

International Civil Aviation Organization

ASBU/SIP/Lima/2012-WP/16D


Aviation System Block Upgrades Module N° B0-80/PIA-1

Improved Airport Operations through Airport-CDM

Workshop on preparations for ANConf/12 – ASBU methodology
(Lima, 16-20 April 2012)

Module N° B0-80

Improved Airport Operations through Airport-CDM



Summary	Implement collaborative applications that will allow the sharing of surface operations data among the different stakeholders on the airport.	
Main Performance Impact	KPA-02 capacity; KPA-04 – Efficiency; KPA-05 – Environment	
Operating Environment/Phases of Flight	Aerodrome, Terminal	
Applicability Considerations	Local for equipped/capable fleets & already established airport surface infrastructure.	
Global Concept Component(s)	AO – Airport Operations IM – Information Management	
Global Plan Initiatives (GPI)	- GPI-8 Collaborative airspace design and management - GPI-18 Aeronautical information - GPI-22 Communication infrastructure	
Pre-Requisites	NIL	
Global Readiness Checklist		Status
	Standards Readiness	Est. 2013
	Avionics Availability	Ready
	Ground System Availability	Est. 2013
	Procedures Available	Est. 2013
	Operations Approvals	Est. 2013

ICAO SIP 2012-ASBU WORKSHOP
2

Module N° B0-80 - Baseline



- The baseline will be operations without airport collaboration tools and operations.
- **Aerodrome certification, Aerodrome emergency planning, Airport planning, Heliport operations, Data link applications (such as D-VOLMET, D-ATIS, D-FIS) (Not included in the Module but mapped to this Module)**

Module N° B0-80 – Change Brought by the Module



- A-CDM
 - Is a set of improved processes supported by the interconnection of various airport stakeholders' information systems.
 - A-CDM can be a relatively simple, low cost programme.
 - Makes airspace users, ATC and airport operations better aware of their respective situation and actions on a given flight

Module N° B0-80 – Intended Performance Operational Improvement



Capacity	<ul style="list-style-type: none"> - Enhanced use of existing infrastructure of gate and stands (unlock latent capacity) - Reduced workload, better organisation of the activities to manage flights
Efficiency	<ul style="list-style-type: none"> - Increased efficiency of the ATM system for all stakeholders. - For aircraft operators: improved situational awareness (aircraft status both home and away), enhanced fleet predictability & punctuality, improved operational efficiency (fleet management) & reduced delay
Environment	<ul style="list-style-type: none"> - Reduced taxi time - Reduced Fuel and Carbon Emissions - Lower aircraft engine run time
CBA	The business case has proven to be positive due to the benefits that flights and the other airport operational stakeholders can obtain.

ICAO SIP 2012-ASBU WORKSHOP

5

Module N° B0-80 – Necessary Procedures (Air & Ground)



- The existing procedures need to be adapted to the collaborative environment in order to provide full benefits.
- These changes will affect the way the pilot, controller, airlines operations and ATFM unit will exchange information and manage the departing queue.
- The pushback and engine start up are just in time taking in account assigned runway, taxiing time, runway capacity, departure slot and departure constraints.

ICAO SIP 2012-ASBU WORKSHOP

6

Module N° B0-80 – Necessary System Capability



- **Avionics**
 - No airborne equipment is required.
- **Ground Systems**
 - CDM does not require specific new functionalities.
 - The difficulty is more to interconnect ground systems depending on the systems in place locally, but experience proves that industrial solutions/support exist. Where available, shared surveillance information may enhance operations.

ICAO SIP 2012-ASBU WORKSHOP

7

Module N° B0-80 – Training and Qualification Requirements



- Training in the operational standards and procedures are required for this module
- Likewise, the qualifications requirements are identified in the regulatory requirements in Section 6 which form an integral part to the implementation of this module

ICAO SIP 2012-ASBU WORKSHOP

8

Module N° B0-80 –Regulatory/Standardization needs and Approval Plan(Air& Ground)



- Regulatory/Standardization: Updates required to the following current published criteria:
 - ICAO Doc 4444, *Procedures for Air Navigation Services — Air Traffic Management*;
 - ICAO CDM Manual.
- Approval Plans: Updates required for:
 - Eurocontrol, A-CDM Implementation Manual; and
 - FAA NextGen Implementation Plan.

Module N° B0-80 – Reference Documents



- **Standards**
 - ICAO CDM Manual (being finalised)
 - European Union, OJEU [2010/C 168/04](#): Community Specification ETSI EN 303 212 v.1.1.1: European Standard (Telecommunications series) Airport Collaborative Decision Making (A-CDM)
 - EUROCAE ED-141: Minimum Technical Specifications for Airport Collaborative Decision Making (Airport-CDM) Systems
 - EUROCAE ED-145: Airport-CDM Interface Specification
 - ICAO CDM Manual (being finalised)
 - European Union, OJEU [2010/C 168/04](#): Community Specification ETSI EN 303 212 v.1.1.1: European Standard (Telecommunications series) Airport Collaborative Decision Making (A-CDM)
 - EUROCAE ED-141: Minimum Technical Specifications for Airport Collaborative Decision Making (Airport-CDM) Systems
 - EUROCAE ED-145: Airport-CDM Interface Specification
- **Procedures**
 - TBD
- **Guidance Material**
 - EUROCONTROL A-CDM Programme documentation, including an A-CDM Implementation Manual
 - FAA NextGen Implementation Plan 2011

Module N° B0-80 Implementation

- Benefits and elements



Improved Airport Operations through Airport-CDM

- **Benefits: Capacity, Efficiency and Environment**
 - **Elements:**
 - Aerodrome certification, Aerodrome emergency planning, Airport planning, Heliport operations, Data link applications (such as D-VOLMET, D-ATIS, D-FIS) (Not included in the Module)
 - Airport –CDM such as CDQM supported by interconnection of various partners' information systems
- To be reflected in ANRF

ICAO SIP 2012-ASBU WORKSHOP

11



ICAO SIP 2012-ASBU WORKSHOP