

Aviation Safety Review 2021

CAP 2399



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Introduction

This Annual Safety Review for United Kingdom is compiled by the Safety Intelligence team of the UK Civil Aviation Authority.

It presents the safety performance of UK civil aviation to the end of 2021. Data is subject to change as ongoing investigations are completed.

This review is prepared using occurrence reporting data collected in accordance with [UK EU 376/2014](#). Occurrences that have been reported to UK CAA, have occurred in or outside United Kingdom involving UK registered aircraft.

UK airspace and UK airlines are among the safest in the world. There has not been a fatality on a commercial airline in the UK since 1989. Even with this success, we are not complacent; Government is committed, through the UK state safety system, to maintaining and improving the high safety standards in aviation. Visit our webpages for more on [UK National Aviation Safety Plan](#).

Why is Occurrence Reporting important?

As the aviation industry continues its recovery from COVID-19 and flights start to significantly rise reporting safety occurrences has never been more important. As well as helping to raise direct issues it also helps us and operators to see emerging trends and act before they develop into a more serious issue.

The whole industry and the CAA support just culture in aviation – protecting you and making it easier to report.

For more detail and to report an occurrence direct to the CAA visit our occurrence webpages [occurrence-reporting](#).

Commercial Air Transport (CAT)

Scheduled CAT

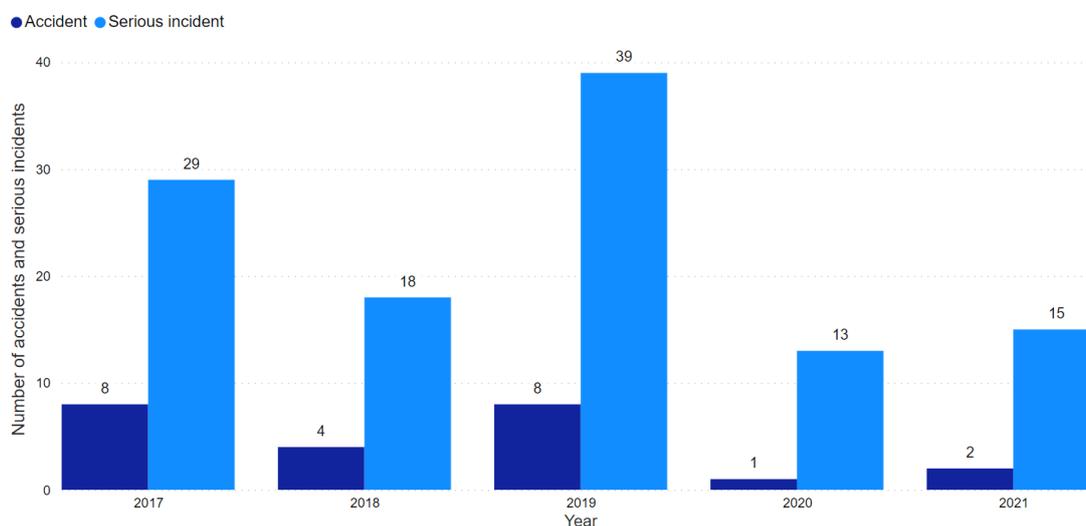
Scheduled Commercial Air Transport accounts for the majority of passenger and cargo flights in the UK. This sector consists of airlines operating large fixed-wing jet aircraft and is the most common way the public interact with the aviation system.

In 2021 this sector flew over 26 million passengers and 600,000 tonnes of cargo on just under 300 thousand flights. Prior to the pandemic this sector operated over one million flights and carried over 140 million passengers per year.

In 2021 there were 2 accidents and 15 serious incidents, no fatal or serious injuries were reported. The accidents involved a hard landing and a nose gear collapse while loading. Both involved cargo flights with no passengers.

The majority of accidents and serious incidents occurred within the UK (75%). The most common identified cause was due to technical malfunction of the aircraft.

The Graph below gives a visual representation of accidents and serious incidents for scheduled CAT in the years between 2017 and 2021.



Non-scheduled CAT

Non-scheduled Commercial Air Transport covers a variety of aeroplane related flight operations. Including various corporate flights, air taxi and aerial works.

