



# ANNUAL REPORT

Air Accidents Investigation Institute of the Czech Republic



2014



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## Ladies and Gentlemen,

Like each year, this Annual Report provides you with the results of the AAI's work for the past year 2014.

In this year, our work was also evaluated by a committee of the Supreme Audit Office of the Czech Republic. The results of this audit that did not show any major defects were communicated also to the general public.

In the course of the year, we continued to fulfill tasks resulting from the Regulation (EU) No. 996/2010 of the European Parliament and of the Council. We also signed an amended agreement with the Civil Aviation Authority and renewed other agreements following changes in the management of some other organizations.

A lecture was held at a meeting of judges and state prosecutors of the Czech Republic regarding investigations of accidents in relation to the EU legislation, strengthening or prevention and safety followed by a subsequent professional debate.

The main task of the last year was to keep by its activities and through its influence safety of civil aviation at a sound level also for the future. This corresponds also to the number of fatalities in the last year. Also, it is very a significant achievement that there was no accident to aircraft in major commercial aviation.

In the field of international cooperation, last year we organized a regular trilateral working meeting with representatives of organizations from the Slovak Republic and Polish Republic. We regularly participate in meetings of ENCASIA, an organization



associating directors of similar investigation authorities, involved in the investigation of air accidents. Courses, trainings, and practical trainings that are very useful are fully subsidized by this organization. Last year, three such activities were organized – in England, France and a workshop in Switzerland.

By reading this annual report, you can get a better idea of the work and activities of AAI and air traffic safety.

I wish you all a successful and safe year in civil aviation in 2015.

**Pavel Štrübl, Director**



# FINANCIAL RESOURCES MANAGEMENT IN AAI IN 2014



In 2014, the Institute managed budgetary resources classified according to the indicators as shown below. A total of CZK 1,205 thousand was allocated for the upgrade and renewal of the infrastructure within the framework of funding program system. These funds were used for the replacement of computers and renewal of vehicles. In the course of the year, only computers specifically notebooks and a server were purchased. A tender was held with regard to an investment activity, which was an exchange of a vehicle and a purchase contract was made with the winning company with performance in March 2015. The above projects were tendered as small-scale public tenders by the selection of most advantageous bids (bids with the lowest price upon meeting of all parameters according to the tender documentation).

The Institute fulfilled the tasks specified by the applicable legislation with eleven employees. The low ratio between the number of administrative/organizational staff and specialists-inspectors has been kept. It is 1:10, while the administrative burden not related to the professional activities of the Institute keeps increasing.

The Institute managed tangible fixed assets totaling CZK 16, 125 thousand, and intangible fixed assets in the amount of CZK 213 thousand (balance as of Dec. 31, 2014). All assets were used in their full extent for the operation of the Institute. The Institute registers CZK 133 thousand in receivables. As of December 31, 2014, total non-overdue payables amounted to CZK 828 thousand.

## Revenue and expenditure budget data (in thousand CZK)

Indicator	Budget		Actual Value
	Approved	Amended	
Total revenue	0	0	35
Total expenditure	13 587	14 473	12 252
Included in the above:			
Other expenditures related to the government transport policy	13 587	14 473	12 252
Out of which cross-sectional indicators:			
Employee compensation and other payments for work done	4 559	4 586	4 586
Included in the above:			
Salaries	4 512	4 586	4 586
Other payments for work done	46	0	0
Statutory insurance premiums paid by employer	1 550	1 559	1 559
Transfer to the Fund for Social and Cultural Requirements	45	46	46
Asset reproduction program costs	1 205	1 414	205
Included in the above:			
Capital (investment) expenditure	1 205	1 414	205
Number of employees	13	13	11



## AAII'S SPHERE OF ACTION



In 2014, within the meeting of its statutory obligations, AAI ensured collecting and analyzing of information of accidents and serious incidents with the purpose to draw conclusions including the determination of the cause or factors that contribute to them, and if need be, to develop safety recommendations for their prevention. In case of an accident or serious incident the basis is an obligatory system of reporting of accidents according to the Regulation (EU) No 996/2010 of the European Parliament and of

the Council on the investigation and prevention of accidents and incidents in civil aviation. A 24-hour phone line has been set up to receive notification of accidents. A notification may be also sent electronically to the address of AAI.

It follows from the existing experience in civil aviation that occurrences evaluated as incidents (related to the operation, technical conditions, maintenance of aircrafts or related to the air navigation services and ground services) show in many cases



the existence of real or potential safety risk to aviation. AAI maintains information from received reports after removal of all personal data, in a domestic database system of the European Coordination Centre for Accident and Incident Reporting Systems (ECCAIRS). All reports of occurrences serve exclusively for the prevention of accidents and incidents not to determine blame or liability. After the information on occurrence is analyzed, AAI focuses on the most serious accidents and serious incidents and ensures the arrival of the inspectors to the scene of the accident. The independence stipulated by law is a key condition that guarantees to AAI that its investigation of accidents and serious incidents will not be influenced by other parties or entities, whose interests or missions could affect its objectivity.

