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Dublin Airport

## **Airport Collaborative Decision Making**

Dublin A-CDM Operational Procedures

**Final Document**

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## 1 DOCUMENT CONTROL

### 1.1 Change Record

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31/01/2017	C. Martin R. Reid S. Byrne D. Reddington D. Aylward	7.2	Draft document updated
31/03/2016	C. Martin R. Reid S. Byrne D. Aylward D. Reddington K. Ross	7.1	Draft document issued to the A-CDM Steering Group

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<b>A-CDM Steering Group</b>	Representatives from aircraft operators, handling agents, IAA, and Dublin Airport

### 1.3 Approvals

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26/02/2018	Steering G.	7.3	Final draft sign-off
31/03/2016	Steering G.	7.1	Draft sign-off

## 2 INTRODUCTION

### 2.1 Terms of Reference

The Dublin Airport Collaborative Decision Making (A-CDM) project is a joint initiative between Dublin Airport, Irish Aviation Authority (IAA), Aircraft operators and handling agents. The aim of A-CDM at Dublin is to facilitate the sharing of operational processes and data to allow better decision making, throughout the A-CDM process.

A-CDM is being developed with our core operational business partners to share and update data in a common operational system, to optimise the airport turn-round process of a flight, make collaborative operational decisions, help reduce delays and ensure resources are coordinated as efficiently as possible.

The key feature of A-CDM is that it will link the European Air Traffic System and the Airports' systems for the first time to help minimise delays at airports, improve punctuality and enhance ATFM slot management across Europe. Implementation of A-CDM will follow the Milestone approach as recommended by EUROCONTROL.

The detailed terms of reference for this project are outlined in Airport A-CDM Implementation Manual v5 – March 2017 (a EUROCONTROL publication):

<http://www.eurocontrol.int/sites/default/files/publication/files/airport-cdm-manual-2017.PDF>

### 2.2 Purpose and format of this document

This document is intended to:

- Outline the scope of the Dublin A-CDM project.
- Define the operational and local departure planning procedures and clearly define associated responsibilities.
- Outline the A-CDM contingency procedures
- Support the successful implementation of A-CDM in Dublin.

The most important features of Dublin A-CDM are highlighted in green throughout this document, to identify the information sharing elements and key processes required to be progressed by the A-CDM stakeholders.

### **2.3 Objectives of Airport CDM**

A-CDM aims at optimally utilising the available capacities and operational resources at the airport by increasing the efficiency of the individual steps of the turn-round 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 operational cooperation between the following partners:

- Dublin Airport (daa)
- Airlines
- Handling agents
- Irish Aviation Authority (IAA) / ANSP
- Network Manager Operations Centre (NMOC)

### **2.4 Coordination with the Network Manager**

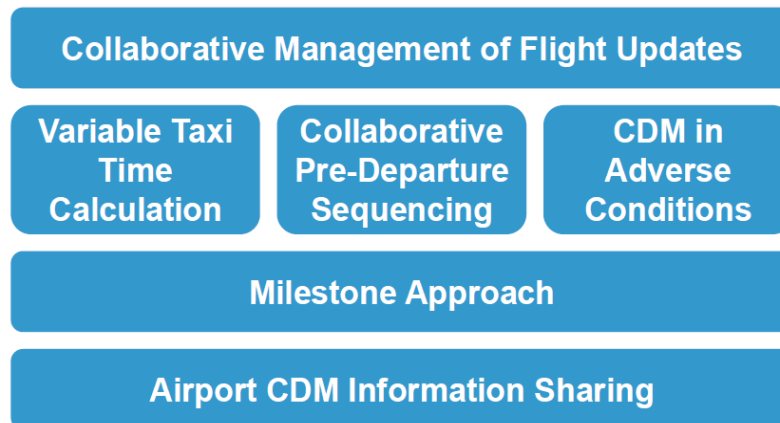
Due to a fully automated data exchange with the NMOC, landing and take-off times can be forecasted in a timely and reliable manner and/or precisely Calculated Take-Off Times (CTOT) can be given, based on local Target Take-Off Times (TTOT). The following messages are used:

- 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 airlines / handling agents and / or Dublin Airport and NMOC remain the same. Furthermore, all estimated departure times are automatically transmitted to the NMOC during the turn-round 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 based on these estimated departure times, i.e. DPI's.

### 3 OVERVIEW OF A-CDM AT DUBLIN AIRPORT

A-CDM is implemented through the introduction of a set of operational procedures and processes. The main characteristics of said procedures follow the six-step cycle as outlined below and are explained further throughout this document.



#### 3.1 Information Sharing

An up-to-date flight plan is a pre-requisite for the first milestone for A-CDM (see clause 3.2). Information sharing is a key element of A-CDM and requires the sharing of accurate and timely information between all airport partners to achieve common situational awareness and to improve traffic event predictability.

##### 3.1.1 Information Sharing Platform – Airport Operation System (AOS)

Information sharing will be delivered via the AOS platform providing real-time information to all partners on flights operating to or from Dublin Airport and will be the primary display for:

- Accurate arrival information through Flight Update Messages (FUMs) from NMOC.
- Various interfaces to / from airlines / handling agents and IAA.
- Target Off-Block Time (TOBT), which will be input by the airlines and handling agents and forward onto ATC Dublin.
- Target Start Up Approval Time (TSAT), which will be calculated by ATC Dublin via the pre-departure sequencer.

Flt No	CSigNo	Rego	ACn	Flight Status Dep	CDM Dep	SOBT	EOBT	ASBT	ATOT	Standby	Departure Gates	Flgys	ASBT	AEBT	CTOT	TOTB+1	TSAT	TTOT	MTT	MM Day
800010	800010	TTBBU	73P	SEC	SEC	0545				HOLD		20				0540	0540	0550	45	
800020	800020	OYSGA	78X	SEC	SEC	0540				HOLD		20				0540	0540	0550	40	
410117	410117	480	DEP	DEP	0630	0652	0611			HOLD		20	0540	0552	0616	0600	0602	35		
2302	EN202	EEZY	320	DEP	DEP	0640	0632	0701		HOLD		20	0665	0632		0640	0642	35		
744382	RYR22LL	EDHT	73H	DEP	SEC	0625		0949		HOLD		20	0665			0625	0625	0635	25	
8159	EM159	EDVL	320	DEP	SEC	0650				HOLD		20	0615			0650	0650	0700	35	
71724	RYR50A											10						0705	25	
7114	RYR5											10						0722	25	
80036	80036	80036	73H	SEC	SEC	1425				HOLD		20	1345			1405	1405	1415	25	
7616	RYR6											10						0748	25	
76511	RYR6											10						0742	25	
76582	RYR6											10						0740	25	
80022	RYR60N	BEVE	73H	DEP	DEP	1350	1342	1401		HOLD		20	1330	1342		1350	1352	25		
707116	RYR72ND	BEKP	73H	DEP	SEC	1425		1421		HOLD		20	1345			1405	1405	1415	25	
707120	RYR720	EDHR	73H	DEP	SEC	1425		1413		HOLD		20	1345			1405	1405	1415	25	
707126	RYR60VR	BEIH	73H	DEP	SEC	1410		1415		HOLD		20	1350			1410	1410	1420	25	
8172	EN172	EDVL	320	DEP	DEP	1520		1525		HOLD		20	1445			1520	1520	1530	35	
40515	DAL40515	DAZH	320	DEP	DEP	1525	1517	1525		HOLD		10	1505	1517		1600	1600	1627	40	
7141	RYR100G	BEAL	73H	SEC	ASOT	1620				HOLD		10				1620	1620	1630	25	
76556	RYR556	EDCN	73H	CHS	MTOT	1555				HOLD		20				1640	1650	1650	25	
707118	RYR64R	EDPV	73H	SEC	MTOT	1620				HOLD		10				1710	1720	1720	25	

The AOS platform will alert A-CDM stakeholders to potential delays and discrepancies by alarms and they will be prompted to take corrective action to comply with the A-CDM processes.

