CIVIL AVIATION AGENCY S/A

SAFETY REPORT 2013

Contents

Summary

Globally, there were 210 fatalities from commercial aviation accidents in 2013, reduced from 414 in 2012 and the five-year average of 517[1]. The 2013 global Western-built jet accident rate (measured in hull losses per million flights of Western-built jets) was 0.41, the equivalent of one accident for every 2.4 million flights. This was a step back from 2012 when the global Western-built jet accident rate stood at 0.21 – the lowest in aviation history. Looked at over the five-year period (2009-2013), 2013 shows a 14.6% improvement on the five-year average of 0.48. The 2013 Western-built jet hull loss rate for members of IATA was 0.30, which outperformed the global average by 26.8% and which showed an improvement over the five-year average of 0.32.

2013 Safety by the number:

- More than 3 billion people flew safely on 36.4 million flights (29.5 million by jet, 6.9 million by turboprop)
- 81 accidents (all aircraft types, Eastern and Western built), up from 75 in 2012, but below the five-year average of 86 per year
- 16 fatal accidents (all aircraft types) versus 15 in 2012 and the five-year average of 19
- 20% of all accidents were fatal, unchanged from 2012 and below the five-year average of 22%
- 12 hull loss accidents involving Western-built jets compared to six in 2012 and the five-year average of 13
- Six fatal hull loss accidents involving Western-built jets, raised from three in 2012, unchanged from the five-year average.

In 2013, in Latvia, no accidents in commercial aviation occurred. Compared to 2012, in 2013 the number of commercial aviation serious incidents has decreased from 4 in 2012 to 3 in 2013, and it is 1 serious incident per 31’250 flight hours. Analysis of this indicator is provided in the safety implementation monitoring section of the report.

In 2013 in Latvian general aviation occurred 2 accidents. One was fatal. Of the already investigated accident, it has been determined that the cause of the accident involved loss of power of the engine as well as handling of the aircraft.

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

Number of flights in airports of Latvia in 2013, comparing to 2012, decreased, but it was much smaller decrease than compared to decrease from 2011 to 2012.

[1] Data from IATA Safety Report 2013

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 2013, reports on 407 occurrences in civil aviation have been submitted to ECCAIRS database of the Civil Aviation Agency of Latvia. For comparison, in 2012 – reports were submitted on 392 occurrences, in 2011 - 482, in 2010 – 589, in 2009 – 409, and in 2008 – 452 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.

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Safety Analysis

Categories of occurrences

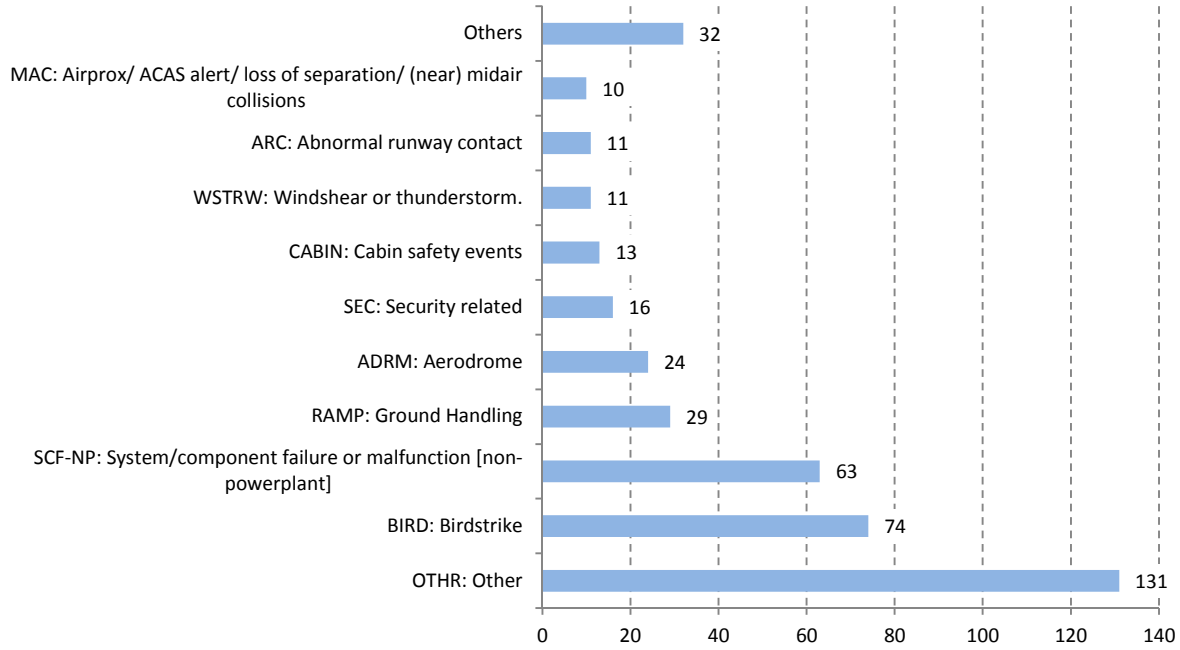

Figure 1: Categories of occurrences (mandatory and voluntary reporting system) in 2013

The highest number of occurrences in 2013 was observed in the category OTHR or „Other occurrences". That is due to the CICCTT classification, since comparatively more frequent occurrences, for instance, extension of crew working hours, occurrences related with aircraft handling, etc., do not fall into any of the categories defined by ICAO. However, since this category is the most frequent one, in the occurrence event analysis section of the report, it will be reviewed separately.

The second most frequent category is BIRD – bird strike. For this category, please see chapter „Bird strikes" of the report. The third most frequent category is SCF-NP – system/component failure or malfunction (non-powerplant).

A tendency may be observed that these three categories have been the most frequent ones for few years already, considerably exceeding number of other occurrences. Comparing to 2012, OTHR category has decreased slightly, while ADRM: Aerodrome and RAMP: Ground handling categories have increased.

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 2013 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

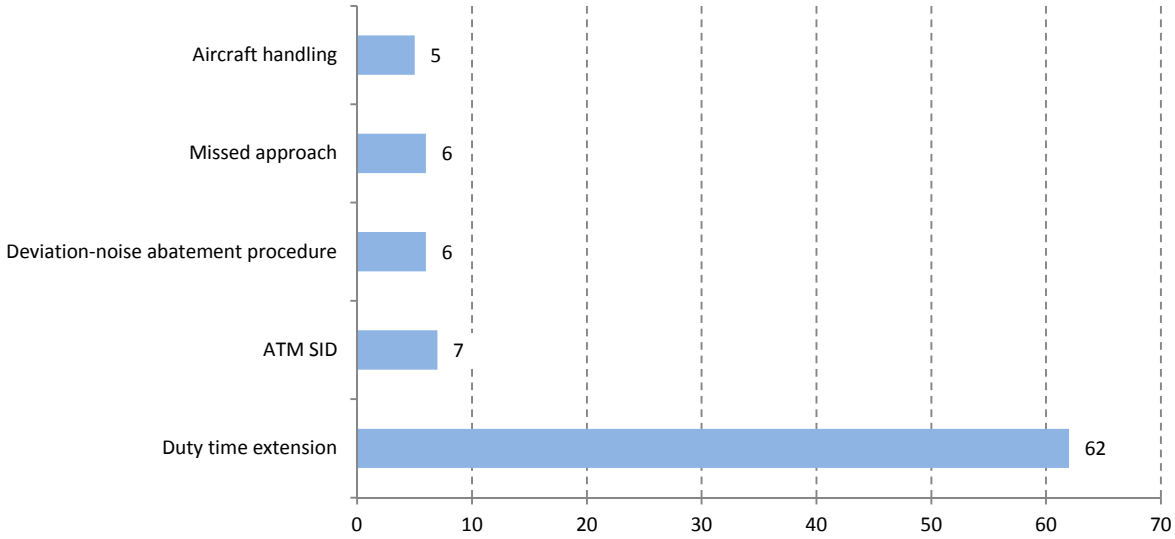

Figure 2: The most frequent events in occurrences of the category OTHR in 2013

Mostly, events in occurrences of the category OTHR (Other) are related to extended (by more than 1 hour) flight and cabin crew duty time. These events were the most frequent ones also in previous years. Some of the other frequent events (which were frequent also in previous years) were violation of SID procedure, entering noise restricted area and events in relation to handling of the aircraft.

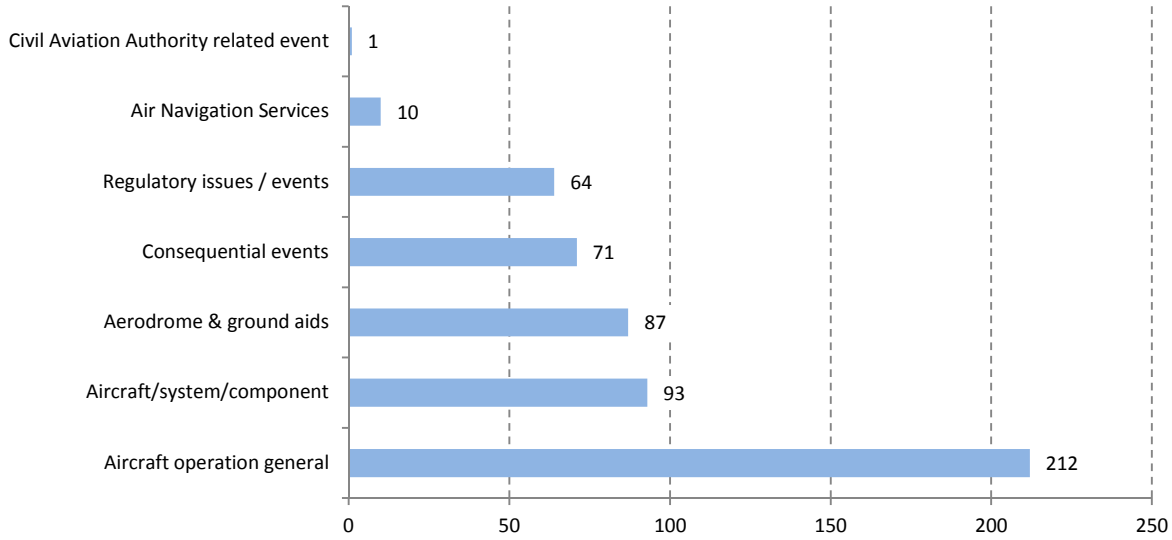

Figure 3: Division by type of the event – all events in 2013

Figure 3 shows division of events by type of the event or hazard, considering all events, even, if there were a number of them in one occurrence. Majority of events are related to aircraft operations, the second most frequent type of the event is related to aircraft/system/ component issues or failures, while the third most frequent type of the event – related to aerodromes and ground aids.

When analysing specific events, which occur most frequently, two events are most common – bird strikes and extended crew working hours. Other events occurred significantly less.

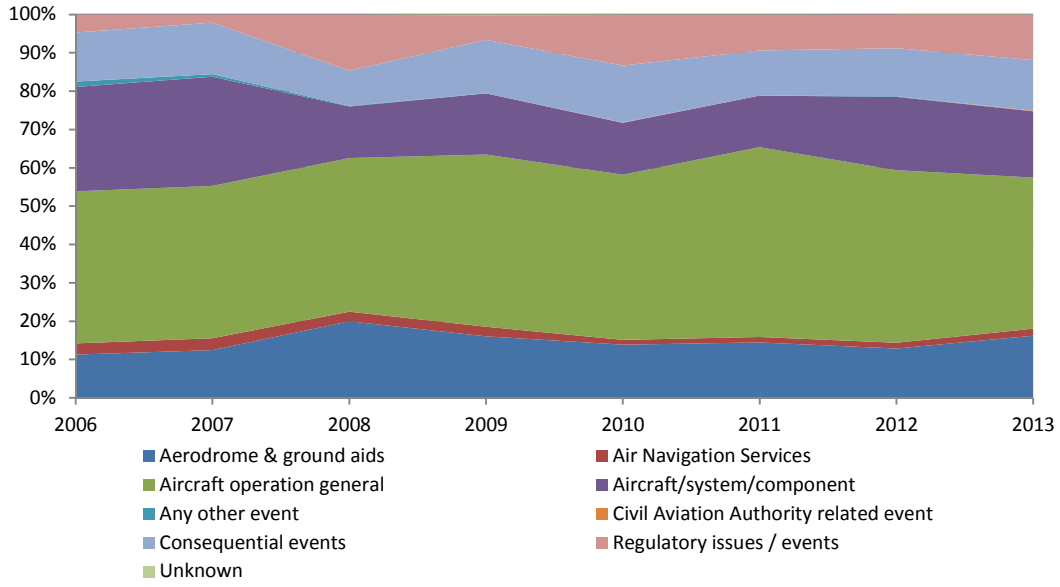

Figure 4: Division by type of the event – all events (2006 – 2012)

When analysing trends during the latest years, it may be observed that on the pro-rata basis categories of events remain in comparatively similar positions, though the category „Regulatory safety issues" has a tendency to increase, which is due to the frequency of extended duty time events. Comparing to 2012, a decrease can be observed in the aircraft operation general category, as well as aircraft/system/component category.

