# OUTLINE

- SWIM Scope/Definition
- B1-SWIM
  - B1-SWIM pre-requisite and related Modules
    - B0-AMET implementation in the MID Region
    - B0-FICE implementation in the MID Region
    - B0-DATM implementation in the MID Region
- Initiatives
- MID Projects related to SWIM
  - MID IP Network
  - MID Region AIM Database (MIDAD)
  - MID IFPS
- Challenges/Lessons learned

SWIM SCOPE & DEFINITION

SWIM consists of standards, infrastructure and governance enabling the management of ATM related information and its exchange between qualified parties via interoperable services.
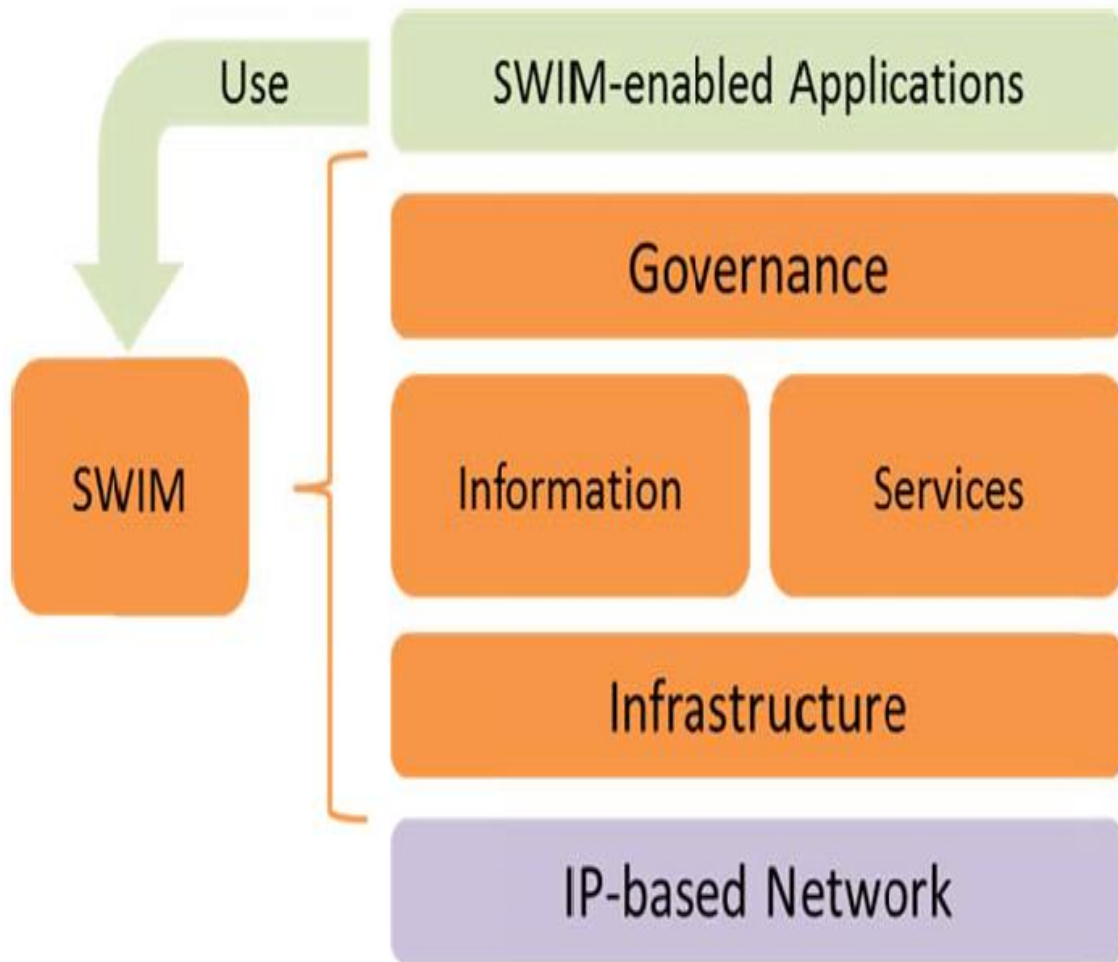
B1-SWIM

- **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.