Also in 2014, the most important task of AAI was the investigation of extremely serious accidents with fatalities and serious accidents. The Institute appointed in total 22 own commissions. A matter of priority for the commissions was an independent procedure coordinated with tasks of the police authorities. In

compliance with the applicable legal regulations, at the scene of the accident the commissions performed securing of evidence, collected and analyzed information and determined causes. Another area AAI paid significant attention to was the investigation of other accidents by designated inspectors. They were arriving to the scene of an accident depending on the measures necessary to reasonably protect the evidence, collect information, and maintain safe custody of the aircraft, its contents and wreckage for the purpose of investigation.

In 2014, AAI also investigated causes of incidents concluded that such information could be useful for the prevention of accidents. Among other things the Institute thus performed the task of analyzing reports of occurrences that threaten or may threaten aviation safety and the task of maintaining the ECCAIRS database so that the needs of relevant civil aviation authorities within the system in terms of their competencies in supervising and adopting appropriate corrective and preventive measures are ensured.

## Statistics of the overall number of reported occurrences in civil aviation

Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total number of occurrences reported to AAI	540	557	634	683	623	763	687	765	687	641	695	732

During 2014, AAI expressed, within the framework of departmental amendment procedure, its opinion on draft legislation and draft implementing regulations related to the legislation of reporting of occurrences in civil aviation, their analyses and follow-up measures.

The Institute took an active part in the working group involved

in the development of procedures for requesting and providing assistance within the European Network of Civil Aviation Safety Investigation Authorities set up by the Regulation (EU) No 996/2010 of the European Parliament and of the Council on the investigation and prevention of accidents and incidents in civil aviation.



# ACCIDENTS WITHIN THE CZECH REPUBLIC

The basic criterion for assessing the level of safety in civil aviation is the long-term accident rate trend. In 2014, AAII representing the Czech Republic as the State of the Operator, State of Design and State of Manufacture received in total 100 reports on accidents in accordance with the ICAO standards. On the year-to-year basis, there was a slight increase in the number of the most serious occurrences.

The total number of accidents within the Czech Republic in 2014 was 66, while in the previous year there were 63 accidents.

In the first three months of 2014, a small number of accidents were reported. Almost one half of the total number – altogether 30 accidents occurred during the second quarter of 2014. In the course of the summer flying season, 22 accidents occurred. It is significant for safety of civil aviation that none of these accidents related to aircrafts operated in commercial air traffic. All the mentioned accidents occurred in operation of aircrafts with MTOM 2 250 kg or less.

In the course of 2014, AAII completed investigation of causes and issued in total 32 final reports. In determining the form of the report on investigation of an accident or a serious incident, it took into account namely the circumstances and seriousness of the accident or incident consequences and the lesson that may be derived for the purpose of prevention and enhanced safety. In several cases, these were reports related to investigation that due to complexity were impossible to complete in 2013.

During the course of 2014, based on its conclusions, the Institute

issued in total 16 safety recommendations that were handed over to the Civil Aviation Authority and foreign civil aviation authorities, aircraft operators, Light Aircraft Association, Aero Club of the Czech Republic, and to other entities involved. Examples of accidents are given in the summary that follows.

## ACCIDENTS TO AIRCRAFT WITH MTOM OVER 5 700 KG

As in previous years, we consider a significant achievement that despite increased interest in the utilization of the airspace of the Czech Republic, the positive trend continued in 2014 and no accident to aircraft with MTOM over 5 700 kg occurred.

## ACCIDENTS TO AIRCRAFT WITH MTOM OVER 2 250 KG BUT LESS THAN 5700 KG

In the operation of aircraft in this category, no accident occurred in the territory of the Czech Republic.

## ACCIDENTS TO AIRCRAFT WITH MTOM OF 2 250 KG OR LESS

In 2014, AAII received reports on 66 accidents in the Czech Republic related to aircraft with maximum take-off mass of 2 250 kg or less, used for aerial work and recreational and sport flying with the following categorization.

Out of the above number, 33 accidents occurred in the operation of aircrafts, helicopters, gliders, and balloons. Regarding all categories of sport flying equipment (except for sport parachutes), 31 aircraft accidents occurred in the territory of the Czech Republic. A new category is an aircraft accident to unmanned aircrafts. In 2014, their operators reported 2 aircraft accidents. Apart from this, there were 26 skydiving accidents in parachuting.

During two accidents related to aircrafts, helicopters, gliders, and balloons 2 persons were killed. The number of fatal accidents was higher related to sport flying equipment where 8 people were killed in 6 accidents. In parachuting, the number of fatal accidents was lower. There was one fatal accident in parachuting when another fatal accident occurred in the territory of Poland, however, very close to the state border of the Czech Republic.

