malfunction
Aircraft:	MD500
Headline:	Helicopter collision with terrain
Date of occurrence (UTC):	12.07.2012
Location of occurrence:	Riebinu novads, Kastire
State of occurrence:	Latvia
Damage to the aircraft:	Destroyed
The most severe injuries:	None

Occurrence registration number:	TAIB20120706
Occurrence class:	Serious incident
Occurrence category:	AMAN: Abrupt maneuvre
Aircraft:	A-22 AEROPRAKT
Headline:	Aircraft collision with terrain
Date of occurrence (UTC):	06.07.2012
Location of occurrence:	near airfield Adazhi
State of occurrence:	Latvia
Damage to the aircraft:	Minor
The most severe injuries:	None

Occurrence registration number:	20120612B
Occurrence class:	Serious incident
Occurrence category:	SCF-NP: System/component failure or malfunction [non-powerplant]
Aircraft:	Airbus A320
Headline:	Emergency descent
Date of occurrence (UTC):	12.06.2012
Location of occurrence:	
State of occurrence:	Belarus
Damage to the aircraft:	None
The most severe injuries:	None

Occurrence registration number:	TAIIB20120519
Occurrence class:	Serious incident
Occurrence category:	MAC: Airprox/ ACAS alert/ loss of separation/ (near) midair collisions
Aircraft:	Airbus A320, Boeing 737-500
Headline:	Infringement of separation standards during approach
Date of occurrence (UTC):	19.05.2012
Location of occurrence:	EVRA
State of occurrence:	Latvia
Damage to the aircraft:	None
The most severe injuries:	None

Occurrence registration number:	TAIIB20120515
Occurrence class:	Serious incident
Occurrence category:	SCF-NP: System/component failure or malfunction [non-powerplant]
Aircraft:	Cessna T41
Headline:	Emergency landing
Date of occurrence (UTC):	15.05.2012
Location of occurrence:	EVRS
State of occurrence:	Latvia
Damage to the aircraft:	None
The most severe injuries:	None

Occurrence registration number:	TAIIB20120504
Occurrence class:	Accident
Occurrence category:	SCF-PP: powerplant failure or malfunction
Aircraft:	Flyitalia S.r.l. / MD3-RIDER
Headline:	AIrcraft collision with terrain
Date of occurrence (UTC):	04.05.2012
Location of occurrence:	
State of occurrence:	Latvia
Damage to the aircraft:	Substantial
The most severe injuries:	Minor

Occurrence registration number:	20120504A
Occurrence class:	Accident
Occurrence category:	SCF-PP: powerplant failure or malfunction
Aircraft:	Piper PA28
Headline:	Emergency landing outside airport after uncommanded engine shutdown during night VFR
Date of occurrence (UTC):	04.05.2012
Location of occurrence:	EETU
State of occurrence:	Estonia
Damage to the aircraft:	Substantial
The most severe injuries:	Minor

Occurrence registration number:	20120214B
Occurrence class:	Serious incident
Occurrence category:	OTHR: Other
Aircraft:	Saab 340
Headline:	Descent below GS and deviation from the track during initial approach route.
Date of occurrence (UTC):	14.02.2012
Location of occurrence:	EFMA
State of occurrence:	Finland
Damage to the aircraft:	None
The most severe injuries:	None

Occurrence registration number:	TAIIB20111015
Occurrence class:	Accident
Occurrence category:	LOC-I: Loss of control - inflight
Aircraft:	ZLIN AVIATION
Headline:	Aircraft collision with terrain
Date of occurrence (UTC):	15.10.2011
Location of occurrence:	Krimulda area
State of occurrence:	Latvia
Damage to the aircraft:	Destroyed
The most severe injuries:	Fatal

Occurrence registration number:	20110726A
Occurrence class:	Serious incident
Occurrence category:	SCF-NP: System/component failure or malfunction [non-powerplant]
Aircraft:	Boeing 737-300
Headline:	Depressurization
Date of occurrence (UTC):	26.07.2011
Location of occurrence:	PEMIR
State of occurrence:	
Damage to the aircraft:	None
The most severe injuries:	None

Occurrence registration number:	20110709A
Occurrence class:	Serious incident
Occurrence category:	LOC-I: Loss of control - inflight; ARC: Abnormal runway contact
Aircraft:	Rotax 582
Headline:	Hard landing on water
Date of occurrence (UTC):	09.07.2011
Location of occurrence:	EVRC
State of occurrence:	Latvia
Damage to the aircraft:	Substantial
The most severe injuries:	None

Occurrence registration number:	TAIIB20110605
Occurrence class:	Accident
Occurrence category:	LOC-I: Loss of control - inflight
Aircraft:	FLYLAB S.R.L.
Headline:	Ultra light aircraft Tucano Delta 3 YL-LVJ collision with ground
Date of occurrence (UTC):	05.06.2011
Location of occurrence:	Airfield Cesis
State of occurrence:	Latvia
Damage to the aircraft:	Destroyed
The most severe injuries:	Fatal

