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Aircraft Accident Investigation Bureau AAIB

# **Final Report No. 2047**

## **by the**

# **Aircraft Accident**

# **Investigation Bureau**

concerning the serious incident (near collision/AIRPROX)  
involving the Fairchild SA227AC Metroliner III aircraft, registration D-COLB  
operated by OLT Ostfriesische Lufttransport GmbH  
under flight number OLT 212  
and the Airbus A319 aircraft, registration D-ABGC  
operated by Air Berlin under flight number BER 966Z  
on 31 July 2008  
Zurich Airport, on runways 16 and 28

## 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 art 3.1 of the 9<sup>th</sup> edition, applicable from 1 November 2001, of Annex 13 to the Convention on International Civil Aviation (ICAO) 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 incident 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 incident, Central European Time (CET) applied as local time (LT) in Switzerland. The relation between LT, CET and UTC is:  $LT = CET = UTC + 2 \text{ hours}$

## Final Report

### Aircraft

OLT 212, D-COLB, Fairchild SA227AC Metroliner III  
Holder: OLT Ostfriesische Lufttransport GmbH  
Owner: BLB Leasing, Oldenburg

Scheduled flight from Bremen (EDDW) to Zurich (LSZH)

Type of operation: IFR

BER 966Z, D-ABGC, Airbus A319  
Holder: Air Berlin, Plc & Co. Luftverkehrs KG  
Owner: AWAS 2468 LLC c/o Wilmington Trust Comp.

Scheduled flight from Zurich (LSZH) to Düsseldorf (EDDL)

Type of operation: IFR

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### Crews

OLT 212  
CMDR: German citizen, born 1947  
FO: German citizen, born 1980

BER 966Z  
CMDR: Swiss citizen, born 1977  
FO: Swiss citizen, born 1979

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### Location

Zurich Airport

### Date and time

31 July 2008, 13:20 UTC

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### ATS unit

Zurich Tower, Aerodrome Control (ADC)

### Air traffic controllers

Aerodrome Control (ADC), ATCO1  
Swiss citizen, born 1982

Aerodrome Control (ADC), replacement ATCO, ATCO2  
Swiss citizen, born 1973

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### Airspace

On runways 16 and 28

## 1 Factual information

### 1.1 Pre-flight history and history of flight

On Thursday 31 July 2008, an OLT Ostfriesische Lufttransport GmbH Fairchild SA227AC Metroliner III, callsign OLT 212, was on a commercial scheduled flight from Bremen to Zurich. At 13:06:17 UTC the crew made contact with the APE air traffic controller - Approach East – with the callsign “Zurich Arrival”, on the 120.750 MHz frequency. During the first call, the crew of OLT 212 asked whether an approach to runway 16 would be possible “*request the runway 16 if possible*”. According to the Automatic Terminal Information Service (ATIS) runway 14 was in service for landings at this time. The APE ATCO initially cleared OLT 212 to continue its descent to FL 100. He informed the crew that they could expect a response to their request for runway 16 after the necessary coordination.

At 13:06:49 UTC the APE ATCO coordinated the runway change requested by the crew with the ATCO1 Aerodrome Control (ADC). The change of runway was approved by the ATCO1 ADC. Along with the instruction to turn onto heading 180 degrees, the APE ATCO informed the crew of OLT 212 at 13:07:18 UTC that it was now a radar vectoring to the runway 16 instrument landing system (ILS). This radiocommunication was acknowledged correctly by the crew of OLT 212.

At 13:12:15 UTC the crew of OLT 212 was instructed by the APE ATCO to turn onto the runway 16 ILS final approach and the aircraft was cleared for final approach on the ILS. At 13:13:40 UTC the crew of OLT 212 reported to air traffic control that the aircraft was established on the runway 16 ILS. Shortly afterwards, the APE ATCO issued the crew of OLT 212 a traffic information about an aircraft flying in front of them which was 2 NM from the threshold of runway 14. At the same time, the crew of OLT 212 were instructed to contact Zurich Tower (TWR) on the 118.100 MHz frequency.

At 13:14:34 UTC the crew of OLT 212 reported on the TWR frequency that they were established on the runway 16 ILS. At this time OLT 212 was approximately 8 NM from the threshold of runway 16. The ADC ATCO1 immediately cleared the aircraft for landing and provided wind information on this first call. After the crew of OLT 212 had acknowledged the landing clearance, the ADC ATCO1 cleared them to vacate the runway via taxiway E8 after landing.

At 13:16:38 UTC the crew of the Air Berlin A319 Airbus, a scheduled flight to Düsseldorf with callsign BER 966Z, reported on the 118.100 MHz frequency to the ADC ATCO1 that they were ready for take-off. At this moment the aircraft was taxiing to the runway 28 holding point.

The ADC ATCO1 cleared BER 966Z to line up on runway 28 and to wait there. His attention was then briefly drawn towards a helicopter on a photographic flight north of the runway 28 departure centre line which wanted to fly over this runway in a southerly direction. The pilot of the helicopter was instructed to wait as a take-off from runway 28 was about to take place.

The ATCO1 cleared BER 966Z for take-off at 13:17:19 and provided information about the helicopter.

Shortly before issuing clearance for BER 966Z, the briefing for the transfer of traffic control to a replacement air traffic controller began at the ADC workstation. During this transfer, the air traffic controller leaving the workstation suddenly noticed that OLT 212 had landed on runway 16 and was approaching the intersection with runway 28. He immediately informed the replacement air traffic controller who had already taken up his position at the ADC workstation. The latter immediately instructed BER 966Z, which was taking off, to abort the take-off.

The crew of BER 966Z confirmed receipt of this instruction and brought the aircraft to a standstill using manual braking. According to the crew's information, the aircraft had reached a speed of approximately 65-70 knots prior to the take off abort.

The crew of OLT 212 had not heard the ADC ATCO1 issue take-off clearance to BER 966Z, though they had monitored the instruction to abort the take-off. However, there was no visual contact with BER 966Z as visibility on the first section of runway 28 was obstructed by buildings.

