



ICAO

ENVIRONMENT

NO COUNTRY LEFT BEHIND



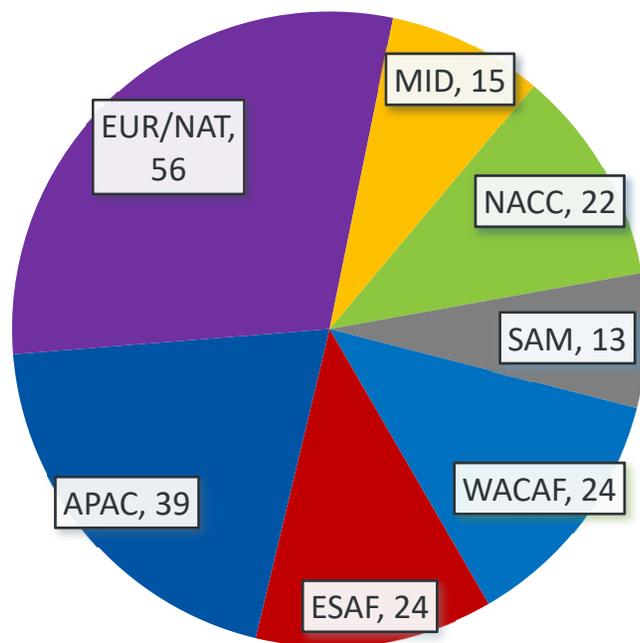
Regional Activities, Details and Examples

Aissaoui Radhouan
Middle East Office, ICAO





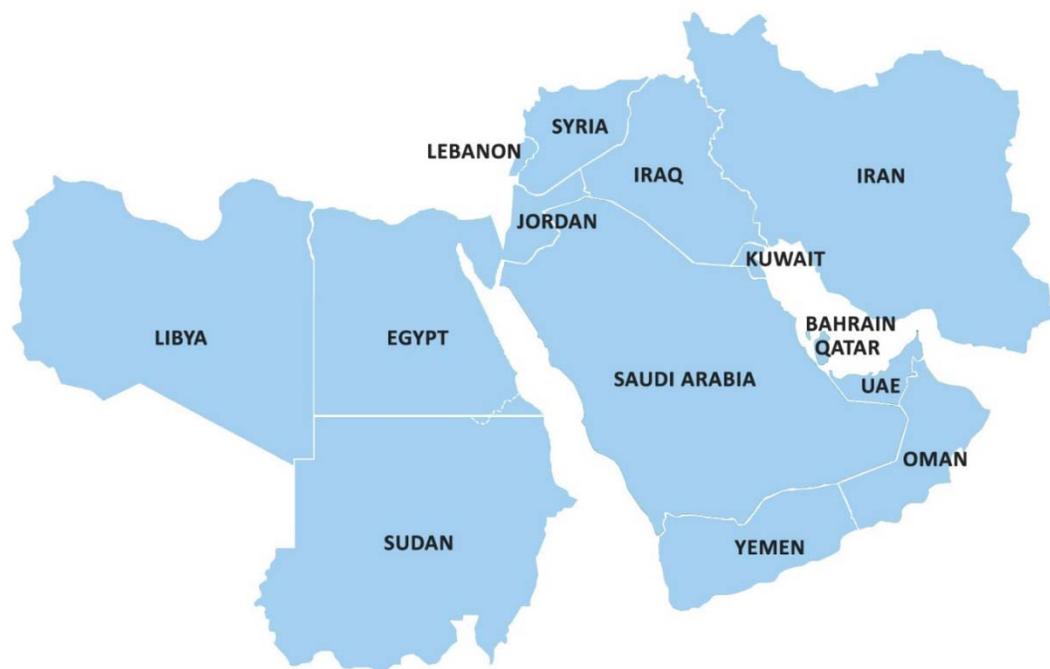
Number of States Accredited to each ICAO Regional Office



- **APAC** covers 30.87% of the world's air traffic with an annual growth rate of 7%
- **ESAF** covers 1.63% of the world's air traffic with an annual growth rate of 7%
- **EUR/NAT** covers 35.97% of the world's air traffic with an annual growth rate of 6%
- **MID** covers 13.85% of the world's air traffic with an annual growth rate of 5%
- **NACC** covers 14.79% of the world's air traffic with an annual growth rate of 6%
- **SAM** covers 2,85% of the world's air traffic with an annual growth rate of 10%
- **WACAF** covers 0.05% of the world's air traffic with an annual growth rate of -1%



