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Occurrence Reporting Overview
2018

Autoriteti i Aviacionit Civil i Kosovës - Autoritet Civilnog Vazduhoplovstva Kosova - Civil Aviation Authority of Kosovo
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Introduction

The Occurrence Reporting System aims to improve aviation safety by ensuring that relevant safety information relating to civil aviation is reported, collected, stored, protected, exchanged, disseminated and analysed. The sole objective of occurrence reporting is the prevention of accidents and incidents and not to attribute blame or liability. The information collected is adequately protected from unauthorised use or disclosure, and it is used strictly for the purpose of maintaining and improving aviation safety.

Occurrence reporting in Kosovo is governed by CAA Regulation No. 09/2017 on the reporting, analysis and follow-up of occurrences in civil aviation, of 6 September 2017, which transposes into the internal legal order of the Republic of Kosovo Regulation (EU) No 376/2014 of the European Parliament and of the Council of 3 April 2014 on the reporting, analysis and follow-up of occurrences in civil aviation. The CAA Regulation No. 09/2017 has repealed the CAA Regulation 1/2009 on occurrence reporting in civil aviation, the CAA Regulation No. 08/2010 laying down implementing rules for the integration into a central repository of information on civil aviation occurrences exchanged in accordance with Directive 2003/42/EC of the European Parliament and of the Council, and the CAA Regulation 9/2010 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.

All the aviation occurrences referred to in Article 4 (1) of CAA Regulation No. 09/2017 shall be reported to the Civil Aviation Authority of the Republic of Kosovo (CAA) by the natural persons listed in Article 4 (4). This reporting contributes to the improvement of the safety of civil aviation through better understanding of these occurrences to facilitate analysis and trend monitoring so that appropriate and timely preventive action can be taken and aviation safety improved.

The occurrences which fall within the categories of Article 4 (1) of CAA Regulation No. 09/2017 and the occurrences applicable to aircraft other than complex motor-powered aircraft, are listed in Annexes I to V to CAA Regulation No. 11/2017 laying down a list classifying occurrences in civil aviation to be mandatorily reported according to CAA Regulation No. 09/2017, which transposes into the internal legal order of the Republic of Kosovo Commission Implementing Regulation (EU) 2015/1018 of 29 June 2015.

The CAA has published on its website (https://caa.rks-gov.net) the Guidance Material on Regulation (EU) No 376/2014 and its practical implementation, which has been provided by the EU Aviation Safety Reporting Portal. This information and guidance material aims to explain the intended purpose of Regulation (EU) No 376/2014 provisions and its implementing regulations, and where relevant, possible means of compliance and examples of good practice, to contribute to a consistent implementation of Regulation 376/2014 and its implementing rules across the EU, which can also be used to contribute to a consistent implementation of CAA Regulation No. 09/2017 and its implementing rules in Kosovo.

The Occurrence Reporting System has been established in Kosovo in 2006. By strict application of rules on confidentiality, protecting the source of safety information and ensuring the confidence of staff working in civil aviation in occurrence reporting systems, the CAA has developed a relationship of trust with the reporters, and consequently contributed to improvement of the quality of occurrence reports. Furthermore, the operators have their own Safety Management Systems (SMS), which have advanced significantly in the recent years. The SMS usually integrates

a component for treating and addressing reported occurrences, enabling the industry to contribute directly to the collection and analysis of safety-related occurrences.

The CAA stores occurrence reports drawn up on the basis of details of occurrences collected in accordance with Articles 4 and 5 of Regulation No. 09/2017 in its ECCAIRS database (CAA national database), as prescribed in Article 6(5), by using the ECCAIRS (European Coordination Centre for Aviation Incident Reporting Systems) software platform developed by the European Union (EU). Accidents and serious incidents can also be stored in the CAA ECCAIRS database, subject to the agreed terms and conditions with the Aircraft Accident Incident Investigation Commission of the Republic of Kosovo (AAIIC). Also, the security related occurrences, apart from laser attack occurrences, can be stored in the CAA ECCAIRS database subject to the agreed terms and conditions with the Ministry of Internal Affairs of the Republic of Kosovo (MIA).

The CAA will subsequently, in agreement with the European Commission, update the European Central Repository (EU ECCAIRS central database) by transferring to it all information relating to safety stored in the CAA ECCAIRS database as prescribed in Article 8(2) of Regulation No. 09/2017.

Upon request, the CAA participates in exchange of information by making all information relating to safety stored in its database available to the competent authorities of the other ECAA Partners, EASA and the Commission, in accordance with Article 9 of Regulation No. 09/2017.

This Occurrence Reporting Overview contains a description of occurrence classes and categories, an analysis of the Occurrence Report (OR) statistics for 2018, detailed information of the coded categories of occurrences reported in 2018 and a thorough description of a few occurrences.

Occurrence Classes

The occurrence classes are based on the ICAO ADREP 2000 Taxonomy. The ADREP (Accident/Incident Data Reporting system) occurrence class taxonomy is a set of terms used by ICAO to categorize occurrences by severity and allow safety trend analysis on these categories.

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:

a) a person is fatally or seriously injured as a result of:
   - being in the aircraft, or
   - direct contact with any part of the aircraft, including parts which have become detached from the aircraft, or
   - direct exposure to jet blast, except 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;

b) the aircraft sustains damage or structural failure which:
   - adversely affects the structural strength, performance or flight characteristics of the aircraft, and
   - 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 tips, antennas, tires, brakes, fairings, small dents or puncture holes in the aircraft skin;

c) the aircraft is missing or is completely inaccessible.

Serious incident

An incident involving circumstances indicating that an accident nearly occurred.
N.B. Examples of serious incidents can be found in Attachment D of ICAO Annex 13 and in the ICAO Accident/Incident Reporting Manual (ICAO Doc 9156).

Incident

An occurrence, other than an accident, associated with the operation of an aircraft which affects or could affect the safety of operation.
N.B. The type of incidents which are of main interest to the International Civil Aviation Organization for accident prevention studies are listed in the ICAO Accident/Incident Reporting Manual (ICAO Doc 9156) and ICAO Annex 13.

Major incident

Eurocontrol: An incident associated with the operation of an aircraft, which safety of aircraft may have been compromised, having led to a near collision between aircraft with ground or obstacles (i.e. safety margins not respected which is not the result of an ATC instruction).

Significant incident

Eurocontrol: An incident involving circumstances indicating that an accident, a serious or major incident could have occurred, if the risk had not been managed within safety margins, or if another aircraft had been in the vicinity.

Occurrence without safety effect (Eurocontrol)
A possibly safety related occurrence (not meeting the reporting requirements)

Eurocontrol: An incident which has no safety significance.
N.B. This appears to be a contradiction with the ICAO definition of an incident: An occurrence, other than an accident, associated with the operation of an aircraft which affects or could affect the safety of operation.
A possibly safety related occurrence not meeting the reporting requirements. This could be e.g. the result of downgrading the incident after review.

Not determined

The class of the occurrence has not been determined.

Occurrence Categories

The CAA uses the ADREP Occurrence category taxonomy to categorize occurrences (i.e. accidents and incidents) and allow safety trend analysis on these categories. The ADREP Occurrence category taxonomy is a set of terms used by ICAO and it is part of the ICAO accident reporting system (ADREP).

As listed below, each category has a unique name and identifier to permit common coding in accident/incident systems, and a text definition. Each category has also usage notes to clarify the category and aid in coding occurrences, which are not presented below due to space constraints.

An important element of the occurrence category design is that it permits the association of multiple categories with an occurrence. Meaning, for example, if an engine failure occurred, and loss of control followed, the occurrence would be coded in both categories. Multiple coding supports the primary focus of the CAA - accident prevention - in which every pertinent element is investigated, recorded, and analysed.

ADRM	Aerodrome (Occurrences involving aerodrome design, service, or functionality issues.)
AMAN	Abrupt manoeuvre (The intentional abrupt manoeuvring of the aircraft by the flight crew.)
ARC	Abnormal runway contact (Any landing or take-off involving abnormal runway or landing surface contact.)
ATM	ATM/CNS (Occurrences involving Air traffic management (ATM) or communications, navigation, or surveillance (CNS) service issues.)
BIRD	Birdstrike (Occurrences involving collisions/near collisions with bird(s)/wildlife.)
CABIN	Cabin safety events (Miscellaneous occurrences in the passenger cabin of transport category aircraft.)
CFIT	Controlled flight into or toward terrain (Inflight collision or near collision with terrain, water, or obstacle without indication of loss of control.)
CTOL	Collision with obstacle(s) during take-off and landing (Collision with obstacle(s), during take-off or landing whilst airborne.)
EVAC	Evacuation (Occurrence where either; (a) person(s) are injured during an evacuation; (b) an unnecessary evacuation was performed; (c) evacuation equipment failed to perform as required; or (d) the evacuation contributed to the severity of the occurrence.)
EXTL	External load related occurrences (Occurrences during or as a result of external load or external cargo operations.)
F-NI	Fire/smoke (non-impact) (Fire or smoke in or on the aircraft, in flight or on the ground, which is not the result of impact.)
F-POST	Fire/smoke (post-impact) (Fire/Smoke resulting from impact.)
FUEL	Fuel related (One or more powerplants experienced reduced or no power output due to fuel exhaustion, fuel starvation/mismanagement, fuel contamination/wrong fuel, or carburettor and/or induction icing.)
GCOL	Ground Collision (Collision while taxiing to or from a runway in use.)
GTOW	Glider towing related events (Premature release, inadvertent release or non-release during towing, entangling with towing, cable, loss of control, or impact into towing aircraft / winch.)