After it had landed, OLT 212 continued taxiing along runway 16, crossed runway 28 and vacated the runway via taxiway E8 as instructed. BER 966Z came to a standstill on runway 28 between taxiways Kilo and Juliet.

BER 966Z then vacated the runway and taxied back to the take-off runway. The scheduled flight to Düsseldorf took off approximately twelve minutes later.

## 1.2 Meteorological information according to MeteoSchweiz

*METAR LSZH*

*LSZH 311250Z VRB03KT 9999 FEW060 30/13 Q1017 NOSIG=*

*LSZH 311320Z 22003KT 160V250 9999 FEW060 31/12 Q1017 NOSIG=*

*LSZH 311350z 20003KT 160v250 9999 FEW060 30/11 Q1016 NOSIG=*

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

*Cloud: 1-2/8 at around 7500 ft AMSL*

*Weather: -*

*Visibility: 40 km*

*Wind: South south-west wind at 3 kt*

*Temp./dewpoint: 31 °C / 12 °C*

*Atmospheric pressure: QNH LSZH 1017 hPa, LSGG 1017 hPa*

*Position of the sun: Azimuth 226°, elevation 53°*

*Hazards: None detectable*

### 1.3 ATIS information according to Skyguide

*31.07.2008 13:17:26 ARR ATIS ZURICH  
INFO LIMA LDG RWY 14 ILS APCH  
MET REPORT LSZH 12:50Z 31.07.2008  
VRB 3 KT  
VIS 10KM TDZ 10KM  
CLD FEW 6000FT  
+30/+13  
QNH 1017 ONE SEVEN  
NOSIG  
INCREASED BIRD ACTIVITY AT AND AROUND AD  
TRL 70 DAY 0333 NGT 1939 QNH TICINO 1200Z: 1017 HPA  
TROPO 40000FT, MS56*

### 1.4 Air traffic control

#### **Aerodrome Control - ADC / ATCO1 - replaced ATCO**

According to the ATCO1's statement, he took over the ADC function approximately one hour before the incident. The technical systems were functioning without any problems, the weather was good and the volume of traffic was low. There was increased complexity due to helicopter activity inside the Control Zone (CTR). One helicopter was on a photographic flight and another was on a training flight inside the CTR.

The ATCO1 responded positively to the request from the APE ATCO for OLT 212 to approach on runway 16 because, according to his statement, only a few take-offs were expected at this time. It was clear to him that no aircraft would be able to take off from runway 28 before this landing for reasons of timing.

When OLT 212 called on the Zurich Tower frequency, the ATCO1 cleared this flight early, about 8 NM from the threshold of the runway, to land on runway 16. He did this because no aircraft were expected to take off or were on the way to a take-off runway.

At the ADC workstation, the possibility of highlighting approaching aircraft on the Tower Approach Communication System (TACO) was available. According to his statement, the ATCO1 could not recall having done this. He had selected the runway 16 approach centre line on the bright display radar screen in the Tower. However, given the good weather conditions, he monitored approaching traffic using visual criteria. In such situations he used the radar information, which was positioned to the side, only when necessary.

#### **Handover of the ADC workstation to the ATCO2**

Shortly after the landing clearance issued to OLT 212, the briefing for the hand-over of the workstation from the ATCO1 to the ATCO2 began. During the brief-

ing, the ATCO1 cleared BER 966Z to take off from runway 28. When asked whether he had checked the approach zone 16 when he issued the take-off clearance, he answered as follows: *"I scan the runways for every take-off. I did not notice OLT 212. One reason might be that the aircraft was small and therefore difficult to see."*

The ATCO2 confirmed that the technical systems were functioning normally and that there were no other problems or constraints. He said the volume of traffic was low.

The ATCO2 stated that during the briefing the ATCO1 informed him firstly about the programme for a helicopter on a photographic flight in the CTR. This information and study of the programme took some time, he asked some questions in this regard. The ATCO1 continued to work normally during the briefing. After he had informed the ATCO1 that he was now aware of the programme of the helicopter on a photographic flight, he received the information about current traffic status.

OLT 212 was not mentioned during the briefing.

The ATCO1 then stood up and the ATCO2 sat down at the ADC workstation. The ATCO2 stated that whilst checking the airspace and the runways he was informed by the ATCO1 about an approach on runway 16. This information was given approximately as follows: *"there's one landing on runway 16"*. According to his statement, the ATCO2 then looked towards runway 16 and saw OLT 212, which had just landed, between taxiways E3 and E5. The ATCO2 then instructed BER 966Z to abort its take-off.

The ATCO2 was also not able to recall whether the approaching OLT 212 was specially indicated on the TACO. He had not been informed about the TACO.

## 1.5 Crews

### OLT 212

According to the statement by the crew of OLT 212, they frequently flew to Zurich and were therefore familiar with local conditions. As they generally did, they requested an approach on runway 16 from Zurich Arrival. A landing on runway 16 would shorten their taxi time, as the parking position was in the vicinity of the end of runway 16. Such requests generally received a positive response from Zurich Arrival.

The crew confirmed that they would have been able to bring their aircraft to a standstill before the intersection of runways 16 and 28 if they had been instructed to do so.

### BER 966Z

The crew of BER 966Z were not aware of any irregularities until the instruction to abort their take-off issued by the ADC ATCO. They were not able to monitor OLT 212's approach on runway 16 on the Tower frequency because the landing clear-

ance for this aircraft was issued before BER 966Z had switched to the Tower frequency.

The crew had immediately comprehended the instruction to abort their take-off and initiated the necessary measures immediately thereafter.