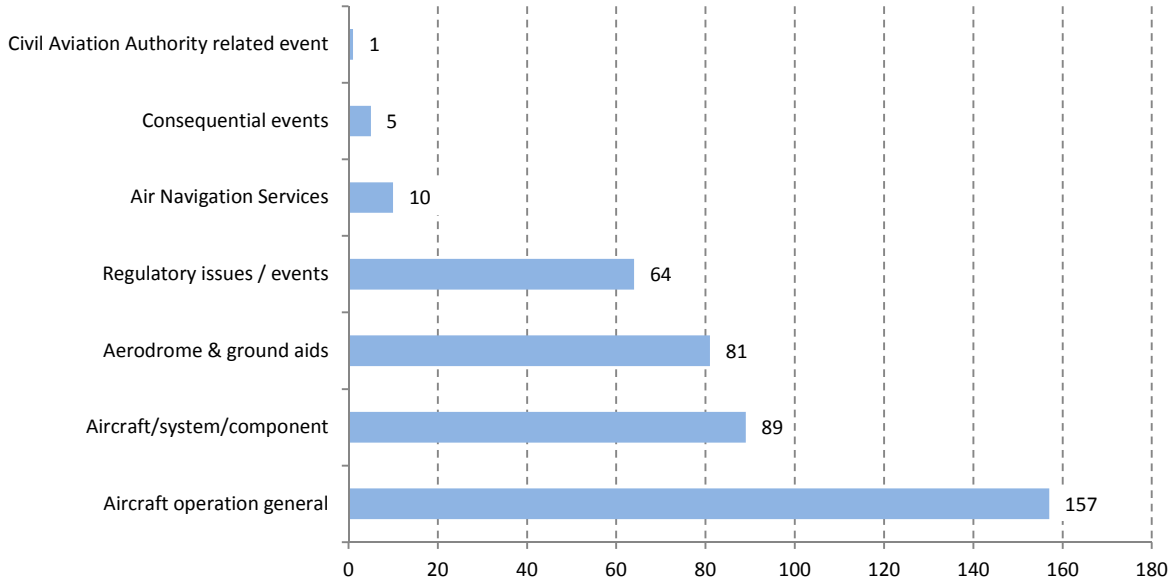

Figure 5: Division by type of the event – first event in 2013

Significant portion of occurrences are composed of several interrelated events, and often the first event has effect also on next one or other event, thus, it is important to know, which events are more frequently the first ones in the chain of events. Figure 5 shows distribution of occurrences by the first type of event. Majority of hazards have been related to aircraft operations. From this aspect, significantly exceeding other events, the most frequent events are bird strikes. Although bird strikes often cause no further events, they are hazardous and may cause very serious consequences. The second most frequent first events - technical issues or aircraft system, or component failure occur with the following events – aircraft/ system/ component failure, hermetic system failure, cockpit window failure etc. Until 2012, proportion of these events had tendency of being comparatively constant, however, in 2012, proportion thereof increased.

Third group of the most frequent events is related to operation of airports and ground aids – the most frequent events are failure to ensure bird control, mostly related to bird strikes within the airport territories. These events significantly exceed other areas in operation of airports and ground aids – such as approach lighting system issues and aircraft ground handling.

Aircraft operations

Commercial aviation

Figure 6 shows the most frequent hazards (events) registered in the database of the Civil Aviation Agency in relation to aircraft operations in commercial aviation.

The most frequent events are related to collision of aircraft with objects (bird strikes). The second most frequent events are related to cooperation of the aircraft crew with air navigation service provider (for instance, deviation from SID, airspace infringement and level bust). The third most frequent events are related to aircraft handling. Furthermore, other categories of events, for instance, triggering of warning system (in majority of events, it has been warning about hazardous approach to the ground), may be caused by incorrect aircraft handling, thus, aircraft handling issues shall be considered serious hazard.

Aircraft handling may include events in relation to unstabilised approach, landing at high speed, heavy landing, etc.

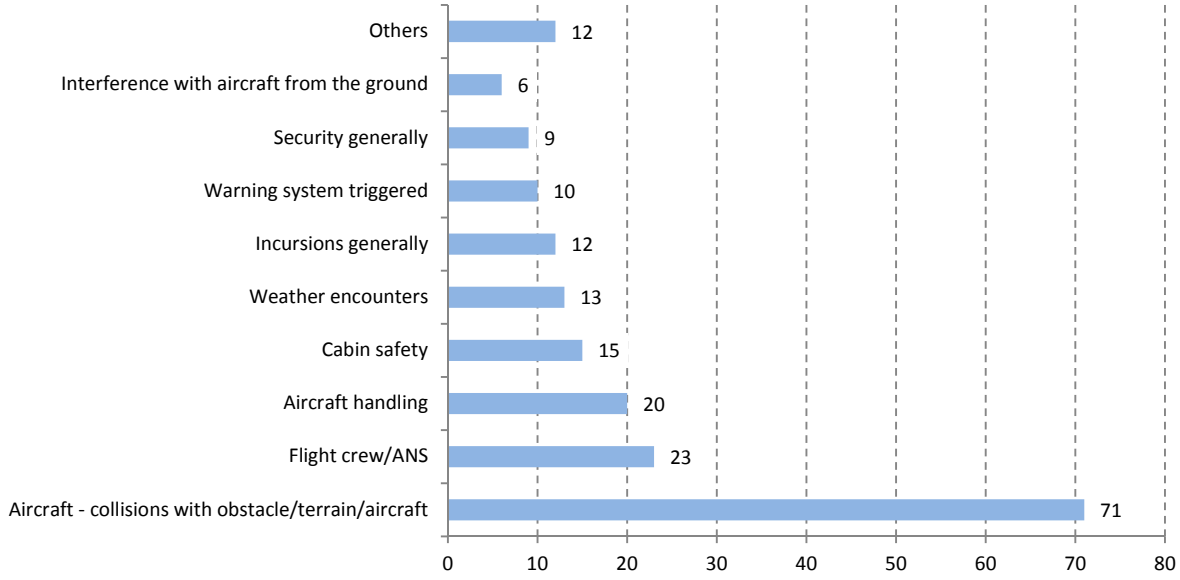

Figure 6: Hazards – operation of commercial aviation aircraft (control of aircraft) in 2013

Hazards causing higher risk (depending on severity):

- Deviation from flight level/altitude specified in ATS permit;
- Unstabilised approach.

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, then, only 5 reports for 2013 and also only 5 for 2012 have been registered in the database that is a very insignificant part of the *small aircraft.* 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).

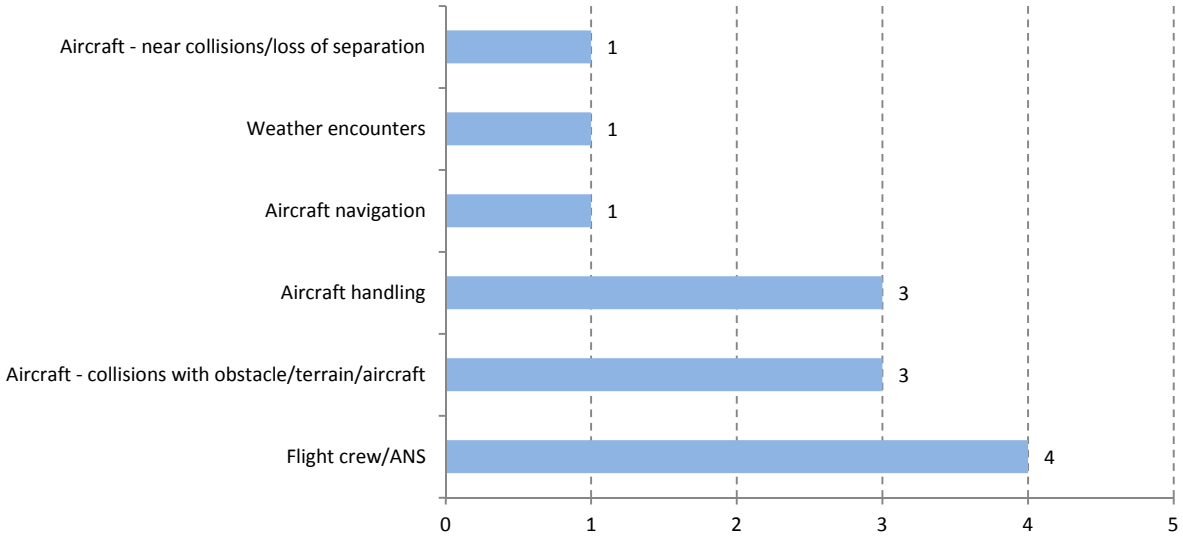

Figure 7: Hazards – operation of general aviation aircraft in 2013

The most frequent events, which were hazards in 2013, were related to cooperation between flight crew and ANS (Flight crew/ANS category), aircraft collision with obstacle/terrain/aircraft and aircraft handling. Category of Flight crew/ANS has been the most frequent category in the previous years as well, and it has been included into EASp as one of its issues.

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Technical condition of aircraft

Commercial aviation

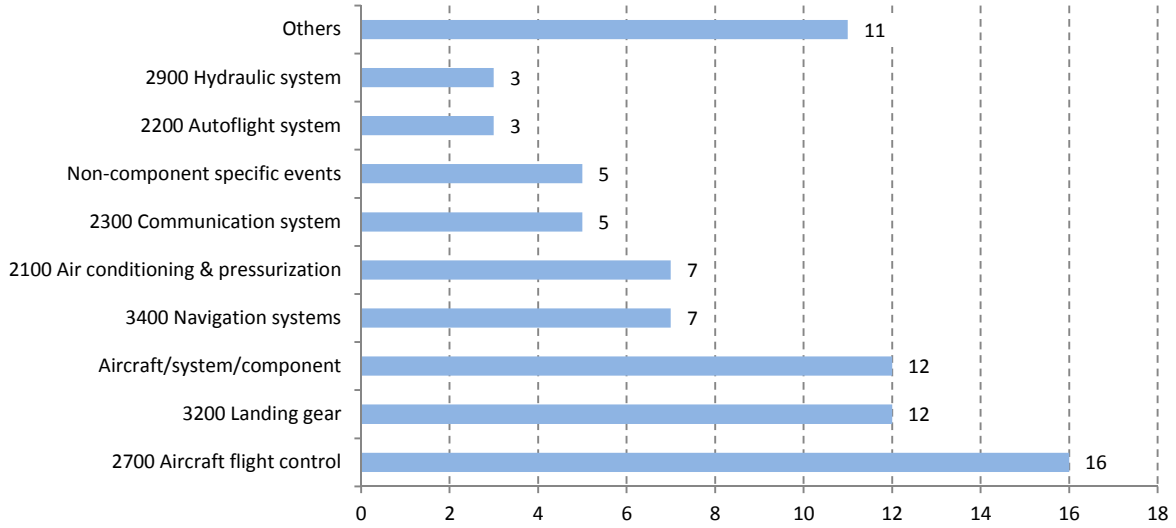


Figure 8: Hazards – technical condition of commercial aviation aircraft in 2013

In 2013 the most frequent events related to technical condition of aircraft were aircraft flight control events, and this category has increased compared to 2012. The second and third most frequent events were related to aircraft landing gear, which have also increased compared to 2012, and events related to aircraft/system/component in general. Compared to 2012, the events related to navigation systems have decreased and now are the 4th most frequent events. Also a decrease has been observed for the events related to aircraft air conditioning and pressurization.

General aviation

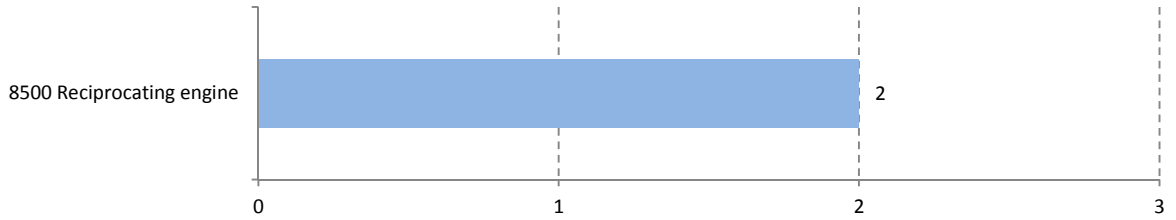


Figure 9: Hazards – technical condition of general aviation aircraft in 2013

In 2013, only 2 events related to technical condition of general aviation aircraft were registered. Both of these events were related to reciprocating engine.