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ICE	Icing (Accumulation of snow, ice, freezing rain, or frost on aircraft surfaces that adversely affects aircraft control or performance.)
LA[1]	Laser attack
LALT	Low altitude operations (Collision or near collision with obstacles/objects/terrain while intentionally operating near the surface (excludes take-off or landing phases).)
LOC-G	Loss of control - ground (Loss of aircraft control while the aircraft is on the ground.)
LOC-I	Loss of control - inflight (Loss of aircraft control while or deviation from intended flightpath inflight.)
LOLI	Loss of lifting conditions en-route (Landing en-route due to loss of lifting conditions.)
MAC	Airprox/ ACAS alert/ loss of separation/ (near) midair collisions (Airprox, ACAS alerts, loss of separation as well as near collisions or collisions between aircraft in flight.)
RAMP	Ground Handling (Occurrences during (or as a result of) ground handling operations.)
RE	Runway excursion (A veer off or overrun off the runway surface.)
RI-A	Runway incursion - animal (Collision with, risk of collision, or evasive action taken by an aircraft to avoid an animal on a runway or on a helipad/helideck in use.)
RI-VAP	Runway incursion - vehicle, aircraft or person (Any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle or person on the protected area of a surface designated for the landing and take-off of aircraft.)
SCF-NP	System/component failure or malfunction [non-powerplant] (Failure or malfunction of an aircraft system or component - other than the powerplant.)
SCF-PP	Powerplant failure or malfunction (Failure or malfunction of an aircraft system or component - related to the powerplant.)
SEC[2]	Security related (Criminal/Security acts which result in accidents or incidents (per International Civil Aviation Organization [ICAO] Annex 13).)
TURB	Turbulence encounter (In-flight turbulence encounter.)
UIMC	Unintended flight in IMC (Unintended flight in Instrument Meteorological Conditions (IMC).)
USOS	Undershoot/overshoot (A touchdown off the runway/helipad/helideck surface.)
WSTRW	Windshear or thunderstorm. (Flight into wind shear or thunderstorm.)
OTHR	Other (Any occurrence not covered under another category.)
UNK	Unknown or undetermined (Insufficient information exists to categorize the occurrence.)

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[1] Laser attacks do not have a specific category as per the ICAO ADREP 2000 Taxonomy, they are included in the SEC (security related) category.
[2] The Ministry of Internal Affairs (MIA) has been designated to handle independently the collection, evaluation, processing, analysis and storage of details of the security related occurrences. However, the CAA remains responsible to handle independently the laser attack occurrences, which are included in the SEC category.

Statistics

During the year 2018, as shown in Figure 1, the CAA has received reports for a total of 137 occurrences in civil aviation, which can be considered to be an average number based on the fact that five times during the past eight years the number of reported occurrences ranged from 130 to 137.
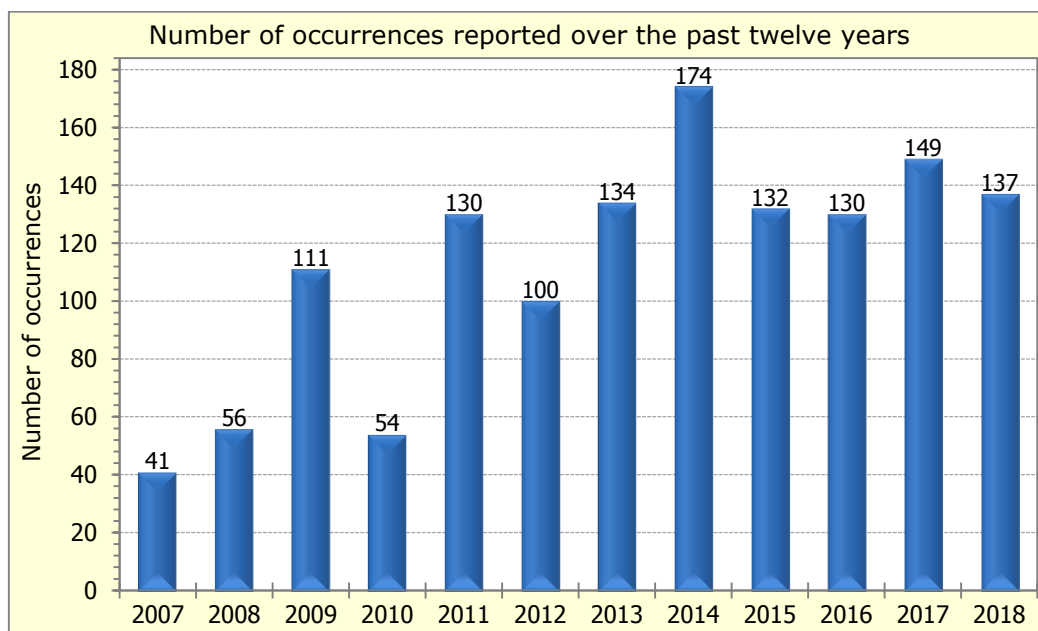
Figure 1. Number of occurrences reported over the years: 2007 - 2018

While compared to the number of occurrences reported over the past twelve years, according to the data presented in Figure 1, the year 2018 appears to be the third year by the number of occurrences, after the years 2017 and 2014 when 149 and 174 occurrences were reported, respectively. Whereas the total number of occurrences reported to the CAA, from 2006 (when the occurrence reporting system was established in Kosovo) to the end of 2018, has reached a total of 1350 occurrences.

Figure 2 shows the number of occurrences received by the CAA on monthly basis over the past three years (2016-2018). The figure shows that the year 2018 started with 9 occurrences reported in January, and then the three succeeding months had 4, 6 and 3 occurrences, respectively. The number of reported occurrences came back to 9 in May, and it continued to increase until August when it reached 25 occurrences. Then, the number progressively decreased over the three succeeding months. And finally, the year 2018 ended with 16 reported occurrences in December.

A bigger number of occurrences during the summer months, from June to September, can be attributed to the bigger number of aircraft movements during these months at the Prishtina International Airport (PIA), the high season in Kosovo, as well as to the bigger number of bird strikes during these months.

However, the number of received occurrence reports doesn't necessarily indicate the level of safety, but, to the contrary, it shows efficiency of the safety management system (SMS) and the safety culture in general of the reporting organization.
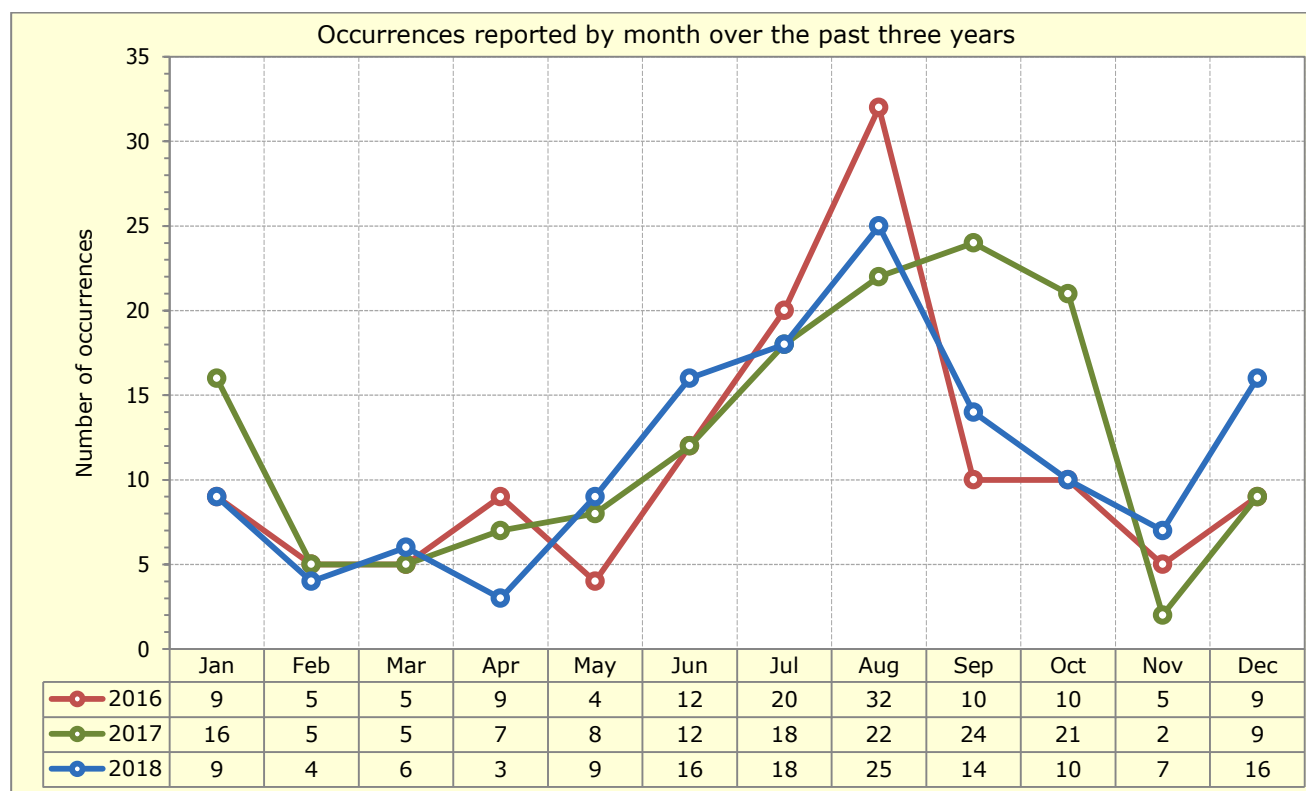
Figure 2. Occurrences reported by month over the past years: 2016 - 2018