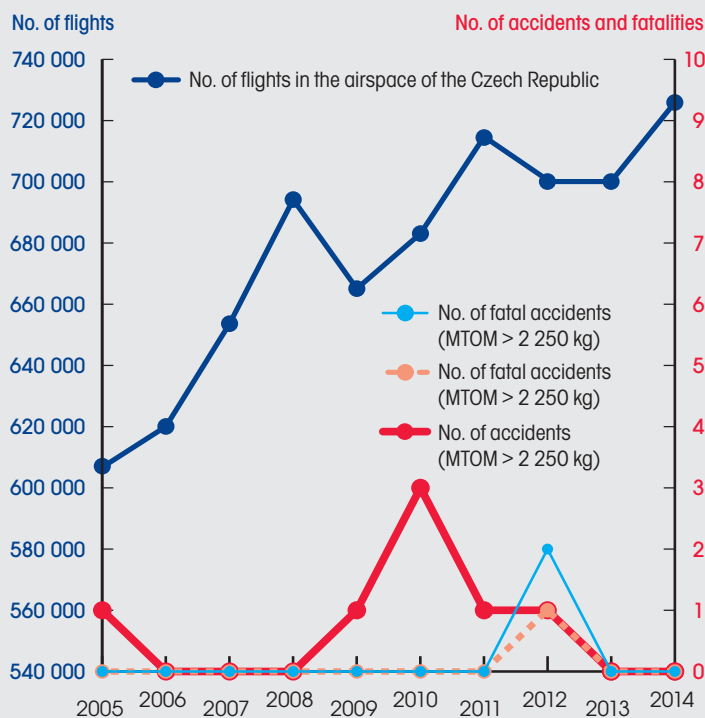
The final reports have been published on the website of AAII in a way allowing for distant access. In particularly serious cases, the scope of analyzing the collected information and performing expert examinations of the damaged parts of the aircrafts required a longer time to determine the conclusions for the prevention of future accidents.

The most common causes of aircraft accident in 2014 to airplanes used for aerial work and recreational and sport flying can be classified, as in the previous years, in the categories defined according to the ICAO classification as Loss of Control In-Flight due to a string of pilot errors, and a failure to comply with applicable rules.

## SUMMARY OF FATAL ACCIDENTS

- On July 19, 2014, a Z 526F had an accident during an aerobatic championship Kroměřížský pohár 2014. While carrying out an unknown programme in the category “Sportsman” the pilot did not manage the maneuver of the aileron roll in the upper stage of the normal looping and the aircraft got into a reverse (back) spin. The pilot did not manage to recover. The aircraft crashed at a steep angle in the position on its back into a grassy area close to the airfield. The pilot succumbed to his injuries. The cause of the

Long-term trend in the number of accidents to aircraft with maximum take-off mass exceeding 2 250 kg and fatal accidents in this aircraft category within the Czech Republic compared to the number of flights in its air space





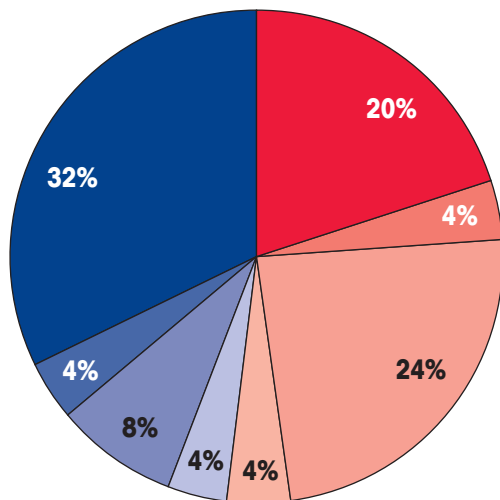


**Number of Accidents within the Czech Republic, Number of Fatal Accidents and Number of the Dead – All Aircrafts with MTOM 2 250 kg and less**

Category of Aircrafts	Total Accidents	Fatal Accidents	Number of the Dead
<b>Aircraft registered in the Aircraft Register</b>	<b>35</b>	<b>2</b>	<b>2</b>
Aircrafts	15	2	2
Helicopters	3	0	0
Gliders	15	0	0
Balloons	0	0	0
Unmanned aircrafts	2	0	0
<b>Sport Flying Equipment</b>	<b>31</b>	<b>6</b>	<b>8</b>
UL Aircrafts	20	4	6
UL Helicopters and UL Gyroplanes	1	0	0
UL Gliders	1	0	0
Para Gliders	7	1	1
Motorized Para Gliders	2	1	1
Hang Gliders	0	0	0
Motorized Hang Gliders	0	0	0
<b>Total aircraft 2250 kg and less</b>	<b>66</b>	<b>8</b>	<b>10</b>
<b>Sport and tandem skydiving</b>	<b>25</b>	<b>1</b>	<b>1</b>
<b>Total all accidents within the territory of the Czech Republic</b>	<b>91</b>	<b>9</b>	<b>11</b>
<b>Change (%) 2014 compared to previous year</b>	<b>+12%</b>	<b>0%</b>	<b>+22%</b>