## 1.6 Skyguide procedures

*ATMM Switzerland, Section 2 – Administration*

### *4 GENERAL WORKING PROCEDURES*

#### *4.2 HAND-OVER PROCEDURES*

*Before taking over a working position from another ATM operator, request all relevant information pertaining to the current operational situation. Do not take over a working position before you are satisfied that you have a full understanding of the operational situation, including awareness of clearances or instructions issued but not yet executed.*

*Before transferring the responsibility for a working position to another ATM operator, inform him of all relevant information pertaining to the current operational situation. Do not leave the working position before the taking-over operator has accepted responsibility.*

*ATMM Zurich TWR/APP, Section 3 – Tower*

### *5.13 IFR SEPARATION BETWEEN Departures RWY 10/28 and Approaches RWY 16*

*5.13.1 During approaches to RWY 16, a take-off clearance may be issued to aircraft ready to depart on RWY 10 or 28 before an arriving aircraft has reached a distance of:*

- a) 2 NM from the beginning of the RWY, provided PRN VIGIE<sup>1</sup> is available*
- b) 4 NM from the beginning of the RWY (TDP), when PRN VIGIE is not available. This distance may be reduced if the arriving aircraft is visible to the ADC-controller at least 4 NM from the beginning of the RWY (TDP)*

*ATMM Zurich TWR/APP, Section 3 – Tower*

### *7.4 SWING-OVERS*

*7.4.1 Swing-overs are not permitted.*

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<sup>1</sup> Night-time radar position in the tower



## 2 Analysis

### 2.1 Air traffic control

It is a common occurrence for crews approaching Zurich airport to request runway 16 for landing, even though runway 14, which has no intersections, is declared as the landing runway. In contrast, runway 28 intersects runway 16 at about its mid-point. A request to land on runway 16 is normally made to save time when taxiing from the runway to the parking position and because the flight path for approaches from the north and east to the runway 16 ILS is shorter. On the basis of the statements of the crew of OLT 212, it can be assumed that such approaches were usually accepted. In the present case, the ATCO1 approved the request from the APE ATCO. As justification, the ATCO1 stated that from his viewpoint this was part of the customer service and he assessed the traffic situation as unproblematic.

Until 2002, a so-called swing-over procedure was applied in Zurich. This involved an ILS approach on runway 14 with a subsequent swing-over to visual flight rules and subsequent landing on runway 16. This procedure was prohibited by Skyguide after a serious incident in 2002 with a runway 16 landing and a simultaneous take-off on runway 28. This prohibition only made reference to the swing-over procedure mentioned in this section. ILS approaches on runway 16 with a simultaneous take-off operation on runway 28 were not mentioned in these regulations. Further details are available in the final report by the Aircraft Accident Investigation Bureau, No. 1810.

The serious incident involving OLT 212 and BER 966Z, however, includes the same problematic, i.e. simultaneous operation on two intersecting runways.

The ADC ATCO must incorporate approaches on runway 16 which are cleared by way of exception at an early stage in his planning, because these approaches limit the possibility of take-offs from runway 28. In this regard, the swing-over procedure left more options open to the ADC ATCO, because he would still be able to clear or, if necessary, refuse a swing-over at relatively short notice, i.e. approximately 2 NM before the landing. Furthermore, no coordination was necessary for a swing-over, because all procedures were implemented within the ADC ATCO's area of responsibility.

The ATCO1 issued landing clearance to OLT 212 when the aircraft was approximately 8 NM away from the runway threshold. In addition to giving early landing clearance, he would also have been able to request a position report, e.g. "*report 2 miles final 16*". As a result, OLT 212 would have again drawn the ADC ATCO's attention, at the latest when reporting their position. This procedure would have complied with the regulations, according to which take-off clearance cannot be issued to an aircraft on runway 28 if an approach on runway 16 is less than 2 NM from the runway threshold.

It is possible to highlight in colour on the TACO any approaches which have been cleared on runway 16 as an exception. However, since no regulations existed in this regard, this was handled in different ways. In this case, the ATCO1 could not remember whether he had indicated the approach of OLT 212 on the TACO. The ATCO2 stated that he had not been referred to the TACO and he could also not remember whether flight OLT 212 had been specially indicated on it. He himself

would always highlight such approaches in yellow. A uniform procedure would have reduced the possibility of error. On the one hand the callsign highlighted in colour would have served as an aide-memoire for the ADC ATCO, and on other hand the TACO would have been an element of the workstation hand-over. Moreover, in this case the replacement ATCO2 would have assigned greater importance to the TACO.

Once the collision risk had been identified by the ATCO1, the ATCO2 instructed BER 966Z to abort its take-off, on the basis of its speed, which was still low. Since the crew of BER 966Z confirmed the take-off abort immediately and the ATCO2 saw that this had also been implemented immediately, an instruction to OLT 212 was superfluous.

At the time of the serious incident, the pilot of a helicopter on a photographic flight was in radio contact with the ADC ATCO1 and wished to overfly the centre line of runway 28. The ATCO1 instructed him to wait, as he wanted to allow BER 966Z to take off first. As he did this, he was probably concentrating excessively on this process and not paying sufficient attention to OLT 212. A distinctive visual indication on his workstation of a landing on runway 16 would have favoured quicker detection of the conflict between OLT 212 and BER 966Z.

## **2.2 Crew of OLT 212**

Both pilots of OLT 212 had frequently landed in Zurich previously and were therefore familiar with the airport and the procedures. This should have freed up sufficient capacity to monitor the environment. On the basis of the conversations taking place on the Tower frequency, it would have been possible for the crew to be aware of the traffic situation and to realise that a take-off clearance had been given on a runway which crossed their landing runway. They could have reported again on the Tower frequency, thereby defusing the situation.

## **2.3 Crew of BER 966Z**

When the crew of BER 966Z switched to the Zurich Tower frequency, OLT 212 had already received clearance to land. It was therefore not possible for the crew of BER 966Z to monitor the landing clearance given to OLT 212. The landing on runway 16 could not be monitored visually by the crew, as Dock E obscured visibility.

