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PRELIMINARY REPORT

ON INVESTIGATION OF AIRCRAFT ACCIDENT

of PA32-301T powered aircraft,

reg. no. N710CC, Predmeja – Ajdovščina,

14 July 2016

INTRODUCTION

Preliminary report on the investigation of the aircraft accident contains basic data on the occurrence. Due to the scope of the investigation, the complete data will be provided in the final report, as is typical of investigations into civilian aviation safety.

In accordance with Annex 13 to the Chicago Convention, Regulation (EU) No 996/2010 of the European Parliament and of the Council on the investigation and prevention of accidents and incidents in civil aviation, based on the paragraph four of Article 137 of the Aviation act – consolidated text (Zlet-UPB4) (The Official Gazette of the Republic of Slovenia, No. 81/10) and the Decree on the investigation of aircraft accidents, serious incidents and incidents (The Official Gazette of the Republic of Slovenia, Nos 72/03 and 110/05), the main goal of aircraft accident and incident investigation is to improve aviation safety. **The only goal of investigations concerning safety is future accident and incident prevention and not establishing fault and responsibility.**

The investigation of the above mentioned aircraft accident is being conducted in accordance with applicable international and national regulations on aircraft accident and incident investigations. **A final report will be published about the final findings of the investigation.**

SUMMARY

1. Date and time of the accident: 14 July 2016 at 10.52 am local time

2. Location of the accident: Predmeja, Ajdovščina, N 45° 57' 13"/E 13° 51' 42"

3. Flight type: IFR (Instrumental Flight Rules) commercial flight

4. Aircraft: six-seat powered aeroplane

- Aircraft manufacturer: PIPER AIRCRAFT, INC. Vero Beach, FL 32960, USA
- Manufacturer marking: Piper, PA-32R-301T
- Aircraft registration data: N710CC (FAA – Federal Aviation Administration, USA)
- Aircraft serial number: 3257358
- Airworthiness validity expiry date: 30 April 2018[1]
- MTOM: 1640[2] kg

5. Owner/operator: KUERTZ ENTERPRISE LTD

6. Crew and passenger records:

- Crew: pilot (1)
- Number of passengers: 3
- Total number: 4

7. Consequences:

injuries	*crew*	*passengers*	*others*
fatal	1	3	/
serious	/	/	/
minor injuries/uninjured	/	/	

Aeroplane and equipment

Aeroplane, engine and equipment destruction is 100% with no possibility of repair.

[1] Data not yet confirmed.
[2] Maximum take-off mass specified by the manufacturer.

FACTS

1 Flight data

The pilot and three passengers took off from the Venice Marco Polo Airport (LIPZ) at 10.16 am local time and planned to land at the Leipzig airport (EDDP) in Germany. The announced flight, which was planned by the pilot in accordance with the IFR rules, was received by the Italian air control and relayed to the Slovenian Control (Kontrola zračnega prometa Slovenije – KZPS). At 10.45 am, when entering the Slovenian airspace, the pilot established radio communication with the responsible KZPS and requested a change to the planned route, which was approved by the controller. A few minutes afterwards, the air traffic controller noticed that the aeroplane has been changing elements of flight, whereby the pilot then explained he was evading possible icing due to the proximity of a large Cb cloud. At 10.51 am the pilot communicated "Mayday Mayday", however there was no response to the air traffic controller's call thereafter. KZPS immediately initiated a search and rescue procedure. Not before long, the aeroplane wreckage was found in a wooded area approximately 2 km north-west of the village Predmeja in the municipality of Ajdovščina. When it crashed into the terrain, the aeroplane burst into flames. The pilot and the three passengers all died.

