



Fifth Meeting of the Directors General of Civil Aviation- Middle East Region

الإجتماع الخامس للمدراء العاميين للطيران المدني في منطقة الشرق الأوسط

DGCA-MID/5

Kuwait 4-6 Nov 2019



Progress Report on Air Navigation Targets and Indicators



Muna ALNADAF

Regional Officer/ Communications, Navigation and Surveillance



MID ASBU Block 0 Modules Prioritization

- The MID Region air navigation objectives are set in line with the 5th Edition of the Global Air Navigation Plan (GANP) and address specific air navigation operational improvements defined by MIDANPIRG.
- The MID Region Air Navigation Strategy includes 12 ASBU Block 0 Modules identified as priority for implementation in the MID Region.
- The implementation of the ASBU Block 0 Modules in the MID Region started in 2013 and is continuing.



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Performance Improvement Areas (PIA)	Module	Priority	Module Name
PIA 1: Airport Operations	APTA	1	Optimization of Approach Procedures including vertical guidance
	WAKE	2	Increased Runway Throughput through Optimized Wake Turbulence Separation
	RSEQ	2	Improved Traffic Flow through Sequencing (AMAN/DMAN)
	SURF	1	Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)
	ACDM	1	Improved Airport Operations through Airport-CDM
PIA 2: Globally Interoperable Systems and Data - Through Globally Interoperable System Wide Information Management	FICE	1	Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration
	DATM	1	Service Improvement through Digital Aeronautical Information Management
	AMET	1	Meteorological information supporting enhanced operational efficiency and safety
PIA 3: Optimum Capacity and Flexible Flights – Through Global Collaborative ATM	FRTO	1	Improved Operations through Enhanced En-Route Trajectories
	NOPS	1	Improved Flow Performance through Planning based on a Network-Wide view
	ASUR	2	Initial Capability for Ground Surveillance
	ASEP	2	Air Traffic Situational Awareness (ATSA)
	OPFL	2	Improved access to Optimum Flight Levels through Climb/Descent Procedures using ADS-B
	ACAS	1	ACAS Improvements
	SNET	1	Increased Effectiveness of Ground-based Safety Nets
PIA 4: Efficient Flight Path – Through Trajectory-based Operations	CDO	1	Improved Flexibility and Efficiency in Descent Profiles (CDO)
	TBO	2	Improved Safety and Efficiency through the initial application of Data Link En-Route
	CCO	1	Improved Flexibility and Efficiency Departure Profiles - Continuous Climb Operations (CCO)



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Air Navigation Performance Targets

<i>B0 – APTA: Optimization of Approach Procedures including vertical guidance</i>				
Elements	Applicability	Performance Indicators/Supporting Metrics	Targets	Timelines
LNAV	All RWYs Ends at International Aerodromes	Indicator: % of runway ends at international aerodromes with RNAV(GNSS) Approach Procedures (LNAV) Supporting metric: Number of runway ends at international aerodromes with RNAV (GNSS) Approach Procedures (LNAV)	100% (All runway ends at Int'l Aerodromes, either as the primary approach or as a back-up for precision approaches)	Dec. 2016
LNAV/VNAV	All RWYs ENDs at International Aerodromes	Indicator: % of runways ends at international aerodromes provided with Baro-VNAV approach procedures (LNAV/VNAV) Supporting metric: Number of runways ends at international aerodromes provided with Baro-VNAV approach procedures (LNAV/VNAV)	100% (All runway ends at Int'l Aerodromes, either as the primary approach or as a back-up for precision approaches)	Dec. 2017



