



ECA
Piloting Safety

ECA RPAS/UAVs incidents directory volume 2

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1. September 2015, Hamburg, Germany – Police hunt drone pilot in near-miss

At around 6pm, a Finnair pilot radioed in to the control tower at Hamburg airport that he had spotted the drone at a height of around 250 meters, passing just 30 meters away from his Embraer E190 aircraft, which has a capacity of 80 passengers and four crew.



Air traffic controllers at the tower immediately warned the police, who searched the area where the drone was believed to have taken off but found nothing that could lead them to the pilot.

Hamburg is one of several German states which have introduced extra controls on the use of drones. No flying is allowed within a 1,500-metre radius of the airports at Fuhlsbüttel and Finkenwerder – whether drones, kites or balloons.

<http://www.thelocal.de/20150921/near-miss-drone-triggers-hamburg-airport-manhunt>

2. April 2015, London City Airport, UK – Drone comes as close as 50 meters to passenger aircraft in 'possibly catastrophic' near miss

A drone was just 50 meters away from colliding with a passenger plane in a 'possibly catastrophic' near miss above London City Airport.



During the April 19 incident, the Dash-8 was descending on its downwind right-hand leg for runway 09 at London City Airport. While 3 miles south of the airport, the pilot reported seeing a UAV around 200 meters away from the airliner and at roughly the same height, 2,000 ft.

After landing, the pilot and co-pilot agreed that the Dash-8 missed colliding with the UAV by about 50-150 meters. A Dash-8 passenger also reported seeing an object, but a review of radar tapes did not show any contacts in the vicinity.

The board said that because the crew had seen the UAV at such close quarters—having been able to read writing on it—they assessed the incident as a category B, causing the aircraft's safety to be compromised.

<http://aeropacific.blogspot.be/2015/09/dash-8-pilot-calls-near-collision-with.html>

3. September 2015, Norway – a near collision between a drone and a private plane

A near collision between a drone and a plane took place in early September 2015, in about 2,000 feet altitude.

The unmanned object hit most probably chassis of the light private plane, and it had no consequences for the flight in this case, said Norwegian CAA.

The CAA has not yet published the details of the incident except that single-engine airplane was registered abroad and that the incident happened somewhere in southern Norway. Overall CAA registered 38 cases - 15 accidents and 23 incidents - with drones since 2011.



4. April 2015, Manchester, UK – Flights diverted at Manchester airport as drone sighted over runway

An airport diverted flights and suspended one runway after a drone was sighted flying nearby. The airport halted operations on its Runway One to allow police to investigate the sighting. The runway was suspended for around 20 minutes and four inbound flights were diverted to nearby Liverpool and East Midlands airports.



<http://www.telegraph.co.uk/news/aviation/11549760/Flights-diverted-at-Manchester-airport-as-drone-sighted-over-runway.html>

5. April 2015, Bristol Airport – Royal Navy Lynx helicopter

A Royal Navy Lynx helicopter reported the airprox which took place just west of Bristol in April 2015. The Lynx was flying to RNAS Yeovilton and descending from 2500ft to 1500ft when a small white 'doughnut' shaped UAV/drone was seen directly ahead at a range of 100-200 metres.

The Lynx pilot made a break to the right and the drone missed by the helicopter by a rotor's width down the left side. The pilot said that if he had not spotted the drone and taken an evasive action, there would have been a mid-air collision. The drone operator could not be traced.

<http://www.flyer.co.uk/aviation-news/newsfeed.php?artnum=2398>

6. December 2015, Italy – Drone crashes onto ski-slope, misses champion skier by inches

During the night slalom race in Madonna di Campiglio, an unfortunate accident occurred, when a drone crashed directly behind Austrian skier Marcel Hirscher during the second run.



While FIS and its partners aim to use new technology to enhance the fan experience, an accident such as the drone crash cannot happen again. Even if - unlike in Austria, Switzerland and other countries - drones are authorized to fly over a crowd during events in Italy, FIS and the host broadcaster will work together with all the

involved parties to see what occurred during the crash and ensure that this will not happen again.

<http://edition.cnn.com/2015/12/23/sport/marcel-hirscher-drone-crash/>

7. February 2016, Spain – A drone crashes into a car in Navarra

Police reported of a drone colliding with a vehicle traveling on Highway Leizaran (A-15). The incident occurred when the drone owner was manipulating its drone in the vicinity of Imotz. Due to the existing wind he lost control of the plane, which ended up impacting on the roof of a vehicle which caused damage.



