Airport Collaborative Decision Making (A-CDM)

BRIEF DESCRIPTION
Frankfurt Airport
Version 5.1

Contents:

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 Germany– AIP AD 2 EDDF, 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 an 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
- 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.

  TOBT = Airline commitment

- **Use of "Variable Taxi Times"**

  Calculation of all Target Times taking into account variable taxi times based on the respective parking position and RWY in use.

  EXOT = 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.

  TSAT = Airport CDM commitment

- **Linking the airport into the network**

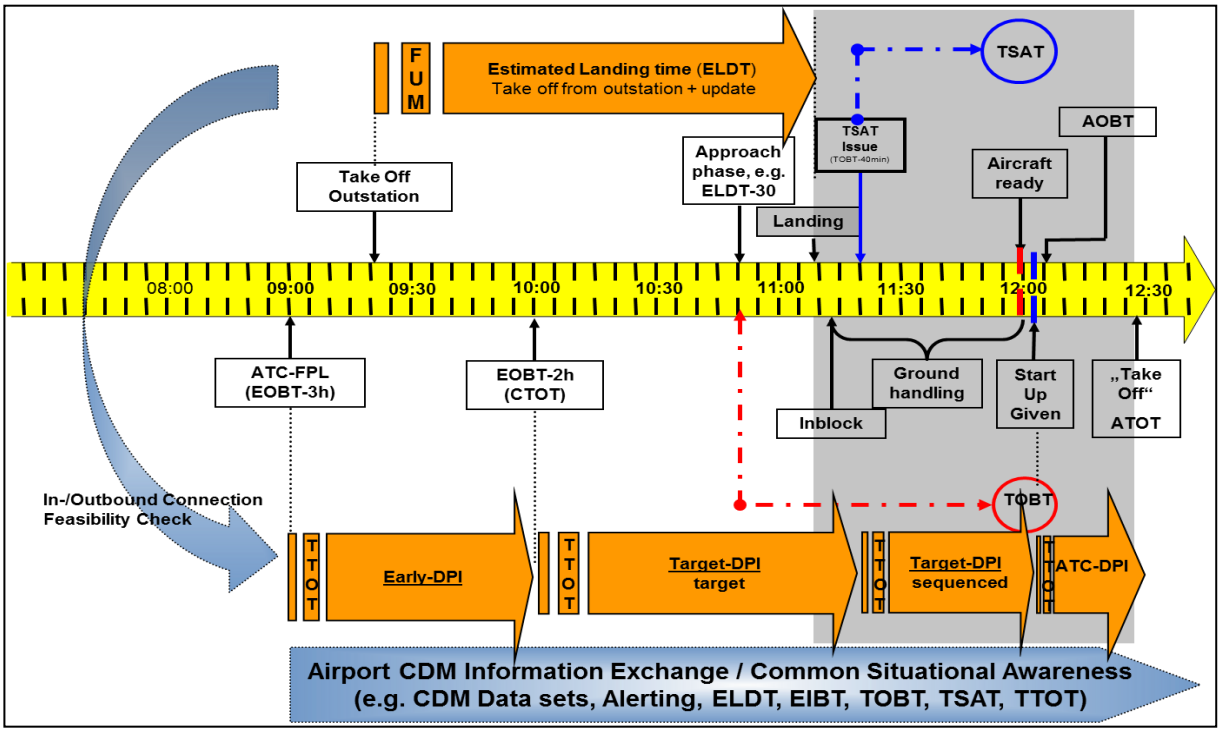
  High-quality forecasts for inbound and outbound traffic by means of an automated data exchange with European ATFM (NMOC)

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 De-Icing** **– section 2.6**
- **Start Up and Push Back** **– section 2.7**

2.2. Correlation of different flight information

The Airport CDM procedure begins with the transmission of the ATC flight plan to the Airport CDM Portal (**A**irport **O**perational **D**ata **B**ase).

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 090105

-TAXITIME 0019

-TTOT 1844

-SOBT 1825

-SID NOMBO4S

-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 170105

-TOBT 1825

-TAXITIME 0019

-TTOT 1844

-SID NOMBO4S

-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.

Within the scope of this comparison the MTTT (minimum turnaround time) is used.

The MTTT is a time which is stored in the airport database and depends on the 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 will be notified accordingly and receives a proposal for an EOBT update based on EIBT+MTTT. 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
CDM17	TTOT Within Night Flying Restriction
CDM34	Return To Stand Notification
CDM40	Aircraft Not Ready For Deicing
CDM43	Deicing Cancelled and TOBT Deleted

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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. At “Actual On-Block” (AIBT) of the inbound flight the automatically generated TOBT of the linked outbound flight will be checked and updated if necessary.

The Minimum Turn-round Time (MTTT) is applied when the TOBT is generated.

Important dependencies for the automatic initial TOBT generation:

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

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 turnaround 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 the TOBT responsibility to be announced to the Airport Operator (application form is available on www.cdm.frankfurt-airport.com)
- 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 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

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.