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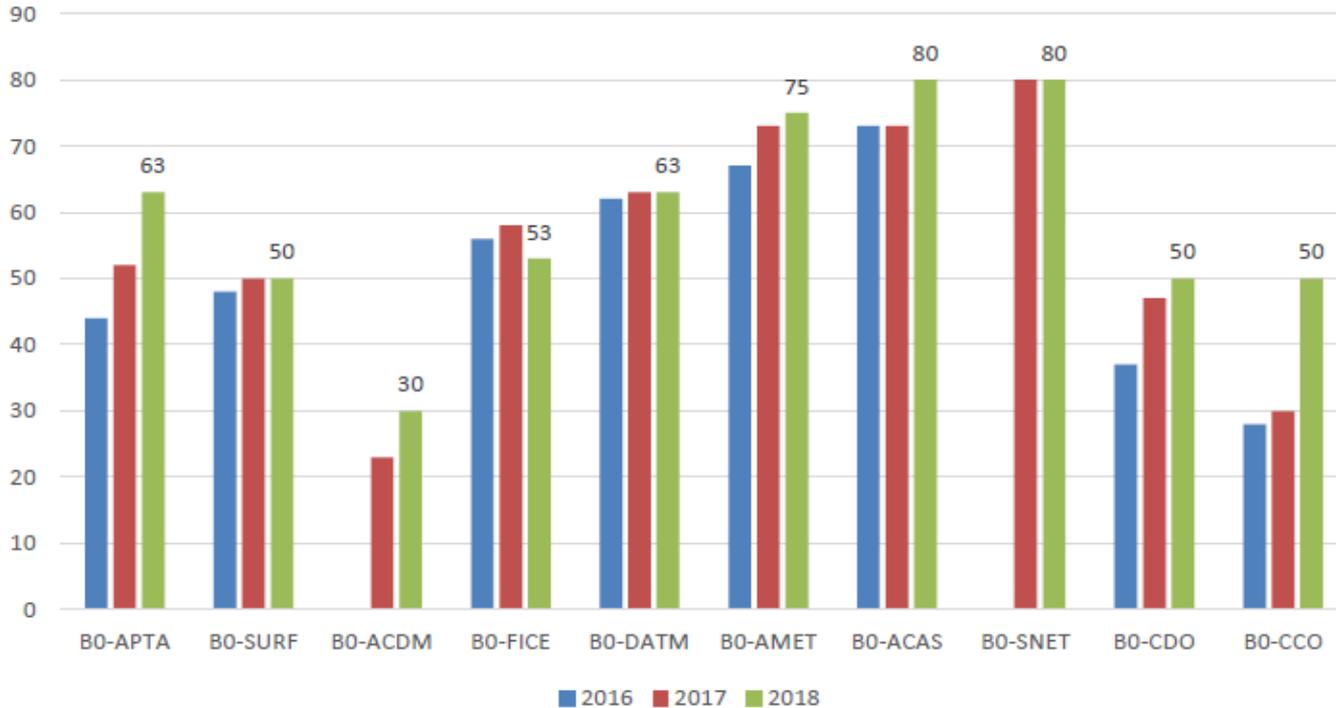
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ASBU Block 0 Implementation - By Module





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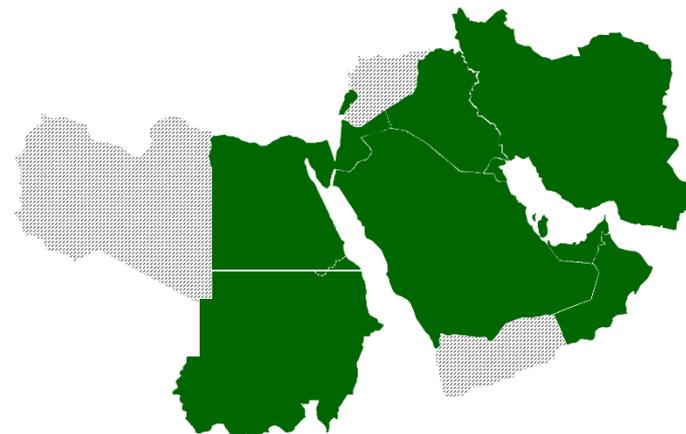
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BO-SNET Status of implementation in the MID Region