The occurrences reported in 2018 have been classified into different classes based on the severity of their effect on the safe operations of aircraft and occupants and on the ability to provide safe ATM and aerodrome services. These classes, along with the classes of the occurrences reported over the previous four years, are shown in Figure 3 below.
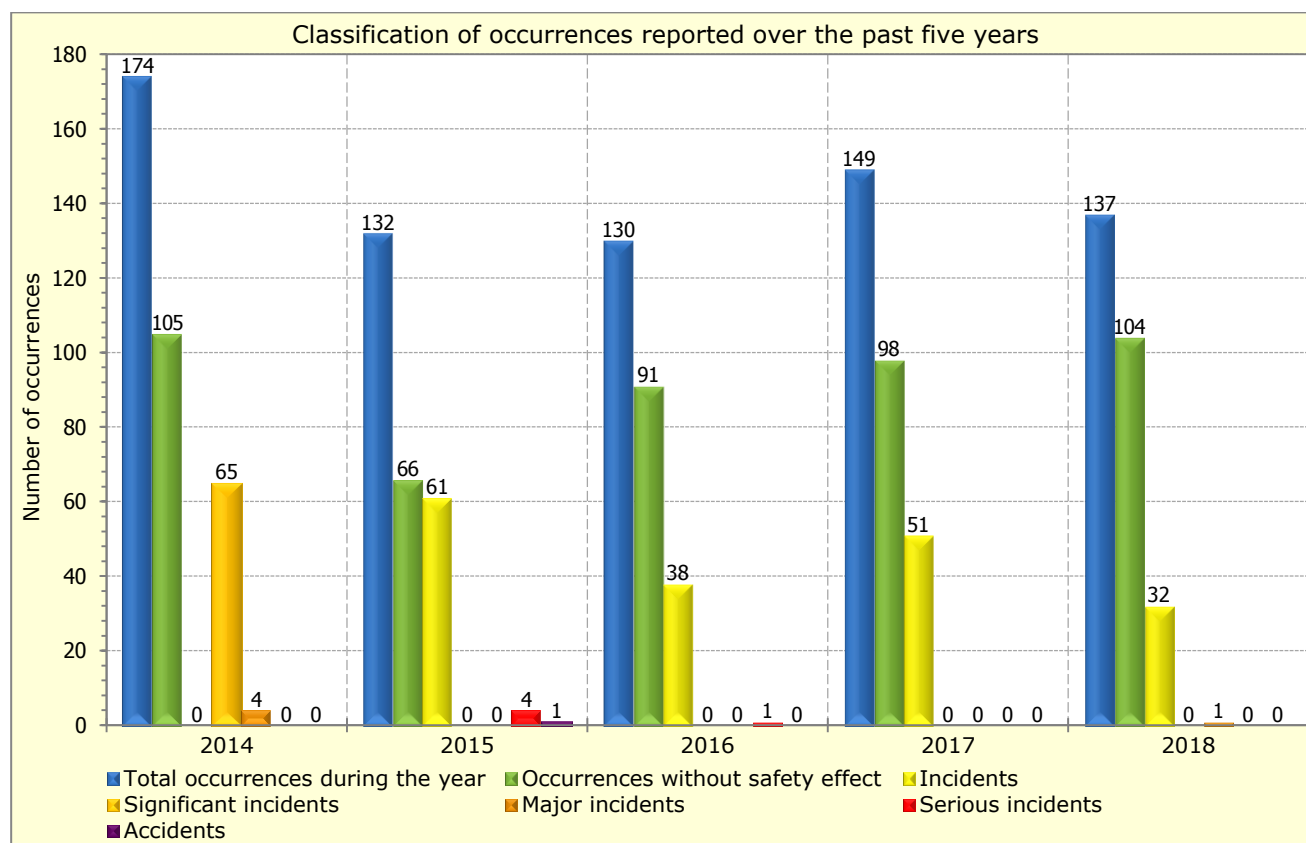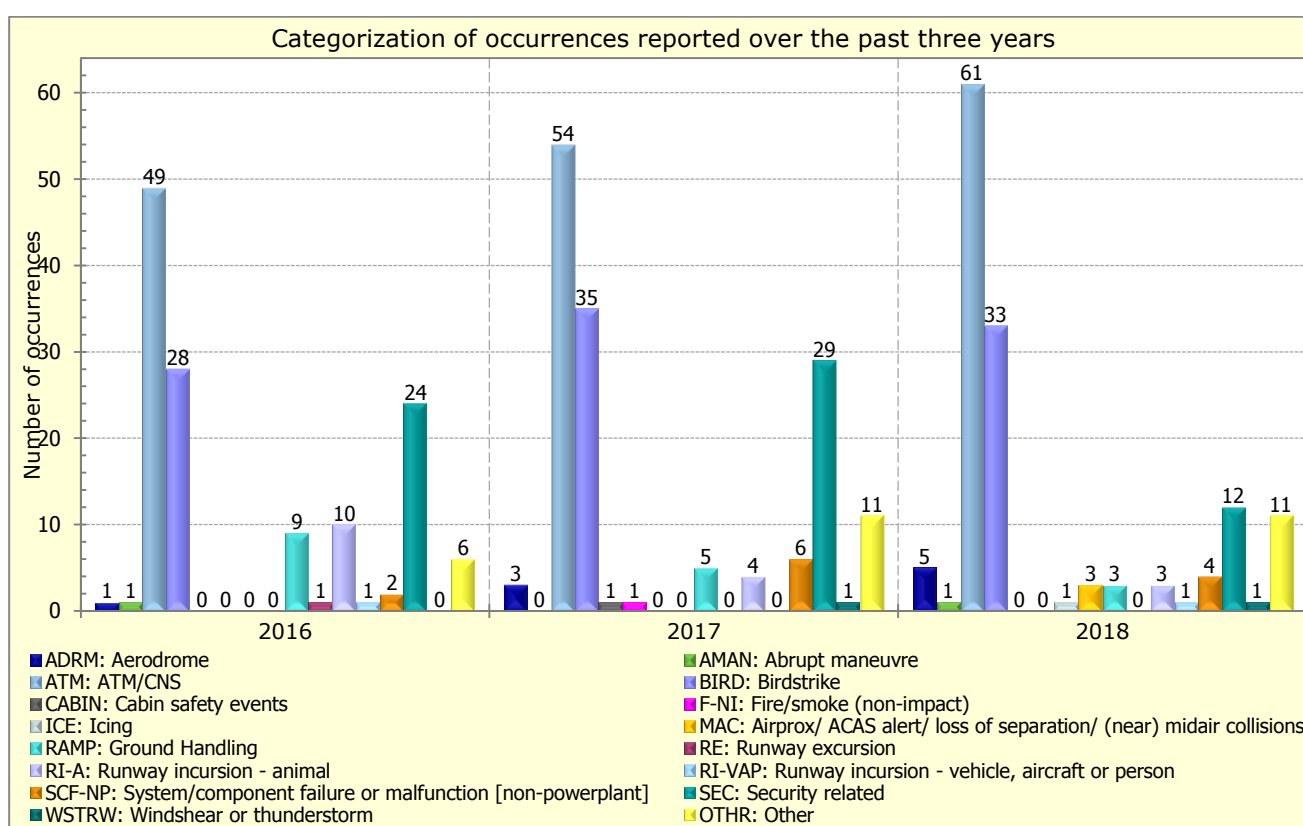

Figure 3. Classification of occurrences reported over the past years: 2014 - 2018

As shown in Figure 3, out of the 137 occurrences received by the CAA during 2018, 104 occurrences were classified as "Occurrences without safety effect", 32 occurrences were classified as "Incidents", and one occurrence was classified as "Major incident" and fortunately there were no occurrences classified as "Significant incidents", as "Serious incidents" and as "Accidents".

Also, it can be observed that the percentage of the number of occurrences classified as "Occurrences without safety effect" was close to 76% of the total number of occurrences, which represents a larger percentage compared to the percentage of occurrences of this class in the previous years, when the percentage was close to 66% in 2017, it was 70% in 2016, 50% in 2015 and around 60% in 2014.

The occurrences reported in 2018 have also been coded under different categories according to the aviation elements pertinent to these occurrences. These categories, along with the categories of the occurrences reported over the previous two years, are presented in Figure 4 below.

Figure 4. Categorization of occurrences reported over the years 2016, 2017 and 2018

From Figure 4 it can be seen that compared to the categories of the years 2016 and 2017, the categories of the year 2018 which have experienced a slight increase are:

- ✈ ADRM: Aerodrome;
- ✈ ATM: ATM/CNS (Air traffic management or communications, navigation, or surveillance); and
- ✈ MAC: Airprox/ ACAS alert/ loss of separation/ (near) midair collisions.

The sum of the occurrences of these three categories in 2018 was 69, which is 12 occurrences more than it was in 2017 and 19 more than in 2016.

While the categories that have experienced a decrease and have contributed to the reduction of the total number of occurrences in 2018 are:

→ RAMP: Ground handling;

→ RI-A: Runway incursion - animal; and

→ SEC: Security related (which includes the Laser attacks subcategory).

The subcategory of laser attack occurrences has decreased significantly, and this is a very welcomed fact due to the severe effects they may have on the safety of aircraft operations. The sum of the occurrences of these three categories in 2018 was 18, which is 20 occurrences less than it was in 2017 and 25 less than in 2016.

Other categories haven't had a significant impact in the total number of occurrences. For clarification, it should be noted that two of the reported occurrences have been coded in two categories each and therefore the total number of the coded occurrences appears to be 139, but there were actually 137 occurrences.

Figure 5 below presents the categorization and classification of the occurrences reported in 2017 and 2018.
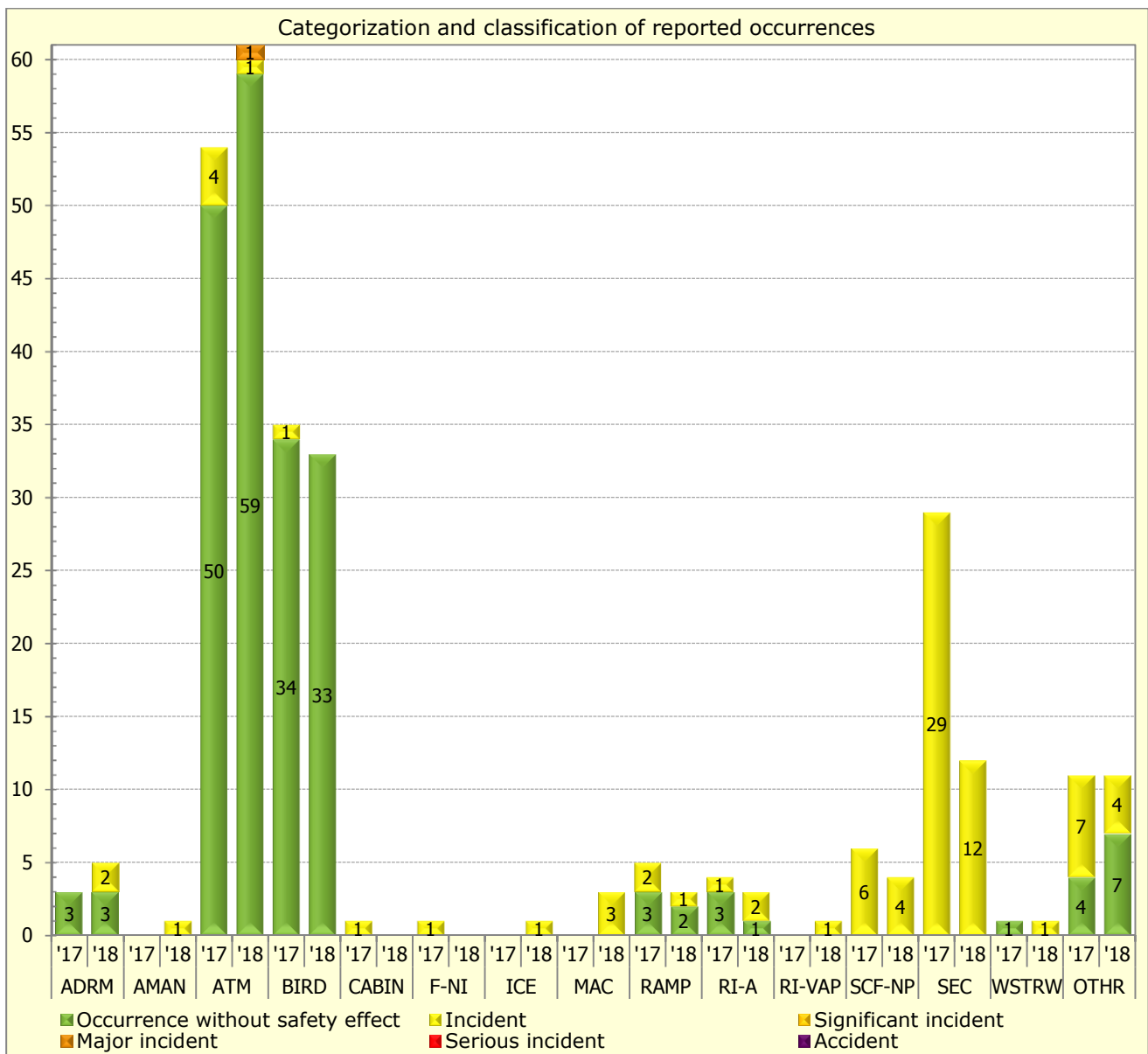
Figure 5. Categorization and classification of occurrences reported in 2017 and 2018

