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Bureau d'enquête sur les accidents d'aviation BEAA  
Ufficio d'inchiesta sugli infortuni aeronautici UIIA  
Uffizi d'inquisiziun per accidents d'aviatica UIAA  
Aircraft Accident Investigation Bureau AAIB

# **Final Report No. 2046**

## **by the**

# **Aircraft Accident Investigation Bureau**

concerning the serious incident (AIRPROX)  
involving the Boeing B737-800 aircraft, registration EI-DPB  
operated by Ryanair Ltd. under flight number RYR 586A  
and the Cessna 560 Citation V Ultra aircraft, registration HB-VNW  
operated by Cirrus Swiss Eagle AG under flight number EAB 627  
on 3 June 2007  
25 NM north north-west of SRN/DVOR

Aéropôle 1, Route de Morens, CH-1530 Payerne

## General information on this report

This report contains the AAIB's conclusions on the circumstances and causes of the accident/serious incident which is the subject of the investigation.

In accordance with Annex 13 of the Convention on International Civil Aviation of 7 December 1944 and article 24 of the Federal Air Navigation Act, the sole purpose of the investigation of an aircraft accident or serious incident is to prevent accidents or serious incidents. The legal assessment of accident/incident causes and circumstances is expressly no concern of the accident investigation. It is therefore not the purpose of this investigation to determine blame or clarify questions of liability.

If this report is used for purposes other than accident prevention, due consideration shall be given to this circumstance.

The definitive version of this report is the original in the German language.

All times in this report, unless otherwise indicated, follow the coordinated universal time (UTC) format. At the time of the accident, Central European Summer Time (CEST) applied as local time (LT) in Switzerland. The relation between LT, CEST and UTC is:  $LT = CEST = UTC + 2 \text{ h}$ .

## Final Report

### Aircraft

RYR 586A, EI-DPB, Boeing B737-800  
Holder: Ryanair Holdings PLC  
Operator: Ryanair Ltd.  
Scheduled flight from London-Stansted (EGSS)  
to Pisa Galileo Galilei (LIRP)  
Type of operation: IFR

EAB 627, HB-VNW, Cessna 560 Citation V Ultra  
Holder: Cirrus Swiss Eagle AG  
Operator: Swiss Eagle AG  
Commercial flight from Toulon-Hyères (LFTH)  
to Zurich (LSZH)  
Type of operation: IFR

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### Crews

RYR 586A  
CMDR: French citizen, born 1970  
FO: German citizen, born 1975

EAB 627  
CMDR: Swiss citizen, born 1968  
CMDR in FO function: Swiss citizen, born 1963

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### Location

25 NM north north-west of SRN/DVOR

### Date and time

3 June 2007, 15:51 UTC

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### ATS units

Swiss Radar, Upper Area Control Centre East (UAC-E)  
Milan Radar, Area Control Centre (ACC)

### Air traffic controllers

Radar Executive Upper M3 (RE-M3)  
Swiss citizen, born 1982

Radar Executive Upper M2 (RE-M2)  
Swiss citizen, born 1972

Radar Planner Upper M2 (RP-M2)  
Swiss citizen, born 1980

Radar Executive Sector EAN  
Italian citizen, born 1967

Radar Planner Sector EAN  
Italian citizen, born 1954

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### Airspace

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## 1 Factual information

### 1.1 History of the flight

On Sunday 3 June 2007, the Boeing B737-800 aircraft of the Ryanair Ltd. company, radio callsign Ryanair 586A and flight number RYR 586A, was on a scheduled flight from London-Stansted to Pisa. The aircraft was entering Zurich airspace at FL 370 and the crew received clearance to fly via beacon TRA and waypoint ODINA (see Annex 1).

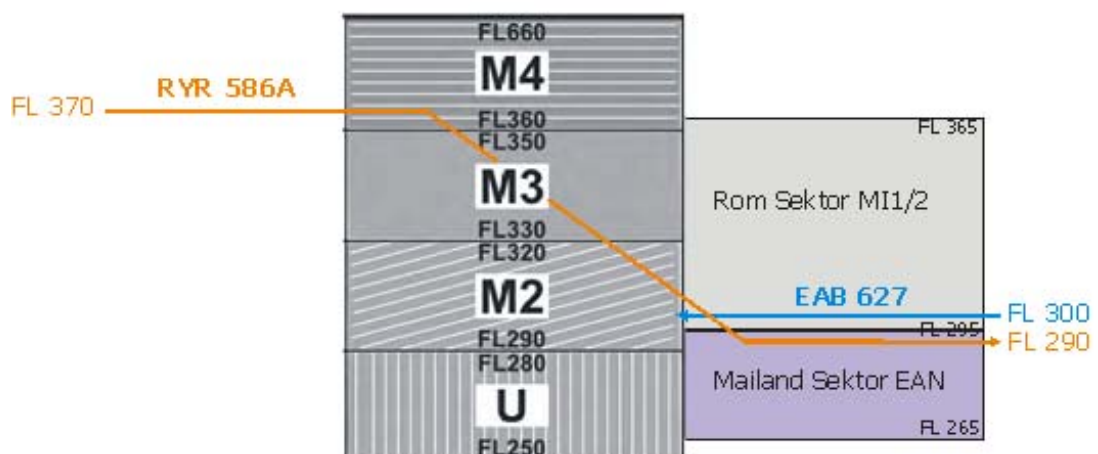
The traffic volume was low and of average complexity.