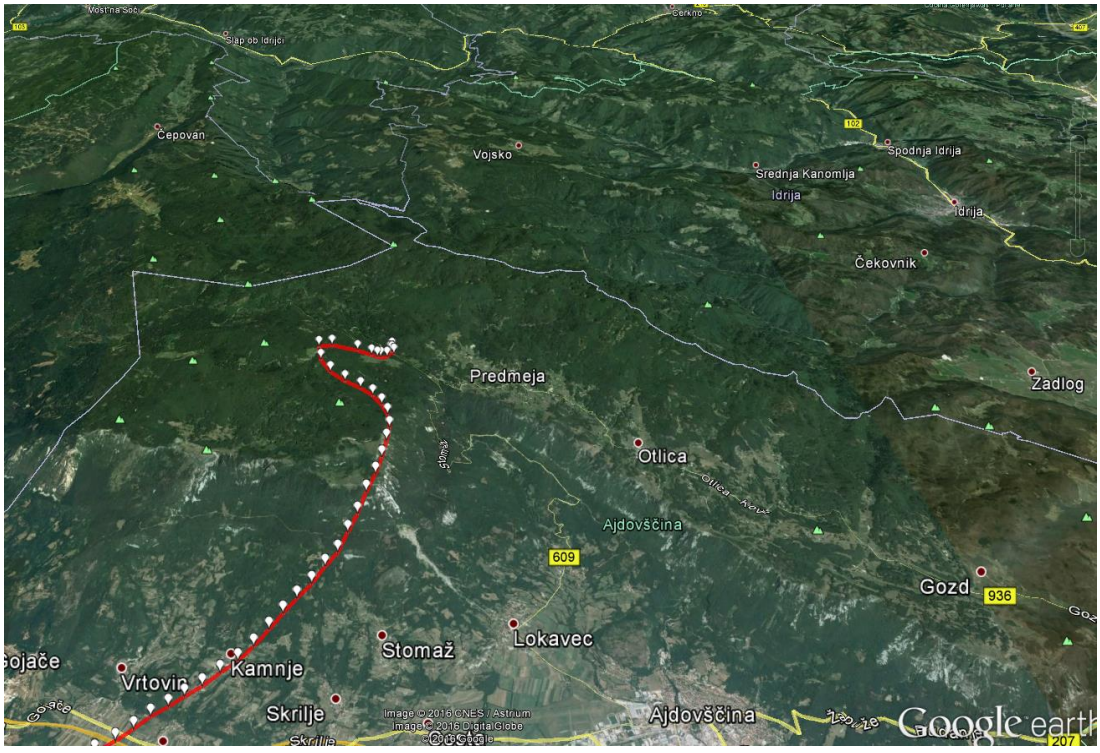

Figure 1: Actual flight route

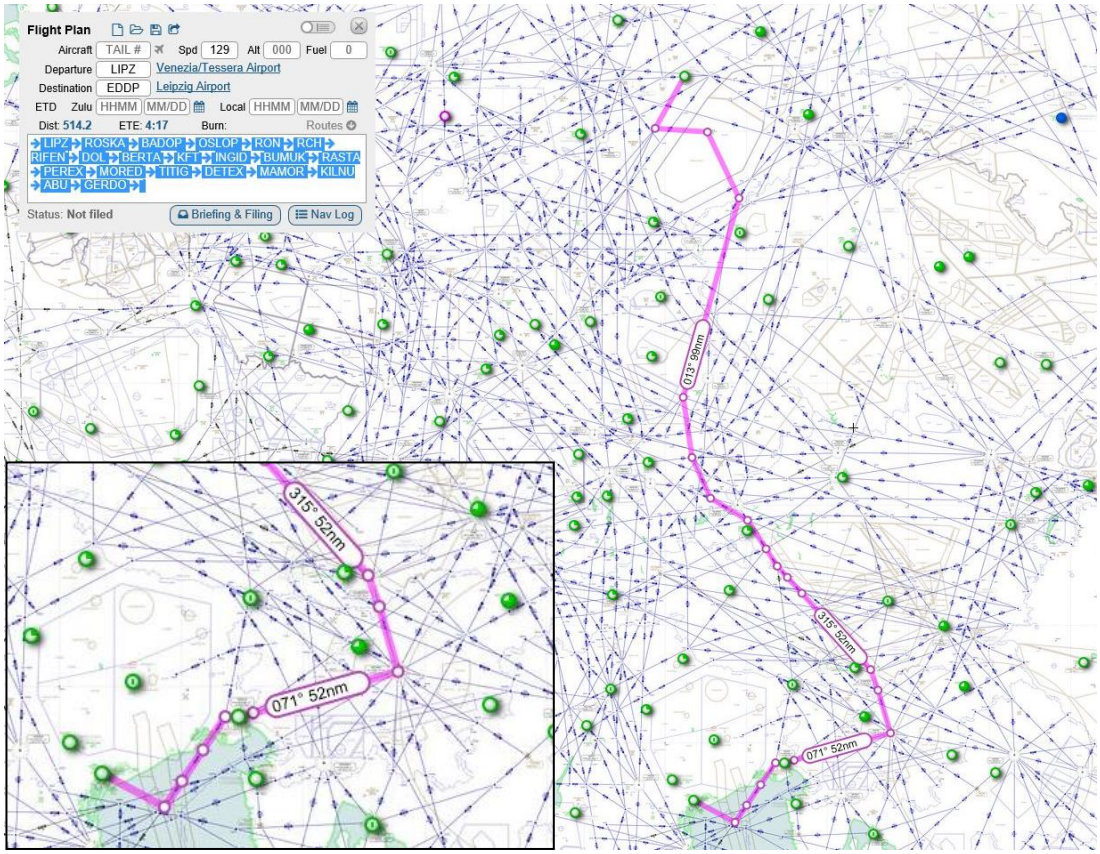

Figure 2: Flight plan

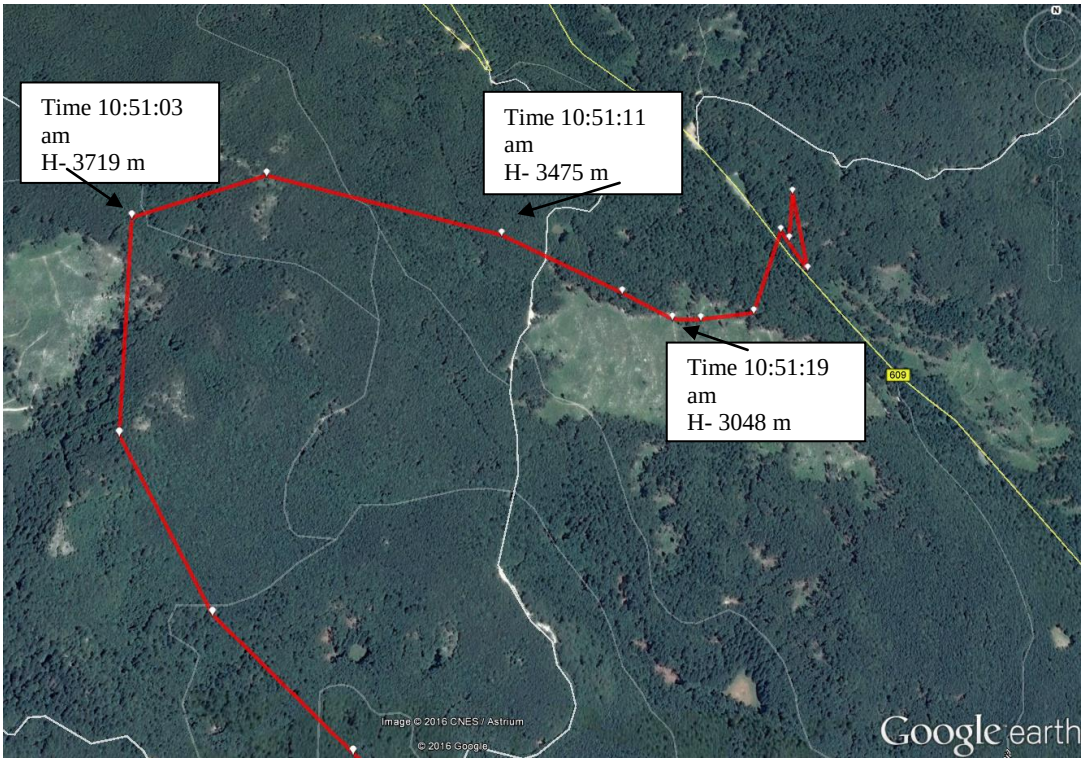

Figure 3: Elements of flight, based on analyses made by the use of radar records

2 Personnel data[3]

2.1 Pilot

The pilot (73), a German citizen, had:

- A commercial pilot licence CPL(A) issued on 20 August 2013 and valid until 31 July 2017 (last SEP/IR and MEP/IR rating renewal on 17 June 2016 by examiner No. D-302);
- Medical Certificate Class 1 valid until 8 January 2017 (other complex operations until 8 July 2017) issued by the authorised organisation – AME 1001790-4;
- Medical Certificate Class 2 valid until 8 July 2017 (for LAPL valid until 8 July 2018) – AME 1001790-4;
- Total flight time up to the date of the accident: 3910 h 55 min.

3 Weather analysis for 14 July 2016 for the Predmeja area (ARSO meteorological data)

WEATHER OVERVIEW

A large part of Europe was affected by rather cold and humid air coming in from the Atlantic. The weather front stretched from the Baltic through eastern Europe to central Balkans. This area was characterised by unstable weather with frequent rain as well as storms. It was sunny and hot only in south-eastern Europe and in the Southern Mediterranean.

Along the north of the Adriatic Sea, the sky cleared up during the day, while in the mainland showers and occasional storms continued to form.