Air navigation services

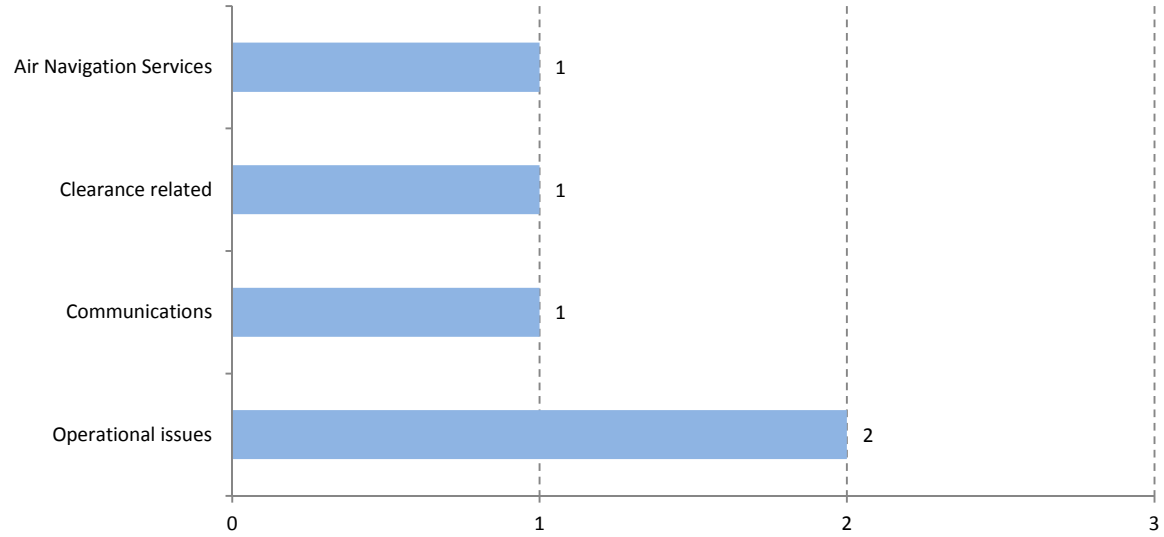


Figure 10: Hazards – air navigation services in 2013

In 2013, there were 5 events related to air navigation services (for comparison: in 2012 – 7 events and in 2011 – 6). Number of occurrences is so small that no trend may be established.

Airports and ground services

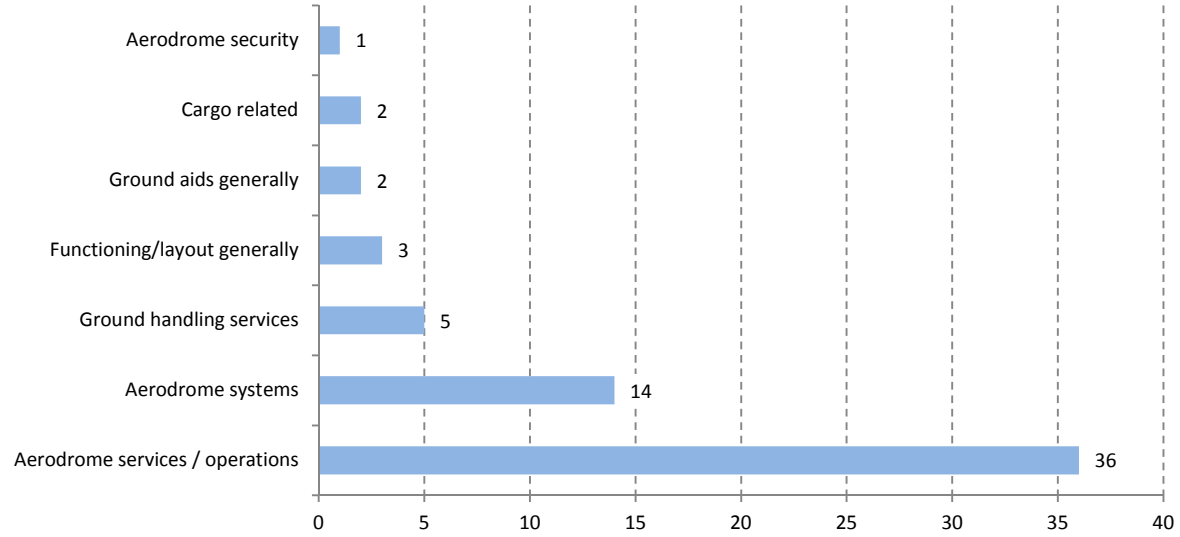


Figure 11: Hazards – airports and ground services in 2013

In 2013, among occurrences in relation to airports and ground services, the main issue was the control of birds (aerodrome services/operations). Other categories were observed significantly more rarely, though a significant rise in aerodrome system related events can be observed in 2013.

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*.

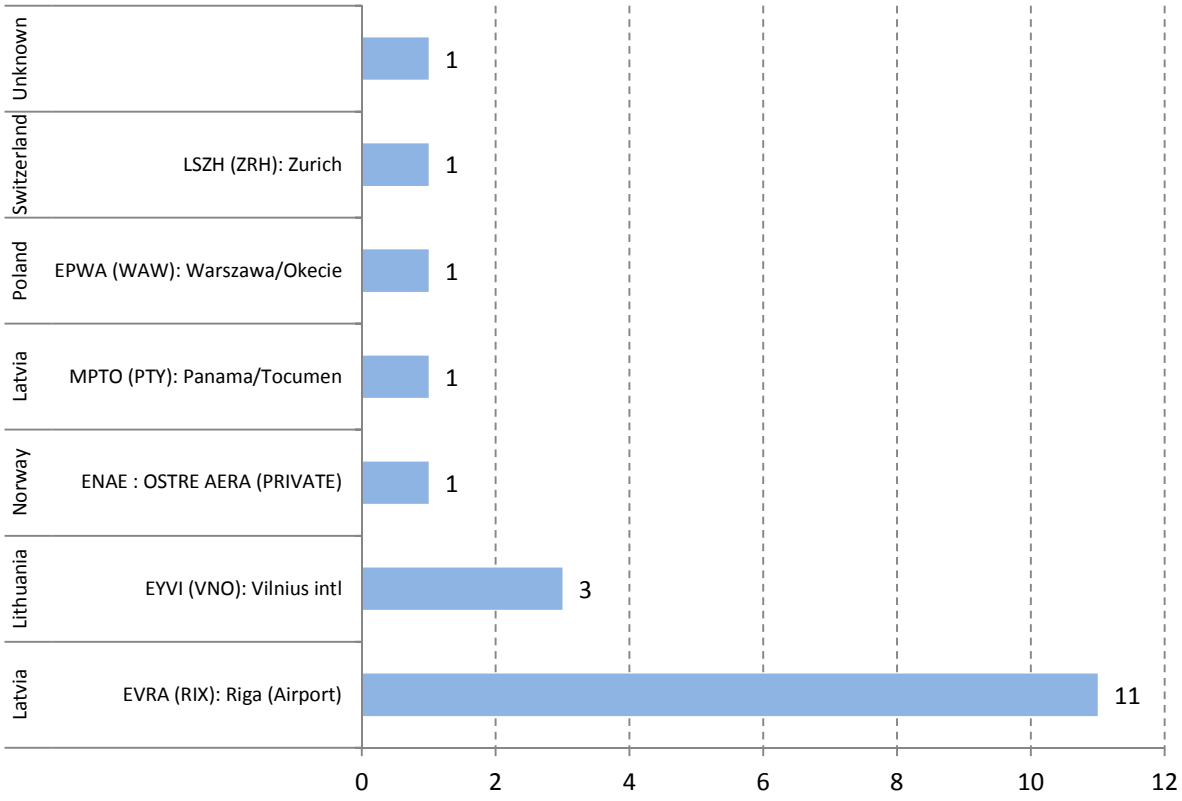


Figure 12: Damaged aircraft due to a bird strike, registered in Latvia and operated by aircraft operators, in the period 2000–2013

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.

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

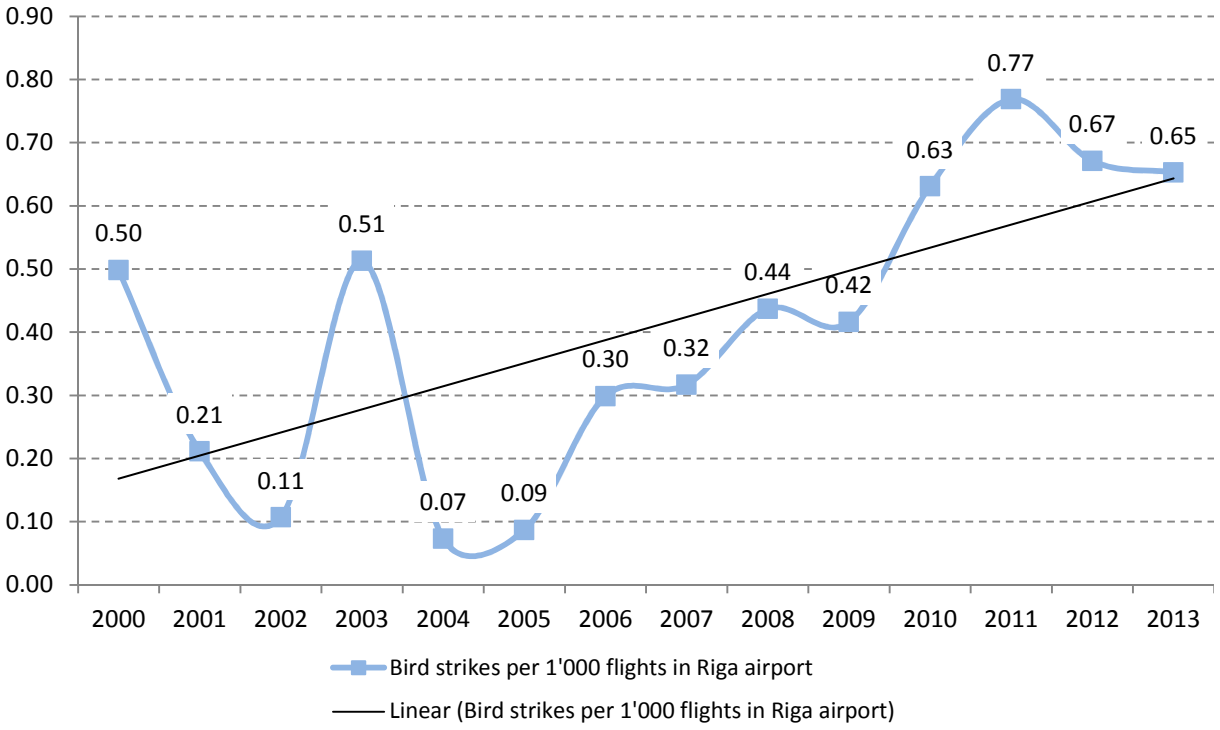


Figure 13: Bird strikes per 1'000 flights in Riga airport

According to information available to CAA, the number of strikes per 1'000 flights in Riga airport has a tendency to increase, although, in 2012 and 2013, a decrease was observed. This figure includes occurrences when pilot has reported a bird strike even if no signs of such collision were later established (damage to the aircraft, blood or feathering on the aircraft, dead bird found etc.), also called „unconfirmed collisions".

