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Version 1.0

# A-CDM Manual Schiphol Airport

Welcome to Amsterdam Airport

Schiphol

# Contents

# 1 Introduction

This document describes the concept of A-CDM and the operational procedures at Amsterdam Airport Schiphol. As A-CDM is the method of joint capacity management, it is expected that operational partners (e.g. ground handling agents and airlines) are familiar with the content of this document and adhere to the described procedures.

## 1.1 What is A-CDM

Airport Collaborative Decision Making (A-CDM or CDM), is about operational partners working together to make sure that asset and resource capacities are utilized as efficient as possible. Working together in this sense concretely means:

- Sharing information on flight progress and operational capacities
- Planning assets and resources based on this information
- Planning flights to runway capacity
- Adhering to procedures

Only by adhering to these four pillars, the capacity at the airport and the European Network can be utilized as efficient as possible, leading to less congestions, less delays, less emission and better situational awareness. This corresponds to the goal of CDM.

## 1.2 Why A-CDM

Air traffic has increased significantly in the past decades and it is expected that this trend will continue. Therefore, airports and airspaces have become more congested than ever as capacity expansion has reached its limits. This results in delays, higher workload for staff and loss in capacity utilization due to a lack of information and capacity planning. By implementing CDM, the individual flight processes are connected with each other to form one chain. This chain and the four collaboration pillars enable integral capacity management.

## 1.3 Benefits

- Less fuel emission due to shorter taxi times
- Less delays by creating predictability through proactive capacity planning
- Better resource planning though more accurate process times
- Less congestions at taxiways and runways through pre-departure sequencing.

# 2 Milestones & DPI Messages

This chapter provides an insight on how CDM connects all individual stages of a flight's process through the milestone approach and how all relevant information is being shared with Eurocontrol's NMOC for the purpose of network planning.

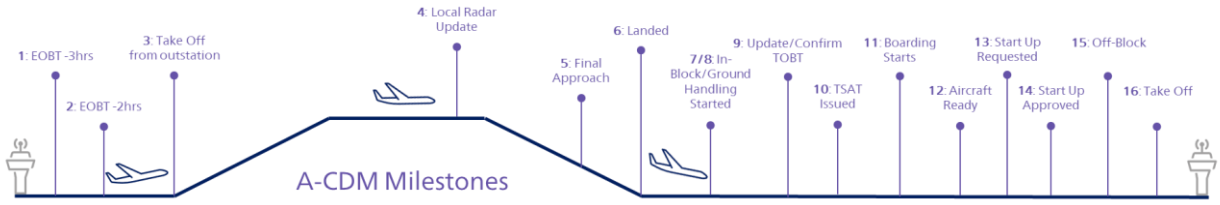



**Figure 1: A-CDM Milestones**

## 2.1 Objective

The milestone approach describes the progress of a flight, from the initial planning until take off (figure 1). By monitoring these milestones and potential deviations from the initial planning, operational partners will receive a better and common situational awareness which supports the determination of the off-block and take off times. For a comprehensive description of the milestone approach, please consult Eurocontrol's *"A-CDM Implementation Manual"*. A milestone can be interpret as an event.

## 2.2 CDM-milestones

### Milestone 1: EOBT-3 hours

**Definition**: The ICAO flight plan is submitted to ATC. The Airport CDM Platform is initiated for this flight and all available information is processed.

**Timing**: Normally this takes place 3 hours before EOBT, however it may be later. In some cases a repetitive flight plan (RFPL) has been submitted, covering daily or weekly flights.

### Milestone 2: EOBT-2 hours

**Definition**: At EOBT-2 hr most flights will be known in the Airport CDM Platform including if they are regulated or not. All regulated flights receive a CTOT from Network Operations.

**Timing**: If the flight is regulated, a CTOT is issued at EOBT–2h.

### Milestone 3: Take Off from Outstation

**Definition**: The ATOT from the outstation (ADEP).

**Timing**: The information is directly available after occurrence of the milestone.

### Milestone 4: Local Radar Update

**Definition**: The flight enters the FIR (Flight Information Region) or the local airspace of the destination airport.

**Timing**: Dependent upon the position of the airport in relation to the FIR boundary.

### Milestone 5: Final Approach

**Definition**: The flight enters the Final Approach phase at the destination airport.

**Timing**: Dependent upon local parameters that are defined by ATC.

### Milestone 6: Landed

**Definition**: ALDT – Actual Landing Time. This is the time that an aircraft touches down on a runway.

**Timing**: The information is directly available after occurrence of the milestone.

### Milestone 7: In-Block

**Definition**: AIBT - Actual In-Block Time. This is the time that an aircraft arrives in-blocks.

**Timing**: The information is directly available after occurrence of the milestone.

### Milestone 8: Ground Handling Started

**Definition**: Commence of Ground Handling Operations (ACGT).

**Timing**: This information is currently not available at Schiphol Airport.

### Milestone 9: Update/confirm TOBT

**Definition**: The time at which the Aircraft Operator or Ground Handler provide their most accurate TOBT taking into account the operational situation.

