ACAC/ICAO EUR/MID ASBU Symposium

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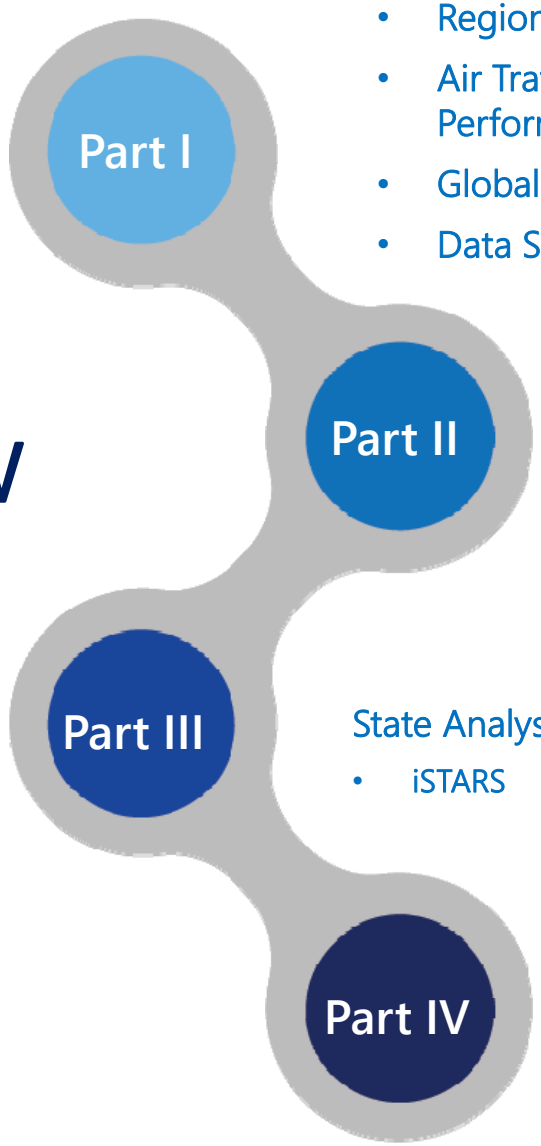
Overview



- Regional Review
- Air Traffic Management Requirements and Performance Panel (ATMRPP) Considerations
- Global Implementation Cycle
- Data Sets

- Regional Analysis
  - iSTARS Data
  - e-Regulations
  - Regional Data

State Analysis

- iSTARS

Observation

Part I

Regional Review

ATMRPP

Global Implementation Cycle

Data Sets

Regional Review

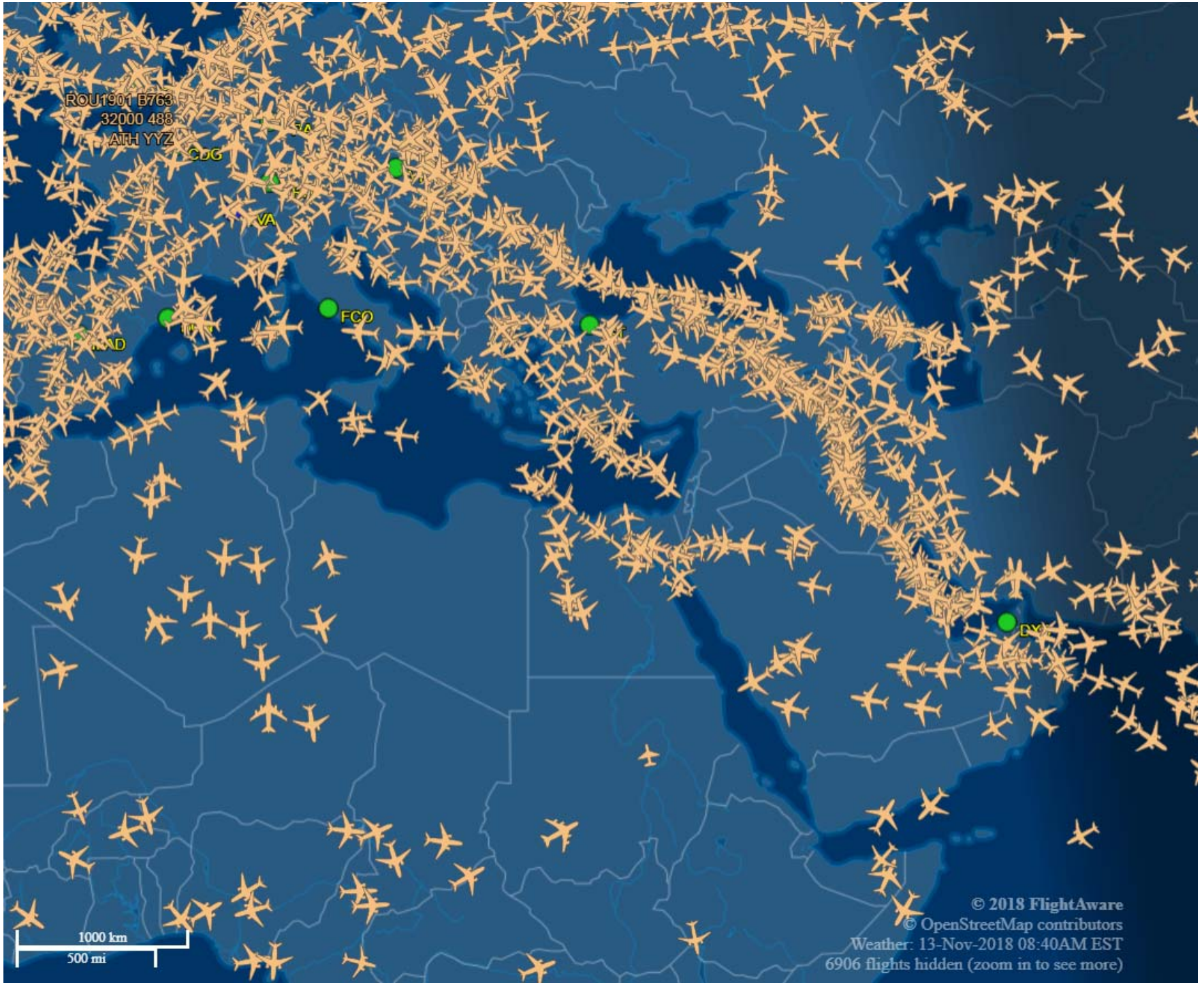
- 18 States
  - Bahrain; Egypt; Iran (Islamic Republic of); Iraq; Jordan; Kuwait; Libya; Oman; Qatar; Saudi Arabia; Sudan; Syrian Arab Republic, United Arab Emirates; Yemen
  - Algeria; Morocco; Tunisia

Regional Review (con't)

- 18 Flight Information Regions
- 73 International Airports
- 1,570,507 Departures per year
  - **1,112,422 (71%) International Departures per year**

Regional Review (con't)

- 1,666 Airframes (51% <10 yrs)
- Average 3.6 % traffic growth
  - **56,538 flights per year**
- 80 "unique" Direct Connections
  - **39% EUR; 23% APAC; 21% MENA; 15% AF; 2% NA; 0% C&SA**


ROU1901 B763
32000 488
ATH YYZ
CDG
VA
FCO
1000 km
500 mi
© 2018 FlightAware
© OpenStreetMap contributors
Weather: 13-Nov-2018 08:40AM EST
6906 flights hidden (zoom in to see more)

CSC606 A330
34000 548
SYD CKG
2000 km
1000 mi
© 2018 FlightAware
© OpenStreetMap contributors
Weather: 13-Nov-2018 08:40AM EST
7851 flights hidden, zoom in to see more

ATMRPP Considera-tions

International Civil Aviation Organization

ATMRPP-WG/31-WP/705
07/06/16

WORKING PAPER

AIR TRAFFIC MANAGEMENT REQUIREMENTS AND PERFORMANCE PANEL (ATMRPP)

THIRTY-NINTH ASSEMBLY

SAN JOSE, CALIFORNIA, UNITED STATES, 27 JUNE to 1 JULY 2016

Agenda Item 6: Any Other Business

Minimum Path and Essential Improvements to Global Modernization

(Presented by Steve Bradford and Henk Hof)