Note: For flights departing Frankfurt Airport the Eurocontrol / NMOC EOBT Update Service is available. If this service is used, a TOBT update 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 of the end of ground handling 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 the TOBT is deleted, the TSAT is automatically deleted as well. This directly leads to the transmission of a Cancel DPI (C-DPI) which triggers a Flight Suspension Message (FLS) at the Network Management Operations Centre (NMOC).

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 090105

-REASON TOBTUNKNOWNOREXPIRED

-ADES LTBA

- IFPLID AA12345678

2.3.7. TOBT in case of a change of aircraft

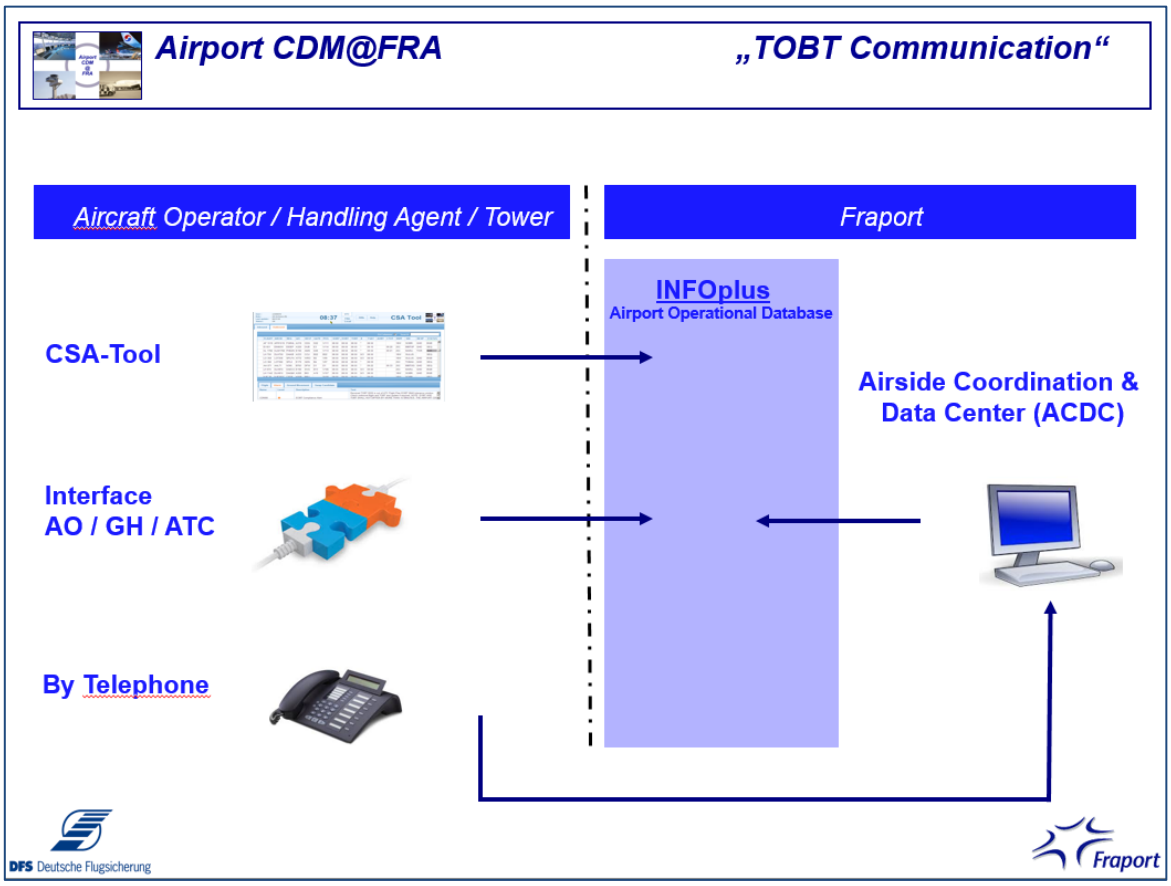
If the aircraft is changed, a change message (CHG - type/registration) has to be sent and the TOBT remains in effect and will be allocated to the new aircraft.

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

Chart of the TOBT reporting channels



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.

Display of the planned departure runway and the expected Standard Instrument Departure Route (SID) from 40 min. prior to TOBT. This facilitates an earlier cockpit preparation in terms of input of the runway and SID into the Flight Management Systems prior to Start-Up approval (SUG).
This information does not replace the required air traffic control clearance by the air traffic controller. The legally binding air traffic control clearance prevails the information provided by the display.