By agreement with Milan ATC, FL 290 at ODINA had been coordinated as the transfer altitude for this flight. On the Zurich Sector Upper M4 frequency (responsible from FL 356 and above), the crew received an initial clearance to descend to FL 360.

After the frequency change to Zurich Sector Upper M3 (responsible for FL 326 – FL 355), the Radar Executive Sector Upper M3 (RE-M3) cleared RYR 586A to FL 290. This altitude had been agreed between the RE-M3 and the RE-M2 (responsible for FL 286 – FL 325), together with the condition that the aircraft should reach FL 290 above waypoint ODINA at the latest.

At 15:47:02 UTC, the crew of RYR 586A reported that they were leaving FL 370. When they did so, they repeated the instruction to reach FL 290 at waypoint ODINA. At 15:47:49 UTC, the RE-M3 asked the crew to make radio contact with Sector EAN in Milan (see Annex 2). At this time, according to the radar recordings, the altitude of RYR 586A was FL 347 descending and the distance to waypoint ODINA was 17 NM.

At about the same time, a Swiss Eagle AG Cessna 560 Citation V Ultra, radio callsign Swiss Eagle 627 and flight number EAB 627, was on a commercial flight from Toulon-Hyères to Zurich. The aircraft was about 30 NM south south-west of waypoint CANNE at FL 300 and the crew was in radio contact with Rome ATC.



At 15:48:47 UTC, EAB 627 made contact with Zurich Sector Upper M2. The aircraft was then approximately 25 NM south south-west of waypoint CANNE at FL 300. This entry altitude for EAB 627 had been coordinated by Rome ATC with Zurich ATC.

At 15:48:05 UTC, the crew of RYR 586A made contact with the Radar Executive Controller of Sector EAN in Milan. The latter identified the aircraft and at 15:48:54 UTC instructed the crew to initiate a left turn direct to the Parma beacon – PAR VOR. At this time the aircraft was still in Zurich ATC's area of responsibility, approximately 11 NM north of ODINA. The altitude of RYR 586A, according to the radar recordings, was FL 320 and descending – but at a slightly reduced rate of descent. The left turn by RYR 586A in the direction of PAR meant that it was now on an opposite heading to EAB 627 at FL 300; the latter had made radio contact with Zurich ATC shortly before.

According to the radar recordings, the short term conflict alert – STCA – in Sector M2 was triggered at 15:49:46 UTC.

The RE-M2, who was alone in his sector at this time, noticed that RYR586A, when it was passing FL 320, initiated a left turn and at the same time reduced its rate of descent. He stated: *«I realised that RYR586A was now flying on an opposite heading in relation to EAB627. RYR586A was at this time still above EAB627. Since there was still time, I decided to call the ATCO (air traffic controller) in Milan and to make him aware of the impending conflict. It was my intention to inform him that he should instruct RYR 586A to expedite the descent. However, the controller in Milan did not understand what was going on».*

The Executive controller of Sector EAN in Milan assessed this situation as follows: *«Now the RYR 586A called in and I gave him the new code, identified it and turned it without any coordination to PAR. I expected that the RYR 586A would continue with the present rate of descent to cross abeam ODINA at FL 290».* He continued: *«After that I heard that my Planner was talking to Zurich, I became aware of the conflict between RYR 586A and the EAB 627 and I told the RYR 586A to expedite descent through FL 300».* He also added that it would have been more efficient to specify the rate of descent: *«After thinking of that, I should have given him a descent restriction until reaching FL 290».*

As both controllers of the Sector EAN Milan confirmed, they were of the opinion that the problem would be solved by increasing the rate of descent of RYR 586A: *«586A expedite leaving 300».* In addition, they mentioned that they were not expecting RYR 586A on their frequency until after the potential conflict with the opposite EAB 627 had been resolved by Zurich ATC.

At 15:50:32 UTC, the RE-M2 informed the crew of EAB 627 of the impending conflict with RYR 586A with the following words: *«Swiss Eagle six two seven I have a traffic at your...eleven o'clock position same altitude descending through your level».* The crew acknowledged this traffic information as follows: *«Swiss Eagle six two seven we have a TCAS contact and we're looking out».* After about 20 seconds, the crew reported: *«Traffic in sight crossing from left to right...».* A few minutes later, the crew responded as follows to the RE-M2's question concerning the type of traffic alert and collision avoidance system (TCAS) alarm: *«We had a resolution advisory».*

The flight paths of the two aircraft involved in the serious incident crossed 25 NM north north-west of beacon SRN DVOR, in the Italian ATC's area of responsibility. The altitude difference was 650 ft and the lateral distance was 2.3 NM, nearly on opposite headings.

## 1.2 Mode S transponder and TCAS data

The ground-based ATC radar system registers and assesses relevant data transmitted by the aircraft's Mode S transponder. Thus among other things the system logs the resolution advisories (RA) which are triggered by TCAS. The traffic advisories (TA) are not recorded on the ground. In the present serious incident no RA were triggered on either of the aircraft involved.

## 1.3 Crews

### RJR 586A

The crew of RJR 586A argued that turning away from the original route meant that they were also no longer bound by the restriction regarding the rate of descent. If it had been necessary because of separation problems to maintain a specific rate of descent, the crew would have expected a corresponding instruction from ATC.

According to the statement by the crew of RJR 586A, the traffic alert and collision avoidance system (TCAS) had generated neither a traffic advisory (TA) nor a resolution advisory (RA).

### EAB 627

After ATC had issued traffic information concerning the opposing RJR 586A to EAB 627, the crew of EAB 627 reported that they had received a TCAS indication and would try to establish visual contact. In response to the ATC question about the type of TCAS alert, the crew reported an RA on the frequency. Both pilots corrected this statement when interviewed and stated that they had only received a TA.