Share in percentage of fatal accidents according to the aircraft category – accidents to all aircrafts with MTOM 2 250 kg and less operated in general aviation within the territory of the Czech Republic 2012–2014



Category (Number of fatal accidents)



accident was a faulty procedure of recovering from the spin into which the aircraft fell after an error in performing of an aerobatic maneuver. The reasons for the faulty procedure of recovering from the spin could not have been determined based on the available information; however, a mistake in determining the character of the spin or stress could have contributed to this.

- On August 23, 2014, a RV-7 had an accident. The pilot was flying according to the visual flight rules from the Fürstzenzell (Germany) airport along the route partially across the territory of the Czech Republic with a planned landing at the Welzow (Germany) airport. An ATS Station lost the radar information on the flight close to the state border of the Czech Republic approximately 7 km south of Modrava. The Rescue and Coordination Centre started searching in the area of the anticipated route of the flight above the territory of the Czech Republic. Wreckage of the aircraft was found during a search operation close to the state border where the aircraft hit trunks of trees on the top of the Špičník mountain. The pilot suffered fatal injury. All evidence confirms that the probable cause was the flying into conditions under which the flight could not continue with permanent visibility of the earth and a controlled flight into terrain occurred.

#### SUMMARY OF FATAL ACCIDENTS IN THE OPERATION OF SPORT FLYING EQUIPMENT

- On March 13, 2014, a powered paraglider had an accident. The pilot was carrying out a local flight from an area used for flights of MPG 1 km southwest of the village of Petrovice. After the takeoff, it rose to the height of approximately 30–50 m and continued in the Northern direction. After five minutes of flight, when the engine was operating, the powered paraglider crashed to the overhead conductors of very high voltage of 400 kV. After the contact of the supporting surface with the conductors, it was damaged and subsequent fell to the ground. The pilot died.
- On May 1, 2014, a MAGUS XC-21 paraglider had an accident near the village of Velký Javorník. Shortly after the takeoff, in the stage of departure from the slope the female pilot slipped out of the harness. After her efforts to hold the harness with her hands failed, she fell to the ground. The female pilot suffered fatal injury.
- On June 6, 2014, a P 92 Echo ultra light aircraft had an accident while carrying out of aero towing of LS 3 glider from the Křižanov airfield. The pilot of the towing aircraft was rising straight in the direction of the axis of the runway. Suddenly at a height of approximately 30-40 m above the ground, he started to lower the nose to the ground. Subsequently, the glider got above the towing aircraft. Before the pilot of the glider managed to release, the trail rope tore. The pilot of the towing aircraft did not activate a rescue system before the crash into the ground. The aircraft crashed into a cornfield and caught fire. It was totally damaged by the crash and fire. The pilot suffered fatal injuries.
- On June 26, 2014, a WT-9 Dynamic ultralight aircraft had an accident near the village of Kondrač. A crew of two men, one pilot, and one passenger planned a flight from the Slaný airfield via České Budějovice to the Croatian Pula, in a group together with another ultralight aircraft. After the takeoff from České Budějovice the ultralight aircraft that later suffered the accident was flying as the second one in the group and after approximately 20 minutes the aircraft fell to the ground. Although the rescue parachute system of the ultralight aircraft was activated, this occurred in a very low altitude and therefore it was not efficient. The ultralight aircraft was totally destroyed by the crash. Both members of the crew suffered





fatal injuries. The cause of this accident has been still under investigation, which, so far, has confirmed the following facts:

- The engine was fully functional, fuel was all right, no defects were identified on the flight management system of the UL aircraft,
- At the time of the accident, the weight of the ultralight aircraft was significantly exceeding the limit.
- On August 15, 2014, a VL-3-50 Sprint ultralight aircraft with two persons on board had an accident probably due to the fall of the aircraft in the broken terrain with several routes of the above ground lines of high voltage. The fall was preceded by a lengthy stressful situation of the persons on board that did not have relation to the health condition of the pilot or the passenger. Due to the low altitude, the pilot could not recover from the fall. Both the pilot and the second person on board died. The commission was not able to explain definitely the cause of the accident.
- On August 23, 2014 a HI-MAX ultralight aircraft had an accident. In the course of a flight closely above the tops of trees, the pilot touched a conductor of the above ground 22kV line with his plane. A steep fall followed and an explosion after the aircraft fell into a field in the cadaster of the Racková municipality. Upon the fall on the ground, the pilot succumbed to his injuries. The aircraft was damaged. The cause was the erroneous decision of the pilot to carry out the flight in a low altitude above the terrain and a subsequent crash with the high voltage lines.

