



Performance Improvement Area 2

Globally Interoperable Systems and Data – Through
Globally Interoperable SWIM

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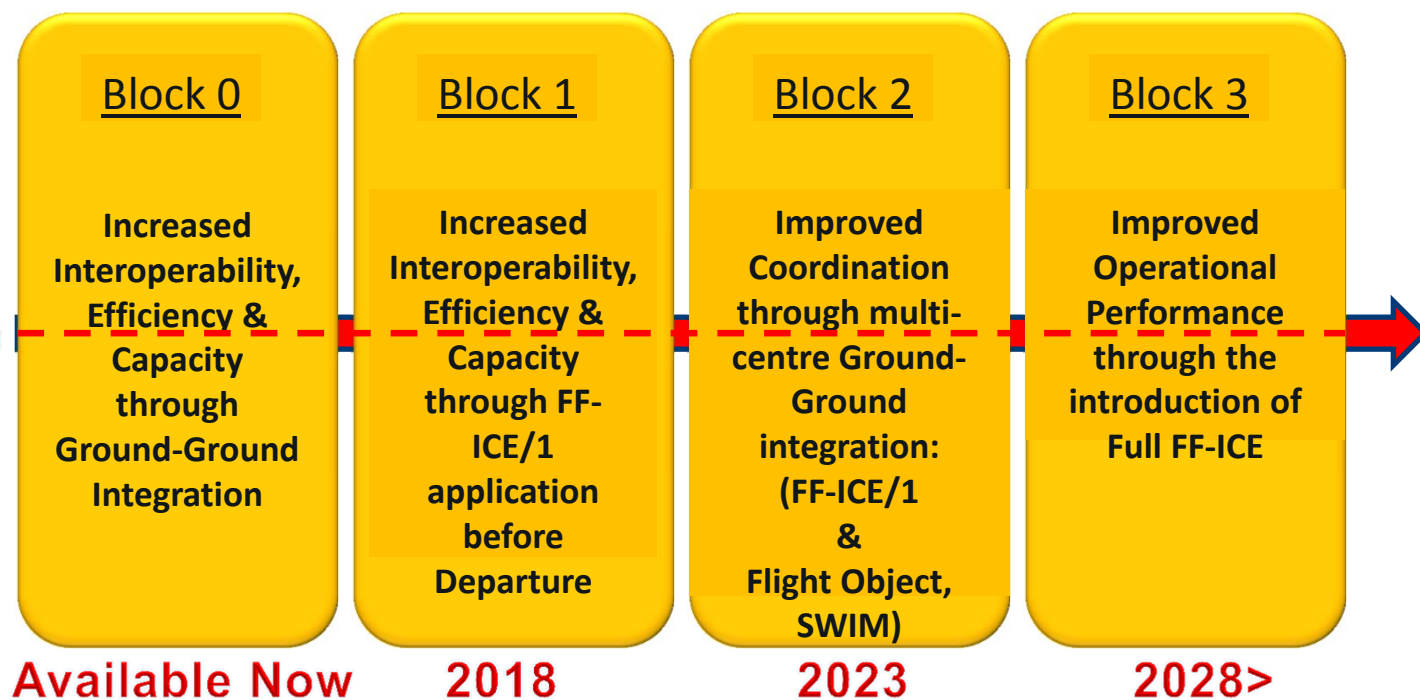
Regional Officer, AIM/ATM

ASBU Implementation Workshop
(Cairo, Egypt, 23-26 November 2015)