Module	Elements	Bahrain	Egypt	Iran	Iraq	Jordan	Kuwait	Lebanon	Libya	Oman	Qatar	Saudi Arabia	Sudan	Syria	UAE	Yemen
		BO-SNET	Short-term conflict alert (STCA)	Green	Green	Green	Green	Green	Green	Green	Hatched	Green	Green	Green	Green	Hatched
Minimum safe altitude warning (MSAW)	Green		Green	Green	Green	Green	Green	Green	Hatched	Green	Green	Green	Green	Hatched	Green	Hatched



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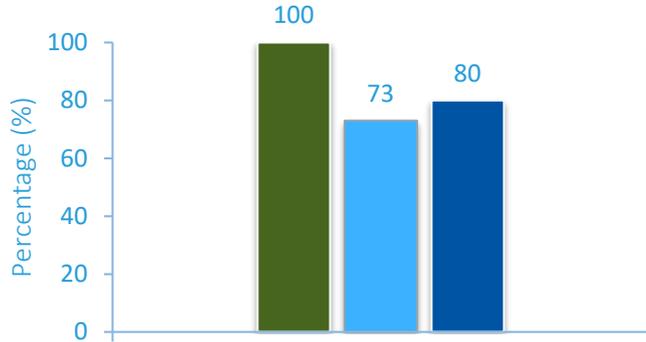


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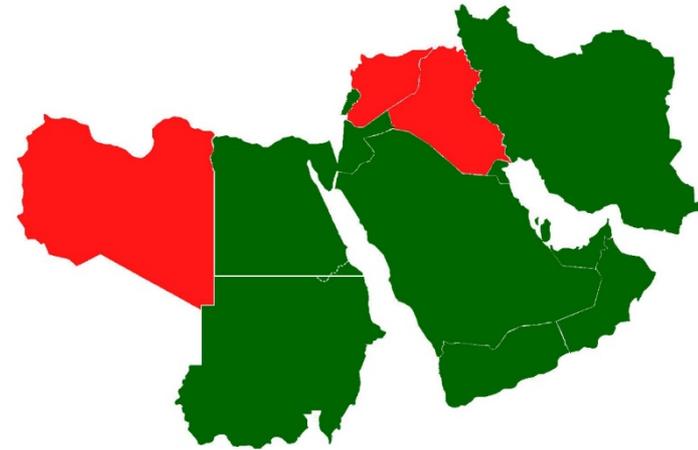
B0-ACAS Status of implementation in the

MID Region



Requirement for ACAS (TCAS v7.1)

- Target
- 2017 Status
- 2018 Status



Module	Elements	Bahrain	Egypt	Iran	Iraq	Jordan	Kuwait	Lebanon	Libya	Oman	Qatar	Saudi Arabia	Sudan	Syria	UAE	Yemen
B0-ACAS	ACAS (TCAS V7.1)	Green	Green	Green	Red	Green	Green	Green	Red	Green	Green	Green	Green	Red	Green	Green