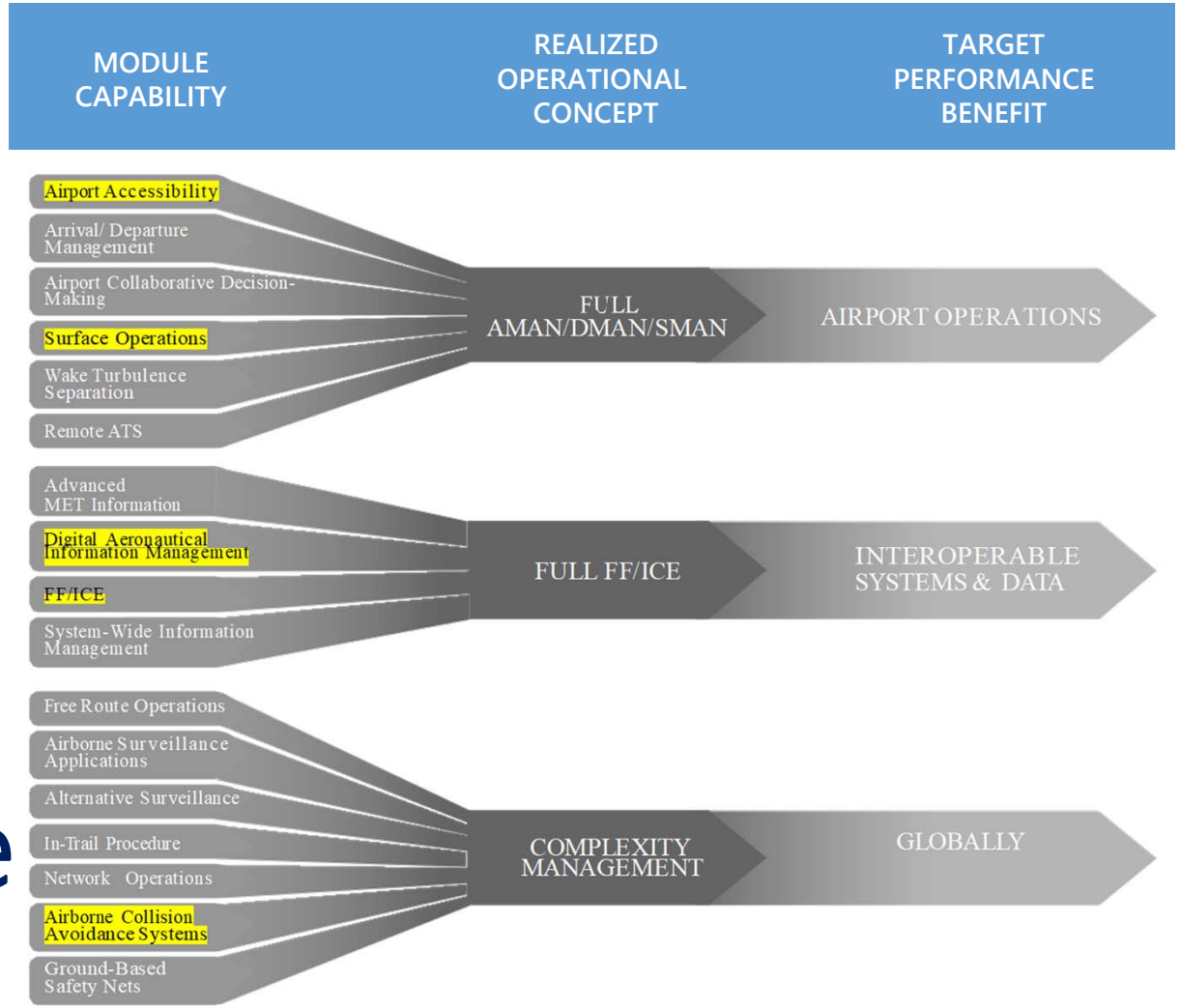
SUMMARY

The inclusion of Module Priorities and Minimum Path in the Fifth Edition of the Global Air Navigation Plan provides a necessary and valuable baseline for all nations to prioritize the implementation of the Aviation System Block Upgrades to meet the needs of global modernization and safety.

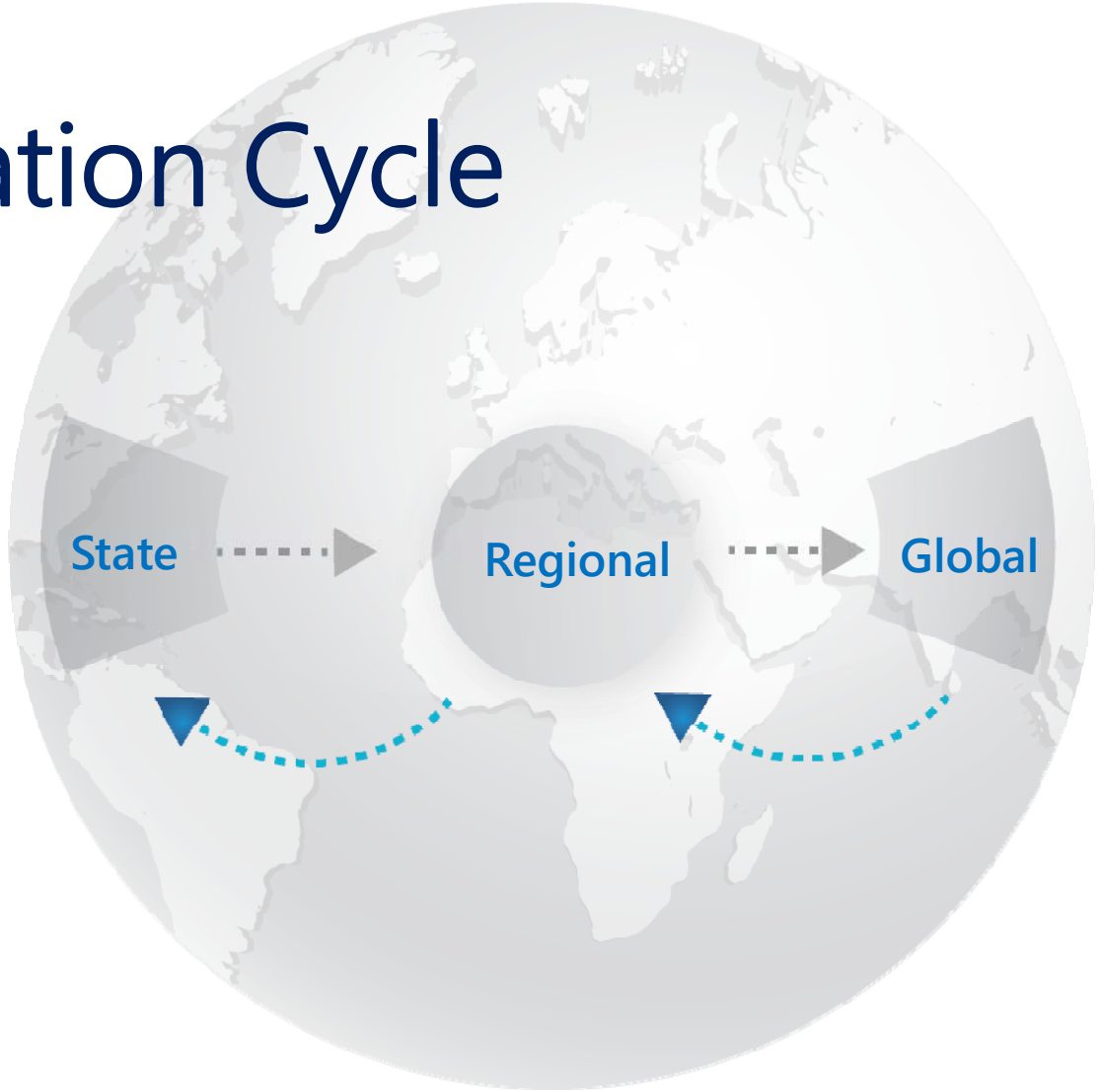
ATMRPP Considerations (con't)

ASUR	APTA	ACAS	DATM	FICE	ICAO ASBU Threads
Operationally, the lower costs of dependent surveillance infrastructure in comparison to conventional radars support strategic investment and business decisions to expand radar-equivalent service volumes and the use of radar-like separation procedures into remote or non-radar areas. Additionally, the mechanical nature of the ADS-B ground infrastructure allows it to be sited in locations that are difficult for radar installations. MLAT requires more ground stations than ADS-B and has larger geometric requirements than ADS-B, but has the early implementation advantage of using current aircraft equipage.	Assembly Resolution urged States to achieve implementation of approach procedures with vertical guidance (APV) (Baro-VNAV and/or augmented GNSS) including LNAV-only minima for all instrument runway ends by 2016.	ICAO agreed to mandate the improved ACAS for new installations as of 1 January 2014 and for all installations no later than 1 January 2017.	Prepares the world for digital information exchange.	Improve coordination between air traffic service units (ATSUs) by using ATS interfacility data communication (AIDC). AIDC is the necessary first step for all improvements in FF-ICE, ATFM and collaborative decision making and the baseline of future advanced [illegible] management processes.	
					Block 0 2013
					Block 1 2019
					Block 2 2025
					Block 3 2030
					Block 4 (GANP ver. 6)

