Airport
Collaborative Decision Making
(A-CDM)

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Contents:

1. General 4
   1.1. Purpose of the Document 4
   1.2. Definition and Partners 4
   1.3. Objectives of Airport-CDM 5
   1.4. Coordination with NMOC 5
   1.5. Main characteristics of the procedure 6
2. Procedure 7
   2.1. Overview 7
   2.2. Correlation of Flight Information 8
   2.2.1. Airport Slot Discrepancy 8
   2.2.2. Airport Slot Missing 8
   2.2.3. Points of Contact 8
   2.2.4. Early DPI – Data Exchange with NMOC 8
   2.2.5. Target DPI – Data Exchange with NMOC 9
   2.2.6. Flight Update Message (FUM) - Data Exchange with NMOC 10
   2.2.7. Airport-CDM Alerts 11
   2.3. Target Off-Block Time 12
   2.3.1. Automatically generated TOBT 12
   2.3.2. Person Responsible for TOBT 12
   2.3.3. TOBT Input and Adjustment 13
   2.3.4. TOBT/EOBT Discrepancy 13
   2.3.5. TOBT Deletion 14
   2.3.6. Cancel-DPI – Data Exchange with NMOC 14
   2.3.7. TOBT in Case of Aircraft Change 15
   2.3.8. TOBT Reporting Channels 15
   2.3.9. TOBT Display on Parking Stands with Electronic Display 15
   2.3.10. Potential Airport-CDM Alerts 16
   2.4. Target Start-Up Approval Time (TSAT) 17
   2.4.1. Publication 17
   2.4.2. TSAT Reporting Channels 18
   2.4.3. Target-DPI „Sequenced“ – Data Exchange with NMOC 18
   2.4.4. Example of TSAT and DPI Generation 20
   2.4.5. Changes within the Sequence 20
   2.4.6. TOBT und TSAT Management in High Delay Situations 20

2.4.7. Potential Airport-CDM Aerts 21
2.5. Aircraft De-Icing 21
2.5.1. On-Stand De-Icing 21
2.5.2. Remote De-Icing 21
2.5.3. Seasonal De-Icing Plan 22
2.5.4. Target-DPI „Sequenced“ – Data Exchange with NMOC 22
2.6. Start-Up and Pushback 22
2.6.1. Datalink Clearance 23
2.6.2. Remote Holding 24
2.6.3. ATC-DPI – Data Exchange with NMOC 24
2.6.4. RTS (Return to Stand) Procedure 25
3. Common Situation Awareness / Information Sharing 26
3.1. CSA-Tool (Web-DUPLO) 26
3.2. NMOC Display System – CHMI 26
3.2.1. NMOC CHMI Flight List 26
3.2.2. NMOC CHMI Flight Data 27
3.2.3. NMOC CHMI Operational Log 28
3.3. Airport-CDM Alerting 29
3.3.1. Contact Address and Information 29
3.3.2. General Aviation Flights 29
3.3.3. Airport-CDM Alert Messaging (Examples) 29
4. Publications 34
4.1. Aeronautical Information Publication (AIP) 34
4.2. Airport User Regulations (FBO) 34
5. Persons in Charge of the Process / Points of Contact 34
6. Abbreviations 35

1. General

1.1. Purpose of the Document

This document describes the Airport Collaborative Decision Making (CDM) procedure at Düsseldorf Airport and is to be understood and used as a basis for the different partners, such as ground handling agents and Airline OCC.

Together with the publications about Airport-CDM in the Aeronautical Information Publication Germany (AIP AD2 EDDL) and the airport user regulations (FBO), this document is to ensure that Airport-CDM at Düsseldorf Airport is handled in an optimal way in the interest of all partners.

1.2. Definition and Partners

Airport-CDM is an operational overall process (concept/procedure) supporting an optimized turnaround process at Düsseldorf Airport. It covers the period of time between the Estimated Off-Block Time (EOBT) - 3hrs and take-off and is a coherent process from flight planning (ATC flight plan) to landing and the subsequent turnaround process on the ground before the next take-off.

Airport-CDM at Düsseldorf Airport is based on the European Airport-CDM, the common specification (“Community Specification”) for A-CDM and the “German Harmonization Initiative of Airport-CDM“ (A-CDM Germany).

1.3. Objectives of Airport-CDM

Airport-CDM aims at optimally utilising the available capacities and operational resources at Düsseldorf Airport by increasing the efficiency of the individual steps of the turnaround process.

Airports can be integrated into the European ATM network through the exchange of reliable estimated arrival and departure times between Airport-CDM and the Network Management Operations Centre (NMOC – former CFMU).

Airport-CDM optimises operational cooperation between the following partners:

- Airport Operator
- Airlines
- Handling Agents
- Ground Handling Agents
- Air Navigation Service Provider
- European Air Traffic Flow Management (NMOC)

1.4. Coordination with NMOC

Due to a fully automated data exchange with NMOC, landing and take-off times can be forecasted in a timely and reliable manner and/or precisely calculated take-off times (CTOT) can be given, based on local target take-off times.

The following messages are used:

- Flight update message, FUM
- Early departure planning information message, E-DPI
- Target departure planning information message, T-DPI target
- Target departure planning information message, T-DPI sequenced
- ATC departure planning information message, A-DPI
- Cancel departure planning information message, C-DPI

The basic procedures for cooperation between the airlines and/or DFS and NMOC remain the same.

Furthermore, all estimated departure times are automatically transmitted to NMOC during the turn-round process. In the case of delays caused by the airlines, the common CTOT allocation mechanisms apply. These allocation mechanisms are confirmed and/or refined via DPI messages. NMOC determines and allocates the CTOT based on these estimated departure times (DPI).

1.5. Main characteristics of the procedure

The main characteristics of Airport-CDM are:

- **Transparency of the process**

  Common Situational Awareness is guaranteed for all partners. The right information should be available to the right units at the right time.

- **Airport-CDM is a common operational process**

  It commences upon reception of the ATC Flight Plan, continues through landing of the inbound flight, the entire turnaround process and terminates at take-off.

- **Combination of Day of Operations and schedule planning**

  ATC Flight Plan, Airport Slot and airport flight data are combined, and a common dataset is created.

- **Feasibility of the Turnaround Process**

  Every incoming aircraft is linked to its subsequent departure. Based on this link, the departure's target times can be checked for feasibility early and adjusted if necessary.

- **Usage of Target Off-Block Time as the target time for "Aircraft Ready"**

  The TOBT is the essential contribution of the airline to the Airport-CDM process. It communicates when ground handling of an aircraft is expected to be completed.

  TOBT= Airline Commitment

- **Usage of „Variable Taxi Times"**

  All Target Times are calculated taking into account a flight's parking position, runway-in-use, and de-icing duration in case of remote de-icing.

  EXOT = Estimated Taxi Out Time

- **Introduction of the Target Start-Up Approval Time (TSAT)**

  Newly introduced with Airport-CDM, the TSAT indicates when a flight can expect start-up approval. It is based upon TOBT, EXOT, CTOT (if regulated) and the actual operational capacity. Start-up and pushback approval will always be issued in accordance with TOBT and TSAT.

  TSAT = Airport-CDM Commitment

- **Connecting the Airport to the Network**

  An automated data exchange with European Air Traffic Flow Management (NMOC) about the local and network situation enables high-quality forecasts for inbound and outbound traffic.