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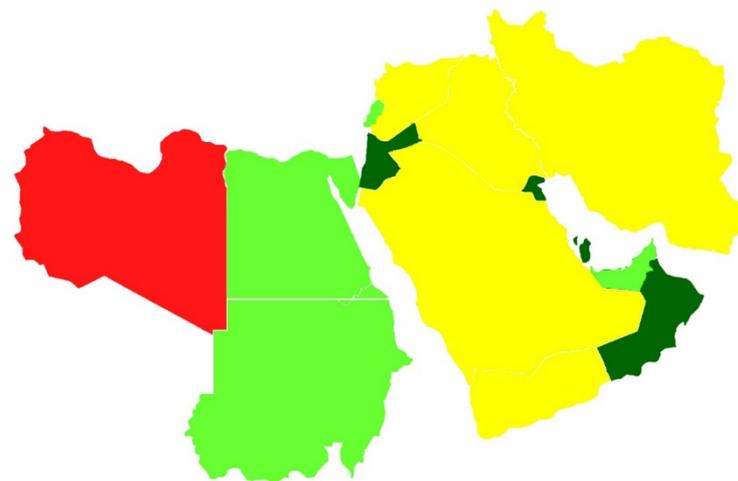
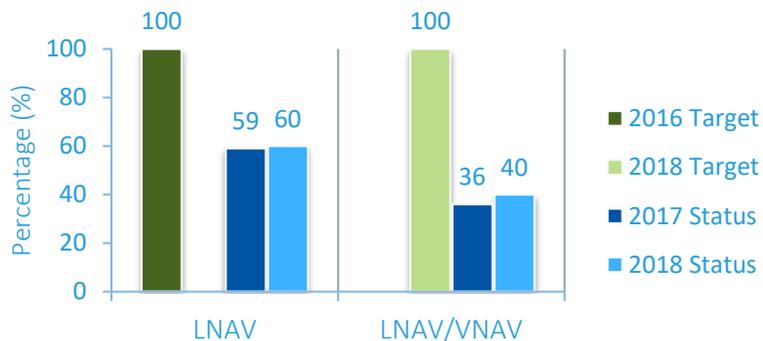
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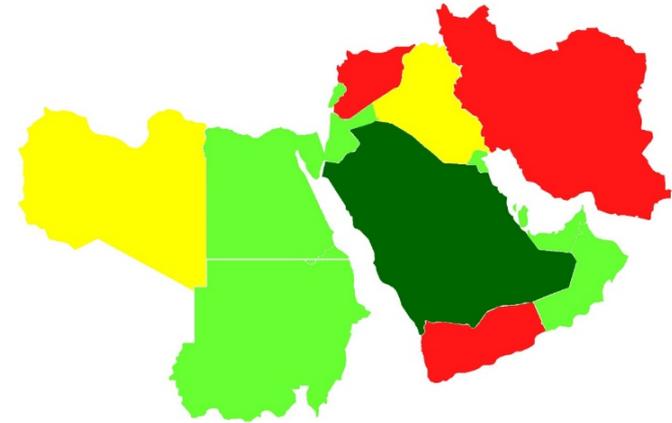
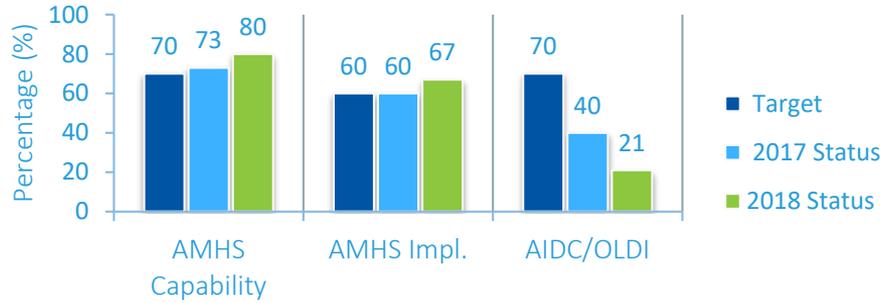
B0-APTA Status of implementation in the MID Region



Module	Elements	Bahrain	Egypt	Iran	Iraq	Jordan	Kuwait	Lebanon	Libya	Oman	Qatar	Saudi Arabia	Sudan	Syria	UAE	Yemen
		B0-APTA	LNAV	Green	Green	Yellow	Green	Green	Green	Red	Red	Green	Green	Yellow	Green	Yellow
	LNAV/VNAV	Green	Green	Yellow	Yellow	Green	Green	Red	Red	Green	Green	Yellow	Yellow	Yellow	Green	Yellow



B0-FICE Status of implementation in the MID Region



Module	Elements	Country/Region													
		Bahrain	Egypt	Iran	Iraq	Jordan	Kuwait	Lebanon	Libya	Oman	Qatar	Saudi Arabia	Sudan	Syria	UAE
B0-FICE	AMHS capability	Green	Green	Red	Green	Green	Green	Green	Green	Green	Green	Green	Red	Green	Red
	AMHS impl. /interconnection	Green	Green	Red	Red	Green	Green	Red	Green	Green	Green	Green	Red	Green	Red
	Implementation of AIDC/OLDI between adjacent ACCs	Yellow	Yellow	Red	Red	Red	Red	Red	Red	Yellow	Green	Yellow	Red	Red	Green