Capability to Operation to Performance



Global Implementation Cycle



Initial Data Sets

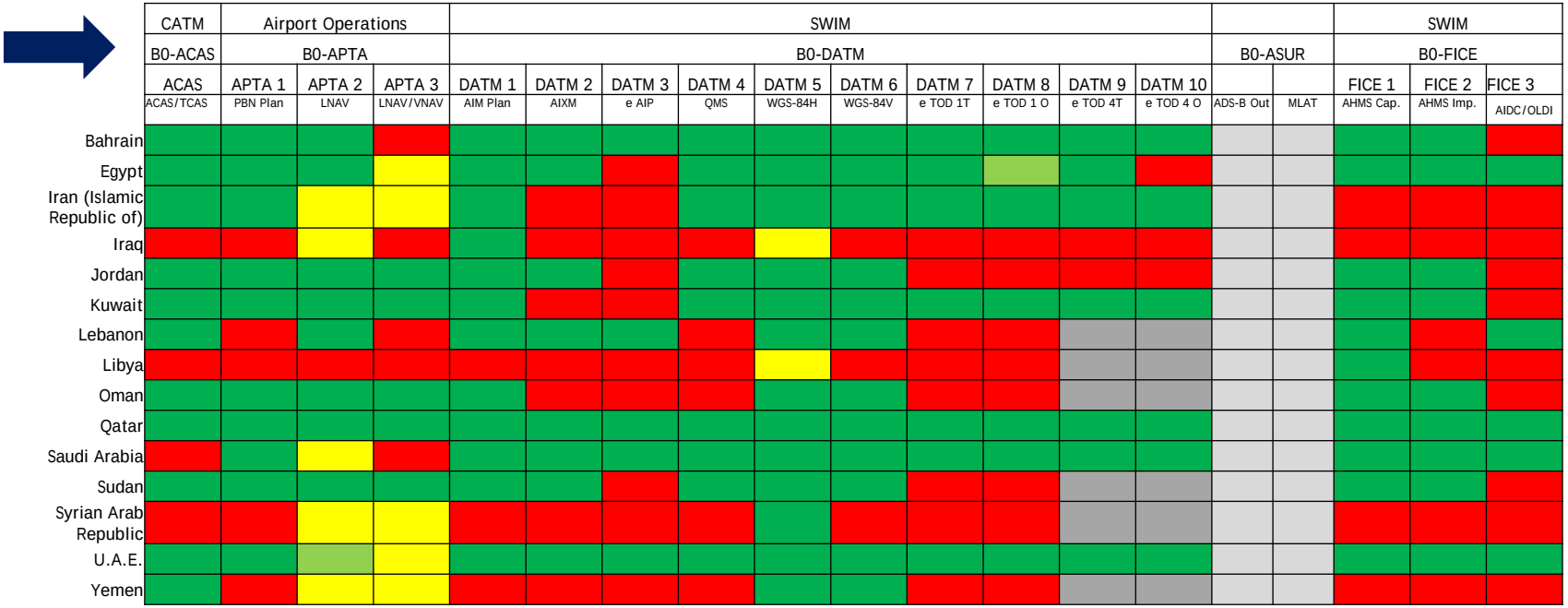
- iSTARS Data
  - State Connectivity
  - Airports
  - Air Navigation Implementation - Actual
  - PBN Implementation Progress - Actual
  - State Traffic
- Non-iSTARS Data
  - Fleet Matrices
  - ASBU Implementation Monitoring Report, ICAO EUR States, 2016

Part II

Regional Analysis

Regional Analysis
Before and After

Middle East – Air Navigation Implementation - Actual



Completed
Partially Completed (+50%)
Partially Completed (-50%)
Not Applicable
Not Started/Not Implemented
Missing Data

North Africa – ASBU Implementation Monitoring Report, ICAO EUR States, 2016

	Pritority 1 Modules				Other
	CATM	Airport Operations	SWIM	SWIM	
	B0-ACAS	B0-APTA	B0-DATM	B0-FICE	B0-ASUR
Algeria					
Morocco					
Tunisia					

Completed in 2016 or before	Completed
Planned for 2017	Partially Completed (+50%)
Planned for 2018	
Planned for 2019	Partially Completed (-50%)
Planned for 2020 or after	**Not Started/Not Implemented**
No Final Plan	
Not Applicable	Not Applicable
Missing Data	Missing Date

=

Middle East & North Africa – Implementation

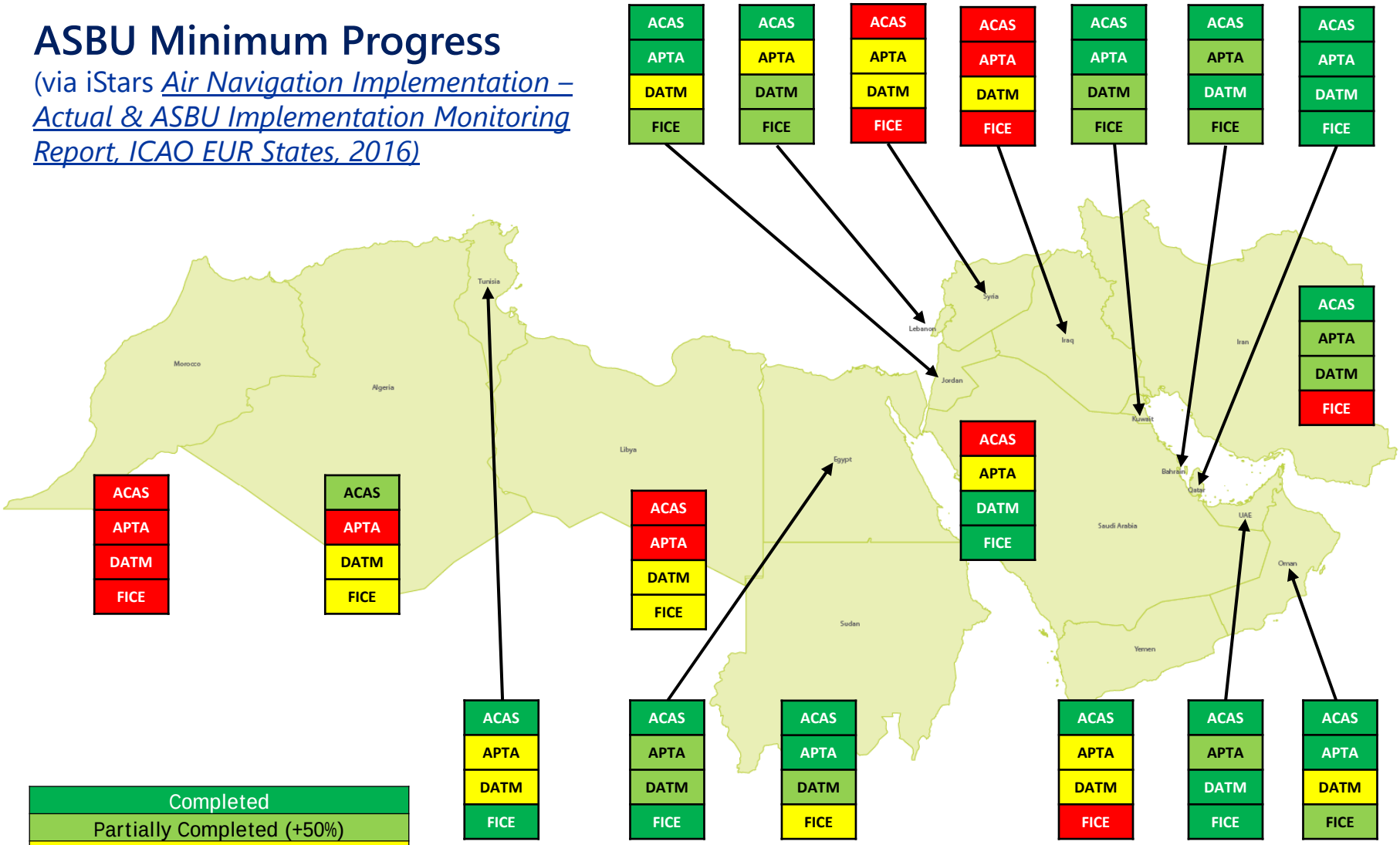
	CATM	Airport Operations	SWIM		
	B0-ACAS	B0-APTA	B0-DATM	B0-FICE	B0-ASUR
Bahrain					
Egypt					
Iran (Islamic Republic of)					
Iraq					
Jordan					
Kuwait					
Lebanon					
Libya					
Oman					
Qatar					
Saudi Arabia					
Sudan					
Syrian Arab Republic					
U.A.E.					
Yemen					

	CATM	Airport Operations	SWIM	SWIM	
	B0-ACAS	B0-APTA	B0-DATM	B0-FICE	B0-ASUR
Algeria					
Morocco					
Tunisia					

Completed
Partially Completed (+50%)
Partially Completed (-50%)
Not Applicable
Not Started/Not Implemented
Missing Data

ASBU Minimum Progress

(via iStars *Air Navigation Implementation – Actual & ASBU Implementation Monitoring Report, ICAO EUR States, 2016)*



Completed
Partially Completed (+50%)
Partially Completed (-50%)
Not Applicable
Not Started/Not Implemented
Missing Data

Regional Picture – Before

- What does this tell us?
  - ACAS – 73% Green
    - 67% complete; 5% partially complete (+50%);
      27% not started/implemented
  - FICE – 56% Green
    - 28% complete; 28% partially complete (+50%); 17% partially complete (-50%);
      27% not started/implemented
  - DATM – 51% Green
    - 23% complete; 28% partially complete (+50%); 44% partially complete (-50%);
      5% not started/implemented
  - APTA – 50% Green
    - 27% complete; 23% partially complete (+50%); 33% partially complete (-50%);
      17% not started/implemented
  - ASUR – Partial

Additional Data Sets

Communications, Navigation & Surveillance Sub-Group, 8th Meeting (02/2018)

- WP/14 – MID Air Navigation Plan

Performance Based Navigation Sub-Group, 3rd Meeting (02/2018)

- Final Report

Aeronautical Information Management Sub-Group, 4th Meeting (02/2018)

- Final Report

Air Traffic Management Sub-Group, 4th Meeting (04 – 05/2018)