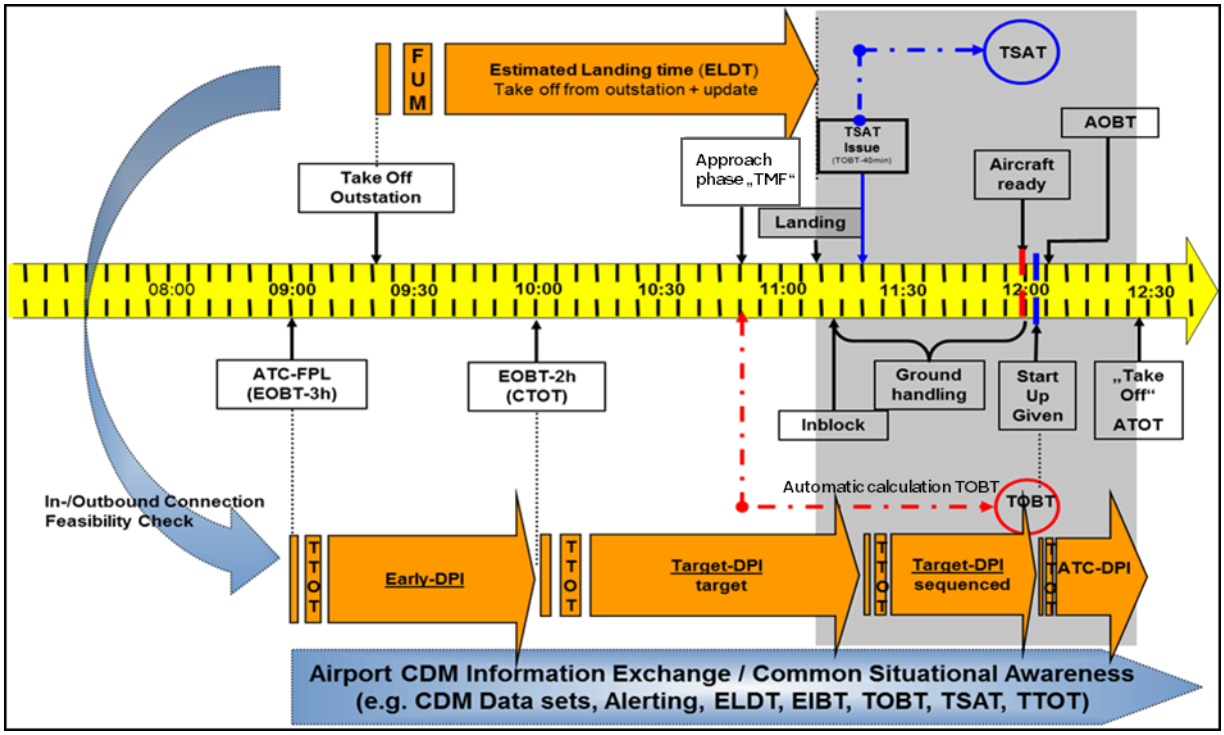
2. Procedure

2.1. Overview

This chart depicts the scope of the Airport-CDM procedure at Düsseldorf Airport from the time of ATC flight plan activation (EOBT -3h) till take-off.

Orange arrows depict the data transfer with the NMOC, the blue arrow shows the exchange of information via interfaces, dialogue systems, e-mail etc. with the relevant aircraft operator and/or handling agent regarding potential adjustments which may become necessary.

The grey box represents the turnaround process resp. the air-to-air process at the airport.



The main aspects of the procedure are described in the following chapters and structured as follows:

- Correlation of Flight Information — Chapter 2.2
- Target Off-Block Time — Chapter 2.3
- Target Start-Up Approval Time — Chapter 2.4
- Aircraft De-Icing — Chapter 2.5
- Start-Up und Pushback — Chapter 2.6

2.2. Correlation of Flight Information

The Airport-CDM procedure begins with the transmission of the ATC flight plan to the Airport-CDM Portal (airport operator database).

The ATC flight plan will be correlated with the flight data submitted to the airport as well as with the airport slot (SOBT) included therein. In particular, the focus is on:

- linking inbound and outbound flights
- comparing the airport slot (SOBT) for the outbound flight with the EOBT of the ATC flight plan

This comparison is usually made at the EOBT -3hrs. If the ATC flight plan is filed at a later stage, the commencement of the Airport-CDM procedure is postponed to this time.

2.2.1. Airport Slot Discrepancy

If the SOBT deviates from the Estimated Off-Block Time (EOBT) by more than 5 minutes, the contact person of the airline is advised by the A-CDM alerting to adjust the times accordingly.

2.2.2. Airport Slot Missing

If no airport slot is available at the time of the expected conduct of the flight, the flight cannot be sequenced and thus neither processed nor conducted.

2.2.3. Points of Contact

The Airport Control Center of Düsseldorf Airport is in charge of the activities concerning the correlation of flight information.

2.2.4. Early DPI – Data Exchange with NMOC

An early departure planning information message (E-DPI) is generated and transmitted to NMOC for flight plans validated in accordance with the sections mentioned above (airport slot available).

Flights with an E-DPI are marked in NMOC systems as flights from a CDM airport and are then considered accordingly during further processing (e.g. optimised CTOT allocation in accordance with the local target times).

Example:

-TITLE DPI

-DPISTATUS EARLY

-ARCID DLH3354

-ADEP EDDL

-ADES LTBA

-EOBT 1825

-EOBD 210224

-TAXITIME 0013

-TTOT 1825

-SOBT 1825

-SID DODEN9T

-ARCTYP A320

-REG DAIPU

-IFPLID AA123456789

-ORIGIN

-NETWORKTYPE AFTN-

-FAC EDDLYDYX

2.2.5. Target DPI – Data Exchange with NMOC

As a rule, a T-DPI with the status "Target" is generated two hours before the EOBT for all flights for which an E-DPI has been generated. The T-DPI is transmitted to NMOC in the same way as the E-DPI.

The T-DPI is used to transmit a Target Take-Off Time (TTOT) to NMOC. The T-DPI opens a so-called “slot adjustment window” within which the CTOT is adjusted to the relevant reported TTOT in the best possible manner.

If the TTOT is changed by five minutes or more, if taxi times are adjusted by three minutes or more or if the SID, aircraft type or registration is changed, a new T-DPI is generated and transmitted to NMOC.

Example:

-TITLE DPI

-DPISTATUS TARGET

-ARCID DLH3354

-ADEP EDDL

-ADES LTBA

-EOBT 1825

-EOBD 210224

-TOBT 1825 (if already available)

-TAXITIME 0013

-TTOT 1838

-SID DODEN9T

-ARCTYP A320

-REG DAIPU

-IFPLID AA123456789

-ORIGIN

-NETWORKTYPE AFTN-

-FAC EDDLYDYX

2.2.6. Flight Update Message (FUM) - Data Exchange with NMOC

Flight update messages (FUM) are received for flights to Düsseldorf Airport (inbound). The following operational events trigger the transmission of an FUM:

- Estimated Landing Time (ELDT) minus 3 hours
- Modification of ELDT by 5 minutes or more
- Changes to ETFMS status, e.g. suspension of a flight

The FUM provides an ELDT in advance which allows the system to compare the inbound with the outbound flight plan, i.e. the EIBT with the EOBT.

If the calculated EIBT plus the Minimum Turnaround Time (MTTT) is later than the EOBT of the linked outbound flight plan, the contact person of the airline is notified accordingly. It is expected that the relevant times (Delay Message DLA) or the outbound flight plan (Change Message CHG or Flight Plan Cancellation CNL and new flight plan FPL) will be adjusted in a timely manner.

Furthermore, the ELDT of the FUM has strong effects on:

- Optimum gate and position planning as well as further resources planning
- Automatic TOBT generation
- Further use of resources (e.g. ground handling)

2.2.7. Airport-CDM Alerts

Potential Airport-CDM alerts concerning the combination of different flight information described in chapter 3.3 include:

CDM01	No Airport Slot Available or Slot Already Correlated
CDM02	SOBT vs. EOBT Discrepancy
CDM03	Aircraft Type Discrepancy
CDM04	Aircraft Registration Discrepancy
CDM05	First Destination Discrepancy
CDM07	EIBT + MTTT Discrepancy with EOBT
CDM07a	EIBT + MTTT Discrepancy with TOBT
CDM08	EOBT Compliance Alert
CDM09	Boarding Not Started
CDM10	TOBT Rejected or Deleted
CDM11	Flight Not Compliant with TOBT/TSAT
CDM13	No ATC Flight Plan Available
CDM15	TOBT Within Night Flying Restriction
CDM16	TSAT Within Night Flying Restriction
CDM20	Inbound Diversion
CDM34	Return To Stand Notification

2.3. Target Off-Block Time

The TOBT is a point in time to be monitored and confirmed by the airline/handling agent at which the ground handling process is expected to be concluded, all aircraft doors closed, all passenger boarding bridges removed from the aircraft and thus start-up approval and push-back/taxi clearance can be received.