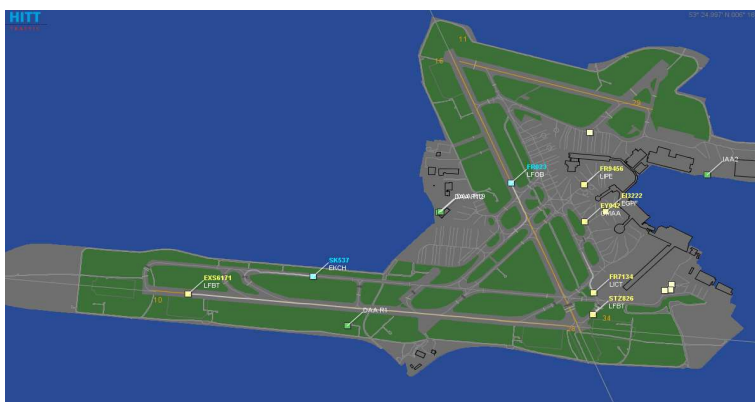
Figure 1: Sample view of the A-CDM screen within AOS

### 3.1.2 Situational Awareness Tool – Real Time Radar View of the Operation

In 2010, Dublin Airport and the IAA collaborated to provide a real-time radar view of the operation to our base aircraft operators and handling agents in Dublin Airport. This tool provides stakeholders with a view of flights at or on approach to Dublin Airport and fed from the IAA live radar.

The provision of this tool was widely welcomed by all A-CDM partners.

Quote from airline user: *'This tool allows us to monitor aircraft on the aprons,*



*taxiways and on approach and helps us to mobilise manpower accordingly. It is a particularly valuable tool during times of disruption as it helps us plan ahead and re-allocate resources more efficiently.*

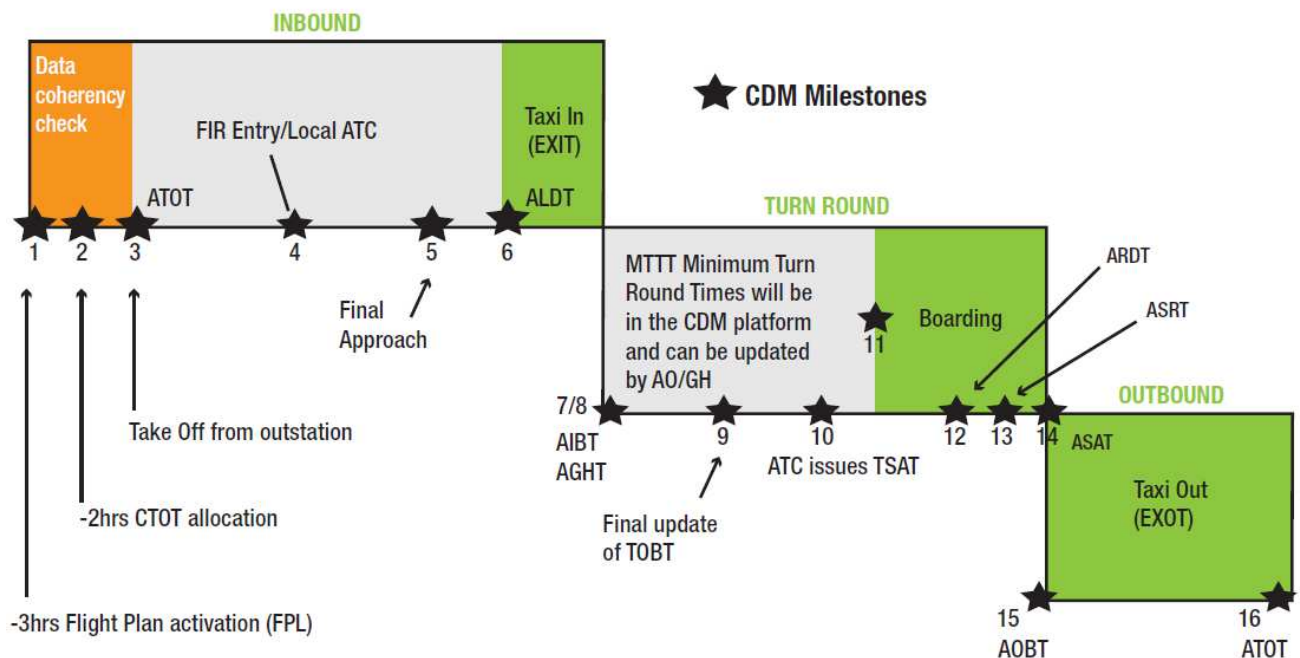
Figure 2: Sample display of the situational awareness tool (opsview) at Dublin Airport.



### 3.2 The Milestone Approach (Turn-round Process)

The milestone approach element as developed by EUROCONTROL describes the progress of a flight from the initial planning to the take-off, by defining milestones to enable close monitoring of significant events. The aim is to achieve a common situational awareness and to predict the forthcoming events for each flight with off-block and take off as the most critical events.

The concept element information sharing needs to be operational before successful implementation of the Milestone Approach



**Figure 3:** The Milestone Approach to A-CDM Implementation

The Milestone Approach combined with the information sharing element is the foundation for all other concept elements and Dublin will follow this best practice approach in implementing A-CDM.

Number:	Milestones:	Time Reference:	Mandatory / Optional for Airport CDM Implementation:	Dublin Implementing:	Information Supplied by:
1	ATC Flight Plan activation	3 hours before EOBT	Highly Recommended	✓	EUROCONTROL
2	EOBT – 2 hr	2 hours before EOBT	Highly Recommended	✓	EUROCONTROL
3	Take off from outstation	ATOT from outstation	Highly Recommended	✓	EUROCONTROL
4	Local radar update	Varies according to airport	Highly Recommended	✓	IAA
5	Final approach	Varies according to airport	Highly Recommended	✓	IAA
6	Landing	ALDT	Highly Recommended	✓	IAA
7	In-block	AIBT	Highly Recommended	✓	Dublin Airport
8	Ground handling starts	ACGT	Recommended	✓	Dublin Airport
9	TOBT update prior to TSAT	Varies according to airport	Recommended	✓	AO, HA or Auto calculation
10	TSAT issue	Varies according to airport	Highly Recommended	✓	IAA
11	Boarding starts	Varies according to airport	Recommended	✓	Dublin Airport
12	Aircraft ready	ARDT	Recommended	✓	Dublin Airport
13	Start up request	ASRT	Recommended	✓	IAA
14	Start up approved	ASAT	Recommended	✓	IAA
15	Off-block	AOBT	Highly Recommended	✓	Dublin Airport
16	Take off	ATOT	Highly Recommended	✓	IAA

**Figure 4:** Milestones of A-CDM implemented at Dublin; outlining data sources

### 3.3 Variable Taxi Times (VTT)

Prior to implementing A-CDM, the airport used pre-defined fixed standard taxi-times for all aircraft based on landing / take-off runway times. Post A-CDM, IAA will provide dynamic taxi-time through the Pre Departure Sequencer (PDS) for all arrival and departure times. This dynamic VTT enables Dublin Airport to provide more accurate information to the NMOC through the update of the Target Take Off Time (TTOT) and more precise sequencing of flights through administration of Target Start Up Approval Time (TSAT).