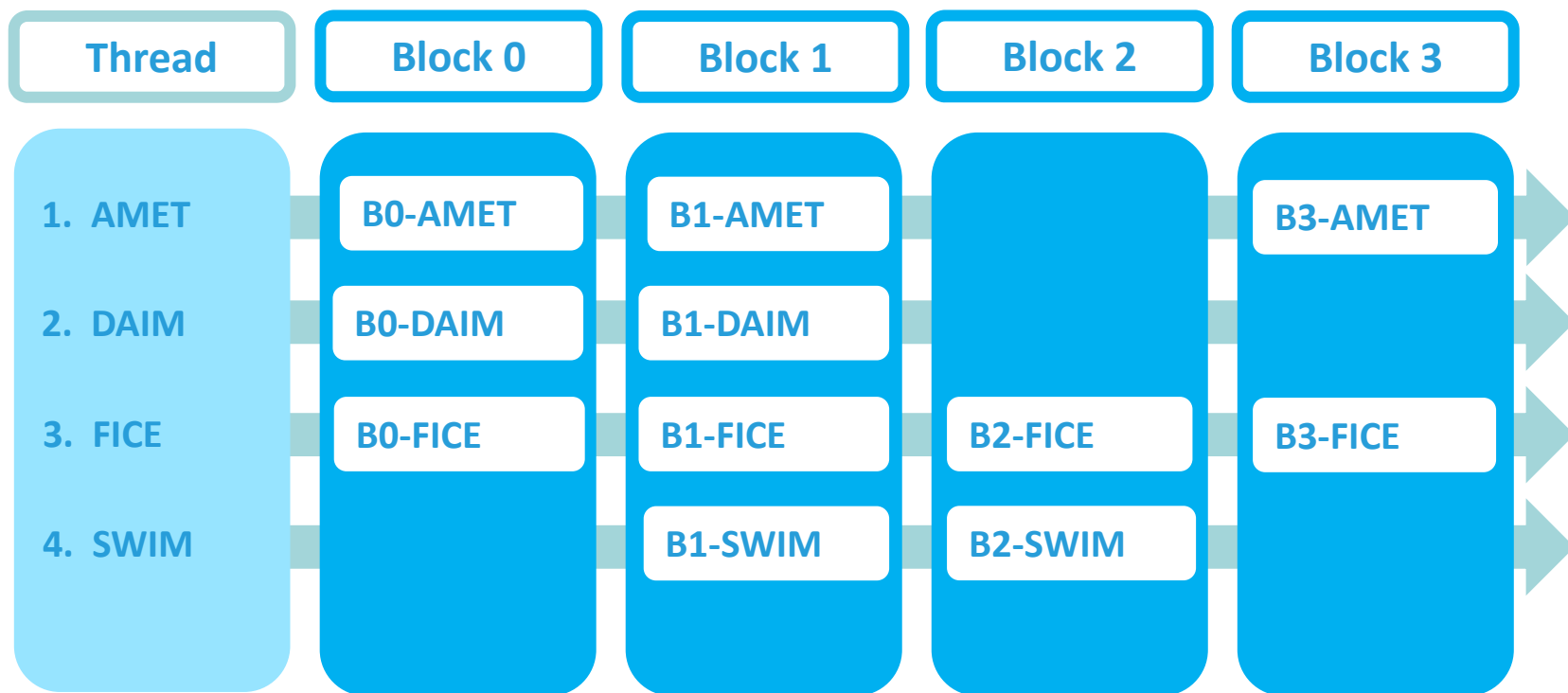
Performance Area 2 Overview

Global Interoperable Systems and Data





PIA 2 Modules





Block 0 Modules-PIA 2

	B0-AMET	B0-DATM	B0-FICE
Module Description	<p>Meteorological information supporting enhanced operational efficiency and safety Global, regional and local meteorological information provided by world area forecast centres, volcanic ash advisory centres, tropical cyclone advisory centres, aerodrome meteorological offices and meteorological watch offices in support of flexible airspace management, improved situational awareness and collaborative decision-making, and dynamically optimized flight trajectory planning.</p>	<p>Service Improvement through Digital Aeronautical Information Management Initial introduction of digital processing and management of information, by the implementation of AIS/AIM making use of AIXM, moving to electronic AIP and better quality and availability of data.</p>	<p>Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration Supports the coordination of ground-ground data communication between ATSU based on ATS Inter-facility Data Communication (AIDC) defined in ICAO Doc 9694.</p>
Impl. Indicators	<ul style="list-style-type: none"> - % of States having implemented SADIS / WIFS - % of States having implemented QMS 	<ul style="list-style-type: none"> - % States having implemented an integrated AI database - % States having implemented QMS 	<ul style="list-style-type: none"> - % of FIRs within which all applicable ACCs have implemented at least one interface to use AIDC / OLDI with neighboring ACCs