Once the person responsible for the 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 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 procedure described in section 2.3 include:

CDM08	EOBT Compliance Alert
CDM09	Boarding Not Started
CDM10	TOBT Rejected or Deleted
CDM11	Flight Not Compliant with TOBT/TSAT
CDM40	Aircraft Not Ready for De-Icing
CDM43	Deicing Cancelled and TOBT Deleted

Details on the Airport CDM alerts are depicted 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 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 de-icing

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
- Airport-CDM APP
- Systems used by Apron Control (FDPS)
- Systems used by ATC Tower (TFDPS)

<u>For general aviation flights:</u>

- CSA Tool

Information on the Airport-CDM App:

The Airport-CDM App is aimed exclusively at the 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 install it on mobile devices.

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 TSAT - 10 minutes.

The transmission of a conventional Ready-message (REA) is no longer necessary for regulated flights. The CTOT is 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 090105

-TOBT 1825

-TSAT 1825

-TAXITIME 0019

-TTOT 1844

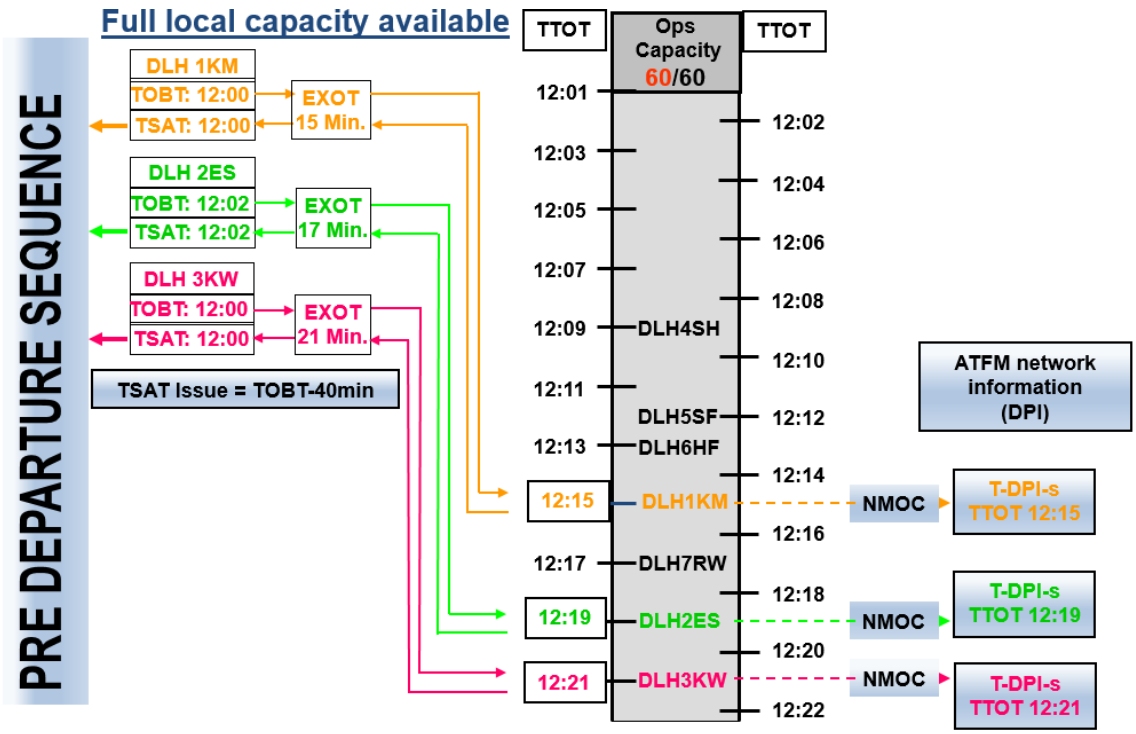
-SID NOMBO8S

-ARCTYP A320

-REG DAIPU

-IFPLID AA12345678

2.4.4. Principle of TSAT and DPI generation



2.4.5. Changes within the sequence

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

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

2.4.6. 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 depicted 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).

