Airport Collaborative Decision Making (A-CDM)

BRIEF DESCRIPTION
Frankfurt Airport
Version 4.0
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1. General

1.1. Purpose of the document

This document describes the Airport Collaborative Decision Making (A-CDM) procedure at Frankfurt 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 (Aeronautical Information Publication (AIP) Germany EDDF AD2 1-16ff. and the Fraport Guidelines), this document is to ensure that Airport CDM at FRA is handled in an optimal way in the interest of all partners.

1.2. General, definition and partners

Airport CDM is an operational overall process supporting an optimized turnaround process at Frankfurt 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 Frankfurt Airport is based on the European Airport CDM, the common specification (“Community Specification”) for A-CDM and the “German initiative on the harmonisation of Airport CDM” (A-CDM Germany).
1.3. **Objectives of Airport CDM**

Airport CDM aims at optimal utilisation of the available capacities and operational resources at Frankfurt 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 Manager Operations Centre (NMOC).

Airport CDM optimises the operational cooperation between the following partners:

- Airport operator
- Airlines
- Handling agents
- Ground handling agents
- Air navigation service provider (ANSP)
- European Air Traffic Flow Management (NMOC)

1.4. **Coordination with the NMOC**

Due to a fully automated data exchange with the Network Manager Operations Centre (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 allocated, 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 the NMOC remain the same.

Furthermore, all estimated departure times are automatically transmitted to the NMOC during the turnaround process. In case of delays caused by the airlines, the common CTOT allocation mechanisms apply. These allocation mechanisms are confirmed and/or refined via DPI messages. The NMOC determines and allocates the CTOT on the basis of 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 ensured for all partners. The correct information shall be provided to the correct stakeholders at the correct time.

- **Airport CDM is a common operational process**
  The A-CDM process comprises the period from reception of the ATC flight plan via the landing and the turnaround process until take-off.

- **Link of the day of operation and schedule planning**
  Comparison and adjustment of the ATC flight plan, airport slot and airport flight data.

- **Feasibility of the turnaround process**
  Combination, check and adjustment of linked arrivals and departures.

- **Use of the Target Off Block Time (TOBT) as the target time for „Aircraft Ready“**
  The TOBT is the airlines essential contribution to the A-CDM process. It shows the expected end of the ground handling process and serves as an estimate for the aircraft ready time.

  \[ \text{TOBT} = \text{Airline commitment} \]

- **Use of “Variable Taxi Times”**
  Calculation of all Target Times taking into variable taxi times based on the respective parking position and RWY in use.

  \[ \text{EXOT} = \text{Estimated Taxi Out Time} \]

- **Introduction of the „Target Start Up Approval Time“**
  The TSAT resulting from the TOBT, EXOT, CTOT (if regulated) and the actual operational capacity, provides the basis for the pre-departure sequence and the moment at which the start-up clearance can be expected.

  \[ \text{TSAT} = \text{Airport CDM commitment} \]

- **Linking the airport into the network**
  High-quality forecasts for inbound and outbound traffic by means of an automated data exchange with European ATFM (NMOC)
2. Procedure

2.1. Procedure overview

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

The 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 with regard to potential adjustments which may become necessary.

The main aspects of the procedure are sub-divided and described as follows:

- Correlation of flight information – section 2.2
- Target Off Block Time – section 2.3
- Target Start Up Approval Time – section 2.4
- Begin Boarding – section 2.5
- Aircraft Deicing – section 2.6
- Start-Up and Push-Back – section 2.7
2.2. Correlation of different flight information

The Airport CDM procedure starts with the transmission of the ATC flight plan to the Airport CDM Portal (Airport Operational Data Base).

The ATC flight plan will be correlated with the flight data submitted to the airport as well as the airport slot (SOBT) included. 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 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), 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 execution of the flight, the flight cannot be sequenced and thus not handled or executed.

