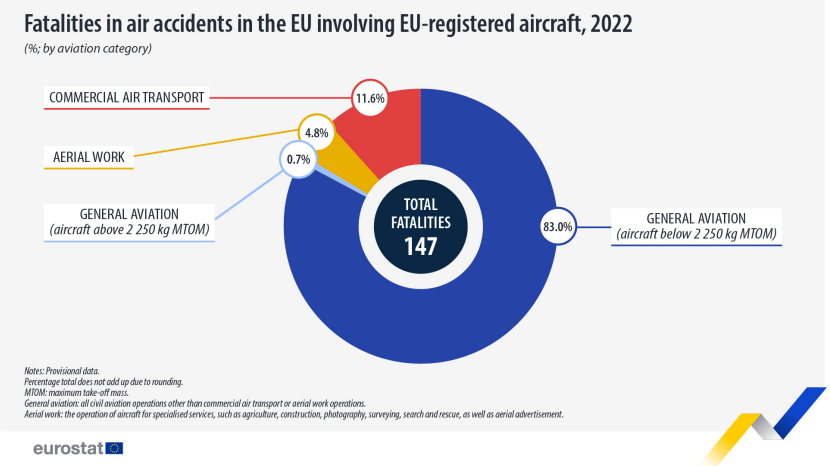
Air safety statistics in the EU

Statistics Explained

Data from September 2023.
Planned article update: September 2024.

" There were 49 fatalities in commercial air transport accidents and 716 fatalities in other aviation category accidents in EU territory over the period 2018-2022 involving EU-registered aircraft."

" Over the last seven years, there were no worldwide major accidents in commercial air transport involving EU-registered aircraft."



Detailed data from the European Union Aviation Safety Agency (EASA) show a good safety record for commercial air transport in the European Union over the past years. However, a single major accident, as experienced in 2015, can seriously affect this generally positive image. Most fatalities are recorded in general aviation and more specifically in light aircraft (below 2 250 kg maximum take-off mass (MTOM)).

EASA is an agency of the European Union, governed by European public law. EASA has established common requirements for the regulation of safety and environmental sustainability in civil aviation. It collects detailed data on aviation incidents and accidents and performs in-depth safety-relevant analyses.

Most of the air accident fatalities concerned general aviation

In its Annual Safety Review 2018, the European Union Aviation Safety Agency (EASA) highlighted that 2017 was an exceptional year for global airline safety, with fewer fatalities than at any time in the industry's history (155 deaths). In the Annual Safety Review 2019, EASA reminded that there is no room for complacency, after the increase observed in 2018: 189 persons in total died in aviation accidents in EU territory in 2018 and involving EU-registered aircraft. As highlighted in EASA's Annual Safety Review 2020, the COVID-19 pandemic brought new challenges to every aspect of life and industry on earth. In particular, the air transport industry was severely

impacted as a consequence of the restrictive measures taken by countries around the world to prevent the spread of the pandemic. The Annual Safety Review 2022 pointed out the risk on safety due to the reduced flying time of pilots over an extended period, the traffic in Europe being back around 85 % of 2019 levels. The Annual Safety Review 2023 confirmed the trend with traffic levels at around 93 % of the pre-pandemic levels.

In 2022, 147 fatalities were recorded in aviation accidents involving EU-registered aircraft and within the EU territory. Every past year, most of the air accident fatalities concerned general aviation. In 2022, 83.0 % of the fatalities recorded also concerned this category (see Figure 1). General aviation (aeroplanes and helicopters) consists of all civil aviation operations other than commercial air transport and specific types of aerial work operations. General aviation has two sub-categories: operations with aircraft with a maximum take-off mass (MTOM) above 2 250 kg and below 2 250 kg. More specifically, the latter sub-category, which comprises small aeroplanes, dirigibles, para- and motor-gliders, 'microlights', small helicopters as well as hot air balloons, recorded the highest share of fatalities (83 % of all fatalities in aviation accidents). In most past years, fatalities recorded in air transport were registered in this category. An exception was the year 2015, when a high number of fatalities were recorded in commercial air transport due to the crash of a German aircraft in the French Alps (150 fatalities). In 2022, there was one person killed in general aviation accidents involving EU-registered aircraft with a MTOM above 2 250 kg; this is far below 2021 when nine persons were killed. Since 2006, fewer than 10 fatalities were registered every year from accidents in EU territory involving such large aircraft registered in the EU.