The crew, who were unable to explain exactly what the difference was between a traffic advisory and a resolution advisory, did not have the necessary knowledge concerning TCAS systems as well as procedures in the event of traffic advisories or resolution advisories.

## 1.4 Procedures

The bilateral Letter of Agreement (LoA) – between Zurich and Milan contains the following, among other things:

- **Flights from UAC CH EAST / TCZ to Milan ACC**

<b>ATS-Route</b>	<b>COP</b>	<b>Flight Level Allocation</b>	<b>Special Conditions</b>
<i>N/UN850 (GERSA – DEGAD – ODINA)</i>	<i>ODI</i>	<i>Odd FL  FL 290</i>	<i>Max FL destination LFMN/LFMD/LFTH/LFTZ/LFMQ LIMG/LIMJ/LIMP/LIPE/LIRP/LIRQ and LFK* / LIE*</i>

- **Flights from Milan ACC to UAC CH EAST / TCZ**

<b>ATS-Route</b>	<b>COP</b>	<b>Flight Level Allocation</b>	<b>Special Conditions</b>
<i>Z / UZ651 (CANNE – MANEG – KUDES)</i>	<i>CAN</i>	<i>Even FL  FL 280</i>	<i>Max FL for tfc destination LSZH/LSMD/LSME/EDTD*</i>

- *Transfer of control:*  
*The transfer of control takes place at the AoR-boundary/Line of Responsibility...*
- *Transfer of communications:*  
*The transfer of communications shall take place as early as practicable, but not later than the transfer of control...*

In the documents about the serious incident made available by Milan, reference is made to the fact that the 2.3 NM deviation of RYR 586A from the original flight path, which occurred as a result of the clearance, was not considered significant. In this context, there was a reference to the following section in the AIP Italy ENR 1.6 sub. 1.1.2:

- *Radar monitoring in area control service*  
*With reference to radar monitoring function in area control service, the following are considered significant, in relation to route and level clearances issued, or to published routes shown on the radar display:*
  - 1) deviations greater than 3 NM from the assigned route, or greater than the prescribed RNAV accuracy value, if less than 3 NM (e.g. 1 NM for PRNAV routes);*
  - 2) differences of more than 200 ft from the assigned level within RVSM airspace;*
  - 3) differences of more than 300 ft from the assigned level outside RVSM airspace.*

## 1.5 Meteorological information

Weather according to MeteoSwiss

*General meteorological situation*

*A ridge of high pressure moving from Spain to central Europe determined the weather in Switzerland.*

*On the basis of the listed information, it is possible to conclude that the weather conditions at the time and in the area of the incident were as follows:*

*The information below relates to FL 340.*

*Cloud: no cloud*

*Weather: -*

*Visibility: over 30 km*

*Wind: approx. 270 degrees at 60 kt*

*Temp./dewpoint: -52°C / -60°C*

*Atmospheric pressure: not relevant*

*Position of the sun: not relevant*

*Hazards: none detectable*

## 2 Analysis

### 2.1 Air traffic control

#### 2.1.1 Zurich ATC

The serious incident occurred in the area of the frontier between Switzerland and Italy. The following air traffic control units were involved: Swiss Radar (Upper Area Control Centre East – UAC-E), Milan Radar (Area Control Centre - ACC) and Rome Radar (Area Control Centre - ACC).

After the RE-M3 had enquired of the RE-M2 whether he still needed RYP 586A on his frequency, the latter said no and authorised the RE-M3 to clear it to FL 290 subject to the condition that this altitude was reached at waypoint ODINA at the latest. Such a coordination of the flight level between two control sectors one above the other is often used to avoid crews having to change frequencies often.

When the crew of RYP 586A had confirmed the descent clearance correctly, the RE-M3 considered traffic control of this aircraft to be completed. About two minutes later, the crew reported they were leaving FL 370 and shortly afterwards were instructed to establish radio contact with Milan.

The RE-M2 could have reckoned that after reaching FL 290 over ODINA, RYP 586A was separated from EAB 627, flying direction CANNE at FL 300. However, when he observed that RYP 586A was turning left before flying over waypoint ODINA, he tried to conduct a coordination conversation with Milan. Since this produced no serviceable result and the two aircraft were now on a nearly opposite heading, he correctly decided to break off the conversation.



The two aircraft were now still 8.5 NM apart, at the same altitude, and would violate minimum separation in approximately 15 seconds. Now the only possibility for the RE-M2 was to issue a traffic information to EAB 627. He dismissed an avoiding manoeuvre with EAB 627 as he did not know the heading instruction from Milan to RYR 586A and EAB 627 was still in Rome's area of responsibility. This reaction by the RE-M2 is understandable and can be followed.

The fact that the RE-M2 was conducting the coordination conversation with Milan himself was the result of his planner being outside the control room, relieving himself; this was by mutual agreement. It must remain open whether the presence of the RP-M2 might have alleviated the situation.

### 2.1.2 ATC Milan

The two Italian air traffic controllers involved in the serious incident were questioned in Milan by the investigator at the end of November 2007; this interview was facilitated by the Agenzia Nazionale per la Sicurezza (ANSV), at the request of the Swiss AAIB.

The Milan air traffic controllers explained that at the time of the call from RYR 586A they were busy with another separation problem. Obviously they considered the solution of this problem to be urgent and were no longer paying the necessary attention to the other traffic.