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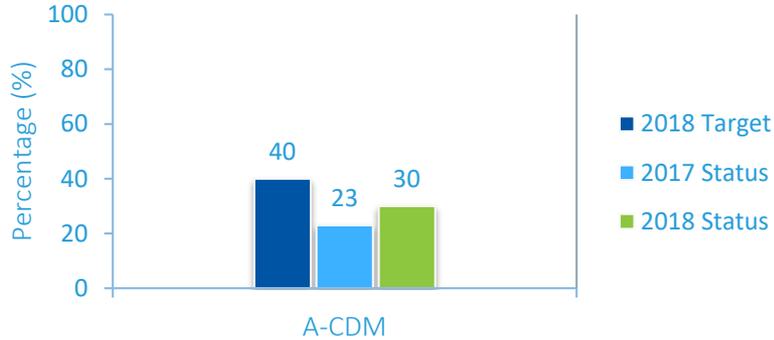
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B0-ACDM Status of implementation in the MID Region

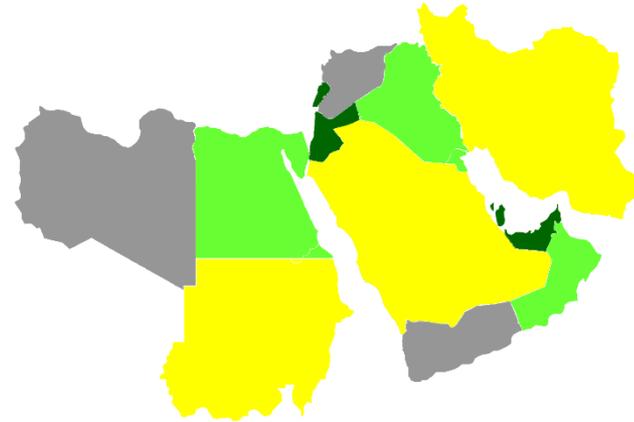
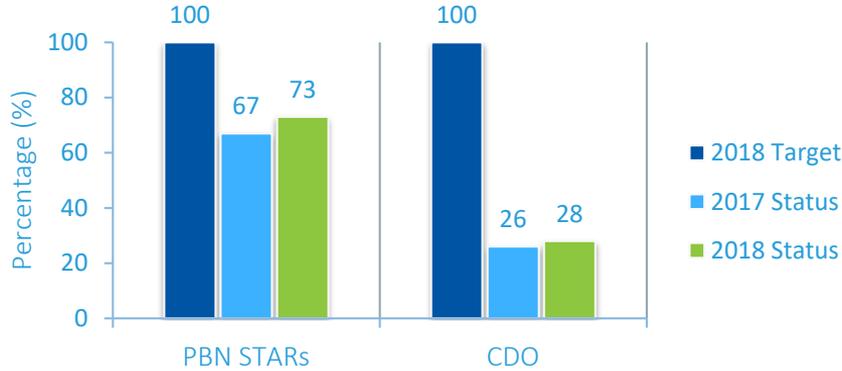


Module	Elements	Bahrain	Egypt	Iran	Iraq	Jordan	Kuwait	Lebanon	Libya	Oman	Qatar	Saudi Arabia	Sudan	Syria	UAE	Yemen
		B0-ACDM	A-CDM	Green	Red	Red	Grey	Grey	Red	Grey	Grey	Red	Yellow	Red	Grey	Grey



B0-CDO Status of implementation in the MID

Region



Module	Elements	Bahrain	Egypt	Iran	Iraq	Jordan	Kuwait	Lebanon	Libya	Oman	Qatar	Saudi Arabia	Sudan	Syria	UAE	Yemen
		B0-CDO	PBN STARs	Green	Green	Yellow	Green	Green	Green	Green	Grey	Green	Green	Green	Yellow	Grey
	International aerodromes/TMAs with CDO	Green	Red	Red	Grey	Green	Red	Green	Grey	Red	Green	Red	Red	Grey	Green	Grey