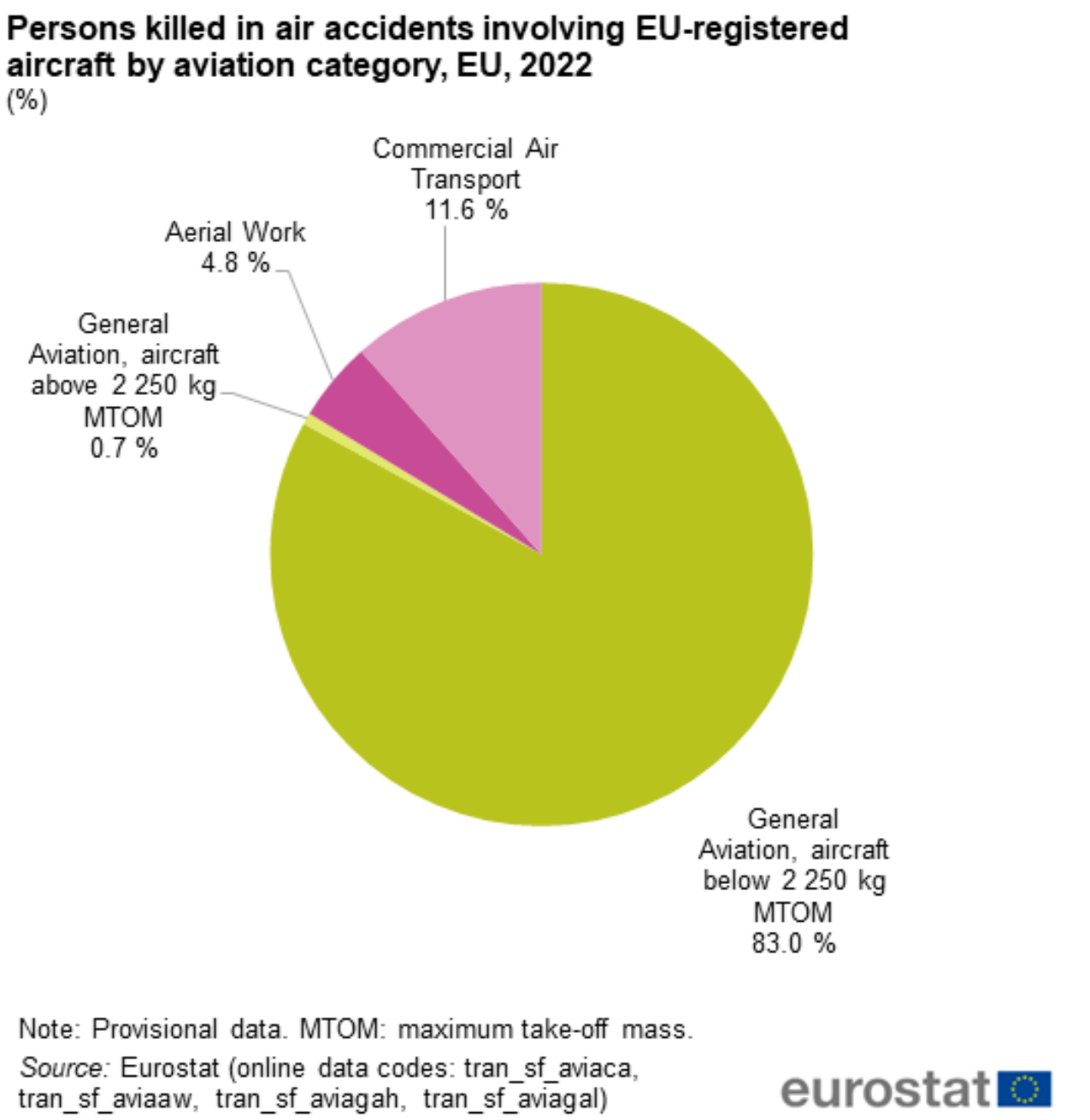


Figure 1: Persons killed in air accidents involving EU-registered aircraft by aviation category, EU, 2022 (%)
Source: Eurostat, (tran_sf_aviaca), (tran_sf_aviaaw), (tran_sf_aviagah), (tran_sf_aviagal)

