



**БҰЙРЫҚ**

№ \_\_\_\_\_ / \_\_\_\_\_  
Қазақстан Республикасы  
Астана қаласы

**ПРИКАЗ**

№ *06/343 / 03.04.2024*  
город Астана  
Республика Казахстан

**ORDER**

№ \_\_\_\_\_ / \_\_\_\_\_  
Astana city  
Republic of Kazakhstan

**On approval of the Safety report  
of the Republic of Kazakhstan for 2023**

In accordance with paragraph 47 of the Flight Safety Program in the field of civil aviation, approved by Decree of the Government of the Republic of Kazakhstan dated March 11, 2016, No. 136, **I ORDER:**

1. Approve the attached “Safety report of the Republic of Kazakhstan for 2023”.
2. Senior Director of the Department of Safety Management, Quality, Strategy and Compliance:
  - 1) Ensure the publication of the Safety report of the Republic of Kazakhstan for 2023 on the Internet resource of the JSC “Aviation Administration of Kazakhstan”;
  - 2) Communicate the Safety report of the Republic of Kazakhstan for 2023 to civil aviation organizations.
3. I reserve control over the execution of this order.
4. This order comes into force from the date of its signing.

**Director General**

**C. Radu**

# **SAFETY REPORT OF THE REPUBLIC OF KAZAKHSTAN FOR 2023**

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## ACRONYMS

AA	Aviation accident
AAK	Aviation Administration of Kazakhstan
ACFT	Aircraft
ADREP	ICAO ADREP Taxonomy
ADRM	Occurrences involving aerodrome design, service, or functionality issues
AI	Aviation incident
ATO	Approved training organization
ARC	Any landing or take off involving abnormal runway or landing surface contact
ATC	Air Traffic Control
ATM	Air Traffic Management
BIRD	Occurrences involving collisions / near collisions with birds
CABIN	Miscellaneous occurrences in the passenger cabin of transport category aircraft
CFIT	Inflight collision or near collision with terrain, water, or obstacle without indication of loss of control
DG	Dangerous Goods
DMT	Design-manufacturing trouble
ENV	Environment
FUEL	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
F-NI	Fire or smoke in or on the aircraft, in flight or on the ground, which is not the result of impact
HF	Human Factor
LOC-I	Loss of aircraft control while or deviation from intended flightpath inflight
MAC	Airprox, ACAS alerts, loss of separation as well as near collisions or collisions between aircraft in flight
MTOW	Maximum certificated take-off weight
OTHR	Any occurrence not covered under another category
RAMP	Occurrences during (or as a result of) ground-handling operations
RE	Runway Excursion
RI	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
RK	Republic of Kazakhstan

SAFA	Safety Assessment of Foreign Aircraft
SCF-NP	Failure or malfunction of an aircraft system or component - other than the powerplant
SCF-PP	Failure or malfunction of an aircraft system or component - related to the powerplant
SEC	Criminal/Security acts which result in accidents or incidents
SMS	Safety Management System
TURB	In-flight turbulence encounter
UNK	Insufficient information exists to categorize the occurrence
UP	Unruly passenger
WSTRW	Flight into wind shear or thunderstorm

## Preamble

This analysis has been compiled by the Safety Management, Quality, Strategy and Compliance Department of JSC “Aviation administration of Kazakhstan” (hereinafter - AAK) in accordance with the:

- The Law of the Republic of Kazakhstan No. 339-IV dated July 15, 2010 “On the use of air space of the Republic of Kazakhstan and aviation activities”
- Government Decree of the Republic of Kazakhstan No. 136 dated 11 March 2016, “On the approval of the Safety Program in the field of civil aviation”.
- Order of the Minister for Investment and Development of the Republic of Kazakhstan dated July 27, 2017, No. 505, “On approval of the Rules for the Submission of Data and Investigation of Aviation Accidents and Incidents in Civil and Experimental Aviation”.
- Order of the Minister of Investment and Development of the Republic of Kazakhstan dated March 20, 2015, No. 307, “On Approval of the Rules for Organization of Flight Work in Civil Aviation of the Republic of Kazakhstan”.

The analysis was carried out to assess the status and further improve the level of flight safety in the field of civil aviation of the Republic of Kazakhstan, as well as to implement the provisions of ICAO Annex 19 to the Convention on the International Civil Aviation Organization and ICAO Doc 9859 “Safety Management Manual”.

## 1. STATISTICAL DATA ON SAFETY IN CIVIL AVIATION OF THE REPUBLIC OF KAZAKHSTAN

In 2023, there is an increase in flight hours by 16% of the aircraft of the Civil Aviation of the Republic of Kazakhstan compared to 2022 (2023-288,742 hours, 2022-249,285 hours).

Types of operating / Flight hours	2022 (hours)	2023 (hours)
Commercial aviation	209 598	251 301
Aerial work	37 626	35 301
General aviation	2061	2140
<b>Total flight hours</b>	<b>249 285</b>	<b>288 742</b>

Table 1 TOTAL FLIGHT in hours

General indicators	2022	2023
Absolute safety indicators		
Aviation accidents	2	3
Aviation incidents	84	63
Relative safety indicators		
$N_{AA}$	<b>0.08</b>	<b>0.10</b>
$N_{AI}$	<b>3.36</b>	<b>2.18</b>

Table 2 COMMON INDICATORS per 10,000 hours

Commercial aviation	2022	2023
Absolute safety indicators		
Aviation accidents	0	0
Aviation incidents	73	56
Relative safety indicators		
$N_{AA}$	<b>0</b>	<b>0</b>
$N_{AI}$	<b>3.48</b>	<b>2.23</b>

Table 3 COMMERCIAL AVIATION. Safety indicators per 10,000 hours

Aerial work	2022	2023
Absolute safety indicators		
Aviation accidents	2	3
Aviation incidents	11	7
Relative safety indicators		
$N_{AA}$	<b>0.53</b>	<b>0.85</b>
$N_{AI}$	<b>2.92</b>	<b>1.98</b>

Table 4 AVIATION WORKS. Safety indicators per 10,000 hours

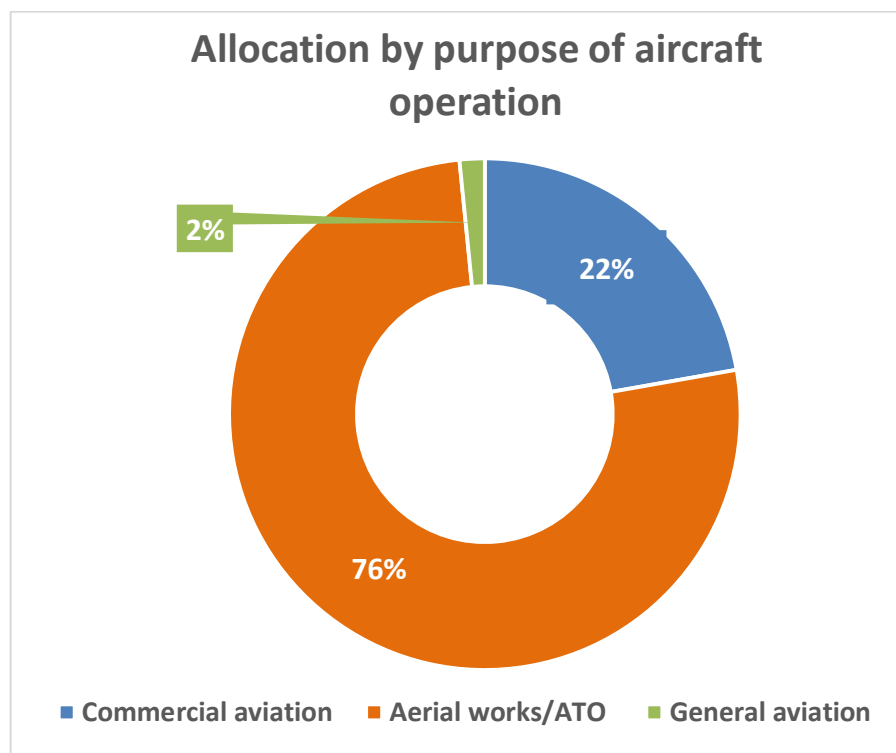
As can be seen from the information provided, the relative safety indicators for aviation accidents (hereinafter - AA) for operators performing **aerial works** are higher than for commercial aviation operators. Such statistics indicate an insufficient level of preventive work on the part of the management and personnel of operators performing aviation work, i.e. a low level of work to identify dangerous

factors. Thus, actions aimed at warning and preventing hazards from such operators require closer attention during oversight and control by an authorized organization in the field of civil aviation.