While, Table 1 presents the occurrences reported only in 2018, their coded categories and their determined classes.

	Occurrence without safety effect	Incident	Significant incident	Major incident	Serious incident	Accident	Total
ADRM	3	2	-	-	-	-	**5**
AMAN	-	1	-	-	-	-	**1**
ATM	59	1	-	1	-	-	**61**
BIRD	33	-	-	-	-	-	**33**
ICE	-	1	-	-	-	-	**1**
MAC	-	3	-	-	-	-	**3**
RAMP	2	1	-	-	-	-	**3**
RI-A	1	2	-	-	-	-	**3**
RI-VAP	-	1	-	-	-	-	**1**
SCF-NP	-	4	-	-	-	-	**4**
SEC	-	12	-	-	-	-	**12**
WSTRW	-	1	-	-	-	-	**1**
OTHR	7	4	-	-	-	-	**11**
Total	**105[3]**	**33[4]**	**-**	**1**	**-**	**-**	**139[5]**

Table 1. Occurrences reported in 2018, their coded categories and determined classes

By examining the categories and classes of the occurrences reported over the past three years, as presented in Figures 4 and 5, and Table 1, it can be observed that a significant portion (61, around 44%) of the received occurrences in 2018 are codded under the ATM category (Air traffic management or communications, navigation, or surveillance), which includes issues related to ATM/CNS, aeronautical information and meteorological services. Out of these 61 occurrences, 59 (97%) of them were classified as "Occurrences without safety effect", one occurrence was classified as "Incident" and another occurrence was classified as "Major incident".

The second most reported category of occurrences in 2018 is the Birdstrike category (BIRD) with 33 occurrences, which represents around 24% of the total number of the reported occurrences. All of these occurrences (100%) were classified as "Occurrences without safety effect".

And the third most reported category of occurrences in 2018 barely remains the Security related category (SEC, which includes also the Laser attack subcategory) with 12 occurrences, which represents around 9% of the overall number of the reported occurrences. As stated above, the Laser attack subcategory has decreased significantly in 2018, and it was almost reached by the Other category (OTHR). However, all of the laser attack occurrences (100%) were classified as "Incidents", and they account for around 38% of the total number of the determined incidents.

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[3] The number of occurrences determined as Occurrences without safety effect in 2018 was 104, but one of these occurrences was coded under two categories.

[4] The number of occurrences determined as Incidents in 2018 was 32, but one of these incidents was coded under two categories.

[5] The total number of occurrences in 2018 was 137, but two of these occurrences were coded under two categories.

Other reported categories of occurrences have contributed in the total number of the determined "Incidents" with their following numbers: ADRM with 2, AMAN with 1, ICE with 1, MAC with 3, RAMP with 1, RI-A with 2, RI-VAP with 1, SCF-NP with 4, WSTRW with 1 and OTHR with 4 of occurrences.

Coded Occurrence Categories

This section provides detailed information on the occurrences reported in 2018, their coded categories, as well as their determined classes.

ADRM: Aerodrome. Occurrences involving aerodrome design, service, or functionality issues. This category includes deficiencies/issues associated with runways, taxiways, ramp area, parking areas, buildings and structures, Crash/Fire/Rescue (CFR) services, obstacles on the Aerodrome property, power supply, lighting, markings, signage, procedures, policies, and standards. Occurrences of this category do not necessarily involve an aircraft.

As listed below, five occurrences reported during 2018 were coded in the ADRM category, out of which two were classified as incidents:

File Number(s)	Headline of Occurrence	Number of Occurrences	Occurrence Class
028	Forced Missed Approach	1	OWSE[6]
032	Unauthorised Taxiway Entrance by Friction Tester	1	Incident
054	CrashNET Unserviceable	1	Incident
111	TWR has No Information for Departing Traffic	1	OWSE
131	Different Friction Tester Values	1	OWSE

The first incident "Unauthorised taxiway entrance by friction tester" has occurred during friction measurement operation, when the friction tester vehicle has moved from one of the taxiways to the apron without prior coordination with the ATC.

Another incident has occurred due to malfunction of the CrashNET during a regular check by the TWR. CrashNET system is designed for emergency communications at airports and there should be a direct-wired intercommunication system that is installed between Air Traffic Control tower and the emergency response teams. This occurrence has been seriously treated by all the involved parties since it was also coded under the ATM category.

Another occurrence (File No. 111), classified as occurrence without safety effect, was also coded under the ATM category.

AMAN: Abrupt manoeuvre. The intentional abrupt manoeuvring of the aircraft by the flight crew.

The below occurrence reported during 2018 was coded under the AMAN category and was classified as incident:

File Number(s)	Headline of Occurrence	Number of Occurrences	Occurrence Class
005	Rejected Take-Off at Low Speed	1	Incident

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[6] Occurrence without safety effect.

The occurrence involved a commercial airliner that, while on take-off run at low speed of around 50 knots, stopped on the runway (aborted take-off) and backtracked in order to perform some checks at the line-up position. The airline has submitted a report stating that the reason for the rejected take-off was an ECAM caution that was triggered since the thrust lever for Engine 2 wasn't in the correct position (it was inadvertently moved out the FLX/MCT detent). It was concluded that there was no critical phase during this low speed rejected take-off as the thrust was almost symmetrical, 3% difference from N1 value. As a corrective action the airline has conducted crew debriefing regarding the options in such events.

ATM: ATM/CNS. Occurrences involving Air traffic management (ATM) or communications, navigation, or surveillance (CNS) service issues.

As listed below, 61 occurrences reported during 2018 were coded in the ATM category:

| File Number(s)	Headline of Occurrence	Number of Occurrences	Occurrence Class
001, 002, 008, 027, 036, 112	Problems with RVR (Runway Visual Range)	6	OWSE
016, 022, 025, 033, 040, 041, 051, 063, 080, 089, 095	Problems with AWOS (Automated Weather Observing System)	11	OWSE
011, 013, 014, 018, 043, 094, 105, 124, 130	Problems with EUMETCast/SADIS (Weather Forecasting Systems)	9	OWSE
012	Localizer Unserviceable	1	Major incident
015	Wrong Parking Stand	1	OWSE
026, 053, 062, 065	Internet Problems	4	OWSE
029, 031	ATIS (Automatic Terminal Information Service) Malfunctioning/Controlled Breakdown	2	OWSE
030	VCSS (Voice Communication Switching System) Unserviceable	1	OWSE
037	Glide Path Switched Off	1	OWSE
038	Digital Electronic Clock & Voice Recorder Unserviceability	1	OWSE
044, 058, 060, 076, 088, 136, 137	Radio Frequency Unserviceability/Malfunctioning	7	OWSE
052, 055, 079, 128	AFTN (Aeronautical Fixed Telecommunication Network) Problems	4	OWSE
054	CrashNET Unserviceable	1	Incident
057	No Coordination with ATC for Restricted Operating Zone	1	OWSE
066	Problems with Satellite Images	1	OWSE
087	Lack of Ventilation in MET Offices	1	OWSE
091, 117, 132, 134	Radar / Secondary Surveillance Radar Unserviceable	4	OWSE
096	Meteorological System & Frequency Unserviceable	1	OWSE
111	TWR has No Information for Departing Traffic	1	OWSE
118	Tower Lift Unserviceable	1	OWSE

125	Coordination Failure & Non Compliance with Procedure	1	OWSE
126	Coordination Failure at MEDUX	1	OWSE

Table 1 and Figure 4 show that during 2018 occurrences concerning ATM systems and procedures (including Aeronautical Information and Meteorological Services) account for around 45% of the occurrences reported during 2018.

Occurrences covering technical failures or defects, mainly related to communication, navigation, surveillance, meteorological equipment, aeronautical information systems, etc. are coded under this category, as well as any other occurrence pertaining to or involving ATM procedures and systems.