All ground handling processes, except for pushback and remote de-icing, are based on TOBT. The TOBT is used as the optimum time for coordination.

TOBT = Prediction of "Aircraft Ready"

2.3.1. Automatically generated TOBT

Generally, an automatic TOBT will be generated for each outbound flight unless a TOBT has already been entered manually (no manual TOBT input prior to Auto TOBT at DUS).

During the final approach phase (TMF – Ten Miles final, 4 minutes before landing) a TOBT for the linked outbound flight is generated automatically. The earliest time for the publication of the automatically generated TOBT is EOBT-90 minutes.

The Minimum Turnaround Time (MTTT) is applied when the TOBT is generated. The MTTT is a time which is stored in the airport database and depends on the airline, kind of traffic (e.g. scheduled or non-scheduled) aircraft type and destination airport.

Important dependencies for the automatic initial TOBT generation:

- If EIBT + MTTT ≤ EOBT: TOBT = EOBT
- If EIBT + MTTT > EOBT: TOBT = EIBT + MTTT

For flights which are not subject to a direct turnaround (e.g. long-term parking), the TOBT will be generated automatically 90 minutes before EOBT.

2.3.2. Person Responsible for TOBT

Airlines need to ensure:

- The nomination of one unit responsible for the TOBT
- The communication with the relevant airline OCC (ATC flight plan/person responsible for the EOBT)
- The coordination of internal working procedures
- Changes of the TOBT responsibility and/or of the MTTT have to be announced to the Airport Operator via Airport-CDM@dus.com well in advance

The unit responsible for the TOBT (generally the handling agent), the aircraft operator (for flights without handling agent) or the pilot-in-command (for general aviation flights without handling agent) is responsible for the correctness of and the adherence to the TOBT.

A wrong TOBT leads to waste of airport and airspace capacity as well as disadvantages for further sequencing and/or CTOT allocation of regulated flights. Therefore the TOBT has to be adjusted as early as possible.

2.3.3. TOBT Input and Adjustment

Regarding entry and adjustment of TOBT, the following needs to be considered:

- The earliest possible input of a TOBT is after it has been automatically generated
- A manually set TOBT will never be overwritten by an automatically generated TOBT (at Düsseldorf Airport there is no possibility to input a manual TOBT before AutoTOBT)
- A TOBT value will only be accepted within EOBT - 10 min and EOBT + 120 min
- TOBT can be adjusted as often as necessary until the TSAT has been issued
- After TSAT has been issued, TOBT can only be corrected three times
- If the permitted number of TOBT inputs (three times) after the TSAT issue has been exceeded and an additional adjustment is necessary the TOBT must be deleted first. Thereafter entering a new TOBT is possible
- The entered TOBT has to be at least 4 minutes later than the current time
- The value of the TOBT entered must differ from its previous value by at least 4 minutes

As the TOBT is also the basis for further airport processes, adjustments of the TOBT (also if the process is completed more than five minutes in advance) are to be entered by the person responsible for the TOBT.

Attention: In this case, setting TOBT before the old value needs to be coordinated with push back service first!

Shifting the TOBT close to a published TSAT does not change the TSAT (and CTOT, if allocated). If there is a larger gap between TOBT and TSAT this period may be used for additional handling or delayed boarding. Be aware that any improvement of TSAT before revised TOBT is not possible.

2.3.4. TOBT/EOBT Discrepancy

The TOBT as a maximum is allowed to be set 10 minutes before the EOBT. The TOBT adjustment before the EOBT should only be done in exceptional cases

If the TOBT deviates from the EOBT of the ATC flight plan by more than 15 minutes, the airline has to initiate an additional delay message (DLA, CHG). This new EOBT has to be based on the last TOBT coordinated with the person responsible for TOBT.

After a Flight Suspension (FLS) has been received, the TOBT (leading value within the A-CDM data exchange) shall be updated first. Secondly an update of the EOBT has to be executed.

Note: For flights departing Düsseldorf Airport the EUROCONTROL / NMOC EOBT Update Service is available. If this service is used, a TOBT update, which results in a 15 min (parameter) deviation from the EOBT, automatically triggers a DLA message in the EUROCONTROL Flight planning System IFPS and consequently the relevant EOBT update.

Contact: airport-cdm@eurocontrol.int

2.3.5. TOBT Deletion

The TOBT has to be deleted in the following cases:

- Point in time when ground handling will be finished is unknown (e.g. technical problems with the aircraft)
- The permitted number of TOBT inputs (three times) after generation of the TSAT has been exceeded

If the TOBT is deleted, the TSAT is automatically deleted as well.

As soon as a new TOBT is known and the process is meant to continue, the person responsible for the TOBT shall enter a new TOBT.

2.3.6. Cancel-DPI – Data Exchange with NMOC

As soon as the TOBT for a flight is deleted, a C-DPI message is transmitted to NMOC. This will trigger a Flight Suspension Message (FLS) by NMOC. If the flight intends to operate, either a new EOBT needs to be provided via a DLA or CHG message, or a new DPI (triggered by a new TOBT input) is sent for the flight.

Example:

-TITLE DPI

-DPISTATUS CNL

-ARCID DLH3354

-ADEP EDDL

-ADES LTBA

-EOBT 1825

-EOBD 210224

-REASON TOBTUNKOWNOREXPIRED

-IFPLID AA12345678

2.3.7. TOBT in Case of Aircraft Change

If the aircraft is changed, a change message (CHG - type/registration) shall be sent. TOBT remains valid and is allocated to the new aircraft.

2.3.8. TOBT Reporting Channels

TOBT is reported and/or adjusted by one of the following ways:

- Web-DUPLO (CSA-Tool)
- Internal IT-System of Aircraft Operator / Ground Handling Agency (via interface)
- By telephone via the Airport Control Center (ACC) of Düsseldorf Airport in exceptional cases (Tel.: +49 211 421 51011)

For General Aviation Flights:

The responsible handling agent for a General Aviation flight has to adjust the TOBT, if necessary, after coordination with the aircraft operator or flight crew.

For all other flights the flight crew gets the opportunity to adjust TOBT by contacting a representative of Jet Aviation (Tel.: +49 211 421 7062) at the GAT Terminal. Out of duty hours please contact Air Traffic Control (Tel.: +49 211 4154 130 or 121,780 MHz).

2.3.9. TOBT Display on Parking Stands with Electronic Display

Display of TOBT and all TOBT updates in UTC as soon as TOBT is available for the departure flight, bit earliest at TOBT - 30 min.

A TOBT countdown is shown from TOBT-30 min until TOBT has been reached. Before the value of the TOBT has been reached the counter shows a negative value (e.g. “-10MIN”).

As soon as the value of the TOBT has been reached the counter is gone.

Display of TSAT and all TSAT updates (UTC) in a ticker style behind the TOBT value after TOBT - 7 minutes has been reached.

Once the person responsible for TOBT has deleted a TOBT, the TOBT value and the countdown will no longer be displayed on the AVDGS screen. The following text will be shown: „FLIGHT SUSPENDED - NEW TOBT REQUIRED“.

TOBT value, the countdown and TSAT will be displayed again, as soon as a new TOBT has been entered.