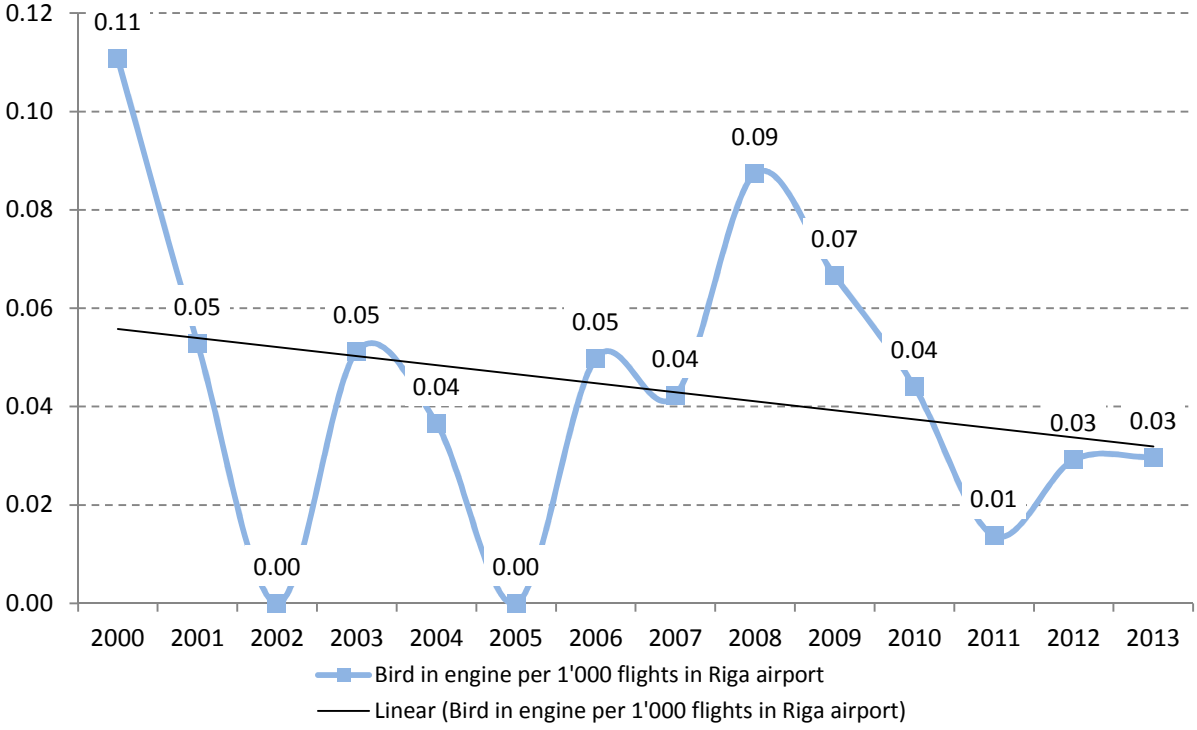


Figure 14: Bird strikes with bird in engine per 1'000 flights in Riga airport

Number of bird strikes with bird in engine in Riga airport tends to decrease since 2008, although, in 2012, increase has been observed and in 2013 it remained unchanged.

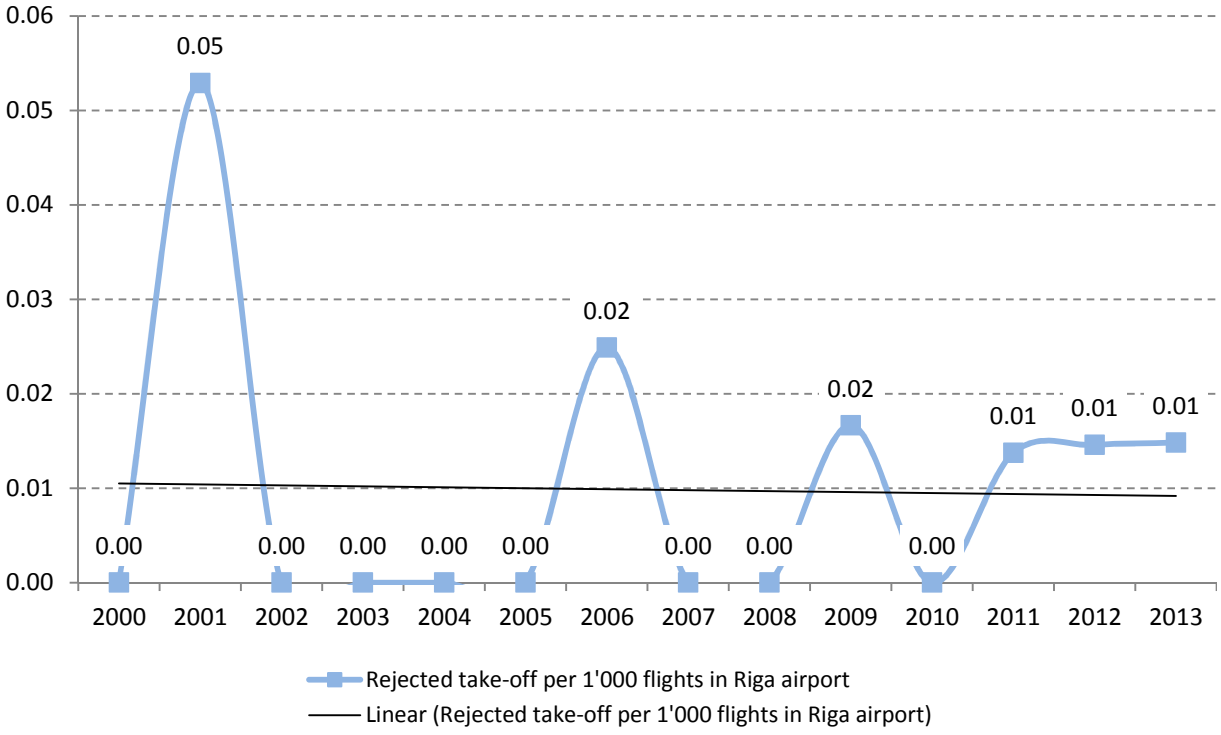


Figure 15: Rejected take-off due to bird strikes per 1'000 flights in Riga airport

Occurrences of rejected take-off due to bird strike historically show unsteady statistics, since these occurrences are comparatively rare. In 2013, similar to 2012 and 2011, this figure remains 0.01.

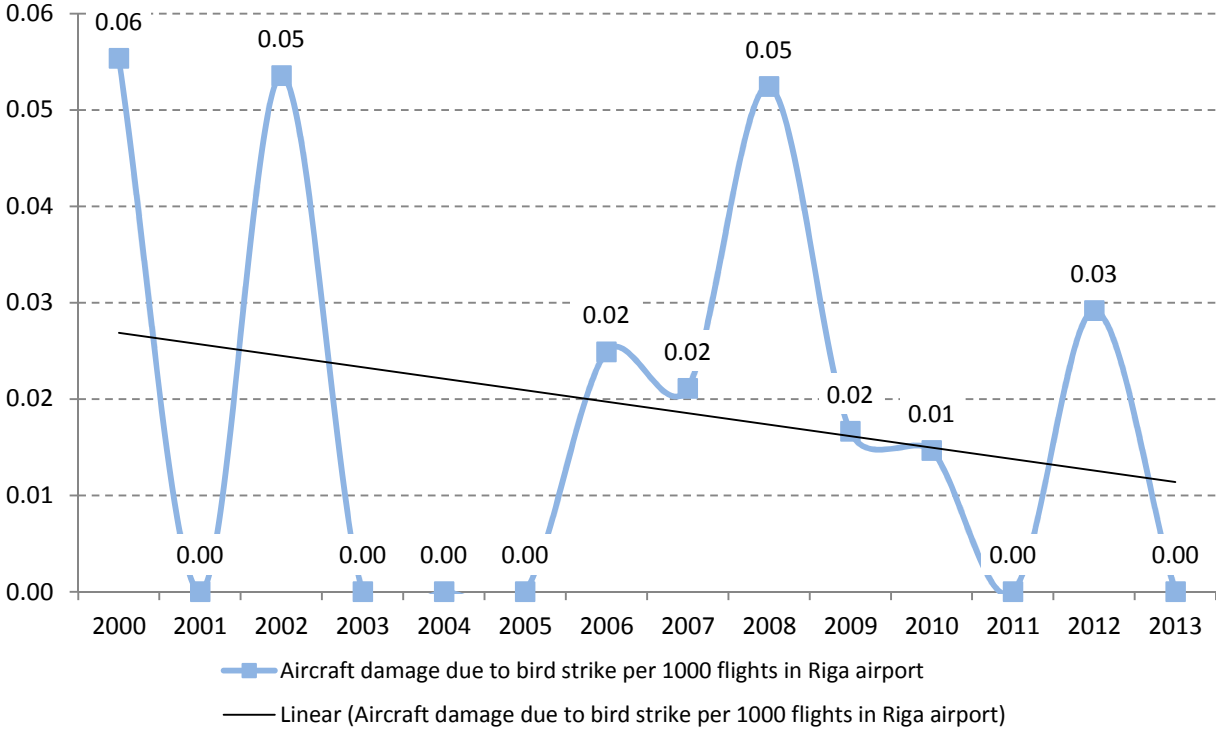


Figure 16: Damage to the aircraft due to bird strikes per 1'000 flights in Riga airport

Occurrences when an aircraft was damaged due to bird strike per 1'000 flights in Riga airport have a tendency to decrease.

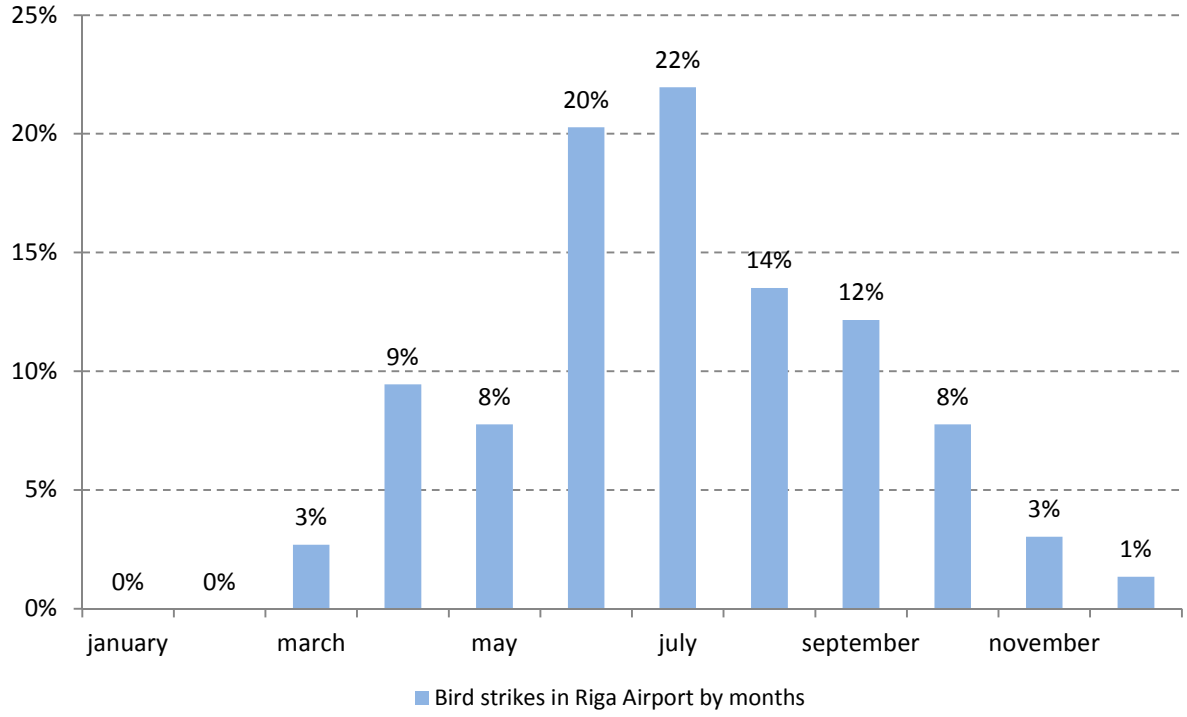


Figure 17: Bird strikes in Riga airport by months

Seasonality of bird strikes is shown in Figure 17, where distribution of all bird strikes registered in the database of Riga airport by month (2000–2013). 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 Maurinš

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 requirements of Regulation (EC) No. 351/2008 of the Commission as regards the prioritisation of ramp inspections on aircraft using Community airports.

Cabinet Regulation Nr.856 *Pre-flight (Post Flight) Inspection Procedures for Foreign Aircraft,* adopted 14 October 2008, distinguish 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, 125 SAFA inspections have been carried out in aircraft operators registered in Latvia in 2013, which is 24 inspections more than in 2012. During these inspections, 89 non-compliances have been established, which is 4 non-compliances more than in 2012. The non-compliances have been assigned the following categories:

16 times – first category, in 2012 – 19,
44 times – second category, in 2012 – 38,
29 times – third category, in 2012 – 28.

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.