**Timing**: Continuous process.

#### Milestone 10: TSAT issued

**Definition**: The time ATC issues the Target Start Up Approval Time

**Timing**: The information is issued 3 hours before TOBT but visible on the VDGS/CDM displays after TOBT-40 minutes.

#### Milestone 11: Boarding starts

**Definition**: The gate is open for passengers to physically start boarding.

**Timing**: The information is directly available after occurrence of the milestone.

#### Milestone 12: Aircraft Ready

**Definition**: The time when all doors are closed, boarding bridge removed, push back vehicle connected, ready to taxi immediately upon reception of TWR instructions (ARDT).

**Timing**: This information is currently not available at Schiphol Airport.

#### Milestone 13: Start Up Requested

**Definition**: The time that start up is requested (ASRT).

**Timing**: The information is directly available after occurrence of the milestone.

#### Milestone 14: Start Up Approved

**Definition**: ASAT - Actual start up Approval Time. This is the time that an aircraft receives its start up approval.

**Timing**: This information is currently not available at Schiphol Airport.

#### Milestone 15: Off-Block

**Definition**: AOBT – Actual Off-Block Time. The time the aircraft pushes back/vacates the parking position.

**Timing**: The information is directly available after occurrence of the milestone.

#### Milestone 16: Take Off

**Definition**: ATOT – Actual Take Off Time. This is the time that an aircraft takes off from the runway.

**Timing**: The information is directly available after occurrence of the milestone.

## 2.3 Connection to Eurocontrol NMOC

As described in the milestone approach, the CDM-process starts at EOBT-3 hours, regardless if the flight is still at the origin airport or in the air inbound Schiphol Airport. As of EOBT-3 hours (milestone 1) until the aircraft is airborne (milestone 16), all relevant flight information is exchanged with Eurocontrol NMOC through DPI's (Departure Planning Information) for the purpose of network capacity planning and the allocation of ATFM-slots.

There are five types of DPI-messages that can be send throughout the flight's process, each with its own purpose (figure 2). A brief description of each DPI is provided below. For a comprehensive description on DPI's, please consult Eurocontrol's *"A-CDM Implementation Manual"*.

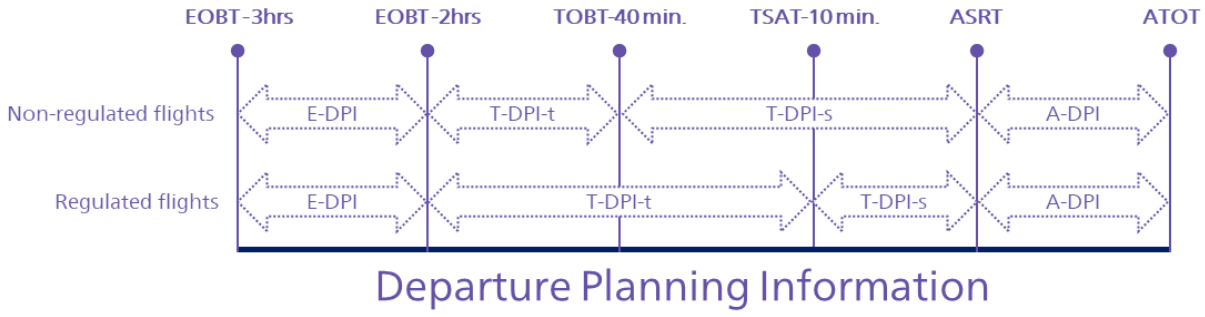



**Figure 2: DPI types & duration periods**

#### E-DPI (Early DPI)

Is sent to confirm that the flight is going to occur. Before an E-DPI is sent, it is required that the Airport CDM Platform matches the flight plan and airport slot. In this phase, NMOC plans on EOBT.

#### T-DPI-t (Target DPI-target)

Is sent to inform NMOC on the flight's TOBT and thus when the flight **could** depart. In this phase, NMOC plans on TOBT.

### T-DPI-s (Target DPI-sequenced)

Is sent to inform NMOC on the flight's TSAT and thus the **planned** departure time according to the pre-departure sequence. For regulated flights, the T-DPI-s is sent from TSAT-10 minutes (instead of TOBT-40 minutes). This way, regulated traffic beholds the RFI-status (Ready For Improvement) at NMOC as long as possible for ATFM-slot improvements. In this phase, NMOC plans on TSAT.