2.2.3. Points of contact

The Fraport Airside Coordination and Data Center (ACDC) is in charge of the activities concerning the correlation of flight information.
2.2.4. Early DPI — data exchange with the NMOC

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

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

Example of an Early DPI

-TITLE DPI
-DPISTATUS EARLY
-ARCID DLH3354
-ADEP EDDF
-ADES LTBA
-EOBT 1825
-EOBD 171025
-TAXITIME 0019
-TTOT 1844
-SOBT 1825
-SID NOMBO8S
-ARCTYP A320
-REG DAIPU
-ORGN EDDFYDYE
2.2.5. **Target DPI — data exchange with the 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 the NMOC in the same way as the E-DPI.

The T-DPI is used to transmit a Target Take-Off Time (TTOT) to the NMOC. If already available the T-DPI includes the current TOBT. The T-DPI opens the so called "slot adjustment window" within which the CTOT is adjusted to the relevant reported TTOT in the best possible manner.

**Example of a Target DPI with status “target”:**

```
-TITLE DPI
-DPISTATUS TARGET
-ARCID DLH3354
-ADEP EDDF
-ADES LTBA
-EOBT 1825
-EOBD 171025
-TOBT 1825
-TAXITIME 0019
-TTOT 1844
-SID NOMBO8S
-ARCTYP A320
-REG DAIPU
-IFPLID AA12345678
```
2.2.6. Flight Update Message (FUM) - data exchange with the NMOC

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

- Estimated landing time (ELDT) minus 3 hours
- Modification of the ELDT by 5 minutes or more
- Changes to the 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+MTTT with the EOBT.

During this comparison the Minimum Turnaround Time (MTTT) is used. The MTTT is a value recorded in the system and is reliant on Airline, Aircraft Type and Destination Airport.

If the calculated EIBT+MTTT is later than the EOBT of the linked outbound flight plan, the contact person of the airline is notified accordingly (A-CDM Alert). It is expected that the relevant times (delay message - DLA -) or the outbound flight plan (change of aircraft – CHG – or flight plan cancellation – CNL – and new flight plan) 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 planning of resources
- further use of resources (e.g. ground handling)
2.2.7. Potential Airport CDM alerts

Potential Airport CDM alerts concerning the combination of different flight information described in section 2.2 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
CDM14 Automatic TOBT Generation Not Possible
CDM17 TTOT Within Night Flying Restriction
CDM34 Return To Stand Notification
CDM40 Aircraft Not Ready For Deicing
CDM43 Deicing Cancelled and TOBT Deleted
2.3. **Target Off Block Time (TOBT)**

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

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

TOBT = forecast of "Aircraft ready"

### 2.3.1. Automatically generated TOBT

Generally an automatic TOBT will generated for each outbound flight, unless a manual TOBT has been set earlier.

During the final approach phase (ELDT - 10min.) a TOBT for the linked outbound flight is generated automatically.

**Important dependencies for the automatic initial TOBT generation:**

- **TOBT = EOBT**  
  if: EIBT + MTTT ≤ EOBT

- **TOBT = EIBT + MTTT**  
  if: EIBT + MTTT > EOBT

- **TOBT for flights with a CTOT only:**  
  if: TOBT + EXOT is before or inside the Slot Tolerance Window (STW)

If the TOBT is not automatically generated, it has to be entered by the person responsible for the TOBT as described in section 2.3.23.