DATA FOR THE LIPZ (Venice) AND EDDP (Leipzig) AIRPORTS

LIPZ

METAR LIPZ 140650Z 35018KT 310V030 9999 BKN060 20/08 Q1007 TEMPO RA=
METAR LIPZ 140720Z 35021KT 310V020 9999 VCSH BKN060 19/10 Q1008
TEMPO RA=
METAR LIPZ 140750Z 35017KT 320V020 9999 SCT060 20/10 Q1009 RESH
NOSIG=

[3] Transcript of general data from the pilot's licence and the pilot logbook.

METAR LIPZ 140820Z 36017KT 280V050 CAVOK 21/09 Q1009 NOSIG=
METAR LIPZ 140850Z 36011KT 330V040 CAVOK 21/08 Q1009 NOSIG=

At the LIPZ airport, north wind blew at approximately 20 knots, the visibility was more than 10 km, the first cloud layer was at 6000 ft, after 10.20 am local time there were no clouds below the minimum sector altitude (CAVOK).

EDDP

TAF EDDP 140500Z 1406/1506 31012KT 6000 BKN005 TEMPO 1406/1410 3500 RA BR BKN003
BECMG 1407/1411 30015G25KT SCT008 BKN025 BECMG 1416/1418 28010KT=

The forecast for the EDDP airport foresaw a visibility of 6 km, until 12 am local time (noon) occasional rain with visibility of 3500 m, after 1 pm local time north wind with gusts of up to 25 knots and clouds with cloud base at 800 ft and 2500 ft.

WIND

At FL100 above Italy, the wind mostly blew towards north and above Slovenia turned towards south-west.

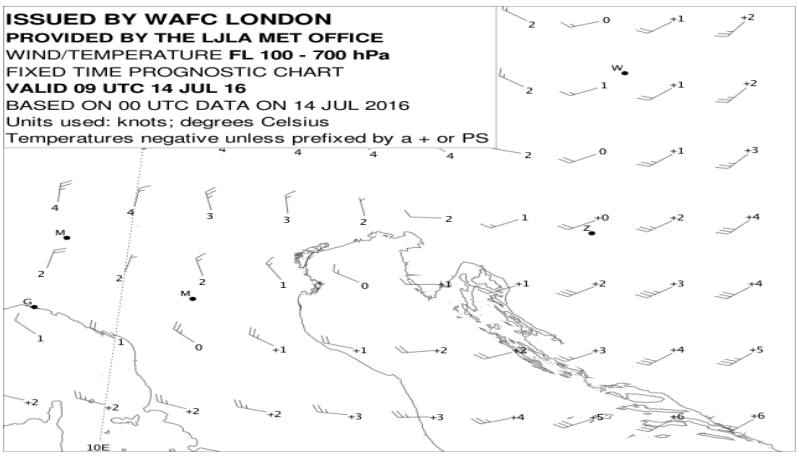

Figure 4: General wind circulation at FL100 on 14 July 2016 at 11 am local time

WEATHER CONDITIONS

At the time of the accident, there were showers and before the accident there were isolated storms; convection was also forming. During showers and storms, the visibility in that area decreased, there was a possibility of stronger local winds, wind shear, turbulence and icing.