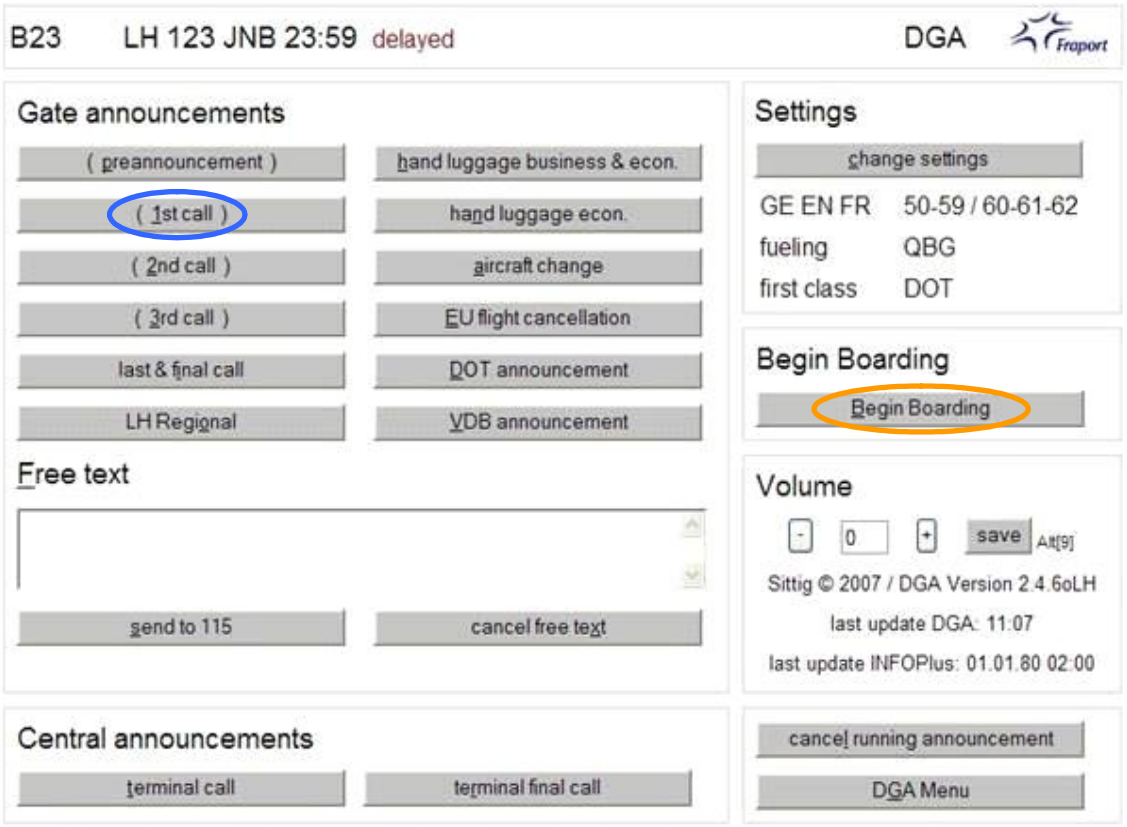
Access to the DGA will be provided at no cost by Fraport AG.

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 depicted 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 / anti-icing sequence and the calculation of the ECZT (Estimated Commencement of Deicing/Antiicing).

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

2.6.1. De-icing request

Every request for deicing/anti-icing shall be communicated to the responsible de-icing company via the communication channels published in Appendix D. Information concerning the “Callsign” (commercial flight number or ATC Callsign) or current parking stand must be included with the request.

Due to the influence that aircraft de-icing has on the sequencing process it is highly advised to request aircraft de-icing at the latest “TOBT -40 minutes” which is the time of TSAT publication.

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

This procedure should 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” and “INFOplus” systems as ICE = E (“de-icing was requested”).

2.6.2. Designation of de-icing location

The designation of the de-icing location is executed by the by the responsible de-icing company. It will be differentiated between de-icing on position and remote de-icing. The responsible de-icing company supervises this allocation and will adjust when and where necessary.

Positions which are equipped with ramp display A-VDGS will display the location where de-icing/anti-icing will be performed.

2.6.3. De-icing on position

De-icing/anti-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” and “INFOplus” systems as ICE=P. Simultaneously the EDIT (Estimated De-icing Duration) will be published and displayed.

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 DE-ICING“

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.

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

2.6.5. Planning of De-icing begin

Once the de-icing location has been determined and a TSAT has been published (A-CDM status “SEQ”), the ECZT will be announced by the responsible de-icing company. The ECZT will be displayed within the “CSA-Tool” and “INFOplus”. The ECZT comprises the driving time to the de-icing position and the set-up time of the de-icing vehicles. Due to the infrastructural and operational conditions and their negative effect on the quality of the ECZT, generally no ECZT will be published for remote de-icing.

2.6.6. De-icing begin and -end

De-icing/anti-icing can begin up to 5 minutes before or after the ECZT (Estimated Commencement of De-icing Time). When spraying of an aircraft begins, the ACZT (Aactual Commencement of De-icing Time) will be set automatically within the de-icing vehicle.

ACZT and AEZT will be published and displayed in the “CSA-Tool” and “INFOplus” systems for both remote- and position de-icing.

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

2.6.7. Seasonal De-icing Plan

More detailed information about the de-icing procedures at Frankfurt Airport can be obtained from the Seasonal De-icing Plan.

2.6.8. Target-DPI „Sequenced“ – Data exchange with NMOC

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

Example of a Target DPI „sequenced“ with de-icing status:

-TITLE DPI

-DPISTATUS SEQ

-ARCID DLH3354

-ADEP EDDF

-ADES LTBA

-EOBT 1825

-EOBD 090105

-TOBT1825

-TSAT1825

-TAXITIME 0019

-TTOT 1844

-SID NOMBO4S

-ARCTYP A320

-REG DAIPU

-DEPSTATUS DEICING

- IFPLID AA12345678

2.6.9. Potential Airport CDM alerts

Possible Airport CDM Alerts connected to de-icing on positon:

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

Details on the Airport CDM alerts are depicted 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 de-icing on position at TOBT
- The general timeframe for start-up approval and enroute clearance is between TSAT - 5 minutes and TSAT + 5 minutes
- Pilots can request start-up approval and enroute clearance within TSAT - 5 minutes and TSAT + 5 minutes
- Clearance Delivery (Tower) 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 no longer 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, after expiry of the particular timeframe 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 en-route clearance by Clearance Delivery).