There is no differentiation between flights with a direct turn-round and flights which do not park on their outgoing position.
2.3.2. Person responsible for the TOBT

Airlines have to ensure:

- The nomination of one person responsible for the TOBT
- The communication with the relevant airline OCC (ATC flight plan/person responsible for the EOBT) and
- The coordination of internal working procedures
- Changes of TOBT responsibility to be announced to the Airport Operator (Application Form available on: www.cdm.frankfurt-airport.com)
- The MTTT and changes of the MTTT to be announced to the Airport Operator via E-Mail: flightschedule@fraport.de

The person responsible for the TOBT (generally the handling agent), the airline (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 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

The following facts have to be taken into account for the input and/or adjustment of the TOBT:

- The earliest possible input of a TOBT (before automatic generation) is EOBT-90 min.
- A manually set TOBT will never be overwritten by an automatically generated TOBT
- The TOBT can be adjusted as often as necessary until the TSAT has been issued
- After the TSAT has been issued, the TOBT can only be corrected three times before it has to be deleted

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.
2.3.4. Deviations between TOBT and EOBT

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 and shall be set in accordance with the person responsible for the 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.

2.3.5. TOBT deletion

The TOBT has to be deleted in the following cases:

- The TOBT is unknown (e.g. technical problems with the aircraft)
- The permitted number of TOBT inputs (3x) after the generation of the TSAT has been exceeded

If a new TOBT is known and the process shall continue, the person responsible for the TOBT has to 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 the NMOC. The flight is no longer subject to the special handling process for flights from CDM airports. Then the CTOT is issued on the basis of the flight plan data available at the NMOC. The CTOT quality depends on the quality of the available flight plan EOBT.

The input of a new TOBT directly leads to the transmission of a new T-DPI which triggers a De-Suspension Message (DES) at the NMOC. Now the CTOT calculation is based on TOBT again.

-TITLE DPI
-DPISTATUS CNL
-ARCID DLH3354
-ADEP EDDF
-EOBT 1825
-EOBD 171025
-REASON TOT UNKNOWN
-ADES LTBA
- IFPLID AA12345678
2.3.7. TOBT in case of a change of aircraft

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

2.3.8. TOBT reporting channels

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

- CSA-Tool
- Internal system of the airline/handling agent (via interface)
- By telephone via the Fraport Airside Coordination and Data Center (ACDC):
  +49 69 690 71740

For general aviation flights:

- Fraport Executive Aviation Services for input into the CSA-Tool:
  Telephone: +49 69 690 71718 / 71719
2.3.9. Presentation of TOBT on parking positions with electronic display

Display of TOBT and all TOBT updates (UTC) as soon as a TOBT is available for the planned departure.

Display of a TOBT countdown which will be shown from 20 minutes prior to TOBT until the value of the TOBT has been reached.

Before the value of the TOBT has been reached the counter shows a negative value (e.g. "-10").

As soon as the value of the TOBT has been reached the counter shows "0". Once the TOBT value is exceeded, the counter continues with positive values (e.g. "5").

Display of TSAT and all TSAT updates (UTC), when the TOBT value has reached TOBT - 7 min..

Once a TOBT has been deleted by the person responsible for the 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 and countdown will be displayed again, as soon as a new TOBT has been prompted.

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
- CDM14  Automatic TOBT Generation Not Possible
- CDM40  Aircraft Not Ready for De-Icing
- CDM43  Deicing Cancelled and TOBT Deleted

Details on the Airport CDM alerts are given in section 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

The TSAT will be published 40 minutes prior to the valid TOBT. After the TSAT has been calculated, the TOBT can only be corrected three times. This is 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. The calculation of the TSAT is based on the following factors:

- TOBT
- CTOT (for regulated flights)
- Operational capacity at the airport
- Variable taxitime
- Parking position
- Runway in use (sequence calculated separately for parallel runway system and Runway 18)
- Aircraft deicing

2.4.2. TSAT reporting channels

The TSAT is acknowledged via the same reporting channels as the TOBT:

- CSA-Tool
- AVDGS
- Interface for the airline operator/handling agent
- Short Message Service (SMS)
- Systems used by Apron Control (FDPS)
- Systems used by ATC Tower (TFDPS)

For General Aviation flights:

- CSA Tool
Information on the SMS Service:

To register a TSAT request, the user should send a text message (SMS) with the keyword TSAT and the IATA flight number (commercial callsign) to the following telephone number:

+49 173 72 85 018

The registration for a flight can be made at the earliest one hour before departure. After successful registration the user receives the current TSAT and TOBT. All TSAT updates > 5 minutes and all TOBT updates are transmitted automatically. The last update is made at TSAT -5 minutes. If the registration is not successful, the user will receive a text message (SMS) with the information how to further proceed.