After in-block (AIBT) resp. off-block (AOBT) the actual block time will be shown for another 5 minutes.

2.3.10. Potential Airport-CDM Alerts

Potential Airport-CDM alerts concerning the TOBT are:

CDM08	EOBT Compliance Alert
CDM09	Boarding Not Started
CDM10	TOBT Rejected or Deleted
CDM11	Flight Not Compliant with TOBT/TSAT

Details on the various Airport-CDM Alerts are given in chapter 3.3.

2.4. Target Start-Up Approval Time (TSAT)

The TSAT is the point in time calculated by the Airport-CDM sequence planning system at which the start-up approval can be expected.

The pre-departure sequence is based on the flights with a calculated TSAT.

Basically the TSAT and changes of the TSAT will be announced to the flight crew/pilot by the person responsible for the TOBT.

2.4.1. Publication

TSAT is published 40 minutes prior to the current TOBT.

After TSAT has been published, the TOBT can only be corrected another three times to ensure a stable sequence and CTOT allocation. As a rule, the TSAT remains in effect if the TOBT is changed, unless the new TOBT is later than the calculated TSAT.

Calculation of TSAT is based on the following factors:

- TOBT
- CTOT (for regulated flights)
- Operational capacity at the airport
- Minimum Departure Interval (MDI)
- Variable Taxi Time
- Parking position
- Runway-in-use
- Landing direction
- Aircraft de-icing

2.4.2. TSAT Reporting Channels

TSAT can be received via the same channels as TOBT:

- Web-DUPLO (CSA-Tool)
- SafeGate® (AVDGS)
- Airport-CDM App
- Tower
- Internal aircraft operator/ground handling systems (via interfaces)
- Airport Control Center (ACC) via telephone: +49 211 421 51011

Für Flüge der Allgemeinen Luftfahrt:

- Airport-CDM App
- Web-DUPLO (CSA-Tool) at GAT
- Tower

Information on the Airport-CDM App:

The Airport-CDM App is aimed exclusively at partners involved in the A-CDM process like airlines, ground handling services and handling agents. Above all, cockpit crews and ground handlers should be provided with the essential A-CDM information about their flight through the visualization of the data.

Users of this target group can download the app free of charge from the Apple App Store (iOS) and the Google Play Store (Android) using the search term “Airport CDM” and scanning the QR code to install it on mobile devices.

Note: Please remember TSAT is available TOBT - 40 minutes at the earliest.

2.4.3. Target-DPI „Sequenced“ – Data Exchange with NMOC

When TSAT is generated, a T-DPI message with the status "sequenced" is transmitted to NMOC for unregulated flights (flights without a CTOT).

Flights for which a T-DPI message with the status "sequenced" has been transmitted have a special status within the NMOC system.

The status "Target" (chapter 2.2.5) remains in effect for regulated flights. However, a T-DPI "Sequenced" can be manually generated by the control tower later; otherwise the T-DPI “Sequenced” for regulated flights is issued five minutes prior Actual Start-Up Approval Time (ASAT).

The transmission of a Ready Message (REA) is no longer required for regulated flights where a T-DPI "Sequenced" has been sent (an additional T-DPI can be generated manually if requested).

The CTOT is adjusted to the local TTOT as much as possible.

If the TTOT is changed by five minutes or more, if taxi times are adjusted by three minutes or more, or if the SID, aircraft type or registration is changed, a new T-DPI is generated and transmitted to NMOC.

Example:

-TITLE DPI

-DPISTATUS SEQ

-ARCID DLH3354

-ADEP EDDL

-ADES LTBA

-EOBT 1825

-EOBD 210224

-TOBT 1825

-TSAT 1825

-TAXITIME 0013

-TTOT 1838

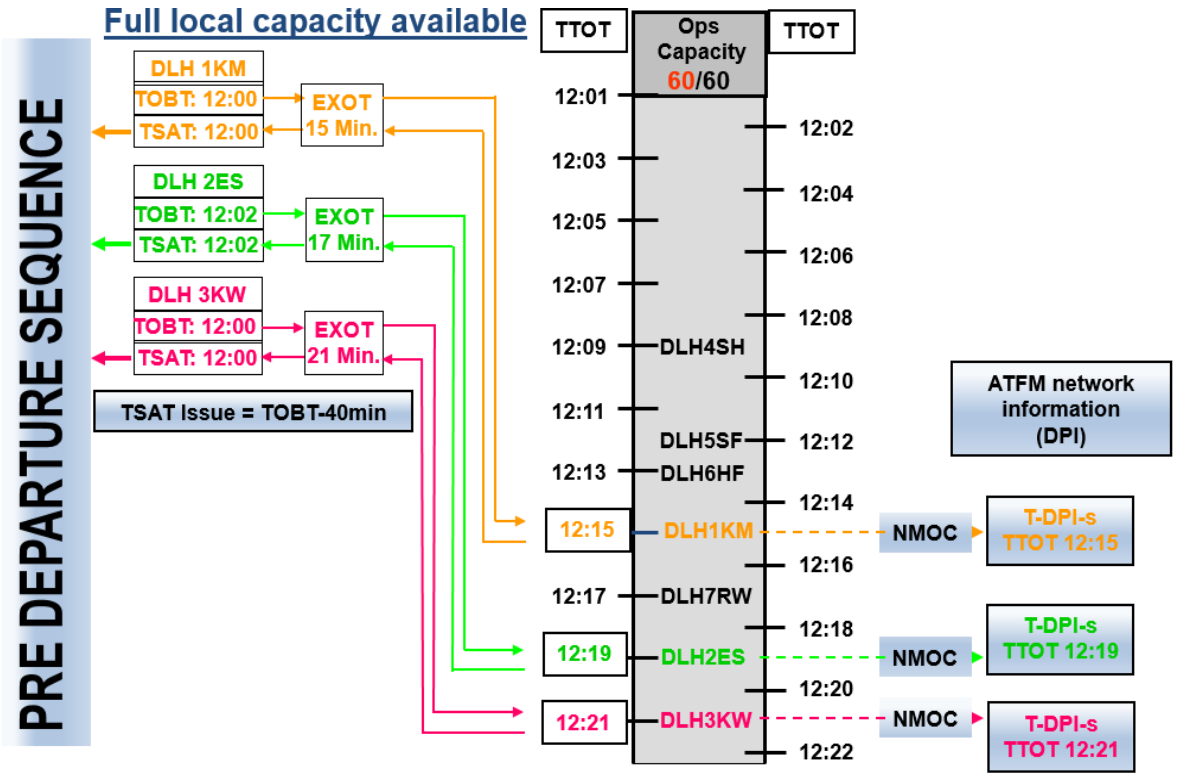
-SID DODEN9T

-ARCTYP A320

-REG DAIPU

-IFPLID AA12345678

2.4.4. Example of TSAT and DPI Generation



2.4.5. Changes within the Sequence

In individual cases, flights with different TSATs within the same sequence and TOBT responsibility can be switched. Possible candidates are shown in WEB-DUPLO by clicking on „Swap Candidate“ (Arrow symbol ⇄). Switching has to be coordinated with and executed by local ATC (Tel.: +49 211 4154 130). Regulated flights cannot be switched.

2.4.6. TOBT und TSAT Management in High Delay Situations

In situations where CTOTs or local capacity constraints lead to a TSAT that is far from TOBT, the aircraft operator may decide to postpone boarding. In these cases, TOBT needs to be adjusted accordingly. Ideally, the new TOBT value is 10 minutes before the current TSAT.

An update of the TOBT, which does not exceed the TSAT value, has no impact on TSAT or on a potential CTOT.

2.4.7. Potential Airport-CDM Aerts

Potential Airport-CDM alerts concerning TSAT include:

CDM08	EOBT Compliance Alert
CDM10	TOBT Rejected or Deleted
CDM11	Flight Not Compliant with TOBT/TSAT

Details on the various Airport-CDM Alerts are given in chapter 3.3.

