

ICAO AFI/APAC/MID INTER-REGIONAL SEARCH AND RESCUE WORKSHOP

(Salalah, Oman, 26 – 29 August 2019)

SAR Development and Challenges in the MID Region

presented by

Elie El Khoury

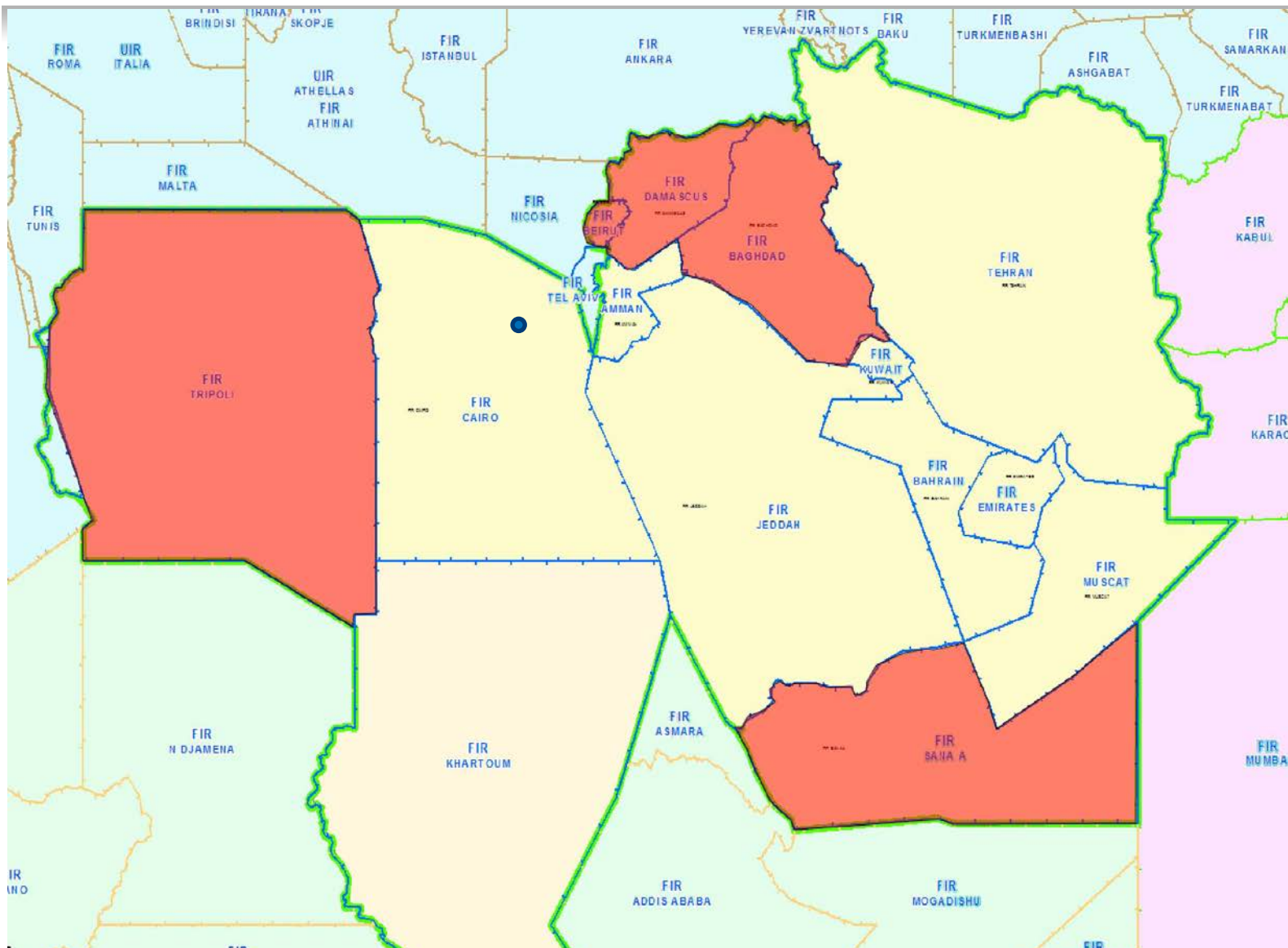
Regional Officer, ATM/SAR
ICAO MID Regional Office