After contact was made between RYR 586A and ATC Milan, the air traffic controller gave the crew an instruction to adopt a direct heading for beacon PAR. The Radar-Executive answered the question as to why he had turned RYR 586A before it had passed waypoint ODINA as follows: *«Just to expedite traffic flow and to shorten the way...»*. In doing so, however, it escaped his attention that as a result an additional separation problem was being created between RYR 586A and EAB 627, which was at FL 300 in Rome ATC's area of responsibility. Since at this time RYR 586A was still in Zurich ATC airspace, the ATCO in Milan should have obtained prior approval for this heading instruction from Sector M2. However, such a coordination did not take place.

The Milan Radar-Executive was of the opinion that the left turn did not represent a substantial deviation from the assigned flight path. In this regard, he made the following statement: *«For me, the clearance direct to PAR did not mean a significant change of the routing, because after the clearance I expected the RYR 586A to start the turn in 2 or 3 miles»*. The paragraph from the AIP Italy ENR 1.6 sub 1.1.2 referred to in this quotation, regarding deviations from the flight path, cannot be applied in this case, as it is valid only within the Italian area of responsibility.

The clearance to PAR led to different interpretations by the crew of RYR 586A and Milan ATC. The crew were of the opinion that the imposed altitude restriction to reach FL 290 by ODINA at the latest, would lapse with the new clearance and they subsequently reduced the rate of descent. Contrary to this, the Milan Radar-Executive assumed that despite the direct routing to PAR, RYR 586A would maintain a rate of descent which would have ensured that FL 290 would be reached abeam of ODINA.

It is not possible to judge definitively whether, after giving the direct routing, the Milan EAN Radar-Executive should have given the crew a revised instruction concerning the rate of descent. The applicable national and international regulations do not provide any concrete information in this regard.

Although EAB 627 was at FL 300 in the Rome ATC area of responsibility, it was visible on the two ATCO's radar screens of Sector EAN Milan. The Radar-Executive initially noticed this aircraft but ceased paying attention to it as the situation evolved. It was only after the RE-M2's telephone call that the two ATCOs in Milan again became aware of the impending conflict. The Radar-Executive's attempt to alleviate the situation with the instruction «*expedite leaving 300*» proved to be inappropriate. The Radar-Executive could not know from the clearance «*expedite*» how quickly RYP 586A would descend. Assignment of a specific rate of descent until FL 290 was reached would have been necessary. In addition, it would have been expedient to issue RYP 586A with a traffic information about EAB 627 flying towards it.

The view of the two Italian ATCO's that Zurich should have kept RYP 586A on its frequency until FL 290 had been reached, in order to guarantee separation from the opposing EAB 627, cannot be followed. In the bilateral agreement (LoA) it is stated that the transfer of radiocommunication must take place as early as possible but not later than at the boundary of the area of responsibility: «*The transfer of communications shall take place as early as practicable but not later than the transfer of control...*». The transfer of radiocommunications between two ATC units must in no case be equated with the transfer of responsibility. In addition, the separation of flight paths between CANNE for flights in a northerly direction and ODINA for flights in a southerly direction guarantees systemic separation, but this exists only if the waypoints mentioned are overflowed.

### 2.1.3 ATC Rome

The entry of EAB 627 at FL 300 into the Zurich ATC area of responsibility did not comply with the mutual agreements between Rome, Milan and Zurich. These stated that flights destination Zurich must fly into the Zurich area of responsibility at FL 280 or lower. Deviations from this procedure, however, do occur on an almost daily basis, according to the statements of the Zurich ATCOs involved. Rome probably intends in this way to avoid a coordination with Milan. It is also often the wish of crews to initiate the descent towards Zurich as late as possible. In the present case, such a procedure requires a coordination between Rome and Zurich; this is what took place.

In the event of deviations from published procedures, it is possible that separation problems may occur which demand increased attention on the part of air traffic control. They should therefore be used only with caution.

## 2.2 Crews / TCAS

RYP 586A

In addition to the clearance to descend to FL 290, RE-M3 specified to the crew of RYP 586A the condition that this flight level had to be reached over ODINA at the latest. The crew confirmed this clearance in their first call on the Milan Control frequency. The instruction to fly direct to PAR generated some confusion among

the crew regarding the altitude restriction abeam ODINA, upon which they commented as follows: «*There is some confusion. Crews assume that when, as in this case, they are given vectors away from their track to ODINA, the altitude restriction no longer applies. A new instruction to be level FL 290 abeam ODINA would clarify the expectation of ATC.*».

The crew's opinion is understandable. On the other hand, the situation could have been clarified also by the crew by means of a query addressed to Milan ATC.

Clarification of this state of affairs is currently the subject of a request to the International Civil Aviation Organization (ICAO) by the Swiss AAIB.

On the basis of the geometry of the convergence, there is the possibility that the TCAS on RYR 586A did not trigger a TA because the aircraft was descending and the TCAS computer calculated either a lateral distance of at least 1.3 NM and/or an altitude difference of 850 ft for the closest point of approach (CPA).

#### EAB 627

In the course of the investigation it emerged that the crew's knowledge of the TCAS system and of the possible actions in the event of a TA or an RA did not meet the requirements. They were unable to give any clear statements about the aural warning emitted or the advisory indicated by the TCAS.

