International Civil Aviation Organization

Runway and Ground Safety Working Group

Fifth Meeting (RGS WG/5)
(Cairo, Egypt, 25 – 27 November 2018)

Agenda Item 4:   **Coordination between RASG-MID and MIDANPIRG in the area of Aerodromes**

STATUS OF IMPLEMENTATION OF B0-ACDM

(Presented by the Secretariat)

SUMMARY
This paper presents the status of implementation of B0-ACDM in the MID Region and highlights recommended steps for the effective implementation of Airport Collaborative Decision Making. Action by the meeting is at paragraph 3.

REFERENCES
- ANSIG/3 Report   - MID Air Navigation Strategy (MID Doc 002)   - MIDANPIRG/16 Report

1.   **INTRODUCTION**

1.1   The Third meeting of the Air Navigation Systems Implementation Group (ANSIG/3) was held at the Meeting Room of the ICAO Middle East Regional Office in Cairo, Egypt, from 2 to 4 July 2018.

1.2   PIA1 (*Airport Operations*) includes five (5) Modules in Block0 from which B0-SURF and B0-ACDM have considered priority 1 for implementation in the MID Region.

1.3   B0-ACDM aims at Improved Airport Operation through Airport Collaborative Decision Making (ACDM). It is to be highlighted that ACDM implementation will enhance surface operations and safety by making airspace users, ATC and airport operators better aware of their respective situation and actions on a given flight.

2.   **DISCUSSION**

B0-ACDM Implementation Status

2.1   ACDM is a Concept, which aims at improving Air Traffic Flow and Capacity Management (ATFCM) at airports by reducing delays, improving the predictability of events and optimising the utilisation of resources.

2.2   The Performance Indicators/Supporting Metrics, Targets related to B0-ACDM are detailed in **Appendix A**. The current and proposed new Tables B0-ACDM 3-1 used for the collection of data and monitoring of the status of implementation of B0-ACDM are at **Appendices B** and **C**, respectively.

2.3   MIDANPIRG/16 meeting noted the outcome of the ICAO ACDM Seminar (Bahrain, 11-13 October 2015) that was organized in order to support the implementation of B0-ACDM in the MID Region and agreed to the following Conclusion:
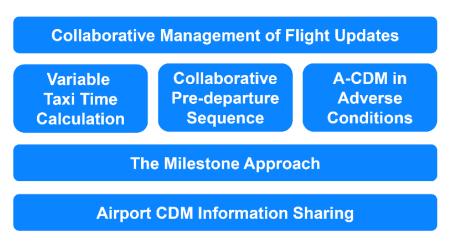
> *CONCLUSION 16/6:   ACTION PLAN FOR ACDM IMPLEMENTATION*
>
> *That, in line with the MID Air Navigation Strategy, States concerned:*
>
> a) *be urged to develop their ACDM implementation plan, with the support of ICAO MID Office, if required; and*
> b) *provide the ICAO MID Office with a copy of their plan before 1 November 2017.*

<u>B0-ACDM Challenges</u>

2.4   The meeting may wish to note that the following challenges related to ACDM implementation have been identified:

- Lack of knowledge and expertise (need for training);
- ACDM is a new culture of collaboration;
- Need of cooperation from all partners;
- Handling of commercially and security sensitive information;
- ACDM functions appropriate usage; and
- Financial resources.

2.5   The full Airport Collaborative Decision Making (ACDM) implementation is a lengthy process involving all aviation stakeholders, which may take years to complete and become mature.

2.6   ACDM is a set of improved processes supported by the interconnection of various airport stakeholders information systems. It includes application designed to implement collaborative procedures that will allow the sharing of surface operations data among the different stakeholders at the airport. ACDM implementation elements have been defined as follow:
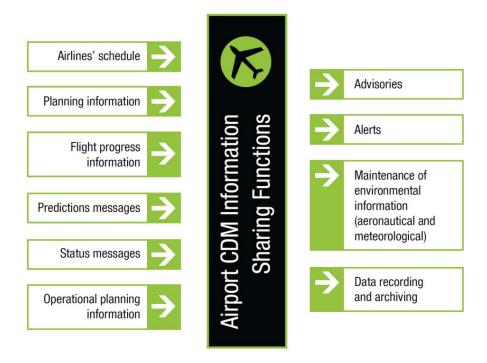
2.7   When ACDM is introduced as a project on an airport, the partners have to understand and discuss the impact and organisation of such a project. Moreover, they need to prepare their own organisations for the work ahead, including the cooperation with other partners.