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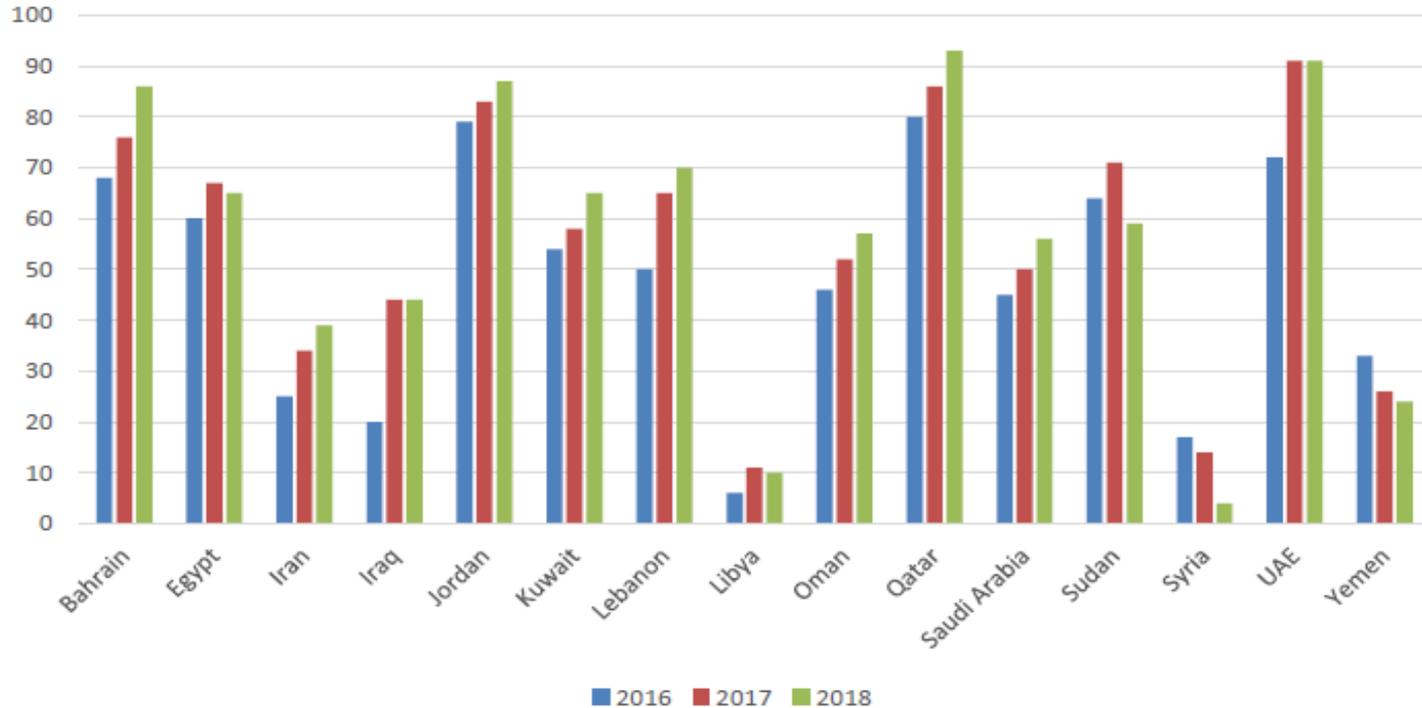
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ASBU Block 0 Implementation - By State





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Module	Status of implementation December 2016 (approximate rate)	Status of implementation December 2017 (approximate rate)	Projected Status of implementation by 2020+ (approximate rate)
B0-APTA	44%	52%	96%
B0-WAKE	(Priority 2)	(Priority 2)	71%
B0-RSEQ	(Priority 2)	(Priority 2)	55%
B0-SURF	48%	50%	67%
B0-ACDM	0%	23%	50%
B0-FICE	56%	58%	83%
B0-DATM	62%	63%	87%
B0-AMET	67%	73%	92%
B0-FRTO	43%	45%	71%
B0-NOPS	(Priority 2)	(Priority 2)	46%
B0-ASUR	(Priority 2)	(Priority 2)	70%
B0-ASEP	(Priority 2)	(Priority 2)	69%
B0-OPFL	(Priority 2)	(Priority 2)	60%
B0-ACAS	73%	73%	100%
B0-SNET	(Priority 2)	80%	100%
B0-CDO	34%	47%	67%
B0-TBO	(Priority 2)	(Priority 2)	44%
B0-CCO	28%	36%	63%