During 2018, as in the previous years, the problems with the meteorological equipment were the most prominent, accounting for 45% of the overall ATM occurrences. All of these occurrences involved short-term equipment failure of the Automated Weather Observing System (AWOS) and the Runway Visual Range (RVR) with around 64%, and the Weather Forecasting Systems with around 36%. All of these occurrences were classified as occurrences without safety effect. The frequency of the occurrences, however, remains a concern, and steps have been taken to address and mitigate the consequences. To mitigate the effect of the frequent failures, the Air Navigation Service Agency (ANSA), has in place a back-up weather observation system, which is not automatic, and back-up procedures for manual measurements and observations. The condition of the equipment, its age and lack of spare parts for the current AWOS remains problematic. ANSA has taken necessary measures to maintain the equipment in service, and is in the process of procuring a new automatic weather observation system.
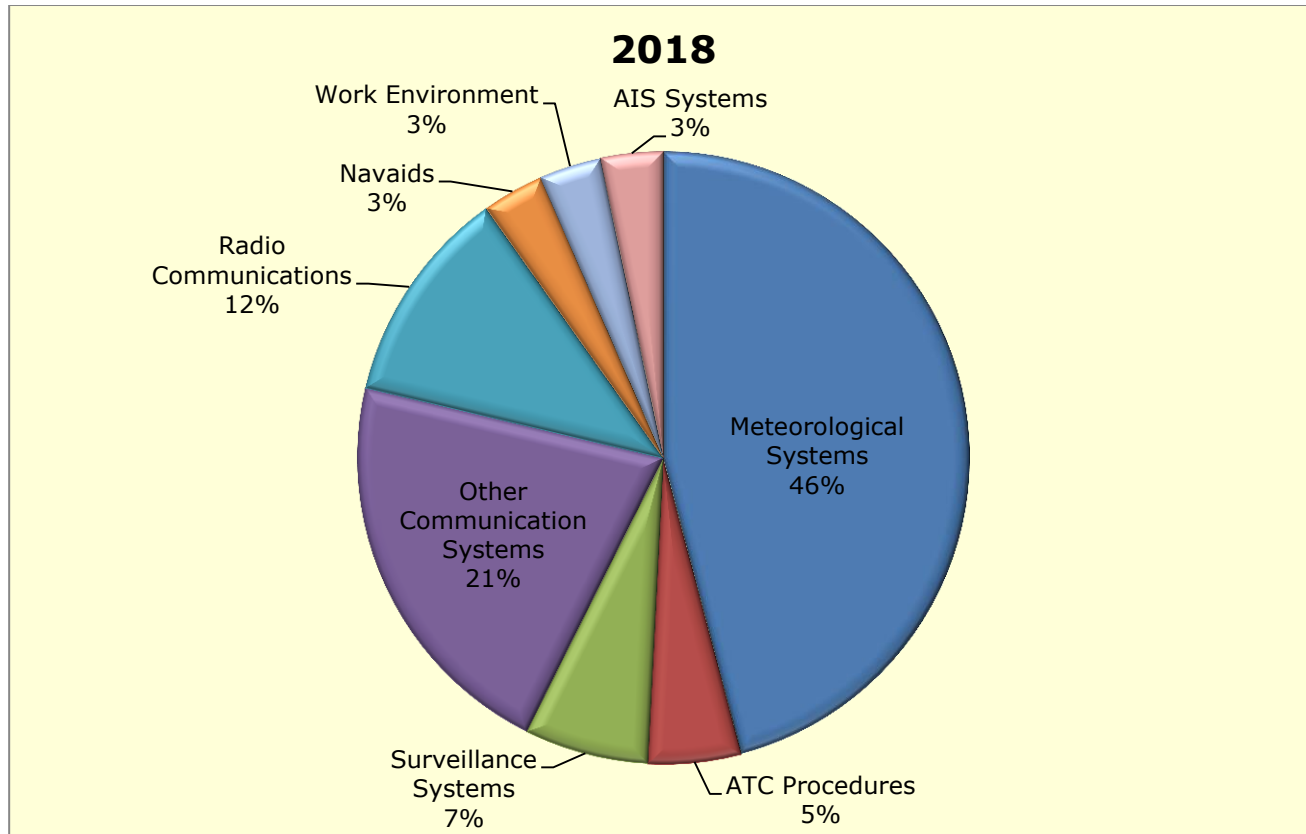
Figure 6. A breakdown of the reported ATM occurrences per sub-category

Occurrences related to communication systems other than Radio Communication systems (Other Communication Systems) were the second most reported. These occurrences mainly involved the failure of AFTN (Aeronautical Fixed Telecommunication Network) (33.3%), Internet (33.3%), and other various problems accounted for the rest 33.3%. All of these occurrences mainly concerned technical problems, which usually lasted for short periods of time and had no safety impact. Only one occurrence, involving the unserviceability of the CrashNET line, was classified as incident. Although the failure was identified during routine testing, the partial serviceability of the CrashNET, the direct communication line used to alert relevant units during an emergency, is considered a serious safety issue. The issue has been addressed using back-up means, until a final suitable solution has been found. The occurrence is still under investigation.

Technical issues with Radio Communication systems were the third most reported, representing 11% of ATM occurrences. Most of these technical occurrences were short-lived, and were considered of having no effect on safety. It can also be observed from Figure 7, that this category experienced a sharp increase in 2017 and 2018. While some of these occurrences are still under investigation, it is evident that the age and condition of the radio system currently in place have played a major role. The procurement of a new radio communication system is planned as part of a major governmental investment project in 2019.
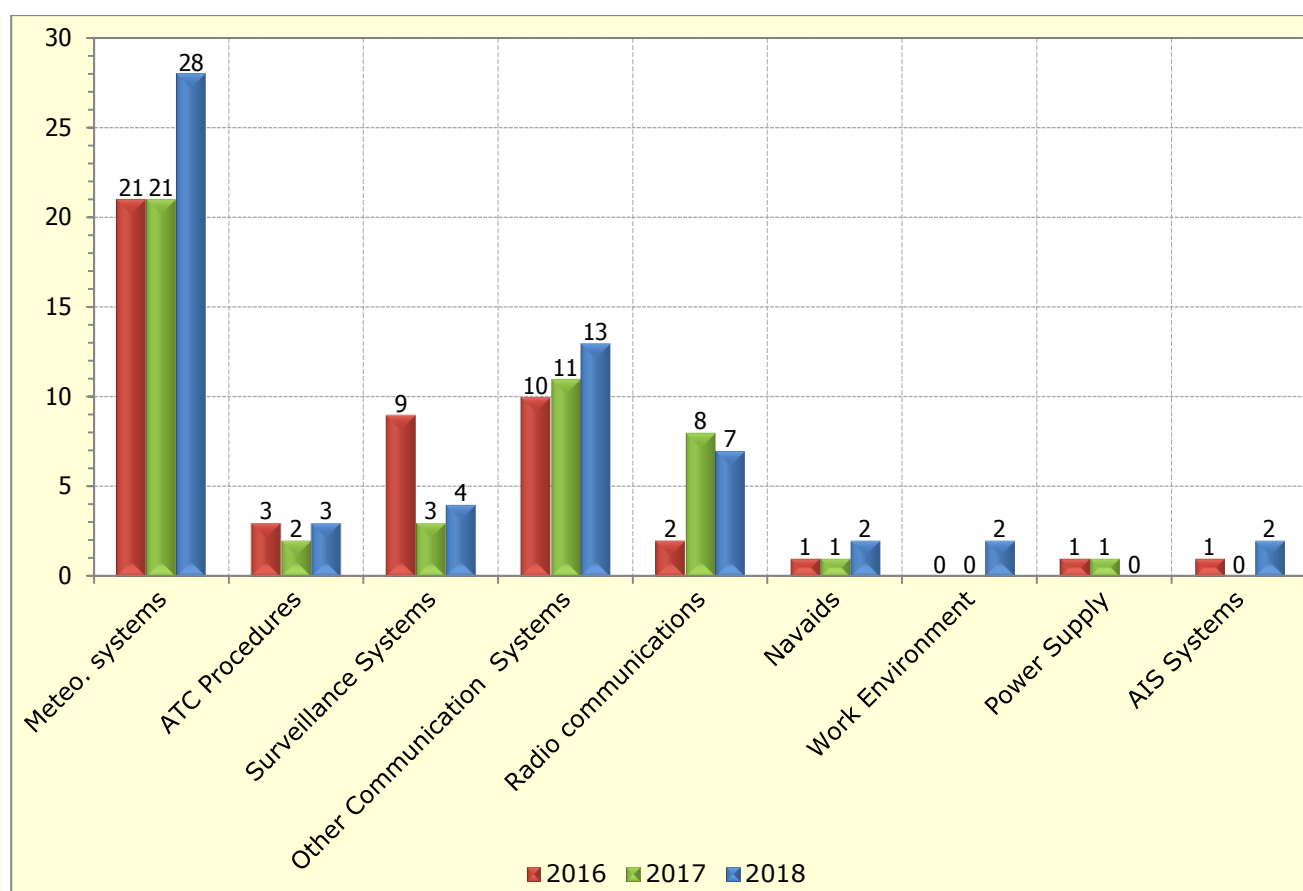
Figure 7. A comparison of the ATM occurrences reported during 2016, 2017 and 2018

Three of the reported occurrences were related to ATC procedures, mainly involving coordination issues or minor non-compliances with ATC instructions, all of which were classified as occurrences without safety effects. Two occurrences were related to AIS services systems, also mainly involving problems with coordination and proper flow of information. Both were classified as occurrences without safety effect.

Occurrences involving surveillance systems such as Radars, were reported in significantly lower numbers than in the previous years. All 4 reported occurrences involved small technical problems, lasting for short periods of time.

Few occurrences reported in 2018 were associated with Navigation Systems (2) and Work Environment (2). One occurrence involving Navigation Systems was classified as a Major Incident. The occurrence involved failure for a longer period of time of the Localizer, which is an integral part of the Instrument Landing System (ILS). The occurrence was investigated: problems with power supply were identified as root cause, and proper measures were undertaken to address the issue.

A significant number of the reports were helpful to both the ANSA and the CAA in identifying trends regarding equipment and other aspects of air navigation services and systems, enabling the ANSA to address these issues more carefully and ensure that proper measures were taken to mitigate the problems.

BIRD: **Birdstrike.** This category includes a collision/near collision with bird(s)/wildlife, or ingestion of one or more birds. Unconfirmed birdstrikes are also included in this category.