The JAA training objectives state, among other things:

*«Pilots should have an understanding of how TCAS works. This includes an understanding of the alert thresholds, expected response to TAs and RAs, proper use of TCAS-displayed information, phraseology, and system limitations.».*

## 3 Conclusions

### 3.1 Findings

- RYR 586A was flying according to instrument flight rules and was in contact with Milan Sector EAN on the 135.130 MHz frequency at the time of the serious incident.
- EAB 627 was flying according to instrument flight rules and was in contact with Zurich Upper Sector M2 on the 132.815 MHz frequency at the time of the serious incident.
- The crews of the two aircraft involved in the incident and the Zurich ATC and Milan ATC air traffic controllers were in possession of the licences necessary to exercise their activities.
- The transfer of RYR 586A to Milan ATC, associated with the clearance to descend to FL 290 and the condition that this altitude should be achieved by waypoint ODINA, took place in good time and was correct.
- The Milan Radar-Executive instructed RYR 586A north of ODINA to fly a direct heading direction PAR. Prior approval from Zurich ATC was not obtained.

- After receiving the instruction to fly direct to beacon PAR, the crew of RZR 586A reduced their rate of descent.
- Flights destination Zurich must fly into the Zurich area of responsibility at FL 280 or lower, according to the Letter of Agreement.
- The entry of EAB 627 into Zurich airspace at FL 300 was coordinated by Rome ATC with Zurich ATC.
- The crew of RZR 586A stated that their airborne collision and avoidance system (ACAS) did not generate a traffic advisory (TA) or a resolution advisory (RA).
- The crew of RZR 586A never received a traffic information from sector EAN in Milano.
- The crew of EAB 627 provided contradictory information regarding aural commands and indications of the ACAS.
- Triggering of the short term conflict alert (STCA) occurred at 15:49:46 UTC in Sector M2.
- The two aircraft involved in the serious incident crossed 25 NM north north-west of the Saronno beacon (SRN DVOR) in the border region of the areas of responsibility of Zurich, Rome and Milan at a vertical distance of 650 ft and a lateral distance of 2.3 NM.
- The prevailing weather conditions had no influence on the serious incident. Visual meteorological conditions (VMC) applied.
- The investigation found, that the telephone conversation concerning EAB 627's entry altitude into the Zurich area of responsibility between Rome ATC and Zurich ATC was not present in the Zurich air traffic control legal recording.
- The recordings which were available to the investigation from Milan ATC and Zurich ATC showed a discrepancy of up to 2 minutes and 22 seconds for the telephone conversations.

### **3.2 Cause**

The serious incident is attributable to the fact that ATC, without coordination outside its own area of responsibility, turned an aircraft away from the assigned route.

## **4 Safety recommendations and measures taken since the incident**

### **4.1 Measures taken since the serious incident**

The clearance by the Milan ATCO to the crew of RZR 586A – to fly direct to beacon PAR before reaching ODINA – led to differing interpretations by the crew of RZR 586A and Milan ATC concerning the original conditions to reach FL 290 by

ODINA. The crew were of the opinion that the imposed altitude restriction would lapse with the new clearance and they subsequently reduced their rate of descent. The Radar-Executive, however, assumed that despite the direct routing to PAR, RZR 586A would maintain a rate of descent which would have ensured that FL 290 would be reached abeam of ODINA.

In view of the unclear situation, the Swiss AAIB has submitted a request for clarification of the issue to the International Civil Aviation Organisation (ICAO).

Payerne, 25 September 2009

Aircraft Accident Investigation Bureau

This report contains the AAIB's conclusions on the circumstances and causes of the accident/serious incident which is the subject of the investigation.

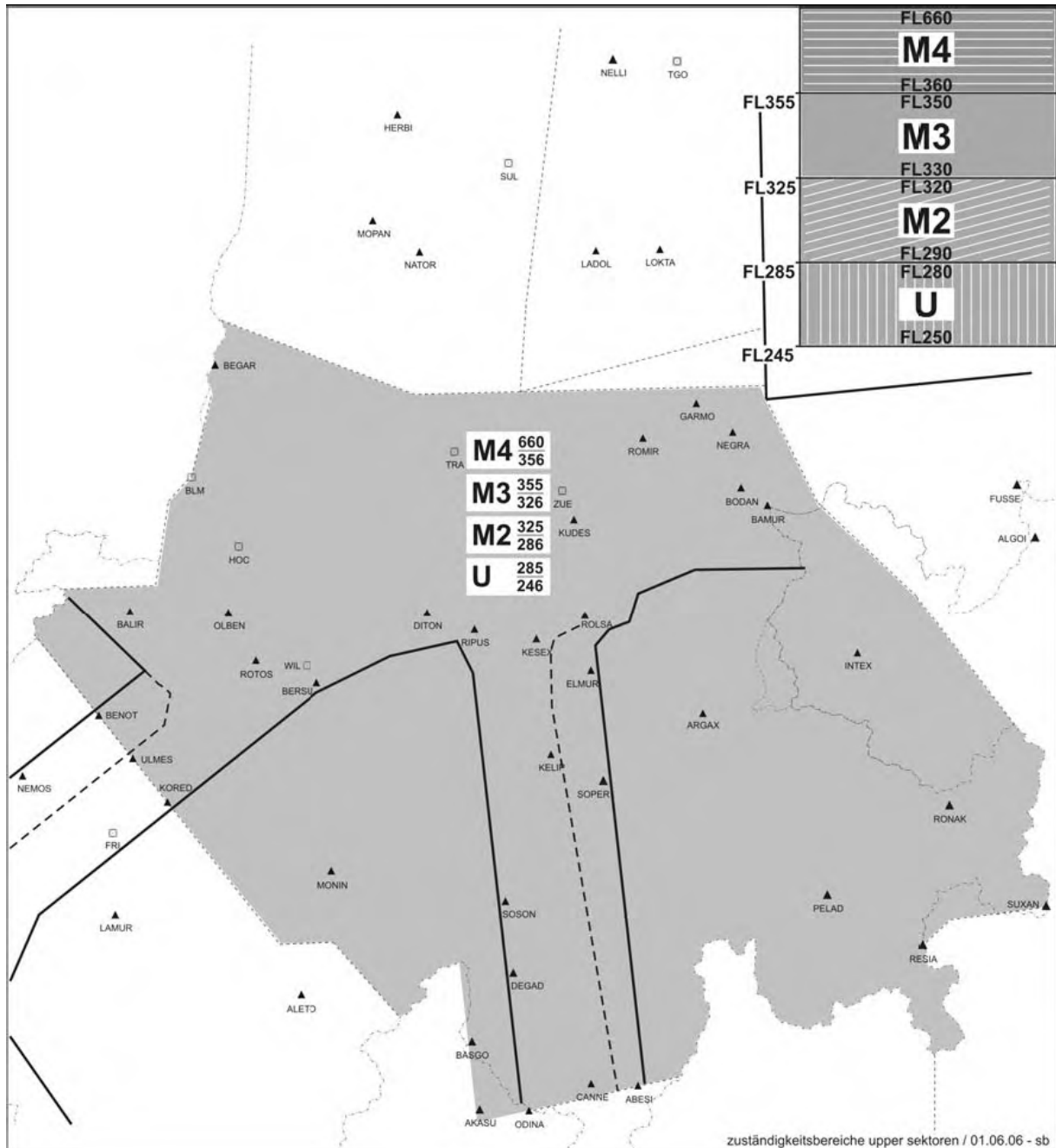
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### Annex 1