Note: Remember the TSAT is available TOBT-40 minutes at the earliest.
2.4.3. Target-DPI „Sequenced“ - Data exchange with the NMOC

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

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

The status "Target" (section 2.2.5) remains in effect for regulated flights. However, a T-DPI "Sequenced" as "REA" message can be manually generated by the control tower (e.g. in case of local capacity constraints), otherwise the T-DPIs for regulated flights is issued at the actual start-up approval time (ASAT).

The transmission of a conventional Ready-message (REA) is no longer necessary for regulated flights. The CTOT is always adjusted to the local TTOT in the best possible manner.

Example of the target DPI with status "sequenced":

- TITLE DPI
- DPISTATUS SEQ
- ARCID DLH3354
- ADEP EDDF
- ADES LTBA
- EOBT 1825
- EOBD 171025
- TOBT 1825
- TSAT 1825
- TAXITIME 0019
- TTOT 1844
- SID NOMBO8S
- ARCTYP A320
- REG DAIPU
- IFPLID AA12345678
2.4.4. Principle of TSAT and DPI generation

After the TSAT has been issued, flights within the area of responsibility of a person responsible for the TOBT can be swapped. This flights have to be in the same sequence. Flights with CTOT cannot be swapped. The changes within the sequence have to be coordinated with the DFS control tower.

Possible flights to be swapped can be displayed in the “CSA-Tool” by using the “Swap Candidate” function.

2.4.5. Changes within the sequence

Potential Airport CDM alerts

Potential Airport CDM alerts concerning the TSAT include:

- CDM10 | TOBT Rejected or Deleted
- CDM11 | Flight Not Compliant with TOBT/TSAT

Details on the Airport CDM alerts are given in section 3.3.
2.5. **Begin Boarding**

Boarding shall be initiated by all airlines at Frankfurt Airport utilizing the Digital Gate Announcement System (DGA).

Access to the DGA will be provided at no cost by Fraport AG.

The use of the DGA is mandatory and published in the Fraport “Guidelines for our customers 2 – 5.1.5 passenger services”.

There are two possibilities to commence the boarding procedure:
1. Pressing the button „1st call“ for acoustic announcement at the gate.
2. Pressing the button „Begin Boarding“ without acoustic announcement.

Both possibilities will set the Airport CDM timestamp ASBT (Actual Start Boarding Time).

---

### 2.5.1. Potential Airport CDM alerts

Potential Airport CDM alerts concerning Begin Boarding include:

- CDM09 | Boarding not started

Details on the Airport CDM alerts are given in section 3.3.
2.6. Aircraft de-icing

The setting of the aircraft deicing sequence will be determined according to the pre-departure sequence of the A-CDM process.

The following factors will be considered when determining the deicing sequence and the calculation of the ECZT (Estimated Commencement of Deicing Time).

- Local influences (e.g. runway closures, operational capacity)
- Network influences – NMOC CTOT
- Target Off-Block Time (TOBT) = AO Commitment
- Target Start-Up Approval Time (TSAT) = A-CDM Commitment
- Estimated De-Icing Time (EDIT) = estimated deicing duration
- Time of deicing request

2.6.1. Deicing request

Every request for deicing shall be communicated to the responsible deicing company including the information about the “Callsign” (commercial flight number or ATC Callsign) and the current parking position.

Due to the influence of aircraft deicing on the sequencing process it is highly recommended to request aircraft deicing at “TOBT – 40 minutes” at the latest, which is the time of TSAT publication.

A deicing request that is made later than 25 minutes (TOBT < 25min.) before the actual time of TOBT leads to a situation that the flight concerned will be planned according to available resources and sequence of the responsible deicing company.

