

X. Report conclusions

1. As result of the premature and incomplete dissemination of the initial, unconfirmed and non-validated findings following a first, superficial audio review of the cockpit voice recorder, as reported by the New York Times on the evening of 25 March 2015, investigations (criminal and civilian aircraft accident investigation) and evaluation of the cause of the crash, together with contributing factors, were thus irreparably contaminated from the beginning.
2. From civilian and criminal investigators, media reports and the victims' relatives a "confirmation bias" emerged which was contrary to an objective investigation and which preceded the requirement for the positive exclusion principle, virtually preventing an unbiased investigation.
3. By focusing all investigations on the person of the copilot, Andreas Lubitz, other aspects which might have contributed to the accident and might lie within the sphere of third-party responsibility were neglected or not even considered or investigated.
4. The specific requirements of regulation (EU) 996/2010 were formally adopted in France at the time of the crash, but not sufficiently implemented. This has led to difficulties in communication between the civil aviation investigation authority and the justice department.
5. Based on the structure of the French state and legal systems, the judicial investigation cannot be described as an "independent investigation". Judges and public prosecutors act according to, and are restricted by, instructions. It is to be feared that specific information, if it concerns a company in which the French state holds shares (for example, aircraft manufacturer Airbus, national carrier Air France, etc.) cannot be disclosed nor shared with a foreign authority.

6. From the final statement of the Düsseldorf public prosecutor it can be seen that prosecutor Kumpa wished to discontinue the death inquiry and the other proceedings due to the pending relatives' legal advisors' lawsuit initiated in summer 2016 (11.08.2016). As a result, Kumpa decided at this time not to carry out further investigations. This is remarkable, especially as the file, which is more than 17,100 pages, had been sent in the form of a disk two months previously to the parties concerned in the proceeding, including joint plaintiffs.

If one assumes an average reading speed of two minutes per page for a careful reading of the file, including documents in English, French and Spanish, one requires more than 570 hours, which is 71 eight-hour workdays (i.e., two and a half months), to read the file thoroughly.

7. Apparently, there was no joint investigation group in this particular case, although such a process would have been indicated by the nature of the investigations and the facts. On the contrary, according to the file it appears that France and Germany exchanged information on judicial assistance and investigations, but each country has *de facto* conducted its "own" investigations.

8. Several trials in Airbus A320 flight simulators, as well as in real A320s, have shown that from an ergonomic standpoint it is impossible that a pilot can turn the rotary switch from 38,000 feet to 100 feet within one second (!) and to activate the mode. The fastest trials still demand at least 1.5 - 2.2 seconds. It would be plausible that this could have occurred if the time period reported on the DFDR was less than two seconds. The expert has considerable doubts that Andreas Lubitz, who was right-handed, could have used his left hand to make the adjustment within the "one second" recorded on the data recorder, as well as activate the descent mode by also manipulating the rotary switch of the flight control unit.

9. The assumption mentioned in BEA's accident statement and previously by public prosecutor Brice Robin on 26 March 2015 that Andreas Lubitz deliberately prevented the opening of the cockpit door to deny access to the

captain cannot be proved. Mr. Robin's statement is therefore absolutely speculative and premature. His assumption is based entirely on no proven and confirmed facts, which should have been stated in the report.

10. It is quite conceivable that the captain did not even enter the emergency code and that Andreas Lubitz did not intentionally and actively lock the cockpit door when the captain attempted to re-enter the cockpit. The captain used the interphone as the door was not opened after buzzing. Therefore, it cannot be claimed that Andreas Lubitz intentionally and actively prevented the captain's access.
11. At Germanwings the technical condition and the proper functioning of the keypad for the cockpit door are only checked by maintenance at intervals of every 12,000 flight hours. Daily checks of the "emergency code" before departures are not performed.
12. The latest certification of airworthiness for the D-AIPX accident plane, issued on 23 March 2015, is dubious. In particular, it does not appear whether the aircraft documentation, and thus the aircraft itself, complies with legal requirements. The French authorities requested that all earlier certificates, in particular the complete maintenance documents, must be submitted.
13. The list of postponed maintenance work on D-AIPX also includes measures to remove contamination of oil and/or de-icing liquid residues from the cabin air system. In addition, both engines were scheduled to be changed. This is important with regard to possible fluid seal leakage in the exhaust area of the engine compressor. Because of such leakage, engine oil can enter the bleed air system and result in contamination of the cabin air.
14. Other postponed maintenance of the aircraft D-AIPX was a planned repair of corrosion damage in a critical area of the cockpit windscreen.
15. The day before the accident a new software version for the automatic flight control system (FMGC) was uploaded. The manufacturer based the update on

findings from investigations of incidents with Airbus aircraft in flight operation. It was installed in order to avoid incorrect vertical flight profiles during non-precision approaches; incorrect lateral flight path displays in NAV mode during take-off; incorrect lateral flight path displays in NAV mode; and incorrect offsets of aircraft position displays.