For arrivals at Dublin, an Estimated taXi-In Time (EXIT), added to the Estimated Landing Time (ELDT), will provide an accurate Estimated In-Block Time (EIBT) which will benefit stand and gate planning, pre-departure sequencing and ground handling resource management.

For departures at Dublin, an Estimated taXi-Out Time (EXOT), added to the Estimated Off-Block Time (EOBT) or Target Start up Approval Time (TSAT) will provide an ETOT or TTOT. This time can be used by the Network Manager to provide a realistic CTOT and to update the flight profile. This will optimise flow and capacity management at Dublin and onwards to the European air traffic network.

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Accurate taxi times are essential for calculating the following important times in the Milestone Approach:

- Estimated In-Block Time (EIBT).
- Estimated and Target Take Off Time (ETOT and TTOT).
- Calculated TSAT for all departing flights.

In return for the above and the full A-CDM implementation we will all benefit from more realistic and less constraining Calculated Take Off Times (CTOTs) that are currently experienced via absolute and inaccurate use of standard taxi-times for different scenarios.

### 3.4 Pre-Departure Sequencing

#### 3.4.1 Introduction

In most situations in air traffic management today, the principle of “first come first served” is applied. The result is that flights may be pushed back in an order that is not the preference of the Aircraft Operators.

Pre-departure sequencing allows ATC to plan based on the Target Off-Block Times (TOBTs) obtained from the turn-round process or initial departure so that flights can depart from their stands in a more efficient and optimal order.

Based on TOBTs and the operational traffic situation on the aprons, taxiways and runways, the Pre-Departure Sequencer (PDS) will calculate a TSAT which places each aircraft in an efficient pre-departure sequence (off-blocks), standardising start-up and push-back procedures. This results in enhanced traffic flows towards the runways and improves on today’s “first come first served” method.

The main objectives of Pre-departure Sequencing aim to:

- Enhance sequence transparency.
- Improve event predictability by creating TSAT and TTOT predictability.
- Improve punctuality, e.g. slot adherence, airline operator schedule, etc.

#### 3.4.2 Partner information exchange

The essential requirement of this pre-departure sequence element is:

- Capability of airlines or handling agents to communicate accurate TOBTs.
- Capability of the PDS to calculate accurate TSATs.



Once a new or updated TOBT is inserted by the aircraft operator (AO) or handling agent (HA), the generic processes perform consistency checks and send out alerts in case of discrepancy. A TSAT is derived and issued 40mins prior to TOBT.

### 3.5 CDM in Adverse Conditions

Adverse conditions will be a future phase of the A-CDM project. Procedures will be developed in due course with the A-CDM partners, IAA & Dublin Airport.

### 3.6 Collaborative Management of Flight Updates

Following the local implementation of A-CDM, the final stage of the project is for the AOS platform to be connected to the Network Manager through the exchange of information.

In Collaborative Management of Flight Updates the exchange of information between the Network Manager and the airport is realised by:

- Sending Departure Planning Information (DPI) messages from the airport concerned to the network manager.
- Receiving Flight Update Messages (FUM) from the network manager to the airports concerned.
- Flight plans and various message types (DLA's, CHG, SAM's, SLC's, SRM's, etc.)

The main benefits of Collaborative Management of Flight Updates are:

- Enhanced arrivals information - it ensures the completeness of information between en-route and airport operations.
- Enhanced turn-round information - it improves predictability of ground operations through enhanced information updates on inbound flights.
- Enhanced departures information - it improves estimates of take-off times, allowing a more accurate and more predictable view of the traffic situation, resulting in improved ATFM slot allocation.



**Figure 5:** Information flow of Flight Updates for Stakeholders

## 4 DUBLIN AIRPORT A-CDM PROCEDURES

This section provides a more detailed look at the procedural elements of a flight that will operate in accordance with the A-CDM procedures defined for Dublin Airport. Note: Certain flights such as VFR and helicopter movements are exempt from the A-CDM process but may still require an airport slot.

### 4.1 Correlation of Flight Information

The A-CDM procedure begins with the transmission of the ATC flight plan to AOS. The ATC flight plan will be correlated with the flight data submitted to the airport by the Airport Slot Coordinator. The focus is on:

- Linking inbound and outbound flights.
- Comparing the airport Scheduled Off-Block Time (SOBT) for the outbound flight with the Estimated Off-Block Time (EOBT) in the ATC flight-plan i.e. matching the ICAO flight plan reference with the IATA flight number from the airport slot co-ordinator.

This comparison is made as soon as a flight plan is received. If the ATC flight plan is filed at a later stage, the commencement of the A-CDM procedure is postponed to that time.

### 4.2 Airport Slot Discrepancy

If Estimated Off-Block Time (EOBT ATC) deviates from the Scheduled Off-Block Time (SOBT), the contact person of the AO or HA is advised by the A-CDM alerting function that either the flight plan or the airport slot should be corrected.

### 4.3 Airport Slot Missing

If no airport slot is available the flight cannot be sequenced. All flights from Dublin must have a valid airport runway slot.

### 4.4 Network slot tolerance window (STW)

If ATC received STW extension, this information must be forward to Dublin Airport by Email ([sau@dublinairport.com](mailto:sau@dublinairport.com) & [airportadm@dublinairport.ie](mailto:airportadm@dublinairport.ie)) so that the A-CDM information platform matches the ATC systems.

#### **4.5 Flight Plan Missing**

If no flight plan is available the flight cannot be sequenced. All flights from Dublin must have a valid flight plan.

#### **4.6 Contact Points**

The Stand Allocation Unit (SAU) can be contacted for any tactical matters concerning activities relating to the correlation of flight information. However, it should be noted that Dublin Airport is designated a coordinated airport under the EU slot regulations 2004 and queries relating to airport slot times (SOBT) should be filed / amended with the airport slot coordinator.

For short notice ad hoc slot requests outside of the airport slot coordinator hours, applicants should contact the stand allocation, contact details are as follows:

Stand Allocation Unit,  
Level 5, Terminal 1,  
Dublin Airport  
Tel: +353 (0)1 8144352  
E mail: [sau@dublinairport.com](mailto:sau@dublinairport.com)

The A-CDM Manager for Dublin Airport can be contacted on;

Tel: TBC  
Email: [acdm@dublinairport.com](mailto:acdm@dublinairport.com)

#### 4.7 Target Off-Block Time (TOBT)

The TOBT, is the time that an aircraft operator / ground handler estimates that an aircraft will be ready, all doors closed, boarding bridge removed, push back vehicle available, de-icing complete and ready to start up / push back immediately once cleared by ATC.

***Airlines / Ground Handlers are responsible for the update of the TOBT.***

The aim of TOBT is to provide a timely, accurate and reliable estimate of an aircraft off block time to the community as a whole. Accurate TOBTs enhance operations on the ground as they provide all airport partners with a clear picture of the intentions of the aircraft on the ground.

A TOBT can be anticipated before the aircraft lands or during the turn-round process. It is important that TOBT estimates should be as accurate and reliable as possible. This will ensure that the Target Start-Up Approval Time (TSAT) calculated by the PDS in respect of TOBT to sequence the flight for departure, can be complied with. If the TSAT cannot be complied with, the flight will lose its place in the sequence and an updated TOBT will have to be processed by the AO or HA to re-sequence the flight. After TSAT issue the TOBT can be updated up to three times. If a fourth update is required the flight will be removed from the sequence and re-sequenced. Within 20 minutes of TSAT, improvements to the TOBT can be inserted, but no improvement to TSAT will be available. This is to ensure the stability of the departure sequence.