- Final Report

ICAO Document 7754 EUR eANP Volume III - ASBUs

PBN Implementation Progress - Actual

- PBN Runways vs. Instrument Runways
- % of PBN Runways
- Type of PBN Runway
  - PBN, LNAV, LNAV/VNAV, RNP AR, Unknown PBN. SID, STAR

e-Regulations

- ACAS II/TCAS

B0-ACAS

Optimum Capacity and Flexible Flights – Through Global Collaborative ATM, CNS SG/8 WP/14 – MID Air Navigation Plan and e-Regulations

	CATM B0-ACAS ACAS ACAS/TCAS	Regulation Reference
Bahrain		AC/OPS/05/2015 dated 10th of March 2015
Egypt		ECAR Part 121.356 & ECAR Part 91.221
Iran (Islamic Republic of)		Aeronautical Telecommunications bylaw, articles 3 & 4
Iraq		
Jordan		JCAR-OPS.1 (1.668 airborne collision avoidance system)
Kuwait		Kuwait Civil Aviation Safety Regulations – Part 6 – Operation of Aircraft, Para. 6.20.4
Lebanon		Regulation reference needs to be provided
Libya		*LYCAR - Air Operations Amendment 3, Appendix I ACAS II March 2017*
Oman		Regulation reference needs to be provided
Qatar		QCAR – OPS 1, Subpart K, QCAR – OPS 1.668 – Airborne collision avoidance system. QCAR Part 10 – Volume 4 Chapter 4 Airborne Collision Avoidance System
Saudi Arabia		GACAR PART 91 – Appendix C
Sudan		Amended ANNEX 10 (V4)- ANNESX 6 (V2)
Syrian Arab Republic		
U.A.E.		CAR-OPS 1.668 Airborne Collision Avoidance System (See IEM OPS 1.668) and CAAP 29 and AIP 1.5.6.6
Yemen		Regulation reference needs to be provided

Completed
Partially Completed
Not Applicable
Not Started/Not Implemented
Missing Data

B0-ACAS

ICAO Document 7754 EUR eANP Volume III – ASBUs and e-Regulations

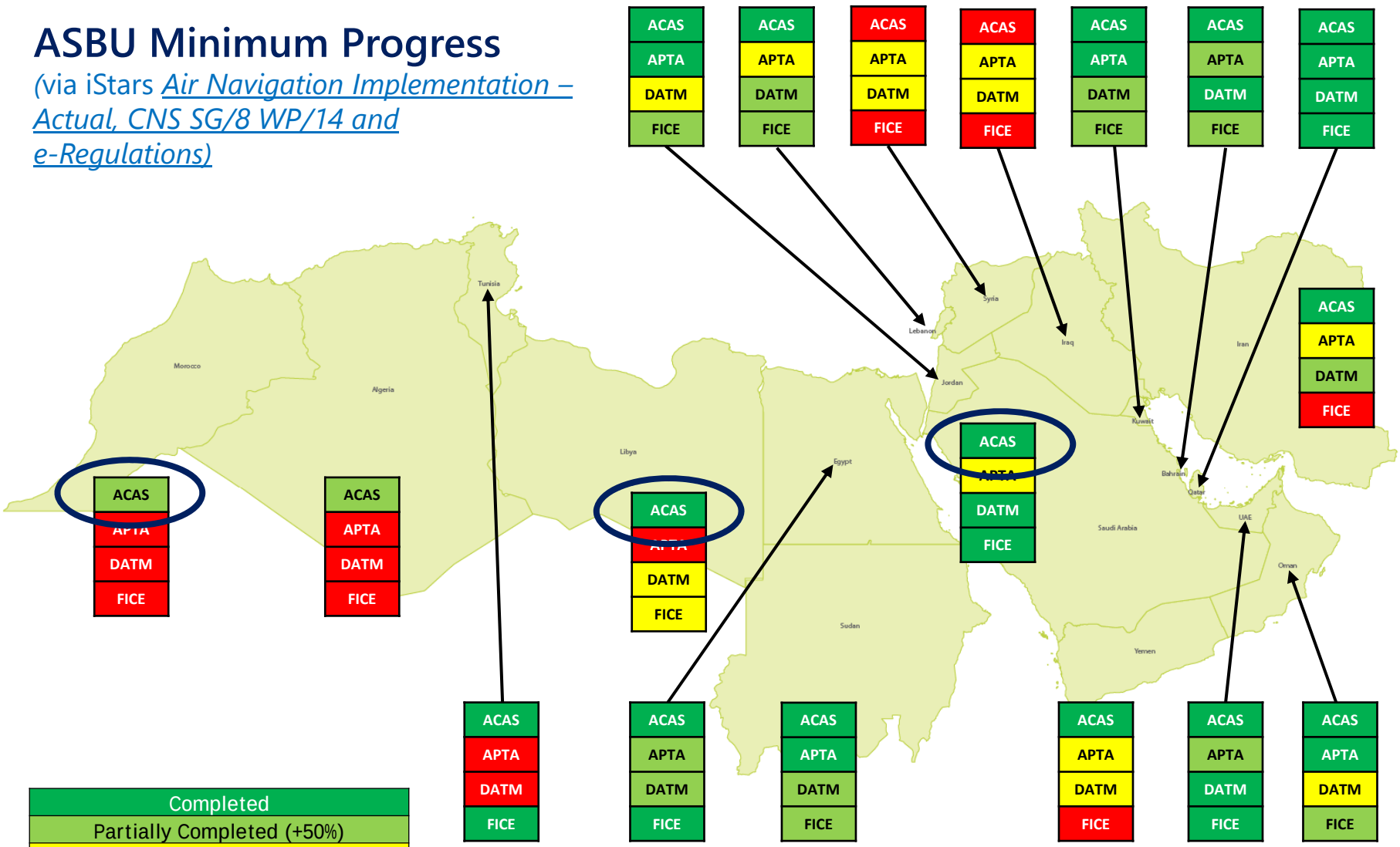
	CATM	
	B0-ACAS	
	ATC16	Notes
	Implement ACAS II compliant with TCAS II change 7.1	
Algeria	2018	The carriage and operation of ACAS is foreseen from 1 January 2017 onwards. A transitional period and derogation measures are foreseen until 31 December 2017. Algeria has published a circular to achieve implementation ACAS 7.1.
Morocco	80% (12/2018)	An ACAS II version 7.1 Condition is included in the airworthiness certification process. ATC reporting of ACAS RAs is implemented in the ACC.
Tunisia	2015	Tunisian registered aircraft are all equipped TCAS version 7.1. Regarding the monitoring, Air operators are invited to comply with manufacture procedures ATC RA monitoring provision implemented.

Year	Completed
(Completion Target)	Ongoing
Year	Planned
	Late
	No Final Plan
	Not Applicable
	Missing Data

Completed
Partially Completed (+50%)
Partially Completed (-50%)
Not Started/Not Implemented
Not Applicable
Missing Date

ASBU Minimum Progress

(via iStars *Air Navigation Implementation – Actual, CNS SG/8 WP/14 and e-Regulations)*



Completed
Partially Completed (+50%)
Partially Completed (-50%)
Not Applicable
Not Started/Not Implemented
Missing Data

B0 - APTA

Airport Operations, PBN Implementation – Actual and PBN SG/3

	Airport Operations		
	B0-APTA		
	APTA 1	APTA 2	APTA 3
	PBN Plan	LNAV	LNAV/VNAV
Bahrain		100% 2/2	0% 0/2
Egypt		86% 19/22	36% 8/22
Iran (Islamic Republic of)		3% 1/32	3% 1/32
Iraq		57% 8/14	14% 2/14
Jordan		100% 8/8	100% 8/8
Kuwait		100% 4/4	100% 4/4
Lebanon		100% 4/4	0% 0/4
Libya		0% 0/8	0% 0/8
Oman		100% 4/4	100% 4/4
Qatar		100% 6/6	100% 6/6
Saudi Arabia		23% 4/18	0% 0/18
Sudan		100% 8/8	100% 8/8
Syrian Arab Republic	DRAFT	13% 1/8	13% 1/8
U.A.E.		95% 19/20	95% 19/20
Yemen	DRAFT	30% 3/10	20% 2/10

% Complete	PBN Airports (PBN Runways/Instrument Runways)								
100% 2/4	OBBI 2/2								
86% 19/22	HESN 2/2	HEBA 1/2	HECA 4/6	HEGN 4/4	HELX 2/2	HEMA 2/2	HESH 4/4		
3% 1/32	OIKB 0/4	OIFM 0/4	OIMM 0/4	OISS 0/4	OITT 0/4	OIIE 1/4	OIII 0/4	OIZH 0/2	OIYY 0/2
66.7% 8/14	ORNI 2/2	ORBI 2/4	ORMM 0/2	ORER 2/2	ORSU 2/2	ORBM 0/2			
100% 6/6	OJAQ 2/2	OJAM 2/2	OJAI 2/2						
100% 4/4	OKBK 4/4								
100% 4/4	OLBA 4/4								
0% 0/8	HLLB 0/4	HLLS 0/2	HLLT 0/2						
100% 4/4	OOMS 2/2	OOSA 2/2							
100% 6/6	OTBD 2/2	OTHH 4/4							
22.2% 4/18	OEJN 0/6	OEDF 0/4	OERK 0/4	OEMA 4/4					
100% 4/4	HSSS 2/2	HSPN 2/2	HSOB 2/2	HSNN 2/2					
20% 1/8	OSAP 0/2	OSDI 1/4	OSLK 0/2						
100% 19/19	OMAA 4/4	OMAL 2/2	OMAD 2/2	OMDW 2/2	OMDB 4/4	OMFJ 1/1	OMRK 2/2	OMSJ 2/2	
42.9% 3/10	OYAA 0/2	OYHD 1/2	OYRN 0/2	OYSN 2/2	OYTZ 0/2				