Outline

- ✓ Brief on the MID Office
- ✓ Few Statistics
- ✓ Regional Working Arrangements
- ✓ MID Region AN Priorities
- ✓ MID NCLB Strategy/Plan
- ✓ SAR main challenges
- ✓ SAR Activities in the MID Region
- ✓ ICAO/IMO SAR GMDSS Conference
- ✓ Key points

ICAO MID REGIONAL OFFICE





- Located in Cairo, Egypt

Established in 1953

Accredited to 15 States

English is the working Language, however some States correspond in Arabic

Bahrain	Egypt	I.R. Iran	Iraq	Jordan	Kuwait	Lebanon	Libya
Oman	Qatar	Saudi Arabia	Sudan	Syria	UAE	Yemen	



ICAO

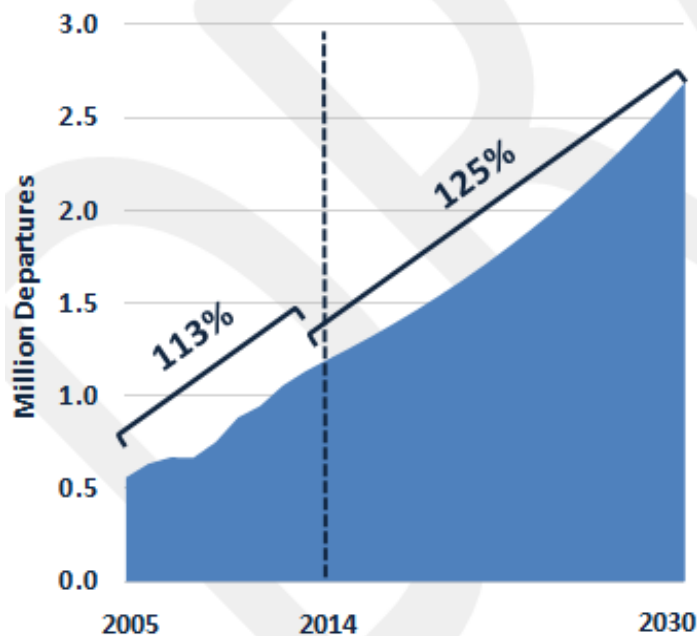
UNITING AVIATION

Middle East Region Interface Areas



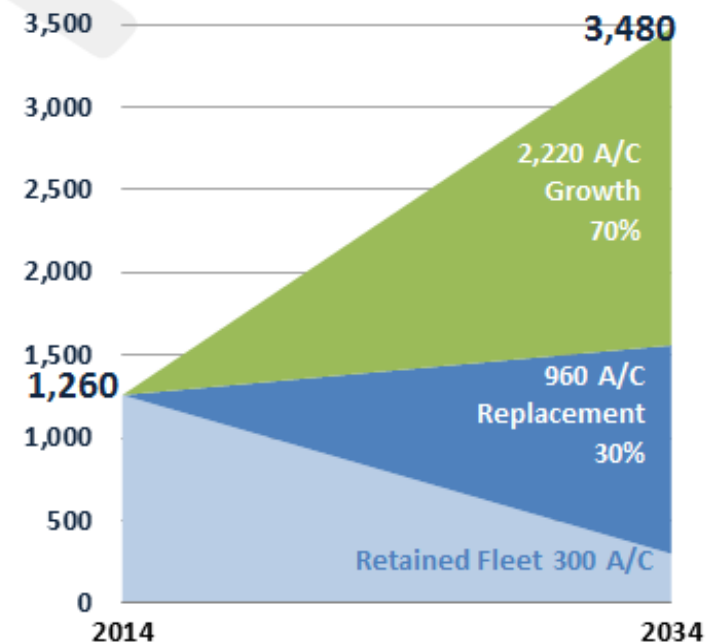
Growth in the MID Region

Middle East Aircraft
Movements & Growth



Source: ICAO

Middle East Commercial
Aircraft Deliveries



Source: Boeing Co.