„Start-Up approved according TSAT“

The push-back has to be requested between TSAT - 5 minutes and TSAT + 5 minutes.

The taxi clearance on outside positions has to be requested between TSAT - 5 minutes and 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 Airside Coordination and Data Center (ACDC) 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 de-icing 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 Airside Coordination and Data Center (ACDC).

The Airside Coordination and Data Center (ACDC) accepts the application for Remote Holding and checks in accordance with Apron Control.

Review of preconditions:

The Airside Coordination and Data Center (ACDC) 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 Airside Coordination and Data Center (ACDC) 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.

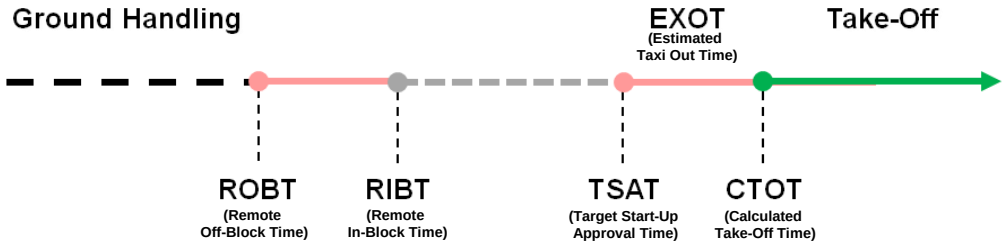
With receipt of the remote off-block clearance Apron Control will set the Remote Off-Block Time (ROBT).

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 090105
-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. 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 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

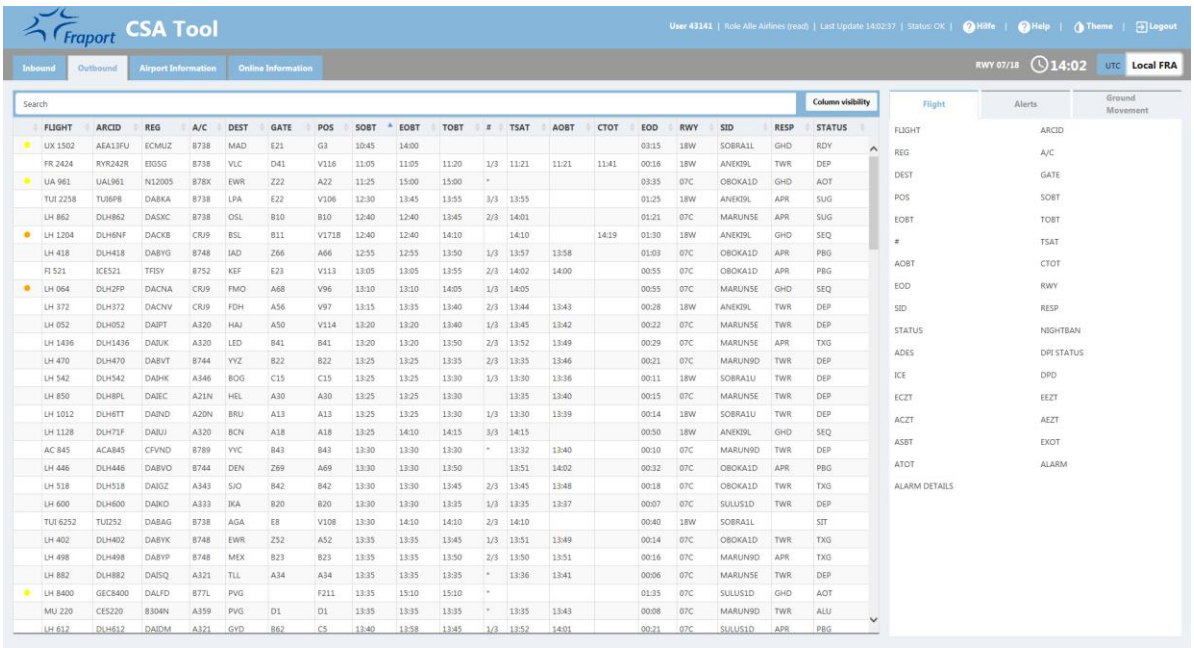
The Common Situational Awareness Tool is a system which provides the user with all necessary information and data concerning the A-CDM process. The CSA -Tool is i.a. the medium to enter the TOBT.

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 requested by all partners involved free of charge. The relevant application form is provided on the A-CDM Homepage under: www.cdm.frankfurt-airport.com .



3.2. Display systems of the NMOC – NMOC CHMI and Network Operations Portal

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 and NOP).