Completed
Partially Completed (+50%)
Partially Completed (-50%)
Not Applicable
Not Started/Not Implemented
Missing Data

Completed
Partially Completed
Not Completed

B0 - APTA

Airport Operations, PBN Implementation – Actual and ICAO Document 7754 EUR eANP Volume III – ASBUs

Airport Operations	
B0-APTA	
NAV10	
Implement APV procedures	
Algeria	40% (2021)
Morocco	40% (2023)
Tunisia	50% (2019)

% Complete	PBN Airports (PBN Runways/Instrument Runways)																		
0/30	DAAS 0/2	DAOB 0/1	DAAT 0/2	DAOO 0/2	DABS 0/2	DAOI 0/1	DAAV 0/1	DAAG 0/4	DAUZ 0/2	DAUH 0/2	DABC 0/2	DAUB 0/1	DABT 0/1	DABB 0/2	DAAE 0/1	DAAJ 0/2	DAUA 0/1	DAON 0/1	
9/24	GMAD 0/2	GMFO 1/3	GMTA 1/1	GMMW 2/2	GMTT 0/2	GMMX 2/2	GMMI 1/1	GMMN 0/4	GMFK 0/1	GMMZ 1/1	GMAT 0/1	GMFF 0/1	GMME 0/1	GMTN 1/1					
5/15	DTKA 0/1	DTTA 0/4	DTMB 2/2	DTTF 0/2	DTTZ 2/2	DTTX 0/2	DTJI 1/2												

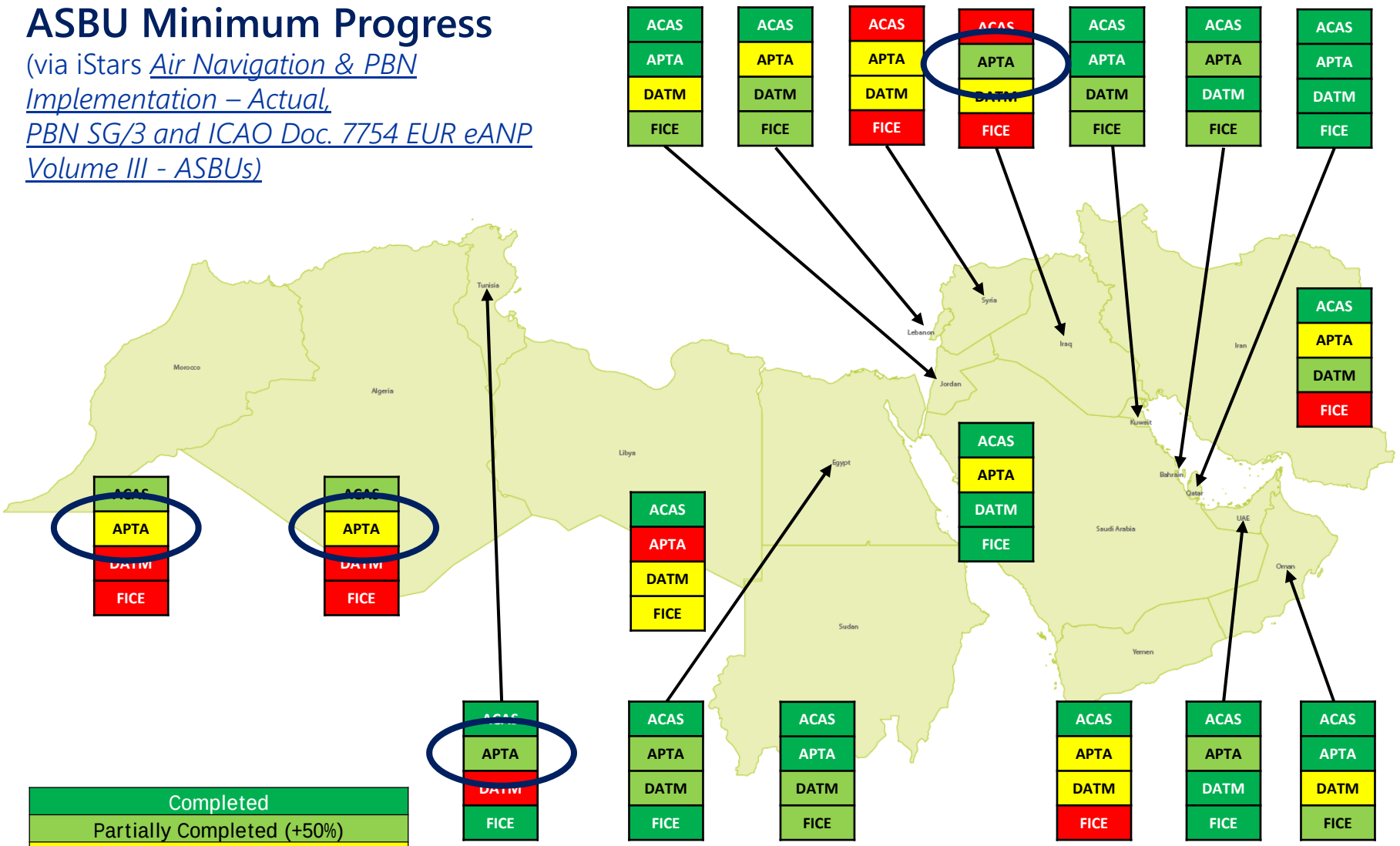
Completed
Partially Completed
Not Completed

Year	
(Completion Target)	Ongoing
Year	Planned
	Late
	No Final Plan
	Not Applicable
	Missing Data

Completed
Partially Completed (+50%)
Partially Completed (-50%)
Not Started/Not Implemented
Not Applicable
Missing Date

ASBU Minimum Progress

(via iStars *Air Navigation & PBN Implementation – Actual, PBN SG/3 and ICAO Doc. 7754 EUR eANP Volume III - ASBUs)*



B0-DATM

Globally Interoperable Systems and Data – Through Globally Interoperable System Wide Information Management and AIM SG/4

	SWIM															
	B0-DATM															
		DATM 3-1								DATM 3-2						
		Provision for AIS/AIM products & services based on the IAID								Aeronautical Data Quality						
	~~AIM Plan~~	IAID	AIP	NOTAM	SNOWTAM	PIB	~~Charting~~	Procedure Design	ATS	QMS	Formal Agrmnts	DDE w/ Originators	Metadata	Data Quality Monitoring	Data Integrity Monitoring	AIRAC Adherence
Bahrain																
Egypt																
Iran (Islamic Republic of)																
Iraq																
Jordan																
Kuwait																
Lebanon																
Libya																
Oman																
Qatar																
Saudi Arabia																
Sudan																
Syrian Arab Republic																
U.A.E.																
Yemen																

Completed
Partially Completed
Not Applicable
Not Started/Not Implemented
Missing Data

B0-DATM (con't)

Globally Interoperable Systems and Data – Through Globally Interoperable System Wide Information Management and AIM SG/4

	DATM 3-3				DATM 3-4-1			
	World Geodetic System-1984 (WGS-84)				Provision for Data Sets for Areas 1 & 4			
	FIR/ENR	Terminal	AD	Gund	Terrain Area 1	Terrain Area 4	Obstacle Area 1	Obstacle Area 4
Bahrain								
Egypt								
Iran (Islamic Republic of)								
Iraq								
Jordan								
Kuwait								
Lebanon								
Libya								
Oman								
Qatar								
Saudi Arabia								
Sudan								
Syrian Arab Republic								
U.A.E.								
Yemen								

Completed
Partially Completed
Not Applicable
Not Started/Not Implemented
Missing Data

B0-DATM (con't)

Globally Interoperable Systems and Data – Through Globally Interoperable System Wide Information Management and AIM SG/4

	DATM 3-4-2								DATM 3-4-3		
	Provision of Data Sets for Area 2								Provision of Data Sets for Area 3/AMDB		
	Terrain Area 2A	Terrain Area 2B	Terrain Area 2C	Terrain Area 2D	Obstacle Area 2A	Obstacle Area 2B	Obstacle Area 2C	Obstacle Area 2D	Terrain Area 3	Obstacle Area 3	AMDB
Bahrain											
Egypt											
Iran(Islamic Republic of)											
Iraq											
Jordan											
Kuwait											
Lebanon											
Libya											
Oman											
Qatar											
Saudi Arabia											
Sudan											
Syrian Arab Republic											
U.A.E.											
Yemen											

Completed
Partially Completed
Not Applicable
Not Started/Not Implemented
Missing Data