### Map showing Areas of Responsibility - ACC Upper Sectors

FL245 - FL660

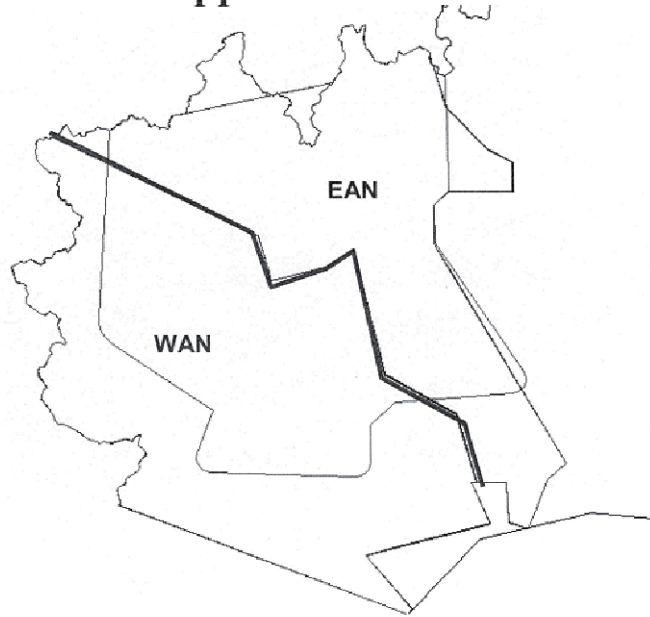


**Annex 2**

**Milano ACC**

Sector Upper FL 265 / FL 295

**Milano ACC  
Settori Upper FL 265 / FL 295**



**TRANSCRIPT OF TELEPHONY  
OR RADIOTELEPHONY COMMUNICATION TAPE-RECORDINGS**

Investigation into the **incident** that occurred on **3.6.2007**

- Subject of transcript: **RYR586A / EAB627**

- Centre concerned: Swiss Radar Area East

- Designation of unit: Radar Upper Sector M2 / M3

- Frequency / Channel: 132.815 MHz / 134.605 MHz

- Date and period (UTC) covered by attached extract: 3.6.2007  
15:45 - 15:57 UTC

- Date of transcript: 15th June 2007

- Name of official in charge of transcription: DSOdc

- Certificate by official in charge of transcription:

I hereby certify:

- That the accompanying transcript of the telephony or radiotelephony communication tape-recordings, retained at the present time in the premises of the Analysis Department, has been made, examined and checked by me.
- That no changes have been made to the entries in columns 2, 3 and 4, which contain only clearly understood indications in their original form.

Zürich, 15th June 2007

DSOdc



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## Abbreviations

### Sector                      Designation of sector

M2 RE    -    Upper Sector M2 Radar Executive  
M3 RE    -    Upper Sector M3 Radar Executive

<u>Aircraft</u>	-	<u>Call sign</u>	<u>Type of aircraft</u>	<u>Flight rules</u>	<u>ADEP</u>	-	<u>ADES</u>
627	-	EAB627	C560	IFR	EGSS	-	LIRP
7372	-	BMA7372	A321	IFR	LGPZ	-	EGCC
494Y	-	BER494Y	B733	IFR	LIME	-	EDDL
<b>586A</b>	-	<b>RYR586A</b>	<b>B738</b>	<b>IFR</b>	<b>EGSS</b>	-	<b>LIRP</b>
2643	-	BAW2643	B734	IFR	LGTS	-	EGKK
20V	-	BAW20V	B734	IFR	LDDU	-	EGKK

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DSOdc / 15th June 2007

TRANSCRIPT SHEET

Occurrence: RYR586A / EAB627 of 3.6.2007



To	From	Time	Communications	Observations
<u>Col.1</u>	<u>Col.2</u>	<u>Col.3</u>	<u>Col.4</u>	<u>Col.5</u>