## 2. ANALYSIS OF SAFETY INDICATORS

### 2.1. Analysis of aviation accidents

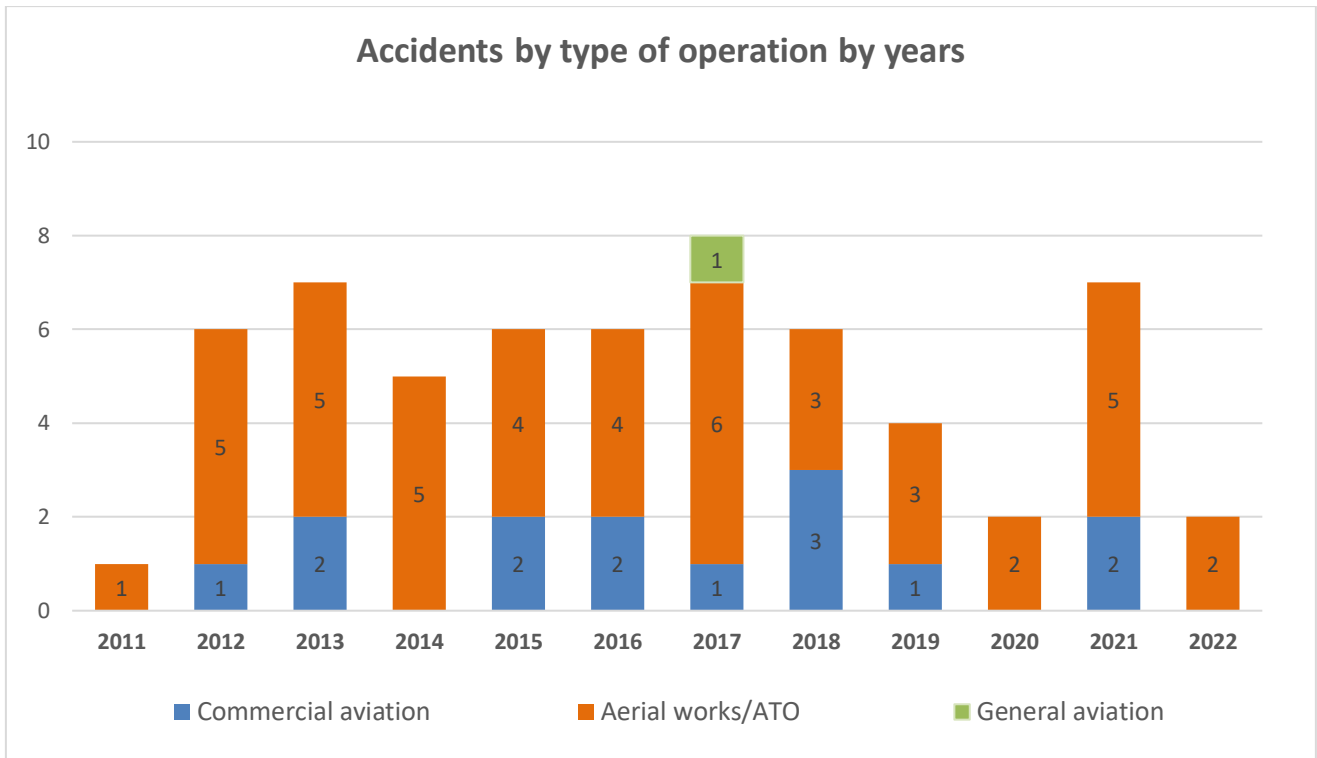
In the period from 2011 to 2023, 63 AAs occurred in the Republic of Kazakhstan, 24 of them with fatalities (an average of 2 AA per year), and 39 without fatalities (an average of 3 AA per year).



AA by type of **activity**:

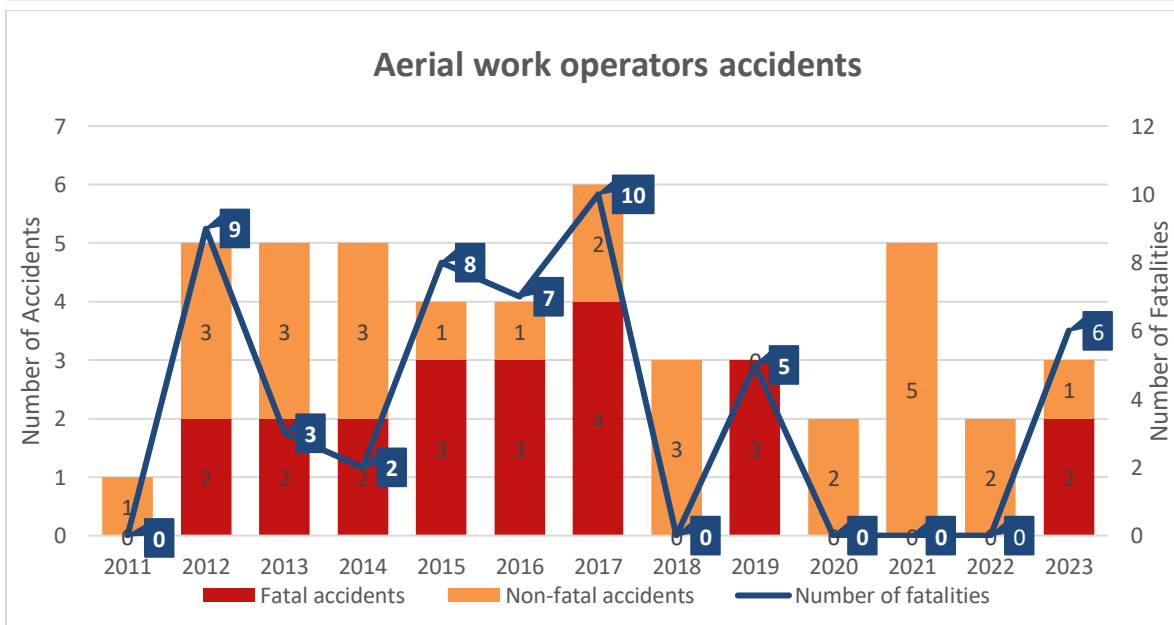
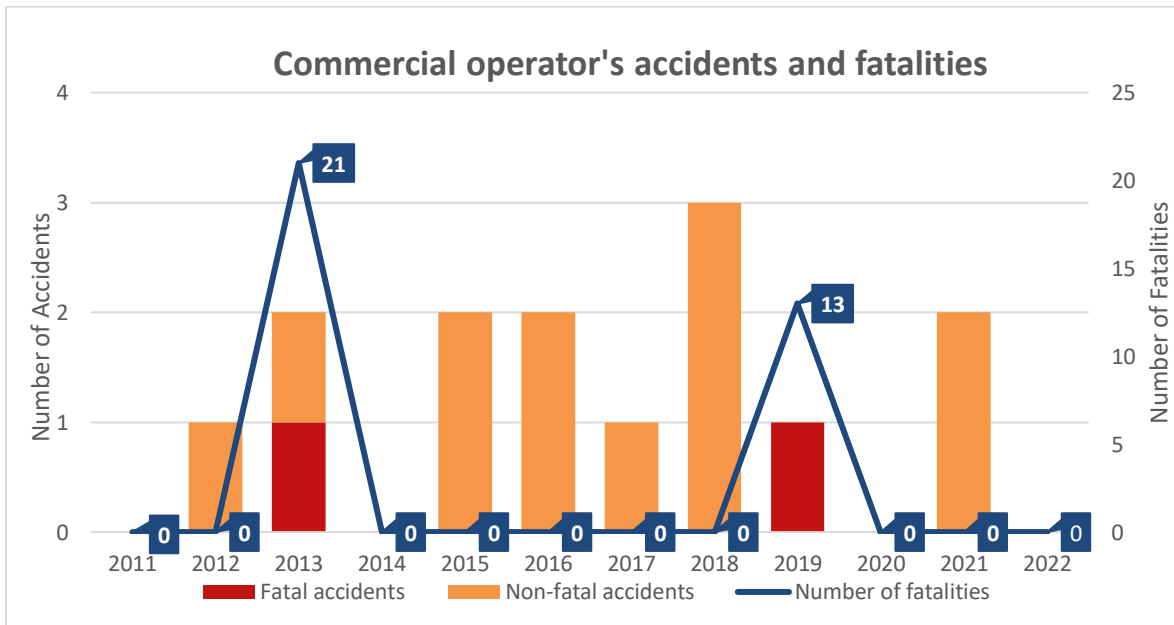
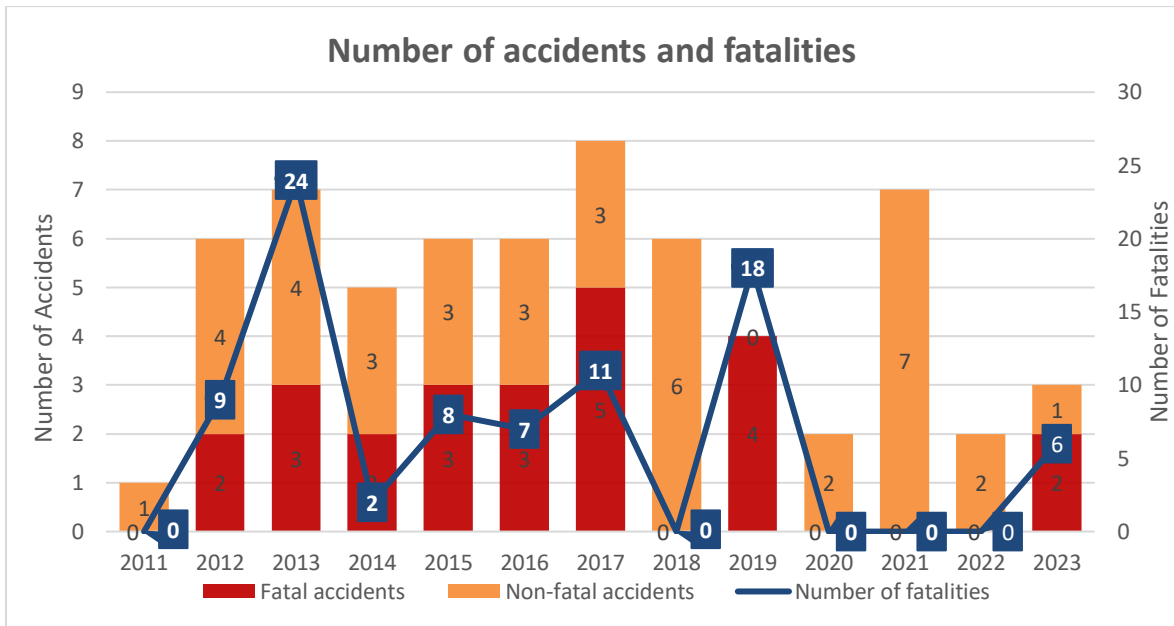
- **Commercial aviation** operators accounted for **22%** (14 AA) of the total number of accidents.
- Operators performing **aerial works**, including aviation training centres – **76%** (48 AA) of the total number of accidents.
- General aviation – **2%** (1 AA) of the total number of accidents.