2.5. Aircraft De-Icing

At Düsseldorf Airport aircraft de-icing is only executed on decentralized remote areas.

Aircraft de-icing times must not be considered when determining TOBT, they are taken into account when calculating TSAT, based on de-icing request, location and approximate duration as well as local influences (RWY closures, operational capacity) and network constraints (CTOT). Therefore, de-icing should be requested as early as possible (optimally until TSAT issue (TOBT – 40 minutes)) by the responsible person for TOBT via Web-DUPLO or by telephone directly to the de-icing company (+49 211 421 52222) to receive a particular prioritization on TSAT calculation. As long as TOBT, a potential CTOT or the airport conditions (weather category, no. of available pads, RWY capacity) do not change, TSAT remains stable.

The de-icing request will be published on Web-DUPLO showing „✔“ and in the AODB showing a „✓“.

If de-icing needs to be requested after start-up, it is only possible for the TWR to set the request. This request cannot be considered for the actual sequence anymore. A revised TOBT will be calculated automatically and the flight will be re-sequenced considering the availability of resources.

2.5.1. On-Stand De-Icing

On-stand de-icing is not executed at Düsseldorf Airport, only remote. Therefore, the aircraft shall be ready for taxiing to the pad at TOBT. On the contrary, pre-deicing at night is performed on-stand, but this procedure is not part of the A-CDM process resp. the pre-departure sequencing.

2.5.2. Remote De-Icing

Remote de-icing is carried out on defined areas on aprons and near the runway thresholds.

In case of de-icing the DPI message to the NMOC will contain the additional status “DEICING”

The Estimated De-icing Time (EDIT), taxiing to the pad as well as taxiing from the pad to the runway will be part of the EXOT (Estimated Taxi Out Time) and therefore extent it accordingly.

2.5.3. Seasonal De-Icing Plan

More detailed information about the de-icing procedures at Düsseldorf Airport can be obtained from the Seasonal De-icing Plan „Aircraft De-/Anti-icing Procedure“ of Düsseldorf Airport Ground Handling.

2.5.4. Target-DPI „Sequenced“ – Data Exchange with NMOC

In case of de-icing the DPI message to the NMOC will contain the additional status “DEICING”

Example:

-TITLE DPI

-DPISTATUS SEQ

-ARCID DLH3354

-ADEP EDDL

-ADES LTBA

-EOBT 1825

-EOBD 210224

-TOBT 1825

-TSAT 1825

-TAXITIME 009

-TTOT 1854

-SID DODEN9T

-ARCTYP A320

-REG DAIPU

-DEPSTATUS DEICING

-IFPLID AA12345678

2.6. Start-Up and Pushback

Start-up (ASAT) and pushback (PBG) clearances are issued exclusively based on TOBT and TSAT. The following rules apply:

- The aircraft has to be ready for start-up at TOBT

- Generally, the timeframe for start-up approval and en-route clearance is TSAT ± 5 minutes
  - The pilot shall request start-up approval and en-route clearance within TSAT ± 5 minutes
  - Clearance Delivery will issue start-up approval and en-route clearance depending on TSAT and the current traffic situation
- Pushback/taxi clearance shall be requested no later than five minutes after the start-up approval has been issued

In case of delays, Clearance Delivery shall be informed. Otherwise TOBT will be deleted and has to be re-entered.

If start-up has already been granted (A-CDM status SUG) and a TOBT update becomes necessary, it is not possible via Web-DUPLO anymore. Only after start-up clearance has been rejected, a new TOBT can be set.

2.6.1. Datalink Clearance

The published procedures and time parameters published in AIP AD 2 EDDL continue to apply to datalink departure clearances (DCL).

TSAT is transmitted via CLD (Departure Clearance Uplink Message – issuance of start-up approval and en-route clearance by Clearance Delivery).

„Start-Up approved according TSAT“

If there is any change of TSAT after transmitting via CLD, the TSAT will not be updated by CLD. Responsibility for delivery to the flight crew remains with aircraft operator or person responsible for TOBT.

Pushback/taxi clearance shall be requested within TSAT ± 5 minutes (TSAT window).

If start-up is requested too early before TSAT or the operational situation does not allow it, Clearance Delivery will issue the enroute clearance only. Start-up approval then needs to be requested separately via radio within the TSAT window.

Examples:

DCL including start-up approval and enroute clearance:

```
QU QXSXMXS
. EDDLYDYA 270754
CLD
FI EW9578/AN D-AIZT
-  / EDDLYDYA.DC1/CLD 0754 200927 EDDL PDC 196
EWG9578 CLRD TO LEPA OFF 23L VIA MODRU1T
SQUAWK 7264 ADT MDI NEXT FREQ 121.605 ATIS L
STARTUP APPROVED ACCORDING TSATC6C2
553
```

DCL including enroute clearance only:

```
QU QXSXMXS
EDDLYDYA 270852
CLD
FI X32114/AN D-ATUO
- / EDDLYDYA.DC1/CLD 0852 200927 EDDL PDC 197
TUI2B CLRD TO GCLP OFF 23L VIA MODRU1T
SQUAWK 7263 ADT MDI NEXT FREQ 121.905 ATIS N
REQ STARTUP ACC TSAT ON 121.7800122
556
```

2.6.2. Remote Holding

Remote Holding may be requested via the Airport Control Center (ACC), but due to the limited space on the apron at Düsseldorf Airport it is only feasible in exceptional cases.

Conditions for Remote Holding are:

- TOBT and TSAT differ by more than 15 minutes (operational parameter)
- The respective parking position is required for an arriving aircraft
- Aircraft handling (except de-icing) is complete (TOBT has been reached)

2.6.3. ATC-DPI – Data Exchange with NMOC

At Actual Off-Block Time (AOBT), an A-DPI will be sent to NMOC. The Slot Adjustment Window is closed and CTOT can no longer be changed automatically by NMOC unless exceptional conditions apply.

Example:

-TITLE DPI

-DPISTATUS ATC

-ARCID DLH3354

-ADEP EDDL

-ADES LTBA

-EOBT 1825

-EOBD 210224

-TAXITIME 0013

-TTOT 1838

-SID DODEN9T

-ARCTYP A320

-REG DAIPU

-IFPLID AA12345678

Local characteristics:

When it comes to a delay of more than five minutes after off-block or in front of the de-icing area, another ATC-DPI with an updated Target Take-Off Time (TTOT) will be sent to NMOC at „Actual Commencement Deicing Time“ (ACZT).

2.6.4. RTS (Return to Stand) Procedure

If an aircraft e.g. for technical reasons has to return to a parking stand after Actual Off-Block (AOBT), the RTS procedure will be initiated by Apron Control. Thereby the publication of the A-CDM alert CDM34 “Return To Stand Notification” is triggered.

Once the aircraft has reached its returning position the status “Standby” (SBY) is set with its actual on-block (AIBT). All target times will be deleted and a cancel DPI (C-DPI) will be forwarded to the NMOC, which triggers a Flight Suspension Message (FLS).

At the same time an A-CDM alert (CDM10 – TOBT Rejected or Deleted) will be forwarded to the responsible AO/GH, explaining that the process has been cancelled.

The pilot will be informed and requested to get in contact with his aircraft operator.

As soon as a new TOBT for the affected flight is known, it shall be set in the system by the person responsible for the TOBT. This directly leads to the transmission of a new T-DPI, which triggers a De-Suspension Message (DES) at the NMOC which ensures the flights participation on the local A-CDM process.

3. Common Situation Awareness / Information Sharing

Transparency for all partners involved is the basis for conducting the Airport-CDM process. This Common Situational Aware-ness is ensured through IT interfaces, dialogue systems, alert messages, data exchange with NMOC, telephone coordination, etc.