B1-SWIM Prerequisite and related Modules
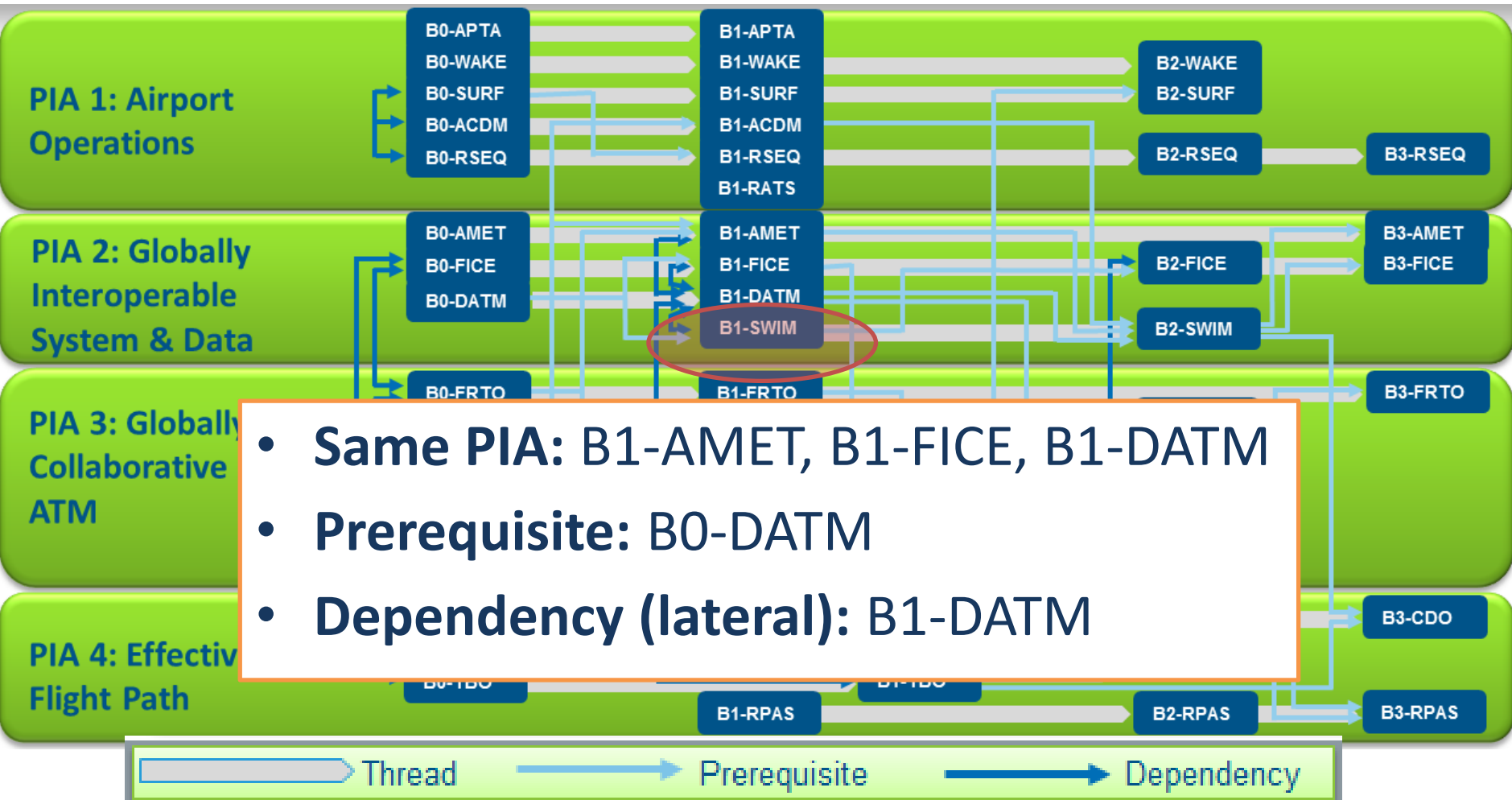
- **Same PIA:** B1-AMET, B1-FICE, B1-DATM
- **Prerequisite:** B0-DATM
- **Dependency (lateral):** B1-DATM