Sources of TOBT:

The TOBT will come from either one of the following:

1. AOS defaulted. In the event that no TOBT has been input for a flight at SOBT -90minutes, the system will default the TOBT to EOBT, unless the linked arrival flight has an ELDT, and the ELDT -30mins is greater than SOBT +90mins, in which case the TOBT will be set at this time.
2. Provided by Airline / Handling Agent (directly or indirectly into AOS).



#### 4.8 Who is Responsible for Updating TOBT?

The Airlines or their Handling Agents have the accountability to ensure that timely and accurate TOBTs are input. Airlines may choose to delegate this formal service to their Handling Agents, however ultimately, they are responsible for ensuring that:

- One party is responsible for the TOBT on operational day / shift.
- Communication with the relevant airline, Operational Control Centre (ATC flight plan / person responsible for the EOBT) ref any slot discrepancies.
- Coordination of internal working procedures to comply with published TOBT.

The Airline or handling agent is responsible for inputting, maintaining and deleting the TOBT. Airline or handling agents will be responsible for the accuracy of and the adherence to the TOBT.

An inaccurate TOBT leads to disadvantages for further sequencing and/or CTOT allocation of regulated flights. Therefore, the TOBT must be adjusted as early as possible. All AO and HA at Dublin Airport must communicate any change to their TOBT of +/- 5 minutes or greater. Timely, accurate and stable TOBTs will enhance your operation from Dublin Airport. To further improve the operation at Dublin Airport, it may be necessary to adjust these time parameters.

Airlines and Ground Handlers must ensure that they have an active systemised means to update TOBT. The Pre-departure sequencer will calculate the TSAT and this time will be available in the AOS. It is the responsibility of the AO / HA to ensure each flight crew has the correct TOBT & TSAT assigned to it.

## 4.9 TOBT Input and Adjustment

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

1. The TOBT can only be accepted from EOBT (-)120minutes
2. If no TOBT is present at (-)90mins the TOBT will be defaulted to EOBT, unless the  $EIBT + MTTT > EOBT$ . In this case a manual TOBT is required.
3. A manually set TOBT will never be overwritten by an automatically generated TOBT.
4. The TOBT can be adjusted as often as necessary until the TSAT has been issued i.e. at TOBT – 40mins.
5. After TSAT issue, the TOBT can be updated three times without losing priority in the pre-departure sequence. If a fourth update is required the flight will be removed from the sequence and re-sequenced. Within 20 minutes of TSAT, improvements to the TOBT can be inserted, but no improvement to TSAT will be available. This is to ensure the stability of the departure sequence.
6. It should be noted that after the issue of the TSAT, any subsequent change to TOBT may trigger a new TSAT. This is to ensure fairness and equity across the community for those flights ready to enter the pre-departure sequence. **Note:** TSATs will be issued by the IAA pre-departure sequencer and will be displayed in the AOS system.
7. New TOBTs cannot be inserted if they do not differ by a minimum of +/- 5 minutes from the previous TOBT.

#### 4.10 Deviations from TOBT and EOBT

If the TOBT deviates from the EOBT of the ATC flight plan by more than 15 minutes, the airline shall initiate an additional flight plan delay message. This new EOBT must be based on the last and valid TOBT anticipated as the departure time. This is as per current procedures.

#### 4.11 TOBT Deletion or Change

The TOBT will be automatically deleted when:

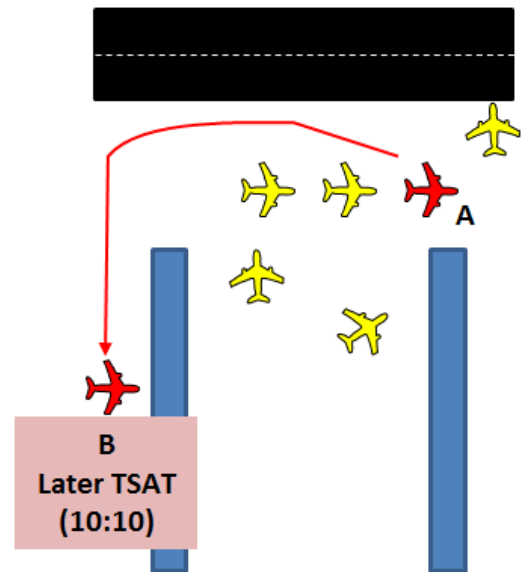
- Operational flight gets cancelled in AOS.
- Unlinking of ATC flight plan and operational flight in AOS.
- Cancellation of the ATC flight plan.
- TOBT will be automatically be deleted by TOBT+20mins if no ASAT.

In case of delays (> 5 minutes) after ATC clearance has been received and / or a call ready at TOBT has been made, the pilot should inform ATC of the delay and a new TOBT must be issued by the Aircraft agent. If a TSAT changes post clearance, ATC will communicate the revised TSAT verbally to the pilot. A revised DCL message will not be issued, post ATC clearance.

**Example A:**

**At 09:40**

A flight was scheduled to depart at **10:00** and the TOBT was set accordingly. Subsequently a TSAT was generated to show **10:05** and if the aircraft had complied with that it would have reached **position 'A'** in the departure sequence.



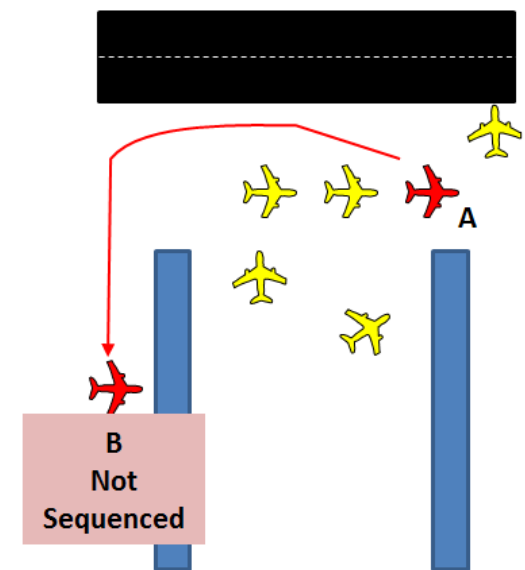
**At 09:55**

However, an issue was identified (at 09:55) and the TOBT was changed to **10:05**. In consequence, a new TSAT of **10:10** was calculated. Consequently, the aircraft will now have to remain at **position 'B'** until its later TSAT (**10:10**), when push-back will become available.

**Example B**

**At 09:40**

A flight was scheduled to depart at **10:00** and the TOBT was set accordingly. Subsequently a TSAT was generated to show **10:05** and if the aircraft had complied with that it would have reached **position 'A'** in the departure sequence.



**At 09:55**

However, an issue was identified (at 09:55) and the TOBT was changed to **10:50**.

Consequently, the aircraft was removed from the departure sequence and TSAT is blanked out on screen to the user.

#### 4.12 Potential TOBT Alerts

Potential A-CDM alerts are fully explained in Section 6 of this document and include the TOBT alerts as follows:

CDM Alarm:	Short Description:
CDM07a	EIBT + MTTT discrepancy with TOBT
CDM08	EOBT Compliance Alert
CDM09	Boarding Not Started (Define rules / alerts)
CDM10	TOBT Rejected or Deleted
CDM11	Flight not compliant with TOBT / TSAT
CDM11a	Flight not compliant with TOBT for de-icing
CDM14	Automatic TOBT generation not possible.

#### 4.13 Target Start up Approval Time (TSAT)

The time provided by PDS, takes into account the TOBT, CTOT, VTT, runway in use, and the traffic situation that an aircraft can expect start up / push back approval.