This procedure shall reduce constant changing of the TSAT and disadvantages for flights that have requested services in a timely manner.

The de-icing request will published and displayed in the “CSA-Tool” system as ICE = E or A-CDM status “DIR” (“Deicing was requested”).

Note: If deicing is requested after Actual Off-Block (A-CDM status “OFB”) the service is performed according to available resources of the responsible deicing company and always as deicing on position.

2.6.2. Designation of deicing location

The designation of the de-icing location is automatically executed by the pre-departure sequencer according to available deicing resources. The responsible deicing company supervises this automated planning and will adjust when and where necessary.

Positions which are equipped with ramp display (A-VDGS) will display the location where de-icing will be performed. („DE-ICE ON POS“ oder „DE-ICE ON PAD“). 
### 2.6.3. De-icing on position

De-icing is conducted on a terminal or ramp position. All hatches must be closed, stairs and/or passenger bridges removed and the position clear of all handling equipment and aircraft engines switched off.

The aircraft has to be ready for de-icing at TOBT. The end of de-icing (EEZT-Estimated End of De-icing Time) equates to the TSAT.

De-icing on position will be published and displayed in the “CSA-Tool” system as ICE=P or A-CDM status “ICP”. Simultaneously the EDIT (Estimated De-icing Duration) will be published and displayed.

Note: For operational reasons changes of the de-icing location can occur on short notice.

### 2.6.4. Remote de-icing

If a flight is planned for remote de-icing the pilot will request start-up and enroute clearance on Tower frequency in accordance with his TSAT:

„REQUEST START-UP FOR REMOTE DEICING“

Apron Control will guide the aircraft to the designated de-icing pad or de-icing area. De-icing will be performed by the responsible de-icing company at this location.

Remote de-icing will be published and displayed in the “CSA-Tool” system as ICE=R or A-CDM status “ICR”. Simultaneously the EDIT (Estimated De-icing Duration) will be published and displayed.

Note: For operational reasons changes of the de-icing location can occur on short notice.

### 2.6.5. De-icing begin and -end

De-icing can begin up to 5 minutes before or after (10 minutes window) the ECZT (Estimated Commencement of De-icing Time).

When spraying of an aircraft begins, the ACZT (Actual Commencement of De-icing Time) will be set automatically by the deicing vehicle.

After submission of the deicing code the AEZT (Actual End of De-Icing Time) will be set.

ACZT and AEZT will be published and displayed in the “CSA-Tool system for both remote- and position deicing.

The flight receives the status ADB (Actual De-icing Begin) and ADE (Actual De-icing End).

### 2.6.6. Seasonal De-icing Plan

More detailed information about the deicing procedures at Frankfurt Airport can be obtained from the Seasonal De-icing Plan.
2.6.7. Target-DPI „Sequenced“ – Data exchange with NMOC

In case of deicing the DPI message to the NMOC will contain the additional status “De-Icing”

Example of a Target DPI „sequenced“ with deicing status:

- TITLE DPI
- DPISTATUS SEQ
- ARCID DLH3354
- ADEP EDDF
- ADES LTBA
- EOBT 1825
- EOBD 171025
- TOBT1825
- TSAT1825
- TAXITIME 0019
- TTOT 1844
- SID NOMBO4S
- ARCTYP A320
- REG DAIPU
- DEPSTATUS DEICING
- IFPLID AA12345678

2.6.8. Potential Airport CDM alerts

Possible Airport CDM Alerts in connection with deicing are:

CDM40 | Aircraft not ready for deicing
CDM43 | Deicing cancelled and TOBT deleted

Details on the Airport CDM alerts are given in section 3.3
2.7. **Start-Up and Push-Back**

Start-up (ASAT) and push-back (AOBT) clearances are issued taking into account the TOBT and TSAT. The following rules apply:

- The aircraft has to be ready for start-up and/or deicing on position at TOBT
- The general timeframe for start-up approval and enroute clearance is TSAT ± 5 minutes
- Pilots can request start-up approval and enroute clearance within TSAT ± 5 minutes
- Clearance Delivery issues the start-up approval and enroute clearance depending on the TSAT and the current traffic situation
- If an update of the TOBT becomes necessary when a flight already has received its start-up clearance, an input of a new TOBT is not possible unless the start-up clearance has been cancelled
- The push-back/taxi clearance has to be requested not later than 5 minutes after the start-up approval has been issued
- On outside positions the taxi clearance has to be requested not later than 10 minutes after the start-up approval has been issued

In case of delays Clearance Delivery and Apron Control have to be informed. Otherwise the TOBT will be deleted and has to be re-entered.

2.7.1. **Datalink Clearance - DCL**

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

The TSAT is transmitted via CLD (departure clearance uplink message – issue of the start-up approval and enroute clearance by Clearance Delivery).

„Start-Up approved according TSAT“

Push-back has to be requested at TSAT ±5 minutes.

The taxi clearance on outside positions has to be requested from TSAT -5 until TSAT +10 minutes.
2.7.2. Remote Holding

If an aircraft cannot leave the parking position due to a late TSAT and an arriving aircraft needs this position and the following conditions are met, the Remote Holding procedure will be applied in accordance with the Airport Traffic Operation Center and Apron Control.

Preconditions:

- The difference between TOBT and TSAT is at least 15 minutes
- No start-up or enroute clearance has been issued via datalink (DCL)
- An adequate remote position is available
- No remote deicing is being performed
- The aircraft has to be able to leave the parking position at TOBT
- The tow truck has to be available at TOBT

Application for Remote Holding:

The application for Remote Holding can be performed by the Aircraft Operator (AO) or his representative e.g. Groundhandling Agent (GH), via the Airport Traffic Operation Center or Apron Control.

The Airport Traffic Operation Center accepts the application for Remote Holding and checks in accordance with Apron Control.

Review of preconditions:

The Airport Traffic Operation Center reviews the preconditions for the application, determines an appropriate remote position and agrees upon with Apron Control.

Denial:

If the preconditions are not met, the Airport Traffic Operation Center refuses the application and informs the AO/GH.

For operational reasons (e.g. remote de-icing) an application can be refused by Apron Control even if all preconditions have been met.

Execution:

When the aircraft is ready the crew will request their start-up / push-back clearance for Remote Holding directly with Apron Control.

Note:

This request does not replace the start-up / enroute request on Tower frequency which has to be obtained on the remote position.

With receipt of the remote off-block clearance Apron Control will set the Remote Off-Block Time (ROBT).
When the aircraft has arrived on the remote position the Apron controller will set the Remote In-Block Time (RIBT).

When reaching the remote position the Remote Holding procedure is terminated.
The start-up / enroute clearance has to be obtained according to valid procedures on Tower frequency.

Diagram of the Remote Holding procedure:
2.7.3. ATC DPI (A-DPI) - Data exchange with the NMOC

At the Actual Off-Block Time an ATC-DPI will be sent to NMOC. The “slot adjustment window” will be closed and the CTOT can no longer be changed automatically by NMOC.

Local particularity:
Due to the „cul de sac“ layout of Frankfurt Airport an update containing an adjusted Target Take-Off Time (TTOT) will be sent to NMOC at the time of the actual taxi begin.

Example of an ATC DPI:

- TITLE DPI
- DPISTATUS ATC
- ARCID DLH3354
- ADEP EDDF
- ADES LTBA
- EOBT 1825
- EOBD 171025
- TAXITIME 0019
- TTOT 1844
- SID NOMBO8S
- ARCTYP A320
- REG DAIPU
- IFPLID AA12345678
2.7.4. 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. The flight will be set into A-CDM status “Standby” (SBY).