The Middle East Region moved **14 per cent** of world Revenue Passenger-Kilometers (RPK) and recorded the highest annual growth of **12.1 per cent** in 2015

The total number of departures reached **36.7 million** in 2017, with an increase of **3.1%** compared to 2016.

Accidents

Safety Indicator

Number of accidents per million departures

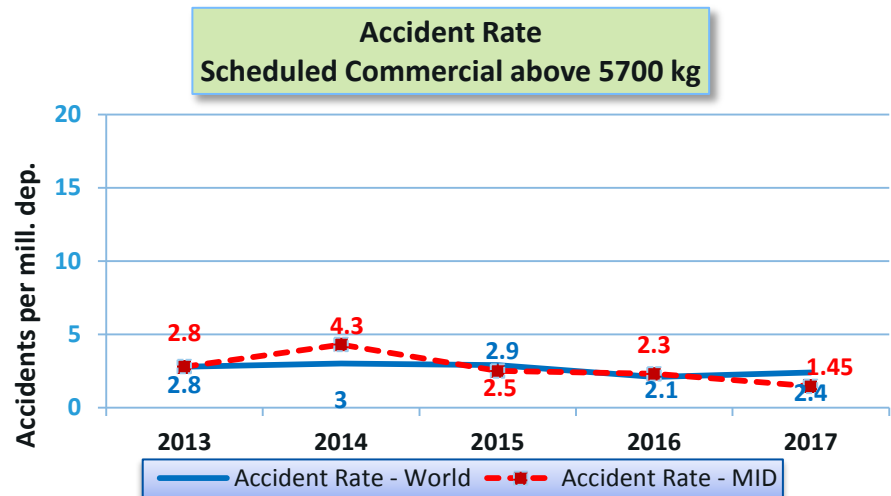
Safety Target

Reduce/Maintain the regional average rate of accidents to be in line with the global average rate by 2016

Average 2013-2017

Average MID
2.67

Average Global
2.64



*Official ICAO accident statistics, used for the development of the ICAO safety reports
Scheduled commercial operations involving aircraft with MTOW above 5700 kg*

Fatal Accidents

Safety Indicator

Number of fatal accidents per million departures

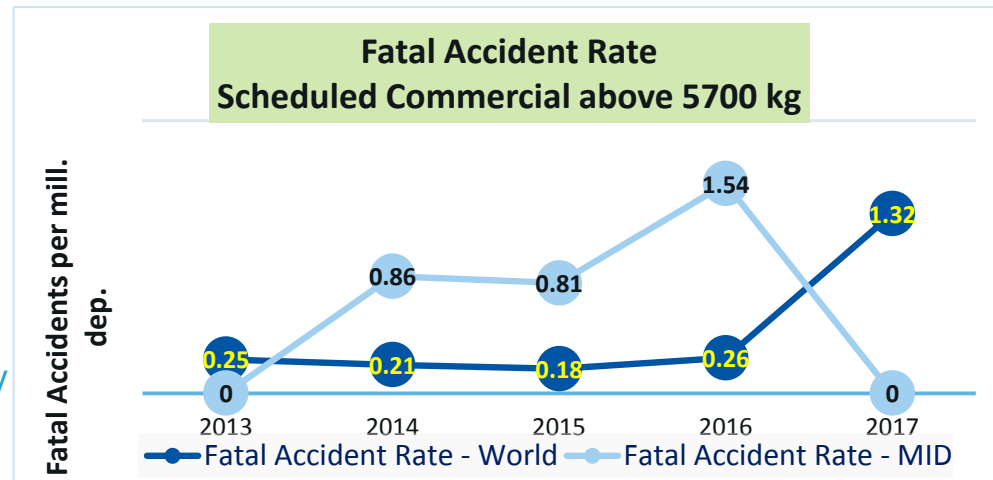
Safety Target

Reduce/Maintain the regional average rate of fatal accidents to be in line with the global average rate by 2016