#### 4.14 TSAT Characteristics Overview

- The time calculated by PDS that an aircraft can expect to receive “start up” approval (+/-5mins).
- Is issued at TOBT -40 minutes.
- TSAT can be up to 5 minutes before its TOBT, e.g. TOBT = 10:00 and TSAT could = 09:55. Pilots will be notified of their TSAT by their Airline / Handling Agent.
- Based on the TSAT, ATC will endeavour to ensure start-up clearance subject to the traffic situation (see start-up request section below).

#### 4.15 How do you ensure you get a timely TSAT

As a core component of the departure process, it is very important that there is clarity as to the elements that are required to ensure either:

1. A TSAT is released in a timely manner at (-)40mins to TOBT.

A TSAT request will only be processed and displayed in AOS if at TOBT (-)40mins there are 'No Gaps' in information to either TOBT, STAND and CALL SIGN / flight number correlation.

If there are gaps in the data, no TSAT will be displayed and the aircraft will NOT be sequenced.

2. If information is amended, to the key fields, this may affect the original allocated TSAT.

If a TSAT already exists from (-)40mins to TOBT, and if there are any subsequent changes to either, IFPLID (Flight Plan), CALL SIGN, AIRCRAFT TYPE, SID, CTOT or departure runway, this may trigger the generation of a new TSAT. For example; if a new CTOT is issued, then the existing TSAT may be replaced with a new TSAT.

#### 4.16 How do you update the TOBT following issue of TSAT?

If any changes to the TOBT are made after the initial TSAT has been calculated (maximum 3 changes), a new TSAT may be generated. The latest TSAT will be displayed in the AOS. On the fourth TOBT change, the TOBT time must be deleted from the AOS system and re-entered. Once a fourth TOBT is entered a new TSAT will be issued.

#### 4.17 Apart from changes in data, can I lose my TSAT for other reasons?

Yes. When procedures have not been followed by the flight crew this may generate a loss of the existing TSAT. Namely, if ATC calls Aircraft at TSAT +5minutes and no reply is received or the aircraft is not ready to start, ATC will not push the aircraft until a new TOBT is received and a new TSAT generated. A new TSAT will be generated when a new TOBT is received from the AO or HA.

Pilots will be advised by ATC that they must contact their company for a new TOBT to be entered.

#### 4.18 TSAT Reporting Channels

The active TSAT will always be displayed in AOS. It is the responsibility of the AO / HA to ensure that the pilot is advised of the flight's TSAT.

#### 4.19 Update of TSAT

In certain situations, the PDS may have to re-sequence a flight, even if no new TOBT has been sent (e.g. congestion, reduced visibility etc). PDS will calculate a new TSAT which will be displayed in AOS and it is the AO / HA responsibility to communicate the new TSAT to the pilot.

If pilots have received their clearance and called at TOBT and Ground has not called to give push and start clearance by TSAT +5minutes, pilots are requested to call Ground requesting push and start clearance.

#### Optimal TSAT

In the case of regulated flights with a distant CTOT (i.e. TOBT 1200 CTOT 1345), PDS will calculate a TSAT to meet that CTOT and will continuously seek to improve the CTOT through automated dynamic communication with the Network Manager. If the CTOT is advanced a new TSAT will be calculated to allow the aircraft to meet this. The pilot should contact the appropriate ATC frequency for start as usual at TOBT +/-5mins and any subsequent changes to TSAT, will be issued to the pilot by ATC.

NOTE: For flights with a regulation (CTOT), the AO / HA should not amend their TOBT (e.g. to advise the outstation of a late DUB Departure) unless they have consciously decided to potentially delay the departure.

#### 4.20 Early Ready

If the aircraft is ready in advance of the TOBT by greater than or equal to (-)5 minutes, the AO / HA may provide an updated TOBT message in AOS or electronic update method & await a TSAT improvement if available.

#### 4.21 Potential Airport A-CDM alerts

Potential A-CDM alerts concerning the TSAT include: \*

<b>CDM Alarm:</b>	<b>Short Description:</b>
<b>CDM08</b>	EOBT Compliance Alert
<b>CDM10</b>	TOBT Rejected or Deleted
<b>CDM11</b>	Flight not compliant with TOBT / TSAT

\*Details on the full A-CDM alerts are outlined in Section 6.

#### 4.22 Start- Up and Push Back - The Role of Flight crew

##### 4.22.1 TOBT / TSAT

The Pilot shall ensure that the flight is ready to depart at TOBT (window of +/-5 minutes). The AO / HA must update the TOBT in AOS if the flight is not ready within this window. Prior to reporting ready to ATC at TOBT +/-5 minutes it is responsibility of the AO / HA to issue the TSAT to the Pilot. The current TSAT will also be included in DCL messages. If a TSAT changes post clearance, ATC will communicate the revised TSAT verbally to the pilot. A revised DCL message will not be issued, post ATC clearance



#### 4.22.2 Pushback and/or Start – Dublin ATC

The Pilot will contact the appropriate ATC frequency and report ready to start at  $\pm 5$  minutes of TOBT. Following this call, ATC will either approve Start Up or advise to wait until TSAT. Once the pilot reports ready for push and start at TOBT ( $\pm 5$ mins), there is no requirement for the TOBT to be updated, if the flight is required to wait on stand to comply with TSAT. If subsequently a flight is unable to meet its TSAT, a new TOBT is required ( $\pm 5$ mins of TSAT).

If a TSAT expires;

- Dublin ATC will advise the pilot that a new TOBT is required by his Airline / HA.
- A new TOBT must be entered for the flight to be re-sequenced with a new TSAT.
- Aircraft will not be allowed to depart until a valid TOBT is entered and a revised TSAT is issued.

#### 4.22.3 Pushback Procedures - Dublin

The push back procedures in Aerodrome Manual, Part D-O Aircraft Stand Allocation, will be followed at Dublin Airport. To access this manual, please contact [airside.operations@dublinairport.ie](mailto:airside.operations@dublinairport.ie)

#### 4.22.4 Push and hold Procedures

If an aircraft has reported ready at TOBT, but push and start is not available due to a later TSAT, and an arriving aircraft needs the stand position, the aircraft may be requested by ATC / Dublin Airport to push and hold in accordance with procedures at Dublin Airport, included in D-O Aircraft Stand Allocation Procedures. ATC & Dublin Airport have local procedures for remote holding. Please refer to appendix B.

#### 4.23 Delay Codes

A new delay code for A-CDM is being discussed at a European level. Until this new delay code comes in, delays should be recorded in the normal way, i.e. under existing delay codes.

## 5 DEPARTURE PLANNING INFORMATION (DPI) MESSAGES

### 5.1 Purpose of a DPI

Departure Planning Information (DPI) messages provide flight data related updates for the NMOC for planned departure flights at Dublin Airport.

DPI messages contain information concerning departure flights, and subsequently sent DPI messages update previously sent information with more recent and accurate flight plan data.

Each DPI message relates to a single flight only.



### 5.2 DPI Benefits

The messages provide a way for the A-CDM Airports to be integrated into the Network Manager process, supporting the most efficient management of the network.