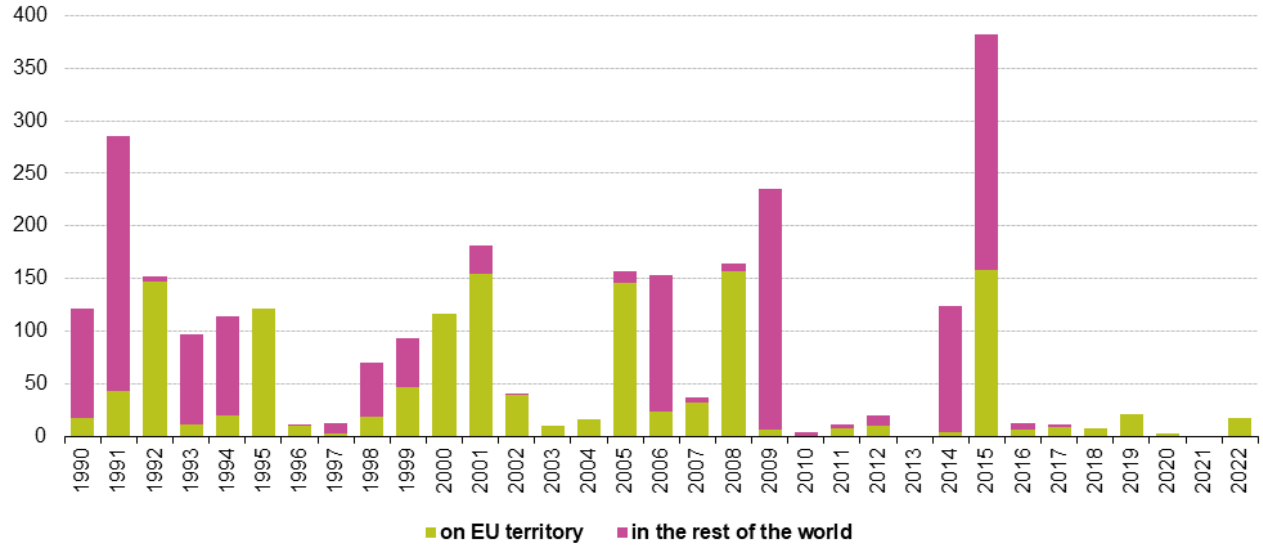
In 2022, the second category with the most fatalities was commercial air transport, which represented 11.6 % (17 persons killed) of all fatalities in aviation accidents. In comparison, there was no fatality in 2021, three occurred in 2020 and 21 in 2019. To complete the picture, fatalities involving aerial work accounted for 4.8 % (seven persons killed) of all fatalities in aviation accidents. Aerial work denotes the operation of aircraft for specialised services, such as agriculture, construction, photography, surveying, observation and patrol, search and rescue as well as aerial advertisement.

No major accidents involving EU-registered aircraft were recorded in commercial air transport over the last 7 years

Figure 2 shows the number of persons killed in commercial air transport accidents involving EU-registered aircraft for the period 1990-2022. Information on whether the accident took place in EU territory or elsewhere in the world is also presented in the figure. From 2016 to 2022 no major accidents were recorded in commercial air transport.