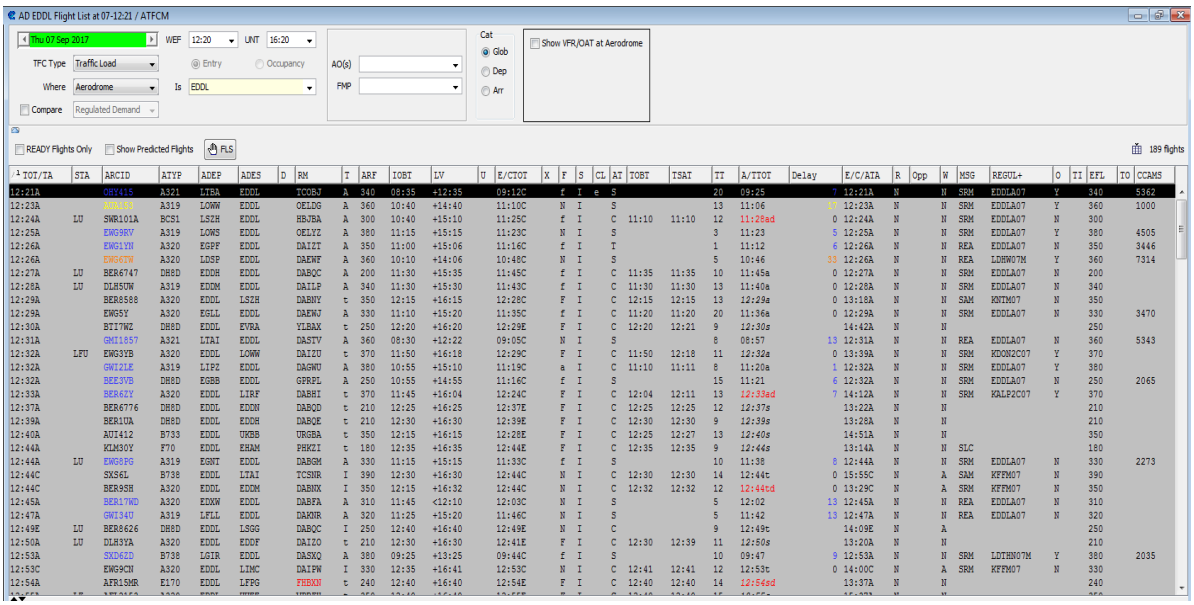
Access to the NMOC CHMI and NOP can be requested via Eurocontrol online:

www.eurocontrol.int/NMOC

3.2.1. NMOC CHMI flight list

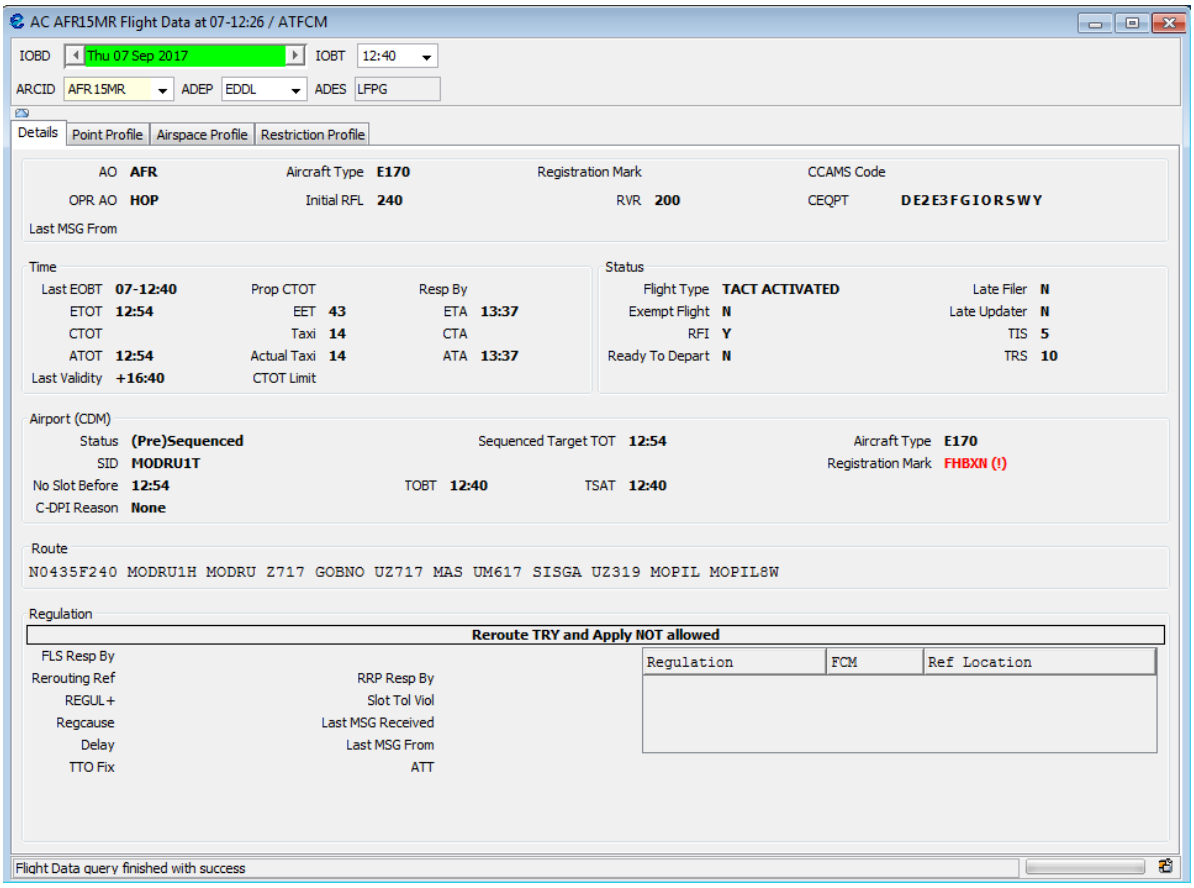
The flight list contains information on:

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



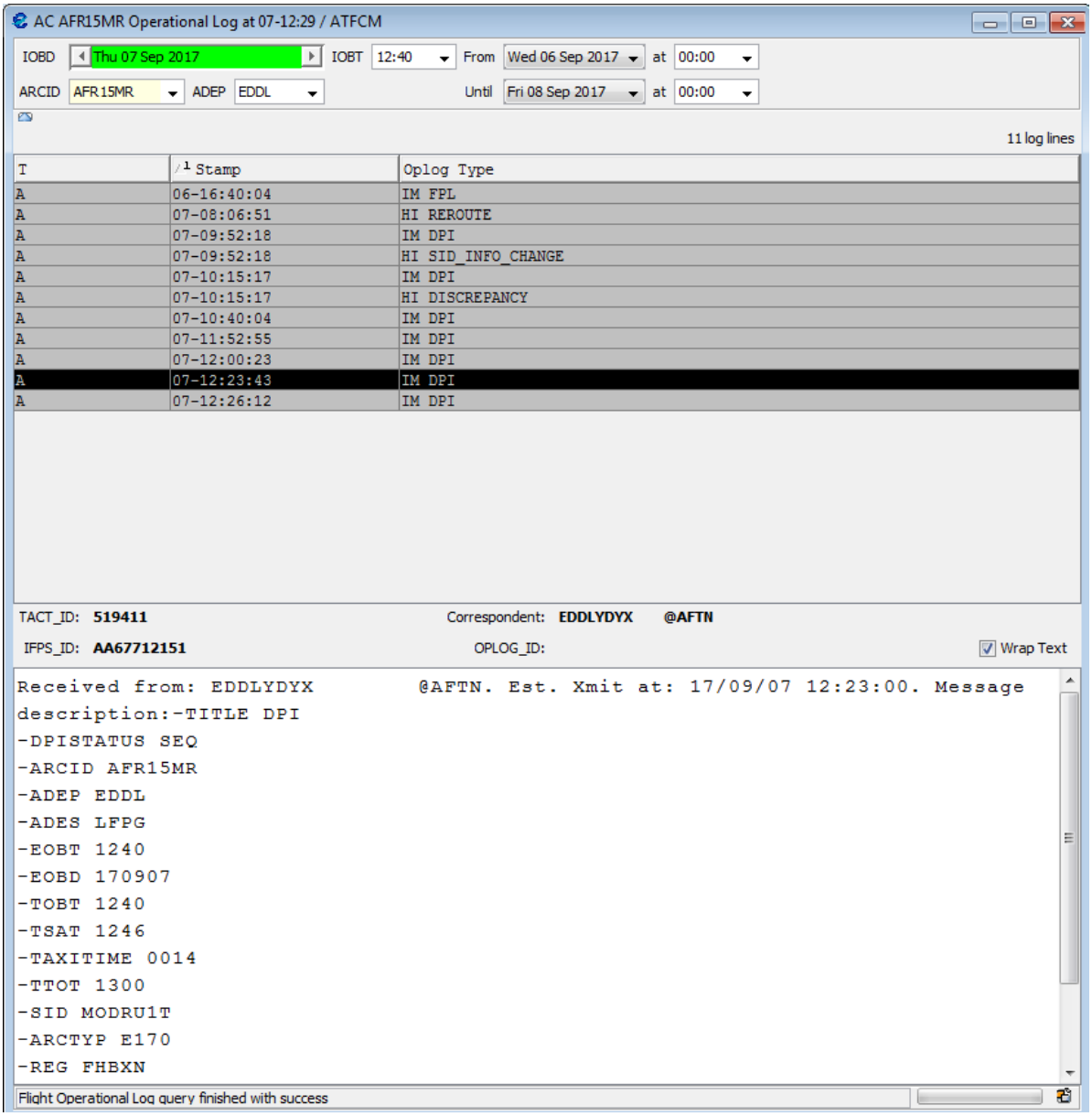
3.2.2. NMOC CHMI Flight Data

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:

- **supervisor-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
1002171200UTC
FRA/EDDF
AIRPORT SLOT (SOBT) NOT AVAILABLE OR SLOT ALREADY CORRELATED.
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
1002171200UTC
FRA/EDDF
ATC FLIGHT PLAN EOBT 1200 UTC IS NOT CONSISTENT WITH AIRPORT SLOT SOBT 1100 UTC.
PLEASE VERIFY.