The following benefits apply:

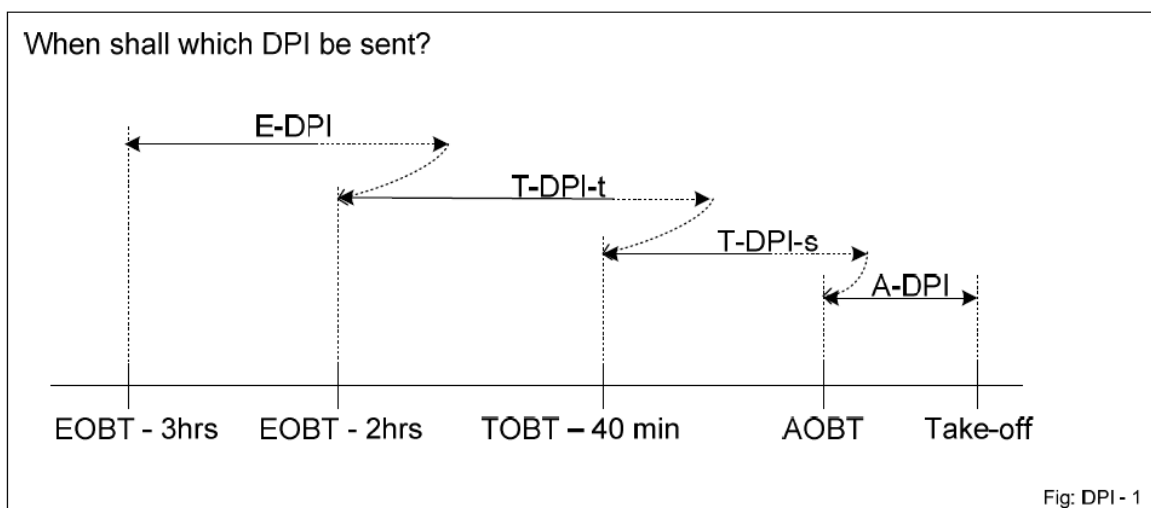
- Common picture of the network situation, facilitating its understanding and enhanced decision making.
- Allow the Network Manager to understand the A-CDM Airport constraints for a given flight and to take them into account in its own processes.
- Allows the best adjustment between Dublin Airport and ATC capacity.
- Provide more accurate timing of the traffic, enabling automatic processes such as slot allocation to be more effective.
- Improve short term forecast of the traffic situation.
- Enables airlines to get a better view of their respective fleet situation before the departure of flights (especially when Dublin is an out-station).

### 5.3 DPI Message Types

There are five types of DPI messages that are relevant to the pre-departure sequence. Each DPI message type gives a more progressive accurate update of the flight. The message types are:

DPI Type:	Description:	Notes:
E-DPI	Early DPI (Sent @ EOBT (-) 3Hrs)	First DPI message that is sent from Dublin Airport to the NMOC notifying the Estimated Take Off Time (ETOT).
T-DPI-t	Target DPI target (Sent @ EOBT (-) 2Hrs)	This DPI message is sent from Dublin Airport to the NMOC, providing a provisional TOBT, calculated by the system, not yet acknowledged by the Aircraft Operator (or their agent).
T-DPI-s	Target DPI sequence (Sent @ TOBT (-)40Mins)	This DPI message is sent from Dublin Airport to the NMOC when; (a). For Regulated flights; once a TSAT is generated. (b) For Non regulated flights; following any changes to TTOT, SID etc.
A-DPI	ATC DPI (Sent @ AOBT)	DPI message sent from Dublin Airport to the NMOC notifying them of the TTOT, between ATC time of pre-departure sequencing and Actual Take off Time (ATOT).
C-DPI	Cancel DPI	This message informs the NMOC that a previously sent DPI is no longer valid.

### 5.4 DPI Message Timing



## 5.5 TOBT/EOBT changes post full A-CDM and DPI network integration

Following full integration of Dublin Airport into the network via dynamic DPI message exchange, the Network Manager will start to receive Off-block time updates via two different sources.

- via DLA or CHG [direct from the AO reflect the EOBT].
- via DPI (T-DPI-t, T-DPI-s and/or E-DPI) from the A-CDM / IAA interface reflecting the TOBT.

Upon receipt of a revised T-DPI-t, the Network Manager will assess the network impact and in some cases a flight may get a new CTOT or become suspended. Experience from A-CDM airports show that if additional delay occurs, the Network Manager may find a new CTOT within minutes.

Post full integration we must remember that, DLA messages are often sent at the very last moment while TOBT updates are sent earlier. This early reception of the TOBT / TSAT gives the Network Manager time to find CTOT improvements.

If the NMOC receives a DLA / CHG with a new EOBT after a T-DPI-t, then they will automatically compare the content of the TOBT field, with the new EOBT.

It is therefore important that the EOBT and TOBT are kept in close alignment post full A-CDM integration.






## 6 A-CDM ALERTING AT DUBLIN AIRPORT

Alerting is an important result of information sharing and information processing. Once new information is entered in the AOS system, it must be validated so that the value of the new information is compliant with tolerances and limits.

Alerts will be automatically generated within the AOS system and issued to users for resolution after an inconsistency is detected. A-CDM alerts and their short description are set out below:

CDM Alarm:	Short Description:
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 (deviation of 15mins)
CDM09	Boarding not started
CDM10	TOBT Rejected or Deleted
CDM11	Flight not compliant with TOBT / TSAT
CDM11a	Flight not compliant with TOBT for de-icing
CDM13	No ATC Flight Plan available
CDM14	Automatic TOBT generation not possible

It is important to understand and acknowledge which alerts will prevent the aircraft from being sequenced when activated. The highest ranked alert will be displayed in colour in the AOS system. Alerts are coded **Grey**, **Green**, **Red**, **Amber** & **yellow** with potential consequences if not addressed set out below.

-  Flight does not take part in the A-CDM Process
-  No active A-CDM alarm
-  Fatal Error: Immediate interruption
-  Possibly subsequent interruption
-  Warning: No interruption

Sample alerts from Dublin Airport and the advisory information are set out below;

X
**CDM02 – SOBT vs. EOBT discrepancy;**

ETH500/ET500  
**CDM02**  
 17/03/2017 0135UTC  
 DUB/EIDW  
 ATC Flight Plan ETH500/ET500 EOBT 17/03/2017 0535 (UTC) is not consistent with Airport Slot SOBT 17/03/2017 0520 (UTC).  
 Immediate update of Airport Slot or ATC Flight Plan EOBT needed.

X
**CDM10 – TOBT Rejected or Deleted;**

DUB/EIDW  
**CDM10**  
 EIN23H/EI236  
 12/01/2018 1604 UTC  
 EIN23H/EI236 TOBT was rejected or deleted.  
 New TOBT is required.  
 NOTE: THE AIRPORT CDM PROCESS IS SUSPENDED UNTIL A NEW TOBT IS RECEIVED.

## 7 USE CASE

Use Case:	Expected Outcome:
<p><b>Blocked Flights;</b></p> <p><b>A flight has a TSAT assigned but for some reason misses it and will therefore not push back at the allocated time.</b></p>	<p><b>PDS:</b> If 5min after TSAT no ASRT has been set, the system will remove the flight from the sequence: delete TSAT TTOTSequence and send update to A-CDM system. The NMOC is informed at TSAT+10 if still no new TOBT is provided (and flight is suspended).</p> <p><b>A-CDM:</b> CDM10 alert. To get re-sequenced (by PDS) a new TOBT is required.</p> <p><b>AO:</b> Need to insert a new TOBT with the expected ready time.</p> <p><b>PDS:</b> Should remove the flight from the sequence and only calculate a new sequence for it when an update of the TOBT is sent.</p>
<p><b>Widening of the CTOT Slot Tolerance Window;</b></p> <p><b>The normal A-CDM slot tolerance window defined by NMOC is (-)5, +10min from CTOT. In adverse conditions, ATC can widen this window following agreement with Network Manager if the normal time window is not sufficient.</b></p>	<p><b>ATC:</b> Contact NMOC and put in request to widen CTOT slot tolerance window. If NMOC confirms this, ATC shift leader should contact DUBLIN AIRPORT and inform of the widening of the slot tolerance window.</p> <p><b>DUBLIN AIRPORT:</b> Insert the new slot tolerance window into the A-CDM system.</p> <p><b>PDS:</b> Must conform sequence to the NMOC CTOT.</p>
<p><b>Push and Hold;</b></p> <p><b>If a departing aircraft is asked to push and hold to allow for an arrival aircraft to park, the TTOT sent to NMOC should still be accurate, or updated if required.</b></p>	<p><b>PDS:</b> No change.</p> <p><b>ATC / Dublin Airport</b> have agreed procedures in place to deal with these occurrences (see appendix B).</p>
<p><b>Correcting the call sign in AOS;</b></p> <p><b>Currently it is possible to update the Callsign manually in AOS.</b></p> <p><b>Once flight plans are processed, the callsign should</b></p>	<p><b>A-CDM:</b> Authorised users may need to manually assign a flight plan to the flight in AOS. (Automatic matching does not take place due to the different callsign values.) Once the update is received a message will be sent out to PDS.</p>