However, whilst lining up on runway 28 it would have been possible to detect an approaching aircraft on the TCAS display. Even if the crew of BER 966Z had detected a TCAS symbol, it would have been very difficult to determine whether this aircraft was on approach to runway 16 or 14.

The crew of BER 966Z therefore had no opportunity of detecting the impending conflict.

### 3 Conclusions

#### 3.1 Findings

- Flight OLT 212 was made under instrument flight rules and the aircraft landed on runway 16.
- The crews of the aircraft involved in the incident and the ATCOs involved were in possession of the necessary licences.
- The technical equipment was available without limitation.
- The volume of traffic was low.
- At the time of the serious incident, the traffic concept envisaged runway 14 for approaches and runway 28 for take-offs.
- There was no operational necessity to clear OLT 212 for an approach on runway 16.
- The landing clearance was issued to OLT 212 when the aircraft was approximately 8 NM from the threshold of the runway.
- There were no internal procedures concerning how approaches assigned to runway 16 as an exception should be indicated on the TACO.
- The ADC ATCO's instruction to the crew of BER 966Z to abort their take-off was issued when the aircraft had attained a speed of 65-70 knots and was immediately confirmed and followed.
- At no time were the crew of BER 966Z aware of an aircraft landing on runway 16.
- The crew of OLT 212 did not monitor the corresponding radio conversations between the ADC ATCO and the crew of BER 966Z.

#### 3.2 Cause

The serious incident is attributable to the fact that ATC cleared an aircraft to take off from runway 28, even though an aircraft approaching runway 16 had previously received landing clearance and was about to land.

A contributory factor was the circumstance that there were no standardised procedures available to ATC during take-offs on runway 28 for flights which were cleared to land on runway 16 instead of runway 14 as an exception.

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

### **4.1 Safety recommendations**

#### **4.1.1. Safety deficit**

On 31 July 2008 in Zurich, on intersecting runways 16 and 28, a serious incident occurred because an aircraft departing on runway 28 was allowed to take off even though an aircraft approaching on runway 16 had previously been given clearance to land. Landing clearance was issued when the approaching aircraft was approximately 8 NM from the threshold of the runway.

There were no standardised procedures available to ATC for flights which were cleared as an exception to land on runway 16 instead of 14 at the same time as take-offs on runway 28.

The instruction given immediately to the aircraft rolling on runway 28 to abort its take-off was able to defuse the situation.

#### **4.1.2 Safety recommendation No. 411**

The FOCA should arrange, by means of appropriate technical aids and/or standardised operational procedures, for ATC Zurich to enable early detection of conflicts between aircraft landing on runway 16 and aircraft taking off on runway 28.

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.

In accordance with art 3.1 of the 9<sup>th</sup> edition, applicable from 1 November 2001, of Annex 13 to the Convention on International Civil Aviation (ICAO) 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 incident 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.

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

Investigation into the **incident** that occurred on **31.07.2008**

- Subject of transcript:	<b>OLT212 / BER966Z</b>
- Centre concerned:	Swiss Radar Area East
- Designation of unit:	Zurich Arrival / Zurich Tower
- Frequency / Channel:	120.750 MHz / 118.100 MHz
- Date and period (UTC) covered by attached extract:	31.07.2008 13:06 - 13:31 UTC
- Date of transcript:	14 August 2008
- Name of official in charge of transcription:	skyguide Safety Reporting & Investigation Management

- Certificate by official in charge of transcription:

We hereby certify:

- That the accompanying transcript of the telephony or radiotelephony communication tape-recordings, retained at the present time in the premises of the Safety Reporting & Investigation Management Department, has been made, examined and checked by one of its experts.
- 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, 14 August 2008

skyguide  
Safety Reporting & Investigation Management

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## Abbreviations

### Sector                      Designation of sector

APE	-	Zurich Arrival
ADC FVL1	-	Zurich Aerodrome Control FVL1
ADC FVL2	-	Zurich Aerodrome Control FVL2
DEP	-	Zurich Departure

<u>Aircraft</u>	-	<u>Call sign</u>	<u>Type of aircraft</u>	<u>Flight rules</u>	<u>ADEP</u>	-	<u>ADES</u>
212	-	OLT212	SW4	IFR	EDDW	-	LSZH
966Z	-	BER966Z	A319	IFR	LSZH	-	EDDL
HFN	-	HFN	xxxx	VFR	xxxx	-	xxxx
HHZ	-	HBDHZ	M20	VFR	xxxx	-	xxxx
PT	-	HBXPT	269C	VFR	xxxx	-	xxxx
2150	-	SWR2150	A320	IFR	LSZH	-	LEPA
1073	-	SWR1073	A319	IFR	EDDF	-	LSZH
44B	-	KLM44B	F70	IFR	LSZH	-	EHAM
715	-	BAW715	A319	IFR	LSZH	-	EGLL
161	-	SWR161	A343	IFR	RJAA	-	LSZH

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SRO / 14 August 2008

TRANSCRIPT SHEET

Occurrence: OLT212 / BER966Z of 31.07.2008



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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**Frequency: Zurich Arrival 120.750 MHz**

APE	212	13:06:17	Zurich Arrival good day Oltra two one two information Lima passing flight level one four seven descending flight level one three zero course to RILAX and request the runway one six if possible.	
212	APE	:28	Oltra two one two Zurich Arrival hello descend to flight level o one hundred and stand by for coordination for runway one six.	
APE	212	:35	Roger standing by and descending flight level one hundred Oltra two one two.	
212	APE	13:07:18	Oltra two one two turn left heading one eight zero vectoring ILS approach runway one six.	
APE	212	:24	Oltra two one two heading ah one eight zero vectoring ILS one six xxxxx thank you.	unintelligible
APE	212	13:09:51	Oltra two one two flight level one hundred.	
212	APE	:53	Oltra two one two ah just about to call you descend to flight level seven zero expect now possibly two five track miles.	
APE	212	13:10:01	Two five track miles and descending flight level seven zero Oltra two one two.	
212	APE	:38	Oltra two one two turn now right heading two four zero base leg descend to five thousand feet on QNH one zero one seven.	
APE	212	:46	Oltra two one two descending five thousand one zero one seven and confirm heading?	
212	APE	:51	Turn right heading two four zero for base leg.	
APE	212	:55	Heading two four zero for base Oltra two one two.	
212	APE	13:12:15	Oltra two one two turn left heading one niner zero descend to four thousand feet cleared ILS approach runway one six report established.	
APE	212	:23	Heading one niner zero descending four thousand Oltra two one two and cleared for the ILS approach runway one six wilco.	