#### PARACHUTING

- On April 26, 2014, a parachuting accident occurred at the Příbram airfield. A parachutist made a jump from a height of 4000 m above the ground. Following a free fall, he opened the main parachute at an altitude of approximately 1 080 m above the ground. He descended to the height of approximately 820 m above the ground on the open main parachute. At this height,



## Number of Fatal Accidents and Number of the Dead

Aircraft Category (MTOM)	Number of Fatal Accidents			Number of the Dead		
	2012	2013	2014	2012	2013	2014
Over 5 700 kg	0	0	0	0	0	0
From 2 251 to 5 700 kg	1	0	0	2	0	0
2 250 kg and less	3	1	2	5	1	2
<b>Total</b>	<b>4</b>	<b>1</b>	<b>2</b>	<b>7</b>	<b>1</b>	<b>2</b>
<b>SFE Category</b>						
ULA	1	1	4	2	1	6
ULG	0	0	0	0	0	0
ULH and ULGP	0	1	0	0	1	0
PG, MPG, HG and MHG	0	2	2	0	2	2
<b>Total</b>	<b>1</b>	<b>4</b>	<b>6</b>	<b>2</b>	<b>4</b>	<b>8</b>
<b>Parachuting</b>	<b>3</b>	<b>4</b>	<b>1</b>	<b>3</b>	<b>4</b>	<b>1</b>
<b>Total all Accidents</b>	<b>8</b>	<b>9</b>	<b>9</b>	<b>12</b>	<b>9</b>	<b>11</b>

ULA UL Aircrafts  
 ULH UL Helicopters  
 ULG UL Gliders

ULGP UL Gyroplanes  
 HG Hang Gliders  
 MHG Motorized Hang Gliders

PG Para Gliders  
 MPG Motorized Para Gliders  
 SFD Sport Flying Device





the parachutist threw away the main parachute. He did not solve the situation by immediate opening of the reserve parachute. He was falling down in a stabilized breast position. In the crash, the parachutist suffered lethal injuries. The cause was a failure to activate the reserve parachute with a hand releaser after the throwing away of the main parachute. A jointly affecting cause was a failure to open the reserve parachute with a fully functional safety device, which was activated at a height of 230–260 m above the ground. There was a complete cut of the closing cord of the reserve parachute. Probably due to the incorrect length of the cord or a possibly faulty installation of the pilot chute into the packing part or a combination of these two factors, the flaps of the reserve parachute did not open.

- Another fatal parachuting accident occurred on August 28, 2014 on the northern, Polish slope of Sněžka. A “basejumper” parachutist equipped with a VAMPIRE 4 overall was planning an advertising jump from a motorized para glider from the height of 500 m under the top of Sněžka with the subsequent 3–5 m flight past a terrain break under the top of the mountain with the speed of 180–200 km/h. Subsequently, he intended to land with the use of a parachute in Obří důl. The pilot of an MPG started from the Vrchlábí airfield with the parachutist on board and carried out his dropping in the area of Sněžka. After a flight lasting several seconds, the parachutist fell down on brush 150 m north off the top of Sněžka (on the Polish territory) and suffered fatal injuries.

## Summary of Accidents within the Czech Republic (for the period 2012–2014)

Aircrafts registered in the Aircraft Register (with the exception of SFE)

Category of Aircraft (MTOM)	Number of Accidents		
	2012	2013	2014
<b>Aircrafts</b>	<b>10</b>	<b>13</b>	<b>15</b>
Over 5 700 kg	1	0	0
From 2 251 to 5 700 kg	1	0	0
2 250 kg and less	8	13	15
<b>Helicopters</b>	<b>1</b>	<b>1</b>	<b>3</b>
Over 5 700 kg	0	0	0
From 2 251 to 5 700 kg	0	0	0
2 250 kg and less	1	1	3
<b>Gliders incl. motorized ones</b>	<b>11</b>	<b>10</b>	<b>15</b>
<b>Balloons and airships</b>	<b>2</b>	<b>0</b>	<b>0</b>
<b>Total Accidents</b>	<b>24</b>	<b>24</b>	<b>33</b>

## Unmanned Aircrafts (UA)

Category of UA according to the purpose	Number of Accidents		
	2012	2013	2014
Sport and recreation	0	0	0
Commercial	0	0	2
<b>Total Accidents of UA</b>	<b>0</b>	<b>0</b>	<b>2</b>