**Frequency: 132.815 MHz Upper Sector M2**

M2 RE	627	15:48:47	Swiss Radar "schöne guete Obig" Swiss Eagle six two seven flight level three zero zero inbound CANNE	
627	M2 RE	:54	Swiss Eagle six two seven good evening squawk two seven seven seven	
M2 RE	627	:58	Two triple seven Swiss Eagle six two seven	
M2 RE	7372	15:49:13	And Swiss good afternoon Midlands seven three seven two flight level three two zero routing äh... Hotel Oscar Charlie	
7372	M2 RE	:22	Midlands seven three seven two hello squawk seven five two six	
M2 RE	7372	:26	Seven five two six coming down	
M2 RE	494Y	:38	"Schönen guten Tag XXXXX" Air Berlin four nine four Yankee out of flight level two seven four climbing two eight zero on course LOKTA	unintelligible
494Y	M2 RE	:44	Air Berlin four nine four Yankee hello identified	
627	M2 RE	15:50:32	Swiss Eagle six two seven I have a traffic at your ..... eleven o'clock position same altitude descending through your level	
M2 RE	627	:42	Swiss Eagle six two seven we have a TCAS contact and we're looking out	
627	M2 RE	:47	Thank you he's descending	
M2 RE	627	:49	Roger is now below "drühundert" feet	
M2 RE	627	:53	Traffic in sight crossing from left to the right Dash eight	
627	M2 RE	:56	Thank you	

2 transmissions in between

TRANSCRIPT SHEET

Occurrence: RYR586A / EAB627 of 3.6.2007



To <u>Col.1</u>	From <u>Col.2</u>	Time <u>Col.3</u>	Communications <u>Col.4</u>	Observations <u>Col.5</u>
627	M2 RE	15:51:20	<i>Swiss Eagle six two seven I am sorry about that äh... the other controller turned the flight too early, you're identified and continue via KELIP one Golf</i>	
M2 RE	627	:30	<i>KELIP one Golf and XXXXX British Jumbolino</i>	unintelligible
627	M2 RE	:34	<i>Thank you</i>	
2 transmissions in between				
627	M2 RE	15:53:35	<i>Swiss Eagle six two seven descend flight level two niner zero</i>	
M2 RE	627	:39	<i>Leaving three zero zero for two nine zero Swiss Eagle six two seven</i>	
1 transmission in between				
627	M2 RE	:58	<i>Swiss Eagle six two seven from Radar?</i>	
M2 RE	627	15:54:00	<i>Go ahead</i>	
627	M2 RE	:01	<i>Did you have a traffic advisory or a resolution advisory on your TCAS before?</i>	
M2 RE	627	:06	<i>We had a resolution advisory and we don't fill out a fli... äh... a "Rapport"</i>	
627	M2 RE	:12	<i>Thank you Swiss Eagle six two seven äh... I have to fill in a internal report just that you know</i>	
M2 RE	627	:18	<i>Okay no problem</i>	
2 transmissions in between				

TRANSCRIPT SHEET

Occurrence: RYR586A / EAB627 of 3.6.2007



To Col.1	From Col.2	Time Col.3	Communications Col.4	Observations Col.5
627	M2 RE	15:56:15	Swiss Eagle six two seven Radar one three three decimal zero five zero good bye	
M2 RE	627	:20	One three three zero five zero "schöne Obig"	

**Frequency: 134.605 MHz Upper Sector M3**

M3 RE	586A	15:45:18	Radar Ryanair five eight six Alfa good afternoon cleared to flight level three six zero to be ODINA two nine zero	
586A	M3 RE	:24	Ryanair five eight six Alfa roger that's copied you're now cleared two nine zero to reach latest ODINA report leaving	
M3 RE	586A	:30	Okay cleared flight level two nine zero to reach at ODINA we will report leaving Ryanair five eight six Alfa	
2643	M3 RE	:36	Speedbird two six four three contact Reims one three three decimal eight three zero bye-bye	
M3 RE	2643	:41	One three three eight three zero Speedbird two six four three good bye	
M3 RE	20V	15:46:45	XXXXX Speedbird äh... two zero Victor flight level three four zero	unintelligible
20V	M3 RE	:51	Speedbird two zero Victor Swiss Radar good afternoon squawk seven five two four	
M3 RE	20V	:55	Seven five two four Speedbird two zero Victor	
M3 RE	586A	15:47:02	Ryanair XXXXX leaving three ..... seven zero down flight level two nine zero to be level by ODINA	unintelligible
586A	M3 RE	:07	Ryanair five eight six Alfa roger	
20V	M3 RE	:40	Speedbird two zero Victor identified direct Luxueil flight level three four zero	
M3 RE	20V	:46	Direct Luxueil Speedbird two zero Victor	
586A	M3 RE	:49	Ryanair five eight six Alfa contact Milano one three five decimal one three zero bye-bye	

TRANSCRIPT SHEET

Occurrence: RYR586A / EAB627 of 3.6.2007



To <u>Col.1</u>	From <u>Col.2</u>	Time <u>Col.3</u>	Communications <u>Col.4</u>	Observations <u>Col.5</u>
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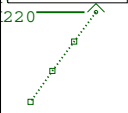
<b>M3 RE</b>	<b>586A</b>	<b>:54</b>	<b>One three five one three zero Ryanair five eight six Alfa bye-bye</b>	
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- end -



