

# A-CDM Info



## WHAT IS A-CDM?

A-CDM stands for **Airport Collaborative Decision Making** which aims to improve the operational efficiency of airports and the traffic flow in European airspace. To this end all parties involved, including **Airport Operators, Aircraft Operators (AO), Ground Handling (GH), Air Traffic Control (ATC) and the Network Manager Operation Centre (NMOC)**, must make their processes transparent by sharing accurate information related to flight departures in a timely manner.



## KEY A-CDM INFORMATION/DATA:

### • Target Off-Block Time (TOBT):

The TOBT is the expected time at which an aircraft will be ready for push back and/or start up, with all doors closed and passenger bridges removed, and is reported by the Aircraft Operator and/or contracted Handling Agent.

The subsequent ATC processes, e.g. runway allocation and calculation of airspace capacity, are based on this TOBT.

The TOBT is derived either from the STD (Scheduled Time of Departure) / SOBT (Scheduled Off-Block Time) or in case of delay, from the ETD or SED (Staff ETD). The Ground Handling Agents are responsible for adhering to the TOBT. Incorrect or imprecise TOBT or a delay in supplying this information has a negative effect on the calculation of the off-block sequence and/or the allocation of a CTOT (Calculated Take-Off Time). This in return can result in runway capacity not being fully utilized, especially during peak hours.

The TOBT is displayed on the dock guidance system 30 min. before the planned off-block time. At stands with no dock guidance system, either the Ground Handling Agent or the Aircraft Operator is responsible for communicating the TOBT to the Cockpit Crew.

For each individual departure, the TOBT can be modified as often as required. However, only modifications of 5 min. or more are permitted. The final TOBT update shall be made no later than 5 min. before the current TOBT. This ensures calculations of the off-block sequence with minimum disturbance.

The TOBT has a tolerance window of +/- 5 minutes. The aircraft must be ready for push back and/or start up within this tolerance window, meaning the Cockpit Crew must report ready to the ATC (CLD - Clearance Delivery) within this timeframe.

Once the flight has reported ready to ATC (= ASRT (Actual Start Up Request Time) corresponding to CLE time stamp), no further TOBT updates will be taken into account in determining the off-block sequence.

### • Target Start-Up Approval Time (TSAT):

The TSAT is the time calculated by the Departure Management System (DMAN), at which a flight can expect push back and/or start up clearance. The TSAT is sent to AIMS 30 minutes before the TOBT and subsequently is displayed.

The TSAT is calculated based on the TOBT. The later the TOBT is updated and/or the less precise the TOBT is, the less reliable and the less precise the resulting TSAT is.

Further factors included into the calculation of TSAT are e.g. runway allocation and throughput, operational capacity, aircraft de-icing, variable taxi time, aircraft type (speed & wake), flight safety restrictions such as CTOT and special departure intervals.

The TSAT has a tolerance window of +/- 5 minutes. Apron Control manages the traffic within this timeframe and the Cockpit Crew can expect start up clearance within this tolerance window. Therefore, the push back tractor must be connected and ready at TSAT -5 min. so push back can occur immediately after receipt of the respective clearance from Apron Control.

From TOBT -5 min. onwards, the TSAT is displayed on the dock guidance system, alternating with the TOBT & TTOT. At stands with no dock guidance system, the TSAT is communicated to the cockpit by Apron Control if it differs from the TOBT by more than 5 min.

### • Target Take-Off Time (TTOT):

The TTOT is calculated by the DMAN and takes into account the TOBT/TSAT and the taxi time from the stand to the runway (EXOT). If remote de-icing is required, the time spent at the de-icing pad is also taken into account. In its calculations the DMAN attempts to balance demand with available runway capacity. If several flights are aiming to take off from the same runway at the same time (TOBT + EXOT), the DMAN will calculate the TSATs in a way that ensures no identical TTOT is assigned for flights on the same runway, and that the required intervals between the departing aircraft (wake & SID) are respected.

### • Estimated Off-Block Time (EOBT):

The EOBT is the time displayed on the flight plan (ICAO) at which the flight is expected to be ready for departure and must be reported by the Aircraft Operator (AO). Initially the EOBT must match with the Airport Slot (STD/SOBT). Deviations of more than 15 min. from the original EOBT must be reported by the AO.

If there is a difference of more than 15 min. between the EOBT and the TOBT, an update is required. The NMOC offers a service which automatically adjusts the EOBT to match the TOBT if this is the case. More information on this is available from [airport-cdm@eurocontrol.int](mailto:airport-cdm@eurocontrol.int).