Average 2013-2017

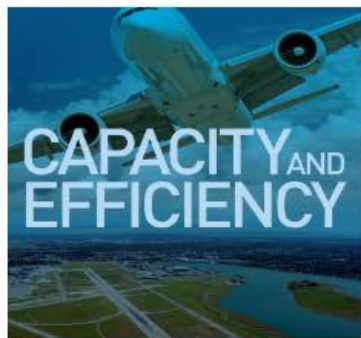
Average MID
0.64

Average Global
0.44



*Official ICAO accident statistics, used for the development of the ICAO safety reports
Scheduled commercial operations involving aircraft with MTOW above 5700 kg*

ICAO Strategic Objectives



GASP

GANP

GASeP

All

Safety Strategy

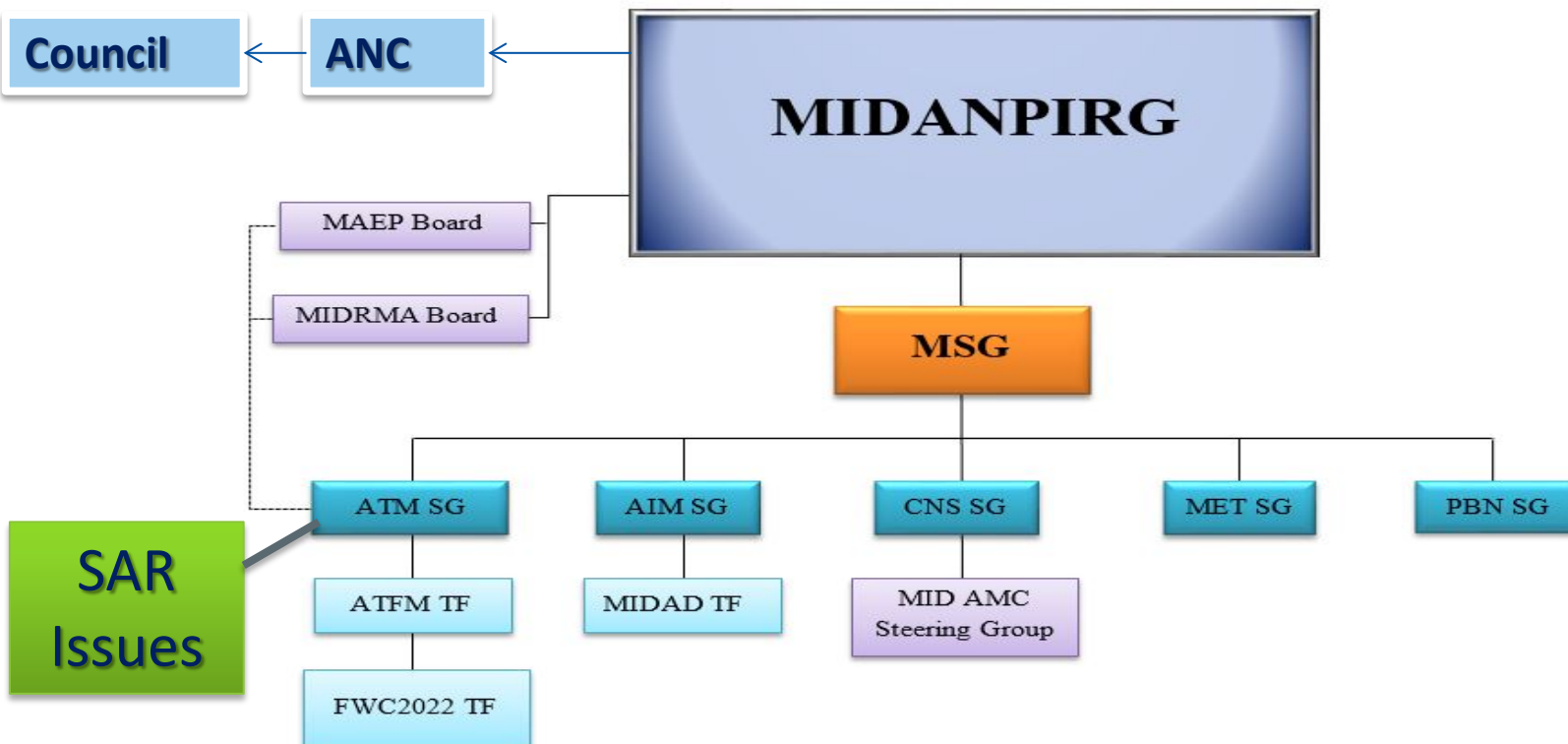
ANP & AN Strategy

AVSEC/FAL Strategy

MIDANPIRG

RASG-MID

MID-RASFG



MSG	MIDANPIRG Steering Group	ATFM TF	Air Traffic Flow Management Task Force
AIM SG	Aeronautical Information Management Sub-Group	FWC2022 TF	FIFA World Cup 2022 Task Force
ATM SG	Air Traffic Management Sub-Group	MIDAD TF	MID Region AIS Database Task-Force
CNS SG	Communication Navigation Surveillance Sub-Group	MID AMC Steering Group	MID Region ATIS Message Management Centre Steering Group
MET SG	Meteorology Sub-Group	MAEP Board	MID Region ATM Enhancement Programme Board

MID electronic Air Navigation Plan (MID eANP)

ICAO Doc 9708

- The MID eANP (3 Volumes) approved and available on the MID Office website.
- SAR provisions are included in Volume I and II



PART 0 – TOC, INTRO



PART I – GENERAL



PART II – AOP



PART III – CNS



PART IV – ATM



PART V – MET



PART VI – SAR



PART VII – AIM

Air Navigation Strategy

MID Doc 002

- In line with the Global Air Navigation Plan (GANP)
- Regional Priorities identified (11 ASBU B0-Modules)