Analysis: RYR586A EAB627A Time: 03.06.2007 15:51:14

Src  
MV MRT ACC



370  
15:45:35  
370  
15:45:47  
370  
15:45:59  
370  
15:46:11  
370  
15:46:23  
370  
15:46:35  
370  
15:46:47  
370  
15:46:59  
369  
15:47:11  
366  
15:47:23  
361  
15:47:35  
356  
15:47:47  
350  
15:47:59  
344  
15:48:11  
338  
15:48:23  
332  
15:48:35  
327  
15:48:47  
323  
15:48:59  
318  
15:49:11  
316  
15:49:23  
314  
15:49:35  
311  
15:49:47  
309  
15:49:59  
307  
15:50:11  
305  
15:50:23  
303  
15:50:35  
298  
15:50:47  
300  
15:50:59  
4601 STCA  
292

△ SOSON

△ CANNE

△ ABESI

4643  
250

3.4 NM  
1.3 NM  
800 ft  
113

△ ODINT

EAB627 STCA RV  
300 GIP

BER494Y RV  
280 VED360

BMA7372 RV  
320 LUL320

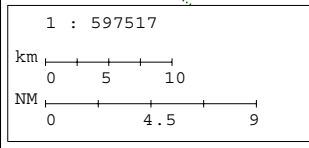
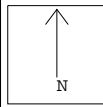
RYR4313 RV  
360 SON360

4630  
280

7463  
390

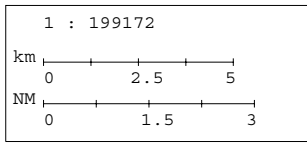
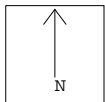
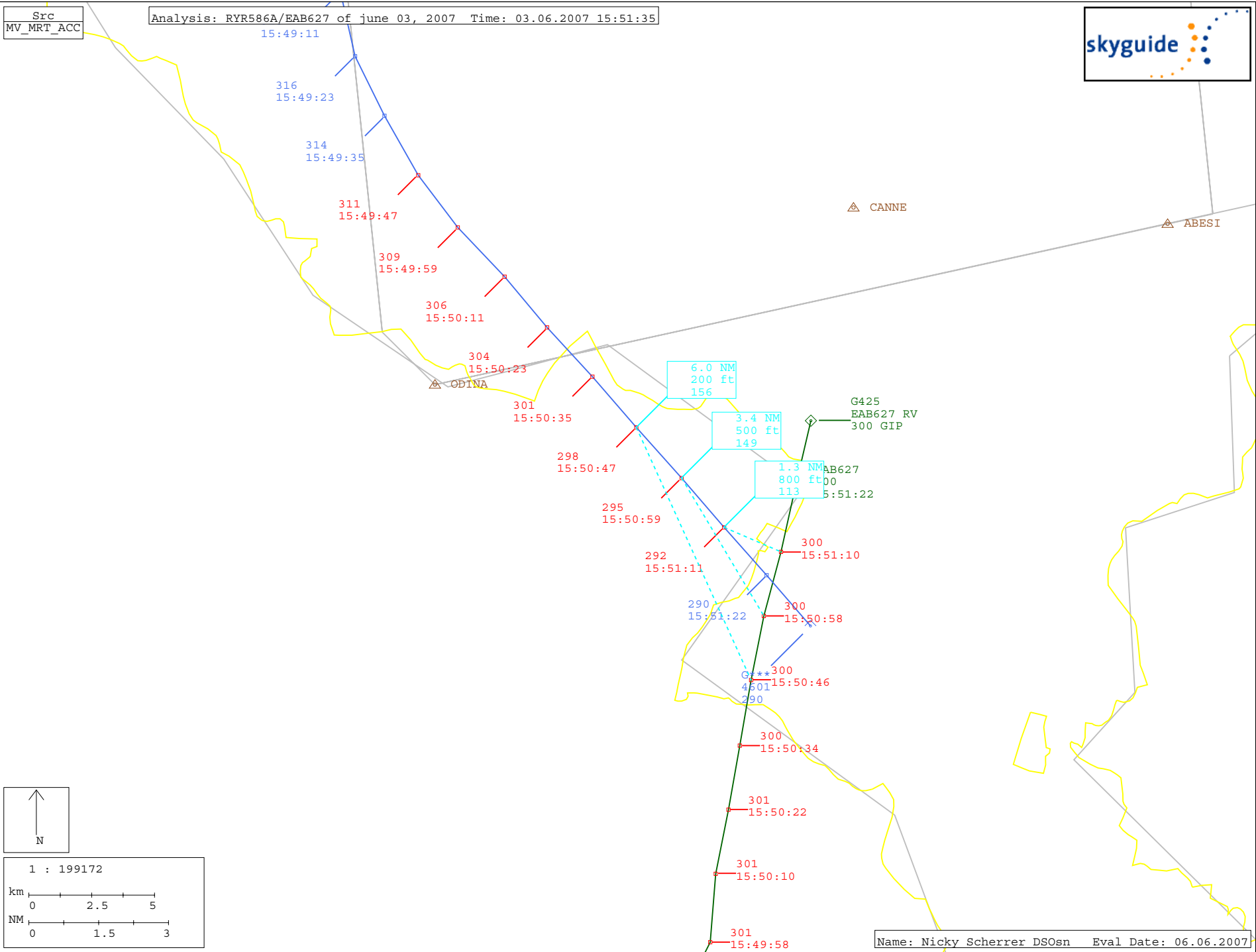
300

5702  
280



Src  
MV\_MRT\_ACC

Analysis: RYR586A/EAB627 of june 03, 2007 Time: 03.06.2007 15:51:35



Name: Nicky Scherrer DSOsn Eval Date: 06.06.2007