TRANSCRIPT SHEET

Occurrence: OLT212 / BER966Z of 31.07.2008



To Col.1	From Col.2	Time Col.3	Communications Col.4	Observations Col.5
			_____	Sector in contact with: SWR1073 (2x) SWR161 (2x)
APE	212	13:13:40	Oltra two one two established localizer runway one six.	Strong transmission noise
212	APE	:42	Oltra two one two roger.	
			_____	Sector in contact with: SWR161
212	APE	13:13:51	Oltra two one ah two your preceding traffic a Mooney now two miles final for the other runway, you are number one, contact Tower on one one eight decimal one good bye.	
APE	212	13:14:00	One one eight one number one thank you bye bye.	

**Frequency: Zurich Tower 118.100 MHz**

ADC FVL1	212	13:14:34	Oltra two one two fully established runway one six.	
212	ADC FVL1	:37	Hello Oltra two one two Tower wind two two zero degrees two knots runway one six cleared to land.	
ADC FVL1	212	:43	Oltra two one two is cleared to land runway one six.	
212	ADC FVL1	:46	Correct you may vacate at taxiway Echo eight.	
ADC FVL1	212	:50	xxxxx.	unintelligible
ADC FVL1	HFN	13:15:42	Hotel Fox November position Whisky.	
HFN	ADC FVL1	:51	Hotel Foxtrot November frequency change approved "ade".	
ADC FVL1	HFN	:49	Good bye thank you.	
HHZ	ADC FVL1	:57	Hotel Hotel Zulu contact Apron one two one decimal eight five zero bye.	
ADC FVL1	HHZ	13:16:01	Hotel Zulu "bis später".	
ADC FVL1	966Z	:38	Zurich Tower "schöne guete Tag" Air Berlin niner six six Zulu approaching holding point two eight ready for	



TRANSCRIPT SHEET

Occurrence: OLT212 / BER966Z of 31.07.2008



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>
			departure.	
966Z	ADC FVL1	13:16:44	Air Berlin niner six six Zulu "grüezi" line up and wait runway two eight.	
ADC FVL1	966Z	:47	Line up and wait runway two eight Air Berlin niner six six Zulu.	
ADC FVL1	PT	:58	Heli Papa Tango request ah crossing two eight axis.	
PT	ADC FVL1	13:17:03	Heli Papa Tango roger could you please remain ah for another one or two minutes north of axis runway two eight?	
ADC FVL1	PT	:08	No problem Heli Papa Tango.	
PT	ADC FVL1	:10	Roger call you back we have one departure now.	
ADC FVL1	PT	:14	Heli Papa Tango.	
966Z	ADC FVL1	:19	Air Berlin niner six six Zulu traffic is a helicopter in the climb out area right of your runway axis at three thousand six hundred feet – wind two two zero degrees three knots runway two eight cleared for take off.	
ADC FVL1	966Z	:30	Cleared for take off runway two eight we are looking out Air Berlin niner six six Zulu.	
ADC FVL1	HHZ	:39	Zurich Tower Hotel Bravo Delta Hotel Zulu "grüezi nomal".	
HHZ	ADC FVL1	:43	Hotel Bravo Delta Hotel Zulu Tower again hold short of runway two eight.	
ADC FVL1	HHZ	:47	Holding short of two eight Hotel Zulu.	
966Z	ADC FVL2	13:18:00	Air Berlin niner six six Zulu abort take off stop take off now!	
ADC FVL1	966Z	:04	Aborting take off Air Berlin niner six six Zulu.	
966Z	ADC FVL1	:15	Air Berlin niner six six Zulu sorry that was my mistake xxxxx runway one six xxxxx.	unintelligible
ADC FVL1	966Z	:20	Ah that's copied ah stand by momentarily.	
966Z	ADC FVL1	:23	Roger.	
212	ADC FVL1	:30	Oltra two one two vacate as convenient contact Apron one two one decimal seven five.	

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Occurrence: OLT212 / BER966Z of 31.07.2008



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>
ADC FVL1	212	13:18:35	One two one decimal seven five Oltra two one two.	
HHZ	ADC FVL1	:41	Hotel Hotel Zulu taxi Juliett cross runway two eight contact Apron one two one decimal seven five.	
ADC FVL1	HHZ	:46	Hotel Hotel Zulu crossing two eight good bye.	
ADC FVL1	966Z	:54	Air Berlin niner six six Zulu on the runway two eight we are able to vacate.	
966Z	ADC FVL1	:58	Roger Air Berlin niner six six Zulu taxi ahead vacate left taxiway Juliett.	
ADC FVL1	966Z	13:19:03	To the left via Juliett ah behind small airplane Air Berlin niner six six Zulu.	
ADC FVL1	2150	:08	Tower "grüezi" Swiss two one five zero ready for departure runway two eight.	
2150	ADC FVL1	:11	Swiss two one five zero "grüezi" line up and wait runway two eight.	
ADC FVL1	2150	:14	Lining up on runway two eight Swiss two one five zero.	
966Z	ADC FVL1	:30	Air Berlin niner six six Zulu turn left taxi via Alfa to holding point runway two eight.	
ADC FVL1	966Z	:35	To the left via Alfa holding point two eight Air Berlin niner six six Zulu.	
2150	ADC FVL2	13:20:09	Swiss two one five zero traffic a helicopter north of axis runway two eight xxxxx Lägeren about three thousand eight hundred feet wind one nine zero degrees two knots runway two eight cleared take off	unintelligible
ADC FVL2	2150	:20	Cleared take off two eight we have an eye on the helicopter Swiss two one five zero.	
PT	ADC FVL2	:24	Helicopter Papa Tango please do not proceed any further north or east bound due to approaches on runway one four.	
ADC FVL2	PT	:30	Roger Heli Papa Tango we hold here.	
ADC FVL2	966Z	:34	Air Berlin niner six six Zulu on taxiway Alfa we need ah some kind of ah parking spot for about five minutes to ah prepare our take off again.	
966Z	ADC FVL2	:42	Air Berlin niner six six Zulu roger then hold position I will	