The main difference from the scheduled sector is that aeroplanes in the non-scheduled area are smaller with fewer or no passengers.

The safety issues and risks of these operations are quite similar to the ones in scheduled operations.

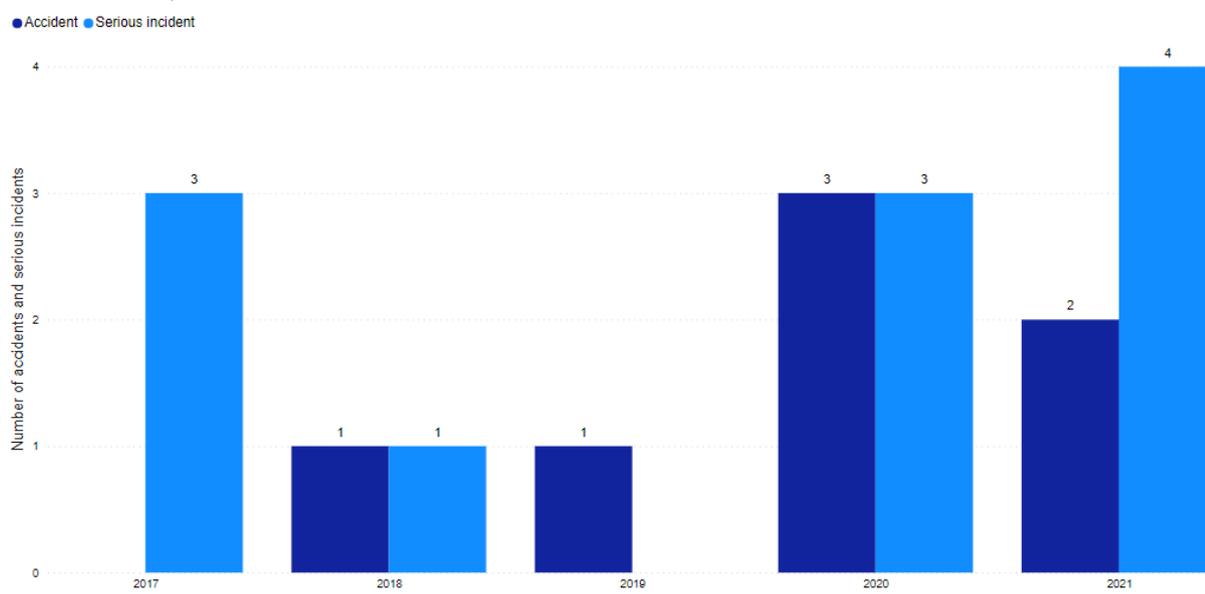
UK non-scheduled sector involves close to 30 operators with around 25,000 – 30,000 flights a year.

This sector has recovered well since the return to aviation in the wake of the Covid-19 pandemic.

In 2021 there were 2 accidents and 4 serious incidents. This is similar to 2020 but more than previously. There have been no fatal or serious injuries in the past five years.

Main causes for accidents and serious incidents in 2021 were related to towing of aircraft, landing gear issue and pilot incapacitation.

The Graph below gives a visual representation of accidents and serious incidents for non-scheduled CAT in the years between 2017 and 2021.



General Aviation

According to the [UK aircraft register](#) the UK general aviation sector covers around 17,000 aircraft (mainly with a maximum take-off mass below 5,700kg), as well as organisations involved in pilot training, balloon operations, ex-military aircraft operations, parachuting, special operations and wing walking.

Owners and/or operators of close to 11,000 UK general aviation aircraft reported approximately 670,000 hours in 2021. This is more than in 2020 but still less than in 2019 (over 806,000 hours reported for close to 12,000 aircraft).

The safety level of General Aviation in the UK is acceptable, viewed in terms of its unavoidably greater risk than commercial aviation.

It is important that current and new safety initiatives are pursued to seek to further reduce the current level of serious accidents.

The [General Aviation Roadmap](#) is available for further information on the Government's vision and strategic priorities.