B0-DATM

ICAO Document 7754 EUR eANP Volume III – ASBUs

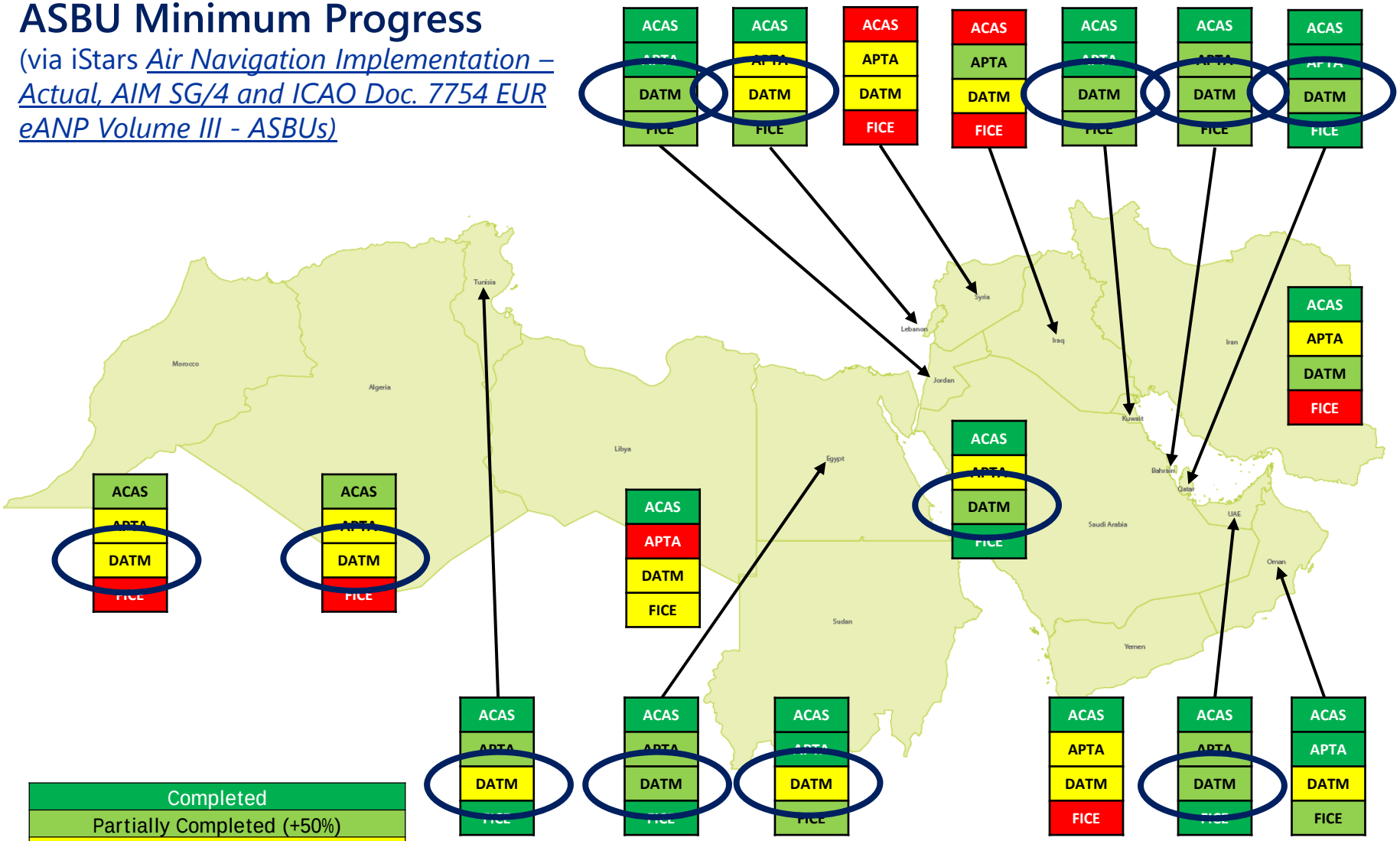
	SWIM																	
	B0-DATM																	
	DATM 3-1											DATM 3-2						
	Provision for AIS/AIM products & services based on the IAID											Aeronautical Data Quality						
	AIM Plan	IAID	AIP	NOTAM	SNOWTAM		PIB	Charting		Procedure Design	ATS	QMS	Formal Agrmnts	DDE w/ Originators	Metadata	Data Quality Monitoring	Data Integrity Monitoring	AIRAC Adherence
Algeria																		
Morocco																		
Tunisia																		

	DATM 3-3				DATM 3-4					
	World Geodetic System-1984 (WGS-84)				Provision for Data Sets for Areas 1, 2a & 4					
	FIR/ENR	Terminal	AD	Gund	Terrain Area 1	Terrain Area 2a	Terrain Area 4	Obstacle Area 1	Obstacle Area 2	Obstacle Area 4
Algeria										
Morocco										
Tunisia										

Completed
Partially Completed
Not Applicable
Not Started/Not Implemented
Missing Data

ASBU Minimum Progress

(via iStars *Air Navigation Implementation – Actual, AIM SG/4 and ICAO Doc. 7754 EUR eANP Volume III - ASBUs)*



Completed
Partially Completed (+50%)
Partially Completed (-50%)
Not Applicable
Not Started/Not Implemented
Missing Data

B0-FICE

Globally Interoperable Systems and Data – Through Globally Interoperable System Wide Information Management and CNS SG/8 WP/14 – MID Air Navigation Plan

	SWIM			
	B0-FICE			
	FICE 1	FICE 2	FICE 3	
	AHMS Capability	AHMS Interconnect	AIDC/OLDI Capability	AIDC/OLDI Implement
Bahrain				
Egypt				
Iran (Islamic Republic of)				
Iraq				
Jordan				
Kuwait				
Lebanon				
Libya				
Oman				
Qatar				
Saudi Arabia				
Sudan				
Syrian Arab Republic				
U.A.E.				
Yemen				

Completed
Partially Completed
Not Applicable
Not Started/Not Implemented
Missing Data

B0-FICE

ICAO Document 7754 EUR eANP Volume III – ASBUs

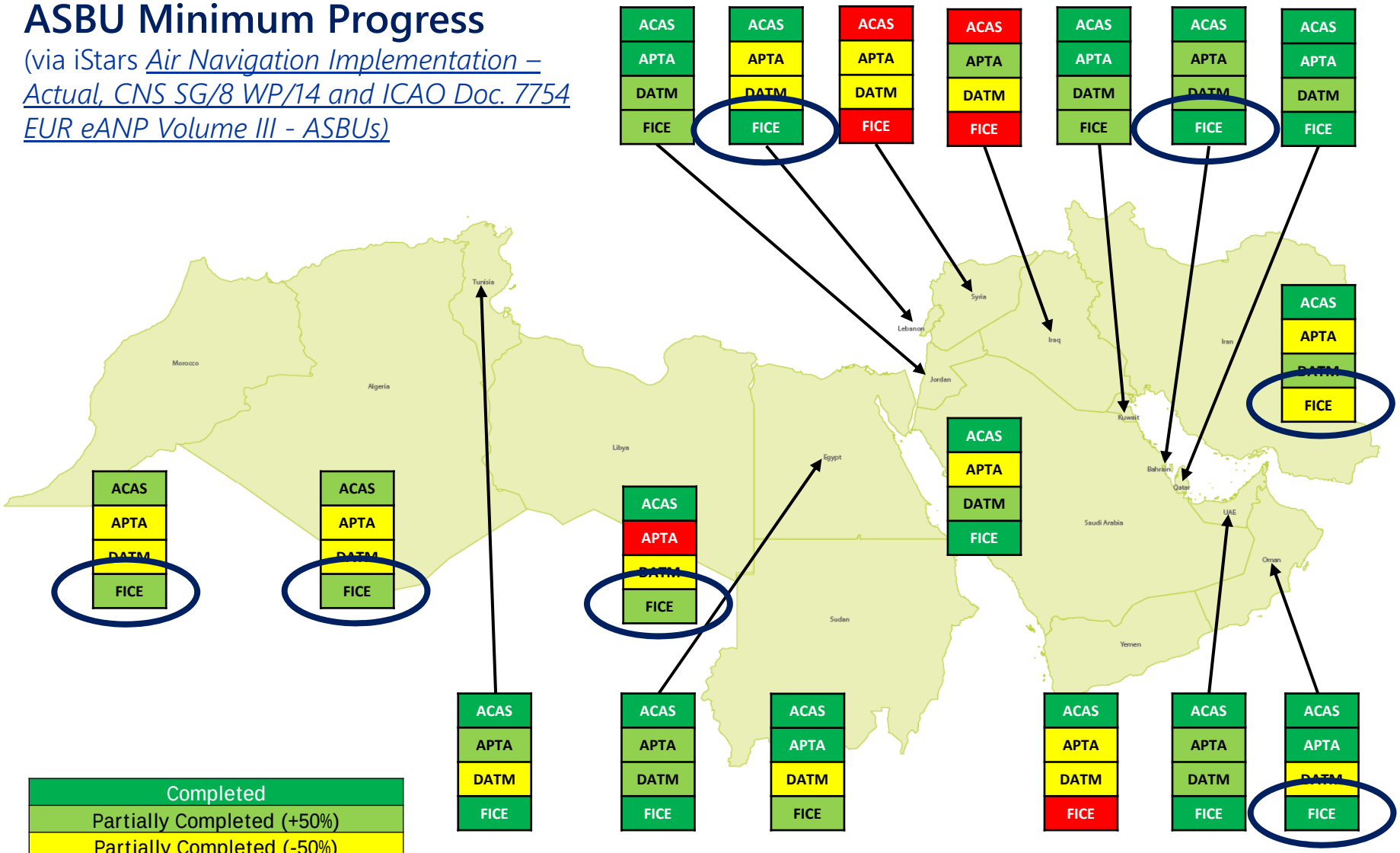
	SWIM		
	B0-FICE		
	ATC17	ITY-COTR	ITY-FMTP
	Electronic Dialouge as Automated Assistance to Controller during Coordination & Transfer	Implementation of ground-ground automated co-ordination processes	Apply a common flight message transfer protocol (FMTP)
Algeria	30% (2019)	70% (2019)	2019
Morocco	25% (12/2020)	80% (12/2018)	12/2018
Tunisia	2014	2014	2014