2.8   The meeting may wish to encourage States/Aerodromes required to implement ACDM (Ref.: MID Region Air Navigation Strategy) to follow the recommended steps detailed in **Appendix D**.

ACDM Implementation (Prioritized Elements: Information Sharing and Milestones Approach)

2.9   The following suggested implementation sequence of the ACDM elements could be followed for the implementation of ACDM:

1. ACDM Information Sharing
2. Milestones Approach (ACDM Turn-round Process)
3. Variable Taxi Time Calculation
4. Collaborative Management of Flight Updates
5. Collaborative Pre-Departure Sequence
6. ACDM in Adverse Conditions.

2.10   ACDM Information Sharing and ACDM Milestones Approach (Turn-round Process) are considered the main elements that should be considered high priority/fundamental elements during ACDM implementation process.

<u>Information Sharing</u>

2.11   Information Sharing is the first ACDM Element, which creates the foundation for all other functions. Therefore, it is essential to implement this element, in the first place. The relevance of ACDM Information is shown as follow:
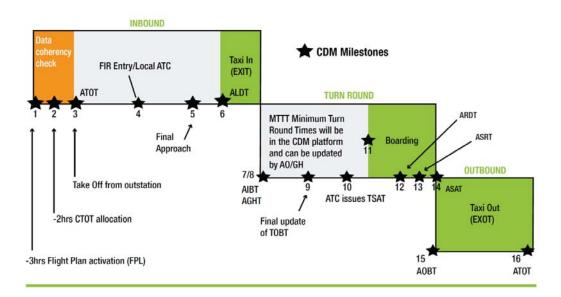
2.12 ACDM Information Sharing platform ties the partners together in their aim to efficiently coordinate airport activities, and forms the foundation for other ACDM Concept Elements and supports local decision making for each of the partners and facilitates implementation of ACDM elements by:

- connecting ACDM Partners data processing systems;
- providing a single, common set of data describing the status and intentions of a flight; and
- serving as a platform for information sharing between partners.

Target Off-Block Time (TOBT)

2.13 The Target Off-Block Time (TOBT) is a key time that an Aircraft Operator or Ground Handler estimates that an aircraft will be ready, all doors closed, boarding bridge removed, push back vehicle available and ready to start up/push back immediately upon reception of clearance from the TWR.

2.14 With the implementation of Information Sharing, the TOBT prediction by the Aircraft Operator or Ground Handler becomes the second major step to implement, before all other elements.

Milestones Approach

2.15 Where ACDM Information Sharing has been implemented, significant further improvements can be achieved by implementing the Milestone Approach for the turn-round process.

2.16 The Milestone aims to have an early and accurate prediction by the Aircraft Operator, in order for Air Traffic Control, Airport Operator, and Ground Handlers to anticipate for resources or traffic planning purposes. With prediction of TOBT in place, improved prediction of target take-off times, start-up times, and taxi time will become possible.

2.17 The progress of a flight is tracked in the ACDM Platform by a continuous sequence of different events, known as milestones, and rules for updating downstream information and the target accuracy of the estimates are defined. Different ACDM Partners can be responsible for different milestones, with the aim of integrating all of the milestones into a common seamless process for the flight.

2.18 The main objective of the Milestone Approach is to further improve the common situational awareness of all partners when the flight is inbound and in the turn-round flight phases. More specifically, the objectives are to:

- determine significant events in order to track the progress of flights and the distribution of these key events as Milestones;
- define information updates and triggers: new parameters, downstream estimates updates, alert messages, notifications, etc;
- specify data quality in terms of accuracy, timeliness, reliability, stability and predictability based on a moving time window;
- ensure linkage between arriving and departing flights;
- enable early decision making when there are disruptions to an event; and
- improve quality of information.