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Occurrence: OLT212 / BER966Z of 31.07.2008



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>
			coordinate with Apron.	
ADC FVL2	966Z	13:20:46	Thanks a lot holding position Air Berlin niner six six Zulu.	
ADC FVL2	1073	:55	Tower "guete Tag" Swiss one zero seven three, six miles.	
1073	ADC FVL2	:58	Swiss one zero seven three Zurich Tower wind two one zero degrees three knots runway one four you are cleared to land.	
ADC FVL2	1073	13:21:03	Cleared to land one four Swiss one zero seven three.	
966Z	ADC FVL2	:05	Air Berlin niner six six Zulu for the time being you are the only aircraft from this side of ah the runway so taxi holding point runway two eight.	
ADC FVL2	966Z	:14	xxxxx holding point two eight Air Berlin niner six six Zulu.	unintelligible
2150	ADC FVL2	:17	Swiss two one five zero climb to flight level eight zero.	
ADC FVL2	2150	:21	Climbing flight level eight zero Swiss two one five zero.	
PT	ADC FVL2	:31	Helicopter Papa Tango traffic Airbus three one... correction three two zero just departed runway two eight.	
ADC FVL2	PT	:37	Looking out Heli Papa Tango.	
PT	ADC FVL2	:39	Heli Papa Tango what are your further intentions?	
ADC FVL2	PT	:42	Ah request xxxxx sector six for another photo mission ah between the xxxxx four thousand feet Heli Papa Tango.	unintelligible
PT	ADC FVL2	:49	Ah can you say that again?	
ADC FVL2	PT	:52	Request entering sector six for a photo mission between three and si... three thousand and four thousand feet Heli Papa Tango.	
PT	ADC FVL2	13:22:00	Heli Papa Tango roger for that you must be very flexible ah... after the Airbus you have it in sight?	
ADC FVL2	PT	:08	Affirm Heli Papa Tango.	
PT	ADC FVL2	:09	Hotel Papa Tango roger with the traffic in sight you may proceed ah south west bound to sector six.	
ADC FVL2	PT	:16	Proceed now south west bound ah sector six Heli Papa Tango.	
2150	ADC FVL2	:20	Swiss two one five zero contact Departure.	

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Occurrence: OLT212 / BER966Z of 31.07.2008



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>
2150	ADC FVL2	13:22:26	Swiss two one five zero contact Departure "ade".	
ADC FVL2	2150	:28	To departure and we have the heli in sight Swiss two one five zero "ade".	
2150	ADC FVL2	:31	"Danke isch" below now.	
ADC FVL2	2150	:33	Jou.	
ADC FVL2	161	:36	Tower "grüezi" Swiss one six one established one four.	
161	ADC FVL2	:39	Swiss one six one Tower "grüezi" you are number two.	
ADC FVL2	44B	:43	Tower "grüezi" KLM four four Bravo coming up holding point runway two eight Bravo.	
44B	ADC FVL2	:48	KLM four four Bravo Zurich Tower hello line up runway two eight and wait.	
ADC FVL2	44B	:53	Line up and wait runway two eight KLM four four Bravo.	
PT	ADC FVL2	13:23:02	Heli Papa Tango any chance you do your mission at three thousand or below?	
ADC FVL2	PT	:07	Ah request ah three thousand and four thousand... three thousand five hundred is ok for us Heli Papa Tango.	
PT	ADC FVL2	:15	Heli Papa Tango but its not ok for us so descend for the time being to three thousand or below.	
ADC FVL2	PT	:21	Ah roger we descend below three thousand Heli Papa Tango.	
1073	ADC FVL2	:51	Swiss one zero seven three contact Apron one two one decimal eight five zero.	
ADC FVL2	1073	:56	xxxxx Swiss one zero seven three.	unintelligible
161	ADC FVL2	13:24:00	Swiss one six one Airbus about to vacate two three zero degrees two knots runway one four cleared to land.	
ADC FVL2	161	:05	Cleared to land one four Swiss one six one.	
44B	ADC FVL2	:09	KLM four four Bravo traffic a helicopter four mile... four miles west of the field two thousand five hundred feet the wind is calm runway two eight you are cleared for take off.	
ADC FVL2	44B	:21	That's copied and traffic in sight cleared for take off runway two eight KLM four four Bravo.	

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Occurrence: OLT212 / BER966Z of 31.07.2008