### A-DPI (ATC DPI)

Is sent to freeze the CTOT and flight plan updates, and to inform NMOC that the flight is under ATC control.

### C-DPI (Cancel DPI)

Is sent to NMOC to inform that previously sent DPI's are no longer valid. A C-DPI triggers a Flight Suspension Message (FLS) by the NMOC.

# 3 Outbound Planning

The outbound planning is a crucial component of the CDM-process, as it refers to the runway sequence and thus the departure sequence of all outbound (IFR) flights. This is the phase where the network planning can be adjusted to align the expected demand with capacity, and to make sure that delays will be kept to a minimum. The outbound planning is the engine under the hood which drives airside operations.

## 3.1 Local outbound planning

The departure sequence at Schiphol Airport, is automatically generated by a DMAN system which is owned by the local ATC, LVNL. The DMAN receives inputs from various sources regarding demand and capacity and provides the best possible departure sequence, utilizing capacity as much as possible and keeping delay minutes to a minimum. The most important information elements are: TOBT, Taxitime, runway configuration and runway capacity.

### 3.1.1 TOBT

The TOBT is one of the main inputs to plan runway capacity. It is defined as the time set by the ground handler at which it is expected to finish all handling activities, including all doors closed (excluding de-icing and pushback tug availability). All TOBT's until three hours ahead (CDM time horizon), **serve as the 'demand' indication** from stand-departure perspective.

The ground handler is (delegate) responsible to monitor and update the TOBT according to the best known information. By keeping the TOBT up-to-date at all times, the outbound planning will reflect a realistic departure sequence. The airline however, remains end-responsible for an accurate TOBT.

### 3.1.2 Taxitime

Often abbreviated as EXOT, the Taxitime refers to the duration of the taxi process in minutes from departure stand to departure runway. Initially, before the departure runway is assigned, the EXOT is a standard value of 14 minutes. After assignment of the runway, the EXOT is variable, meaning that each stand-runway combination owns an unique value based on historical information.

The EXOT is used by the DMAN, together with the TOBT, to determine the earliest possible take-off time and **generate a demand indication from runway-perspective.**

### 3.1.3 Runway configuration and capacity

The local ATC is responsible for determining the runway configuration and capacity based on demand, weather, works etc. This information is shared with the DMAN and **serves as the 'capacity' indication** which is combined with the planned demand.

### 3.1.4 TTOT & TSAT

After receiving the TOBT, EXOT and runway capacity information, the DMAN will create a departure sequence from the runway. Each flight within the CDM-process, will receive a TTOT accordingly, which represents a reserved spot in the runway capacity. The flight is therefore expected to adhere to this timeslot. In order to support this adherence, the EXOT is subtracted by the TTOT, resulting in a TSAT. **The TSAT is a derivative of the TTOT.**

Pilots are expected to report "Ready" at ATC Outbound Planner within the TSAT-window (TSAT±5min.). Thereafter, the flight will receive pushback- and/or start-up clearance from ATC, followed by taxi instructions in order to adhere to the TTOT.

*N.b.: after start-up approval (ASRT), local ATC is responsible to monitor the flight's TTOT and update it if necessary.*


## 3.2 Network planning

The network planning refers to the demand and capacity planning which is created and monitored by Eurocontrol NMOC. Like the local planning, NMOC receives demand and capacity information from various parties extending the scope to the ECAC-region. The main information elements are: airport and airspace-sector capacities, and flight departure times to determine demand. In case a flight is departing from a CDM-airport, CDM-information will be used by NMOC (through the provision of DPI's) to determine demand, otherwise, flight plan information is used. For the purposes of this document, only the CDM-airport process will be described.

### 3.2.1 Flight plan

The airline is responsible to file a flight plan and maintain the included information like EOBT and flight profile. Based on this information, which is shared with NMOC, the network demand is estimated. The EOBT together with the flight profile and destination are used to calculate the estimated fly-over time over each airspace sector. As well as the demand for the destination airport.

### 3.2.2 Airspace & airport capacity

All ANSP's within the ECAC-region must file their airspace and airport capacity at NMOC. Together with flight plan information (demand), a network planning is initiated to identify possible congestions. In case demand exceeds capacity over a certain region or airport, NMOC will issue ATFM-slots (CTOT) for the flights which are subject to this congestion.

### 3.2.3 Enrichment with DPI's

CDM-airports provide more accurate flight information than the flight plans contain. With the provision of DPI-messages, local CDM-information is shared with NMOC to increase the accuracy of the network planning and thus the possible allocation of CTOT's. This results in higher ATFM-slot adherence and less chance of additional overloads in the network.