- Endorsed by MSG/4 (24-26 Nov. 2014) and revised by MIDANPIRG/15 (Bahrain, 8-11 June 2015)



MID Doc 002

INTERNATIONAL CIVIL AVIATION ORGANIZATION

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

EDITION JUNE, 2015

MID Region Air Navigation Strategy

June 2015



Performance Improvement Areas (PIA)	Module	Priorit y	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	FRT0	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	2	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)



ICAO

UNITING AVIATION

MID ASBU Block 0 Modules Prioritization (Cont'd)

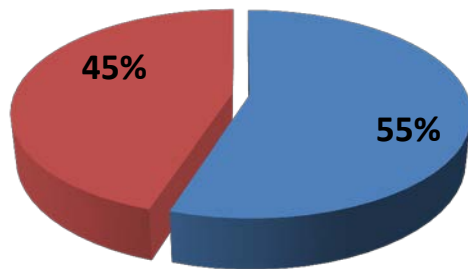
Performance Improvement Areas (PIA)	Module	Priority	Module Name
PIA 1: Airport Operations	APTA	1	Optimization of Approach Procedures including vertical guidance
	WAKE	2	Increased Runway Throughput through Optimized Wake Turbulence Separation
	RSEQ	2	Improved Traffic Flow through Sequencing (AMAN/DMAN)
	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 Global Aeronautical Information Management
	AMET	1	Meteorological Data Exchange for enhanced operational efficiency
PIA 3: Optimum Capacity and Flexible Flights – Through Global Collaborative ATM	FRTO	1	Through Enhanced En-Route Trajectories
	NC	1	Network Flow Performance through Planning based on a Network-Wide
			Initial Capability for Ground Surveillance
		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)