2.19 With regard to ACDM implementation, the ANSIG/3 meeting raised concern about the slow progress of implementation of the B0-ACDM and requested that an ACDM Workshop be organized by the ICAO MID Office in 2019.

2.20 For an improved coordination of ACDM implementation in the MID Region, the ANSIG/3 meeting recognized the need for designation of ACDM Focal Points for each State/International Airport for which ACDM implementation is required (according to the B0-ACDM applicability area included in the MID Air Navigation Strategy).

2.21 The ANSIG/3 meeting noted that ACDM Information Sharing and ACDM Milestones Approach (Turn-round Process) are considered as the main elements that should be assigned high priority (fundamental elements).

2.22 The ANSIG/3 meeting agreed that a Survey on ACDM implementation be carried out for the monitoring of ACDM implementation by the concerned international aerodromes (reference applicability area in the MID Air Navigation Strategy).

2.23 Based on the above, the ANSIG/3 meeting agreed to the following Draft Conclusions:

DRAFT CONCLUSION 3/3: *SURVEY ON ACDM IMPLEMENTATION*

That,

a) *concerned States (according to the B0-ACDM applicability area included in the MID Air Navigation Strategy) be urged to provide the ICAO MID Office with the contact details of their designated ACDM Focal Points; and*

b) *a Survey on ACDM implementation be carried out for the monitoring of ACDM implementation.*

DRAFT CONCLUSION 3/4: *ACDM IMPLEMENTATION WORKSHOP*

That, an ACDM Implementation Workshop be organized by the ICAO MID Office in 2019.

2.24   In connection with the above, the meeting may wish.

2.25   The meeting may wish to review and update the Questionnaire on ACDM implementation at **Appendix E**.

3.   ACTION BY THE MEETING

3.1   The meeting is invited to:

a) review and update the status of implementation of B0-ACDM at **Appendix A**;

b) review the Table at **Appendix C**, proposed for inclusion in the MID eANP Vol III for the monitoring of ACDM implementation (to replace the current B0-ACDM Table);

c) encourage States/Aerodromes required to implement ACDM to follow the recommended steps detailed in **Appendix D**; and

d) review and amend, as deemed necessary, the Questionnaire on ACDM Implementation at **Appendix E**.

APPENDIX A

B0 – ACDM: Improved Airport Operations through Airport-CDM

Description and purpose

To implement collaborative applications that will allow the sharing of surface operations data among the different stakeholders on the airport. This will improve surface traffic management reducing delays on movement and manoeuvring areas and enhance safety, efficiency and situational awareness.

Main performance impact:

KPA- 01 – Access and Equity	KPA-02 – Capacity	KPA-04 – Efficiency	KPA-05 – Environment	KPA-10 – Safety
N	Y	Y	Y	N

Applicability consideration:

Local for equipped/capable fleets and already established airport surface infrastructure.

B0 – ACDM: Improved Airport Operations through Airport-CDM			
Elements	*Applicability*	*Performance Indicators/Supporting Metrics*	*Targets*
A-CDM	OBBI, HECA, OIII, OKBK, OOMS, OTBD, OTHH, OEJN, OERK, OMDB, OMAA, ~~OMDW~~	Indicator: % of applicable international aerodromes having implemented improved airport operations through airport-CDM Supporting metric: Number of applicable international aerodromes having implemented improved airport operations through airport-CDM	40% by Dec. 2017