However, 2015 was marked by the German aircraft crash mentioned above and the accident on the Sinai Peninsula (Egypt) involving an Irish-registered aircraft on a charter flight (224 fatalities). In July 2014, an aircraft registered in Spain, but leased to an Algerian operator, crashed in Mali (116 fatalities). In 2009, the accident over the South Atlantic Ocean involving a French aircraft on the way from Brazil claimed 228 lives, representing 91 % of all fatalities registered that year. A year earlier, the crash of a Spanish jet during take-off from Madrid's Barajas airport resulted in 154 fatalities. In 2006, an accident involving a French-registered aircraft, operated by a Russian company, crashed in Irkutsk (Russia). This incident accounted
for 125 deaths that year. In 2005, 121 fatalities were victims of a crash of a Cyprus-registered aircraft close to Athens.

Persons killed worldwide in commercial air transport involving EU-registered aircraft, by area of occurrence, 1990-2022
(number)



Note: 2020-2022: Provisional data. There was no person killed in 2013 and 2021.
Source: Eurostat (online data code: tran_sf_aviaca)

Figure 2: Persons killed worldwide in commercial air transport involving EU-registered aircraft, by area of occurrence, 1990-2022 (number) Source: Eurostat, (tran_sf_aviaca)

There were also other fatal air transport accidents in the airspace of the European Union involving aircraft that were not registered in the European Union. Figure 3 presents the number of all fatalities in commercial air transport accidents since 1990 in EU territory, regardless of whether the aircraft involved were registered in an EU Member State or in another country. Thus, the information in Figure 3 includes accidents such as the crash of a Ukrainian-registered passenger aircraft close to Thessaloniki/Greece in 1997 (70 fatalities) and the mid-air collision between a Russian passenger aircraft and a Bahraini-registered cargo aircraft over south Germany in 2002 (71 victims). However, the previously mentioned accidents involving an Irish-registered aircraft on the Sinai Peninsula (Egypt) and a French-registered aircraft in Irkutsk (Russia) are not included in the data presented in Figure 3, as these accidents occurred outside EU territory.