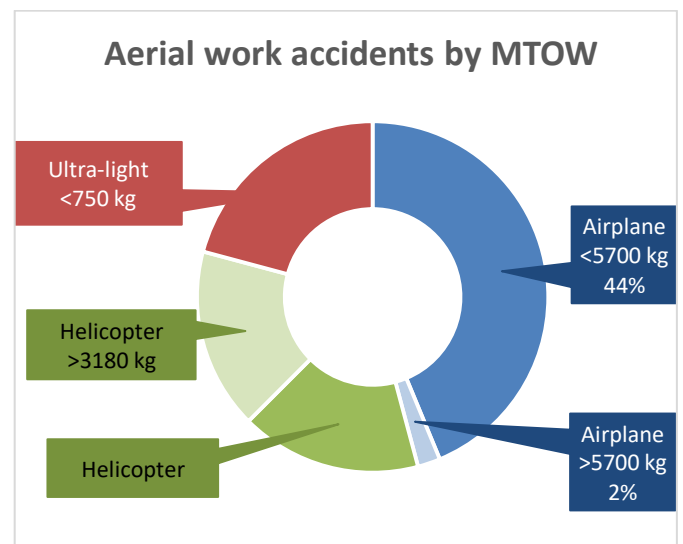
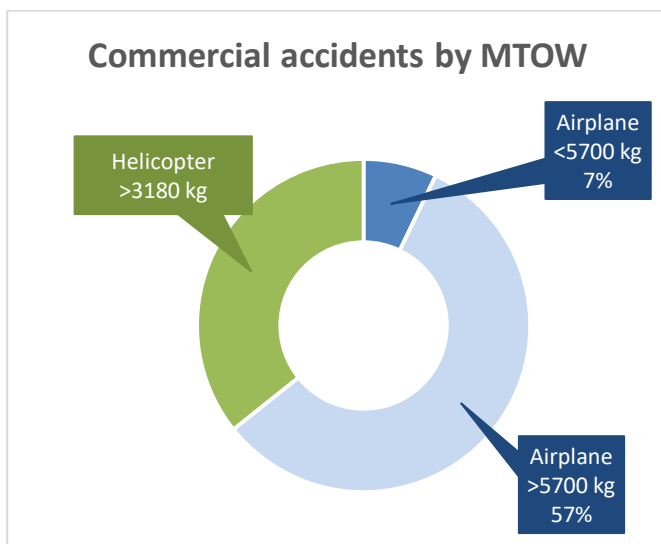
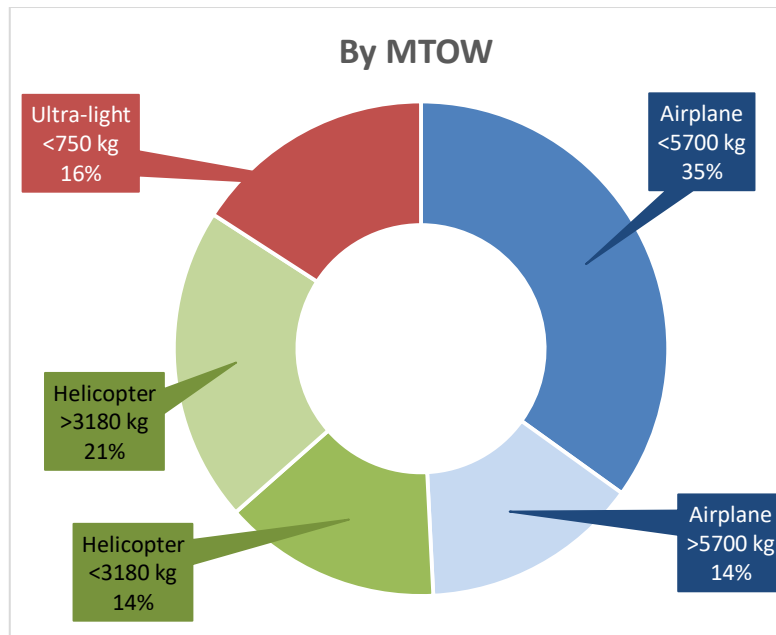


According to the information provided by the Investigation of aviation accidents and incidents division of the Department for the Investigation of accidents and incidents in the transport of the Ministry of transport of the Republic of Kazakhstan, the Main air traffic planning centre of the RSE “Kazaeronavigatsia”, materials and flight safety analyses of operators and civil aviation organizations of the Republic of Kazakhstan in 2023 were 3 AAs occurred on the territory and in the airspace of the Republic of Kazakhstan - 2 with fatalities and 1 without fatalities and 63 AIs.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
<b>Fatal accidents</b>	0	2	3	2	3	3	5	0	4	0	0	0	2
<b>Non-fatal accidents</b>	1	4	4	3	3	3	3	6	0	2	7	2	1
<b>Total</b>	1	6	7	5	6	6	8	6	4	2	7	2	3
<b>Number of deaths</b>	0	9	24	2	8	7	11	0	18	0	0	0	6



The statistics for the AA are presented below, depending on the maximum certificated take-off weight of the aircraft and the types of work performed.



Thus, a greater number of AAs occurred with operators performing **aerial works**, including aviation training centres (flight schools). In this regard, such entities of the civil aviation of the Republic of Kazakhstan need to pay increased attention to identifying hazards and maintaining risks at an acceptable level, take proactive measures within the framework of the SMS implementation and analysis of its effectiveness, as well as during oversight and control by an authorized organization in the field of civil aviation.

### 2.1.1. Summary of aviation accidents in 2023

1. **23.02.2023** Collision of the aircraft Mi-8 “Kazaviaspas” JSC with the ground surface during the flight KZS-1428 to overfly the oil pipeline Uzen-Atyrau-Samara on the route Atyrau-Uralsk-Atyrau. There were 6 people on board, including 5 crew members. As a result of the accident, 4 crew members died and 2 people were injured.

2. **21.05.2023** A motor glider MD-50 of “PoliaRis” LLP around the Akzhar settlement of Karmakshyn district in Kyzylorda region, while performing an unauthorized flight, caught the wires of the electric transmission line during landing. The pilot was seriously injured and was taken by ambulance to a regional hospital. The aircraft lost its airworthiness.