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<b>only change if there is a difference between AOS data and the flight plan data.</b>	
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## 8 CONTINGENCY PROCEDURES

### 8.1 EFS or PDS or A-SMGCS failure;

In this event, the IAA Station Manager will carry out the following actions:

- Inform the Dublin Airport ADM that A-CDM has been suspended
- Inform London FMP / EUROCONTROL of the suspension of A-CDM at Dublin
- Send Ready Messages on flight plans if required
- Enter taxi times in CHMI
- Inform TCD (IAA Engineering)
- The following message shall be included in the ATIS; “A-CDM Procedures suspended. Pilots call Clearance Delivery for flight plan clearance and start-up approval”.

#### 8.1.1 The ADM will undertake the following actions;

- Inform the AO / HA’s that A-CDM has been suspended via text messages, Email, or by phone.
- Remind the AO/HA’s that TOBTs should continue to be input to the AOS to enable the resumption of A-CDM operations, as soon as possible
- Inform the Stand Allocation Unit to switch off DPI sending in AOS.
- Issue a NOTAM stating A-CDM at Dublin Airport has been temporary suspended
- Inform daa IT

#### 8.1.2 EFS or PDS or A-SMGCS resumption of A-CDM;

The IAA Station Manager and daa ADM will agree the time for the resumption of A-CDM.

In this event, the IAA Station Manager will carry out the following actions:

- IAA will inform ADM that their systems are back on-line.
- Inform London FMP / EUROCONTROL of the resumption of A-CDM at Dublin
- Inform TCD (IAA Engineering), if required

- Remove the following message from the ATIS; “A-CDM Procedures suspended. Pilots call Clearance Delivery for flight plan clearance and start-up approval”.

### **8.1.3 The ADM will undertake the following actions;**

- Inform the AO / HA’s that A-CDM will be resumed via text messages, Email, or by phone.
- Inform the Stand Allocation Unit to switch on DPI sending in AOS at the agreed time.
- Cancel the temporary NOTAM
- Inform daa IT

## **8.2 AOS schedule or unscheduled system outages;**

The ADM will undertake the following actions;

- Inform IAA and AO / HA’s that AOS has failed and A-CDM has been suspended via text messages, Email or by phone.
- Issue a NOTAM stating A-CDM at Dublin Airport has been temporary suspended

### **8.2.1 The IAA Station Manager will carry out the following actions:**

- Inform London FMP / EUROCONTROL of the suspension of A-CDM at Dublin
- Send Ready Messages on flight plans if required
- Enter taxi times in CHMI
- Inform TCD (IAA Engineering)
- The following message shall be included in the ATIS; “A-CDM Procedures suspended. Pilots call Clearance Delivery for flight plan clearance and start-up approval”.

### **8.2.2 AOS resumption of service;**

The IAA Station Manager and daa ADM will agree the time for the resumption of A-CDM.

The ADM will undertake the following actions;

- Inform the AO / HA's that A-CDM will be resumed via text messages, Email, or by phone.
- Inform the Stand Allocation Unit to switch on DPI sending in AOS at the agreed time.
- Cancel the temporary NOTAM
- Inform daa IT

### **8.2.3 The IAA Station Manager will carry out the following actions:**

- Inform London FMP / EUROCONTROL of the resumption of A-CDM at Dublin
- Inform TCD (IAA Engineering)
- Remove the following message from the ATIS; "A-CDM Procedures suspended. Pilots call Clearance Delivery for flight plan clearance and start-up approval".

### **8.3 daa / IAA interface failure or partial failure (AFTN, IB, etc);**

In this event, the IAA Station Manager will carry out the following actions:

- Inform the Dublin Airport ADM that A-CDM has been suspended
- Inform London FMP / EUROCONTROL of the suspension of A-CDM at Dublin
- Send Ready Messages on flight plans if required
- Enter taxi times in CHMI
- Inform TCD (IAA Engineering)
- The following message shall be included in the ATIS; "A-CDM Procedures suspended. Pilots call Clearance Delivery for flight plan clearance and start-up approval".

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### **8.3.1 The ADM will undertake the following actions;**

- Inform the AO / HA's that A-CDM has been suspended via text messages, Email, or by phone.
- Remind AO/HA's that TOBTs should continue to be input to the AOS to enable the resumption of A-CDM operations, as soon as possible
- Inform the Stand Allocation Unit to switch off DPI sending in AOS
- Issue a NOTAM stating A-CDM at Dublin Airport has been temporary suspended
- Inform daa IT

### **8.3.2 daa / IAA interface resumption of A-CDM;**

The IAA Station Manager and daa ADM will agree the time for the resumption of A-CDM.

### **8.3.3 The ADM will undertake the following actions;**

- Inform the AO / HA's that A-CDM will be resumed via text messages, Email, or by phone.
- Inform the Stand Allocation Unit to switch on DPI sending in AOS at the agreed time.
- Cancel the temporary NOTAM
- Inform daa IT

### **8.3.4 The IAA Station Manager will carry out the following actions:**

- Inform London FMP / EUROCONTROL of the resumption of A-CDM at Dublin
- Inform TCD (IAA Engineering)
- Remove the following message from the ATIS; "A-CDM Procedures suspended. Pilots call Clearance Delivery for flight plan clearance and start-up approval".

#### **8.4 Airlines / Handling Agent IT failure;**

If the I.T. interface between AO / HA systems and AOS fails, the AO / HA must insert A-CDM data directly into AOS and undertake the following actions;

- AO/HA inform Stand Allocation Unit
- Stand Allocation Unit will inform the ADM and Daa IT

##### **8.4.1 Resumption of Airlines / Handling IT interface**

- AO/HA inform Stand Allocation Unit
- Stand Allocation Unit will inform the ADM and Daa IT

#### **8.5 AOS mobile app failure;**

- Inform daa IT
- The ADM will inform the AO / HA's that the AOS mobile app service is down via text messages, Email, or by phone
- AOS mobile app users should insert / view A-CDM data into AOS rich client

##### **8.5.1 Resumption of AOS mobile app**

- daa IT will inform the ADM that the AOS mobile app is back in operation.
- The ADM will inform the AO / HA's that the AOS mobile app service has resumed via text messages, Email, or by phone

#### **8.6 Adverse weather;**

In the event of adverse weather, the ADM and IAA Station Manager may agree to suspend A-CDM. Low visibility operations will not normally lead to a suspension to A-CDM.

##### **8.6.1 The IAA Station Manager will carry out the following actions:**

- Inform London FMP / EUROCONTROL of the suspension of A-CDM at Dublin
- Send Ready Messages on flight plans if required
- Enter taxi times in CHMI

- The following message shall be included in the ATIS; “A-CDM Procedures suspended. Pilots call Clearance Delivery for flight plan clearance and start-up approval”.