3.1. CSA-Tool (Web-DUPLO)

The Web-DUPLO (Web-Application of DUPLO (DUesseldorf PLanner and Organizer) serves as the Common Situational Awareness Tool (CSA Tool) at Düsseldorf Airport. There, all relevant information is displayed and maintained in a user-specific manner. Inputs (e.g. TOBT, Deicing, Aircraft Ready (ARDT)) are made via CSA Tool and detailed information on the flights displayed can be obtained. CSA Tool access can be requested from the A-CDM@DUS Team at Airport-CDM@dus.com by handling agents and airlines.

CDM alert messages can also be displayed and viewed using the CSA Tool.

3.2. NMOC Display System – CHMI

Information on the Airport-CDM data exchange with the NMOC can be obtained via the available NMOC reporting channels (CHMI) and its various display options.

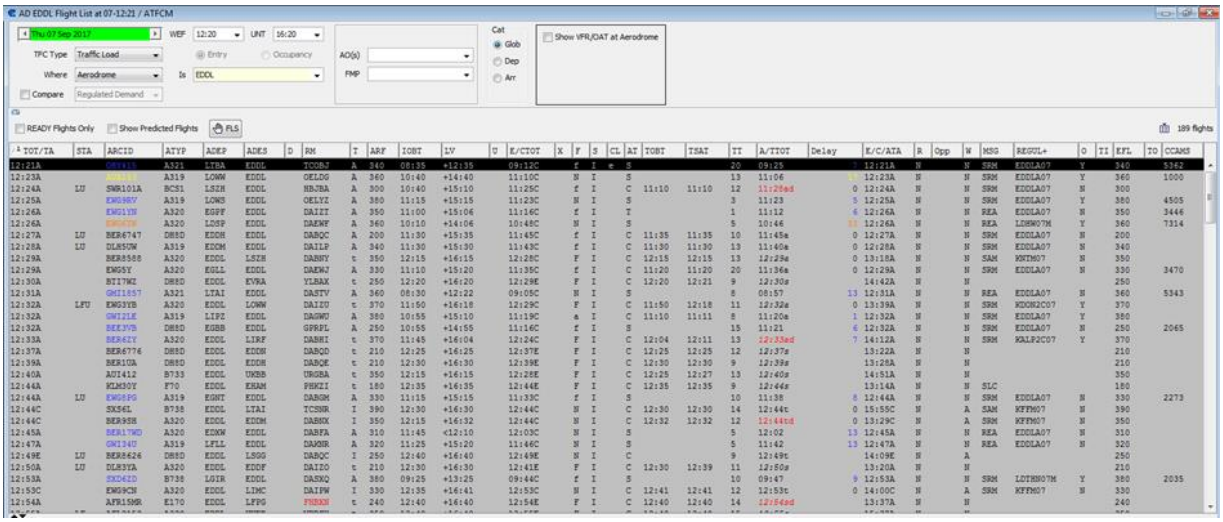
Access to NMOC CHMI can be requested online from EUROCONTROL:

www.eurocontrol.int/network-operations

3.2.1. NMOC CHMI Flight List

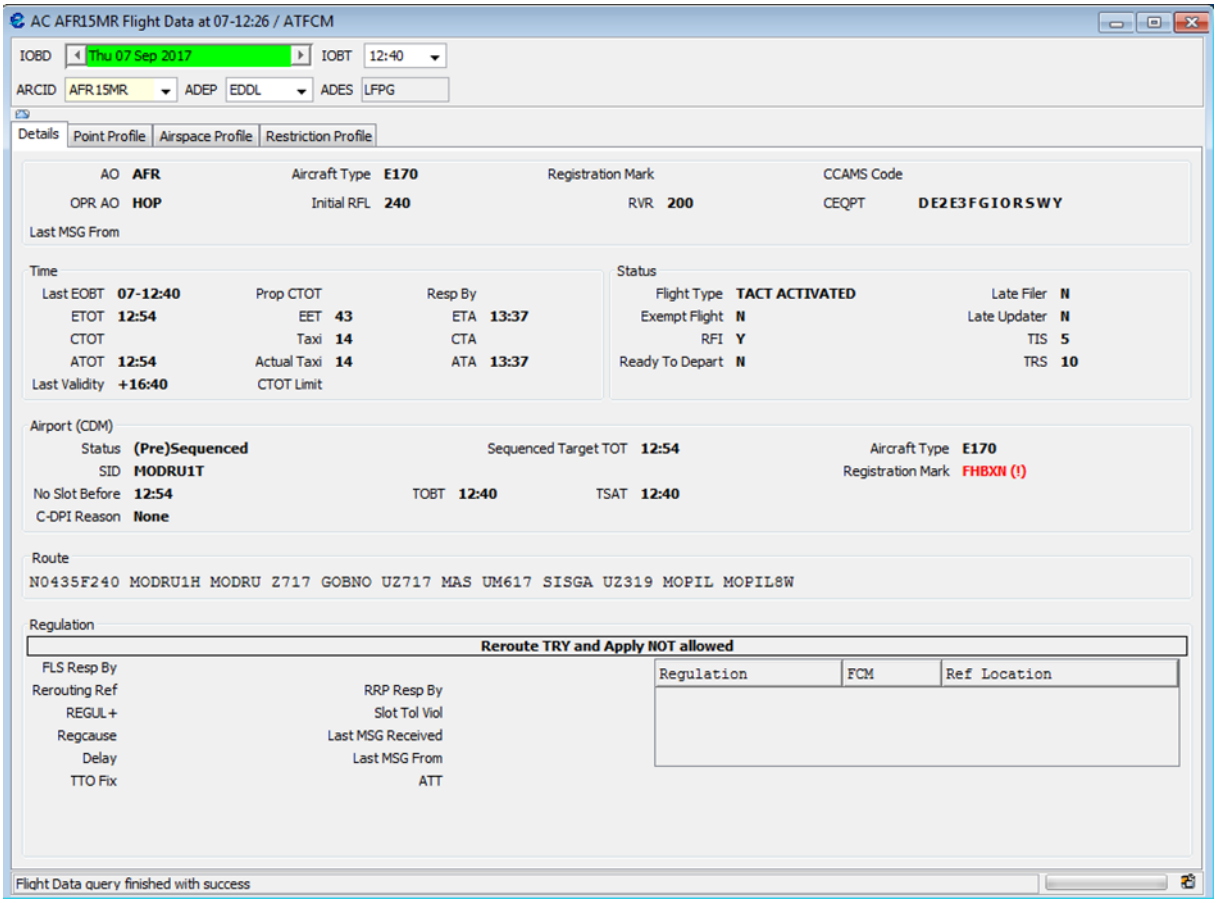
The Flight List view contains information on:

- TTOT
- transmitted DPI type
- IFPS inconsistencies
- EOBT inconsistencies
- „Ready“ status