## 3.3 Interaction between local and Network planning

The local departure sequence, as described in section 3.1, is expressed in TTOT's while the network planning is expressed in CTOT's, if applicable. In general, the CTOT is considered to have a higher priority than the local TTOT, meaning that **CTOT is leading in the overall planning**. In practice, the TTOT is aligned with the CTOT to maintain ATFM-slot adherence. However, in case the CTOT is locally not feasible due to whatever reason, **an new (later) TTOT will be send to NMOC via DPI to inform that a new CTOT-calculation is required** for this specific flight. This way, interaction between local and network planning is established.

*Nb: in case the CTOT cannot be aligned with the TTOT and/or vice versa, ATC Outbound Planner will manually plan the flight into the sequence to overcome a constant 'ping-pong-effect' between CTOT- and TTOT-updates.*

## 3.4 De-icing

At Schiphol Airport, both gate and remote de-icing are executed. As it may impact the outbound flow, it is considered to be an important part of the CDM-process and should be taken into account while configuring the local and network capacity planning.

The de-icing handler is responsible to provide accurate de-icing CDM-information on time, including: **ADIP, DIWT and EDIT**. This information is send to the DMAN system in order to recalculate the outbound sequence.

*Nb: DIWT is only applicable in case the flight cannot be de-iced immediately after TOBT, for instance due to de-icing capacity restrictions.*

The figures 3 and 4 below, provide an overview of the difference between gate and remote de-icing processes and how the required times are related to each other.

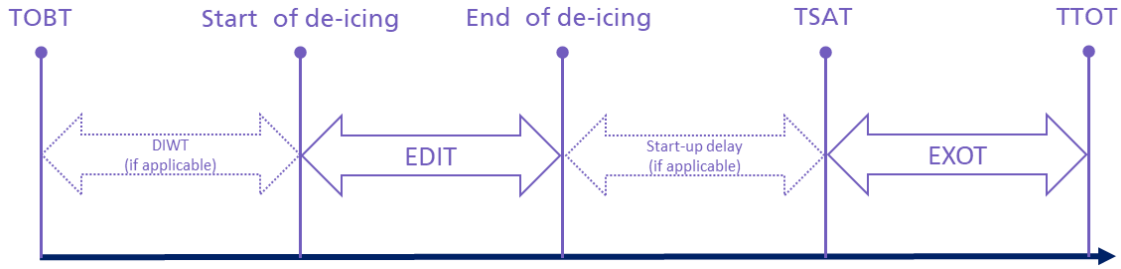



**Figure 3: Gate de-icing**

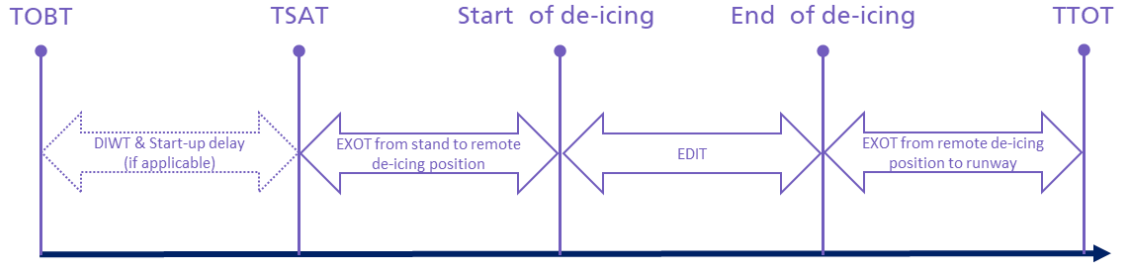



**Figure 4: Remote de-icing**

# 4 Systems & Communication

All CDM-information must be shared through the whole airport operations community in order to create situational awareness and one source of truth for planning purposes. This chapter will describe the main systems involved and how information is shared across all stakeholders.

## 4.1 Central Information System Schiphol (CISS)

The assigned main system to support CDM is CISS. This central information system is owned and managed by Schiphol Airport and is fed with information forthcoming from other stakeholders like handlers, ATC and NMOC. All this information is inserted in CISS via an interface and/or through direct input. Moreover, this information can as well be distributed from CISS to other systems.

## 4.2 Airport Service Bus (ASB)

The ASB is not a system but an interface. All information to or from CISS is communicated via the ASB-interface.

## 4.3 Tower System

One of the most important information-providing-systems that feeds CISS is the Tower System, which is owned and managed by LVNL. This system provides information like runway configuration, runway capacity, TTOT's and TSAT's. Important to note is that the Tower System is not the source of the information as it is fed by other (ATC) systems like ground radar and ICAS. However, all these information is canalized to the Tower System and then send to CISS via the ASB.

