



MILANO LINATE AIR ACCIDENT, 20TH ANNIVERSARY

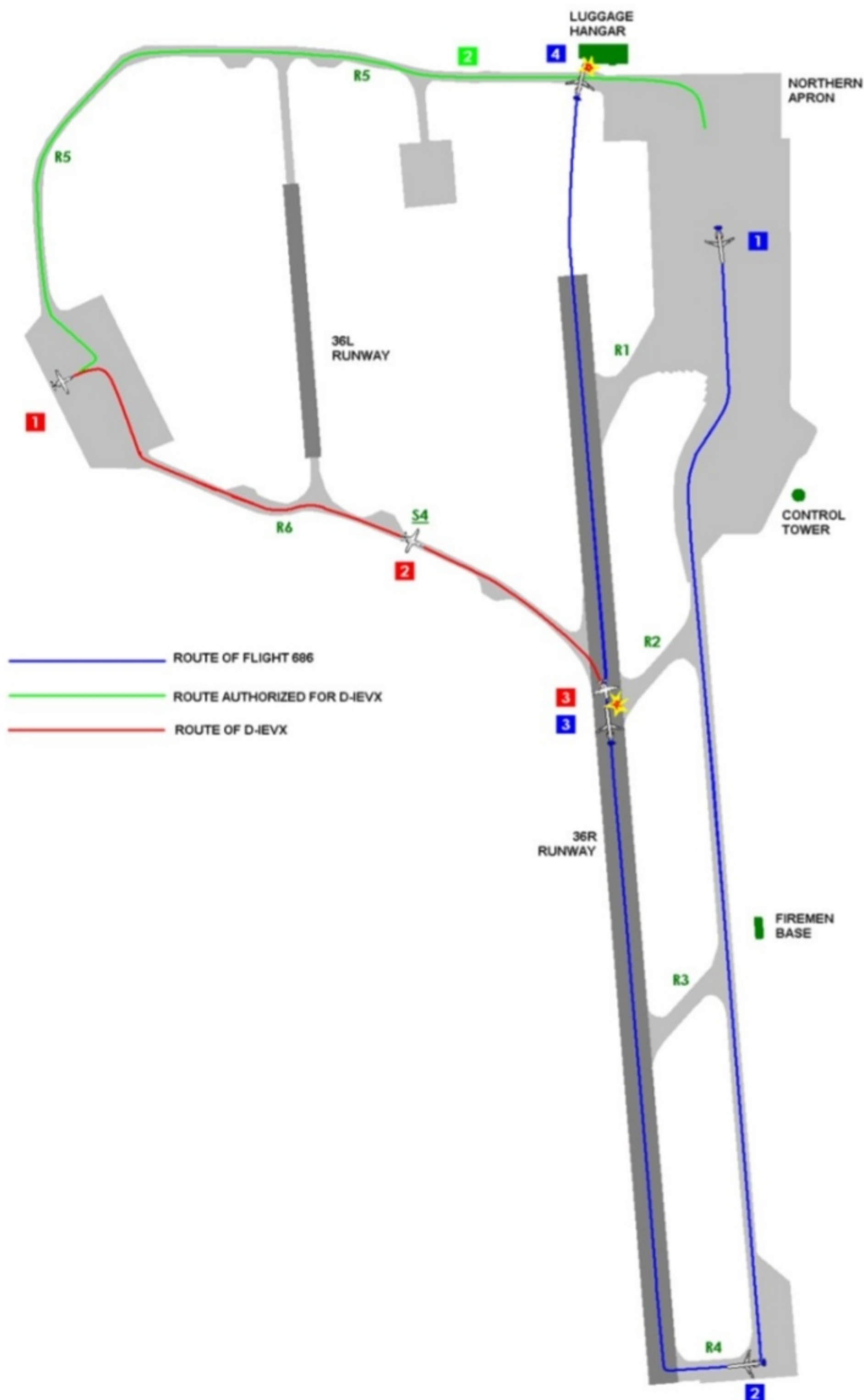
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This magazine's edition falls very close to the 20th Anniversary of Milano Linate air accident, dated 8th October 2001. We have decided to write about this event, although not related to Brussels Airlines, with the intent of raising awareness, especially as we enter winter/ low visibility operations. We hope this is of interest.

Event

On the 8th of October 2001, at 06.10 UTC, a Boeing MD-87, registration marks SE-DMA operated by SAS, while on take-off run on runway 36R of Milano Linate airport, collided with a Cessna 525-A, registration marks D-IEVX which taxied into the active runway. After the collision the MD-87 continued travelling down the runway, the aircraft was airborne for a short while, and came to a stop impacting a baggage handling building. The Cessna 525-A, which was coming from West apron (General Aviation), remained on the runway and was destroyed by post-impact fire.

All occupants of the two aircraft and four ground staff working inside the building suffered fatal injuries. Four more ground staff suffered injuries and burns of various entity.