CDM03 “Aircraft Type Discrepancy”

DLH1AB/LH123
CDM03
1002171200UTC
FRA/EDDF
AIRCRAFT TYPE INCONSISTENCY BETWEEN ATC FLIGHT PLAN A321 AND AIRPORT DATABASE A320.
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
1002171200UTC
FRA/EDDF
AIRCRAFT REGISTRATION INCONSISTENCY BETWEEN ATC FLIGHT PLAN DABCD AND AIRPORT DATABASE DABCE.
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
1002171200UTC
FRA/EDDF
DESTINATION INCONSISTENCY BETWEEN ATC FLIGHT PLAN HEGN AND AIRPORT DATABASE HESH.
IMMEDIATE UPDATE OF ATC FLIGHT PLAN OR AIRPORT DATABASE NEEDED.

NOTE: PLEASE CLARIFY WITH AIRPORT TRAFFIC OPERATION CENTER TEL: +49 69 690 17140.

CDM07 “EIBT + MTTT Discrepancy with EOBT”

DLH1AB/LH123
CDM07
1002171200UTC
FRA/EDDF
EIBT 1300 UTC OF INBOUND DLH1AX/LH122 + MTTT 0030 IS NOT CONSISTENT WITH OUTBOUND ATC FLIGHT PLAN EOBT 1300 UTC. PROPOSED EOBT 1330 UTC.
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 MAY BE DELAYED.

CDM07a “EIBT + MTTT Discrepancy with TOBT”

DLH1AB/LH123
CDM07A
1002171200UTC
FRA/EDDF
EIBT 1300 UTC OF INBOUND DLH1AX/LH122 + MTTT 0030 IS NOT CONSISTENT WITH OUTBOUND TOBT 1300 UTC. PROPOSED TOBT 1330 UTC.
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 MAY BE DELAYED.

CDM08 “EOBT Compliance Alert”

DLH1AB/LH123
CDM08
1002171200UTC
FRA/EDDF
RECEIVED TOBT 1300 UTC IS OUT OF ATC FLIGHT PLAN EOBT 1230 UTC 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 RE-SOLVED.

CDM09 “Boarding Not Started”

DLH1AB/LH123
CDM09
1002171200UTC
FRA/EDDF
AT TOBT 1300 UTC – 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
1002171200UTC
FRA/EDDF
TOBT 1300 UTC 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
1002171200UTC
FRA/EDDF
FLIGHT NOT COMPLIANT WITH TOBT 1300 UTC / TSAT 1300 UTC.
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
1002171200UTC
FRA/EDDF
THE ATC FLIGHT PLAN IS NOT AVAILABLE.
SUBMISSION OF NEW ATC FLIGHT PLAN NEEDED.

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

CDM17 “TTOT within Night Flying Restriction”

DLH1AB/LH123
CDM17
1002171200UTC
FRA/EDDF
TTOT 2245 UTC AT OR BEYOND 2200 UTC.
BE AWARE OF NIGHT FLYING RESTRICTION.

NOTE: THE AIRPORT CDM PROCESS WILL NOT BE SUSPENDED BUT START-UP AND / OR TAKE-OFF MAY NOT BE GRANTED.

CDM34 “Return To Stand Notification”

DLH1AB/LH123
CDM34
1002171200UTC
FRA/EDDF
FLIGHT IS RETURNING TO STAND V170. THE FLIGHT WILL BE SUSPENDED WHEN IN-BLOCK.
NEW EOBT AND TOBT IS REQUIRED.

NOTE: ATC FPL DLH1AB AND THE AIRPORT CDM PROCESS WILL BE SUSPENDED.

CDM40 “Flight not Compliant with TOBT for deicing”

DLH1AB/LH123
CDM40
1308231200UTC
FRA/EDDF
FLIGHT NOT COMPLIANT WITH TOBT 1155 UTC. DEICING COULD NOT BE INITIATED.
UPDATE OF TOBT NEEDED.

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

CDM43 “Deicing cancelled and TOBT deleted”

DLH1AB/LH123
CDM43
1308231200UTC
FRA/EDDF
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 AD 2 EDDF

4.2. Guidelines Fraport AG

The Airport CDM procedure at Frankfurt Airport is published in the Fraport AG Guidelines:

C 2.5 Regulations on Traffic Data

C 2.3 Terminal Regulations

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