	Benefits/Improvements	Main performance impacts
BO-AMET	<ul style="list-style-type: none"> • Supports flexible airspace management, improved situational awareness and collaborative decision making, and dynamically optimized flight trajectory planning 	KPA-02 – Capacity KPA-03 – Cost-effectiveness KPA-04 – Efficiency KPA-05 – Environment KPA-06 – Flexibility KPA-07 – Global interoperability KPA-08 – Participation by the ATM community KPA-09 – Predictability KPA-10 – Safety
BO-DATM	<ul style="list-style-type: none"> • AIS/AIM enhanced quality • Digital data availability • Initial step towards SWIM and global interoperability 	KPA-03 – Cost-effectiveness KPA-05 – Environment KPA-07 – Global interoperability KPA-10 – Safety
BO-FICE	<ul style="list-style-type: none"> • Improve coordination between ATS units by using ATS interfacility data communication (AIDC) • The transfer of communication in a data link environment improves the efficiency of this process particularly for oceanic ATS units. 	KPA-02 – Capacity KPA-04 – Efficiency KPA-07 – Global Interoperability KPA-10 – Safety



Pre-requisites

- **B0-AMET**
 - Implementation of SADIS 2G and/or Secure SADIS FTP
 - Implementation of QMS in MET
- **B0-DATM**
 - Implementation of QMS and WGS-84
 - Implementation of an AIXM-based AIS Database and the eAIP
- **B0-FICE**
 - Implementation of AMHS
 - Implementation of AIDC/OLDI