B0-AMET (MID Region Air Navigation Strategy)

| B0 – AMET: Meteorological information supporting enhanced operational efficiency and safety			
Elements	Applicability	Performance Indicators/Supporting Metrics	Targets
SADIS 2G and/or Secure SADIS FTP	All States	Indicator: % of States having implemented SADIS 2G satellite broadcast or Secure SADIS FTP service	90% by Dec. 2015
		Supporting metric: number of States having implemented SADIS 2G satellite broadcast or Secure SADIS FTP service	100% by Dec. 2017
QMS	All States	Indicator: % of States having implemented QMS for MET	60% by Dec. 2015
		Supporting metric: number of States having implemented QMS for MET	80% by Dec. 2017

STATUS OF B0-AMET
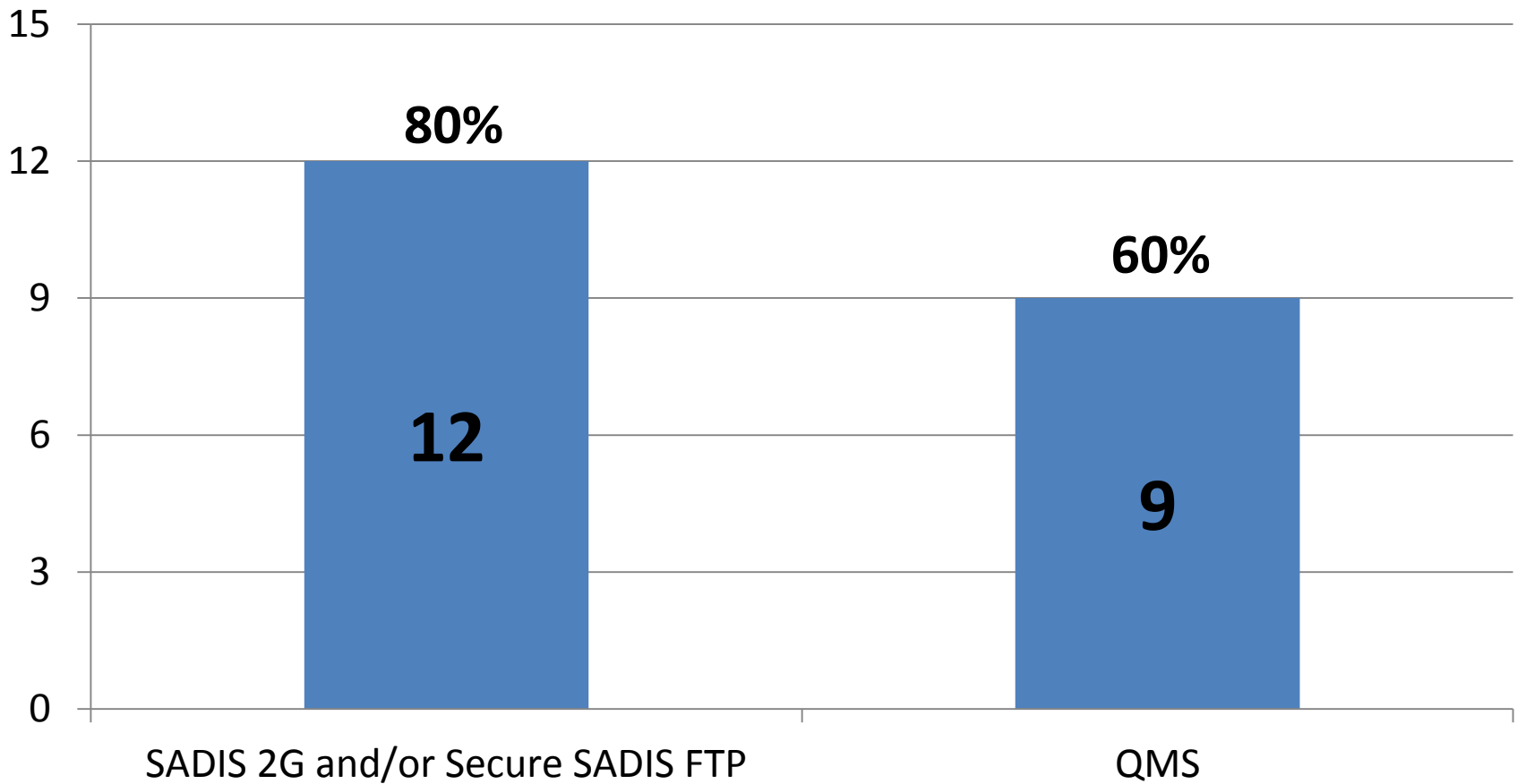
B0-FICE (MID REGION AIR NAVIGATION STRATEGY)