Outlook for 2020



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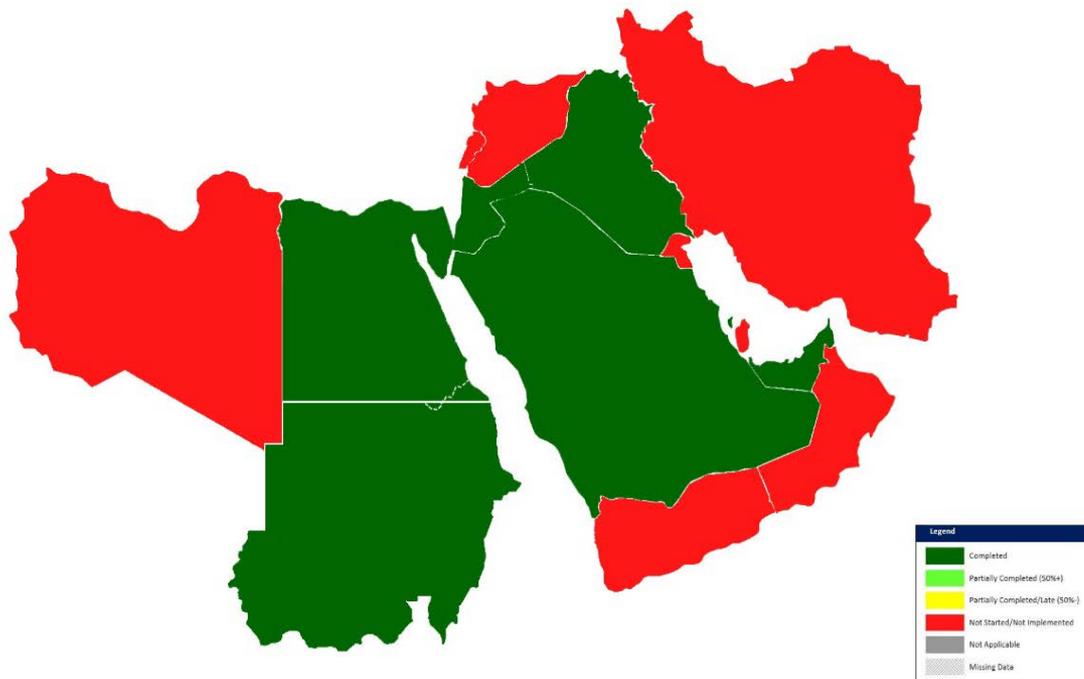
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Environmental Protection

States' Action Plans on CO2 Emissions Reduction



State	Action Plans	Remark
Bahrain	June 2015	
Egypt	July 2016	
Iran	-	
Iraq	June 2012	
Jordan	September 2013	
Kuwait	-	
Lebanon	-	
Libya	-	
Oman	-	
Qatar	-	The action plan is being finalised and will be sent soon to ICAO
Saudi Arabia	April 2018	
Sudan	January 2015	
Syria	-	
UAE	June 2012	update May 2018
Yemen	-	