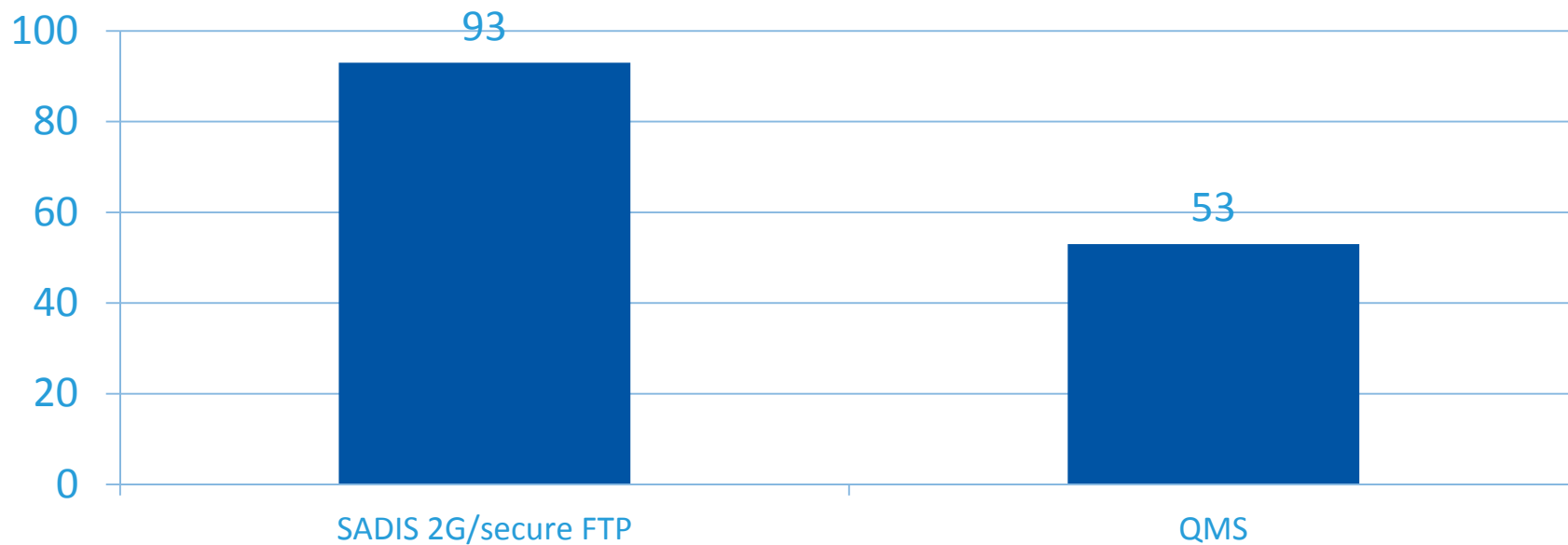
Challenges

- **B0-AMET**
 - QMS Implementation (53%)
 - Financial and Institutional Commitment by MET Authority to implement QMS
- **B0-DATM**
 - Implementation of WGS-84 (73%) and QMS (60%) is still challenge for some States
 - Level of implementation of AIXM-AIS database (key element of B0-DATM) is very low (3 of 15 States: 20%)
 - Financial and Human Resource (lack of knowledge) are the main reasons of deficiencies in AIS/AIM implementation
- **B0-FICE**
 - Systems ready in 12 States
 - Coordination
 - LOA
 - Operational Experience
 - NO feed back from States



B0-AMET Implementation (MID)

Status (%)





B0-DATM Implementation (MID)

Status (%)

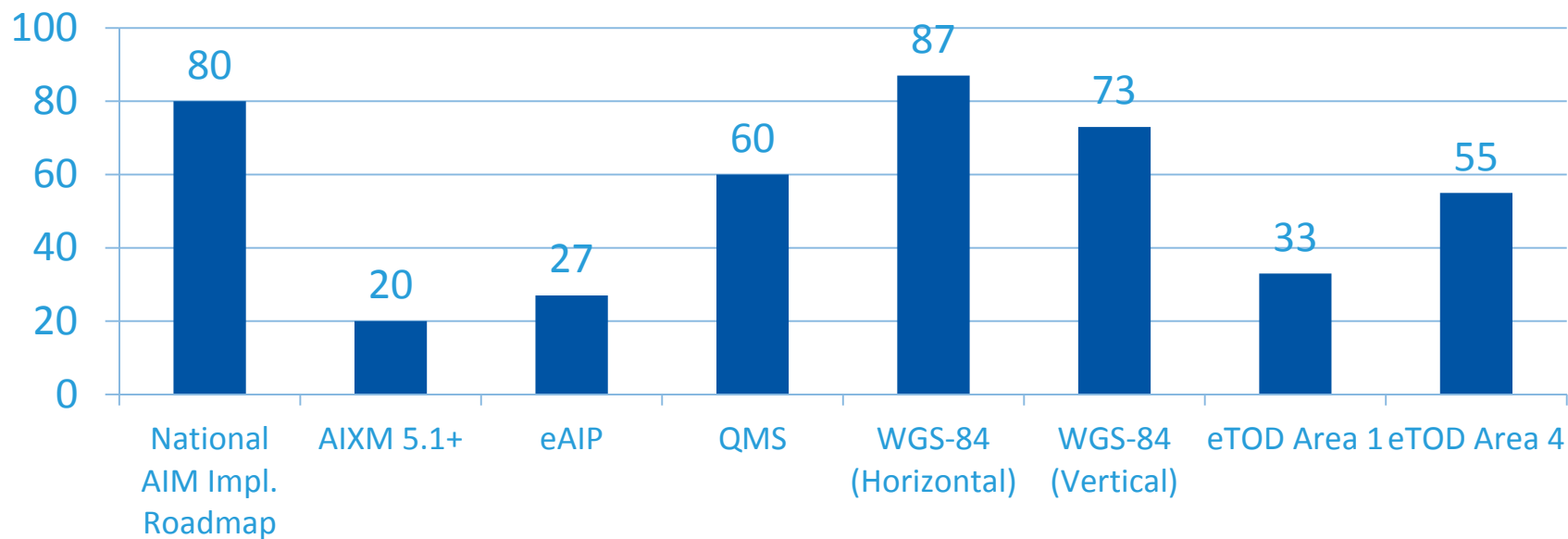




TABLE B0-DATM-3-1

Provision of AIS/AIM products and services based on the Integrated Aeronautical Information Database (IAID)