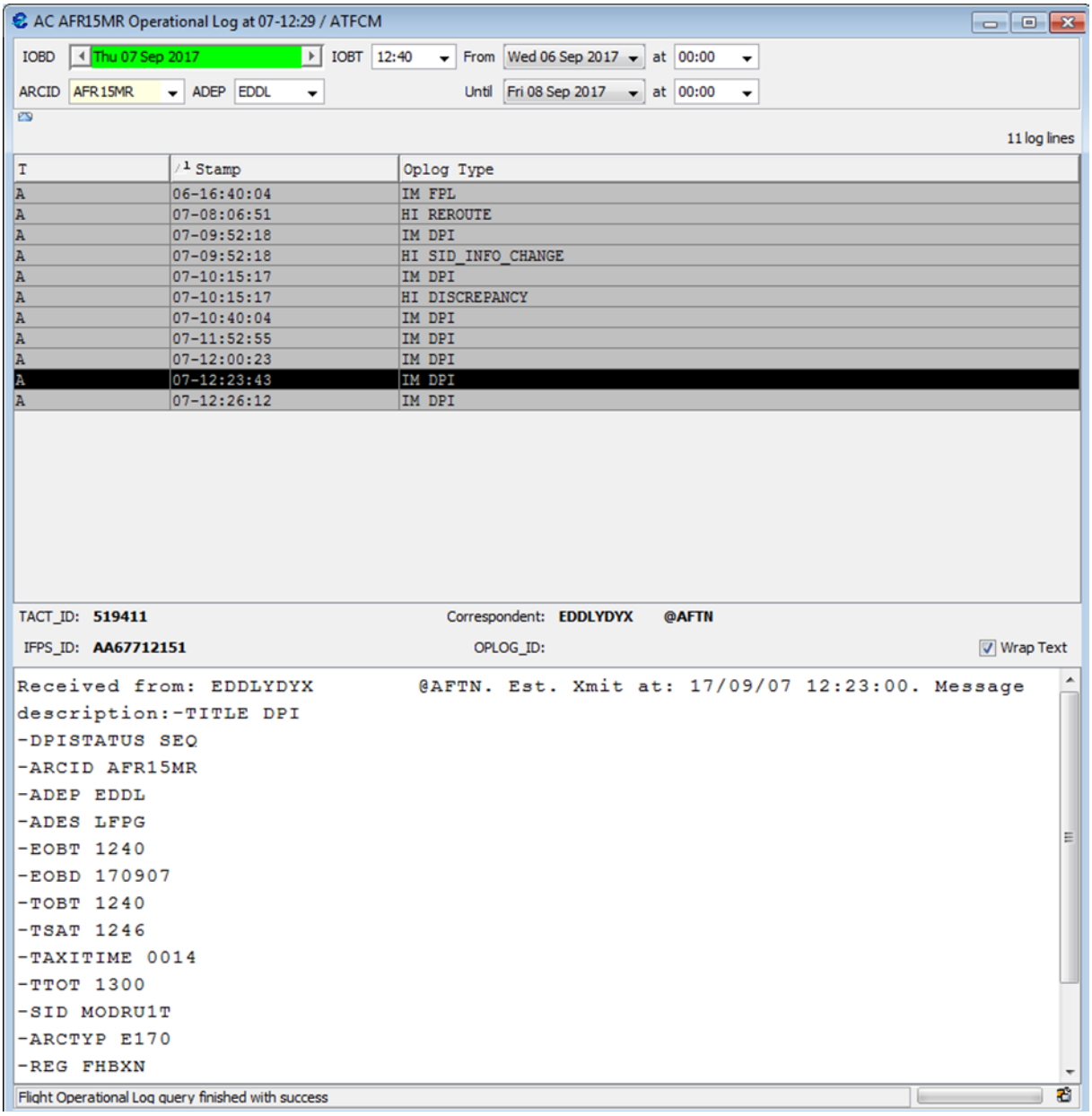
3.2.2. NMOC CHMI Flight Data

When selecting an individual flight's "Flight Data" (directly or from the flight list), details about the Airport-CDM data exchange are displayed.



3.2.3. NMOC CHMI Operational Log

All exchanged (transmitted and received) messages can be retraced in the "Operational Log" option of selected flights.



3.3. Airport-CDM Alerting

Due to European harmonization/standardization, Airport-CDM alerts bear the same code all over Europe. A further harmonization of the A-CDM alerts is effected via the *German Harmonization Initiative Airport-CDM* to reach a common alerting procedure all over Germany.

3.3.1. Contact Address and Information

In order to receive Airport-CDM alert messages, all airlines/handling agents shall provide a valid contact address (e-mail) and telephone number to the Airport operator:

Airport-CDM@dus.com

In order to ensure optimal process handling and sequencing, it is highly recommended to provide this address (or several ad-dresses) as well as information on necessary changes.

3.3.2. General Aviation Flights

The preceding does not apply to general aviation flights without handling agents as the messages from the Airport-CDM procedure are transmitted to Jet Aviation at the General Aviation Terminal (GAT).

3.3.3. Airport-CDM Alert Messaging (Examples)

CDM01 “No Airport Slot Available, or Slot Already Correlated”

```
DLH1AB/LH123
CDM01
1702171200UTC
DUS/EDDL
AIRPORT SLOT SOBT 1200 UTC NOT AVAILABLE OR SLOT ALREADY CORRELATED.
IMMEDIATE UPDATE OF ATC FLIGHT PLAN EOBT 1100 OR REQUEST NEW AIRPORT
SLOT.

NOTE: THE AIRPORT CDM PROCESS WILL BE SUSPENDED UNTIL RECEPTION OF YOUR
RECTIFICATION.
```

CDM02 “SOBT vs. EOBT Discrepancy”

```
DLH1AB/LH123
CDM02
1702171200UTC
DUS/EDDL
ATC FLIGHT PLAN EOBT 1200 IS NOT CONSISTENT WITH AIRPORT SLOT SOBT 1100
UTC.
```

PLEASE VERIFY.

CDM03 “Aircraft Type Discrepancy”

DLH1AB/LH123

CDM03

1702171200UTC

DUS/EDDL

AIRCRAFT TYPE INCONSISTENCY BETWEEN ATC FLIGHT PLAN A320 AND AIRPORT DATABASE A32N.

IMMEDIATE UPDATE OF ATC FLIGHT PLAN OR AIRPORT DATABASE NEEDED.

NOTE: THE AIRPORT CDM PROCESS WILL NOT BE SUSPENDED BUT START UP / PUSHBACK CLEARANCE WILL NOT BE GRANTED UNTIL DISCREPANCY IS RESOLVED.

CDM04 “Aircraft Registration Discrepancy”

DLH1AB/LH123

CDM04

1702171200UTC

DUS/EDDL

AIRCRAFT REGISTRATION INCONSISTENCY BETWEEN ATC FLIGHT PLAN DABCD AND AIRPORT DATABASE DZYXW.

IMMEDIATE UPDATE OF ATC FLIGHT PLAN OR AIRPORT DATABASE NEEDED.

NOTE: THE AIRPORT CDM PROCESS WILL NOT BE SUSPENDED BUT START UP / PUSHBACK CLEARANCE WILL NOT BE GRANTED UNTIL DISCREPANCY IS RESOLVED.

CDM05 “First Destination Discrepancy”

DLH1AB/LH123

CDM05

1702171200UTC

DUS/EDDL

DESTINATION INCONSISTENCY BETWEEN ATC FLIGHT PLAN <ADES> AND AIRPORT DATABASE <DEST>.

IMMEDIATE UPDATE OF ATC FLIGHT PLAN OR AIRPORT DATABASE NEEDED.

NOTE: PLEASE CLARIFY WITH AIRPORT TRAFFIC OPERATION CENTER

CDM07 “EIBT + MTTT Discrepancy with EOBT”

DLH1AB/LH123

CDM07

1702171200UTC

DUS/EDDL

EIBT 1300 OF INBOUND DLH1AX/LH122 + MTTT 0030 IS NOT CONSISTENT WITH OUTBOUND ATC FLIGHT PLAN EOBT 1300.

CHECK OUTBOUND FLIGHT AND ATC FLIGHT PLAN AND UPDATE IF REQUIRED.

NOTE: THIS IS AN ADVISORY ALERT ONLY AND THIS FLIGHT REQUIRES MONITORING AS THE OUTBOUND FLIGHT MAYBE DELAYED.

CDM07a “EIBT + MTTT Discrepancy with TOBT”

DLH1AB/LH123

CDM07a

1702171200UTC

DUS/EDDL

EIBT 1300 OF INBOUND DLH1AX/LH122 + MTTT 0030 IS NOT CONSISTENT WITH OUTBOUND TOBT 1300.

CHECK OUTBOUND FLIGHT AND TOBT AND UPDATE IF REQUIRED.

NOTE: THIS IS AN ADVISORY ALERT ONLY AND THIS FLIGHT REQUIRES MONITORING AS THE OUTBOUND FLIGHT MAYBE DELAYED.