Year	Completed
(Completion Target)	Ongoing
Year	Planned
	Late
	No Final Plan
	Not Applicable
	Missing Data

Completed
Partially Completed (+50%)
Partially Completed (-50%)
Not Started/Not Implemented
Not Applicable
Missing Date

ASBU Minimum Progress

(via iStars *Air Navigation Implementation – Actual, CNS SG/8 WP/14 and ICAO Doc. 7754 EUR eANP Volume III - ASBUs)*



B0-ASUR

ATM SG/4

	B0-ASUR	
	ADS-B Out	MLAT
Bahrain		
Egypt		
Iran (Islamic Republic of)		
Iraq		
Jordan		
Kuwait		
Lebanon		
Libya		
Oman		
Qatar		
Saudi Arabia		
Sudan		
Syrian Arab Republic		
U.A.E.		
Yemen		

Completed
Partially Completed
Not Applicable
Not Started/Not Implemented
Missing Data

B0-ASUR

ICAO Document 7754 EUR eANP Volume III – ASBUs

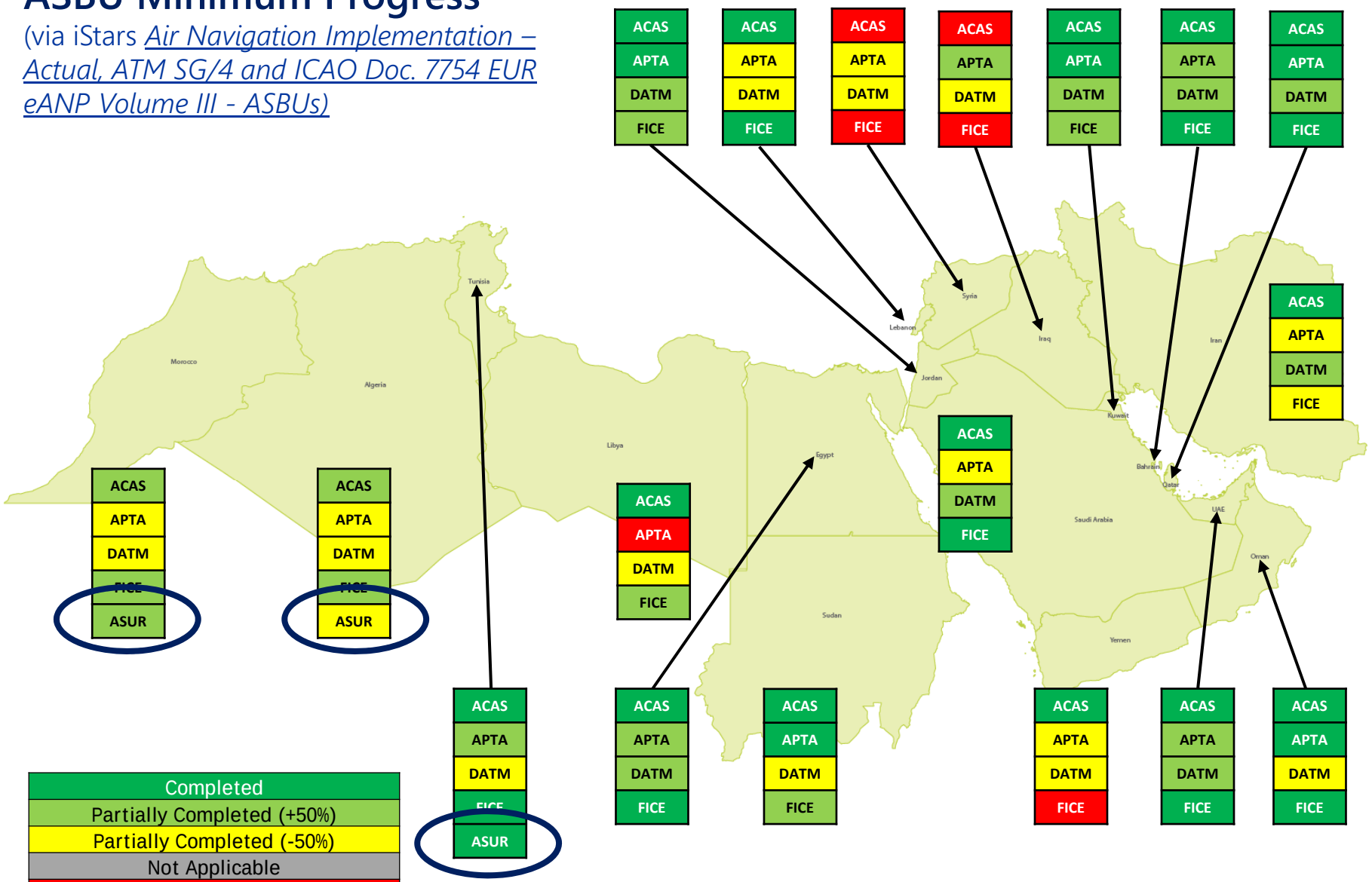
	B0-ASUR
	ITY-SPI
	Surveillance performance and Interoperabiliyt
Algeria	50% (2019)
Morocco	2015
Tunisia	60% (12/2018)

Year	Completed
(Completion Target)	Ongoing
Year	Planned
	Late
	No Final Plan
	Not Applicable
	Missing Data

Completed
Partially Completed (+50%)
Partially Completed (-50%)
Not Started/Not Implemented
Not Applicable
Missing Date

ASBU Minimum Progress

(via iStars *Air Navigation Implementation – Actual, ATM SG/4 and ICAO Doc. 7754 EUR eANP Volume III - ASBUs)*