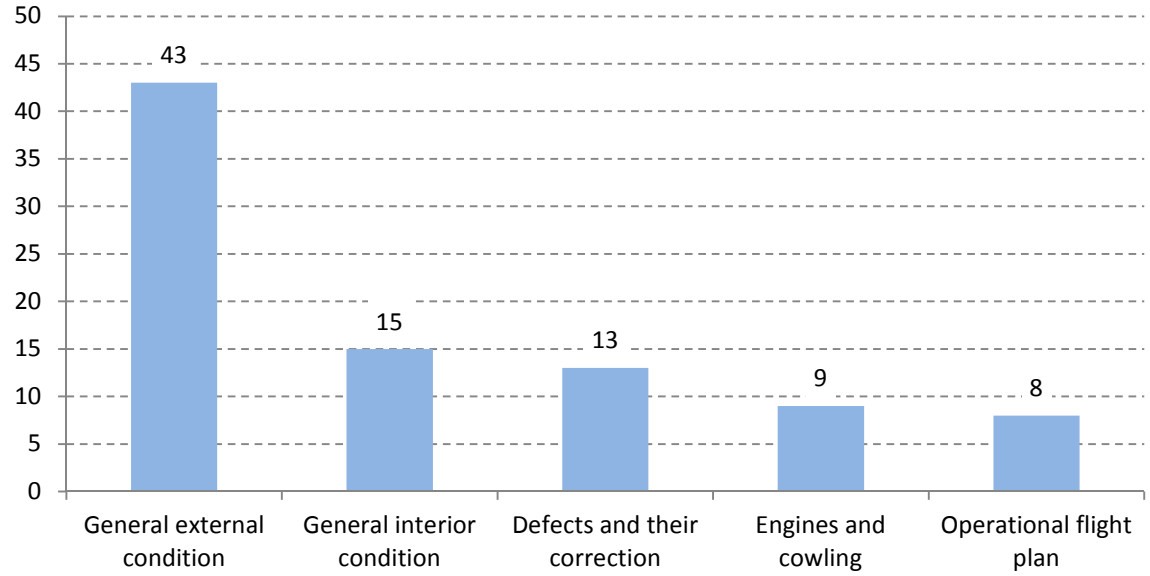


Figure 18: The most frequent shortcomings, as well as observations in relation to aircraft operators registered in Latvia

The most frequently observed non-compliances, as well as observations in relation to aircraft operators registered in Latvia have been in the following areas:

– General external and internal condition of the aircraft, as well as identification of defects and elimination thereof – 58 and 13 non-compliances, respectfully. The main non-compliances were observed as the missing or loose screws, aircraft painting damages and worn labelling and service labels. Most of these don't affect flight safety, but are more meant for aircraft operator maintenance organisations, in order to draw more attention to situations, which in time could turn unsafe. For example, one loose or missing screw could be tolerable, but missing two of such screws, which are next to each other, may be outside the limit set by the manufacturer. Events, when a significant defect in external condition of the aircraft has been detected, and which has to be fixed before the next flight, are comparatively rare.

Regarding aircraft cabin condition and cabin safety, there were 8 non-compliances related to waste bin fire safety. The covers of the bins must close automatically, in order to

restrict the supply of oxygen when a fire starts in a bin. Aircraft certification standards set this requirement, and although smoking in aircraft cabins is not allowed for some time now, this requirement is still in effect. Also, unsecured baggage and equipment, as well as service trolley brake mechanism deficiencies, just like in the previous years, has been a cause of non-compliances in aircraft cabin.

In relation to the above mentioned observations, in 8 cases, there was observed non-compliance with defect identification and monitoring, for example, in cases, when Minimum Equipment List (MEL) prescribes the need to perform maintenance action due to certain defect, but such action hasn't been performed. Some non-compliances were related to incomplete maintenance and documentation.

Aircraft operators have disputed the validity of several non-compliances, based on legislative acts, by contacting the authorities which conducted the inspections. At the same time, as a result of EASA standardization effort, unjustified non-compliances are becoming rarer. Aircraft operators are continuously improving their procedures and documentations, as well as ensuring educational measures with relation to SAFA inspections for flight and cabin crew, technical staff and out-station agents.

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.

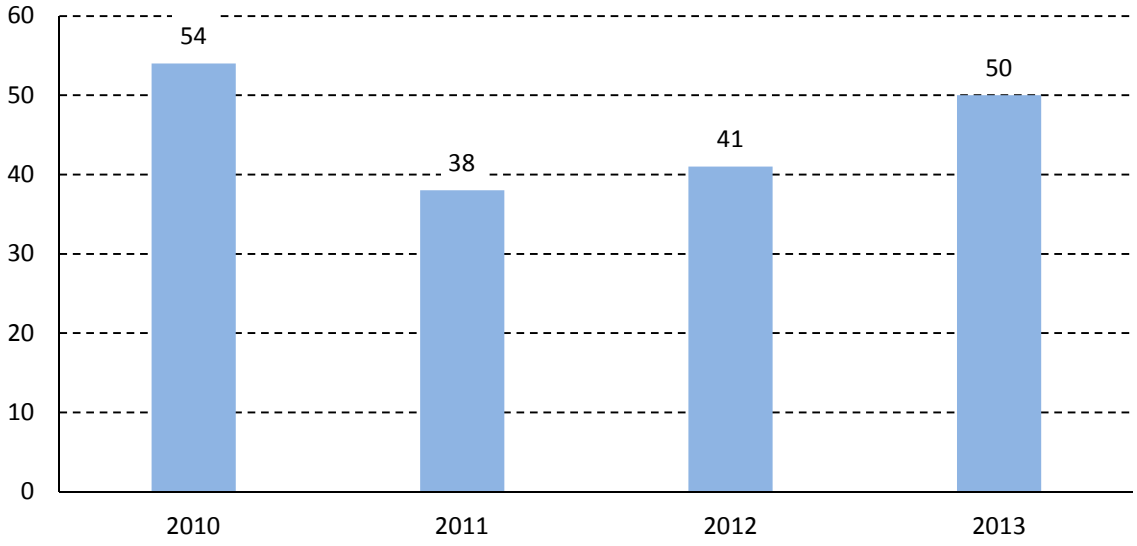


Figure 19: Distribution of SAFA inspections by the Civil Aviation Agency by years

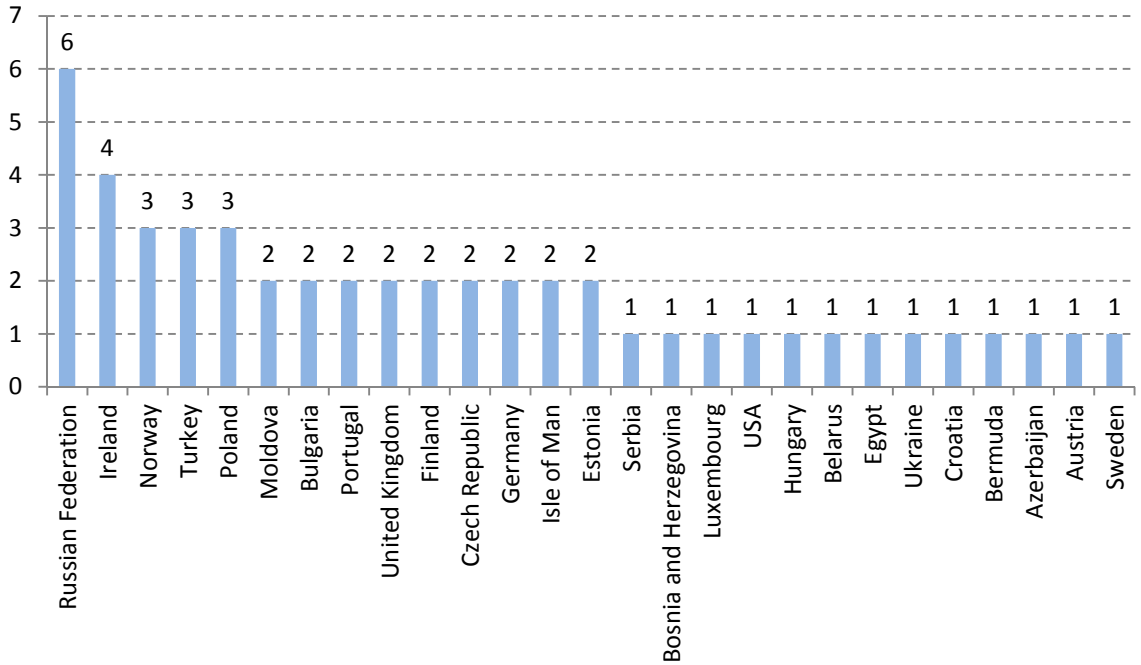


Figure 20: Distribution of SAFA inspections carried out in Latvia by the state of registration of the aircraft operators

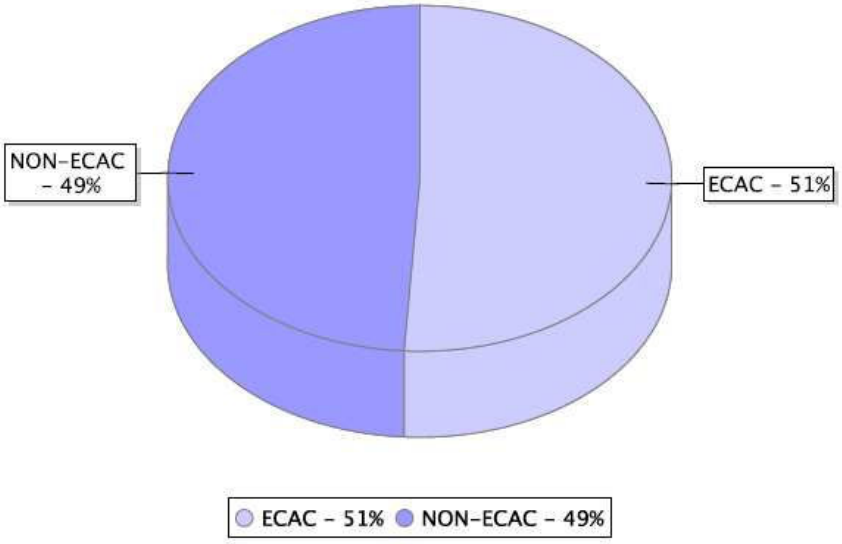


Figure 21: Distribution of SAFA inspections carried out in Latvia in 2013 on ECAC /non-ECAC operator aircraft

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

Action	2011	2012	2013	Total
1) Information reported to the pilot-in-command	38	31	23	92
2) Information delivered to ACO and ACO	6	8	3	17
3a) Aircraft operation restriction established	0	0	0	0
3b) Corrective actions carried out prior to departure	0	4	0	4
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	43
1 non-compliance	6
2 non-compliances	1

Table 2: Number of non-compliances and number of inspections in 2013

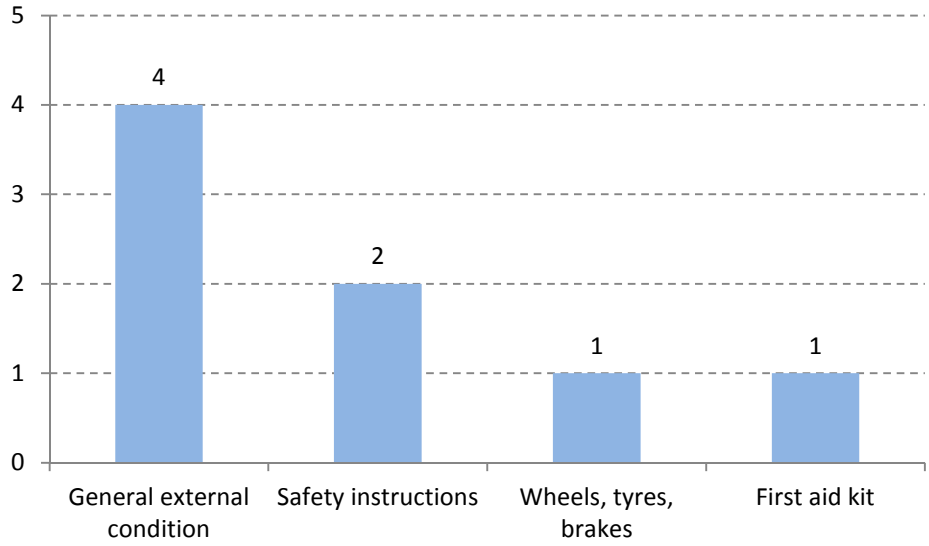


Figure 22: The most frequent non-compliances and observations on foreign aircrafts in Latvia

In 2013, non-compliances have been observed mostly in relation to general external condition of aircraft, namely, painting defects, inadequate labelling and brake indicator system.

In 2 cases deficiencies related to aircraft cabin safety instructions were observed, and one case related to expiration date of first aid kit.

Performing inspections The Civil Aviation Agency of Latvia verified, that the foreign operators that perform flights in Latvia are compliant with international flight safety standards, and that deficiencies, that may significantly jeopardize flight safety, would be prevented.

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.