In Spain – the law prohibits operation of drones in areas of congested cities, towns or settlements or gatherings of people, beyond the visual line of sight of the pilot, and a maximum height above the ground not more than 120 meters.

http://www.estrelladigital.es/articulo/espanha/dron-colisiona-coche-navarra/20160206183449271071.html?fb_action_ids=1034151093315253&fb_action_types=og.comments&action_object_map=%5B1349894155036473%5D&action_type_map=%5B%22og.comments%22%5D&action_ref_map=%5B%5D

8. February 2016, Newcastle – Drone flown into conflict at Newcastle airport

THE EMB135 pilot reports that they were approaching Newcastle on an intercept heading for the RW25 ILS, at approximately 2500ft over the sea, when an unidentified object flew 'over their heads'.

It was black beneath and red on top, was disc shaped and the size of a large gull. It seemed to be moving with the wind away from the shore. The pilot's first thought was that it was a UAV, although there didn't seem to be any obvious propellers. It did not appear to be making a vertical ascent. He reported it to ATC at the time and, when the pilot spoke to them on the telephone later, they suggested that on reviewing the radar replay there appeared to be a small return on the radar passing above them. Although ATC suggested it may have been a balloon, it did not look like one, and the pilot opined that he would have been very concerned if he had collided with it.

https://www.airproxboard.org.uk/uploadedFiles/Content/Standard_content/Airprox_report_files/2016/New_Assessed_Reports/Airprox%20Report%202016019.pdf

9. February 2016, France – A drone escorted by a Rafale crashes near Reims

The drone that crashed end of February 2016 in the Aisne department (north of France) took off from Weelde, north of Turnhout (province of Antwerp) and was operated by a Flemish research institute, VITO, which lost control of the craft. This large drone – 3.8 meters wide and 3.4 m long, powered by a propeller propulsion – was followed during a part of its course by two F-16 fighter jets from the Kleine-Brogel (Limburg) airbase, which then entrusted its supervision to a Rafale of the French Air Force.



The Ministry of Defence, which is responsible for the protection of the Belgian airspace, has launched the “Renegade” procedure to intercept the aircraft that seemed out of control – which was indeed the case – or moved by hostile intentions, said the entourage of the Minister of Defence, Steven Vandeput, to the Belga press agency.

The drone, red and white, took off to a south southwesterly direction and headed for the Brussels region at speeds of 150 to 160 km/h at an altitude of between 3,500 and 4,000 feet (over 1,000 meters), according to a military specialist.

Military authorities were alerted at 15:16 by the military air traffic control center (ATCC) of Gavere Semmerzake (East Flanders) – aka “Belga Radar” – that VITO had lost control on one of its drones.

VITO (Flemish institute for technology research) was conducting tests with this unit from the Weelde Airfield with the necessary permits, issued by the Directorate General of Air Transport (DGTA), which depends on the FPS Mobility.

<http://www.luchtzak.be/miscellaneous/incidents/belgian-drone-crashes-france-escorted-2-belgian-f-16s-french-rafale/>

10. February 2016, France – Plane narrowly misses drone near Paris CDG Airport

An Air France Airbus A320 jet narrowly avoided colliding with a drone while descending for an approach to Paris Charles de Gaulle airport last month.



The aircraft had been operating a service from Barcelona on February 19 and was flying at 5,500 feet when the co-pilot saw the drone.

He immediately disengaged the autopilot and carried out an avoidance maneuver while informing the captain of the drone's presence. The area where the unmanned aircraft, whose type has not been disclosed, was flying is legally off-limits for drones because of safety concerns.

On 4th march 2016 BEA released initial findings of the incident, classifying it a “serious” near-miss as an unmanned aerial vehicle came within five metres of the aircraft.

<http://www.france24.com/en/20160304-plane-narrowly-misses-drone-near-paris-cdg-airport>

11. February 2016, London (UK) – A drone flown into conflict with the A319 at Heathrow

THE A319 PILOT reports departing London Heathrow on a BPK 7G SID. Whilst in level flight at 6000ft, approximately between the CHT NDB and BPK VOR, they heard a drone sighting from the pilot of the aircraft ahead on the same SID [Airprox 2016022]. They were warned by ATC that the reported drone was about 10nm ahead, and were asked to report any sighting. About 2min later, the

First Officer saw a silver/grey coloured drone in the right 2.30 position. The Captain saw the drone when abeam the cockpit. He assessed the risk of collision as 'Medium'.

https://www.airproxboard.org.uk/uploadedFiles/Content/Standard_content/Airprox_report_files/2016/New_Assessed_Reports/Airprox%20Report%202016020.pdf