CDM08 “EOBT Compliance Alert”

DLH1AB/LH123

CDM08

1702171200UTC

DUS/EDDL

RECEIVED TOBT 1300 IS OUT OF ATC FLIGHT PLAN EOBT 1230 TOLERANCE WINDOW. IMMEDIATE UPDATE OF ATC FLIGHT PLAN EOBT NEEDED.

NOTE: EOBT AND TOBT SHALL NOT DIFFER BY MORE THAN 15 MINUTES. THE AIRPORT CDM PROCESS WILL NOT BE SUSPENDED BUT START UP / PUSHBACK CLEARANCE MAY NOT BE GRANTED UNTIL DISCREPANCY IS RESOLVED.

CDM09 “Boarding Not Started”

DLH1AB/LH123

CDM09

1702171200UTC

DUS/EDDL

AT TOBT 1300 - 10 MINUTES BOARDING WAS NOT INITIATED.

UPDATE TOBT IF NEEDED.

NOTE: THE AIRPORT CDM PROCESS WILL NOT BE SUSPENDED BUT START UP / PUSHBACK CLEARANCE MAY NOT BE GRANTED.

CDM10 “TOBT Rejected or Deleted”

DLH1AB/LH123

CDM10

1702171200UTC

DUS/EDDL

TOBT 1300 WAS REJECTED OR DELETED.

NEW TOBT REQUIRED.

NOTE: THE AIRPORT CDM PROCESS IS SUSPENDED UNTIL RECEPTION OF YOUR RECTIFICATION.

CDM11 “Flight not compliant with TOBT / TSAT”

DLH1AB/LH123

CDM11

1702171200UTC

DUS/EDDL

FLIGHT NOT COMPLIANT WITH TOBT 1300 / TSAT 1300.

THIS FLIGHT WILL BE RE-SEQUENCED ON RECEIPT OF NEW TOBT.

NOTE: THE AIRPORT CDM PROCESS MAY BE SUSPENDED UNTIL RECEPTION OF YOUR NEW TOBT.

CDM13 “No ATC Flight Plan Available”

NO ARCID/LH123

CDM13

1702171200UTC

DUS/EDDL

THE ATC FLIGHT PLAN IS NOT AVAILABLE.

SUBMISSION OF NEW ATC FLIGHT PLAN NEEDED.

NOTE: ATC FPL DLH1AB HAS BEEN CANCELLED AND THE AIRPORT CDM PROCESS IS SUSPENDED.

CDM15 “TOBT within Night Flying Restriction”

DLH1AB/LH123

CDM15

1702171200UTC

DUS/EDDL

TOBT 2215 UTC AT OR BEYOND 2200 LOCAL.

BE AWARE OF NIGHT FLYING RESTRICTION.

NOTE: THE AIRPORT CDM PROCESS WILL NOT BE SUSPENDED BUT START-UP AND / OR TAKE-OFF WILL NOT BE GRANTED WITHOUT NIGHT FLYING PERMISSION.

CDM16 “TSAT within Night Flying Restriction”

DLH1AB/LH123

CDM16

1702171200UTC

DUS/EDDL

TSAT 2215 UTC BEYOND 2200 LOCAL.

BE AWARE OF NIGHT FLYING RESTRICTION.

NOTE: THE AIRPORT CDM PROCESS WILL NOT BE SUSPENDED BUT START-UP AND / OR TAKE-OFF WILL NOT BE GRANTED WITHOUT NIGHT FLYING PERMISSION.

CDM20 “Inbound Diversion”

DLH1AB/LH123

CDM20

1002171200UTC

DUS/EDDL

INBOUND FLIGHT DLH3AW/LH3042 DIVERTED. TOBT <TIME> OF CORRESPONDING OUTBOUND DLH1AX/LH122 MAY NOT BE CORRECT.

CHECK OUTBOUND FLIGHT AND TOBT AND UPDATE IF REQUIRED.

NOTE: THIS IS AN ADVISORY ALERT ONLY AND THIS FLIGHT REQUIRES MONITORING AS THE OUTBOUND FLIGHT MAYBE DELAYED.

4. Publications

4.1. Aeronautical Information Publication (AIP)

The Airport-CDM procedure at Düsseldorf Airport will be published in the German Aeronautical Information Publication, Volume II, AD2-EDDL, AD 2 "Local Traffic Regulations".

4.2. Airport User Regulations (FBO)

The Airport-CDM procedure at Düsseldorf Airport is published in the Airport User Regulations (FBO) in chapter 2.1.3.

5. Persons in Charge of the Process / Points of Contact

For questions concerning the procedure:

Flughafen Düsseldorf GmbH

Ms. Linda Gerritsen

Tel. +49 211 421 20643

airport-cdm@dus.com

DFS Deutsche Flugsicherung GmbH

Mr. Ronald Heyne

Tel. +49 211 4154 120

airport-cdm@dus.com

Homepage:

www.acdm-germany.de

6. Abbreviations

Abbreviation	Signification
ADEP	Aerodrome of Departure
ADES	Aerodrome of Destination
A-DPI	ATC-Departure Planning Information message
AIBT	Actual In-Block Time
ALDT	Actual Landing Time
AO	Aircraft Operator
AOBT	Actual Off-Block Time
ARCID	Aircraft Identification
ARCTYP	Aircraft Type
ARDT	Actual Ready Time
ATFM	Air Traffic Flow Management
ATOT	Actual Take-Off Time
AVDGS	Advanced Visual Docking Guidance System
BGB	Begin of Boarding
CDM	Collaborative Decision Making
C-DPI	Cancel - Departure Planning Information message
CFMU	Central Flow Management Unit (nun NMOC)
CSA	Common Situational Awareness
CTOT	Calculated Take-Off Time (NMOC)
DCL	Datalink Departure Clearance
DEP	Departure
DIV	Diverted
DLA	Delay message
DPI	Departure Planning Information message
DUPLO	Düsseldorf Planner and Organizer
DUS	Flughafen Düsseldorf
ECZT	Estimated Commencement of De-Icing Time
EDIT	Estimated De-Icing Time
E-DPI	Early - Departure Planning Information message
EEZT	Estimated End of De-Icing Time
EIBT	Estimated In-Block Time
ELDT	Estimated Landing Time
EOBT	Estimated Off-Block Time
ERR	Error Message

Abbreviation	Signification
EXIT	Estimated Taxi-In Time
EXOT	Estimated Taxi-Out Time
FIDS	Flight Information Display System
FIR	Flight Information Region
FLS	Flight Suspension message
FPL	Filed ATC flight plan
GAT	General Air Traffic / General Aviation Terminal
GH	Ground handling agent
ICAO	International Civil Aviation Organization
IFPS	Integrated Initial ATC flight plan Processing System
KPI	Key Performance Indicator
MAP	Missed Approach
MTTT	Minimum Turnaround Time
NMOC	Network Management Operations Center (former CFMU)
OFB	Off-Block
ONB	Onblock
POS	Parkposition
RDY	Aircraft Ready
REG	Aircraft Registration
RWY	Runway
SAM	Slot Allocation Message
SEQ	Sequenced
SIBT	Scheduled In-Block Time
SID	Standard Instrument Departure Route
SITA	Société Internationale de Télécommunications Aéronautiques
SLC	Slot Cancellation Message
SOBT	Scheduled Off-Block Time
SRM	Slot Revision Message
STA	Scheduled Time of Arrival
STD	Scheduled Time of Departure
STW	Slot Tolerance Window
T-DPI	Target - Departure Planning Information message
TFO	Take-Off from outstation
TMF	Ten Miles Final
TOBT	Target Off-Block Time

Abbreviation	Signification
TSAT	Target Start-Up Approval Time
TTOT	Target Take-Off Time
Web-DUPLO	Web-based CSA Tool