State	IAID	eAIP	NOTAM	SNOWTAM	PIB	Charting	Procedure Design	ATS	Action Plan	Remarks
1	2	3	4	5	6	7	8	9	10	11
BAHARAIN	PI	FI	FC	FC	FC	FC	PI	FI	National AIM Roadmap-2015	AIXM: 4.5 (5.1 by Dec. 2015)
EGYPT	FI	PI	NC	NC	FC	NC	NI	PI	National AIM Roadmap-2015	AIXM: 5.1 3 by 2015, 4-9 by 2016
IRAN, ISLAMIC REPUBLIC OF	NI	NI	NC	NC	NC	NC	NI	NI	National AIM Roadmap-2015	AIXM: NI
IRAQ	NI	NI	NC	NC	NC	NC	NI	NI	National AIM Roadmap-2014	AIXM: NI
JORDAN	PI	NI	FC	FC	FC	PC	NI	NI	National AIM Roadmap-2014	AIXM: Database via EAD
KUWAIT	PI	NI	FC	NC	PC	NC	NI	NI	National AIM Roadmap-2015	AIXM: NI (5.1 by Dec. 2015)
LEBANON	NI	NI	NC	NC	NC	NC	NI	NI	National AIM Roadmap-2014	AIXM: 4.5
LIBYA	NI	NI	NC	NC	NC	NC	NI	NI	No Action Plan	AIXM: NI
OMAN	NI	NI	NC	NC	NC	NC	NI	NI	National AIM Roadmap-2014	AIXM: NI (5.1 in progress)
QATAR	PI	PI	FC	PC	FC	PC	PI	NI	National AIM Roadmap-2015	AIXM: 5.1
SAUDI ARABIA	FI	FI	FC	FC	FC	FC	FI	FI	National AIM Roadmap-2014	AIXM: 4.5
SUDAN	PI	NI	FC	NC	FC	PC	PI	PI	National AIM Roadmap-2015	AIXM: NI (planned; Mar 2016) 1. AIS DB integrated with MET & ATM 2. Contract Signed for eAIP, AIXM connected with Charting SYS. 7. Contract signed. 8. Ongoing project



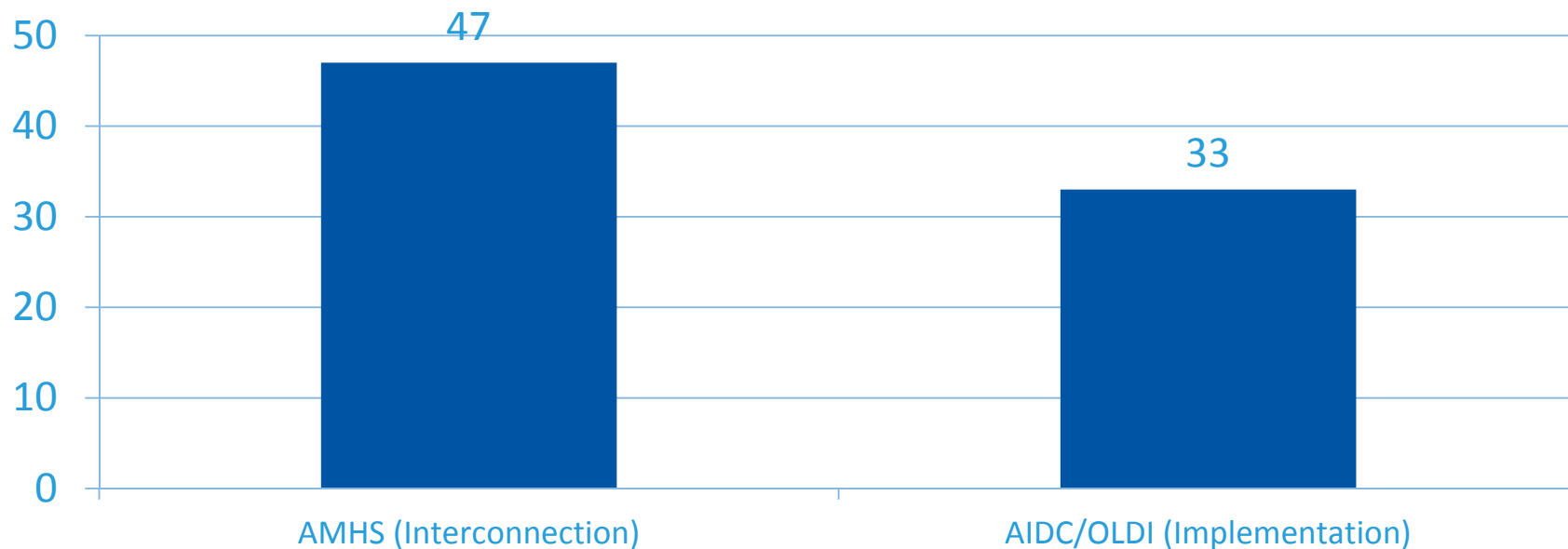
TABLE B0-DATM-3-2
Aeronautical Data Quality