12. March 2016, Glasgow (UK) – The drone was flown into conflict with the B737

An Airprox was reported when a B737 and a drone flew into proximity at about 1550 on Sunday 6th March 2016. The B737 pilot was operating under IFR in VMC, most likely in receipt of an Aerodrome Control Service from Glasgow Tower.

https://www.airproxboard.org.uk/uploadedFiles/Content/Standard_content/Airprox_report_files/2016/New_Assessed_Reports/Airprox%20Report%202016026.pdf

13. April 2016, Amsterdam (NL) – KLM E190, F70 and Easyjet A319 at Schiphol – incident with a flock of drones

A KLM Embraer ERJ-190, performing flight KL-1904 from Hanover to Amsterdam, was on final approach to runway 18C when the crew reported a drone to their right at about 1000 feet just passing about 100 feet underneath their aircraft. The aircraft continued for a safe landing on runway 18C. A KLM Cityhopper Fokker 70, performing flight KL-1986 from Basel/Mulhouse to Amsterdam, was on final approach to runway 18C when after tower advised of the previous aircraft reporting a drone at about 1000 feet the crew reported drone in sight, the drone was now on their left hand side at about 900 feet. The Fokker 70 continued for a safe landing on runway 18C.



Tower runway 18R checked the area with his binoculars but couldn't spot any drone.

An Easyjet Airbus A319-100, performing flight U2-7926 from Nice to Amsterdam, next on approach to runway 18C, was advised of the previous two arrivals sighting a drone to which the crew reported they were seeing three drones about 2.5nm out causing a perplexed reaction by the controller "You are seeing THREE drones?" The aircraft continued for a safe landing on runway 18C.

<http://avherald.com/h?article=49642a2e&opt=0>

14. May 2016, Prague (Czech Republic) – UAV forces Czech airliner to abort takeoff

An unmanned aerial vehicle (UAV), flying close to Prague's Václav Havel International Airport, forced air traffic controllers to issue an "immediate stop" message to an airliner on its takeoff roll.

The incident, involving a Boeing 737-800 of Czech carrier Travel Service, occurred May 6. The aircraft was operating on behalf of SmartWings, Travel Service's scheduled airline arm, on a flight to Dubai.

According to incident-recording website aeroinside.com, the flight had been cleared for takeoff from Prague's runway 12 and was accelerating down the runway when the tower instructed the aircraft to abort takeoff.

The crew slowed the aircraft to taxiing speed about 840 m/2700 ft. down the runway.
<http://atwonline.com/safety/uav-forces-czech-airliner-abort-takeoff>

➤ NORTH & SOUTH AMERICA

15. October 2015, California (USA) – After drone crashes into power lines, West Hollywood cracks down

A small UAV flew into a power line near Sunset Boulevard in West Hollywood, California. The incident knocked out power to 600 to 700 customers.

Witnesses reported seeing a drone buzz into the wires lining Larrabee Street and Sunset Boulevard about 1:15 p.m. knocking one to the ground, said Lt. Edward Ramirez of the Los Angeles County Sheriff's Department.

The downed wire cut off power for nearly 700 SCE customers, said company spokesman Robert Villegas.

<http://www.latimes.com/local/lanow/la-me-ln-drone-power-west-hollywood-20151027-story.html>

16. November 2015, New Jersey (USA) – Small UAV crashed into a truck

A small UAV crashed into a truck driving past a Phillips 66 oil refinery in Linden, N.J.. The driver got out and confronted the pilot, who fled. Local police and the FBI were looking into the incident due to proximity to the refinery.

<https://www.rt.com/usa/322637-jersey-refinery-drone-crash/>

17. January 2016, San Francisco (USA) – Man Crashes Drone Into Farmers' Market

A small UAV crashed into shoppers at the Clement Street farmer's market in San Francisco, CA. The camera-equipped UAV almost hit someone on the head.

http://sfist.com/2016/01/26/man_crashes_drone_into_farmers_mark.php

18. February 2016, New York (USA) – Drone Hits Empire State Building; man arrested

A man was arrested after his UAV crashed into the 40th floor of the Empire State Building in New York City. It fell onto a ledge on the 35th floor, and when he went to ask for it back, police were called. He later pleaded guilty to disorderly conduct.

http://www.nytimes.com/2016/02/05/nyregion/new-jersey-man-is-arrested-after-drone-hits-empire-state-building.html?_r=0

19. March 2016, Los Angeles (USA) – Lufthansa jumbo reports near miss with drone over Los Angeles

A pilot of a Lufthansa passenger jumbo jet reported that a drone nearly collided with his airliner on its landing approach to Los Angeles, according to the Federal Aviation Administration.