APPENDIX B

TABLE B0-ACDM

EXPLANATION OF THE TABLE

Column

1   Name of the State

2   Name of City/Aerodrome and Location Indicator

3   Status of implementation of Apron Management, where:

        Y – Yes, implemented

        N – No, not implemented

4   Status of implementation of ATM-Aerodrome coordination, where:

        Y – Yes, implemented

        N – No, not implemented

5   Terminal & runway capacity is declared, where:

        Y – Yes, declared

        N – No, not declared

6   Action plan — short description of the State's Action Plan with regard to the implementation of B0-ACDM.

7   Remarks

State	City/ Aerodrome Location Indicator	Apron Management	ATM-Aerodrome Coordination	Terminal &runway capacity declared	Action Plan	Remarks
1	*2*	*3*	*4*	*5*	*6*	*7*
BAHRAIN	Bahrain/Bahrain Intl (OBBI)	N	N	N	2018	
EGYPT	Cairo/Cairo Intl (HECA)	N	N	N	2018-2019	
IRAN	Tehran/Mehrabad Intl (OIII)	N	N	N		
KUWAIT	Kuwait/Kuwait Intl (OKBK)	N	N	N		
OMAN	Muscat/Muscat Intl (OOMS)	N	N	N		
QATAR	Doha/Doha Intl (OTBD)	N	N	N		
QATAR	Doha/Hamad Intl (OTHH)	N	N	N		
SAUDI ARABIA	JEDDAH/King Abdulaziz Intl (OEJN)	N	N	N		
SAUDI ARABIA	RIYADH/King Khalid Intl (OERK)	N	N	N		
UAE	Abu Dhabi/Abu Dhabi Intl (OMAA)	Y	Y	Y	2017	Final Operational test Q4 2017
UAE	Dubai/Dubai Intl (OMDB)	Y	Y	Y	2017	Full implementation Q1 2018
UAE	DUBAI/Al Maktoum Intl (OMDW)	N	N	N	No	No operational requirement
Total Percentage		**18%**	**18%**			

APPENDIX C

Table B0-ACDM 3-1

EXPLANATION OF THE TABLE

Column:

1- Name of the State

2- Aerodrome and Location Indicator

3 & 4 Fundamental ACDM Elements

3-Information Sharing:
FI – Fully Implemented
PI – Partially Implemented
NI – Not Implemented
Note 1- Information Sharing is essential since it forms the foundation for all the other subsequent elements.

4-The Milestones Approach (Turn- Round Process)
FI – Fully Implemented
PI – Partially Implemented
NI – Not Implemented
Note 2- The Milestones Approach (Turn- Round Process) aims to achieve common situational awareness by tracking the progress of a flight from the initial planning to the take off.

5 – 8 Other ACDM Elements

5- Variable Taxi Time
FI – Fully Implemented
PI – Partially Implemented
NI – Not Implemented
Note 3- Variable Taxi Time is the key to predictability of accurate take-off in block times especially at complex airports.

6-Collaborative Management of Flight Updates
FI – Fully Implemented
PI – Partially Implemented
NI – Not Implemented
Note 4- Collaborative Management of Flight Updates enhances the quality of arrival and departure information exchanges between the Network Operations and the CDM airports.

7-Collaborative Pre-departure Sequence
FI – Fully Implemented
PI – Partially Implemented
NI – Not Implemented
Note 5- (Collaborative) Pre-departure Sequence establishes an off-block sequence taking into account operators preferences and operational constraints.

8-ACDM in Adverse Conditions
FI – Fully Implemented
PI – Partially Implemented
NI – Not Implemented
Note 6- ACDM in Adverse Conditions achieves collaborative management of a ACDM during periods of predicted or unpredicted reductions of capacity.

9-   Action Plan — short description of the State's Action Plan with regard to ACDM Implementation, especially for items with a "PI" or "NI" status, including planned date(s) of full compliance, as appropriate.

10-   Remarks — additional information, including detail of "PI" or "N", as appropriate.

Table B0-ACDM 3-1

State	Aerodrome Location Indicator	ACDM IMPLEMENTATIOM ELEMENTS						Action Plan	Remarks
		Fundamental ACDM Elements		Other ACDM Elements					
		Information Sharing	Milestones Approach	Variable Taxi Time	Collaborative Management of Flight Updates	Collaborative Pre-departure Sequence	ACDM in Adverse Conditions		
1	2	3	4	5	6	7	8	9	10
Bahrain	OBBI								
Egypt	HECA								
Iran	OIII								
Kuwait	OKBK								
Oman	OOMS								
Qatar	OTBD								
	OTHH								
Saudi Arabia	OEJN								
	OERK								
UAE	OMDB								
	OMAA								

APPENDIX D

Recommended Steps for the effective implementation of ACDM

STEP: EXPLANATION OF THE STEPS

1   ACDM Familiarization of All Partners:
Note 1- As Airport CDM includes a whole set of new procedures and processes, a training phase to understand these new features will be needed for all partners.