16. With regard to the data about the descent mode as recorded by the flight data recorder, there is a technical problem because both the flight mode and descent mode cannot be active simultaneously. Rather, this allows the possibility of a relevant system defect in the control system of the D-AIPX. This aspect would at least have to be investigated, which has not been the case.
17. Instead of a single, precise transcription of the cockpit voice recorder, four different and contradictory versions are available. Some are not in the original language, but only in translation. There are both German and French versions. Completely missing is a transcript of the last 30 minutes from recorded data of at least 1.5 hours, which would also include the descent into Barcelona.
18. On the CVR transcript, after the captain left the cockpit no noise is recorded, which would inevitably arise if the rotary buttons on the FCU were manipulated. If these rotary buttons were, in fact, engaged the action would have been recorded and included in the transcription.
19. It becomes clear that the BEA investigators very early in the course of their investigation focused on a single possible accident scenario, namely a crash intentionally caused by Andreas Lubitz. Substantially different and possibly "contributing" factors to an accident causation, e.g. the weather, were either not taken into account or their exclusion was not explained in a comprehensible manner.
20. The recorded breathing frequency of Andreas Lubitz on the cockpit voice recorder suggests that his breathing at the time of the accident can be called a "tachypnea", in medical terms. With an average of 26 breaths per minute

Lubitz's breathing was clearly accelerated compared to a normal respiratory rate of 20 breaths per minute. The reason for this may be the fact that his body was constantly attempting to exhale CO₂, which in excess can introduce a comatose condition, somnolence or unconsciousness.

21. An incorrect weather chart dating from one year prior to the crash was initially provided to the French investigators. It is, in fact, chart Nr. 2, with the correct date, that is the valid chart for the accident flight. This raises questions as to how this error could have occurred if the French investigative police are supposedly "meticulous".
22. Andreas Lubitz was never hospitalized because of depression in 2008-2009. In fact, he was never hospitalized for depression. However, the German representative of the BFU accident investigation team, Johann Reuss M.S., has falsely made this claim. This misinformation was reflected in all investigations (both criminal and civilian aircraft accident investigations) as well as in all media and to date has not been corrected despite the availability of truthful information.
23. According ICAO assignment, the accident of flight 4U9525 was wrongly categorized following the logic and argumentation of BEA's final report, which assumed a mental disorder of co-pilot Andreas Lubitz. Instead, it should have been classified as a pilot's incapacitation because of a psychiatric condition with the degree of severity "complete", according to proper ICAO assignment.
24. According to the recommendations and standards of the International Civil Aviation Organization (ICAO) and their binding international conventions and guidelines for investigations of flight accidents in member states, a qualified "human factors task force" should have been created for this accident. This could have been composed of experts from all nations involved in the investigation. However, this was not the case. Thus, the cockpit voice recorder was not analysed by human factors "experts", but only by engineers.

25. At the time the flight data recorder was recovered on 02 April 2015, a BFU employee was also at the accident site.
26. Even 14 days after the crash and initial analysis of the cockpit voice recorder no joint or individual “human factors task force” was established, although there were considerable indications at that time which would have indicated such a group of experts to clarify and explain the accident, as demanded by ICAO (see item 24).
27. Already eight days after the accident, this expert (van Beveren) informed BEA of a possible malfunction of the cockpit door keypad, which might have been relevant to the sequence of the accident events. BEA wanted the cooperating German colleagues of BFU to investigate this fact further.
28. The examination and identification of the human remains regarding the crew and passengers was completely subject to the French judicial authorities, in this case the French gendarmerie (military police).
29. In the history of civil aviation pilot suicides have rarely occurred, especially with regards to passenger airliners.
30. In most cases of pilot suicide at least a clear motive could be postulated for such an act.
31. At BFU Karsten Severin has the function of a human factors specialist and, in addition to his training as an instructor and holder of a CPL (Commercial Pilot License), is also a fully-qualified psychologist who also teaches at Bremen University. According to the expert (van Beveren) and the client (Lubitz), Karsten Severin M.S. was not, however, involved in the investigation on the part of BFU. He was also not involved as a representative of the authority in the "task force" initiated by the German Federal Ministry of Transport as a member or expert, despite having previously researched and scientifically published on this topic with two leading German universities.