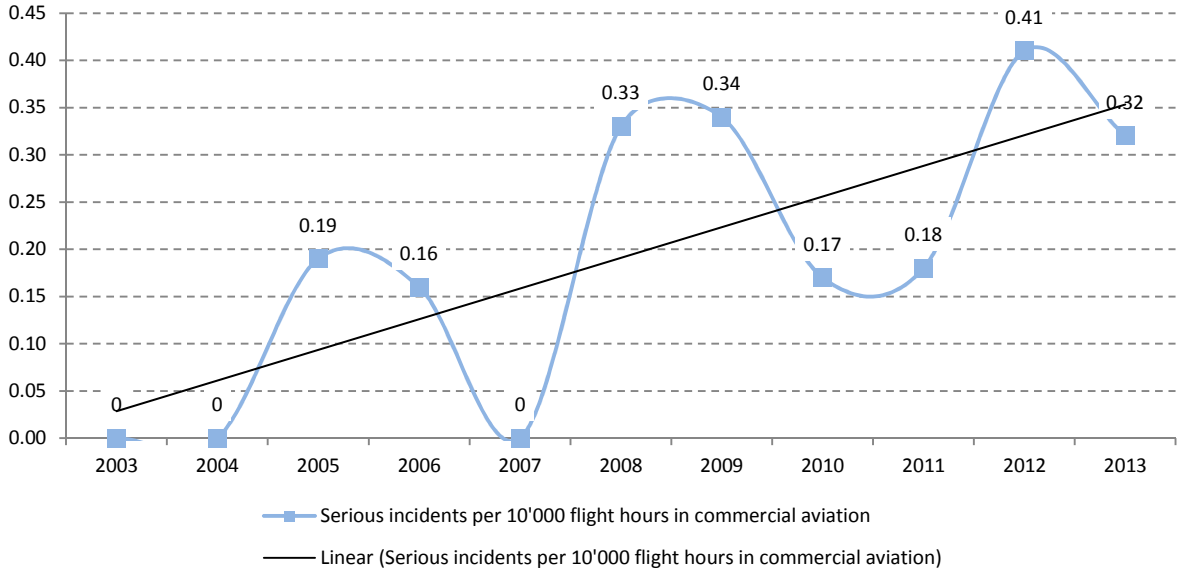
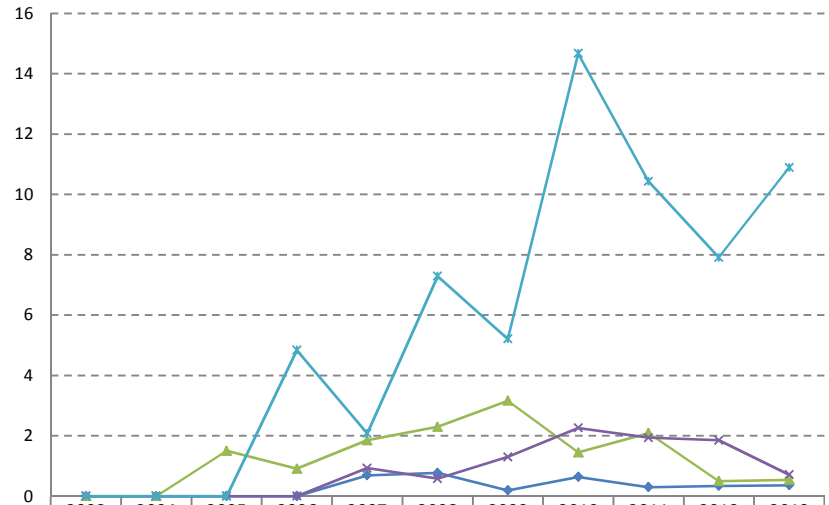


Figure 23: Serious incidents in commercial aviation per 10'000 flight hours

Serious incidents in commercial aviation have explicitly cyclic trend, and in 2013 there was a decrease compared to 2012, when the highest rate was observed. In 2013, the serious incidents involved separation minima infringement, flight crew health event and aircraft flight control.



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
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
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
TCAS triggered per 10'000 flights	0	0	0	0	0.93	0.58	1.3	2.26	1.94	1.85	0.71
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

Figure 24: Flight safety performance indicators in commercial aviation

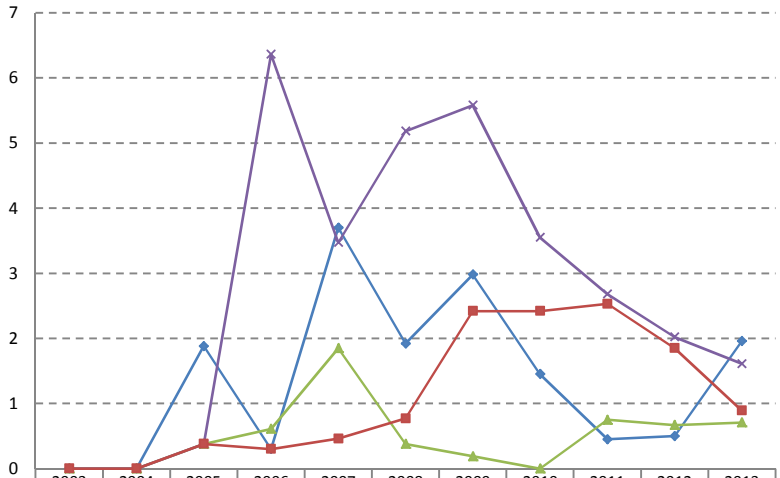
In figure 24, four flight safety performance indicators for commercial aviation are shown.

In 2013 the indicator of runway incursions by aircraft per 10’000 flights was 0.36, which is a slight increase from both 2012 and 2011, although despite this increase, in 2013 the indicator is third lowest since 2005 and overall there is a trend for this indicator to decrease.

The indicator of level busts per 10’000 flights in 2013 was 0.54, which is a slight increase from 2012, but overall it is the second lowest since 2005.

The indicator of TCAS triggered per 10’000 flights in 2013 was 0.71 which is a significant decrease from 2012, and overall it is the second lowest since 2007.

The indicator of duty time extension by more than 1h per 10’000 flights in 2013 was 10.89, which is an increase from 2012, and overall this indicator shows an increasing trend.



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
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
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
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
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

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.

The indicator of A/C flight controls on approach per 10’000 flights shows events such as issues with flaps on approach. In 2013 this indicator was 1.96, which is a significant increase from 202, though overall this indicator has a cyclic trend.

The indicator of A/C landing gear on approach per 10’000 flights shows events related to a/c landing gear issues on approach. In 2013 this indicator was 0.71, which is a slight increase compared to 2012, but overall there is no clear trend.

Rejected take-offs (RTO) per 10’000 flights in 2013 were 1.61, which is a decrease compared to 2012, and overall there is a trend for this indicator to decrease in previous years.

The indicator of unstabilised approaches per 10’000 flights has decreased significantly from 1.85 in 2012 to 0.89 in 2013. Also overall there is a trend for this indicator to decrease in previous years.

General aviation

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

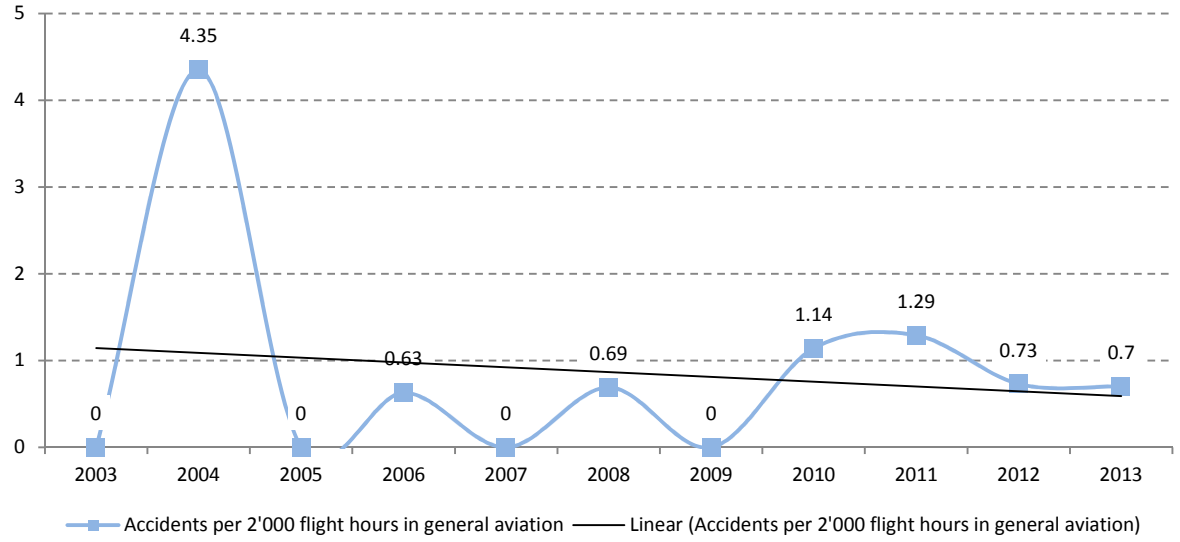


Figure 26: Number of accidents in GA per 2'000 flight hours

Figure 26 shows indicator of accidents in general aviation per 2'000 flight hours during the time period from 2003 to 2013. In 2013, this figure has continued to decrease and is the lowest in 4 years. Overall a slight decrease trend can be observed.

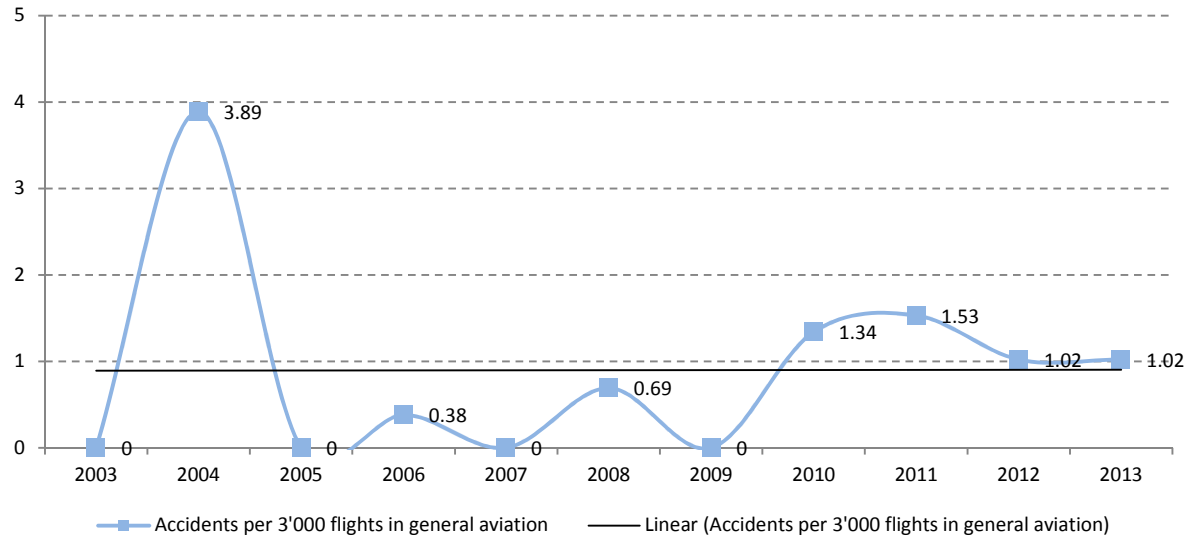


Figure 27: Accidents in GA per 3'000 flights

Indicator of accidents in GA per 3'000 flights in 2013 have remained the same as in 2012, and the overall trend is for this indicator to be stable. The highest figure was observed in 2004.

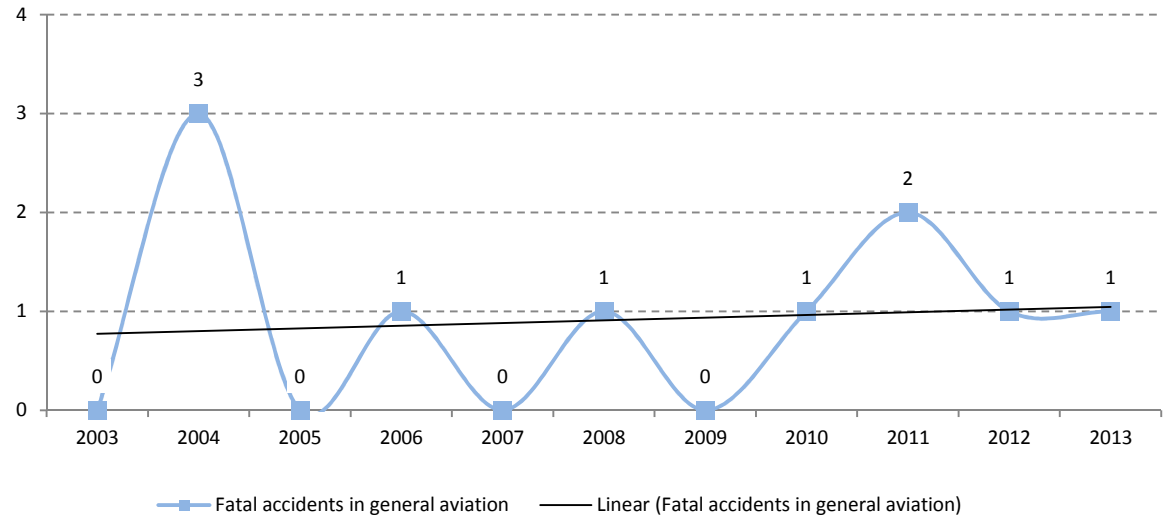


Figure 28: Accidents in GA resulting in victims with fatal injuries

Figure 28 shows accidents in GA with at least one person with fatal injuries. The figure was highest in 2004 - 3, while in 2013 it remained unchanged from 2012 – 1 accident. The overall trend for this indicator is to be stable with