The Key statistics that are included within the report include a comparison of accidents and serious incidents in 2021 involving UK registered General Aviation aircraft compared to 2017-2020.

In total the Civil Aviation Authority (CAA) received almost 2000 occurrence reports, of which around 10% were classified as accidents or serious incidents (high severity occurrences).

Many of the accidents and serious incidents are reported to and investigated by the [Air Accident Investigation Branch \(AAIB\)](#) and some from 2021 are still under investigation.

In 2021 there were 187 accidents and serious incidents, of which 89% resulted in no injuries (this is similar to the previous four-year average).

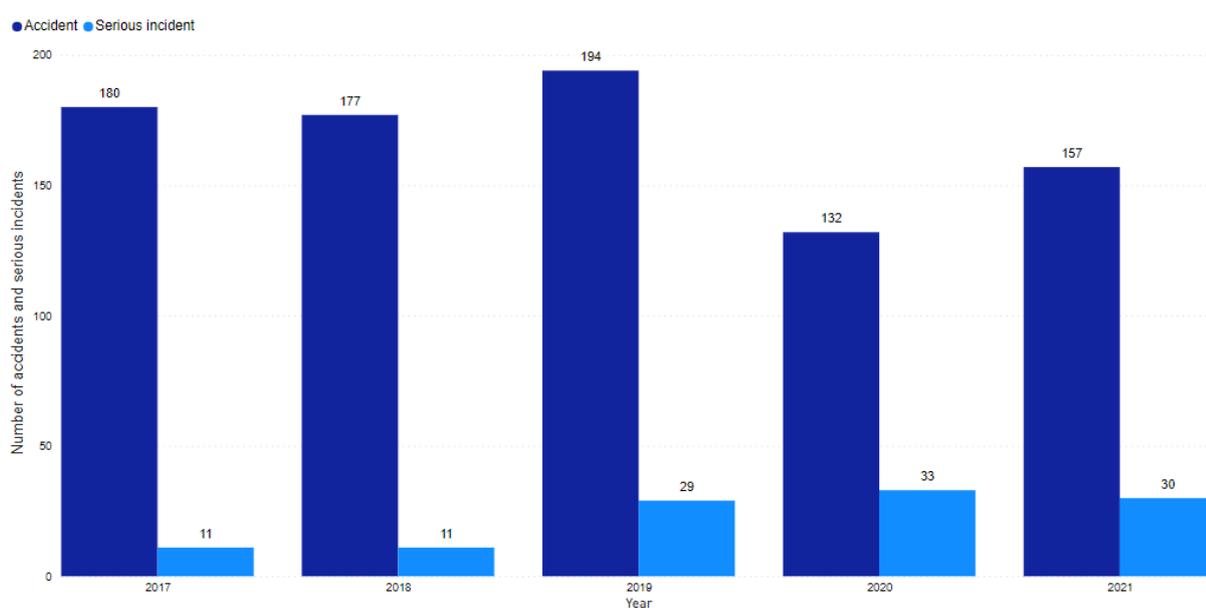
However, the 5 accidents that occurred during this time caused 7 people to sustain fatal injuries. There were also 16 accidents which resulted in serious injuries (these numbers are fortunately lower than in preceding years).

2021 marked the year where many pandemic related restrictions to GA flying were eased. A lot of pilots were faced with inevitable skill fade and getting aircraft airworthy after being held in long-term storage (often outdoor conditions), not to mention many general aviation airfields had been left not properly maintained. This most likely illustrates factors why high severity occurrences reached pre-pandemic levels.

Accidents and serious incidents largely involved aeroplanes and were mostly contributed to aircraft handling issues, mainly on landing as well as situations escalating from in-flight technical malfunctions.

Losing control of the aircraft while landing, veering off the runway, etc accounted for the majority of occurrences. Overall, there weren't many differences in causal factors in 2021 compared to 2017-2020.

The Graph below gives a visual representation of accidents and serious incidents in the General Aviation sector in the years between 2017 and 2021.



Helicopter sector

Rotary wing aircraft operations can be divided into 2 types - offshore and onshore. Usually, both types involve larger complex helicopters.