32. The BFU accredited observer, Johann Reuss M.S., favored external experts, among whom none had at least one commercial airline license or had any previous experience in the field of airplane crash investigation.
33. The Lubitz family made several requests and urgent appeals for Severin – the human factors expert and psychologist – to participate, or at least function as a BFU representative, during the hearing of the cockpit voice recorder (according to Regulation (EU) 996/2010). However, both a hearing of the CVR and Severin’s participation were rejected by Reuss. Furthermore, when the Lubitz family requested Severin’s presence when viewing the CVR transcript, Reuss falsely claimed that Severin was not in his office.
34. Both the files from the French gendarmerie investigators and the Duesseldorf prosecutor’s office are in *numerical* order, but only those files from the French are presented *chronologically*. It is standard requirement that the “entire” document be rendered in chronological order. Therefore, the Duesseldorf file HA 00047 should – chronologically – be renumbered and repositioned as HA 00001, and so on. However, the present digitized file does not allow any comprehensive or reliable means of discovering when exactly a page was added, when it was drawn up, what conclusions were made, or whether the digitized file is complete.
35. Even "loose-leaf files" are normally numbered chronologically.
36. From the prosecutor's file of the public prosecutor's office in Duesseldorf it is not possible to know whether a complete “alternative” file exists which might contain additional information or facts which could possibly provide exoneration for Andreas Lubitz.
37. The investigation file of the Düsseldorf public prosecutor do not meet the requirements of the applicable file regulations for authorities of the State of North Rhine-Westphalia.

38. According to Düsseldorf prosecutor Kumpa, his office holds further documents from the investigations which can be viewed. However, he has not added these to the digitized file. The family and its legal adviser were able to examine these files for the first time on 29 Dec 2016. Among them is a complete printout of Andreas Lubitz's Facebook pages.
39. In response to media reports about the press conference given by Brice Robin on 26 March 2015, Kumpa instructed German investigators to focus only on Andreas Lubitz as the responsible party.
40. According to Kumpa's own statement, the procedure at issue here is not a criminal investigation against Andreas Lubitz or Germanwings, Lufthansa AG, or others, but a "death investigation".
41. In light of the clearly-documented uncertainty stated in the prosecution's file up to 25 May 2015, i.e. two months after the cockpit voice recorder was first analysed, it is incomprehensible that the file could claim that Andreas Lubitz had been fully conscious and had crashed the aircraft with suicidal intent. The investigating officials clearly stated that "it was not possible to prove whether he was conscious". (see also point 20).
The same erroneous interpretation is likewise true for the statements and findings made by the Düsseldorf public prosecutor, and which also impacted the searched for and confiscated material.
42. It is not comprehensible how police photographs taken on the occasion of the Lubitz family house search on 26 March 2015, conducted by the Montabaur criminal investigation, came to be part of the investigation file at all. These photographs were never the purpose of the search warrant. It is also striking in this context that the public prosecutor does not address the question of how and through whom these images from the file later came to the media. Normally, such images are censored or, in principle, not included in the investigation file.

43. The conclusion of the Düsseldorf public prosecutor that Andreas Lubitz had problems at the time of the accident, "about which Andreas Lubitz was obviously not willing to speak openly", is in no way justified. The public prosecutor refers to documents from 2008, i.e. a completely different period. According to the statements in these documents, the exact opposite of this hypothesis is proved, namely that Andreas Lubitz was, in fact, involved in active exchange with others about his problems at that time. Therefore the prosecution's assumption is incorrect.
- This circumstance once again proves the massive "confirmation bias", that is, the false confirmation of an assumption by the Düsseldorf public prosecutor, which is also being pursued uncorrected by the further proceedings.
44. The public prosecutor collects bases his findings mainly on the recording of the cockpit voice recorder, which, however, has not been made available either in the original or as a copy (see also "closing statement" from 15.12.2016), and the prosecutor has neither heard the recording nor requested an evaluation by external specialists.
45. Regarding the health of Andreas Lubitz it is clear that the investigators (both criminal and civilian air accident investigation) and the public prosecutors assumed a very early "fixation" on Andreas Lubitz's "depressive period" at the beginning of his pilot training at the Lufthansa pilot school in Bremen in 2008. This supports the impression that the investigators believe they see the "alleged motive" for Andreas Lubitz's act on 24 March 2015.
46. There is the suspicion that on the basis of objectively incorrect facts in the applications for the search and seizure of patient records in medical practices by the Düsseldorf public prosecutor, the basic principles of medical confidentiality and protected legal rights were grossly violated.
47. Regarding the public prosecutor's findings about an iPad which the detectives allegedly seized in the Düsseldorf apartment during the house search on 26 March 2015 and on which was detected an alleged search history during the weeks before the accident, incriminating Andreas Lubitz should be noted:

- these assumptions are incorrect. The iPad was *not* seized in the couple's Düsseldorf apartment during the house search, but was rather in the custody of a third party at that time. The corresponding false information in the file of the French judiciary, the BEA and the media have not – despite known information – yet been corrected.
48. It was not the co-pilot's father, Günter Lubitz, who handed over to the lawyer Conrad the books which Andreas Lubitz had ordered before his death on 27 March 2015, but rather it was the stepfather of Andreas Lubitz's partner, Kathrin Goldbach.
49. Regarding the aforementioned books (point 48), it is striking that, according to police forensic data evaluation, Andreas Lubitz had already ordered the books two days before therapist Schmidt had recommended them to him.
50. It is suspicious that the browser history of the iPad (exhibit 1.1.1.1.13) shows, that data from 20 September 2014 to 16 March 2015 are clearly missing.
51. According to the file, the iPad (exhibit 1.1.1.1.13) was registered to several people. However, Apple does not provide this possibility for iPads and it is technically unfeasible, although an owner's name can be changed.
52. The files do not indicate when and how the forensic data evaluation of the seized computers, laptops and iPads and the cross-check of all these devices were performed, nor how the alleged browser history was verified with the respective internet service providers. If this has not been done, these evaluations have no relevance.
53. Although substantial data storage from mobile phones and other devices with audio and video recording were found and seized at the crash side, there is no evidence in the files as to whether this data was retrieved or reconstructed and, if so, when and how.

54. Andreas Lubitz did not conceal his illness from his employer, as has been implied. He was initially issued a sick note for a longer period; however, a general practitioner subsequently examined him thoroughly on 16 March 2015 and did find him incapacitated for work, but only until 22 March 2015. Thus, any previously-issued certificates covering a more extensive period had become superseded. Germanwings possessed this more current doctor's notice.
55. At the time of the accident, Andreas Lubitz was not under the influence of medicines, which, according to current assumption, severely impaired his flight fitness or made his duty on the day of the accident illegal. The concentration of residues of psychoactive drugs, extracted from tissue samples from his human remains show that he had, in fact, taken them before 23 March 2015, the time period when he was incapacitated and when the doctor had issued a sick note.
56. From the reconstruction of his flight book, according to the data in the file made available by his employer, Germanwings, it is shown that from the very beginning of his time with the company (spring 2014) Andreas Lubitz primarily flew in aircrafts with a well-known history of so-called "fume events" (incidents with suspected release of neurotoxic substances through the air bleed system).
57. Other persons affected by fume events also consistently describe the ocular symptoms Andreas Lubitz observed in December 2014. Moreover, such symptoms are reported in the literature in connection with the so-called "sheep dip poisoning" in Great Britain, where organophosphates were used. Such intoxication can lead to sudden performance fall-off. Father Günter Lubitz observed such an event during sports activity (jogging) in January 2015. These intoxications can lead to sudden personality changes, including depression and suicide. They are generally misdiagnosed (e.g., hypochondria, Parkinson's, MS, psychosomatic) in mainstream medicine and by medical staff because of widespread unawareness. The interaction with psychotherapeutic drugs can lead to extensive undesirable side effects.

58. According to the parents' and the brother's DNA profiles made at the end of 2016 and beginning of 2017 there is a high probability that Andreas Lubitz's DNA profile places him in the group of "intermediate" or even "poor metaboliser" of aircraft toxic fumes. This means that he could metabolise the toxins emitted during "fume events" only over a period of time, or probably not at all. However, more detailed information on these results can be assured by more forensic laboratory analyses of Andreas Lubitz's tissue samples.

Note

THIS EXPERT OPINION WILL BE CONTINUED AND, IF NECESSARY,
SUPPLEMENTED BY NEW FINDINGS.

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