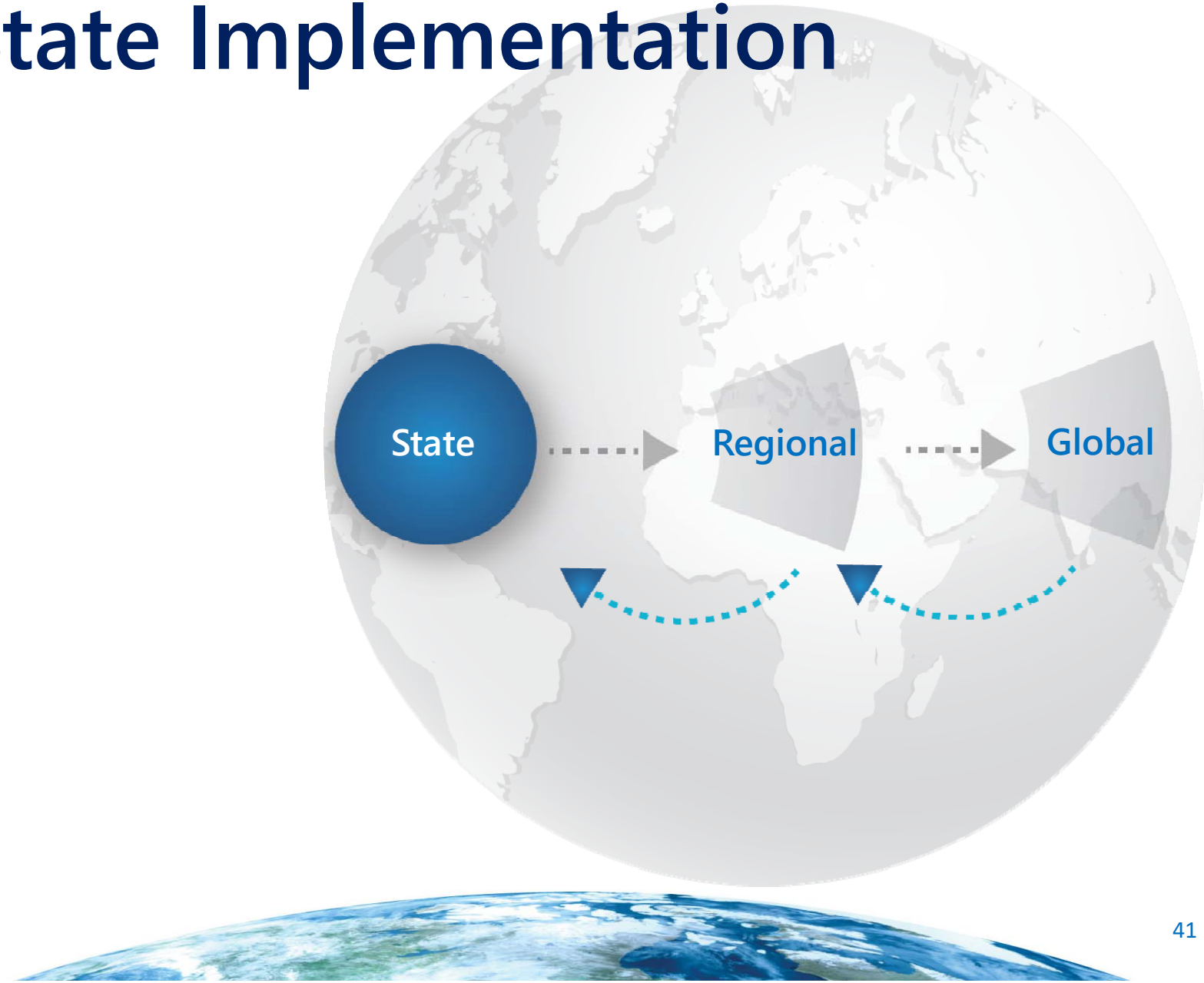
Regional Picture - After

- What does this tell us?
  - ACAS – 89% Green **(+16%)**
    - 78% complete; 11% partially complete (+50%); 11% not started/implemented
  - FICE – 77% Green **(+21%)**
    - 44% complete; 33% partially complete (+50%); 6% partially complete (-50%); 17% not started/implemented
  - APTA – 56% Green **(+6%)**
    - 28% complete; 28% partially complete (+50%); 38% partially complete (-50%); 6% not started/implemented
  - DATM – 56% Green **(+6%)**
    - 0% complete; 56% partially complete (+50%); 44% partially complete (-50%); 0% not started/implemented
  - ASUR – Partial
    - 6% complete; 6% partially complete (+50%); 6% partially complete (-50%); 82% missing data

Part III

State Analysis

State Implementation



State Implementation w/ Goals - Before

	CATM	Airport Operations			SWIM												SWIM		
	B0-ACAS	B0-APTA			B0-DATM										B0-ASUR		B0-FICE		
	ACAS	APTA 1	APTA 2	APTA 3	DATM 1	DATM 2	DATM 3	DATM 4	DATM 5	DATM 6	DATM 7	DATM 8	DATM 9	DATM 10			FICE 1	FICE 2	FICE 3
	ACAS/TCAS	PBN Plan	LNAV	LNAV/VNAV	AIM Plan	AIXM	e AIP	QMS	WGS-84H	WGS-84V	e TOD 1T	e TOD 1 O	e TOD 4T	e TOD 4 O	ADS-B Out	MLAT	AHMS Cap.	AHMS Imp.	AIDC/OLDI
Bahrain																			
Egypt																			
Iran (Islamic Republic of)																			
Iraq																			
Jordan																			
Kuwait																			
Lebanon																			
Libya																			
Oman																			
Qatar																			
Saudi Arabia																			
Sudan																			
Syrian Arab Republic																			
U.A.E.																			
Yemen																			
MID GOAL	100% of States by 12/16	100% of States by 12/16	All runway ends (178) @ Int'l Aero either as primary or as back-up for prec. approach by 12/16	All runway ends (178) @ Int'l Aero either as primary or as back-up for prec. approach by 12/17	90% of States by 12/18	80% of States by 12/18	80% of States by 12/20	90% of States by 12/18	100% of States by 12/18	90% of States by 12/18	70% of States by 12/18	60% of States by 12/18	100% of States by 12/18	100% of States by 12/18	Priority 2	Priority 2	70% of States w/ capability by 12/17	60% of States w/ capability by 12/17	70% of FIRs w/in which all app. ACCs imp. at least 1 interface to use AIDC/OLDI with neighboring ACCs by 12/17
MID ACTUAL	**73%**	**67%**	**53%**	**37%**	**80%**	**53%**	**33%**	**60%**	**87%**	**80%**	**47%**	**40%**	**77%**	**67%**			**73%**	**60%**	**33%**

Completed
Partially Completed (+50%)
Partially Completed (-50%)
Not Applicable
Not Started/Not Implemented
Missing Data

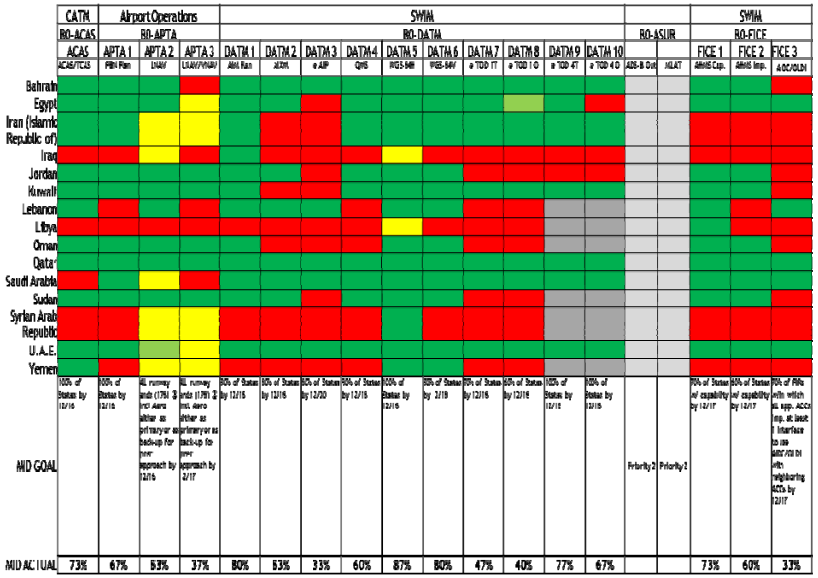
State Implementation w/ Goals - After

	CATM	Airport Operations			SWIM												SWIM		
	B0-ACAS	B0-APTA			B0-DATM										B0-ASUR		B0-FICE		
	ACAS	APTA 1	APTA 2	APTA 3	DATM 1	DATM 2	DATM 3	DATM 4	DATM 5	DATM 6	DATM 7	DATM 8	DATM 9	DATM 10			FICE 1	FICE 2	FICE 3
	ACAS/TCAS	PBN Plan	LNAV	LNAV/VNAV	AIM Plan	AIXM	e AIP	QMS	WGS-84H	WGS-84V	e TOD 1T	e TOD 1 O	e TOD 4T	e TOD 4 O	ADS-B Out	MLAT	AHMS Cap.	AHMS Imp.	AIDC/OLDI
Bahrain																			
Egypt																			
Iran (Islamic Republic of)																			
Iraq																			
Jordan																			
Kuwait																			
Lebanon																			
Libya																			
Oman																			
Qatar																			
Saudi Arabia																			
Sudan																			
Syrian Arab Republic																			
U.A.E.																			
Yemen																			
MID GOAL	100% of States by 12/16	100% of States by 12/16	All runway ends (178) @ Int'l Aero either as primary or as back-up for prec. approach by 12/16	All runway ends (178) @ Int'l Aero either as primary or as back-up for prec. approach by 12/17	90% of States by 12/18	80% of States by 12/18	80% of States by 12/20	90% of States by 12/18	100% of States by 12/18	90% of States by 12/18	70% of States by 12/18	60% of States by 12/18	100% of States by 12/18	100% of States by 12/18	Priority 2	Priority 2	70% of States w/ capability by 12/17	60% of States w/ capability by 12/17	70% of FIRs w/in which all app. ACCs imp. at least 1 interface to use AIDC/OLDI with neighboring ACCs by 12/17
MID ACTUAL	87%	87%	51%	36%		53%	33%	60%	96%	80%	40%	50%	89%	78%			73%	67%	47%

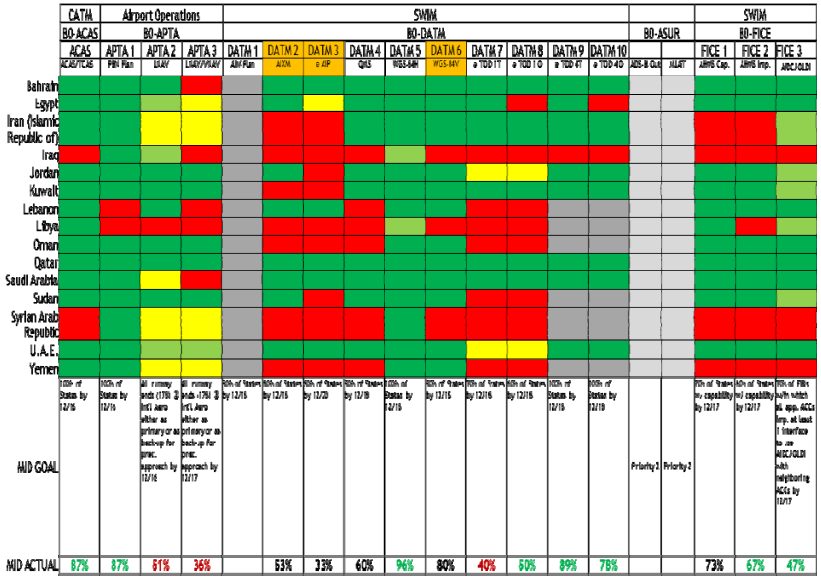
Completed
Partially Completed (+50%)
Partially Completed (-50%)
Not Applicable
Not Started/Not Implemented
Missing Data

State Implementation

Before
(2 Data Sets)



After
(8 Data Sets)



Completed
Partially Completed (+50%)
Partially Completed (-50%)
Not Applicable
Not Started/Not Implemented
Missing Data