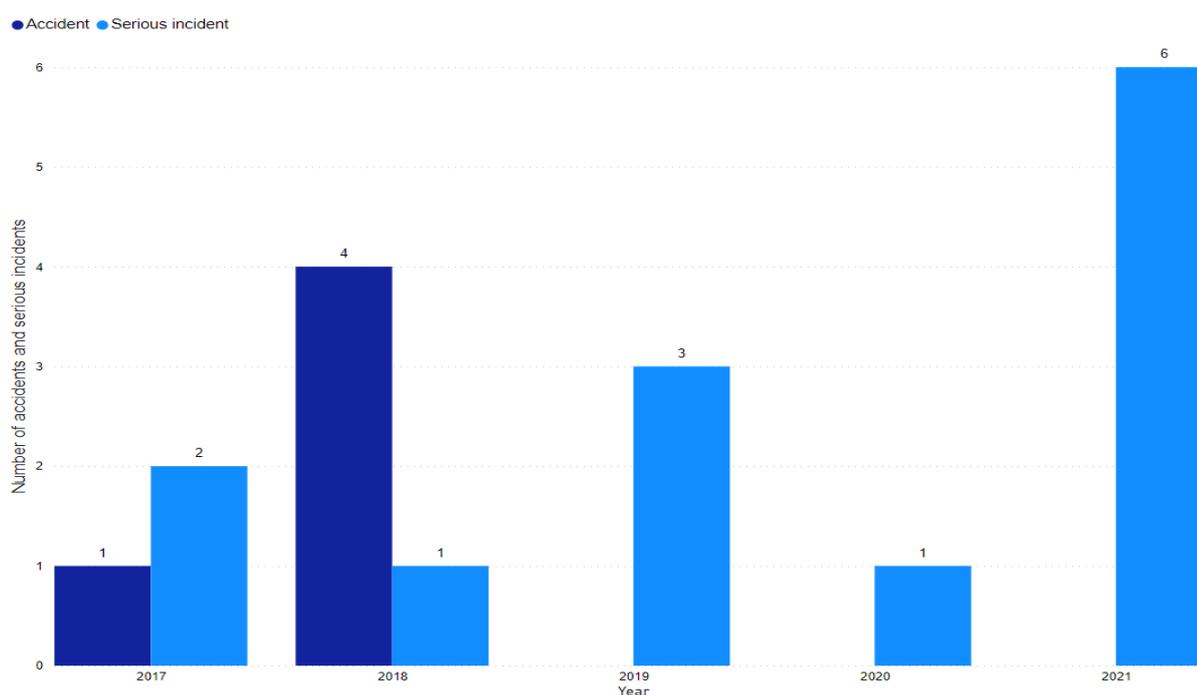
The Offshore sector ensures the viability of the UK's oil and gas industry and more lately wind farms. They transfer most of the workforce (annual average of 1 million passengers) to and from offshore installations in an open sea environment that is both challenging and hazardous. Included in Offshore work are the Search & Rescue (SAR) services.

The Onshore sector covers a diverse range of operations including commercial and public air transports, business flights, specialised operations (aerial work), emergency services, training, and private flights.