### • Calculated Take-Off Time (CTOT):

In order to avoid airspace congestion, whether this is due to bad weather or demand exceeding airspace capacity, the centralised traffic flow control centre (NMOC) allocates ATC slots. The CTOT has a standard tolerance of -5/+10 min. and corresponds to the ATC slot and is based on the TTOT. ATC slots must be respected and are taken into account for the calculations of TSAT/TTOT.

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## PROCESS AND PROCEDURES

### • Deviations between TOBT and EOBT

It is essential that the TOBT and the EOBT correspond with a tolerance of +/- 15 min. The Aircraft Operator or Ground Handling Agent is responsible for ensuring this.

If the EOBT deviates by more than +15 min. from the TOBT, AIMS will send an alert to the responsible Ground Handling Agent to update the TOBT in order to be in line with the EOBT.

If the TOBT deviates by more than +15 min. from the EOBT, an alert (telex, e-mail) will be sent to the Aircraft Operator to update the EOBT in order to be in line with the TOBT.

### • Flight must be ready at TOBT +/- 5 min.

All activities needed to prepare the aircraft must be completed and the Cockpit Crew must report ready to CLD at TOBT +/- 5 min. regardless of whether or not the flight has an ATC slot and of which runway is required. This also applies if the aircraft still has to be de-iced on the stand. The time required for aircraft de-icing is taken into account when the TSAT is calculated.

Flights which are not ready within the TOBT +/- 5 min. will not be cleared by ATC. The TOBT must first be adjusted as required.

If an aircraft is not ready at TOBT +15 min. this can automatically trigger an alert to the NMOC which will result in a take-off suspension for this flight. If this happens, the EOBT and the TOBT must be updated to remove the suspension.

### • TSAT and effects of TOBT updates

From the moment the TSAT has been calculated and communicated, TOBT updates will no longer affect the TSAT or the determination of the departure sequence. In order to limit unnecessary delays and recalculations, the following rule applies:

New TOBT > Old TOBT = no recalculation of the TSAT as long as the New TOBT <= TSAT.

### • Departures with a CTOT

Updating the TOBT to the TSAT or earlier should generally not affect the CTOT. However, new or increased restrictions on airspace or at the destination airport can result in a new CTOT.

Departures assigned with CTOT must be ready at TOBT +/- 5 min. Late TOBT adjustments or ones outside the limits have a negative effect on the allocation of a CTOT.

If there are difficult local conditions such as bad weather or snow removal, or if there is a high number of regulated departures, then and with the prior approval by NMOC, Skyguide can adjust the standard tolerance window (Slot Tolerance Window Extension).

Providing the most accurate estimate of when handling processes will be completed, keeping parties updated on whether this estimate is achievable and communicating all information in a timely manner improves the system as a whole and in return benefits each individual departure in terms of determining and implementing the best possible departure sequence.

## ADJUSTMENTS DUE TO THE A-CDM PROCESS AND PROCEDURES AS OF 25.04.2019

As of the AIRAC date 25 April 2019, the A-CDM process and procedures described above will be introduced and applied.

### How the individual partners can support the A-CDM adjustments :

#### Ground Handling



- Monitor handling processes and report deviations from STD/SOBT in a consistent and timely manner by modifying the TOBT (ETD or SED).
- Modify the TOBT if the EOBT deviates by more than +15 min. from the existing TOBT.
- No changes of less than 5 min. to TOBT and no changes later than 5 min. before existing TOBT. => Stability of departure sequence and CTOT
- Pushback tractors must be at the aircraft and ready at TSAT -5 min.

#### Aircraft Operator



- Monitor handling processes and report deviations from STD/SOBT in a consistent and timely manner by modifying the TOBT (ETD or SED).
- Modify the TOBT if the EOBT deviates by more than +15 min. from the existing TOBT.
- Update the EOBT if it deviates by more than +15 min. from the TOBT.
- No changes of less than 5 min. to TOBT and no changes later than 5 min. before existing TOBT. => Stability of departure sequence and CTOT

#### ATC



- CLD monitors aircraft ready process and gives clearance within TOBT +/- 5 min. window.
- No further processing of departures which are not ready within TOBT +/- 5 min. tolerance window.
- Generally Apron Control should not give start up and/or push back clearance before TSAT -5 min.

#### Flight Crew



- Provide support in monitoring the aircraft ready process and ensuring it is complete within the TOBT +/- 5 min. window by reporting relevant deviations to the Ground Handling Agent or control centre in due time.
- Do not report the aircraft as ready to CLD until all activities needed to prepare the aircraft are completed, except de-icing at the stand.
- Notify CLD at the latest 15 min. before the TOBT if the standard DEP RWY cannot be accepted.

#### Airport Operation



- For all departure runways the TSAT is sent to AIMS from TOBT -30 min.
- From TOBT -5 min. the TSAT is displayed on the dock guidance system.