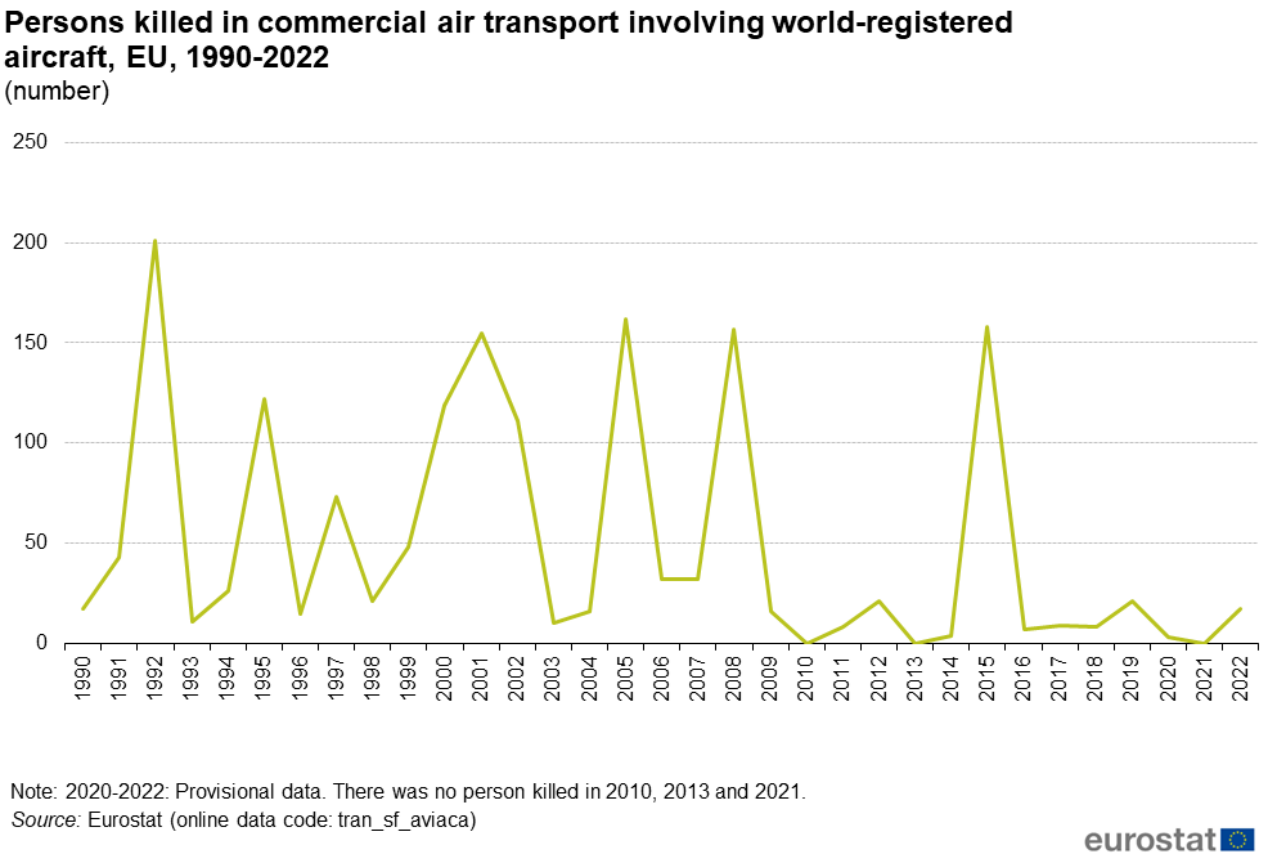


Figure 3: Persons killed in commercial air transport involving world-registered aircraft, EU, 1990-2022 (number) Source: Eurostat, (tran_sf_aviaca)

The year 1992 saw a particularly high number of fatalities. This was in large part caused by three major crashes: a French aircraft in the Vosges mountains in France (87 deaths), a Dutch aircraft at Faro (Portugal) airport (56 fatalities, 305 injured) and an Israeli-registered cargo plane in an Amsterdam suburb (47 fatalities, of which 43 occurred on the ground). The years when not a single person was killed in an air transport accident in the European Union were 2010, 2013 and 2021.

There were 784 fatalities in aviation accidents involving EU-registered aircraft over the period 2018-2022

Table 1 presents the cumulated number of persons killed in aviation accidents over the period 2018-2022, by country of registration, area of occurrence (worldwide or in EU territory) and aviation category. Worldwide, there were 686 fatalities in general aviation accidents involving EU-registered aircraft. More specifically, 665 concerned aircraft below 2250 kg MTOM. Over the same period, 49 persons were killed in aerial work accidents and another 49 persons in commercial air transport accidents involving EU-registered aircraft. Out of all those killed worldwide, 49 fatalities in com-
mercial air transport accidents, 48 in aerial work and 668 in the general aviation category occurred in the EU territory.

Persons killed in aviation accidents by country of registration, area of occurrence and aviation category, 2018-2022
(number)

Country of registration	Occurrence: worldwide (incl. EU territory)				Occurrence: EU territory			
	Commercial Air Transport	Aerial Work	General Aviation, aircraft above 2 250 kg MTOM	General Aviation, aircraft below 2 250 kg MTOM	Commercial Air Transport	Aerial Work	General Aviation, aircraft above 2 250 kg MTOM	General Aviation, aircraft below 2 250 kg MTOM
EU	49	49	21	665	49	48	21	647
Belgium	0	2	0	6	0	2	0	6
Bulgaria	0	0	0	3	0	0	0	3
Czechia	0	6	0	30	0	6	0	30
Denmark	0	0	0	1	0	0	0	1
Germany	11	4	1	177	11	4	1	176
Estonia	0	0	0	0	0	0	0	0
Ireland	0	0	0	3	0	0	0	3
Greece	4	0	0	3	4	0	0	2
Spain	3	3	2	36	3	3	2	36
France	2	8	1	261	2	7	1	245
Croatia	0	0	0	2	0	0	0	2
Italy	27	0	4	39	27	0	4	39
Cyprus	0	0	0	0	0	0	0	0
Latvia	0	0	0	2	0	0	0	2
Lithuania	0	0	0	9	0	0	0	9
Luxembourg	0	0	0	0	0	0	0	0
Hungary	1	0	0	7	1	0	0	7
Malta	0	0	0	0	0	0	0	0
Netherlands	0	0	2	18	0	0	2	18
Austria	1	1	3	13	1	1	3	13
Poland	0	6	0	21	0	6	0	21
Portugal	0	0	0	5	0	0	0	5
Romania	0	0	8	11	0	0	8	11
Slovenia	0	0	0	2	0	0	0	2
Slovakia	0	0	0	4	0	0	0	4
Finland	0	0	0	4	0	0	0	4
Sweden	0	19	0	8	0	19	0	8
Iceland	0	0	0	1	0	0	0	0
Liechtenstein	0	0	0	0	0	0	0	0
Norway	8	4	0	9	0	1	0	0
Switzerland	24	4	4	38	0	0	4	8