NO FOCUS on SAR

SAR deficiencies in the MID Region

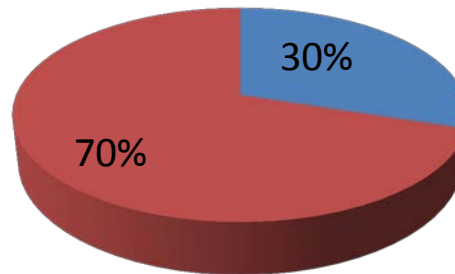
Lack of Provisions

■ Implemented ■ N/A



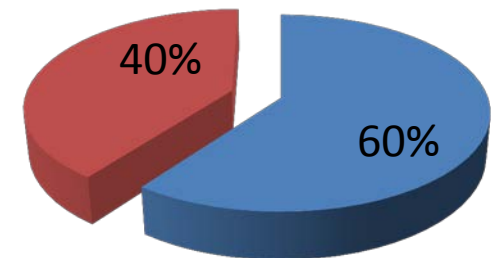
SAREX

■ Compliant ■ No SAREX

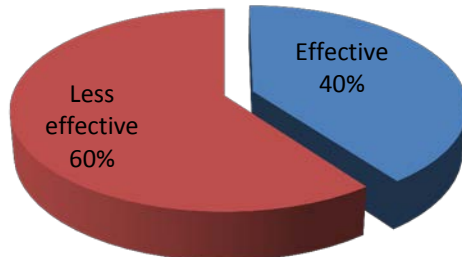


ELTs

■ Compliant ■ Non compliance

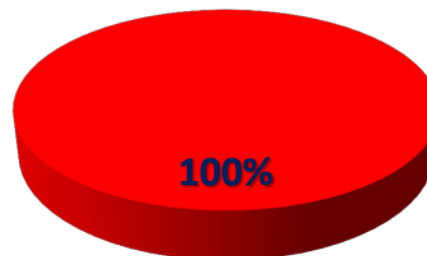


Effective SAR Oversight



Signatures of SAR Agreements

■ Not Completed



SPOC



The main Challenges are related to lack of:

- Implementation of the Regional SAR Plan and
- Lack of Comprehensive National SAR Plans
- Local cooperation among stakeholders involved in SAR
- SAR is more retro-active rather than pro-active approach
- English Language Proficiency for RCC radio operators;
- Appropriate training programmes/plans of SAR experts;
- lack of signature of SAR agreements;
- lack of plans of operations for the conduct of SAR operations and SAR exercises;
- lack of provision of required SAR services; and
- non-compliance with the carriage of Emergency Locator Transmitter (ELT) requirements.

Supporting States through the MID Region NCLB Strategy/Plan

Aligned with the
ICAO NCLB
campaign and
Regional priorities
and specific to the
MID States

Based on USOAP-
CMA Effective
Implementation
(EI)

States in the MID Region **could** be classified into
four groups:

$0 \leq EI \leq 60$

$60 < EI \leq 70$

$70 < EI \leq 85$

$85 < EI \leq 100$

Taken Actions

MIDANPIRG and DGCA-MID have been encouraging MID States to:

- Take necessary measures to foster their SAR services;
- Promulgate required primary legislation and regulations to organize SAR
- Develop and implement SAR National Plan ensuring adequate resources and cooperation among all concerned parties
- Establish SAR Committee at national Level including all concerned authorities
- Establish Joint RCC (Aeronautical and Maritime)
- Enter into agreements with their adjacent States;
- Organize joint SAREX;
- conduct SAR Workshops and Seminars at the national level;
- Support the coordination and collaboration with the adjacent ICAO Regions and all SAR Stakeholders to ensure harmonization in the SAR developments; and
- Implement the global and regional SAR requirements.