As listed below, during 2018 there were 33 reported birdstrikes that were all classified as occurrences without safety effect.

| File Number(s)	Headline of Occurrence	Number of Occurrences	Occurrence Class
003, 004, 017, 019, 023, 024, 046, 048, 056, 059, 061, 064, 068, 069, 070, 081, 084, 086, 090, 092, 093, 097, 098, 099, 100, 103, 104, 106, 108, 115, 116, 120, 122.	Bird Strike	33	OWSE

Figure 8 shows the trend of the reported birdstrikes per each month during 2016, 2017 and 2018.
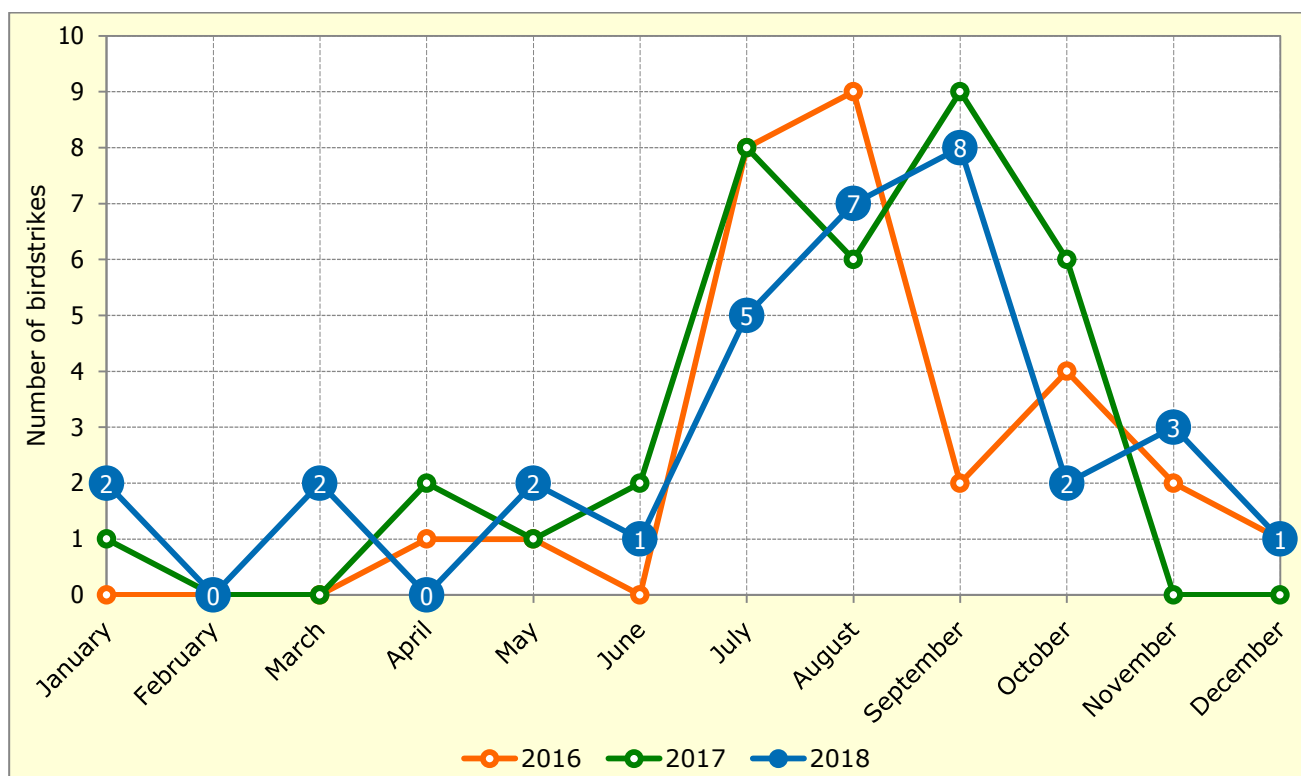
Figure 8. Birdstrikes reported during 2016, 2017 and 2018

As shown above, the trend of the reported birdstrikes in 2018 remained approximate to the trend of birdstrikes in 2017 and 2016. Out of the total number of 33 reported occurrences, the aerodrome operator has confirmed 23 birdstrikes.

Figure 9 shows the number of confirmed birdstrikes per each month during 2017 and 2018.
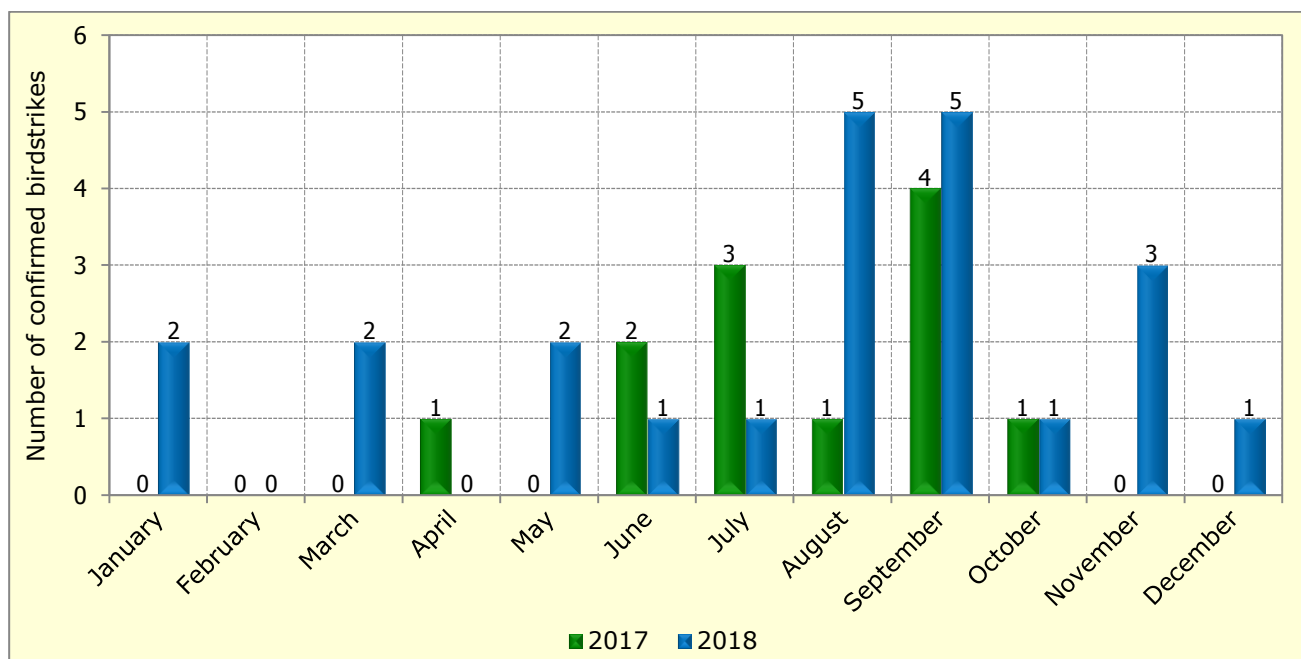
Figure 9. Confirmed birdstrikes reported during 2017 and 2018

A confirmed birdstrike is collision between a bird and an aircraft for which evidence, in the form of a carcass, or other remains, is found on the ground; or damage and/or other evidence is found on the aircraft. An unconfirmed birdstrike is collision for which no physical evidence is found (i.e. no

damage to the aircraft is evident upon inspection, and no bird remains, carcass or blood smears are evident on the airframe).

The largest number of birdstrikes occurred during the summer months, which can be attributed mainly to several factors, including increased number of aircraft movements due to the high peak season at PIA, weather conditions, harvesting season nearby the airport boundaries, etc. As in previous years, the largest number of confirmed birdsrtikes in 2018 involved kestrels (small falcons that hunt small mammals and large insects) and other small birds.

ICE: Icing. Accumulation of snow, ice, freezing rain, or frost on aircraft surfaces that adversely affects aircraft control or performance.

One of the occurrences reported during 2018 falls into this category:

File Number(s)	Headline of Occurrence	Number of Occurrences	Occurrence Class
010	De-icing Application not Performed as Requested by Captain	1	Incident

As reported, this occurrence has occurred due to miscommunication between the pilot in command (PIC) and the de-icing operator during aircraft de/anti-icing application, and it is classified as incident. Even though this incident didn't have any impact on safety of the aircraft operation, it was treated seriously by the aerodrome operator through introduction of several safety improvements.

LA: Laser attack. See: **SEC: Security related.**

MAC: Airprox/ ACAS alert/ loss of separation/ (near) midair collisions. Airprox, ACAS alerts, loss of separation as well as near collisions or collisions between aircraft in flight.

The three below occurrences reported during 2018 and classified as incidents fall into the MAC category, compared to the previous year when there were no occurrences classified under this category:

File Number(s)	Headline of Occurrence	Number of Occurrences	Occurrence Class
021	Missed Approach due to Helicopters Proximity	1	Incident
113	No Compliance with ATC Instructions	1	Incident
114	Traffic Advisory Reported after Departure	1	Incident

The first occurrence involved several military helicopters, due to which a commercial airliner had to perform a missed approach. The helicopters that were holding around a point were instructed by ATC controller to stay clear of the extended runway centreline, due to the airliner on approach. The pilot of the airliner reported that they had traffic (helicopters) insight and that they would stay clear of the centreline. While on final, the pilot reported that the traffic was too close and that they initiated a missed approach. The airliner landed after 15 minutes on the same runway. The incident was investigated and the relevant KFOR officials were informed about it.

The second occurrence "Non Compliance with ATC Instructions" involved a light piston aircraft performing a VFR vaccination flight (aerial distribution of oral vaccine baits for foxes) and an

airliner performing an IFR scheduled commercial flight. The problem occurred when, based on the occurrence report, the VFR flight was descending and proceeding on a heading that would bring it in direct flight track of the IFR traffic that was established on final approach. In order to prevent this, the controller suggested a VFR heading to the VFR flight. This instruction was repeated three times, but the VFR traffic didn't comply with it, replying that they had to follow that track due to their mandatory mission. In order to prevent collision between the two aircraft, the IFR traffic was instructed to stop its descent, until it was clear of the VFR traffic. The IFR traffic was unable to complete its approach, it had to make one full orbit (360-degree turn) to lose altitude before it landed. The incident has been investigated by the CAA and the ANSP, while the aerial work aircraft operator of the piston aircraft has immediately taken some corrective measures based on the assumption that the statement of the pilot was truthful. The pilot has stated that they experienced heavy turbulence, and he hardly heard and was unable to understand the instructions given by the controller due to noise in his headset, whose connector got damaged while he was turning back to fix the bait dropping machine. The CAA has also informed the CAA of the aerial work aircraft operator, whose inspectors stated that they weren't convinced by the pilot's statement and that they may take appropriate measures against him to investigate this and provide the report. The CAA is also evaluating if and what corrective actions to recommend.

The third occurrence "Traffic Advisory Reported after Departure" involved the same light piston aircraft performing another VFR vaccination flight and another airliner performing an IFR flight departure. This time, the IFR flight was cleared for take-off, while the VFR flight was approaching for landing on left base. The ATC controller instructed the VFR traffic to remain well west of the centreline and to give way to the IFR traffic departing from the opposite runway. The VFR traffic confirmed having the IFR departure in sight and reported turning final when it would be cleared to land. However, after departure the IFR traffic reported having Traffic Advisory (TA) with the VFR traffic. The incident has been investigated by the CAA and the ANSP together with the previous incident.