## 4.4 Ground handler systems

All ground handlers at Schiphol Airport have their own system which in many cases is linked with CISS via ASB. Via this interface, information like flight schedules and TOBT-updates are processed and exchanged with CISS.

## 4.5 Enhanced Tactical Flow Management System (ETFMS)

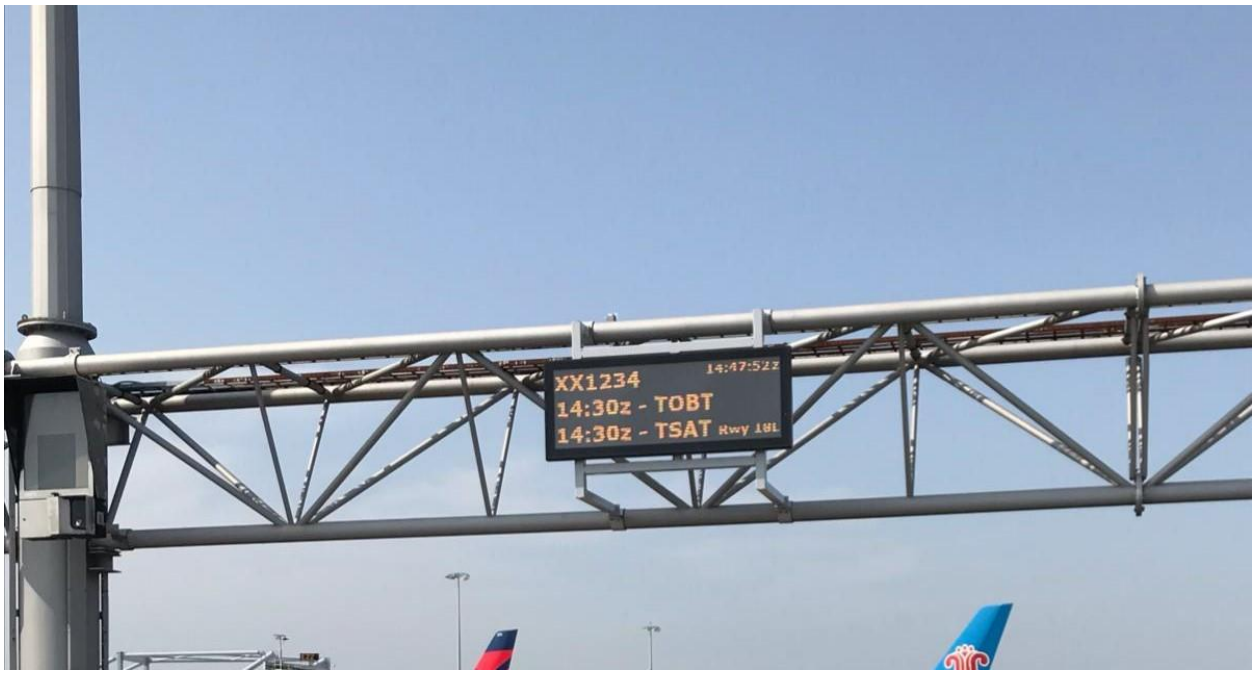
The main CDM-information system at Eurocontrol NMOC is ETFMS. This system is in direct contact with CISS via ASB to exchanged information like TOBT, TSAT and TTOT via DPI's, as described in **section 2.3**.

## 4.6 Initial Flight Plan Processing System (IFPS)

The IFPS is Eurocontrol's main system for the processing of flight plans. These flight plans are deriving from the airlines and shared with IFPS. This system is as well in direct contact with ETFMS to combine flight plan information with CDM-information.