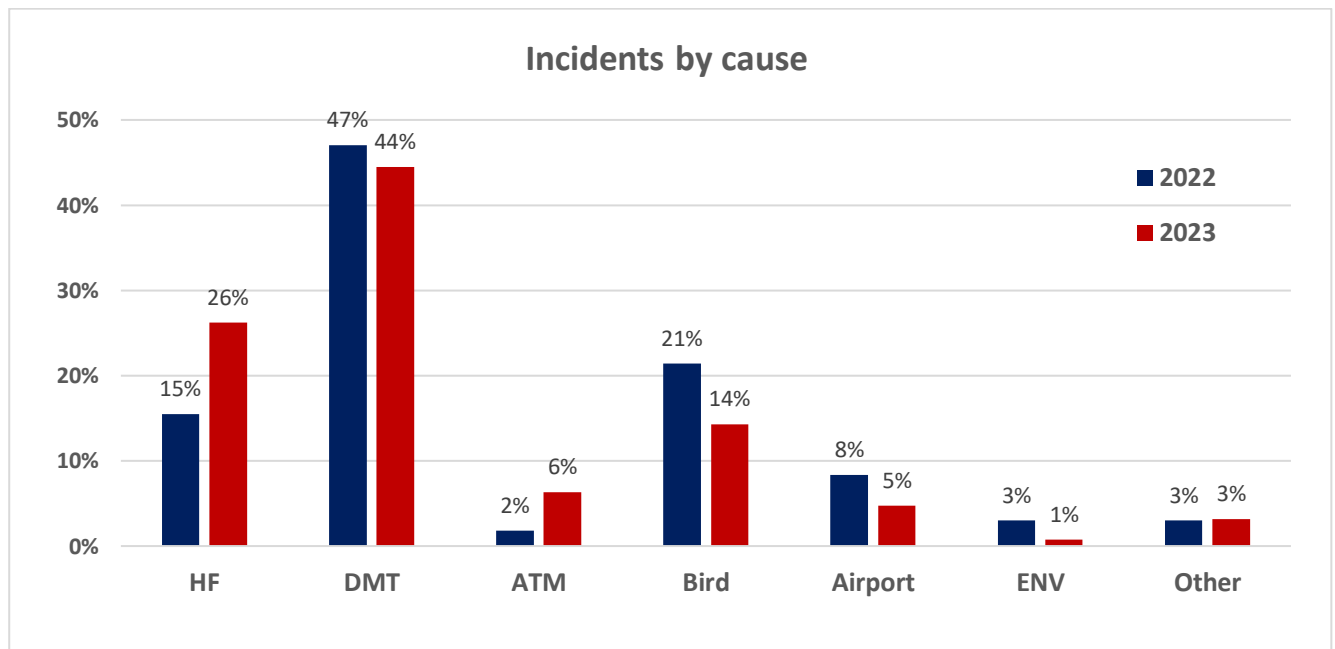
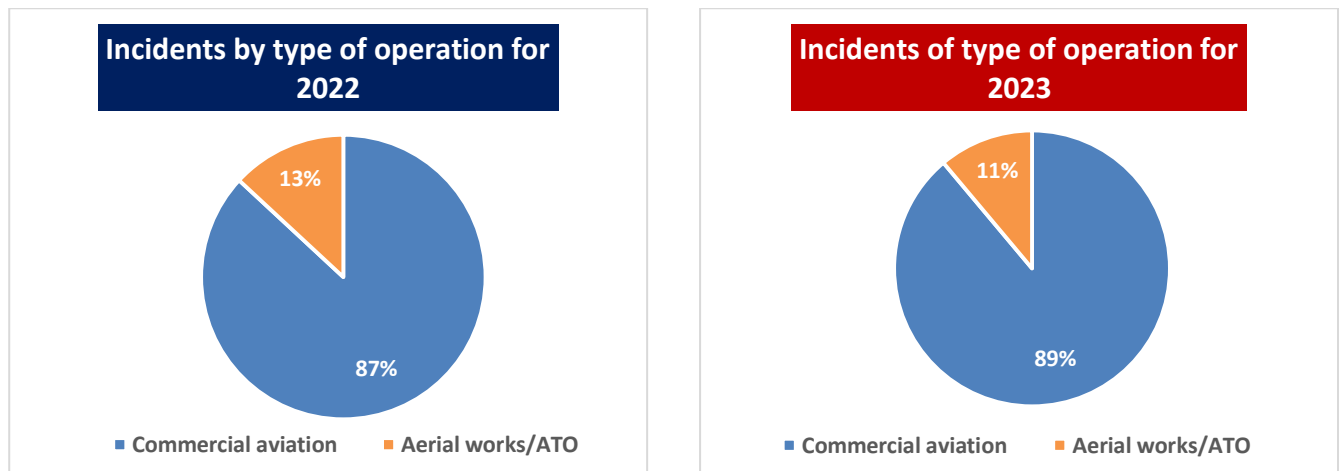
3. **30.09.2023г.** Tecnam P2002 aircraft of “Balapan Aviation Training Center” LLP was performing a training flight in the Karaganda region. After a failure to contact the pilot, the aeroplane leader was sent to the pilotage area and reported that he observed a destroyed aircraft with the reg. number UP-LA286 on the ground. After landing, an instructor pilot and a cadet were found without signs of life near the destroyed aircraft.

## 2.2. Analysis of serious incidents and incidents

Distribution of aviation incidents in CA RK by causes:

Period	Total	Causes						
		HF	DMT	ATM	Bird	Airport	Environment	Other
2019	66	16	27	3	5	7	6	2
2020	49	4	27	6	10	1	0	1
2021	55	12	22	3	6	5	4	3
2022	84	13	39.5	1.5	18	7	2.5	2.5
<b>2023</b>	<b>63</b>	<b>16.5</b>	<b>28</b>	<b>4</b>	<b>9</b>	<b>3</b>	<b>0.5</b>	<b>2</b>

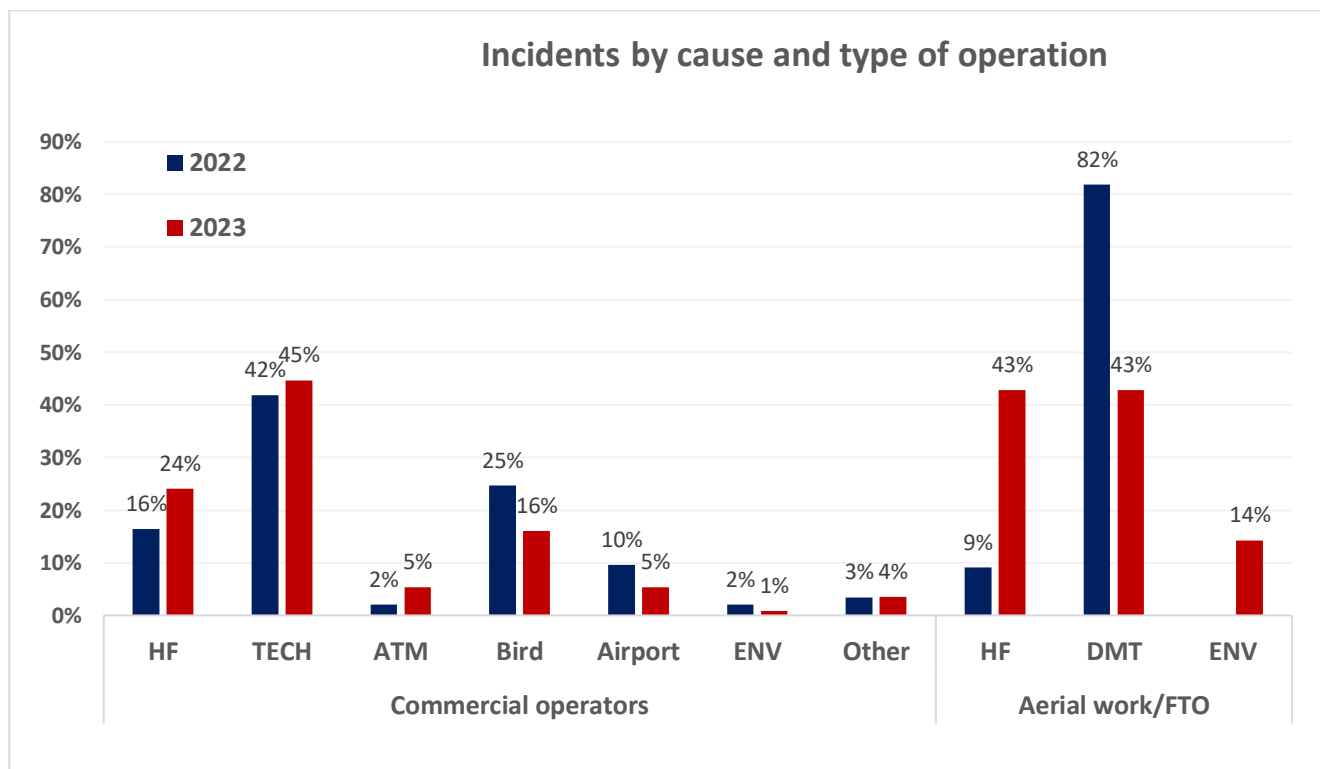
Percentage of incidents for 2022-2023 by type of work performed:



From the graph above, it can be seen that the largest number of incidents in 2023 occurred due to technical factors, which amounted to 44%, due to the influence of the human factor - 26% and due to collisions of aircraft with birds, which led to damage to the ACFT - 14%.

Distribution of AIs by type of work performed:

Period	Commercial aviation	Aerial works / ATO	General aviation
2022	73	11	0
2023	56	7	0



### 2.2.1. Summary of aviation serious incidents in 2023

1. **17.06.2023** Failure to retract the front landing gear after take-off of the aircraft Embraer-135BJ of “COMLUX-KZ” LLP while performing a flight on the route Kyzylorda-Almaty. The PIC decided to make an emergency landing on the departure aerodrome. The landing was performed safely.