## Sport Flying Equipment (SFE)

Category of SFE	Number of Accidents		
	2012	2013	2014
ULA	10	16	20
ULG	0	0	1
ULH and ULGP	1	3	1
PG, MPG, HG and MHG	16	20	9
<b>Total Accidents of SFE</b>	<b>27</b>	<b>39</b>	<b>31</b>
<b>Parachuting Accidents Total</b>	<b>22</b>	<b>18</b>	<b>25</b>



## ACCIDENTS WITH NO FATALITIES

In 2014, human error was the most frequent cause of these accidents. Out of the total number of 15 accidents in the category of aircrafts, 13 accidents were caused by faulty piloting namely during the takeoffs or landings and due to the underestimation of the basic flight safety rules. Only two accidents of aircrafts were caused by a technical failure. In case of an L 200D accident this was an engine failure and insufficient engine power the crew had to solve by a procedure of emergency landing to terrain. An accident to a PA28R was caused by a landing gear breakdown. In the category of helicopters, the cause of the accident of an R 44 Raven I was incorrect flying in the practice autorotation and the cause of an accident of an R 44 Raven II was incorrect flying practice in emergency landing. During the accident of an R 22 helicopter an operational malfunction of the drive belt in the drive system of the main rotor affected adversely revolutions of the main rotor not only upon the transition of the helicopter into autorotation but namely in the stage of landing in autorotation. In the category of gliders, out of the total number of 11 accidents, 8 were related to errors in landing of the gliders namely to terrain after the interruption of thermal flight. An accident of an unmanned aircraft was caused by a breakdown in communication between the control unit and engine regulator, the stopping of one engine and a subsequent fall. The second accident was also caused by a technical failure. In the category of sport flying equipment, we may characterize the causes of accidents to ultralight aircraft mainly as faulty flying

during landing and during emergency landing due to the loss of power of the drive unit. In the category of para gliders, the causes in the past year were mainly faulty flying during takeoff and during flying in inconvenient meteorological conditions when deformations occur of the carrying surface due to the strong wind or a combination of strong wind and thermic gusts. Considerable effort is devoted to ensuring technical expert examinations, which were related to the investigation of causes of fatal accidents or serious incidents. In the area of expert activities, the Institute in particular co-operated with specialized workplaces of VZLÚ, a. s., Aircraft Industries, a. s., GE Czech, a. s., SCS, a. s., Institute of Criminology of the Police of the Czech Republic and the Forensic Medicine Institute of the Central Military Hospital and others e.g. service centers for Rotax and Lycoming engines or smaller producers of aircrafts and engines. In February 2014, a seminar was held in cooperation with the Civil Aviation Authority of the Czech Republic and LOM Praha, s. p. focused on operational reliability of engines series M 137/337. The seminar was beneficial for efficient solving of problems in the operational reliability of engines and obtaining of documents for adopting of corrective measures by the producer. In the course of 2014, AAI continued with activities in utilization of authorized legal entities. Within this cooperation, inspectors of AAI used 9 organizations for investigation of causes and partial assistance in total 38 cases of occurrences. In these cases, the inspectors ensured assistance and supervision during the investigation.

## INVESTIGATION OF FOREIGN ACCIDENTS

In 2014, in total 5 accidents occurred to aircrafts registered in the Czech Republic, out of this one aircraft operated in the commercial air traffic. AAI participated through accredited representatives, by providing expert opinions and assistance with producers of aircrafts. AAI directly assumed the investigation of the cause of

one accident. Apart from this, in 2014 the Institute also participated by providing information in investigation of causes of other 29 foreign accidents related namely to the operation of an aircraft L-410, several types of ultralight aircrafts, aero engines, aggregates and components of the aircraft systems of Czech manufacturers.





# INCIDENTS



In the total number of reported occurrences, incidents form the largest category. These are occurrences different from aviation accidents that are related to the aircraft operation, which affect or may affect the safety of operation. The classification depends on the severity of consequences for the operational safety. An incident, the circumstances of which indicate a high probability of an accident, is classified in accordance with the ICAO standards and EU regulation a serious incident.

## SERIOUS INCIDENTS TO AIRCRAFT WITH MTOM OVER 2 250 KG

In 2014, 8 occurrences were classified as a serious incident within the framework of mandatory occurrence reporting, out of this 4 cases were related to aircrafts operated in commercial aviation and registered in the Czech Republic. One serious incident occurred within the territory of the Czech Republic, others were reported from abroad. AAII conducted investigation of causes and preparation of conclusions of two serious incidents. Apart from this, AAII collected and analyzed information in some less serious incidents to draw safety information for prevention of aviation accidents.

- On 13 May 2014, a serious incident occurred when the minimum radar separation was reduced between two ATR 72 aircrafts flying in the Praha-Ruzyně airport. The cause for the reducing of the prescribed minimum separation was a faulty issued air traffic control clearance by the relevant traffic controller, the consequence of which was that both ATR 72 aircrafts were descending and maintained an identical flight level in the same holding side above the RATEV point.