Picture 1. Explanation of the accident

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Causes

The immediate cause of the accident was the runway incursion on the active runway by the Cessna. The final report also states “the obvious consideration is that the human factor related action of the Cessna crew during low visibility conditions must be weighed against the scenario that allowed the course of events that led to the fatal collision; equally it can be stated that the system in place at Milan Linate airport was not capable of trapping misunderstandings (or the consequences of) inadequate procedures, blatant human errors and a faulty airport layout.”

List of immediate and systemic causes that led to the accident:

- the visibility was low, between 50 and 100 meters;
- the traffic volume was high;
- the lack of adequate visual aids;
- the Cessna crew used the wrong taxiway and entered the runway without specific clearance;
- the failure to check the Cessna crew qualification;
- the nature of the flight might have exerted a certain pressure on the Cessna crew to commence the flight despite the prevailing weather conditions;
- the Cessna crew was not aided properly with correct publications (AIP Italy – Jeppesen), lights (red bar lights and taxiway lights), markings (in deformity with standard format and unpublished, S4) and signs (non-existing, TWY R6) to enhance their situational awareness;
- official documentation failing to report the presence of unpublished markings (S4, S5, etc) that were unknown to air traffic controllers, thus preventing the ATC controller from interpreting the unambiguous information from the Cessna crew, a position report mentioning S4;
- operational procedures allowing high traffic volume (high number of ground movements) in weather conditions as were current the day of the accident (reduced visibility) and in the absence of technical aids;
- radio communications were not performed using standard phraseology (read back) or were not consistently adhered to (resulting in untraced misunderstandings in relevant radio communications);

- radio communications were performed in Italian and English language;
- Air Traffic Control (ATC) personnel did not realize that Cessna was on taxiway R6;
- the ground controller issued a taxi clearance towards Main apron although the reported position S4 did not have any meaning to him;
- instructions, training and the prevailing environmental situation prevented the ATC personnel from having full control over the aircraft movements on ground.

Furthermore:

- the aerodrome standard did not comply with ICAO Annex 14; required markings, lights and signs did either not exist (TWY R6) or were in dismal order and were hard to recognize especially under low visibility conditions (R5-R6), other markings were unknown to operators (S4);
- no functional Safety Management System was in operation;
- the competence maintenance and requirements for recent experience for ATC personnel did not fully comply with ICAO Annex I;
- the LVO implementation by ENAV (DOP 2/97) did not conform with the requirements provided in the corresponding and referenced ICAO DOC 4976.

The combined effect of these factors, contemporaneously present on the 8th of October 2001 at Milano Linate, have neutralized any possible error corrective action and therefore allowed the accident.



Picture 2. Markings R5 and R6, the Cessna took R6 while instructed for R5

Recommendations

A total of 18 recommendations were issued as a result of the investigation. They focus on a variety of topics, including:

- Check of state of the airport Visual Aids for all domestic airports, as well as complete information to operate safely to be included in the AIP
- Works on the European Action Plan for Prevention of Runway Incursions
- Procedures to systematically report any incident or abnormal operation in breach of Safety
- The use of the English language according to ICAO requirements, as well as the use of read-back procedure
- Increased ATC training ; compliance with ICAO standards ref. ATC competence and training
- Aerodrome Design Manual and stop bar lights checks by GND controllers
- Extension of regulations for Low Visibility Operations (LVO-CAT II-III, LVTO) towards any aircraft involved in such operation
- Airport design and operation compliance with ICAO safety standards, as well as the use of a functional Safety Management System
- CVR equipment; ATC equipment and procedures
- ESARR 5 DOC 5 additional requirements
- Standardization teams for ATM units check
- Airport emergency plans
- Airport fire station organization
- Documental checks ref. LVO for commercial and private pilots

Final report

<https://www.skybrary.aero/bookshelf/books/480.pdf>



Comitato and Fondazione 8 Ottobre

Approximately one month after the accident, the Committee 'Comitato 8 ottobre' was setup in Milan by the families of the victims with the intention of remembering the event through as many initiatives as possible.

Three years later, the Foundation 'Fondazione 8 ottobre' was created to start intensive technical work on flight safety on a national and international level. The Foundation is made up of highly experienced pilots, air accident investigators and flight safety professionals who volunteer their time to these activities.

Remarkably, both associations' work continued throughout the years and to this date many activities are being progressed. While it is impossible to put into words the real impact of the accident on the relatives of the victims, it is important to acknowledge their fundamental role in driving change towards a safer environment. An example of this is the Advisory Circular GEN 05 'Policy on assistance to aircraft accident victims and their relatives' (Italian CAA, first issue 2014), which the Foundation extensively worked on. The document was presented for the first time to ICAO in Montreal in 2015.

Below you can see a picture of 'Bosco dei faggi', a memorial just north of Linate airport made up of 118 trees in a circle, one for each victim, with a sculpture at the center donated by SAS to the relatives. The sculpture was born from the old Scandinavian tradition of *Bautastenar* (Swedish for residual/standing stones).