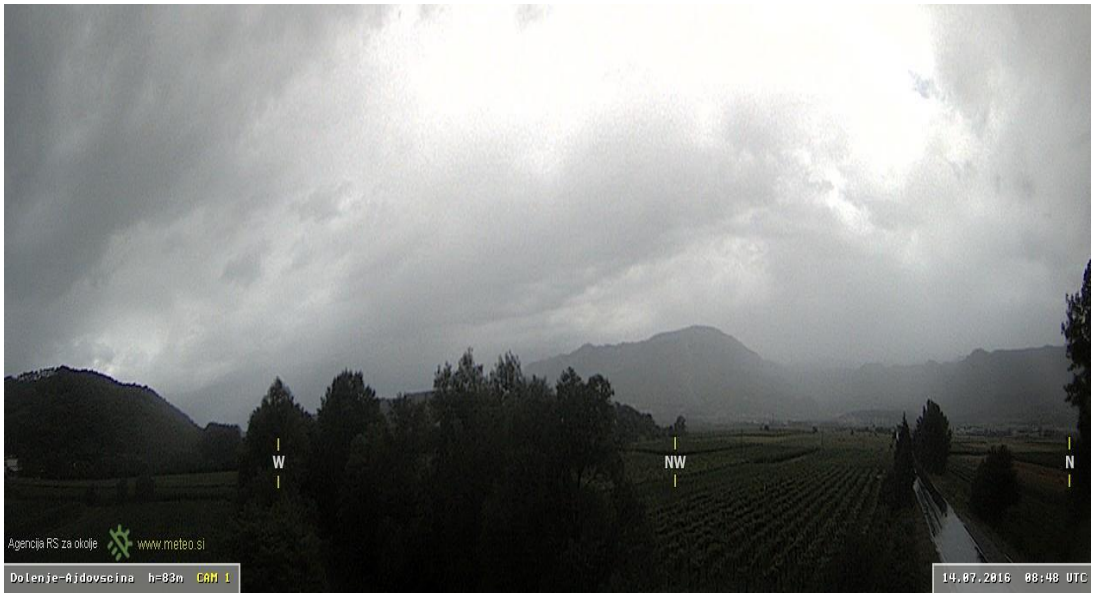

Figure 5: Photo towards north from the Dolenje/Ajdovščina location on 14 July 2016 at 10.48 am local time

Figure 6: Photo towards south from the Otlica location on 14 July 2016 at 10.30 am local time