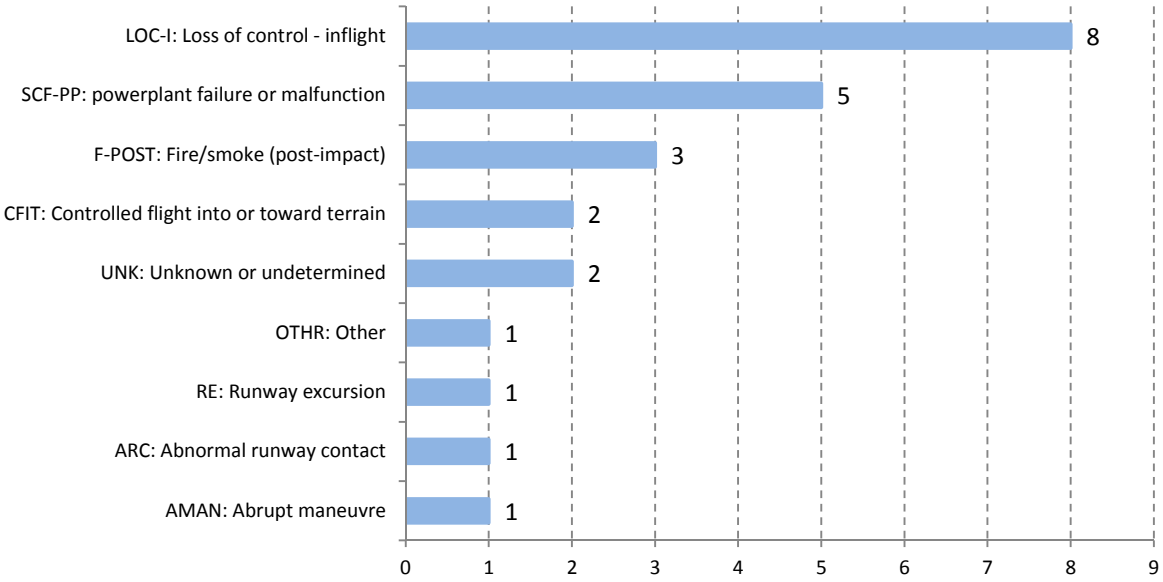


Figure 29: Distribution of occurrence categories in GA accidents

Figure 29 shows occurrence categories in GA accidents during the time period from 2003 to 2012. 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.

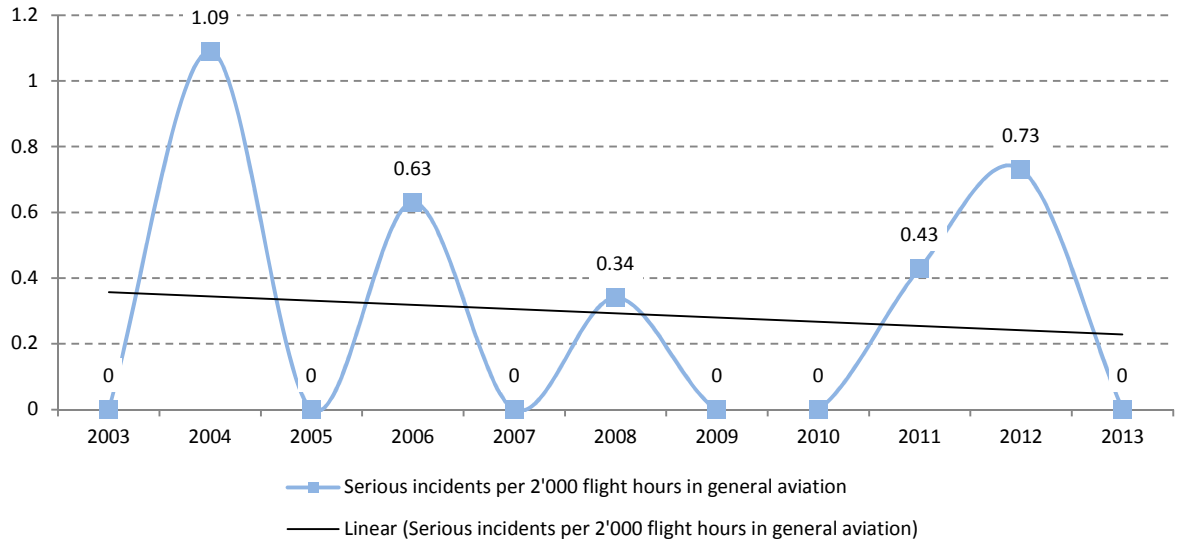


Figure 30: Number of serious incidents in GA per 2'000 hours

Although in 2012 the number of serious incidents in GA per 2'000 hours was highest that in previous years, in 2013 it has decreased and overall a slight decrease trend can be observed.

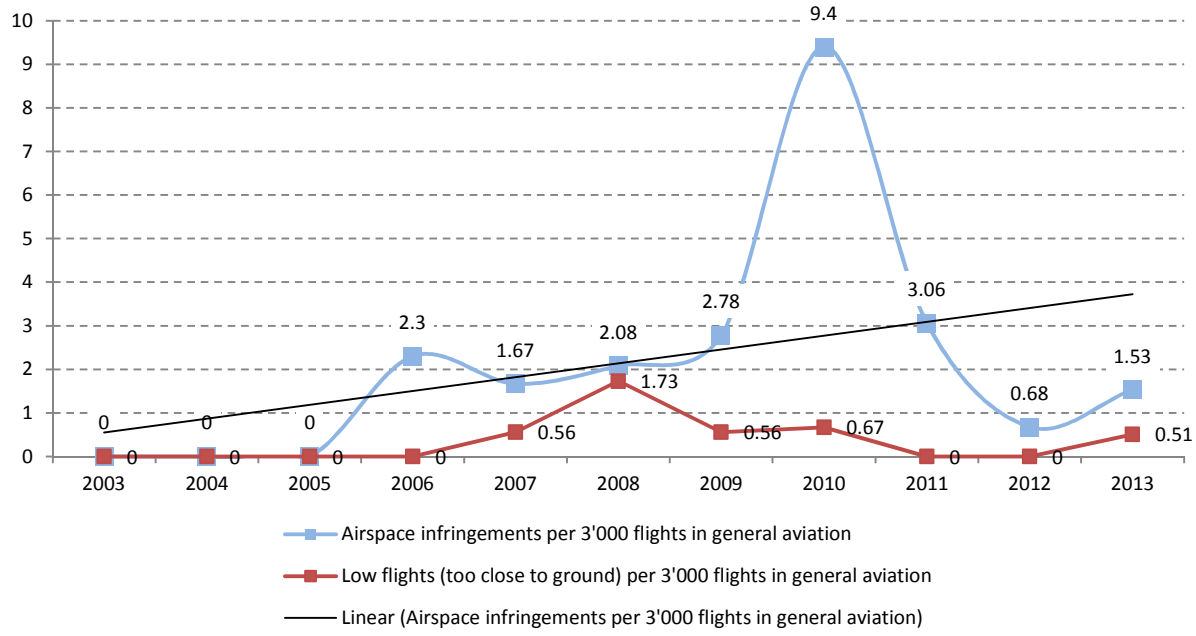


Figure 31: Safety performance indicators in GA per 3'000 flights

Figure 31 shows two event safety performance indicators for GA. They are – airspace infringements per 3'000 flights and low flights (aircraft too close to ground) per 3'000 flights. Both of these indicators have increased in 2013, though they remain much lower than their highest recorded levels in 2010 and 2008 respectively.

Air navigation

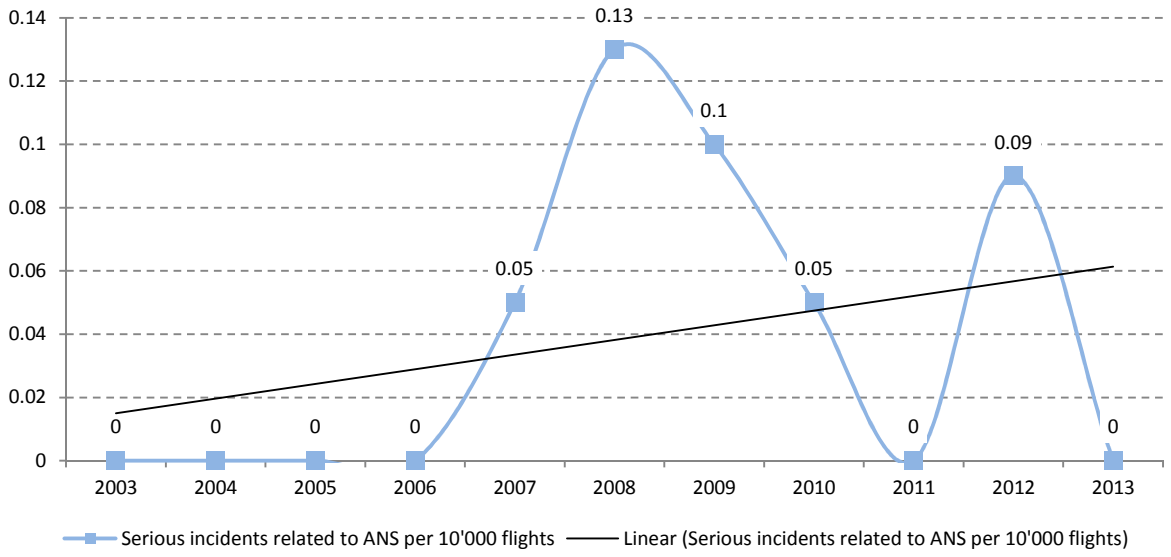


Figure 32: Serious incidents per 10’000 flights

Figure 32 shows serious incidents per 10’000 flights related to air navigation in Latvia. In 2013 this indicator decreased although overall an increasing trend can be observed.

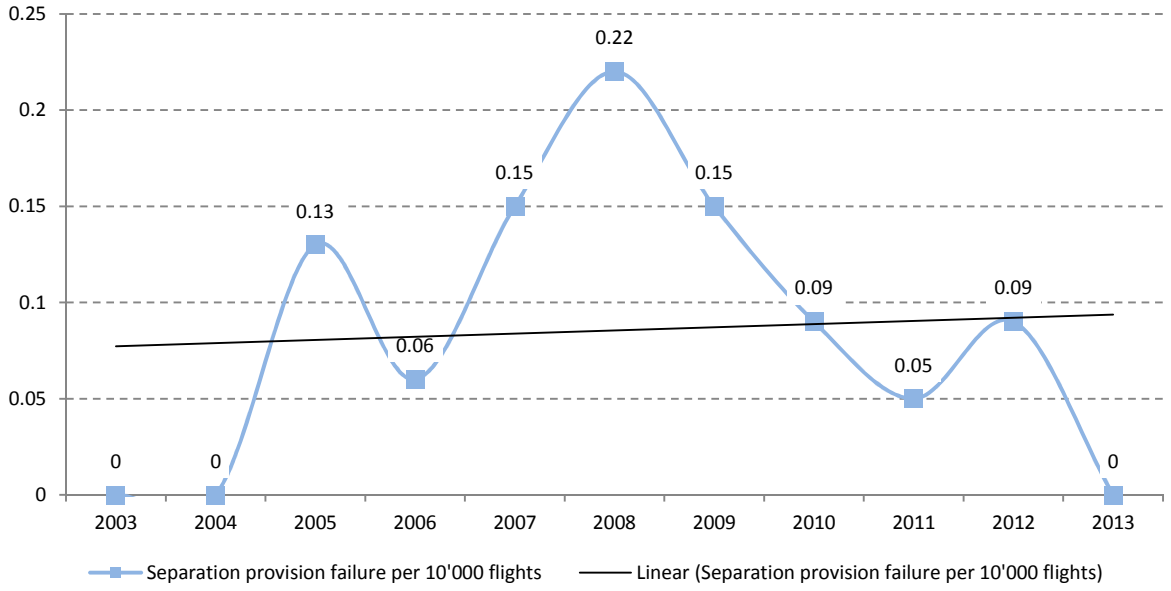


Figure 33: Separation provision failure per 10’000 flights

Figure 33 shows separation provision failures per 10’000 flights in Latvia. This indicator has decreased in 2013, and since it’s highest point in 2008, this rating has shown a trend to decrease.