MIDANPIRG/14 tasked the ATM SG to develop:

1. a simplified template for SAR Bi-Lateral arrangements that addresses the CAA and ATS responsibilities and
2. A regional implementation Plan for SAR.



The ATM SG established a SAR Action Group composed of SAR experts from Bahrain, Egypt, Iran, Saudi Arabia, UAE and supported by the ICAO MID Office to:

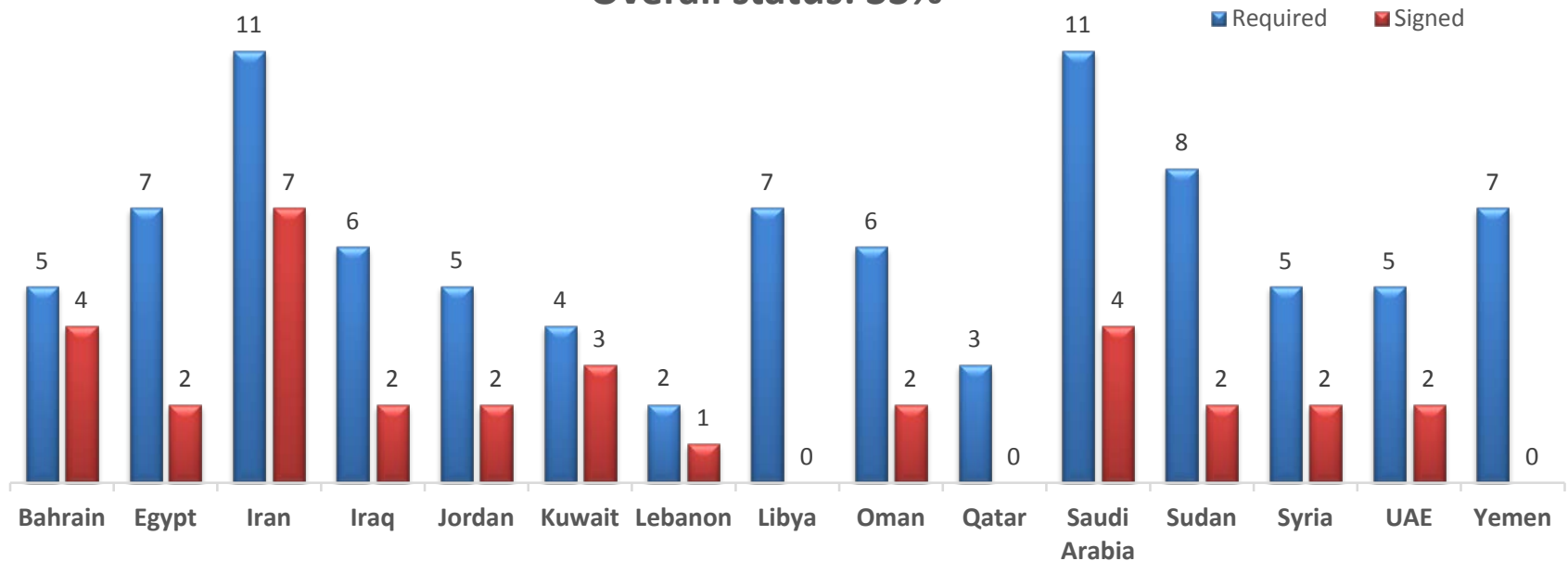
- ✦ *carry out a Gap Analysis related to the status of implementation of SAR services in the MID Region; and*
- ✦ *develop:*
 - *a SAR Plan for the MID Region based on the Asia/Pacific experience;*
 - *an action plan for the conduct of regional/sub-regional SAR exercises;*
 - *a Template for SAR Bi-lateral arrangements as an Appendix to the MID Region ACC LoA Template; and*
 - *a Matrix to monitor SAR status in the MID Region, based on Annex 12 and DOC 9731;*



- a Template for SAR Bi-lateral arrangements was developed and endorsed by MIDANPIRG/15 (Bahrain, 8-11 June 2015), which will ensure proper alerting and coordination procedures are in place between adjacent ACCs, awaiting for the signature of the States' SAR Agreement.