2   Setting the Organization Structure
Note 2- Setting the Organization Structure at the airport level which to be responsible of the ACDM implementation and guide the project decision making process.

3   Conduct ACDM GAP Analysis
Note 3- GAP Analysis related to ACDM Implementation with the involvement of all concerned partners may be conducted to achieve a clear vision of what is available and what is missing within the airport partners' technical infrastructure.

4   Conduct Cost Benefit Analysis (CBA)
Note 4- Cost Benefit Analysis (CBA) may be conducted to contribute to a managerial decision on whether Airport CDM will be implemented at the airport.

5   ACDM MoU Signature
Note 5- At airport level a Memorandum of Understanding (MoU) between the airport partners defines the ownership, the responsibilities, the rules for exchange and the confidentialities of data between the different parties. In particular, it specifies for each data in the Airport CDM Platform who is the owner, how it is managed and updated and who can read it and modify it. The rules for connections between systems to feed the Airport CDM Platform are also described in this MoU.

Note 6- Since the Memorandum of Understanding sets the framework of the Airport CDM Project, it should be signed by all the airport partners as soon as they have decided to implement Airport CDM and they have agreed on the general objectives and responsibilities of each participant.

Note 7- Note: Partners are defined as Aircraft Operators, Air Traffic Services, Airport operations Services, Ground Handlers, service providers and any other partners with a contribution to make to, and a benefit to derive from, Airport Collaborative Decision Making.

6   Establishment of ACDM project plan
Note 8- ACDM project plan should include, mainly, Concepts Elements, Training, Technical Validation and Concept Validation.

7   ACDM Elements Implementation
*Note 9- **Information Sharing** is essential since it forms the foundation for all the other subsequent elements.*
*Note 10-   **The Milestones Approach (Turn- Round Process)** aims to achieve common situational awareness by tracking the progress of a flight from the initial planning to the take off.*

Note 11- **Variable Taxi Time** *is the key to predictability of accurate take-off in block times especially at complex airports.*

Note 12- **Collaborative Management of Flight Updates** *enhances the quality of arrival and departure information exchanges between the Network Operations and the CDM airports*

Note 13- **Collaborative Pre-departure Sequence** *establishes an off-block sequence taking into account operators preferences and operational constraints.*

Note 14- **ACDM in Adverse Conditions** *achieves collaborative management of a ACDM during periods of predicted or unpredicted reductions of capacity.*

8   Establish ACDM risks and mitigation Project

Note 15- *ACDM risks and mitigation Project includes risks which are unique to Airport CDM and others which will be known from other projects within the Airport CDM context.*

9   ACDM KPIs and performance measurement

Note 16- *Objectives should be set and agreed by all partners, together with an agreed process to measure the achievement of the objectives (agreement on performance indicators). It is also vitally important that these agreements cover all the partners, collectively and individually.*

APPENDIX E

MID Region Airport Collaborative Decision Making
(MID A-CDM) Survey Questionnaire

Name of the State/Administration:

Approach to implementation

1. Is the A-CDM implementation a national program/project or a local airport by airport project?
   (Please select the applicable box)

It is a national program where A-CDM is being implemented at several airports with one entity managing the overall program to facilitate common procedures and approach to the implementations	
It is an "airport-by-airport" approach where each project is managed at "local" level	
It is a combination of a national program and separate airport projects manager at "local" level	
There is not yet an implementation plan for A-CDM	

Please add free text comments if needed:

2. If A-CDM has been/is going to be implemented, please indicate at which airports and by what year:

Airport	Year

Add additional lines as needed

For EACH airport mentioned above, please provide separate responses to QUESTIONS 3 to 22:

Status of A-CDM implementation

3. In which of the following phases is the A-CDM implementation?
   (Please select the box that is the most suitable option)

No planning, i.e. nothing in relation to A-CDM has started yet	
Initial planning, i.e. collecting information about guidance material etc. to set the scope of the projects	
Planning well underway, i.e. scope set, engaged with stakeholders etc.	
Ready to launch A-CDM implementation project	
A-CDM implemented, i.e. procedures are in place and used in the "day-to-day" operations (Please indicate number of years for A-CDM used in day-to-day operations.	