All target times will be deleted and a cancel DPI (C-DPI) will be transmitted to the NMOC which triggers a Flight Suspension Message (FLS).

An A-CDM alert (CDM10) will be transmitted 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.
3. Common Situational Awareness / Information Sharing

Transparency for all partners involved is the basis for conducting the Airport CDM process. IT interfaces, dialogue systems, alert messages, data exchange with the NMOC, telephone coordination etc. ensure common situational awareness.

3.1. Common Situational Awareness (CSA) Tool

The Common Situational Awareness Tool is a system which provides the user with all necessary information and data concerning the A-CDM process. The CSA Tool is i.a. the medium to enter the TOBT.

The CSA-Tool is used by:

- Supervisor TWR (DFS)
- Clearance Delivery (DFS)
- Airport Traffic Operations Center (Fraport AG)
- Fraport Executive Aviation Services
- Airlines / Ground Handling Agents

Depending on the authorisation, access to the flights which have been allocated to the user, including detailed flight information, is provided. The TOBT for these flights may be entered or changed.

The CSA-Tool as a web application can be request by all partners involved free of charge. The application form can be found under: www.cdm.frankfurt-airport.com.
3.2. Display system of the NMOC – NMOC CHMI

Information on the Airport CDM data exchange with the NMOC can be obtained in the different display options via the available NMOC reporting channels (CHMI).

Access to the NMOC CHMI can be requested via Eurocontrol online: 
www.eurocontrol.int/network-operations

3.2.1. NMOC CHMI flight list

The flight list contains information on:

- TTOT
- TOBT
- TSAT
- The transmitted DPI type
- IFPS inconsistencies
- EOBT inconsistencies
- The „Ready status“
3.2.2. NMOC CHMI Flight Data
Details on the Airport CDM data exchange are given for selected flights out of "Flight Data" (directly or from the flight list).
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 harmonisation/standardisation, Airport CDM alerts bear the same code all over Europe. A further harmonisation of the A-CDM alerts via the “Initiative on the German harmonisation of Airport CDM” takes place 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 have to provide a valid contact address (e-mail) for Fraport AG:

- acdc@fraport.de
- Phone: +49-69 690 71740

It is also possible to provide several contact addresses for one airline (e.g. referring to a specific alert), if necessary.

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

3.3.2. General aviation flights

This does not apply to general aviation flights without handling agents because the messages from the Airport CDM procedure are transmitted to the counter of the general aviation terminal (GAT).
3.3.3. Airport CDM@FRA alert messages

CDM01 “No Airport Slot Available, or Slot Already Correlated”
DLH1AB/LH123
CDM01
1710251200UTC
FRA/EDDF (IATA/ICAO Location Indicator)
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 RECEIPTION OF YOUR RECTIFICATION.

CDM02 “SOBT vs. EOBT Discrepancy”
DLH1AB/LH123
CDM02
1710251200UTC
FRA/EDDF (IATA/ICAO Location Indicator)
ATC FLIGHT PLAN EOBT 1200 IS NOT CONSISTENT WITH AIRPORT SLOT SOBT 1100 UTC.
PLEASE VERIFY.

CDM03 “Aircraft Type Discrepancy”
DLH1AB/LH123
CDM03
1710251200UTC
FRA/EDDF (IATA/ICAO Location Indicator)
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
1710251200UTC
FRA/EDDF (IATA/ICAO Location Indicator)
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
1710251200UTC
FRA/EDDF (IATA/ICAO Location Indicator)
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 TEL: +49-69 690 71740.

CDM07 “EIBT + MTTT Discrepancy with EOBT”

DLH1AB/LH123
CDM07
1710251200UTC
FRA/EDDF (IATA/ICAO Location Indicator)
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

FRA/EDDF (IATA/ICAO Location Indicator)

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.

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CDM08 “EOBT Compliance Alert”

**DLH1AB/LH123**

**CDM08**

1710251200UTC

FRA/EDDF (IATA/ICAO Location Indicator)

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.