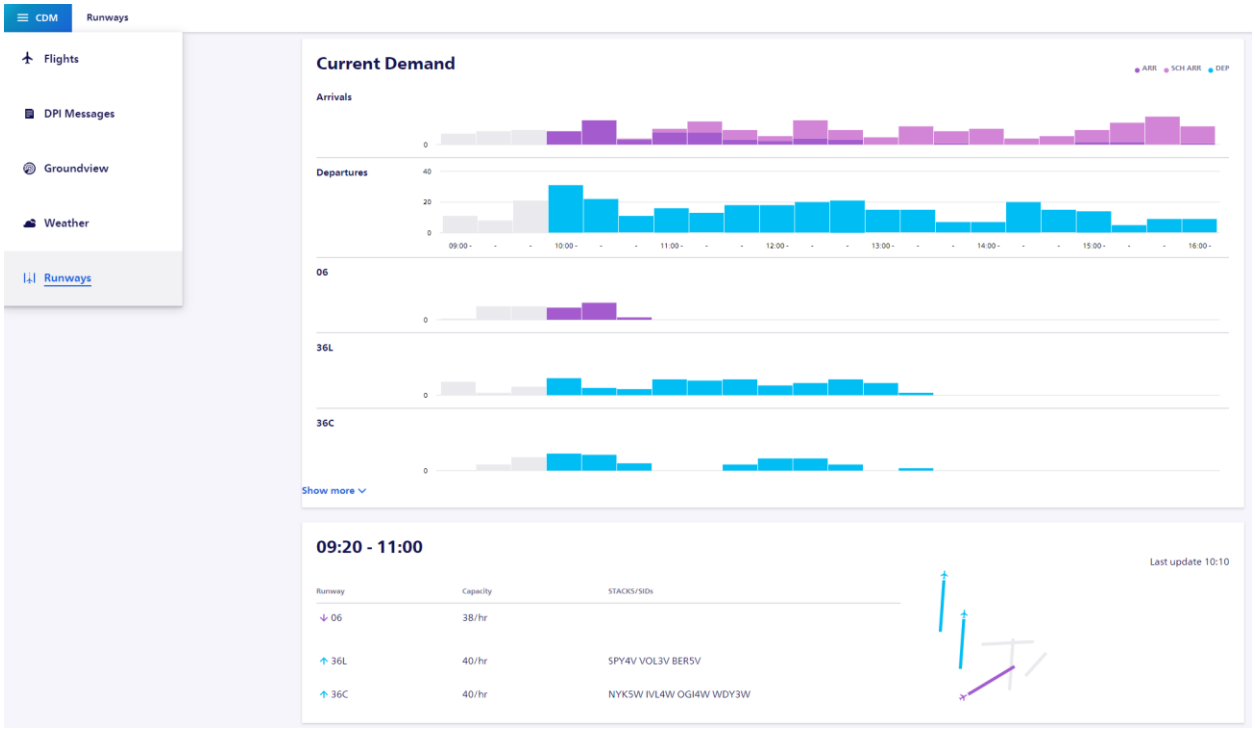
## 4.7 VDGS- & CDM-displays

As described in **section 3.1.4**, pilots must report "Ready" to ATC within the TSAT-window. To execute this procedure effectively, TOBT and TSAT is provided to the pilots through the VDGS- and CDM-displays which are situated in front of the cockpit at each connected stand. In case a display is not available, pilots can receive CDM-information through the CDM-webapp or via the ground handler.




## 4.8 Wilbur CDM

Schiphol Airport has developed a web-application which is accessible to the whole airport operations community called Wilbur CDM. In this (login) web-app, all information is provided regarding CDM, weather (actual and forecast), runway configuration, capacities but is also equipped with a ground radar for real time flight/vehicle monitoring.



# 5 Fallback Procedures

As the CDM-process is highly dependent on systems, it is important to understand the impact of a system failure on the process and when fallback procedures shall be applied to guarantee continuity in airport flow and minimize impact. Bellow, the three levels of CDM provide a description of when each level is reached and what is expected from operational stakeholders in terms of procedures.

## 5.1 Level 1: Full A-CDM

When both the local CDM-procedures apply and the connection with NMOC for DPI-exchange is up-and-running, the airport beholds a Full A-CDM status. This is considered as the airport status which applies in daily operations. Prerequisites for this status is that all relevant airport systems, like CISS, ASB and Tower System, provide all CDM-information.

## 5.2 Level 2: Local A-CDM

Local A-CDM is considered when local CDM-procedures are applicable but the connection with NMOC has failed. This means that Eurocontrol NMOC will not be able to plan upon CDM-information and will therefore fall fully back to flight plan information. Therefore, it is important that airlines update their EOBT in the flight plan to support accurate network planning and ATFM-slot adherence.

*Nb: for local planning purposes and faster recovery after successful connection with NMOC, updating TOBT's and adhering to the TSAT-procedures is mandatory!*

This status may be reached in case of issues with:

- DPI-generator (airport system)
- Connection line between airport and Eurocontrol NMOC (can be both airport and Eurocontrol NMOC)
- ETFMS system failure (Eurocontrol NMOC)

## 5.3 Level 3: First come, first served

Level 3 status is reached when both the connection with Eurocontrol NMOC and local procedures are not applied. In this case, all stakeholders plan their operations based on flight plan EOBT (if available) or best known information and pilots report "ready" to ATC when they are ready for departure. ATC will intensively monitor and guide all flights based on "first come, first served" principles, while there is no outbound planning available.