A-CDM Project Scope

4. Which one of the A-CDM conceptual elements are being implemented as part of the A-CDM project? (*Please select the applicable box(es)*)

Information sharing	
Milestone Management	
Variable Taxi Times	
Collaborative Management of Flight Updates	
Pre Departure Sequencing	
A-CDM in adverse conditions	
Integration with Air Traffic Flow Management (ATFM)	

Please add free text comments if needed:

5. How is Information sharing implemented as par to the solution/planned A-CDM solution? (*Please select the applicable box(es)*)

Via Information Sharing platform collecting data in real-time from various systems.	
Via manual interaction and information exchange	
A combination of the two alternatives above	

Please add free text comments if needed:

6. What Milestones (based on the Eurocontrol model) are captured/planned to be captured for the Milestone Management? (*Please select the applicable box(es) and please indicate if the implementation/planned implementation uses any other names for the milestones*)

Eurocontrol Milestones	Applied	Alternative name
Milestone 1 - ATC Flight Plan Activated		
Milestone 2 - CTOT Allocation/EOBT – 2 Hrs		
Milestone 3 - Take off from Outstation		
Milestone 4 - Local Radar Update/FIR Entry		
Milestone 5 - Final Approach		
Milestone 6 - Landed		
Milestone 7 - In Block		
Milestone 8 - Aircraft at Gate		
Milestone 9 - TOBT Entered		
Milestone 10 - TSAT Issued		
Milestone 11 - Boarding Starts		
Milestone 12 - Aircraft Ready		
Milestone 13 - Start-up Request		
Milestone 14 - Start-up Approved		
Milestone 15 - Off Block		
Milestone 16 - Take Off		

Please add free text comments if needed:

7. Are you planning to apply the concept of Target Off Block Times? *(Please select the applicable box)*

No	
Yes, and this will be the responsibility of the Airlines and/or appointed Ground Handlers to manage and update the Target Off Block Times (TOBT) in order to ensure that TOBT is accurate and reliable.	

      a. If yes, will the project provide a solution that facilitates predictive TOBT calculations? *(Please select the applicable box)*

No	
Yes	

8. What methodology is applied/going to be applied for calculating Variable Taxi Time? *(Please select the applicable box)*

"Table look up" utilizing fixed taxi time from gates to runways.	
Dynamic Variable Taxi Time using self-learning algorithms based on real-time and statistical surveillance data	

9. How is Target Start-Up Approval Time (TSAT) being calculated as part of Pre-Departure Sequencing? *(Please select the applicable box)*

Manual TSAT calculations	
Automatic TSAT calculations utilizing a Pre Departure Sequence or full Departure Management system/capability	

      a. If TSAT Is calculated automatically, at what key milestones are the TSAT calculated/re-calculated? *(Please select the applicable box(es))*

Milestone 1 - ATC Flight Plan Activated	
Milestone 2 - CTOT Allocation/EOBT – 2 Hrs	
Milestone 3 - Take off from Outstation	
Milestone 4 - Local Radar Update/FIR Entry	
Milestone 5 - Final Approach	
Milestone 6 - Landed	
Milestone 7 - In Block	
Milestone 8 - Aircraft at Gate	
Milestone 9 - TOBT Entered	
Milestone 10 - TSAT Issued	
Milestone 11 - Boarding Starts	

10. How TSAT information is shared to Airlines operators/Ground Handling Agencies? *(Please select the applicable box(es))*

Via A-CDM portal/web interface/application	
Via mobile application	
Via Automatic Parking Aid displays at gate	
Data link	
Radio communication	

11. What are the key parameters for data exchange between ACDM and ATFM? *(Please specify in free text in the text box)*

12. To establish the A-CDM project, has any guidance material been used to facilitate the scope and objectives? *(Please select the applicable box)*

Yes	
No	

     a. If yes, please indicate what guidance material has been used. *(Please select the applicable box(es))*