State	QMS	Establishment of formal agreements	Digital data exchange with originators	Metadata	Data quality monitoring	Data integrity monitoring	AIRAC adherence	Action Plan	Remarks
1	2	3	4	5	6	7	8	9	10
BAHARAIN	FC	FC	PI	PC	PC	PC	FC	National AIM Roadmap-2015	
EGYPT	FC	PC	PI	FC	PC	PC	FC	National AIM Roadmap-2015	3, 4, 6 and 7 by 2016
IRAN, ISLAMIC REPUBLIC OF	FC	PC	NI	NC	NC	NC	FC	National AIM Roadmap-2015	
IRAQ	NC	NC	NI	NC	NC	NC	FC	National AIM Roadmap-2014	
JORDAN	FC	NC	NI	PC	FC	FC	FC	National AIM Roadmap-2014	
KUWAIT	FC	PC	NI	NC	NC	NC	FC	National AIM Roadmap-2015	
LEBANON	NC	NC	NI	NC	NC	NC	FC	National AIM Roadmap-2014	
LIBYA	NC	NC	NI	NC	NC	NC	NC	No Action Plan	
OMAN	NC	NC	NI	NC	NC	NC	FC	National AIM Roadmap-2014	- QMS: Dec 2016 - SLA 65% by Dec 2016.
QATAR	FC	PC	PI	FC	PC	PC	FC	National AIM Roadmap-2015	SLA with MIL in progress
SAUDI ARABIA	FC	PC	NI	FC	FC	FC	FC	National AIM Roadmap-2014	SLA will be completed end 2015
SUDAN	FC	FC	NI	NC	FC	FC	FC	National AIM Roadmap-2015	



B0-FICE Implementation (MID)

Status (%)





Planning/preparation for Block 1

APAC/EUR/MID Interregional Seminar on

**“Service Improvement through
Integration of Digital AIM, MET and ATM
Information”**

(2017)



Block 1 Modules-PIA 2

	B1-AMET	B1-DATM	B1-FICE	B1-SWIM
Module Description	<p>Enhanced Operational Decisions through Integrated Meteorological Information (Planning and Near-term Service) Meteorological information supporting automated decision processes or aids involving: meteorological information, meteorological translation, ATM impact conversion and ATM decision-making support.</p>	<p>Service Improvement through Integration of all Digital ATM Information Implementation of the ATM information reference model integrating all ATM information using UML and enabling XML data representations and data exchange based on internet protocols with WXXM for meteorological information.</p>	<p>Increased Interoperability, Efficiency and Capacity through FF-ICE, Step 1 application before Departure Introduction of FF-ICE Step1, to implement ground-ground exchanges using common flight information reference model, FIXM, XML and the flight object used before departure.</p>	<p>Performance Improvement through the application of System-Wide Information Management (SWIM) Implementation of SWIM services (applications and infrastructure) creating the aviation intranet based on standard data models, and internet based protocols to maximize interoperability.</p>
Impl. Indicators	XXX	XXX	XXX	XXX



ICAO CAIRO UNITING AVIATION

NO COUNTRY LEFT BEHIND



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and Caribbean
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Mexico City

South American
(SAM) Office
Lima

ICAO
Headquarters
Montréal

Western and
Central African
(WACAF) Office
Dakar

European and
North Atlantic
(EUR/NAT) Office
Paris

Middle East
(MID) Office
Cairo

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Southern African
(ESAF) Office
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THANK YOU