Level 3 status may be reached in case of issues with:

- CISS (airport system)
- ASB (airport interface)
- Tower system (ATC system)

*Nb: In case of a level 2 or 3 scenario, partners will be informed by the airport, which also maintains contact with Eurocontrol and/or other relevant departments during troubleshooting and recovery. Down- or upgrading CDM-levels, will always be a coordinated decision between airport, ATC and airline representative on the highest operational level..*

# 6 CDM Alerts

To support the CDM-process and inform users that procedures are not adhered to or data is incorrect, Wilbur CDM will generate and show alerts. It is up to the responsible party to take immediate action upon these alerts, which are described below.

| CDM Alert | Description & impact | Action |
|---|---|---|
| 03 | Aircraft type discrepancy between flight plan and airport database. Impact on safety (e.g. collision while docking). | Immediate update of flight pan or airport database |
| 04 | Aircraft registration discrepancy between flight plan and airport database. Impact on safety (e.g. collision while docking) as the aircraft registration is linked to a specific aircraft type. | Immediate update of flight pan or airport database |
| 07A | EIBT+MTTT discrepancy with TOBT. Impact on TOBT accuracy and capacity planning. | Update TOBT accordingly. |
| 09 | Boarding not started. Impact on information supply to passengers and/or TOBT accuracy. | Update TOBT or boarding status |
| 11 | Flight not compliant with TSAT due to TSAT-expiration. Impact on on-time departure and longer stand occupation. | Update TOBT. |
| 101 | Flight to EHAM has diverted to other airport. Impact on resource- and inbound capacity planning. | Submit new flight plan and update EIBT. |
| 102 | Flight to EHAM is unable to continue approach and starts holding with unknown expected approach time. Impact on arrival time, resource planning and possibly TOBT accuracy. | Prepare for diversion and coordinate on recommended diversion-airport with crew. |
| 103 | No AIBT received after ALDT. Impact on situational awareness, and resource and capacity planning. | Update EIBT or manually insert AIBT. |
| 104 | The EOBT and TOBT differ more than 15 minutes. Impact on compliance. | Update TOBT or EOBT accordingly. |
| 105 | TSAT before TOBT. Impact on capacity planning and information consistency. | Check validity of CTOT and flight plan. |


VERBODEN

# 7 Abbreviations

| Abbreviation/Term | Stands for | Description |
|---|---|---|
| **A-CDM / CDM** | Airport Collaborative Decision Making | Process to improve capacity management |
| **ACGT** | Actual Commence of Ground Handling Time | The time that ground handling starts |
| **ADEP** | Aerodrome of Departure | N/A |
| **ADIP** | Assigned De-icing Position | The specific (remote) stand where de-icing will occur |
| **AIBT** | Actual In-Block Time | The time that an aircraft arrives in-blocks. (Equivalent to Airline/Handler ATA –Actual Time of Arrival, ACARS = IN) |
| **ALDT** | Actual Landing Time | The time that an aircraft lands on a runway. (Equivalent to ATC ATA –Actual Time of Arrival = landing, ACARS=ON) |
| **ANSP** | Air Navigation Service Provider | An organisation responsible for management of flight traffic on behalf of a company, region or country |
| **AOBT** | Actual Off-Block Time | Time the aircraft pushes back / vacates the parking position. (Equivalent to Airline / Handlers ATD – Actual Time of Departure & ACARS=OUT |
| **ARDT** | Actual Ready Time | When the aircraft is ready for start up/push back or taxi immediately after clearance delivery, meeting the requirements set by the TOBT definition |
| **ASAT** | Actual Start-up Approval Time | Time that an aircraft receives its start up approval |
| **ASB** | Airport Service Bus | The main airport interface |
| **ASRT** | Actual Start-up Request Time | Time the pilot requests start up clearance |
| **ATC** | Air Traffic Control | Service provided by ground-based controllers who direct aircraft on the ground and in the air. This to separate, organise and expedite the flow of air traffic |
| **ATFM-slot** | Air Traffic Flow Management Slot | A service established with the objective of contributing to a safe, orderly and expeditious flow of air traffic by ensuring that air traffic control capacity is utilised to the maximum extent possible, and that the traffic volume is compatible with the capacities declared by the appropriate Air Traffic Services authority. (ICAO Annex 11, Chapter 1) |
| **ATOT** | Actual Take-Off Time | The time that an aircraft takes off from the runway. (Equivalent to ATC ATD–Actual Time of Departure, ACARS = OFF) |