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>
161	ADC FVL2	13:25:09	Swiss one six one contact Apron one two one decimal eight five zero.	
ADC FVL2	161	:14	Two one eight five good day Swiss one six one.	
ADC FVL2	1073	:23	Tower Swiss one zero seven three.	
1073	ADC FVL2	:25	Swiss one zero seven three Zurich Tower on taxiway Juliett cross runway two eight Apron one two one decimal seven five zero.	
ADC FVL2	1073	:31	On Juliett cross two eight and xxxxx Swiss one zero seven three "ade".	unintelligible
44B	ADC FVL2	:45	KLM four four Bravo climb flight level eight zero.	
ADC FVL2	44B	:48	Continue climb level ah eight zero KLM four four Bravo.	
ADC FVL2	PT	:54	Heli Papa Tango we finished photo mission for today and request to leave the CTR direction Birrfeld.	
PT	ADC FVL2	13:26:01	Heli Papa Tango roger that is approved direct Baden.	
ADC FVL2	PT	:05	Direct Baden Heli Papa Tango.	
44B	ADC FVL2	:07	KLM four four Bravo you are now above the advised helicopter contact Departure.	
ADC FVL2	44B	:12	Contact Departure xxxxx KLM four four Bravo.	unintelligible
PT	ADC FVL2	:16	Heli Papa Tango the other sectors like ah three eight and niner wouldn't be any big problem right now.	
ADC FVL2	PT	:24	Ah now we have to ah... "aso het zwill Wulche da im Moment mer hend zwenig Liecht" Heli Papa Tango.	
PT	ADC FVL2	:30	Ok.	
ADC FVL2	715	:46	Ah Speedbird seven one five from Bravo call you ready.	
715	ADC FVL2	:51	Speedbird seven one five Zurich Tower hello departure earliest time three zero according slot hold short of runway two eight report ready.	
ADC FVL2	715	13:26:57	Hold short of runway two eight Speedbird seven one five.	
ADC FVL2	715	13:27:25	Ah Speedbird seven one five is fully ready.	
715	ADC FVL2	:28	Speedbird seven one five roger line up and wait runway	

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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>
			two eight.	
ADC FVL2	715	13:28:32	Line up and wait runway two eight Speedbird seven one five.	
ADC FVL2	966Z	:44	Air Berlin niner six six Zulu holding point two eight ready for departure.	
966Z	ADC FVL2	:49	Air Berlin niner six six Zulu behind the Airbus three one niner line up runway two eight behind and wait.	
ADC FVL2	966Z	:56	Behind departing British Airways line up two eight Air Berlin ah niner six six Zulu.	
715	ADC FVL2	13:29:01	Speedbird seven one five wind one seven zero degrees three knots runway two eight cleared take off.	
ADC FVL2	715	:05	Cleared take off runway two eight Speedbird seven one five.	
PT	ADC FVL2	:10	Hotel Papa Tango frequency change approved "ich nime ah ihr chömed amene andere Tag wieder isch das richtig"?	
ADC FVL1	PT	:17	"Ja das isch genau eso" frequency change approved thanks a lot for cooperation Heli Papa Tango.	
715	ADC FVL2	13:30:03	Speedbird seven one five contact Departure one two five decimal niner five zero good bye.	
ADC FVL2	715	:09	Departure one two five niner five zero Speedbird seven one five.	
966Z	ADC FVL2	:25	Air Berlin niner six six Zulu?	
ADC FVL2	966Z	:28	Air Berlin niner six six Zulu go ahead.	
966Z	ADC FVL2	:29	"Zu euere Information de Kolleg vorher, er muess äh... Raport schribe das isch ja nid euche Fähler gsi, sondern de Fehler isch bi eus gläge eifach dass sies wüssed... äh dass sie villicht mal no vo dem ghöred".	
ADC FVL2	966Z	:40	"Wunderbar dankschön für d'Information".	
966Z	ADC FVL2	13:30:43	Air Berlin niner six six Zulu wind one eight zero degrees four knots runway two eight you are cleared for take off.	
ADC FVL2	966Z	:47	Cleared for take off runway two eight Air Berlin niner six six Zulu.	

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Occurrence: OLT212 / BER966Z of 31.07.2008