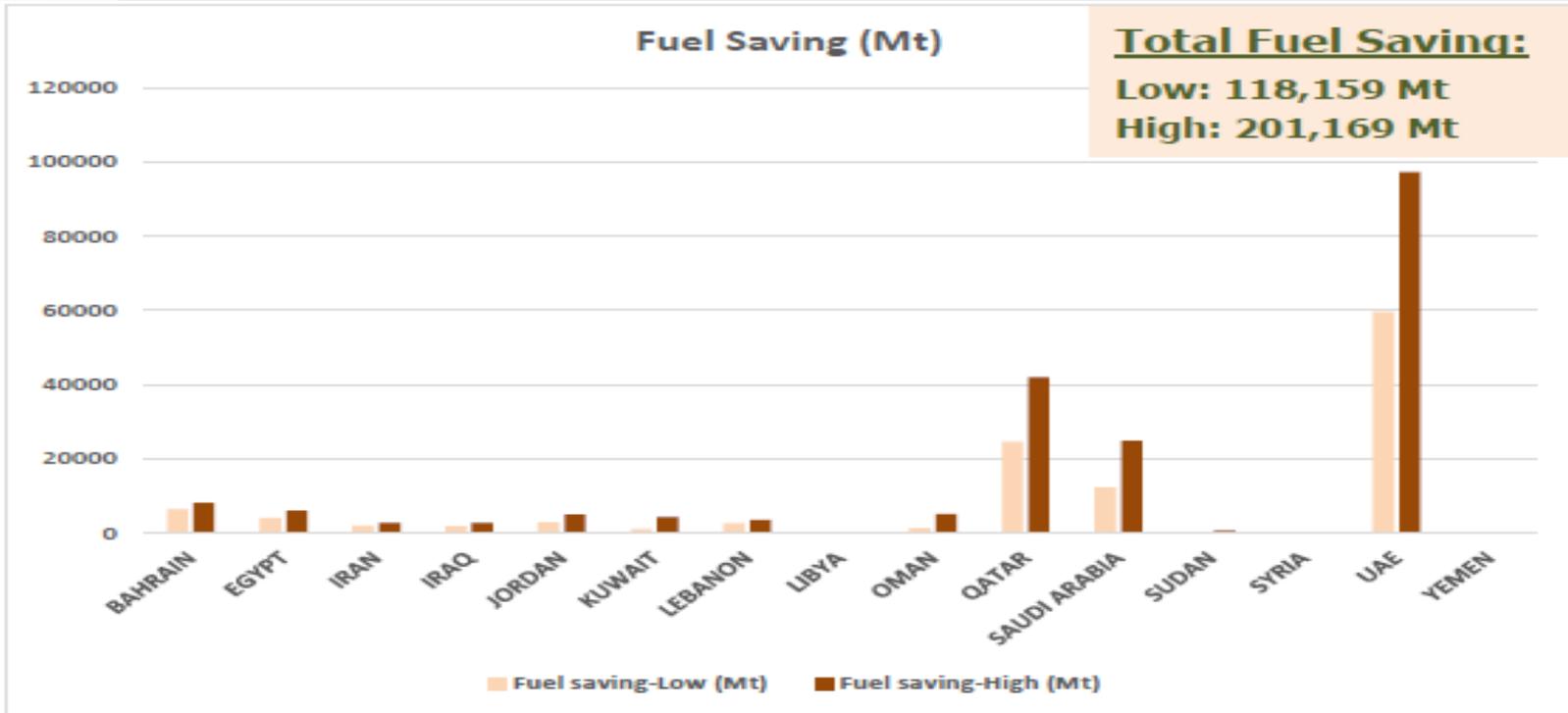
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The estimation has shown a total of 118,159 to 201,169 Mt of fuel saving in the MID Region, as a result of the implementation of the selected Block 0 Modules (APTA, CDO and CCO)



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Conclusion

- The progress for the implementation of some priority 1 Block 0 Modules in the MID Region has been **very good**; such as **B0-ACAS**, **B0-AMET**, **B0-SNET** and **B0-DATM**. Nevertheless, some States are still facing challenges to complete the implementation of Block 0 Modules.
- The progress for the implementation of **B0-ACDM**, **B0-CDO** and **B0-CCO** is far below expectation.
- The GANP 6th Edition brings major changes, which has big impact on the current MID Air Navigation Strategy and the MID Air Navigation plan Vol III. New monitoring ASBU threads/elements, indicators and targets need to be defined.



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Action by the Meeting

The meeting is invited to encourage States to actively participate in the planned ACAO/ICAO MID ASBU Symposium, Cairo, Egypt, 8-11 March 2020); to develop the new edition of the MID Air Navigation Strategy and the MID Air Navigation Plan Volume III.



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