2. **24.06.2023** Alarm of the left engine oil pressure sensor of Boeing 767 ACFT of the “SCAT” JSC during flight DV-5210 on the Almaty-Antalya route. After take-off, about 15 minutes later (about 04:40 UTC) after occupying the FL300, the crew noticed the message L ENG OIL PRESS (left engine oil pressure) on the EICAS panel. The crew performed QRH procedures and decided to return to the departure aerodrome. The landing was performed in normal mode.

3. **04.07.2023** Damage to AN-2 ACFT of “SAMGAU AGRO” LLP while performing morning aviation-chemical works against locusts in the area of Zhuantobe settlement of Sozak district of Turkestan region. At 00:48 UTC, according to the crew's verbal report, while performing landing with site selection from the air near the area of aviation works, after landing the aeroplane rolled out of the site and hit the berm, in connection with which the aeroplane was damaged. The crew was not injured.

4. **17.09.2023** Engine failure of Airbus A320N aircraft of “Air Astana” JSC during flight KC-127 on the Almaty-Tashkent route. During altitude gain,

approximately at the FL285, the crew heard a noise and vibration, which came from the right side of the aircraft. After that, there was a sharp drop in engine speed no. 2 and various Master Caution and Master Warning appeared. As a result, a message appeared on the ECAM panel ENG 2 FAIL (Engine Failure No. 2). In accordance with the Airbus 320 Flight Operations Manual, the crew announced the “PAN-PAN” signal, turned off the right engine, reported to air traffic controller and decided to return to the departure aerodrome in Almaty. Post-flight inspection revealed the destruction of the engine.

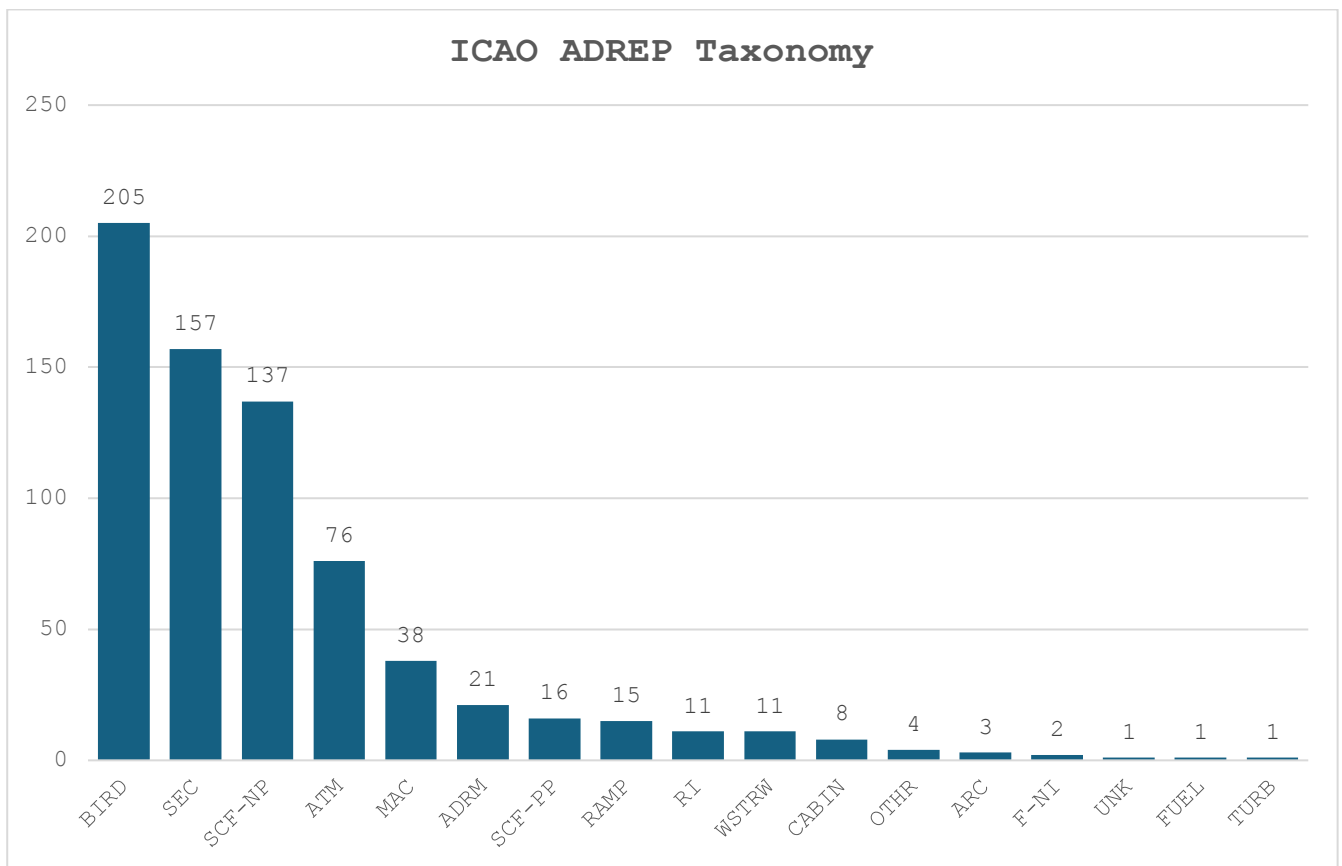
5. **18.09.2023г.** Right engine failure of ACFT Boeing-777 of Red Wings Airlines during flight WZ-3072 on the Antalya-Yekaterinburg route. At 05:26 UTC, the right engine failed, and the crew made an emergency landing at Aliya Moldagulova International Airport in Aktobe.

6. **14.10.2023г.** Shutdown of the 3rd engine of ACFT Boeing 747-400F of “ASL Airlines Belgium” JSC during transit cargo flight TAV802 on the Shanghai-Almaty route. At 15:47 UTC, the OCC dispatcher received information from the ATC that the TAV802 flight's crew reported that the third engine had been shut down due to increased vibration, and a decision was made to land at Almaty airport with the engine shut down. The crew did not declare an alarm. Landing at the aerodrome in Almaty at 16:47 UTC. The landing was performed in normal mode.

### 3. SAFETY REPORTING SYSTEM ANALYSIS

In 2023, the AAK’s Operation Center received and registered in the Access Database 707 messages on aviation occurrences. The messages were received from RSE “Kazaeronavigatsia” according to the notification scheme through SMS alerts, incoming telegrams via the Operation Center AFTN channel, messages from civil aviation organizations and messages from AAK departments. For comparison, in 2022, 717 aviation occurrence reports were registered and entered into the AAK’s database.

The Operation Center registers reports on aviation events, assigns them a category in accordance with the ICAO ADREP taxonomy and sends information about the event to the Director of the relevant AAK department or a specialized expert for analysis and determination of the risk category.



In accordance with the Kazakhstan aviation Safety Plan 2024-2027, 5 categories of high-risk events in the civil aviation sector of the Republic of Kazakhstan were selected as the highest priority due to the high level of fatalities and risk of fatalities associated with such aviation occurrences. They were identified based on the analysis of the system of mandatory reports and investigation reports on aviation accidents and incidents. These categories include:

- 1) Loss of control in-flight (LOC-I).
- 2) Controlled flight into terrain (CFIT).
- 3) Mid-air collision (MAC).
- 4) Runway excursion (RE).



5) Runway incursion (RI).