The close encounter between the wide-body, four-engine Airbus A380 and the drone occurred at about 1.30pm 19th March at an altitude of 5,000ft (152 metres) as the unmanned aircraft passed about 200ft (61 meters) over the Lufthansa flight 14 miles (22.5 km) east of the city's international airport.

No evasive action was taken by the airline crew, and the plane, Lufthansa Flight 456, safely made its landing minutes later without further incident.

The FAA immediately alerted the Los Angeles police department's air support division.

<http://www.theguardian.com/technology/2016/mar/19/lufthansa-jumbo-reports-near-miss-with-drone-over-los-angeles>

20. March 2016, Oklahoma (USA) – Drone crashes while attempting to drop cell phones over Cimarron Correctional Facility

A small UAV crashed on the grounds of Cimarron Correctional Facility in Cushing, OK. Guards spotted its flashing lights as it approached in the early morning hours. The craft was carrying three cell phones in a plastic bag.

The contraband drop attempt was the second reported incident of its kind in the state's prison system. The previous attempt was in October at Oklahoma State Penitentiary.

<http://www.fox23.com/news/authorities-seize-contraband-dropped-by-drone-over-cimarron-correctional-facility/165004258>

21. April 2016, Charlotte (USA) – Man accused of purposely flying drone near CMPD helicopter



Charlotte-Mecklenburg police arrested a Concord man they accused of purposely flying a drone near a CMPD helicopter as it tracked a suspect early Thursday.

The helicopter pilot had to “immediately and abruptly” alter the helicopter’s flight path to avoid a midair collision with the drone, police said Friday.

The helicopter encountered the drone as the helicopter flew above Central Avenue and Sharon Amity Road in east Charlotte about 12:40 a.m.

The helicopter pilot was alerted by officers on the ground that someone had launched the drone around the same altitude and flight path as the helicopter.

<http://www.charlotteobserver.com/news/local/crime/article68236112.html>

22. April 2016, Florida (USA) – Drone crashes into Marco Island condo; video records incident

A drone was capturing video above the Gulf of Mexico and Cape Marco when it lost contact with its controller, triggering a "return to home" feature. The only problem: "home" was on the other side of a condominium.

However, the drone already was locked in, and made a beeline toward the Belize condominium and a 17th floor, gulf-front unit, crash-landing on the balcony. The drone's operator alerted Belize's condo manager and left contact information at the front desk.

<http://www.wtsp.com/news/local/florida/drone-crashes-into-marco-island-condo-video-records-incident/179258945>

23. May 2016, Seattle (USA) – Drone crashes into Capitol Hill home

Seattle police are trying to track down the owner of the drone that crashed into a home in the Capitol Hill neighborhood. The drone in Thursday’s incident is now in police custody. Detectives are looking for the owner, who could face charges.

<http://www.kiro7.com/news/local/drone-with-video-camera-crashes-into-seattle-couples-window/263710394>



24. March 2015, Kuala Lumpur, Malaysia – Drone flies near Malaysian airport, pilot flies away scot-free



Purported aerial drone photographs of aircrafts landing at Kuala Lumpur International Airport (KLIA) caused a stir on Facebook, with netizens fearing that it could lead to another aviation disaster.

It is assumed that it concerns a quadcopter drone, DJI Phantom 2 posted pictures of aircraft descending to land at the KLIA runway.

Weighing just 1kg, the DJI Phantom 2 drone, remotely flown and having four rotors and a mounted camera, is considered a hazard if it flew either too close or in the flight path of an aircraft as it could easily crash into the turbo engines of jumbo jets.

<http://www.freemalaysiatoday.com/category/nation/2015/03/03/netizens-raise-a-ruckus-over-drone-flying-at-klia/>

25. April 2015, Tokyo, Japan – Drone lands on roof of Prime Minister’s office



Japanese police arrested a man who allegedly dropped a small drone laced with traces of radiation on the prime minister’s office in an apparent protest against the country’s nuclear power policy.

At the time of the discovery, the drone was equipped with what appeared to be a camera and a plastic container of unidentified liquid. The container is believed to be the source of a tiny amount of radioactive caesium, although the level is considered to be harmless to humans, according to police.

<https://next.ft.com/content/d7872714-ea62-11e4-a701-00144feab7de>

26. April 2015, Singapore – Two incidents with drones falling on MRT Rails

There have been more than 20 reported incidents involving unmanned aircraft, or drones, since April last year, though no injury or damage to property has been cited so far.

Of these, two involved the unmanned aircraft falling on MRT tracks. Channel NewsAsia understands that the first incident took place in mid-April this year at Commonwealth MRT, while the other happened last Saturday (May 9) at Lakeside MRT.