Note: Provisional data. MTOM: maximum take-off mass.
Source: Eurostat (online data code: tran_sf_aviaca, tran_sf_aviaaw, tran_sf_aviagah, tran_sf_aviagal)

eurostat

Table 1: Persons killed in aviation accidents by country of registration, area of occurrence and aviation category, 2018-2022 (number) Source: Eurostat, (tran_sf_aviaca), (tran_sf_aviaaw), (tran_sf_aviagah), (tran_sf_aviagal)

In the period 2018-2022, there was not a single fatality due to accidents involving aircraft registered in Estonia, Cyprus, Luxembourg and Malta. Over the same period, there were less than 10 fatalities in accidents involving aircraft registered in 13 other EU Member States. The number of fatalities was between 10 and 50 in accidents involving aircraft registered in seven additional Member States. Most fatalities in aviation accidents occurred with aircraft registered in France and Germany (272 and 193 persons killed, respectively) between 2018 and 2022. When looking at commercial air transport, the highest number of fatalities involved aircraft registered in Italy over the same period (27 persons killed).

Table 2 presents the cumulated number of persons killed in aviation accidents over the period 2018-2022, by country of occurrence and aviation category, for all aircraft regardless of their country of registration.

Overall, there were 783 fatalities in air transport accidents that occurred in the EU territory. Amongst these, 49 concerned commercial air transport accidents, 49 aerial work accidents and 685 general aviation accidents (26 concerned aircraft with a MTOM above 2250 kg and 659 for aircraft with a MTOM below 2250 kg). As small aircraft are involved, accidents involving aircraft with a MTOM below 2250 kg often occur in the country in which the aircraft is registered. However, in the other aviation categories, differences between the country of registration of the aircraft and the country of occurrence of the accident can be higher.

Persons killed in aviation accidents by country of occurrence and aviation category, 2018-2022

(number)

Country of occurrence	Commercial Air Transport	Aerial Work	General Aviation, aircraft above 2 250 kg MTOM	General Aviation, aircraft below 2 250 kg MTOM
EU	49	49	26	659
Belgium	0	1	0	12
Bulgaria	0	0	0	5
Czechia	0	7	1	31
Denmark	0	0	0	3
Germany	4	4	6	148
Estonia	0	0	0	0
Ireland	0	0	0	3
Greece	4	0	0	8
Spain	9	3	2	48
France	2	6	2	234
Croatia	0	0	0	6
Italy	23	0	13	41
Cyprus	0	0	0	0
Latvia	0	0	0	1
Lithuania	1	0	0	9
Luxembourg	0	0	0	0
Hungary	1	0	0	7
Malta	0	0	0	0
Netherlands	0	1	0	15
Austria	1	1	0	16
Poland	0	6	0	28
Portugal	4	0	0	8
Romania	0	0	0	16
Slovenia	0	1	0	3
Slovakia	0	0	0	6
Finland	0	1	2	4
Sweden	0	18	0	7
Iceland	0	0	0	1
Liechtenstein	0	0	0	0
Norway	8	3	0	8
Switzerland	24	4	0	31

Note: Provisional data. Accidents involving all aircraft regardless of their country of registration.
MTOM: maximum take-off mass.