| | | |
|---|---|---|
| **CISS** | Central Information System Schiphol | The assigned flight information database at Schiphol |
| **CTOT** | Calculated Take-Off Time | A time calculated and issued by the appropriate Central Management unit, as a result of tactical slot allocation, at which a flight is expected to become airborne. (ICAO Doc 7030/4 – EUR, Table 7) |
| **DIWT** | De-icing Waiting Time | The amount of time required before de-icing can be executed. |
| **DMAN** | Departure Manager | DMAN is a planning system to improve the departure flows at an airport by calculating the Target Take Off Time (TTOT) and Target Start up Approval Time (TSAT) for each flight, taking multiple constraints and preferences into account |
| **DPI** | Departure Planning Infomation | Message from Airport to Network Operations |
| **Earliest possible TTOT** | Earliest possible Target Take-Off Time | The outcome of TOBT + EXOT, without taking into account any other restrictions |
| **ECAC-region** | European Civil Aviation Conference Region | Group of Member States of any European organisation dealing with civil aviation, being currently composed of 44 Member States |
| **EDIT** | Estimated De-icing Time | The estimated time that is necessary to de-ice the aircraft |
| **EIBT** | Estimated In-Block Time | The estimated time that an aircraft will arrive in-blocks. (Equivalent to Airline/Handler ETA – Estimated Time of Arrival) |
| **EOBT** | Estimated Off-Block Time | The estimated time at which the aircraft will start movement associated with departure, according to the flight plan |
| **ETFMS** | Enhanced Tactical Flow Management System | ETFMS receives radar derived data provided by the Air Navigation Service Providers (ANSPs), position report data provided by the Aircraft Operators and meteorological data. ETFMS uses this data to update the existing data coming from flight plans and flow measures |
| **EXOT** | Estimated Taxi-Out Time | The estimated taxi time between off-block and take off |
| **FIR** | Flight Information Region | A specified region of airspace in which a flight information service and an alerting service (ALRS) are provided |
| **Flight plan** | N/A | Document filed by a pilot or flight dispatcher with the local Air Navigation Service Provider prior to departure which indicate the plane's planned route or flight path |
| **FLS** | Flight Suspension Message | Standard message sent from Network Operations to suspend flight plan OBT |

| | | |
|---|---|---|
| **ICAO** | International Civil Aviation Organisation | A specialized agency of the United Nations that coordinates the principles and techniques of international air navigation, and fosters the planning and development of international air transport to ensure safe and orderly growth. |
| **ICAS** | iTEC based Centre Automation System | Air Traffic Control system |
| **IFPS** | Integrated Initial Flight Plan Processing System | A system of the Network Operations designed to rationalise the reception, initial processing and distribution of IFR/GAT flight plan data related to IFR flight within the area covered by the participating States. (ICAO Doc 7030/4 – EUR, paragraph 3.1.1 new) |
| **IFR** | Instrument Flight Rules | Rules and regulations established by the FAA to govern flight under conditions in which flight by outside visual reference is not safe. IFR flight depends upon flying by reference to instruments in the flight deck, and navigation is accomplished by reference to electronic signals |
| **LVNL** | Luchtverkeersleiding Nederland | Dutch Air Traffic Control organisation |
| **MTTT** | Minimum Turnaround Time | The minimum turnround time agreed with an AO/GH for a specified flight or aircraft type |
| **NMOC** | Network Manager Operations Centre | Network Management Operations Centre (NMOC), Brussels – A Central Management Unit operated by EUROCONTROL. (ICAO Doc 7754, Volume I, Part V.III, paragraph 3) |
| **RFI** | Ready for Improvement | A request message to NMOC for direct ATFM-slot improvement, if possible |
| **RFPL** | Repetitive Flight Plan | A flight plan that is (automatically) filed every x amount of day(s) or week(s) |
| **TOBT** | Target Off-Block Time | The estimated time that an aircraft will be ready, all ground handling activities finished (except processes that plan on TSAT like pushback, jet-starting, cooling/heating etc.), all doors are closed and the boarding bridge and handling equipment removed |
| **Tower system** | N/A | System of LVNL located in the tower |
| **TSAT** | Target Start-up Approval Time | The time provided by ATC taking into account TOBT, CTOT and/or the traffic situation that an aircraft can expect start up / push back approval |
| **TSAT-window** | N/A | TSAT plus/minus 5 minutes. The time-window at which pilot must report Ready at ATC |

| | | |
|---|---|---|
| **TTOT** | Target Take-Off Time | The Target Take Off Time taking into account the TOBT/TSAT plus the EXOT. Each TTOT on one runway is separated from other TTOT to represent vortex and/ or SID separation between aircraft |
| **TWR** | Tower | N/A |
| **VDGS** | Visual Docking Guidance System | A system which gives information to a pilot attempting to park an aircraft at an airport stand, usually via visual methods |

Welcome to Amsterdam Airport

Schiphol