Transport Minister Lui Tuck Yew said: "In both incidents, the member of public was flying the unmanned aircraft in a nearby open field and lost control of the unmanned aircraft and this is within visual line of sight. One of them came to rest on the side of the tracks. Fortunately, no train service was disrupted, no damage was caused to the MRT tracks and no one was injured.

"One of the incidents is under police investigation while in the other, the member of public was issued a stern warning for an offence of 'Negligent Act which Endangers Life or Personal Safety of Others' under the Penal Code."

<http://www.channelnewsasia.com/news/singapore/more-than-20-incidents/1839976.html>

27. September 2015, Hyogo Prefecture, Japan – Man admits crashing drone into Unesco World Heritage Castle

A 49-year-old man admitted that he was responsible for crashing a drone into Himeji Castle, a UNESCO World Heritage site in Hyogo Prefecture. The company executive was quoted by the police as saying he had been flying the drone to take pictures of the castle to post them in a magazine.

The small drone crashed on the southwest side of the 6th floor of the 17th century castle in Himeji and caused minor damage near a window frame. The drone was found on the roof of the 5th-floor of the castle with its propellers damaged, according to the castle office.

<http://www.newsonjapan.com/html/newsdesk/article/113777.php#sthash.a1KLGQIY.dpuf>

28. September 2015, Maebashi, Japan – Fiery drone crash disrupts bicycle race in Gunma Prefecture, hurting none

A small aerial drone being used for filming a bicycle race in Maebashi, Gunma Prefecture, fell from the sky and burst into flames, disrupting the competition. No one was reported injured in the incident.

It was planned that the drone would film the 20.8-km race, which involved around 2,800 riders and began in the downtown area of Maebashi and finished at the peak of Mount Akagi in Gunma Prefecture. The drone went down around 7:15 a.m. Race staff put out the fire with extinguishers.

<http://www.japantimes.co.jp/news/2015/09/28/national/drone-crashes-bursts-flames-bicycle-race-gunma-prefecture/#.VgvAwPmqgkp>

29. October 2015, Taipei, China – Drone crashes into Taipei 101, damage still unknown

An unmanned aerial vehicle (UAV) crashed into the Taipei 101 skyscraper Tuesday but it was not yet known whether it caused any damage to the iconic building, according to Taipei 101 spokesman Michael Liu.

Liu said a full investigation into the latest incident will be carried out and may determine where exactly the UAV hit the building.

Debris from the UAV was found not just on the ground outside the building, but also on the balcony of the 82nd floor, indicating that the drone had been flying quite high. Tuesday's drone crash was the latest in a series of similar incidents in the Taipei 101 area since mid-June. No injuries have been reported as a result of the crashes.

<http://www.chinapost.com.tw/taiwan/local/taipei/2015/10/31/449633/Drone-crashes.htm>

30. May 2016, Nagpur, India – Drone crashes at event

A 40-year-old man was badly injured at a wedding reception when a drone that was taking photographs of the event crashed on his head. He was hospitalized with severe head injuries.

This might be 'just one accident', but in the absence of any clear guidelines and the increasing popularity of drones for photography, more such accidents might just be waiting to happen.

<http://timesofindia.indiatimes.com/city/nagpur/Drones-flying-free-in-absence-of-clear-rules/articleshow/52261884.cms>

➤ AFRICA

31. April 2016, Cape Town – South Africa Drone Crashes Through Window, Hits Man's Head

A UAV hit and broke an office window in Cape Town and collided with David Perel, an interface designer and racing driver for Kessel Ferrari.[56] The operator and a friend went to check that he hadn't been injured and Perel returned the UAV.[56] The SACAA contacted both Perel and the operators after video of the incident appeared on YouTube.



<http://abcnews.go.com/International/drone-crashes-window-hits-mans-head/story?id=38253589>

<http://regretfulmorning.com/2016/04/drone-crash/#bywD1QMd1662EIIg.99>

➤ AUSTRALIA

32. February 2016, Canberra – Drone crashes in middle of ceremony at Australian War Memorial in Canberra

The Civil Aviation Safety Authority (CASA) has launched an investigation after a recreational drone crashed during a ceremony at the Australian War Memorial.

Peter Gibson from CASA said no-one was injured, but the person who was flying the drone had been identified, and was now facing a penalty ranging from \$900 to \$9,000.

"The regulations say that for a recreational drone, you have to stay more than 30 metres away from people, property and vehicles, you must not fly around crowds or groups of people and you must not cause a risk to anyone," he said.

<http://www.abc.net.au/news/2016-02-19/drone-crashes-in-middle-of-ceremony-at-war-memorial-in-canberra/7185202>

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31 May 2016