#### **8.6.2 The ADM will undertake the following actions;**

- Inform the AO / HA’s that A-CDM has been suspended via text messages, Email, or by phone.
- Remind AO/HA’s that TOBTs should continue to be input to the AOS to enable the resumption of A-CDM operations, as soon as possible
- Issue a NOTAM stating A-CDM at Dublin Airport has been temporary suspended
- Inform the Stand Allocation Unit to switch off DPI sending in AOS.

#### **8.6.3 Resumption of service after adverse weather;**

The IAA Station Manager and daa ADM will agree the time for the resumption of A-CDM.

#### **8.6.4 The ADM will undertake the following actions;**

- Inform the AO / HA’s that A-CDM will be resumed via text messages, Email, or by phone.
- Cancel the temporary NOTAM
- Inform the Stand Allocation Unit to switch on DPI sending in AOS at the agreed time.

#### **8.6.5 The IAA Station Manager will carry out the following actions:**

- Inform London FMP / EUROCONTROL of the resumption of A-CDM at Dublin
- Remove the following message from the ATIS; “A-CDM Procedures suspended. Pilots call Clearance Delivery for flight plan clearance and start-up approval”.

#### **8.7 General note;**

For other reasons outside the list above, the daa ADM and the IAA Station Manager may suspend A-CDM, if they deem necessary.

## 8.8 DAA IT – Incident logging for ACDM;

The following daa IT numbers should be used to report all A-CDM incident;

<b>DAA IT:</b>	<b>Availability:</b>	<b>Contact:</b>
Level 1 - IT Service Desk & AITS	24x7	+353 1 9440800 +353 87 9297842 +353 87 9964616
Level 2 - Airport Applications Support	24x7	+353 1 9440455
IT Escalations - IT Service Delivery Manager	24x7	+353 1 9440736

## 9 A-CDM WEBPAGE

The following A-CDM webpage was developed for Dublin Airport;  
<https://www.dublinairport.com/regulation-and-planning/regulatory/airport-cdm>

The A-CDM website went live in April 2016. On this webpage, you will find;

- General information about A-CDM and the project
- Benefits to all partners
- Seven information leaflets
- Useful documents
- DUB A-CDM video and EUROCONTROL A-CDM video
- Training (E-learning)
- A-CDM Operational Procedures
- Other related websites, i.e. IAA, EUROCONTROL, etc.
- Contact details

If you experience any technical issues with the DUB A-CDM webpage, please contact the Dublin Airport IT Service Desk on 00353 1 8141441.



## APPENDIX A – REFERENCES & INFORMATION SOURCES

Reference Material:	Sourced From:
Dublin Airport A-CDM MoU – Nov. 2014	Dublin Stakeholders
A-CDM Implementation Manual v5 – March 2017	EUROCONTROL
DPI & FUM Implementation road map – August 2017	EUROCONTROL
DPI-ICD EIDW – February 2018	EUROCONTROL

## **APPENDIX B – PUSH AND HOLD PROCEDURES**

Please refer to the existing Dublin Airport push and hold procedures.

## APPENDIX C – A-CDM ACRONYMS

ACARS	Aircraft Communications Addressing and Reporting System
ACC	Area Control Centre
ACGT	Actual Commence of Ground Handling Time
ACISP	Airport CDM Information Sharing Platform
ACZT	Actual Commencement of De-icing Time
ADEP	Aerodrome of Departure
ADES	Aerodrome of Destination
ADEXP	ATS Data Exchange Presentation
ADIT	Actual De-icing Time
ADM	Airport Duty Manager
A-DPI	ATC-Departure Planning Information message
AEGT	Actual End of Ground handling Time
AEZT	Actual End of De-icing Time
AFTN	Aeronautical Fixed Telecommunication Network
AGHT	Actual Ground Handling Time
AIBT	Actual In-Block Time
ALDT	Actual Landing Time
AMAN	Arrival Manager
ANSP	Air Navigation Service Provider
AO	Aircraft Operator
AOBT	Actual Off-Block Time
AOC	Airport Operator Committee
APP	Approach Control Unit
ARDT	Actual Ready Time (for Movement)
ARR	Arrival
ARZT	Actual Ready for De-icing Time
ASAT	Actual Start Up Approval Time
ASBT	Actual Start Boarding Time
A-SMGCS	Advanced Surface Movement Guidance and Control System
ASRT	Actual Start Up Request Time
ATC	Air Traffic Control
ATFCM	Air Traffic Flow and Capacity Management
ATFM	Air Traffic Flow Management

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ATM	Air Traffic Management
ATOT	Actual Take Off Time
ATS	Air Traffic Services
ATTT	Actual Turn-round Time
AXIT	Actual Taxi-In Time
AXOT	Actual Taxi-Out Time
C-DPI	Cancel – Departure Planning Information message
NMOC	Central Flow Management Unit
CHG	Modification message
CNL	Flight Plan Cancellation
CPDLC	Controller Pilot data Link Communication
CTOT	Calculated Take Off Time
DCL	Departure Clearance (Data link)
DEP	Departure
DLA	Delay message
DMAN	Departure Manager
DPI	Departure Planning Information message
ECZT	Estimated Commencement of De-icing Time
EDIT	Estimated De-icing Time
E-DPI	Early – Departure Planning Information Message
EET	Estimated Elapsed Time
EEZT	Estimated End of De-icing Time
EIBT	Estimated In-Block Time
ELDT	Estimated Landing Time
EOBT	Estimated Off-Block Time
ERZT	Estimated Ready for De-icing Time
ETFMS	Enhanced Tactical Flow Management System
ETO	Estimated Time Over
ETOT	Estimated Take Off Time
ETTT	Estimated Turn-round Time
EXIT	Estimated Taxi-In Time
EXOT	Estimated Taxi-Out Time
FIDS	Flight Information Display System
FIR	Flight Information Region

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FLS	Flight Suspension message
FMP	Flow Management Position
FPL	Filed Flight Plan
FRD	Functional Requirements Document
FSA	First System Activation
FUM	Flight Update Message
GH	Ground Handler
HMI	Human-Machine Interface
ICAO	International Civil Aviation Organisation
IFPS	Integrated Initial Flight Plan Processing System
IFR	Instrument Flight Rules
KPI	Key Performance Indicator
LoA	Letter of Agreement
LVP	Low Visibility Procedures
MoU	Memorandum of Understanding
MTTT	Minimum Turn-round Time
MVT	Movement message
OCD	Operational Concept Document
PAX	Passengers
PDS	Pre-departure sequencer
PMP	Project Management Plan
REA	Ready message
REJ	Rejection message
RFP	Replacement Flight Plan
RWY	Runway
SAM	Slot Allocation Message
SIBT	Scheduled In-Block Time
SID	Standard Instrument Departure
SIT1	NMOC Slot Issue Time
SLA	Service Level Agreement
SLC	Slot Cancellation message
SOBT	Scheduled Off-Block Time
SRM	Slot Revision Message
SSR	Secondary Surveillance Radar

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STAR	Standard Arrival Route
STTT	Scheduled Turn-round Time
TBC	To Be Confirmed
T-DPI	Target - Departure Planning Information message
TOBT	Target Off-Block Time
TSAT	Target Start Up Approval Time
TLDT	Target Landing Time
TTOT	Target Take Off Time
TWR	Aerodrome Control Tower
VFR	Visual Flight Rules
VTT	Variable Taxi Time
WP	Work Package

Please refer to EUROCONTROL A-CDM Implementation Manual for full list of definitions (document link included on page 5).

**END**