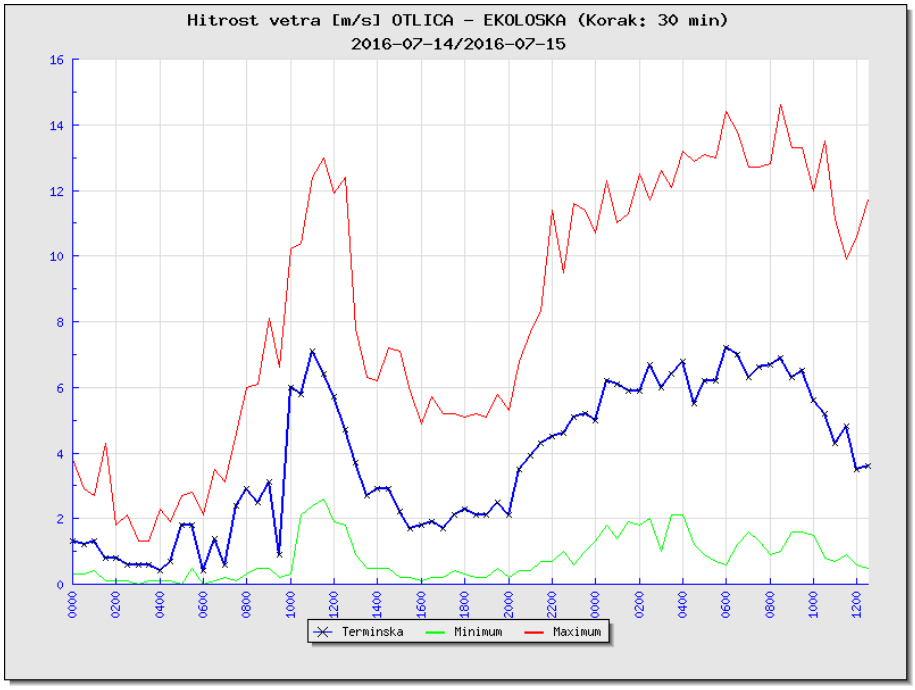

Figure 7: Wind speed at the Otlica station

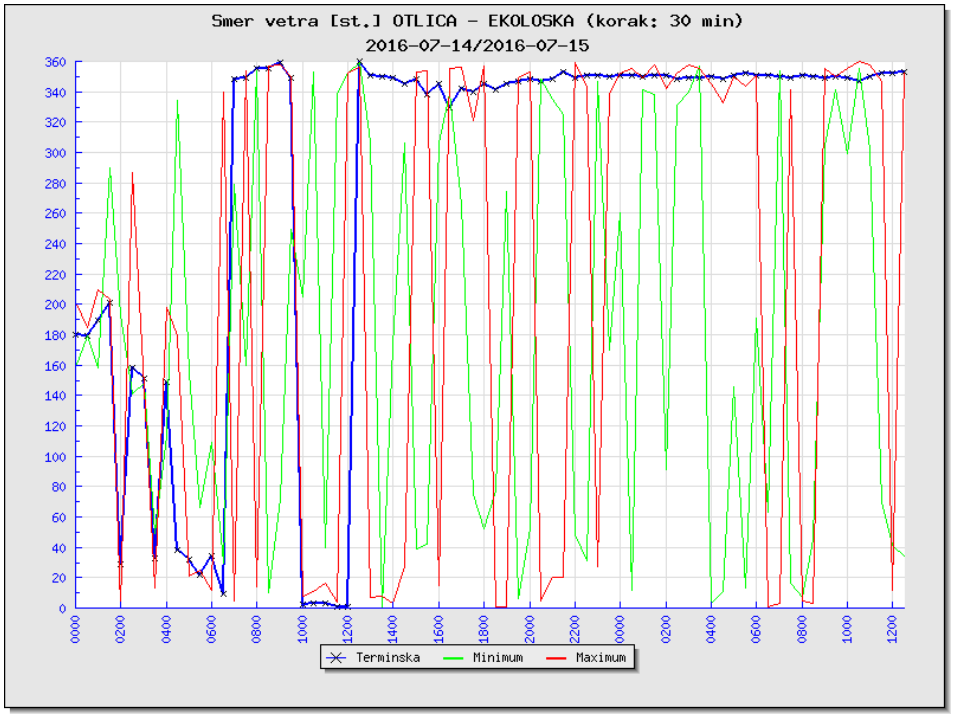

Figure 8: Wind direction at the Otlica station It can be seen that the wind changed direction from south to north in the morning

CLOUDS

Based on the webcam and radar footage, we predict there were clouds in the area where the aircraft accident took place, mostly the *cumulus congestus* (TCU) type and individual *cumulonimbus* (Cb) clouds. The base was at approximately 4000 ft above ground, while could tops reached up to FL200/FL280.

TEMPERATURE

Above the altitude of 2800 m, the air temperature was below 0°C; during strong rainfall the altitude with 0°C temperature generally decreases by a few 100 m.

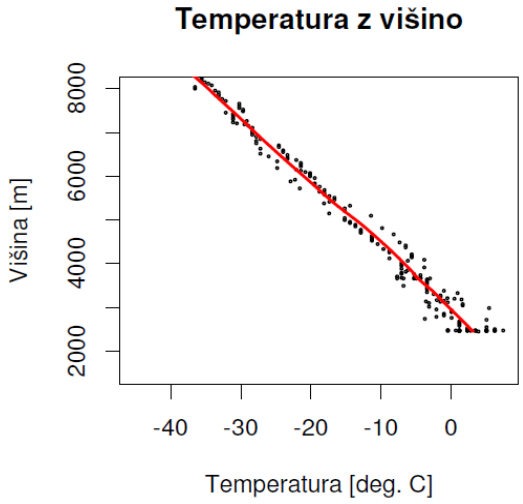

Figure 9: Temperature values versus altitude

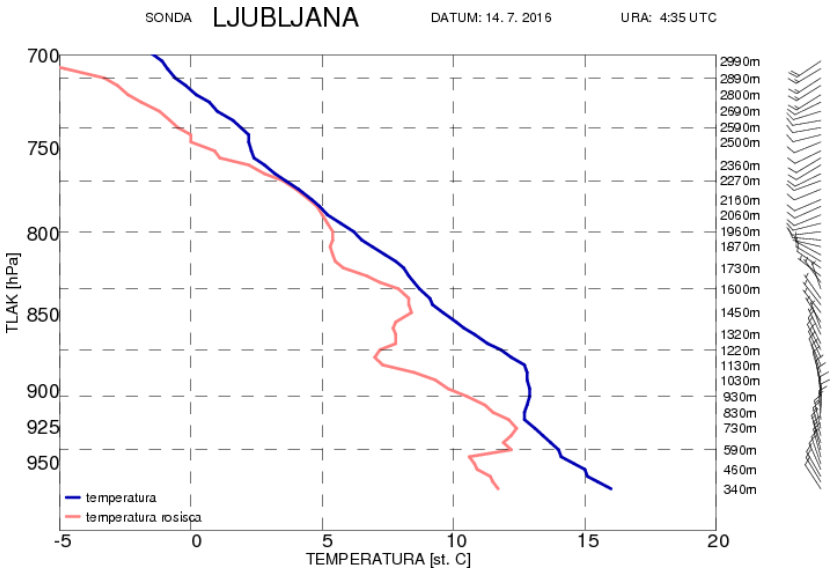

Figure 10: Temperature (blue) and dew point (red) on 14 July 2016 above Ljubljana

RELATIVE HUMIDITY

In the clouds, relative humidity is 100% or very close to 100%.

ISSUED WARNINGS

In the period corresponding with the time of the accident, the LJUBLJANA FIR meteorological watch service issued a warning about the formation of storms in the south-west part of LJUBLJANA FIR. The warning was issued at 9.23 am local time.