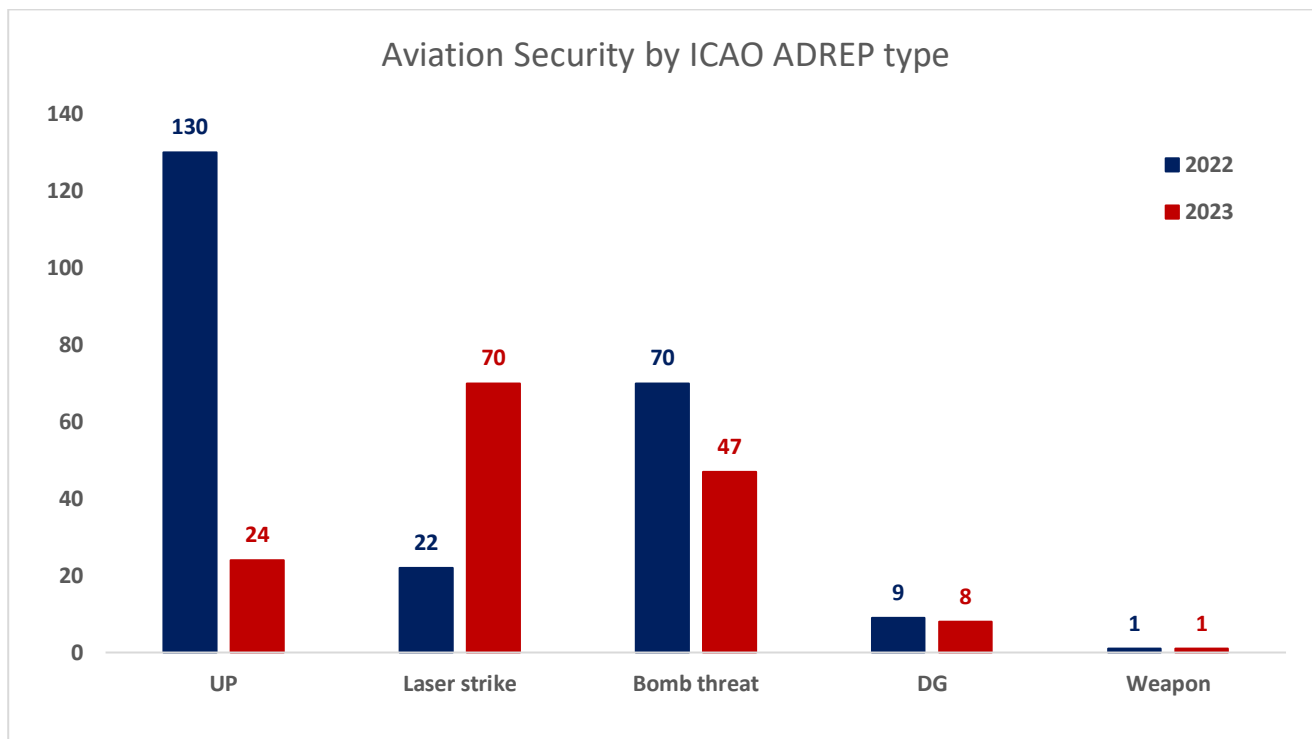
No.	ICAO ADREP	2022	2023
1	LOC-I	2	0
2	CFIT	1	0
3	MAC	36	38
4	RE	1	0
5	RI	11	11

The above categories of high-risk events will be analyzed on an annual basis in order to assess the status and further improve safety. These statistics are provided as a reference point for subsequent analysis.

The following categories are selected for further analysis:

- **SEC** – Criminal acts, actions in the field of aviation security that lead to accidents or incidents.
- **BIRD** – Occurrences involving collisions / near collisions with birds.
- **SCF-NP** – Failure or malfunction of an aircraft system or component - other than the powerplant.

Analysis of the events included in the **SEC** category showed the following statistics:

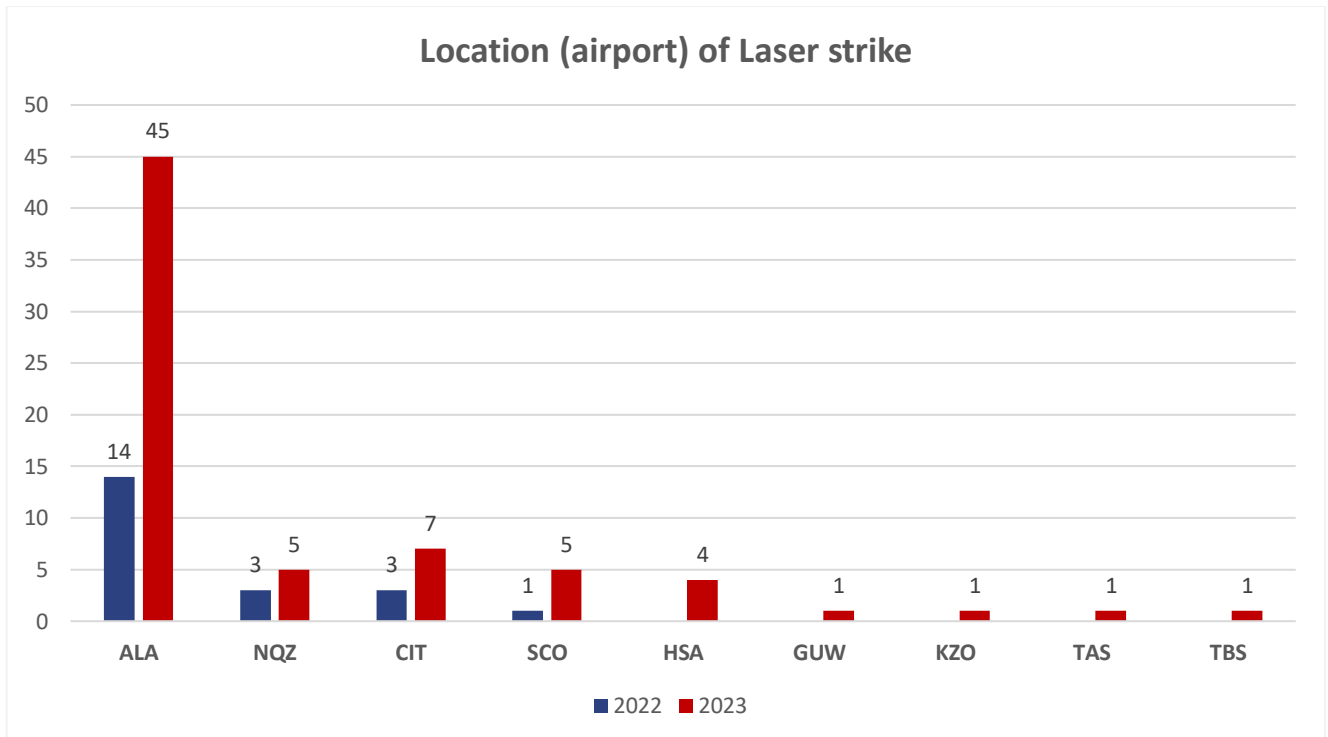


In 2023, the number of reports about **unruly passengers** has good dynamics compared to 2022 and decreased by 81.5%.

A negative dynamic is shown by the number of reports related to cases of aircraft laser attacks. A total of 70 reports were received, which is more than three times more compared to 2022.

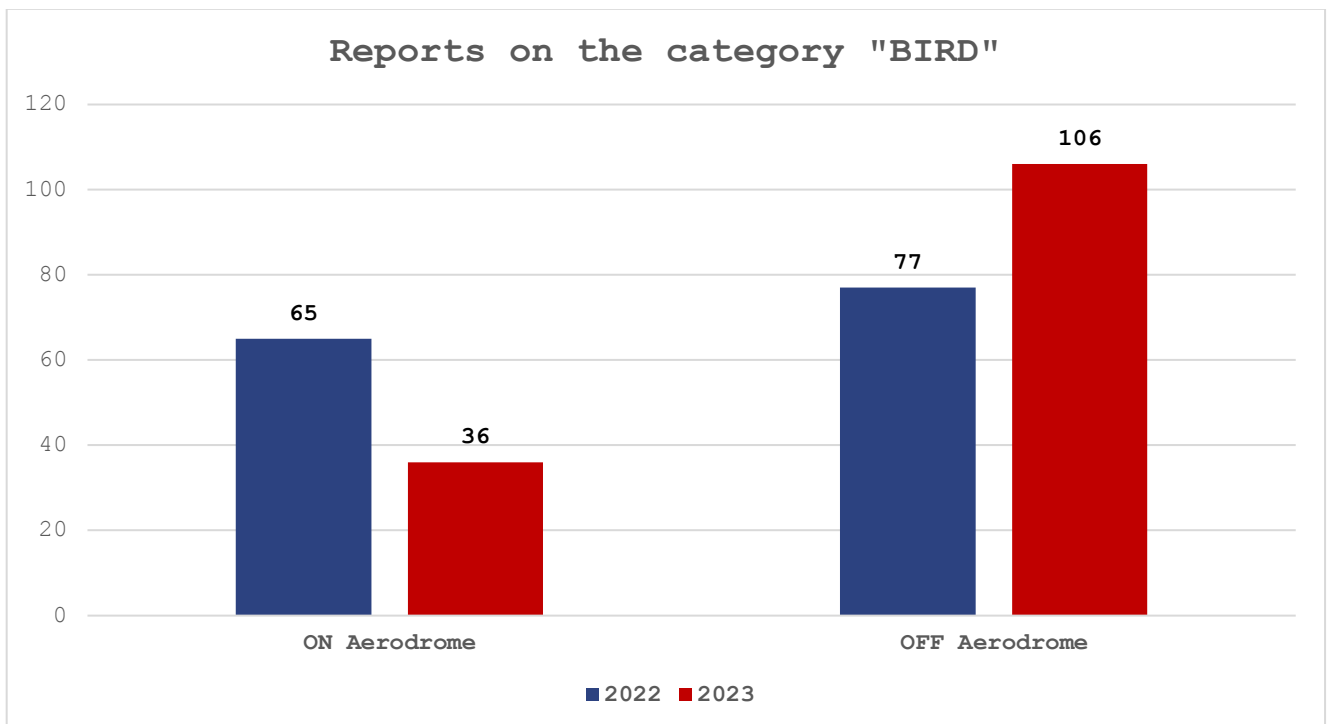
Additionally, information on the location (airport) where laser attacks were

most likely to occur was analysed:

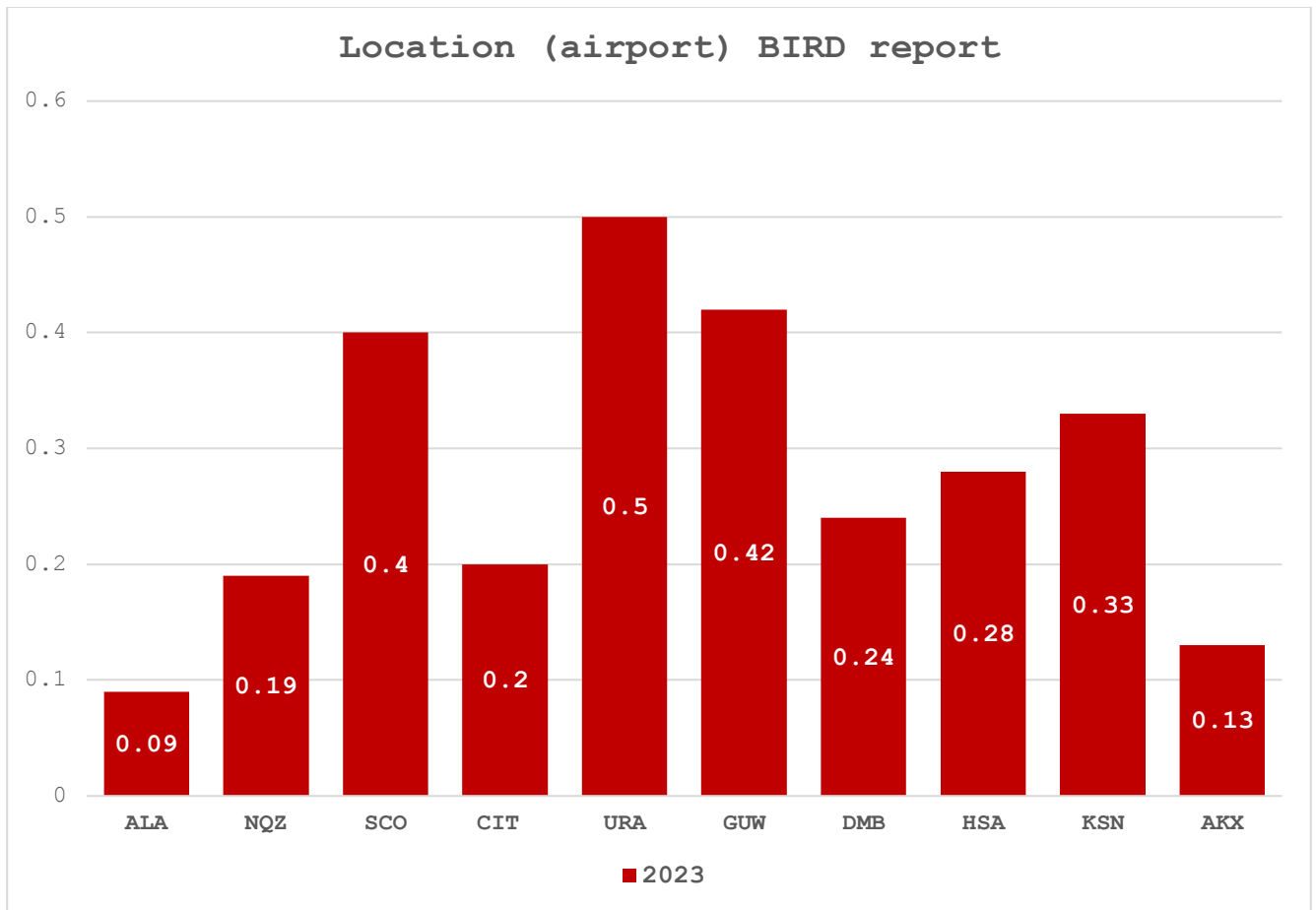


This statistic indicates the need for more detailed analysis and actions to prevent laser attacks on the aircraft.

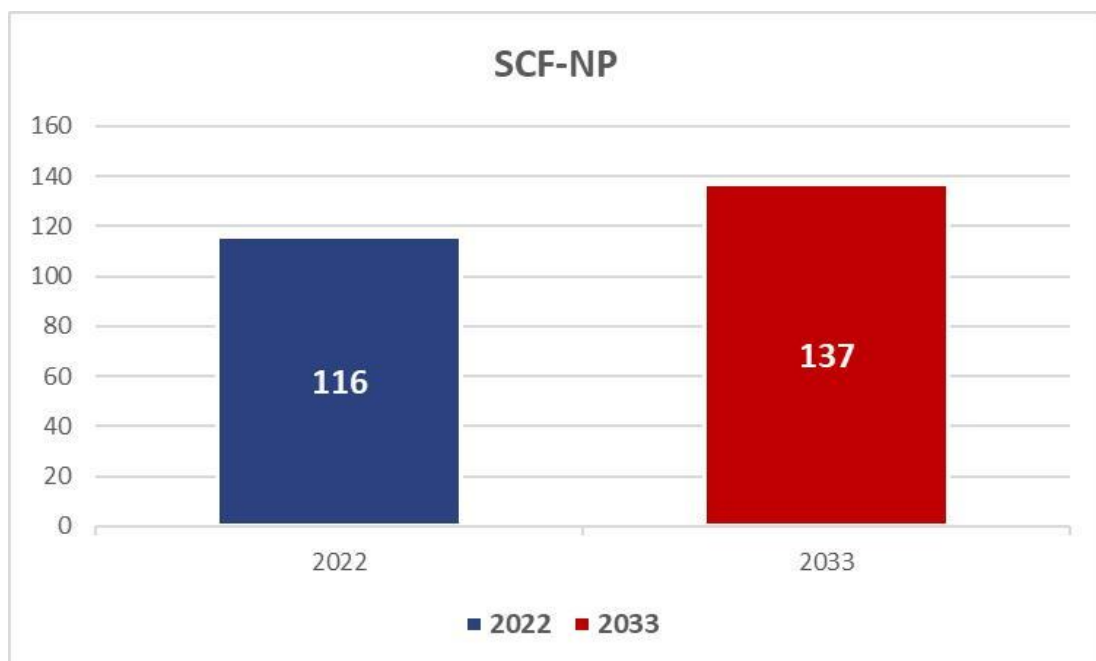
The next category that was analysed was related to the messages of the **BIRD** category. This category was divided into two groups: on-aerodrome and off-aerodrome. In 2022 and 2023, 142 reports were received on birds.



The information was also analysed concerning location and the coefficients for airports are shown below. When calculating the rate, the ratio of bird reports per 1000 take-offs and landings was used.

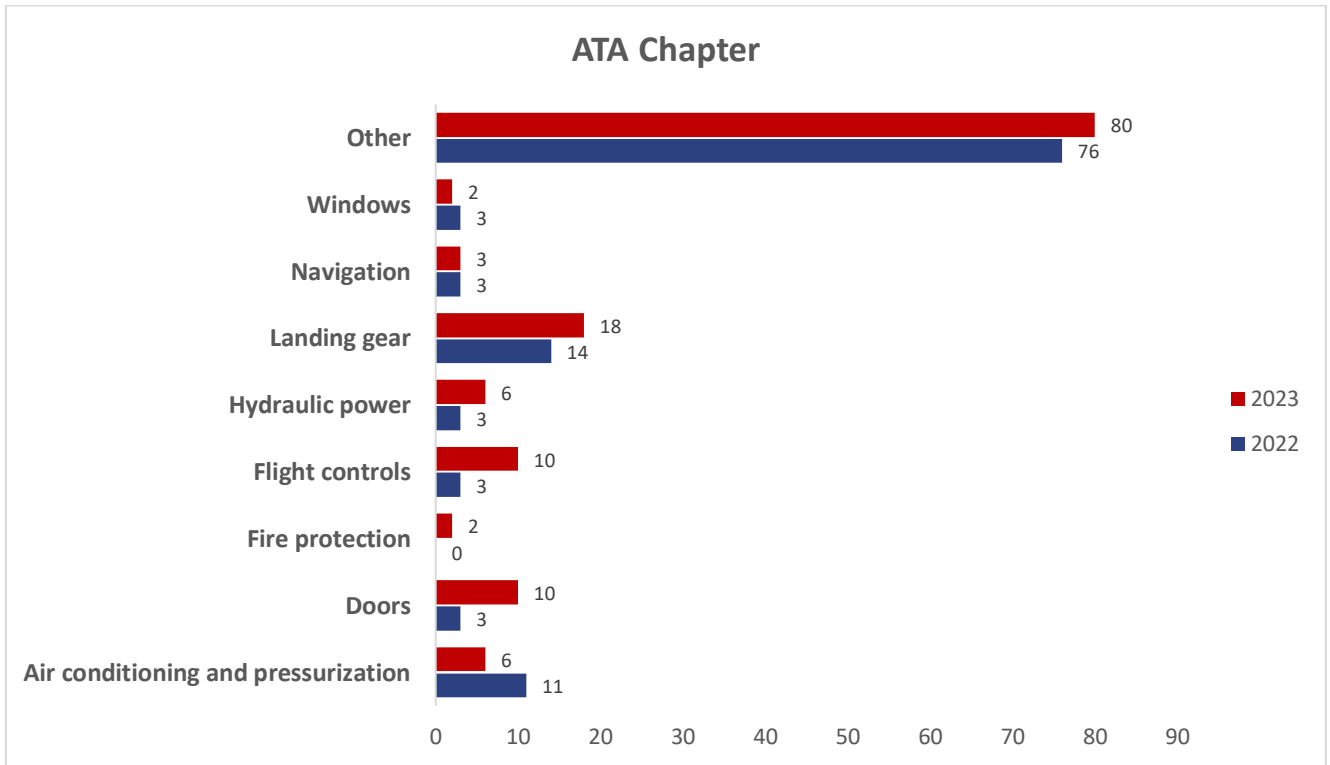


The next category that was analysed is related to the **SCF-NP** reports.