| B0 – FICE: Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration			
Elements	Applicability	Performance Indicators/Supporting Metrics	Targets
AMHS capability	All States	Indicator: % of States with AMHS capability Supporting metric: Number of States with AMHS capability	70% of States with AMHS capability by Dec. 2017
AMHS implementation /interconnection	All States	Indicator: % of States with AMHS implemented (interconnected with other States AMHS) Supporting metric: Number of States with AMHS implemented (interconnections with other States AMHS)	60% of States with AMHS interconnected by Dec. 2017
Implementation of AIDC/OLDI between adjacent ACCs	All ACCs	Indicator: % of FIRs within which all applicable ACCs have implemented at least one interface to use AIDC/OLDI with neighbouring ACCs Supporting metric: Number of AIDC/OLDI interconnections implemented between adjacent ACCs	70% by Dec. 2017

STATUS OF B0-FICE
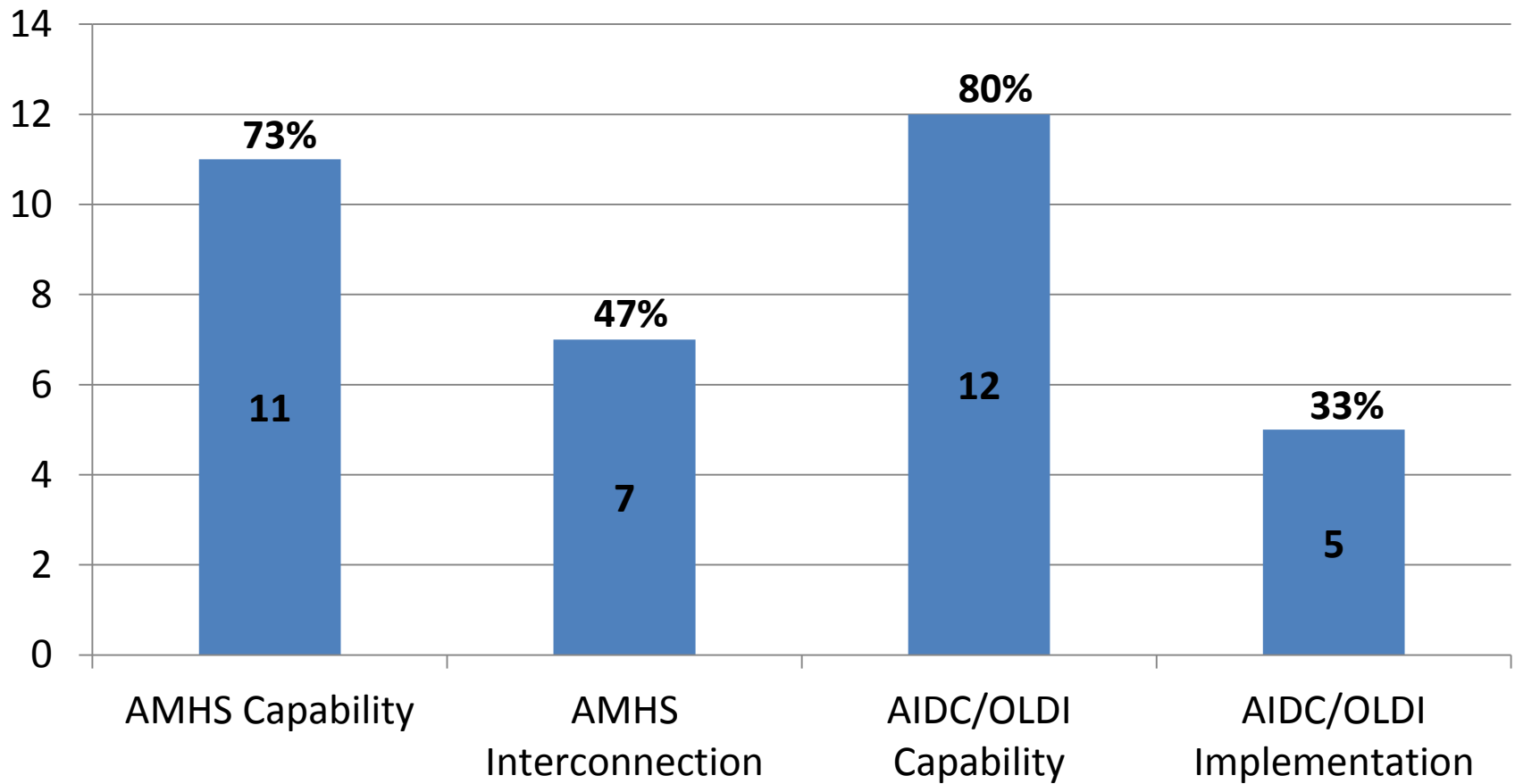
B0-DATM (MID REGION AIR NAVIGATION STRATEGY)

