
International Civil Aviation Organization

ASBU/SIP/Lima/2012-WP/21B


Aviation System Block Upgrades

Module N° B0-30/PIA-2

Service Improvement through Digital Aeronautical Information Management

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

Module N° B0-30



Service Improvement through Digital Aeronautical Information Management

Summary	The initial introduction of digital processing and management of information, through AIS /AIM implementation, use of AIXM , migration to electronic AIP and better quality and availability of data.	
Main Performance Impact	-KPA-03 Cost-Effectiveness, KPA-05 Environment, KPA-07 Global Interoperability; KPA-10 Safety	
Operating Environment/Phases of Flight	All phases of flight	
Applicability Considerations	Applicable at State level, with increased benefits as more States participate	
Global Concept Component(s)	IM – Information Management	
Global Plan Initiatives ()	-18 Electronic information services	
Global Readiness Checklist		Status
	Standards Readiness	Ready
	Avionics Availability	Ready
	Ground Systems Availability	Ready
	Procedures Available	Ready
	Operations Approvals	Ready

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Module N° B0-30 - Baseline



- Current aeronautical Information service and processes
 - Based on paper publications and text based NOTAMs
- Disadvantages
 - Despite manual verifications, errors/inconsistencies still arise
 - Information was recaptured from paper to ground and airborne systems, thus introducing additional risks.
 - Timeliness and quality of more dynamic information not always guaranteed.
- **WGS-84; eTOD; and QMS for AIM (Not included in this Module but mapped to this Module)**

Module N° B0-30 – Change Brought by the Module



- AIS moves into AIM
 - AIXM /Standardised formats based on widely used information technology standards (UML, XML/GML).
 - eAIP /The AIP moves from paper to electronic support.
 - Digital NOTAM

Module N° B0-30 – Intended Performance Operational Improvement



Cost Effectiveness	Reduced costs in terms of data inputs and checks, paper and post, especially when considering the overall data chain, from originators, through AIS, to the end users.
Environment	Reduced use of paper; also, more dynamic information should allow shorter flight trajectories, based on more accurate information about the current status of the airspace structure.
Global Interoperability	Essential contribution to interoperability
Safety	Reduction in the number of possible inconsistencies, as the module will allow to reduce the number of manual entries and ensure consistency among data through automatic data checking based on commonly agreed business rules.
CBA	The business case for AIXM has been conducted in and in the and has shown to be positive. The transition from paper products to digital data is a critical pre-requisite for the implementation of any current or future ATM or air navigation concept that relies on the accuracy, integrity and timeliness of the data.

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Module N° B0-30 – Necessary Procedures (Air & Ground)



- ATC - No new procedures
- Users - Full benefit requires new procedures for data users to retrieve the information digitally
 - For example, for Airlines in order to enable the dynamic provision of the digital AIS data in the on-board devices, in particular Electronic Flight Bags

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Module N° B0-30 – Necessary System Capability



- **Avionics**
 - No avionics requirements.
- **Ground Systems**
 - AIS data made available to the AIS service through IT and to external users via either a subscription for an electronic access or physical delivery
 - Electronic access can be based on internet protocol services.
 - The main automation functions that need to be implemented to support provision of electronic AIS are the national aeronautical data, NOTAM (both national and international) and meteorological management including data collection, verification and distribution.

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Module N° B0-30 – Training and Qualification Requirements



- Training is required for AIS/AIM personnel.
- Training in the operational standards and procedures are required for this module
- Likewise, the qualifications requirements are identified in the regulatory requirements

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Module N° B0-30 – Regulatory/Standardization needs and Approval Plan (Air &Ground)



- **Regulatory/Standardization:** Use current published requirements
- **Approval Plans:** To Be Determined, based upon regional applications.

Module N° B0-30 – Reference Documents



- Standards: TBD
- Procedures :TBD
- Guidance Material
 - ICAO Doc 8126, Aeronautical Information Services Manual, incl. AIM and eAIP as per Edition 3;
 - ICAO Doc 8697, Aeronautical Chart Manual; and
 - Manuals on AIM quality system and AIM training.

Module N° B0-30 Implementation - Benefits and Elements



Service Improvement through Digital Aeronautical Information Management

- **Benefits:** Cost effectiveness, Environment, Interoperability and Safety
 - **Elements:**
 - WGS-84; eTOD; and QMS for AIM (Not included in this Module)
 - AIXM
 - eAIP
 - Digital NOTAM
- to be reflected in ANRF

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