According to the above statistics, in 2023, the number of reports of failures or malfunctions of aircraft systems or components other than the propulsion (SCF-NP) was 137, which is 21 more reports than in 2022.

The events included in the SCF-NP category were analysed in accordance with the ATA classification:



#### 4. RESULTS OF THE SAFETY OVERSIGHT PROGRAM

In 2023, in order to improve flight safety and risk assessment, the AAK inspected the entities of the industry of the RK following the Safety Oversight Program for 2023.

<b>Inspections carried out (inspections/certifications)</b>	<b>2022</b>	<b>2023</b>
Flight operation	137	156
Airworthiness	232	289
Air navigation	21	57
Medical Services	77	60
Aerodromes and ground handling services	38	76
Licensing	45	45
Aviation security	117	70

<b>Licenses/certificates issued</b>	<b>2022</b>	<b>2023</b>
Flight operation	15	17
Certificate of Airworthiness (C of A)	177	154
Certificate of the State registration of civil aircraft (C of R)	159	147
Certificate of Aircraft Maintenance Organization (AMO)	23	32
Air Navigation	1	4
Medical Services	6	3
Aerodromes and ground handling services	22	15
Certification of approved aviation training organization	25	15
Licensing (FSTD certificate)	8	
Issuance of certificates of aviation personnel	401	443
Aviation security	11	10
Unmanned aircraft systems (issued certificates of remote pilots/UAS operators)	107	134
Unmanned aircraft systems related permits (issued permits)	36	34

## 5. SAFA INSPECTIONS RESULTS

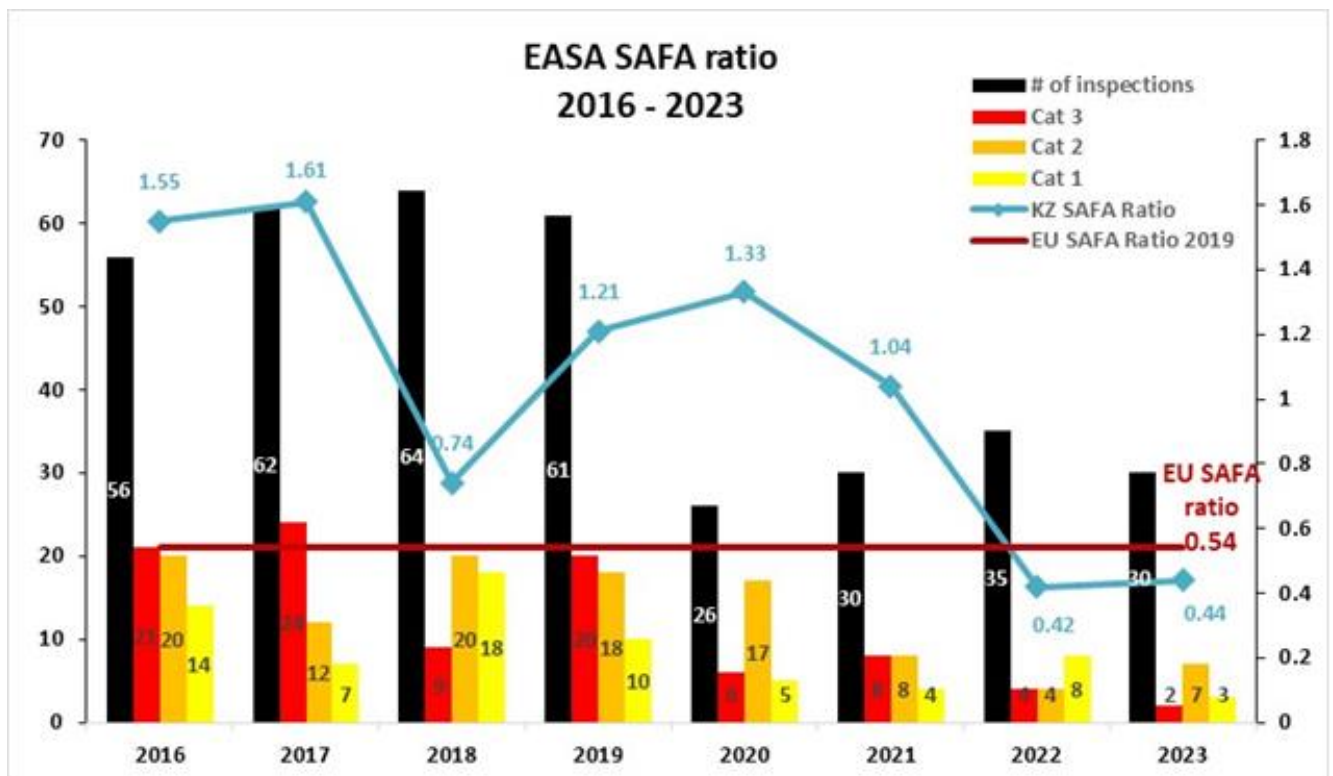
In 2023, the Kazakhstani ACFT passed 30 SAFA inspections (Safety Assessment of Foreign Aircraft), verified by members of the EASA.

8 Kazakhstani airlines were checked, as a result, it was revealed:

- 2 discrepancies of category 3;
- 7 discrepancies of category 2;
- 3 discrepancies of category 1.

The comments received were answered with the application of evidence-based information on their elimination and prevention of recurrence in the future.

To check the flight safety status of the aircraft fleet, the SAFA inspection program has developed a safety coefficient. The value of this coefficient according to the results of 2023 for the Kazakhstani ACFT was 0.44.



## 6. REGULATIONS IMPROVEMENT

In 2023, in connection with the adoption of the Law of the Republic of Kazakhstan “On Amendments and Additions to Certain Legislative Acts on Transportation and Subsoil Use” (dated December 29, 2022) to implement it, new, as well as amendments and additions were made to existing regulations (hereinafter - legal acts) in the field of civil aviation.

- A total of 43 legal acts were developed and adopted by the AAK in conjunction with the Civil Aviation Committee, which included amendments such as:

- approval of new regulations for aircraft de-icing protection on the ground.
- introduction of the concept of "management of hazards posed by birds and other animals", as well as approval of the relevant regulations in a new version regulating the management of hazards posed by birds and other animals, including the use of lethal methods.
- introduction of the list of paid services of AAK, payment rates and the procedure for charging fees in the field of civil aviation.
- implementation of UAS technical requirements, training program requirements, UAS instructor, examiner and pilot requirements, basic certified category requirements, remote identification requirements, risk assessment guidelines, basic aviation safety requirements, and airborne UAS operating permits (EASA LUC equivalent).
- requirements for the classification of UAS, flight operations manual, and UAS maintenance control manual were revised.
- introduced conditions under which a passenger can be included in the airline's “blacklist”.
- classification of airfields into certifiable and non-certifiable was established.
- The Civil Aviation Safety Program was updated.
- The Civil Aviation Security Program was updated.
- Requirements for the implementation of the SMS for civil aviation training centres, whose activities are related to the performance of aircraft flights during the provision of services, were implemented.
- and other amendments aimed at further implementation of ICAO standards and recommended practices into the legislation of the Republic of Kazakhstan, improvement of the mechanism of organization of civil aviation activities.

Also in 2023, as part of the implementation of the Plan of preparation of draft legal acts of the Ministry of Transport of the Republic of Kazakhstan (hereinafter - MoT RK) for 2023, AAK developed and submitted to the MoT RK 4 drafts of subordinate legal acts, which were approved and adopted.

In addition, in 2023, a separate package of 13 draft legal acts was developed and submitted to the Ministry of Transport of the Republic of Kazakhstan in order to transfer certain public services provided by AAK on a paid basis based on payments in the field of civil aviation.

These projects were combined by the MoT RK into one draft order “On Amendments and Additions to Certain Orders of the Minister of Transport and

Communications of the Republic of Kazakhstan and the Ministry of Investment and Development of the Republic of Kazakhstan”, which was adopted on January 17, 2024.