Elements	Applicability	Performance Indicators/Supporting Metrics	Targets
1- National AIM Implementation Plan/Roadmap	All States	**Indicator**: % of States that have National AIM Implementation Plan/Roadmap **Supporting Metric**: Number of States that have National AIM Implementation Plan/Roadmap	80% by Dec. 2016 90% by Dec. 2018
2-AIXM	All States	**Indicator**: % of States that have implemented an AIXM-based AIS database **Supporting Metric**: Number of States that have implemented an AIXM-based AIS database	60% by Dec. 2015 80% by Dec. 2017 100% by Dec. 2019
3-eAIP	All States	**Indicator**: % of States that have implemented an IAID driven AIP Production (eAIP) **Supporting Metric**: Number of States that have implemented an IAID driven AIP Production (eAIP)	60% by Dec. 2016 80% by Dec. 2018 100% by Dec. 2020
4-QMS	All States	**Indicator**: % of States that have implemented QMS for AIS/AIM **Supporting Metric**: Number of States that have implemented QMS for AIS/AIM	70% by Dec. 2016 90% by Dec. 2018
5-WGS-84	All States	**Indicator**: % of States that have implemented WGS-84 for horizontal plan (ENR, Terminal, AD) **Supporting Metric**: Number of States that have implemented WGS-84 for horizontal plan (ENR, Terminal, AD) **Indicator**: % of States that have implemented WGS-84 Geoid Undulation **Supporting Metric**: Number of States that have implemented WGS-84 Geoid Undulation	Horizontal: 100% by Dec. 2017 Vertical (GUND): 90% by Dec. 2018
6-eTOD	All States	**Indicator**: % of States that have implemented required Terrain datasets **Supporting Metric**: Number of States that have implemented required Terrain datasets **Indicator**: % of States that have implemented required Obstacle datasets **Supporting Metric**: Number of States that have implemented required Obstacle datasets	**Area 1 :** Terrain: 50% by Dec. 2015, 70% by Dec. 2018; Obstacles: 40% by Dec. 2015, 60% by Dec. 2018 **Area 4:** Terrain: 50% by Dec. 2015, 100% by Dec. 2018; Obstacles: 50% by Dec. 2015, 100% by Dec. 2018
7-Digital NOTAM*	All States	**Indicator**: % of States that have included the implementation of Digital NOTAM into their National Plan for the transition from AIS to AIM **Supporting Metric**: Number of States that have included the implementation of Digital NOTAM into their National Plan for the transition from AIS to AIM	80% by Dec. 2016 90% by Dec. 2018