Status of SAR Bilateral Arrangements

Overall status: 33%



- a Matrix to monitor SAR status in the MID Region, was also developed.
- The MID Region SAR Plan was developed and endorsed by MSG/6 meeting (3-5 December 2018).
- States have been urged to ensure that their SPOC sign the MCC/SPOC model agreement with their relevant MCC
- MID SAR issues were addressed in global, regional and inter-regional events such as the:
 - ICAO/IMO Search and Rescue-Global Maritime Distress and Safety System (ICAO/IMO SAR GMDSS Conference, Bahrain 21-22 October 2014)
 - General Ministerial Aviation Summit (Riyadh, 29-31 August 2016);
 - Inter-regional SAR Workshop (Seychelles, 19 - 22 July 2016); and
 - others

ICAO/IMO SAR GMDSS Conference

- ICAO/IMO Search and Rescue-Global Maritime Distress and Safety System (ICAO/IMO SAR GMDSS Conference), was successfully held in Bahrain 21-22 October 2014.
- The Conference was attended by a total of sixty two (62) participants from five (5) States (Bahrain, Kuwait, Oman, Saudi Arabia, and UAE).
- The ICAO/IMO SAR GMDSS Conference provided a forum for sharing experiences and discussing relevant matters to SAR between Civil/Military Aeronautical and Maritime representatives.



ICAO/IMO SAR GMDSS Conference

Main Recommendations

1. Provide IMO and ICAO with information related to the availability of SAR services, including information on the areas of responsibility, taking into account IMO's and ICAO provisions, as soon as possible if not already done so, and keep the information up to date on a regular basis
2. Noting that close cooperation between maritime and aeronautical SAR services is essential, establish a national SAR Coordinating Committee
3. Develop a national SAR Plan, to the extent possible, ensuring harmonization with SAR Plans of the neighbouring States, for the benefit of effective and efficient SAR cooperation
4. consider the development of a multilateral agreement on the cooperation of aeronautical and maritime SAR and the establishment of a Regional SAR Coordinating Committee, in the framework of the GCC
5. sign the SAR Letters of Agreement (LoAs) to facilitate and expedite the efficient conduct of SAR operations

6. evaluate SAR and GMDSS facilities and identify actions to be taken to improve the existing situation, including the establishment of Rescue Coordination Centres, as appropriate
7. keep record of all SAR activities and as such built up statistics for national use as well to be used in communication with IMO and ICAO, as appropriate
8. share lessons learned related to SAR activities;
9. develop a short and long term programme for training of SAR personnel, including those involved in the oversight of SAR;
10. conduct national, bilateral and multilateral SAR exercises and use lessons learned to identify capacity building needs; and
11. request, as appropriate, either individually or in cooperation with other GCC States, IMO and/or ICAO to provide technical assistance, in particular to:
 - a) assess the existing situation and provide recommendations for improvement; and
 - b) support the training of personnel involved in SAR

Key points

SAR main objective is saving lives and support in preventing future accidents through lessons learned, accordingly SAR should be given high priority requiring :

- a. effective and efficient cooperation between all concerned authorities within the State (SAR Plan); and with Adjacent and neighboring States
- b. ICAO Regional SAR Plans ensuring harmonization across the adjacent ICAO Regions;
- c. dedicated, qualified and well trained SAR experts; and
- d. Sharing of resources through bilateral or multilateral agreements.



Together
Everyone
Achieves
More

High level commitment and support is vital



ICAO

UNITING AVIATION



ICAO

North American
Central American
and Caribbean
(NACC) Office
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

Eastern and
Southern African
(ESAF) Office
Nairobi

Asia and Pacific
(APAC) Sub-office
Beijing

Asia and Pacific
(APAC) Office
Bangkok



THANK YOU