Airports and ground services

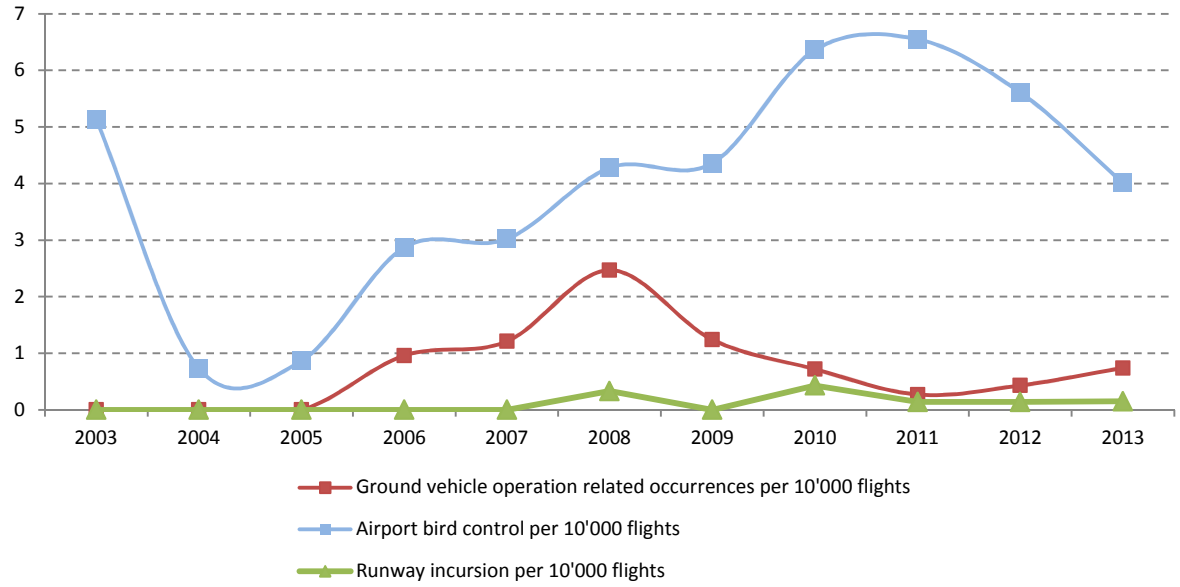


Figure 34: Safety performance indicators for airports and ground services

Safety performance indicators for airports and ground services in Latvia (figure 34), show that in 2013, there was a continued decrease in airport bird control related occurrences and runway incursions per 10’000 flights, though ground vehicle operation related occurrences per 10’000 flights have continued to increase.

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 2013

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 2013, number of infringements has increased. 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. In 2013, occurrences related to this issue have decreased.
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*

Activities of the Civil Aviation Agency in the area of flight safety

Aircraft operation division (AOD)

In 2013, all activities related to flight safety were being planned or revised, in order to improve flight safety procedure management.

European Aviation Safety Management system's main elements were included in the AOD's flight safety management program, which was aligned with guidelines of the European Union (EU), standards of ICAO, conditions of EASA and guidelines of member state's political planning document, development goals and priorities in aviation.

Flight safety management program was developed based on EASp, developed by EASA. EASp gives a detailed description about particular flight safety issues and clarity about actions needed to be taken to mitigate risks in aircraft operations.

Such AOD activities, as, for example, hazard identification, occurrence analysis, evaluation of risks and development of recommendations and references were conducted, by reviewing and improvement of internal procedures in relation to aircraft operations in accordance with Regulation (EC) No 216/2008 of the European Parliament and of the Council.

Activities of AOD in relation to flight safety were based on safety information received in the country, from ICAO, Eurocontrol, European Commercial Aviation Safety Team (ECAST), as well as EASA.

All AOD's measures were taken, in cooperation with other departments of CAA in order to achieve safety goal of corporate plan – achieve and maintain a uniformly high level of flight safety in Europe.

Management of safety risks, as one of the key elements in safety management system (SMS), was documented, by identifying systemic problems, operational problems, emerging problems and problems associated with human factors, and their performance. AOD actions mainly included activities based on EASp issues.

One of the main AOD's flight safety oversight tasks was the usage of flight data monitoring (FDM) in operator's Safety Management Systems.

AOD's activities were aligned with EASp, including tasks, whose goal was promotion of FDM program's implementation priorities for solving the identified operational problems.

The identified flight safety hazards with relation to probability of Mid-air collisions (MAC) within the framework of mandatory reporting system were not considered as s

By engaging in dialogue with operators, an agreement was made about the inclusion of such occurrence indicators as, for example, TCAS/ACAS RA alert length and pressure altitude difference with chosen altitude, into the operator's flight safety programs, in order to reduce the probability of mid-air collisions.

Identified safeguards within FDM data analysis summaries for risk control and follow-up action for risk reduction, with regards to loss of aircraft control in-flight (LOC-I), indicated further safety trend identification.

Loss of aircraft control inflight is still the most frequent cause for general aviation accidents and serious incidents.

Hazard identification and risk assessment of factors affecting flight and cabin crew's performance (for example, tiredness, sleep, circadian cycle, alertness) within the framework of relevant regulations, was one of the key tasks of AOD within the framework of safety management system.

Taking into account the lack of qualified inspectors for certification and oversight of organizations, AOD reviewed it work priorities, actively participating in LV CAA's human resource planning system for the availability of competent staff.

	2013	2012	2011	2010	2009	2008
Total number of theoretical exams	755	739	893	779	916	676
Passed exams	614	600	664	599	715	528
Failed exams	141	139	229	180	201	141
Examination days	81	92	92	88	89	89
Number of applicants	121	144	164	151	154	110

Table 4: Theoretical exams

Flight crew categories	2006	2007	2008	2009	2010	2011	2012	2013
Flight crew								
- Student Pilots Licenses (SPL)	100	121	188	162	137	(RSPL+ SPL) 39 + 201	(RSPL+ SPL) 22 + 152	144
- Private Pilot Licenses (PPL)	154	52	167	142	122	200	188	173
- Commercial Pilot Licenses (CPL)	74	64	108	103	96	124	111	123
- Airline Transport Pilots (ATPL)	153	137	224	193	193	226	227	223
- Flight engineers (F/EL)	23	15	26	20	17	22	22	17
- Flight Navigators (FNL)	17	6	22	6	11	14	9	2
- Flight Radio Telephone Operators (FRTOL)	7	3	12	4	3	4	-	-
- Glider Pilot Licenses (GPL)	13	4	26	10	5	5	3	5
- Free Balloon Pilot Licenses (FBPL)	5	6	10	9	12	14	16	12
- Ameteur Pilot Licenses	42	25	47	12	14	5	3	53
- Foreign pilots, to whom validity certificates have been issued	74	60	62	51	88	75	51	15
Kopā:	**662**	**493**	**872**	**712**	**698**	**929**	**823**	**767**

Table 5: Certification of aviation personnel

Operation and safety of aerodromes, supervision of actions by aerodrome operators

In accordance with aerodrome certification and continuous oversight program, in 2013 20 inspections were carried out in order to evaluate critical elements for aerodrome safety (aerodrome systems, aerodrome layout, aerodrome service and personnel compliance to standards and practices, the conformity of performed procedures to safety requirements).

In 2013 aerodrome "Riga" complied with certification requirements and extended the validity of aerodrome certificate.

On 31.12.2013 the following aerodromes are certified in Latvia:

- 2 aerodromes for air transport – Rīga, Jurmala Airport;
- 8 general aviation aerodromes – Ikšķile, Cēsis, Limbaži, Ādaži, Daugavpils, Ventspils, Liepāja, Spilve;
- 4 general aviation helicopter aerodromes – Centra Jaunzemji, Baltijas Helikopters, M Sola, Amo Plant.

In 2013 there were found 36 new non-compliances within the aerodrome operator's oversight process, of which most were related to non-compliance to aerodrome operational requirements both in aerodrome maintenance (visual aids and maneuvering zone) and in execution of operational procedures, which is related to insufficient resource management in the organizations of aerodrome operators. In the year 2013, the number of non-compliances found as part of the oversight process compared to 2012 has increased, which is related to inadequate management of operational changes. It can be observed that aerodrome operators are inadequately improving the general safety culture and insufficient attention is given to management of aerodrome operations.

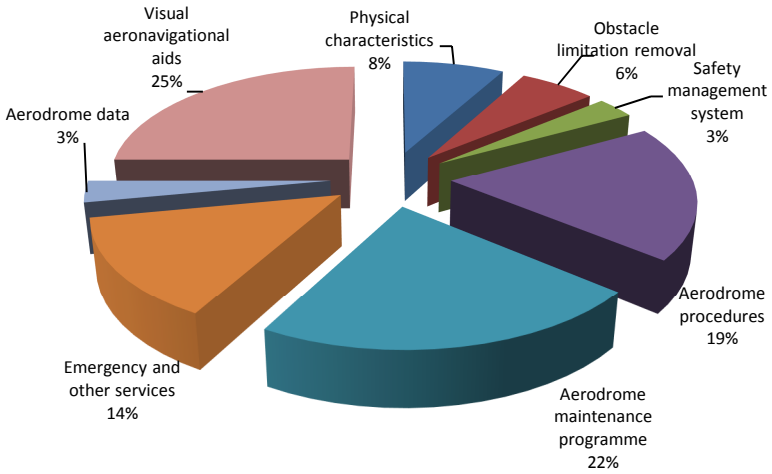


Figure 35: Non-compliances related to aerodrome operations

In 2013 the coordination of construction, installation and deployment of the objects that are potential hazards to flight safety, as well as the adoption process of protective-lighting and marking of buildings was performed for 50 objects throughout Latvia, in order to protect aerodromes from having hazardous obstacles appear in their vicinity.

Aeronavigation services oversight

In 2013, 3 audits and 2 unplanned inspections were made in Training organizations, 4 audits in Air Traffic services (ATS) units, 1 unplanned and 3 planned inspections in air traffic management services units.

In addition to audit of documents in relation to air traffic management planned changes, an audit was made in relation to insignificant planned changes in the Riga tower, in connection with reconstruction works in "Riga" airport, which affected air traffic management system.

Among the audits made in 2013, was also an audit of rescue and coordination center.

In 2013 was continued the aero navigation service improvement plan's first reference period's monitoring of the usage of Risk Assessment Tool (RAT) for the classification of the safety risk severity for occurrences related to air traffic management. Current indicators show that all occurrences related to air traffic management had the severity classified.

Safety management effectiveness monitoring shows, that currently Latvia is B level, with a goal to achieve C level in 2016 along the implementation of safety management program at a state level. Just culture monitoring results indicate measures, which need to be taken to introduce just culture policy at the state level until 2019. The implementation of both abovementioned measures is carried out in accordance with Commission implementing decision of March 11 2013 setting the Union-wide performance targets for the air traffic management network and alert thresholds for the second reference period 2015-19.

Oversight of provision of meteorological services

Aero navigation department's auditor team in 2013 made 2 oversight audits in VSIA "Latvijas Vides, ģeoloģijas un meteoroloģijas centrs" (LVĢMC) and VAS "Latvijas gaisa satiksme", which are certified meteorological services providers in Latvia in the context of European Parliament and Council Regulation (EK) No 550/2004 (Services providers regulation). In order to assess the aviation meteorological observations compliance with corresponding regulatory requirements, in May and December 2013 4 inspections were conducted in objects of VAS "Latvijas gaisa satiksme". During the inspections the operations of the meteorological observation systems was checked as well as their technical maintenance in airports "Rīga", "Liepāja" and "Ventspils". During the audits and inspections 2 non-compliances and 12 observations were made. All non-compliances of 2013 are level 2 (less significant) non-compliances, for which immediate corrective action is not necessary. The control of implementation of planned corrective actions will take place at the beginning of 2014.

In 2013 Latvia's meteorological services providers (LGS and LVĢMC) made 2 changes with relation to MET in their functional systems. The changes were related to meteorological sensor placement in relation to threshold of runway 18 during construction works in "Riga" airport (from 30.05.2013 until 16.09.2013) and the change of meteorological product (SWL map) development software. Taking into account that the initial MET services provider safety assessment showed level 5 hazard and according to Regulation (ES) No 1034/2011 requirements, safety argumentation documentation review was not done before planned change implementation.

Aeronavigation information

In 2013 there was 1 unplanned and one 1 planned audit made in the aeronavigation service provider's organization, assessing aero navigation information services provider's conformity to safety requirements, based on legislation and aeronavigation service provider's safety management system manual requirements.

Aeronavigation information service provider in 2013 initiated cooperation with European Aeronavigation Safety Organization (Eurocontrol), in order to develop guidelines for safety management requirement application for all aeronavigation information service providers, which are operating in European Civil Aviation Conference Region. It is expected to complete the guideline document in 2014. In accordance with the initiated cooperation with Eurocontrol and Commission Regulation (EU) No 73/2010 of 26 January 2010 laying down requirements on the quality of aeronautical data and aeronautical information for the Single European Sky, aeronavigation information service provider is working on improvement of operational procedures.

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

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Accidents and serious incidents from 01.01.2009 to 31.12.2013

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 2013 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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