Source: Eurostat (online data code: tran_sf_aviaca, tran_sf_aviaaw, tran_sf_aviagah, tran_sf_aviagal)

eurostat

Table 2: Persons killed in aviation accidents by country of occurrence and aviation category, 2018-2022 (number) Source: Eurostat, (tran_sf_aviaca), (tran_sf_aviaaw), (tran_sf_aviagah), (tran_sf_aviagal)

In the period 2018-2022, no fatality was recorded in Cyprus, Luxembourg and Malta. Over the same period, there were less than 10 fatalities in eight other EU Member States. The number of fatalities was between 10 and 50 in 10

additional Member States. Most fatalities in aviation accidents occurred in France and Germany (244 and 162, respectively) between 2018 and 2022. When looking at commercial air transport, Italy registered the highest number of fatalities over the same period (23 persons killed).

Source data for tables and graphs

- Air safety statistics

Data sources

On 30 March 2015 an administrative arrangement between Eurostat and the European Union Aviation Safety Agency (EASA) was signed regarding the technical cooperation in the field of air transport safety statistics.

The data presented in this article stem from the European Union Aviation Safety Agency (EASA). The EASA is an agency of the European Union that is governed by European public law and establishes common requirements for the regulation of safety and environmental sustainability in civil aviation. EASA was set up by a Council and Parliament regulation (Regulation (EC) 1592/2002 repealed by Regulation (EC) No 216/2008 and amended by Regulation (EC) 1108/2009). The EASA collects detailed data on aviation incidents and accidents and performs detailed safety-relevant analyses as far as possible. The agreement between EASA and Eurostat allows for the dissemination of selected statistical data through Eurostat's dissemination database.

All data displayed in this article are annual, with available time series going back to 1990 for commercial air transport and general aviation with aircraft over 2250 kg MTOM. For the other categories, data are somewhat less reliable and are only available since 2006. Data for 2020, 2021 and 2022 should be considered provisional, as accident investigations may still be ongoing. The conclusions of the final investigation reports might therefore slightly alter the figures.

Data are collected by EASA under the frame of the Commission Regulation (EU) No 965/2012 . The so-called 'Air Ops Regulation' contains provisions for the following types of air operations with aeroplanes and helicopters:

- commercial air transport (CAT) operations,
- non-commercial operations with complex motor-powered aircraft (NCC),
- non-commercial operations with other-than complex motor-powered aircraft (NCO), and
- specialised operations (e.g. aerial work), both commercial and non-commercial (SPO).

The Air Ops Regulation is applicable to all the EU Member States and to all operators of aeroplanes and helicopters which have their principal place of business, are established or reside in an EU Member State. More information about Specialised Operations and General Aviation are available on EASA website.

Context

The implementation of the Single European Sky (various legislative packages, 2004-2014) resulted in a considerable increase in air traffic and the number of air carriers. Aviation safety in the European Union is based on close cooperation between the European Commission, the EASA, Eurocontrol and the national civil aviation authorities, but also with aircraft manufacturers, airlines, and, considering the inherently international nature of air transport, the International Civil Aviation Organisation (ICAO) . The backbone of this cooperation is a set of common safety rules, directly applicable in a uniform manner across the EU. Safety checks are performed at European airports on a random basis, but with particular attention to companies which have previously shown safety deficiencies. This can lead to restrictions or even the banning of non-compliant air carriers from flying to Europe.

Other articles

- Passenger transport statistics

Tables

- Transport

Database

- Transport , see:

Multimodal data

Transport safety (tran_sf)

Dedicated section

- Transport

Publications

- All transport publications online
- Energy, transport and environment statistics - 2020 edition
- Key figures on European transport - 2022 edition

Methodology

- Metadata relating to Eurobase air safety tables
- Illustrated Glossary for transport statistics, Fifth edition, 2019

Legislation

- Regulation (EC) No 2018/1139 on common rules in the field of civil aviation and establishing a European Union Aviation Safety Agency

External links

- [https://www.easa.europa.eu/en/document-library/general-publications/annual-safety-review-2023 EASA Annual Safety Review 2023]
- DG Mobility and Transport – Air Transport policy
- DG Mobility and Transport – European Aviation Safety Policy
- List of banned airlines
- DG Mobility and Transport – European Aviation Safety Rules