WSLJ31 LJLJ 140723
LJLA SIGMET 3 VALID 140715/140845 LJLJ-
LJLA LJUBLJANA FIR EMBD TS OBS WI N4615 E01330 - N4610 E014 - N4540 E01350 - N4545 E01320 - N4615 E01330 TOP FL280 STNR NC=

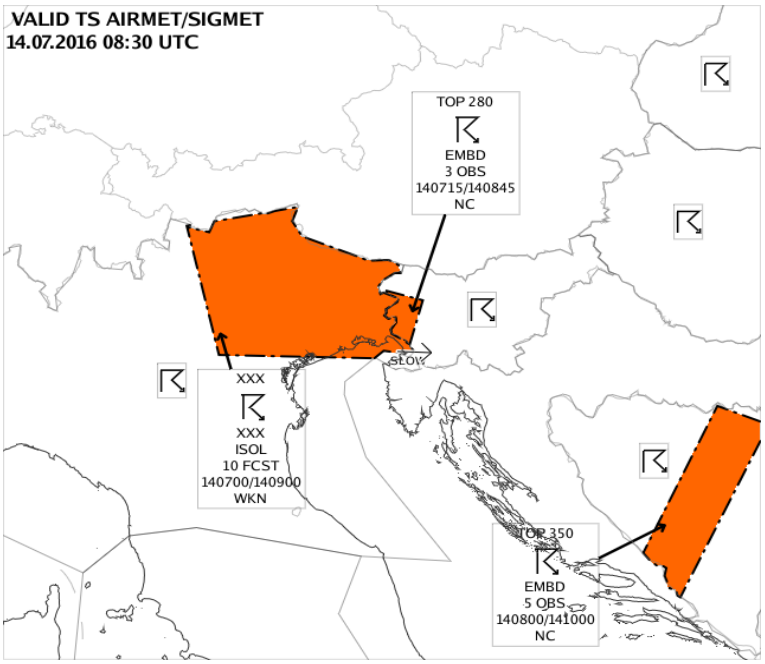

Figure 11: The airspace area for which warnings about formation of storms had been issued