- AAII also investigated causes of a serious incident of an Airbus A319 aircraft, which occurred on September 19, 2014. While flying along the route in FL 370 in the airspace of Bulgaria overpressure was lost. The cause was a spontaneous opening of one or both safety valves of the cabin overpressure system due to the freezing over of their control unit. The crew safely landed at an alternative airport.
- Three serious incidents to aircrafts operated in commercial aviation and registered in the Czech Republic are under investigation by foreign authorities in cooperation with AAII and domestic carriers.

## SERIOUS INCIDENTS IN OPERATION TO AIRCRAFT WITH MTOM UNDER 2 250 KG

In 2014, no serious incident occurred within the territory of the Czech Republic to the category of aircrafts, helicopters, and gliders and SFE (with the exception of sport parachuting) of this MTOM registered in the Czech Republic.

## SERIOUS INCIDENTS IN PARACHUTING

In total 88 occurrences that were classified as serious incidents in terms of severity occurred in parachuting.

## INCIDENTS IN 2014

In total 322 incidents were reported. Some were related to more categories of aircraft or only ground ATM systems. In the category of aircrafts, 262 incidents were reported. In the category of helicopters, gliders and balloons 34 incidents were reported. In the category of sport flying equipment in total 23 occurrences that were classified as incidents in terms of severity occurred in parachuting. On a year-on-year basis, there was a reduction in the number of reported incidents by approximately 19 %.

## INCIDENTS RELATED TO ATM SAFETY

The year 2014 can be considered a successful one in terms of occurrences related to ATM safety. AAII cooperated with a specialized department of safety of ANS CR in analyzing severity and causes of occurrences related to safety. In 2014, there was no accident with direct or indirect influence of ATM.

In total 6 occurrences were classified in terms of severity a “Major Incident” – scoring three on a five-point severity scale in accordance with the EUROCONTROL classification).

In two cases it was the reduction of separation minimum. The cause of the reduction of separation minimum of aircrafts, which were passing each other on the track, was the failure of an air controller. Also the cause of the reduction of separation minimum of aircrafts during landing at the Brno Tuřany airport that occurred on October 24, 2014 was a failure of an air controller.

In four cases, it was interference of restricted area, out of which two occurrences were in commercial aviation due to a failure of an air controller. In one case, the cause was a failure of a balloon pilot and the last cause was a failure of an ultralight aircraft pilot.

The causes of other reported incidents with lower severity levels related to ATM safety mostly rested in non-compliance with ATM safety regulations and incorrect procedures performed by pilots or air traffic controllers.





## Summary of Incidents in 2014

Category of Aircraft	Total Number of all Incidents	Number of Serious Incidents	Number of Incidents
<b>Aircrafts</b>			
Over 5 700 kg	168	5	163
From 2 251 to 5 700 kg	25	0	25
2 250 kg and less	77	3	74
<b>Helicopters</b>			
Over 5 700 kg	4	0	4
From 2 251 to 5 700 kg	1	0	1
2 250 kg and less	10	0	10
<b>Gliders including Motorized Gliders</b>	<b>16</b>	<b>0</b>	<b>16</b>
<b>Balloons and Airships</b>	<b>3</b>	<b>0</b>	<b>3</b>
<b>Unmanned Aircrafts</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Aircrafts Registered in the Register</b>	<b>314</b>	<b>8</b>	<b>296</b>
<b>Sport Flying Equipment</b>			
UL Aircrafts	20	0	20
Ultralight Helicopters and Gyroplanes	2	0	2
UL Gliders	0	0	0
Para Gliders	0	0	0
Motorized Para Gliders	0	0	0
Hang Gliders	0	0	0
Motorized Hang Gliders	1	0	1
<b>Total Sport Flying Equipment</b>	<b>23</b>	<b>0</b>	<b>23</b>
<b>Total all Incidents</b>	<b>327</b>	<b>8</b>	<b>319</b>
<b>Sport and Tandem Parachuting</b>	<b>88</b>	<b>88</b>	<b>0</b>

## □ FULFILLMENT OF LONG-TERM TASKS

□ Within the area of cooperation with elements of the Integrated Rescue System, AAII actively participated in the preparation and course of training of the bodies of the emergency management of the South Moravian Region focused on the managing of a crisis situation in relation to an aviation accident of a big aircraft. Conclusions of the exercise will be applied for further improvement of cooperation with the elements of the IRS and Police bodies at the scene of an accident. Another example of cooperation is the participation in a joint exercise of the Army of the Czech Republic the theme of which was an aviation accident in a residential area that was held in Náměšť nad Oslavou. During 2014, AAII evaluated the performance of legal entities in accordance with Act No. 49/1997 Coll., on Civil Aviation, authorized to investigate the causes of accidents, and granted new authorizations to legal entities. Their updated list and the scope of their authorizations are published on the website.