RAMP: Ground Handling. Occurrences during (or as a result of) ground handling operations, which include collisions that occur while servicing, boarding, loading, and deplaning the aircraft also during boarding and disembarking while helicopter is hovering, injuries to people from propeller/main rotor/tail rotor/fan blade strikes, push-back/power-back/towing events, jet blast and prop/rotor down wash, aircraft external preflight configuration errors that lead to subsequent events, and all parking areas (ramp, gate, tiedowns).

As listed below, during 2018 there were three occurrences involving ground handling services.

File Number(s)	Headline of Occurrence	Number of Occurrences	Occurrence Class
077	Fire Incident on GSE Stairs	1	Incident
085	TWR not Informed of Stand Change	1	OWSE
119	Wrong Instruction on Parking Stand	1	OWSE

The first occurrence that was classified as incident involved ignition of fire on GSE (Ground Support Equipment) stairs, which was caused due to an electrical short circuit on the engine starter of the stairs. No specific reason was identified as the cause of this electrical malfunction. The incident didn't have any safety impact on aircraft operations, nevertheless it was treated seriously by the aerodrome operator, by undertaking several safety measures which also included checking in detail of all other GSE stairs to ensure the safe functionality of their engine starters.

The other two occurrences that were classified as occurrences without safety effect occurred due to miscommunication between the involved operational services of the aerodrome operator and the ANSP. The occurrences didn't have any safety impact on aircraft operations. However, they were treated seriously by the aerodrome operator and the ANSP. Several safety measures were undertaken, including amendment of the relevant procedures. The implementation of these safety measures will be verified by the CAA during its future regular oversight activities.

RI-A: Runway incursion - animal. Collision with, risk of collision, or evasive action taken by an aircraft to avoid an animal on a runway or on a helipad/helideck in use.

File Number(s)	Headline of Occurrence	Number of Occurrences	Occurrence Class
020	Dog on Runway	1	OWSE
102	Dog on RESA 17	1	Incident
123	Dogs on Manoeuvring Area	1	Incident

The presence of wildlife (birds and animals) on and in the aerodrome vicinity poses a serious threat to aircraft operational safety. In order to manage the wildlife and to minimize the likelihood of collisions between wildlife and aircraft, LKIA has developed a Wildlife Hazard Management Plan (WHMP), which was reviewed and approved by the CAA.

In order to manage the wildlife more efficiently and taking into account the fact that occurrences involving dogs were reported also during the past year, the aerodrome operator has intensified on-site inspections, with the special focus on the identified problematic parts of the perimeter fence. However, during 2018 the CAA has received three reports involving presence of dogs on the airside of PIA. Consequently, the aerodrome operator has demonstrated its determination to reduce the reoccurrence of these events to the minimum.

RI-VAP: Runway incursion - vehicle, aircraft or person. Any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle or person on the protected area of a surface designated for the landing and take-off of aircraft.

File Number(s)	Headline of Occurrence	Number of Occurrences	Occurrence Class
109	Unauthorised Personnel on Taxiway	1	Incident

The above listed incident has occurred when two persons (contracted ground workers) didn't follow the airside safety rules, by the negligence. The aerodrome operator took immediate actions to promote the importance of respecting the procedures by all personnel, in order to minimise future occurrences involving the incorrect presence of persons on the areas designated for the movement of aircraft.

SCF-NP: System/component failure or malfunction [non-powerplant]. Failure or malfunction of an aircraft system or component - other than the powerplant.

As listed below, four occurrences reported during 2018 were coded under the SCF-NP category and they were all classified as incidents.

File Number(s)	Headline of Occurrence	Number of Occurrences	Occurrence Class
006	PAN PAN Declared	1	Incident
075	Oil Leak & Smoke on Main Landing Gear	1	Incident
107	Tyre Burst During Landing	1	Incident
129	Return due to Landing Gear Problem	1	Incident

The first incident (File No. 006) involved a commercial airliner that declared PAN PAN, while on final for landing at PIA, with explanation "Fuel odour on the cabin, request fire truck". The pilot decided not to declare emergency. Fire Control was notified, who escorted the aircraft safely to the apron and then declared that everything was OK with the aircraft.

The second incident (File No. 075) also involved a commercial airliner, which had a hydraulic leak from the Brake Unit No. 2 (brake disconnect union), and while it was taxing to the parking stand the hydraulic dripped onto the hot brakes and caused smoking. This was noticed by a ground staff and the Rescue and Fire Fighting Services (RFFS) were called to assist. RFFS applied water and foam in the surrounding area of the main landing gear, and also cold air fans to cool down the brake unit. After the brake unit was cooled down, an aircraft technician has tightened the loose pipe. He has performed other necessary checks and dispatched the aircraft.

The third incident (File No. 107) involved an airliner contracted by military, whose 2 main landing gear tyres on one side of the aircraft deflated and got damaged while it was rolling on runway after landing. The firefighting team has responded to make sure that the brakes weren't hot and the situation was under control. Other responsible units of airport have also inspected the runway and taxiways for any foreign object that could have caused the damage, but nothing was found. The airline has found no defect on landing gear and landing gear components, except for the tyres. They have raised an internal report through their SMS, but they couldn't find any specific root cause for the occurrence even though it was investigated from their Part 145 maintenance organisation.

The fourth incident (File No. 129) involved a commercial airliner that was unable to retract the landing gear after departure at PIA. The pilots received ECAM warnings that L/G wasn't up-locked and L/G doors weren't closed. They had to do a holding with gear down, during which they tried to recycle the gear, but they didn't succeed. And, as the gear was safely down locked, they decided to return to PIA, where they landed safely after 36 minutes of flight time. No emergency services were needed. After landing, the landing gear door operational check showed that the nose landing gear doors remained closed. Closer troubleshooting revealed that the nose landing gear door up-lock assembly was faulty. A maintenance field team was sent from airline's base and the engineers replaced the door up-lock assembly (that will be teardown inspected). All ground tests were passed successfully and the aircraft was declared serviceable and brought back into operation.

SEC: Security related. Criminal/Security acts which result in accidents or incidents (per International Civil Aviation Organization [ICAO] Annex 13. Examples include: a) hijacking and/or aircraft theft; b) interference with a crewmember (e.g., unruly passengers); c) flight control interference; d) ramp/runway/taxiway security; e) sabotage; f) suicide; and g) acts of war.

File Number(s)	Headline of Occurrence	Number of Occurrences	Occurrence Class
007, 009, 034, 035, 039, 067, 071, 072, 073, 078, 082, 083.	Laser Attack	12	Incident

As listed above, during 2018 there were 12 occurrences related to laser attacks (pointing a laser at an aircraft in flight) submitted to the CAA, and they were all classified as incidents. These occurrences contained laser attacks on both civilian and military aircraft. Most of these incidents occurred during the approach and departure phase of flight, when aircraft operate at low altitudes. All the involved aircraft landed safely at PIA or flew safely to their intended destinations.

Figure 10 presents a comparison of the reported laser attacks by month during the years 2016, 2017 and 2018.
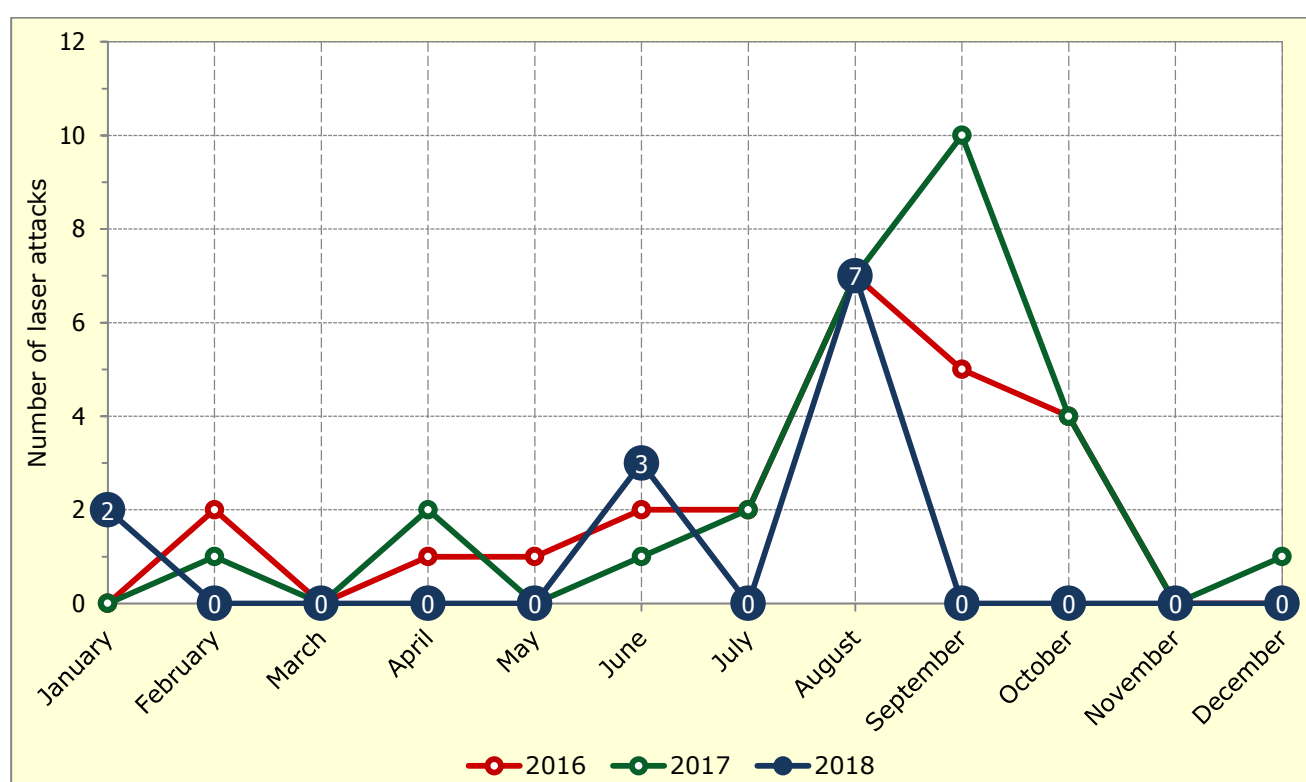

Figure 10. Laser attacks reported during 2016, 2017 and 2018

The number of occurrences related to laser attacks has decreased significantly in 2018 in comparison with the number of laser attacks in 2017 and 2016, when 29 and 24 attacks were reported, respectively.