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CDM09 “Boarding Not Started”

**DLH1AB/LH123**

**CDM09**

1710251200UTC

FRA/EDDF (IATA/ICAO Location Indicator)

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
1710251200UTC
FRA/EDDF (IATA/ICAO Location Indicator)
TOBT 1300 WAS REJECTED OR DELETED.
NEW TOBT REQUIRED.

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

CDM11 “Flight not compliant with TOBT / TSAT”

DLH1AB/LH123
CDM11
1710251200UTC
FRA/EDDF (IATA/ICAO Location Indicator)
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 RECEIPTION OF YOUR NEW TOBT.

CDM13 “No ATC Flight Plan Available”

NO ARCID/LH123
CDM13
1710251200UTC
FRA/EDDF (IATA/ICAO Location Indicator)
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.

CDM14 “Automatic TOBT Generation not possible”

DLH1AB/LH123
CDM14
1710251200UTC
FRA/EDDF (IATA/ICAO Location Indicator)
THE TOBT COULD NOT BE AUTOMATICALLY GENERATED BECAUSE IT DOES NOT MATCH WITH THE ASSOCIATED CTOT 1330.
MANUAL INPUT OF TOBT REQUIRED.

NOTE: THE AIRPORT CDM PROCESS IS SUSPENDED UNTIL RECEIPTION OF YOUR RECTIFICATION.
CDM17 “TTOT within Night Flying Restriction”
  
  **DLH1AB/LH123**  
  CDM17  
  1710251200UTC  
  FRA/EDDF (IATA/ICAO Location Indicator)  
  TTOT 2230 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.

CDM34 “Return To Stand Notification TTOT”
  
  **DLH1AB/LH123**  
  CDM34  
  1710251200UTC  
  FRA/EDDF (IATA/ICAO Location Indicator)  
  FLIGHT IS RETURNING TO STAND A34. THE FLIGHT WILL BE SUSPENDED WHEN ON-BLOCK.  
  NOTE: TO DESUSPEND THE FLIGHT, NEW TOBT AND EOBT ARE REQUIRED.

CDM40 “Flight not Compliant with TOBT for deicing”
  
  **DLH1AB/LH123**  
  CDM40  
  1710251200UTC  
  FRA/EDDF (IATA/ICAO Location Indicator)  
  FLIGHT NOT COMPLIANT WITH TOBT 1200. DEICING COULD NOT BE INITIATED.  
  UPDATE OF TOBT IS NEEDED.  
  NOTE: THE AIRPORT CDM PROCESS MAY BE SUSPENDED UNTIL RECEIPTION OF YOUR NEW TOBT.
CDM43 "Deicing cancelled and TOBT deleted"

DLH1AB/LH123

CDM43

1710251200UTC

FRA/EDDF (IATA/ICAO Location Indicator)

AIRCRAFT WAS NOT READY FOR DEICING. DEICING IS CANCELLED AND TOBT IS DELETED.
FIRST NEW TOBT AND THEN NEW DEICING REQUEST REQUIRED.

NOTE: THE AIRPORT CDM PROCESS IS SUSPENDED UNTIL RECEPTION OF YOUR NEW TOBT.
4. Publications

4.1. Aeronautical Information Publication (AIP)
The Airport CDM procedure at Frankfurt Airport is published in the German Aeronautical Information Publication, AIP EDDF AD2 1-16ff

4.2. Guidelines Fraport AG
The Airport CDM procedure at Frankfurt Airport is published in the Fraport AG Guidelines:
C 2.5 Regulations on Handling Flight Operations Data
C 2.3 Terminal Regulations
C 2.7 General Aviation

5. Person in charge of the process/point of contact

A-CDM Local Manager

Stefan Hilger
s.hilger@Fraport.de

General:
info@cdm.frankfurt-airport.com

Homepage:
www.cdm.frankfurt-airport.com