The Institute was also actively involved in the preparation of an implementing regulation to the Regulation (EU) No 376/2014 of the European Parliament and of the Council on the reporting, analysis and follow-up of occurrences in civil aviation. Apart from this, AAII also participated in the activities of

a working group for coordination of measures of the Local Single Sky Implementation Document (LSSIP 2014) and in tasks of the working group on the issue of Runway Safety.

In 2014, collaboration continued with other partner organizations involved in civil aviation in coordinating of procedure of the state administration bodies against the intentional directing of dazzling light sources (lasers) at flying airplanes.

AAII provided the development of the annual summary 2014 report for the European Organisation for the Safety of Air Navigation (EUROCONTROL). The report provides data for analyzing causes of occurrences in the provision of air traffic service on the European scale and is the basis for evaluation of the Performance Plan of the Czech Republic in compliance with the "Single European Sky" legislation.

AAII actively participated in a regular seminar of specialists of the Criminal Police Service and Investigation of the Police of the Czech Republic focused on investigation of accidents. AAII also arranged professional lectures for the conference of the Institute of Aviation Medicine, Prague and within the training of AMO doctors focused on the cooperation of forensic medicine specialists and AAII inspectors in investigation of fatal accidents.

## □ PUBLIC RELATIONS

□ Public relations in 2014 were focused on active and regular informing the general flying public. AAII organized a total of four quarterly meetings of flight safety. On its website [www.uzpln.cz](http://www.uzpln.cz), the Institute published materials from the meetings in the form of presentations and informed about occurrences on a continuous basis. It also published information on closed investigations and notifications of accidents of Czech-made aircraft abroad in a manner enabling remote access.

AAII presented its findings on aviation safety at a technical aviation seminar intended to exchange experience and opinions among representatives of general aviation, training organizations of ANS CR, Ministry of Transportation and the Civil Aviation Authority.

In the area of cooperation with universities, AAII presented its experience at an international conference on operational safety at the Žilina University. AAII also organized professional lectures at







the University of Defense, Brno, cooperation with students within the framework of the study programs of the University of Business in Prague and cooperation for the improvement of safety in the category of helicopter flying within general aviation. No applicant contacted the Institute in the area of providing information under Act No. 106/1999 Coll., on Free Access to Information, as amended. The Institute's website is an important source of information about the current safety situation for the needs of interested professionals. The data protection guarantee for the voluntarily reporting person is also important for professional public. Access to data in the database, from which all personal information is removed,

is restricted to authorized persons only. Skydivers may use an electronic reporting form for notification of accident and incidents, which is also transmitted to CAA.

As usual, an essential part of communication with the flying public were lectures given by AAI's inspectors at specialized seminars and at courses for pilots and engineers from flying clubs and LAA CR. Emphasis was placed on cooperation with the Civil Aviation Authority and Light Aircraft Association of the Czech Republic within the project of the safety campaign "Doletíš" ["And you will land safely"], which provides a place for prevention in an integrated manner, as well as for sharing experiences from past mistakes.

## INTERNATIONAL CO-OPERATION AND OTHER ACTIVITIES

AAII organized working meetings focused on cooperation with the Slovak and Polish authorities for investigation of accidents. The subject matter of this cooperation was the improving of mutual assistance and exchange of information from concrete cases of occurrences in aircrafts of Czech manufacture.

An AAI representative took an active part in a course organized within the framework of the European Network of Civil Aviation Safety Investigation work programme focusing on major accidents. Another fact of importance was the participation of three inspectors in an ECAC/ACC Workshop focused on investigation of accidents in hostile environment under extraordinary complex conditions.

AAII cooperated with investigation authorities from other countries namely in cases of requests that are most often sent by foreign authorities in case of accidents in which the Czech Republic was the State of the aircraft manufacture or the drive unit manufacture. The Institute cooperated successfully with 11 partner organizations e.g. from Finland, Croatia, Switzerland, Portugal and USA. Contrarily, continuous efforts of AAI regarding the issuing of a final report by the Austrian authority from investigation of

an L13 Blaník glider accident in 2010 remained without a positive reaction.

Within the framework of participation in the activities of the institutions of international co-operation in 2014 the Institute actively participated in representation of the Czech Republic in the following organizations:

- European Network of Civil Aviation Safety Investigation Authorities, steering committee established by the Regulation (EU) No. 996/2010 of the European Parliament and of the Council on the investigation and prevention of accidents and incidents in civil aviation,
- European Working Group of Accident Investigation Authorities of ACC/ECAC,
- European Working Group for Co-ordination of Reporting of ATM-Related Safety Occurrences within the European Organization for the Safety of Air Navigation, EUROCONTROL,
- Network of Aviation Safety Analysts within the framework of NoA/ EASA, which in particular focuses analysis of information contained in the central database.

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