ICAO Doc 9971	
Eurocontrol A-CDM Manual	
CANSO A-CDM Guidance Material	
FAA Surface CDM material	
IATA Guidance material	
Specific airport "operational guidelines" materials	
Other material like Eurocae or ETSI standards for A-CDM (*Please specify*)	

Please add free text comments if needed:

Local Concept of Operations

13. Has a "Local Concept of Operations" document for the A-CDM implementation been established? *(Please select the applicable box)*

Yes	
No	

     a. If yes, please indicate the scope of the document. *(Please select the applicable box(es))*

It sets out the objectives that A-CDM is aiming to achieve	
It provides a common vocabulary with all definitions for A-CDM	
It provides information about information sharing and the sources for the information collected	
It provides information about the milestones used in the A-CDM process	
It defines each participating stakeholder's role and responsibilities as part of the A-CDM process	
It provides how A-CDM shall operate during irregular operations	
It provides descriptions of the process steps for various regular and irregular operations	
It includes how to measure the success of A-CDM once implemented, i.e. Key Performance Indicators (KPIs)	

Please add free text comments if needed:

Stakeholder Engagement

14. Which stakeholders are involved in the A-CDM implementation? *(Please select the applicable box(es))*

Airport operator	
Airline operators	
Ground handlers	
Air Navigation Service Provider	
Network Operations/ATFM unit	
Others (*Please specify)*	

15. Has a Memorandum of Understanding (MOU) been established between the stakeholders? *(Please select the applicable box)*

Yes	
No	

Please add free text comments if needed:

Project Implementation

16. Has a project group been established with all stakeholders involved? *(Please select the applicable box)*

Yes	
No	

Please add free text comments if needed:

17. Is there a shared leadership or is the project management led by one organization? (*Please select the applicable box)*

Shared leadership	
Leadership is appointed from one organization	

   a.   Please explain why one of the options is applied:

18. Is the project group meeting held on a regular basis or ad-hoc? (*Please select the applicable box)*

Regular	
Ad-hoc	

   a.   Please explain why one of the options is applied:

19. What are the objectives identified in the project that A-CDM is aiming to achieve?
    (Please select the applicable box(es))

Increase predictability	
Increase on-time performance	
Improve resource utilization	
Reduce taxi times	
Increase airport efficiency	
Reduce environmental nuisance	
Optimise the use of available capacity	
Improved safety	
Other *(please indicate what other objectives are identified in box below)*	

Please add free text comments if needed:

20. Has the project identified a more detailed Key Performance Framework with Key Performance Indicators to facilitate the measurements of the A-CDM implementation? *(Please select the applicable box)*

Yes	
No	

    a. If yes, would the project team be willing to share this work with the ICAO Regional officer for Aerodromes and Ground Aids (AGA) to aid in its future work such as the establishment of more detailed A-CDM guidelines? *(Please select the applicable box)*

Yes	
No	

Please add free text comments if needed:

Training

21. Has the project established training in any of the following areas for the implementation of A-CDM? *(Please select the applicable box(es))*

Initial training for stakeholders to "what is A-CDM"	
Advanced training for stakeholders to "what is A-CDM"	
Training on how to operate under A-CDM procedures for all stakeholders	
Specialized/tailored training for each user in relation to "what do I need to do when A-CDM is operational at the airport"?	

Please add free text comments if needed:

Challenges

22. Please rank what hold most true in relation to your A-CDM implementation. (Please use 1-5 where 1 indicates "no, do not agree at all" and 5 is "yes, agree completely").

A-CDM as a concept is too complicated and vague	
Developed guidelines are not enough to understand how A-CDM shall be implemented successfully	
It is challenging to understand what an A-CDM implementation is, i.e. what has to be achieved to say "yes, we have A-CDM at our airport"	
The challenge is to understand what system(s) is(are) and information are needed to implement A-CDM	
It is challenging to get all stakeholders engaged and committed to the A-CDM project	
It is challenging to manage the A-CDM project	
It is challenging to understand what value A-CDM will bring	
It is very complicated to establish how to measure the success of A-CDM	

Please add free text comments if needed:

- END -