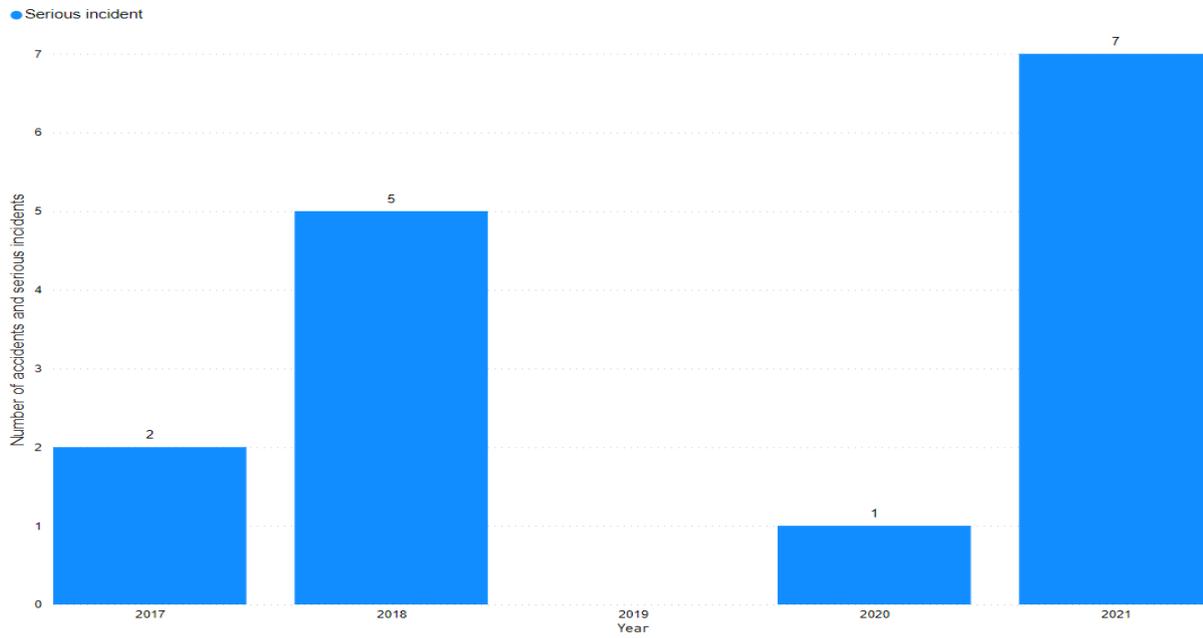
In absolute numbers, there were more serious incidents in 2021 compared to the previous four years but no accidents. None resulted in fatal or serious injuries. The distribution of serious incidents between offshore and onshore operations is almost equal. The rise in 2021, serious incidents can be explained by a technical fault within the UK's Offshore fleet and a modification was issued by the manufacturer to correct the fault.

In October 2021, the Air Accidents Investigations Branch (AAIB) published an anniversary statement in relation to the highly publicised Leicester City, King Power Stadium crash stating that they will publish a detailed final report as soon as they are able. This crash was one of four accidents in 2018, of which two were fatal to the persons on board.

The Graph below gives a visual representation of accidents and serious incidents related to onshore helicopters in the years between 2017 and 2021.



The Graph below gives a visual representation of accidents and serious incidents related to offshore helicopters in the years between 2017 and 2021.



Remotely Piloted Aircraft Systems (RPAS)

The use of drones and model aircraft has grown rapidly in recent years, with flights continuing to expand as new technologies and capabilities are introduced.

Remotely piloted aircraft systems (RPAS) will need to continue to be used safely, and future use needs to be safely integrated into the airspace. There is continual growth in the RPAS sector; and as of December 2021, over 250,000 flyers have registered with the CAA following the implementation of drones registration in November 2019.

In December 2020, the CAA published drone rules and guidance in several areas including: flying for fun, flying as a hobby and at a club, and requirements for flying in the open category. A full list of [RPAS CAA publications](#) is available on our website.

Unlike other areas of aviation, RPAS reporting to the CAA was not as heavily impacted in 2021 by covid, and reporting numbers were similar to that of pre-covid years. Reports made in 2021 were of a same level as reporting in 2019.

The [RPAS Safety Reporting Project](#) was published in May 2022. This report reviews the levels of reporting to the CAA relating to RPAS, offering insights into the RPAS community and the current reporting landscape.

In 2021 there were no fatal or serious injuries reported, and this is the same as the previous four years. Accidents and serious incidents have increased year on year during the 2017-2021 data period. All RPAS accidents and serious incidents are required to be reported to the Air Accidents Investigations Branch (AAIB), regardless of weight of the drone or if they are being used for commercial purposes.

In 2021, 57% of occurrences were reported as loss of control incidents. This was the most frequently reported occurrence category in 2021, and between 2017 and 2020 where loss of control accounted for 48% of occurrences. Technical malfunction was the second most frequently reported occurrence in 2021 (17% Mandatory Occurrence Reports) and the four years prior (28%).

The Graph below gives a visual representation of accidents and serious incidents related to RPAS in the years between 2017 and 2021.