In cooperation with the Air Navigation Service Agency (ANSA) and the Kosovo Police (KP), the CAA has amended the trilateral understanding cooperation agreement for response in real time against laser attackers. The draft agreement hasn't been yet signed by KP, but it is expected to be finalized soon. The draft agreement specifies that the air traffic controller on duty shall immediately call on the phone the Police Operational Centre, which shall immediately inform the nearest KP Patrol Unit on the site to enable the fastest response. KP remains responsible for investigation of all laser attack occurrences.

Otherwise, the Ministry of Internal Affairs of the Republic of Kosovo has been designated to handle independently the collection, evaluation, processing, analysis and storage of details of the security related occurrences. However, the CAA remains responsible to handle independently the laser attack occurrences, which are included in the SEC category.

The below figure illustrates the visual effect hazards, and hazard distances, of a laser pointed at an aircraft during critical phases of flight, such as take-off and landing.
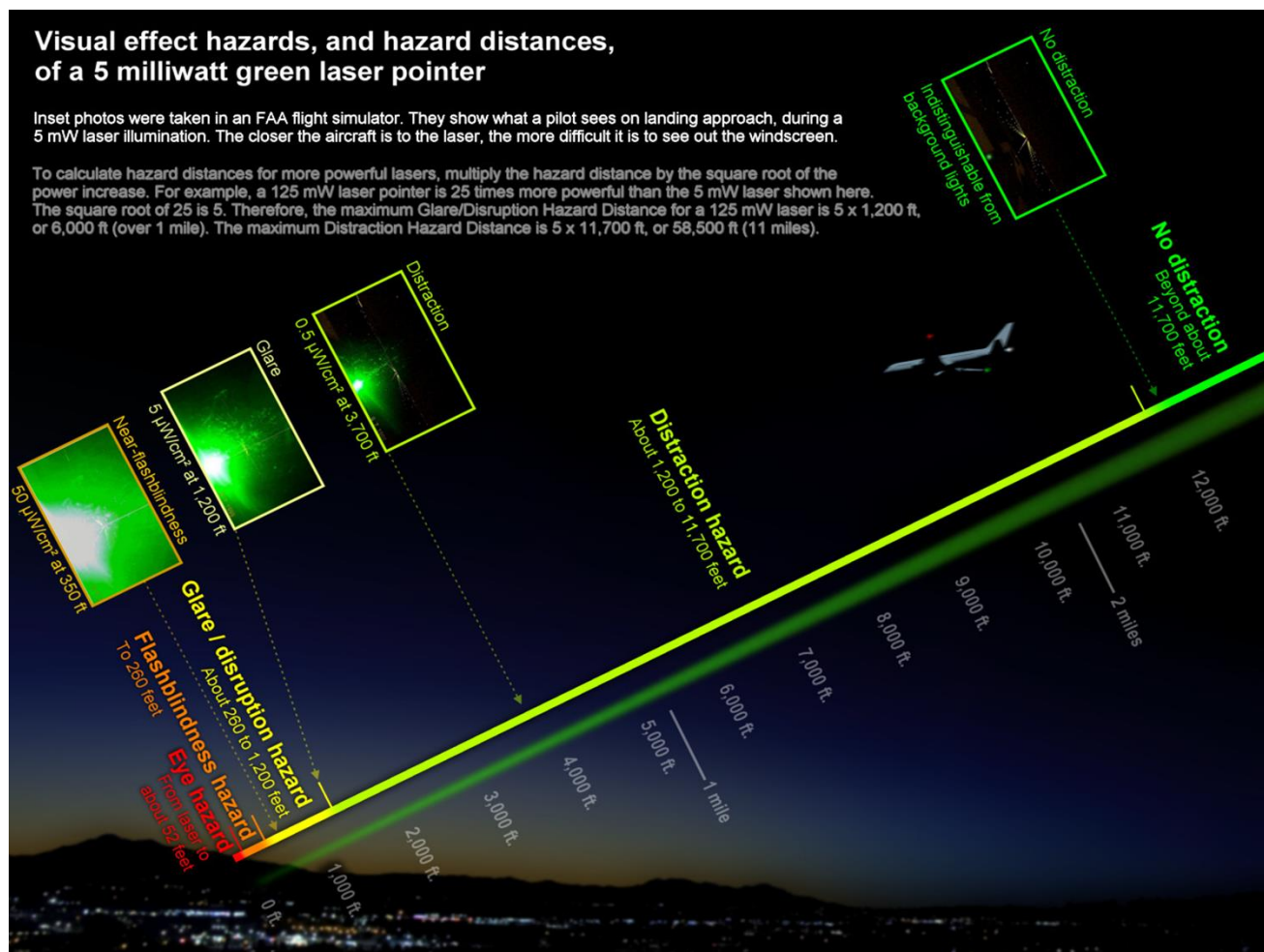
Figure 11. Visual effect hazards, and hazard distances, of a 5 milliwatt (mW) green laser pointer (Courtesy of: Patrick Murphy, International Laser Display Association)

Lasers are not illegal, what you do with them can be. Shining a laser at an aircraft in flight is a serious risk to the safety of passengers and crew, as well as people living close to airports. Laser attacks are carried out deliberately by irresponsible persons, they constitute a criminal offence, and the CAA strongly urges anyone who observes such activity at night, especially in the vicinity of an airport, to contact the police immediately.

WSTRW: Windshear or thunderstorm. Includes: flight into wind shear and/or thunderstorm-related weather, in-flight events related to hail, events related to lightning strikes, events related to heavy rain (not just in a thunderstorm).

The CAA has received one occurrence report coded under this category:

File Number(s)	Headline of Occurrence	Number of Occurrences	Occurrence Class
042	Aircraft Struck by Lightning	1	Incident

The incident involved a commercial airliner that experienced lightning strike while on holding pattern, which was asked by ATC due to another traffic on approach pattern. The pilots reported that they have checked the weather radar during holding, which showed only rainy clouds with green and yellow colours around the holding pattern, and no cumulonimbus clouds. After the strike the pilots requested to cancel holding, they asked for radar vectoring and landed safely. The aircraft technician that performed the technical inspection found that 39 points on the aircraft fuselage suffered various damage, which started from the left hand side ice detector probe and continued throughout this side until the left hand landing gear door trailing edge. The ice detector probe was also damaged, its tip was molten. The aircraft was declared aircraft on ground (AOG) until corrective actions for defects were completed, when it was put back into service.

OTHR: Other. Any occurrence not covered under another category.

File Number(s)	Headline of Occurrence	Number of Occurrences	Occurrence Class
045	Cancelled Take-Off due to Military Official Request	1	OWSE
047	Problem with Entry Permission	1	Incident
049, 050, 110	Airspace Infringement	3	OWSE
074	Unauthorised Paragliding Activity	1	Incident
101	Aircraft with Medical Emergency not Allowed to Cross Belgrade Airspace	1	Incident
121	Helicopter without Flight Plan	1	OWSE
127, 133	No Information about Helicopter	2	OWSE
135	Go-Around due to Traffic on Runway	1	Incident

As listed above, 11 occurrences reported in 2018 were coded in this category. As can be seen from Figure 4, this number is the same with the number of occurrences reported in 2017, while it represents a significant increase compared to the number of such occurrences in 2016, when there were 6 occurrences. Four out of eleven occurrences coded in this category were classified as incidents and seven as occurrences without safety effect.

The occurrence (File No. 047) that was related to the problem with entry permission to Kosovo, and that was classified as incident, involved a business jet that had to hold over Skopje FIR for at least 25 minutes before entering Kosovo airspace. The problem lay with the air carrier who hadn't followed in due time the procedure for obtaining an operating permit for its flight to Kosovo with the relevant civil aviation authority in Kosovo.

The occurrence with File No. 074 was reported by a KFOR helicopter crew, who observed three paragliders near Grejkoc village (between Suhareka/Theranda and Prizren), performing unauthorized paragliding activity outside the allowed paraglider zones. The CAA has raised this matter with the Aeronautical Federation of Kosovo, but they couldn't identify the involved paragliders. This occurrence was classified as incident.

The incident with File No. 101 involved an aircraft with a medical emergency on board that was not allowed to fly through Serbian airspace, which would have been the shortest path to its

destination PIA. Since Belgrade ACC didn't approve the flight to cross via their airspace, Skopje ACC guided the flight just close to the tripoint border Kosovo-North Macedonia-Serbia. At his first contact with Prishtina ATCOs, the pilot informed them regarding the medical emergency and requested the shortest way to land. The pilot was forced to select Runway 35 to land the aircraft, while if they had given permission for direct route through Serbian airspace they would have used Runway 17, which was the runway in use and which is equipped with better landing aids (certified for CAT II ILS operations) than Runway 35, which also has a steeper approach and it is used less frequently than Runway 17. This incident was addressed also by the CAA of the country of the airline, who shared with the CAA of Kosovo the airline's Flight Safety Report and asked the CAA of Kosovo to inform them about the outcomes of its investigation. The CAA of Kosovo has raised this incident with relevant KFOR and NATO officials and asked them to address this matter with officials of the Serbian ANSP (SMATSA). The CAA of Kosovo has also informed the Line Ministry, and on 14 November 2018 the Ambassador of Kosovo to the United States of America has also briefed about this event at the 8399th meeting of the United Nations Security Council.

The incident with File No. 135 involved two aircraft, one aircraft that was on final leg and another that was cleared for line-up and take-off, but it wasn't starting to roll. So, the tower controller had to instruct the first aircraft to perform a "go-around" procedure and the second aircraft to cancel the take-off clearance. Then, the second aircraft was cleared again for take-off, while the first aircraft landed safely after 5 minutes. The airline of the second aircraft has informed the CAA that their aircraft didn't take-off on time because its cabin wasn't ready. They had anticipated to be ready within a minute, but since passengers at the overwing exit didn't understand the special briefing of cabin and didn't want to take the emergency duty, they had to be reseated which lasted more than 3 minutes. The airline has taken a corrective measure, never to accept line-up with cabin not ready, as unexpected delays can occur.

Three other occurrences coded in this category involved minor airspace infringements with aircraft entering Kosovo airspace without prior notification. All these occurrences were classified as occurrences without safety effect. KFOR was notified about them in due time.

Four other occurrences, also classified as occurrences without safety effect, involved minor coordination issues between ATC and KFOR.

March 2019

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