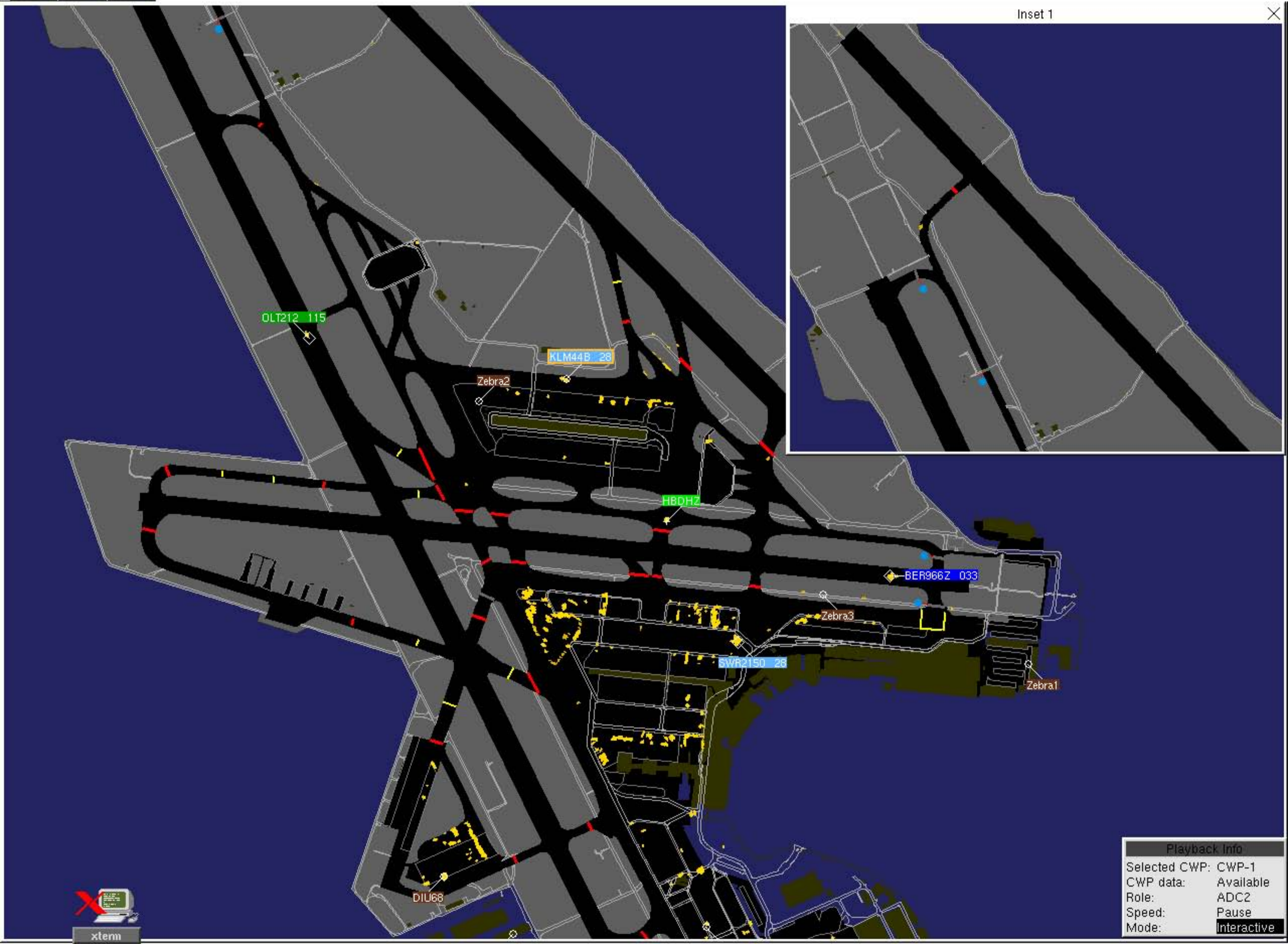


To <u>Col.1</u>	From <u>Col.2</u>	Time <u>Col.3</u>	Communications <u>Col.4</u>	Observations <u>Col.5</u>
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966Z	ADC FVL2	13:31:52	Air Berlin niner six six Zulu contact Departure "schöne Tag no".	
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ADC FVL2	966Z	:55	Departure "ade" Air Berlin niner six six Zulu.	
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**- End of transcript -**



**Playback Info**

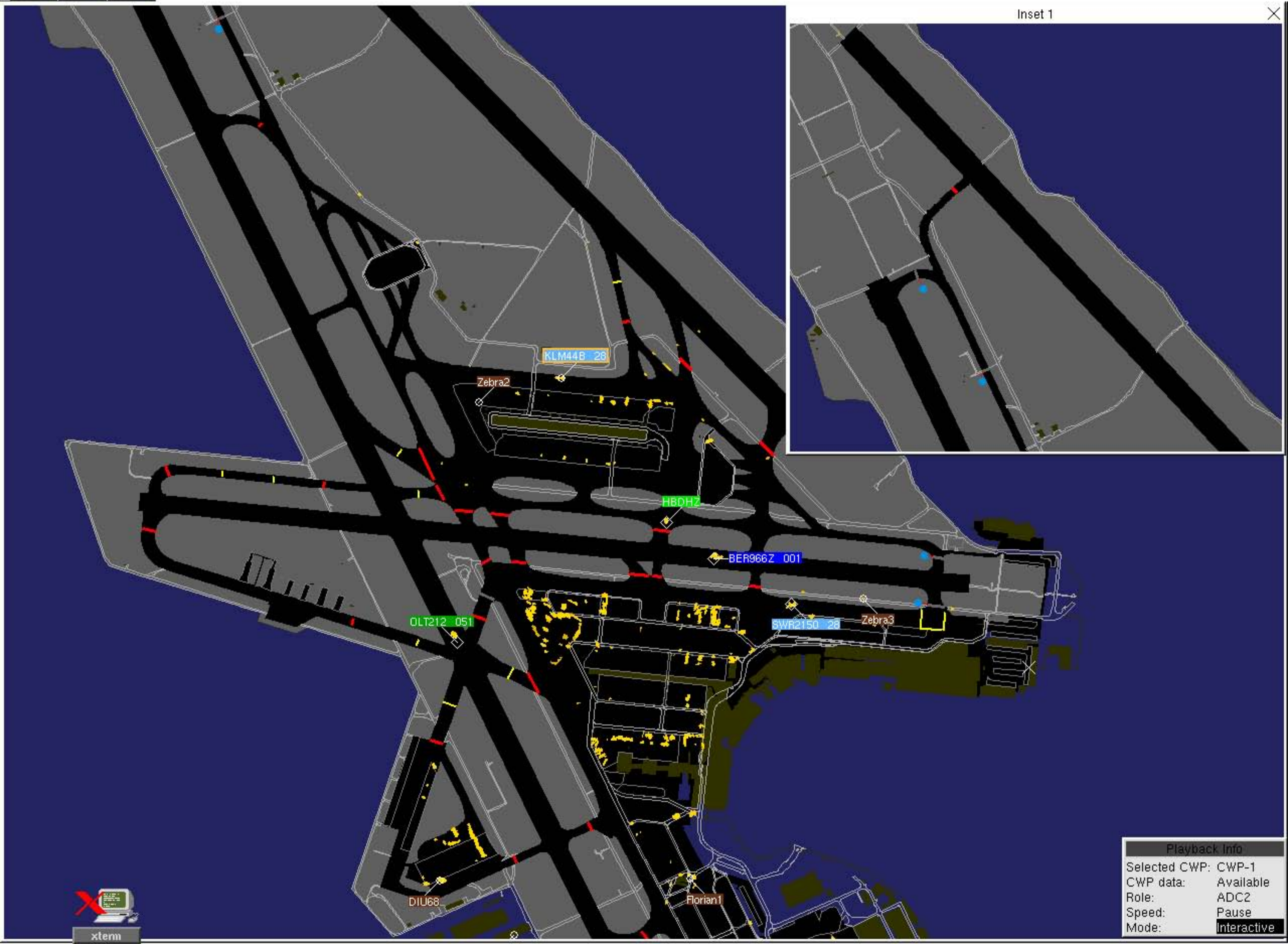
Selected CWP:	CWP-1
CWP data:	Available
Role:	ADC2
Speed:	Pause
Mode:	Interactive











**Playback Info**

Selected CWP:	CWP-1
CWP data:	Available
Role:	ADC2
Speed:	Pause
Mode:	Interactive


  
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