RADAR RAINFALL MEASUREMENT

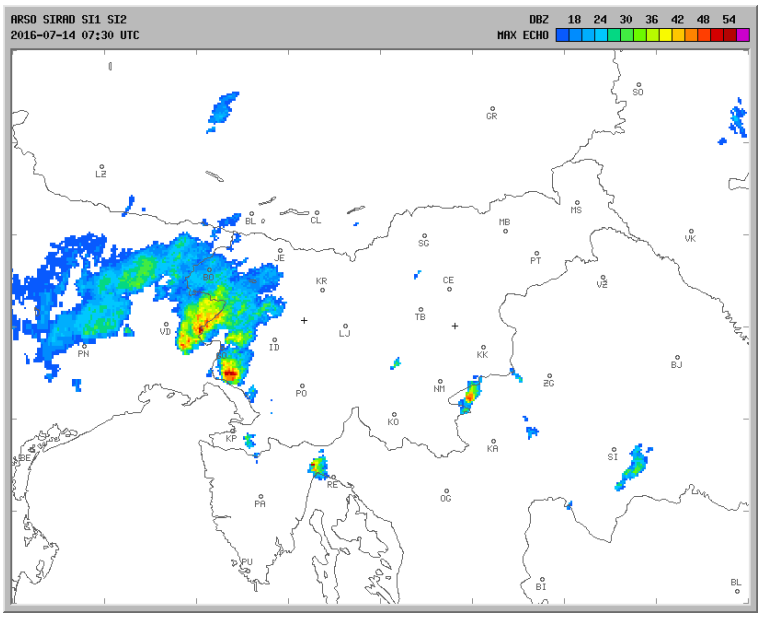

Figure 12: Radar measurements at 9.30 am local time

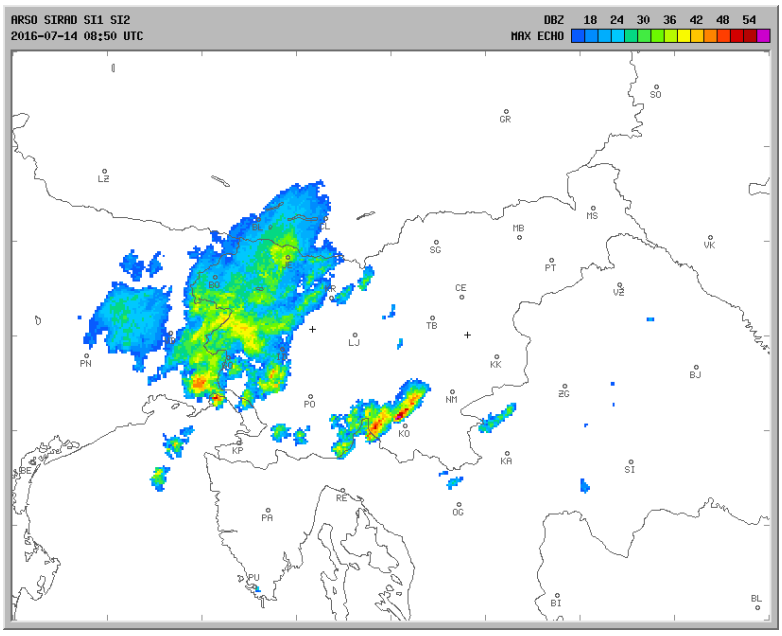

Figure 13: Radar measurements at 10.50 am local time

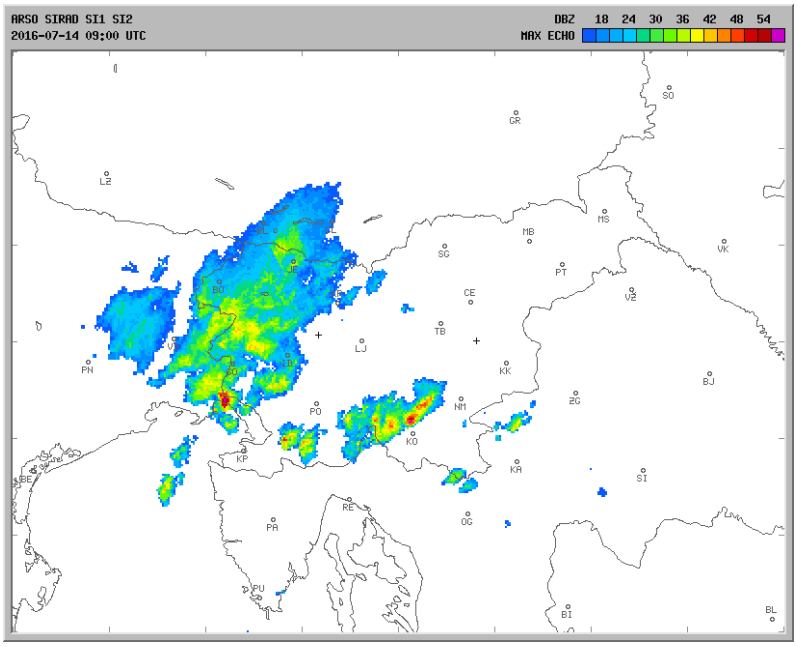

Figure 14: Radar measurements at 11 am local time

Based on the analysis of sequences in the radar footage, we conclude that the strongest convection formed in the north Primorska from 9 am to 10 am local time; later on, convection activity decreased and rainfall started, particularly showers (figures 10, 11, and 12). A new storm cell developed at the Slovenian border with Italy, i.e. south of Nova Gorica at 11 am local time (figure 12 – red).

WEATHER SUMMARY

At the time of the N710CC aircraft accident on 14 July 2016 in the Predmeja area, the following conditions prevailed:

- On the route from Venice to Slovenia, there were some low clouds reaching the altitude of FL100;
- In south-west Slovenia, convective clouds were forming with a base at 4000 ft and top between FL200 and FL280;
- Visibility was very low due to rainfall and clouds;

- Above the altitude of 9000 ft, the temperature was below 0^{o}C; during strong rainfall, the altitude at which the temperature reaches 0^{o}C generally decreases;
- There were showers, and before as well as after the accident, some individual storms developed;
- Due to convective clouds, the conditions were suitable for the generation of moderate to strong vertical air movement, moderate to strong turbulence and moderate to strong icing in layers from 8500 ft to FL200;
- Cloud relative humidity was at approximately 100%.

4 Radio contact data

Data was obtained from the KZPS d. o. o. voice communication and transponder. This type of flight data for the flight made in the Italian air space was also obtained from the Italian civil aviation safety investigation service. Analysis of transponder data, voice communication and data obtained from foreign radars is still under way.

5 Data about the investigation

At the time of the arrival of the investigator-in-charge, the site of the accident was suitably secured. The inspection on site lasted two days and was carried out in cooperation with the Police Directorate Nova Gorica representatives. In the circle around the wreckage, a part of the elevator, i.e. horizontal stabilizer, could not be found. Despite multiple searches made by the police air support unit, the missing part was not found. The search for the tail piece of the aeroplane, which is of utmost importance to the investigation of the crash, continues. Once the investigation is concluded, the facts and circumstances of the accident will be provided in a final report.

Toni Stojčevski, AAIIS
Investigator-in-charge