Status of B0-DATM
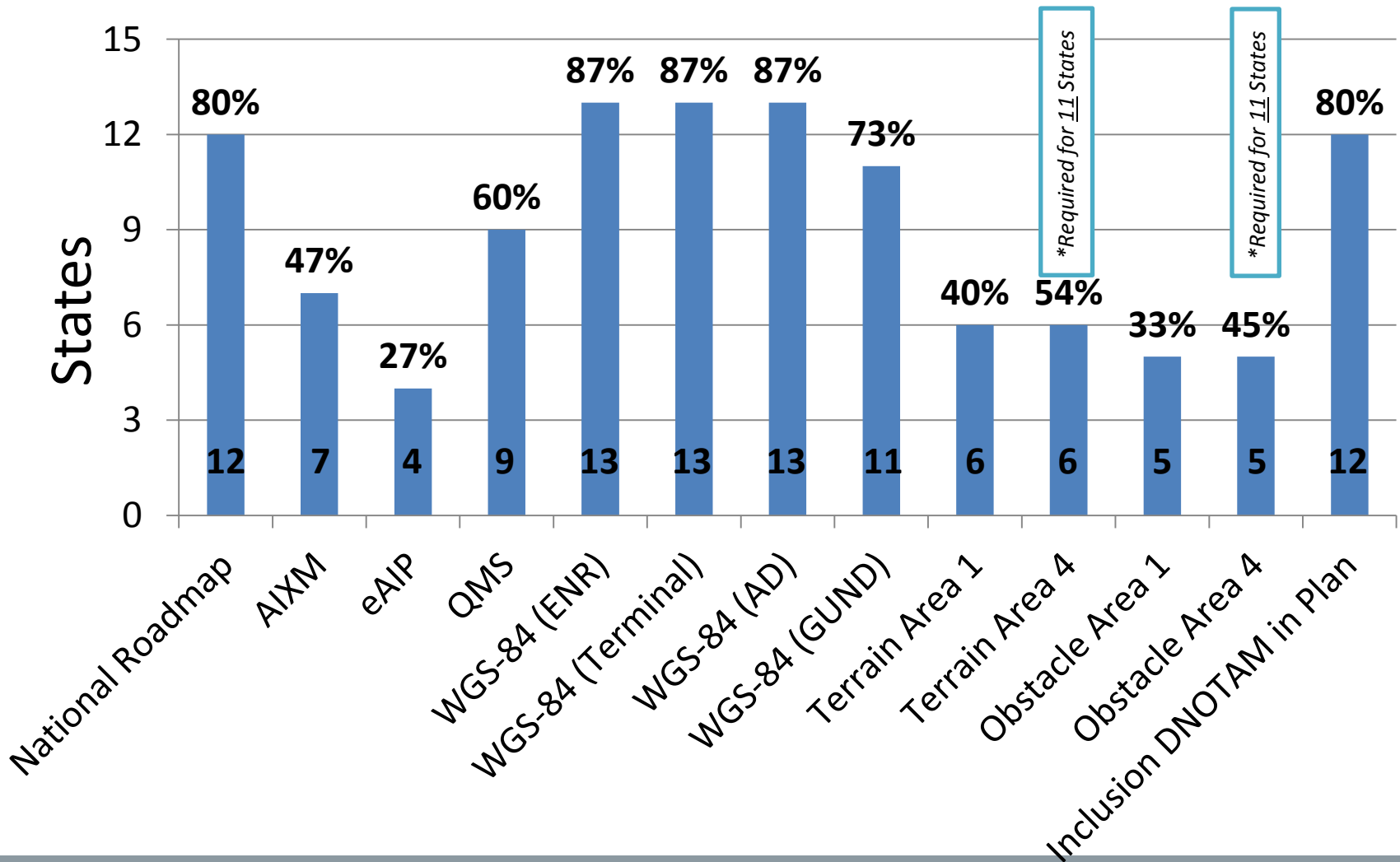
DATM INITIATIVES

- Development of the MID Region AIM Implementation Roadmap

- Development of template for National AIM Implementation Roadmap

- Methodology for reporting and assessing the progress of AIM Transition

- Assistance missions to States

- "Guidance for the AIM Planning and Implementation in the MID Region" (MID Doc 00X)

INTERNATIONAL CIVIL AVIATION ORGANIZATION

MIDDLE EAST AIR NAVIGATION PLANNING
AND IMPLEMENTATION REGIONAL GROUP
(MIDANPIRG)