Occurrence registration number:	20110521A
Occurrence class:	Serious incident
Occurrence category:	FUEL: Fuel related; SCF-NP: System/component failure or malfunction [non-powerplant]
Aircraft:	MD-3 Rider (GRYF)
Headline:	Fuel starvation
Date of occurrence (UTC):	21.05.2011
Location of occurrence:	EVEA
State of occurrence:	Latvia
Damage to the aircraft:	Minor
The most severe injuries:	None

Occurrence registration number:	TAIB20110218
Occurrence class:	Accident
Occurrence category:	RE: Runway excursion
Aircraft:	Tecnam P92
Headline:	Runway excursion
Date of occurrence (UTC):	18.02.2011
Location of occurrence:	Aerodrome Spilve, Riga
State of occurrence:	Latvia
Damage to the aircraft:	Substantial
The most severe injuries:	None

Occurrence registration number:	20110109A
Occurrence class:	Serious incident
Occurrence category:	MAC: Airprox/ ACAS alert/ loss of separation/ (near) midair collisions; ATM: ATM/CNS
Aircraft:	Boeing 767-300, Learjet 45
Headline:	TCAS RA
Date of occurrence (UTC):	09.01.2011
Location of occurrence:	FL160 abeam PBL VOR
State of occurrence:	Venezuela
Damage to the aircraft:	None
The most severe injuries:	None

Occurrence registration number:	20101205A
Occurrence class:	Serious incident
Occurrence category:	SCF-NP: System/component failure or malfunction [non-powerplant]
Aircraft:	DHC-8-402
Headline:	Decompression
Date of occurrence (UTC):	05.12.2010
Location of occurrence:	50 NM from EVRA
State of occurrence:	Latvia
Damage to the aircraft:	None
The most severe injuries:	None

Occurrence registration number:	20101002
Occurrence class:	Accident
Occurrence category:	CFIT: Controlled flight into or toward terrain
Aircraft:	Kvant 03S
Headline:	Nelaimes gadijums ar motodeltaplanu "Kvant 03S"
Date of occurrence (UTC):	02.10.2010
Location of occurrence:	Vecsaliena, Daugavpils novads
State of occurrence:	Latvia
Damage to the aircraft:	Destroyed
The most severe injuries:	Fatal

Occurrence registration number:	20100823B
Occurrence class:	Serious incident
Occurrence category:	F-NI: Fire/smoke (non-impact); SCF-NP: System/component failure or malfunction [non-powerplant]; MAC: Airprox/ ACAS alert/ loss of separation/ (near) midair collisions;
Aircraft:	Airbus A320, Airbus A320
Headline:	ELECTRICAL FIRE IN COCKPIT/TCAS RA
Date of occurrence (UTC):	23.08.2010
Location of occurrence:	
State of occurrence:	Bulgaria
Damage to the aircraft:	Minor
The most severe injuries:	None

Occurrence registration number:	TAIIB100717
Occurrence class:	Serious incident
Occurrence category:	ATM: ATM/CNS; MAC: Airprox/ ACAS alert/ loss of separation/ (near) midair collisions
Aircraft:	Airbus A320, Airbus A330-200
Headline:	Infringement separation standards
Date of occurrence (UTC):	17.07.2010
Location of occurrence:	
State of occurrence:	Latvia
Damage to the aircraft:	None
The most severe injuries:	None

Occurrence registration number:	TAIIB100510
Occurrence class:	Accident
Occurrence category:	LOC-I: Loss of control - inflight
Aircraft:	WT-9 DYNAMIC
Headline:	Aircraft collision with terrain
Date of occurrence (UTC):	10.05.2010
Location of occurrence:	Village Adazhi
State of occurrence:	Latvia
Damage to the aircraft:	Destroyed
The most severe injuries:	Serious

Occurrence registration number:	20091223A
Occurrence class:	Serious incident
Occurrence category:	FUEL: Fuel related
Aircraft:	Fokker 50
Headline:	SHORT OF FUEL
Date of occurrence (UTC):	23.12.2009
Location of occurrence:	15 NM FROM EVRA
State of occurrence:	Latvia
Damage to the aircraft:	None
The most severe injuries:	None

Occurrence registration number:	20090831A
Occurrence class:	Serious incident
Occurrence category:	ATM: ATM/CNS; MAC: Airprox/ ACAS alert/ loss of separation/ (near) midair collisions
Aircraft:	Boeing 737-300, Boeing 777
Headline:	TCAS/RA
Date of occurrence (UTC):	31.08.2009
Location of occurrence:	Riga FIR
State of occurrence:	Latvia
Damage to the aircraft:	None
The most severe injuries:	None

Occurrence registration number:	20090213B
Occurrence class:	Serious incident
Occurrence category:	MAC: Airprox/ ACAS alert/ loss of separation/ (near) midair collisions
Aircraft:	Boeing 737-300, Airbus A320
Headline:	Proximity with departing a/c during GA.
Date of occurrence (UTC):	13.02.2009
Location of occurrence:	EVRA
State of occurrence:	Latvia
Damage to the aircraft:	None
The most severe injuries:	None

For feedback

Should you have any comments on the Safety Report 2014 and information included therein, or recommendations for the safety report of the next year, please contact persons in charge of the report:

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