GUIDANCE FOR AIM PLANNING AND IMPLEMENTATION
IN THE MID REGION

EDITION APRIL, 2016

SWIM INITIATIVES

- ICAO SWIM Workshop (APAC and MID) *(Bangkok, 16-18 May 2016)*

- ICAO APAC/EUR/MID Interregional Seminar on the *"Service improvement through integration of digital AIM, MET and ATM Information"* in 2017

- IWXXM implementation workshop for regional exchange centres (including MID & APAC) (Paris, 31 May-2 June 2016) (other IWXXM workshops in coordination with WMO for each Region follow)

- MID IP Network (ongoing in collaboration with APAC)

- MID Region AIM Database (MIDAD) Project (ongoing in collaboration with EUROCONTROL)

- AIM SG (with the support of CNS, ATM and MET SGs) following-up with SWIM to develop indicators/targets for the B1-SWIM

NATIONAL/REGIONAL IMPLEMENTATION VS. GLOBAL INTEROPERABILITY

- SWIM can be implemented differently in various regions of the world but interoperability must be ensured through common standards (Doc 10039)

MID PROJECTS RELATED TO SWIM

SWIM component	Project	Remarks
Infrastructure	MID IP Network	Approved/Ongoing
Information/ Information services	MIDAD	Ongoing
Information models		AIXM (National AIS), FIXM, IWXXM, etc. Agreed on/Ongoing
SWIM Governance		Supervision, Standards, Procedures, etc. ongoing (part of MIDAD)
SWIM Applications	MID IFPS TBD (ATFM, etc.)	Approved/Ongoing …

TIMELINES OF THE PROJECTS OF THE MID REGION ATM ENHANCEMENT PROGRAMME (MAEP)

Project	Time frame	Project Manager
MID Flight Procedure Programme (MID FPP)	January 2017-December 2019	Manager
MID ATS Route Network Optimization Project (ARNOP) – Phase I	Phase I ends June 2016	ACAC
MID IP Network	January 2016	MIDAMC STG
MID Integrated Flight Plan Processing System (MID IFPS)	2016	Bahrain
MIDAD	2017 and beyond	MIDAD TF
Regional/Sub-Regional ATFM system	2017 and beyond	TBD

MID IP NETWORK (COMMON AERONAUTICAL VPN NETWORK – CRV)

- MAEP Board/2 (Cairo, 11-13 April 2016) agreed that:
    - The procurement framework of the APAC Common Regional Virtual Private Network Programme (CRV) be used for the implementation of the MID IP Network Project
    - Further to the successful completion of the procurement process conducted in the APAC Region, States be urged to engage with the recommended supplier to establish individual service contracts

MID Region AIM Database (MIDAD)

- MAEP Board has agreed to the implementation of an EAD-based MIDAD (EUROCONTROL proposal), with the following main steps:

  Step 1: migration of the MID States to EAD.

  Step 2: establishment of an EAD-based MIDAD System.

  Step 3: establishment of a MIDAD Operational Centre in the MID Region (hand-over of the MIDAD operations from EURCONTROL to the MIDAD Service Provider).

- A detailed implementation plan (including the transition plan) would be developed based on the EAD experience.

MID IFPS

- Data collection, SLA development, configuration, test and trial and transition phases are in progress and will be completed by first half 2017

- Implementation phase: second quarter 2017 within a period of 1-3 months

- Bahrain will be the host and the Project Manager for the MID IFPS

CHALLENGES/LESSONS LEARNED

- Main challenges
  - MET QMS in B0-AMET
  - AMHS interconnection and AIDC/OLDI implementation in B0-FICE
  - AIS QMS, AIXM (consequently eAIP) and eTOD in B0-DATM
  - MIDAD and MID IP Network as well as IWXXM implementation are main challenging SWIM initiatives
- Main reasons for the non-implementation:
  - Financial issues
  - Lack/shortage of competent human resources (needs for training)
  - 4 (out of 15) MID States (27%) faced with serious security issues (assistance missions and support could not be provided)
- Guidance materials and iKITs (implementation KITs) could help States with the implementation
- SARPs related to SWIM