ICAO Middle East (MID) Region



**15 States
accredited
to the MID
Office**



ICAO State Action Plan Submissions from MID Region

ICAO State Action Plan Submissions from MID Region



■ Submitted ■ Updated ■ No Submission

Total States	15
Submitted	7
Updated	1
No Submission	8



Publicly available State Action Plans from MID Region

States	Initial submission	Update	Link to State Action Plan
Albania	Jul-12	Feb-19	
Angola	Jun-16		Angola Action Plan 2016
Argentina	Feb-13		Argentina Action Plan 2013
Armenia	May-12	Jul-15	
Australia	Jun-12	Sep-17	Managing the Carbon Footprint of Australian Aviation
Austria	Jan-12	Jul-18	Action Plan of Austria for CO2 emissions reduction 2018
Azerbaijan	Jul-12	Mar-19	
Bahrain	Jun-15		Aviation Emission Management Plan for Sustainable Aviation Growth



Please contact actionplan@icao.int if you would like to make your State's Action Plan publicly available

Total States	15
Submitted	7
Publicly available	01



MIDANPIRG/14 Conclusion 14/29

That, in order to follow-up the implementation of the ATM operational improvements and estimate the accrued fuel savings and associated CO2 emission reduction from the corresponding improvements on regional basis:

a) States be encouraged to develop/update their Action Plans for CO2 emissions and submit them to ICAO through the APER website on the ICAO Portal or the ICAO MID Regional Office;

b) States be urged to:

i) identify the operational improvements which have been implemented within their FIR and/or international aerodromes;

ii) collect necessary data for the estimation of the environmental benefits accrued from the identified operational improvements;

iii) use IFSET to estimate the environmental benefits accrued from operational improvements; and

iv) send the IFSET reports/the accrued environmental benefits to ICAO on bi-annual basis.



MIDANPIRG/16 Conclusion 16/31

That, States that have not yet done so, be invited to:

- a) provide the ICAO MID Regional Office with updated contact details of their State's CO2 Action Plan/Environment Focal Points;*
- b) develop/update their State Action Plans on CO2 emission reduction, using the guidelines contained in the ICAO Doc 9988; and submit them to ICAO through the APER website or the ICAO MID Regional Office; and*
- c) take necessary actions for the implementation of the mitigation measures included in their Action Plan, commensurate with the establishment of a dedicated structure (e.g. Department, Section, etc.) within the Civil Aviation Authorities dealing with aviation environmental issues.*

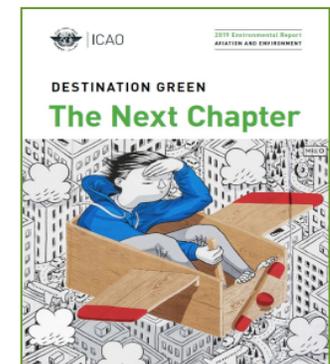
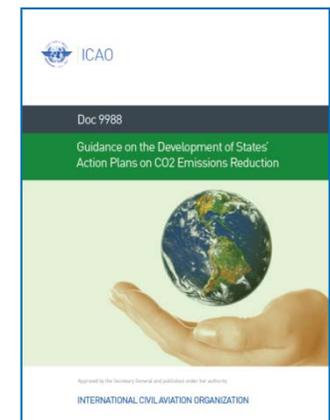


Mitigation measures State Action Plans from MID Region

- ICAO Doc 9988 provides information on the mitigation measures
- Concrete examples of mitigation measures selected by States are available in appendix E
- Additional information on the mitigation measures are also available on the secure APER Website and ICAO ENV Reports



<https://www.icao.int/environmental-protection/Pages/envrep2019.aspx>





Examples of Mitigation Measures used within the MID Region

- Various measures have been taken by MID States (air carriers, airport authorities and air navigation service providers) to reduce CO₂ emissions from civil aviation.
- The measures are classified according to the 4 categories :
 - a) technology and standards;
 - b) sustainable aviation fuels;
 - c) operational improvements; and
 - d) market-based measures

Most of the measures undertaken involve operational improvements, as per the data available.



Examples of Mitigation Measures used within the MID Region

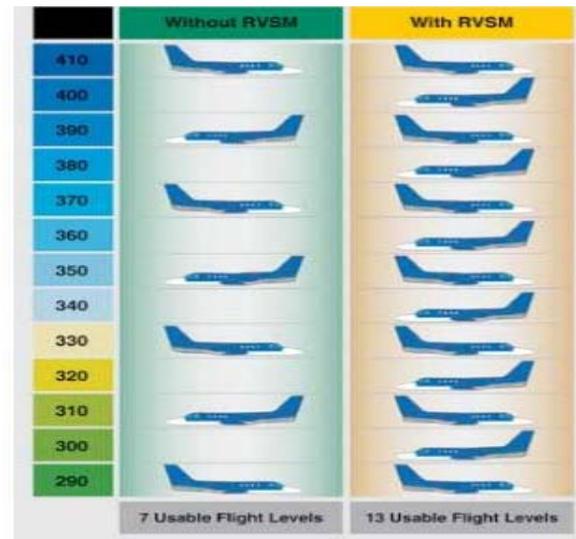
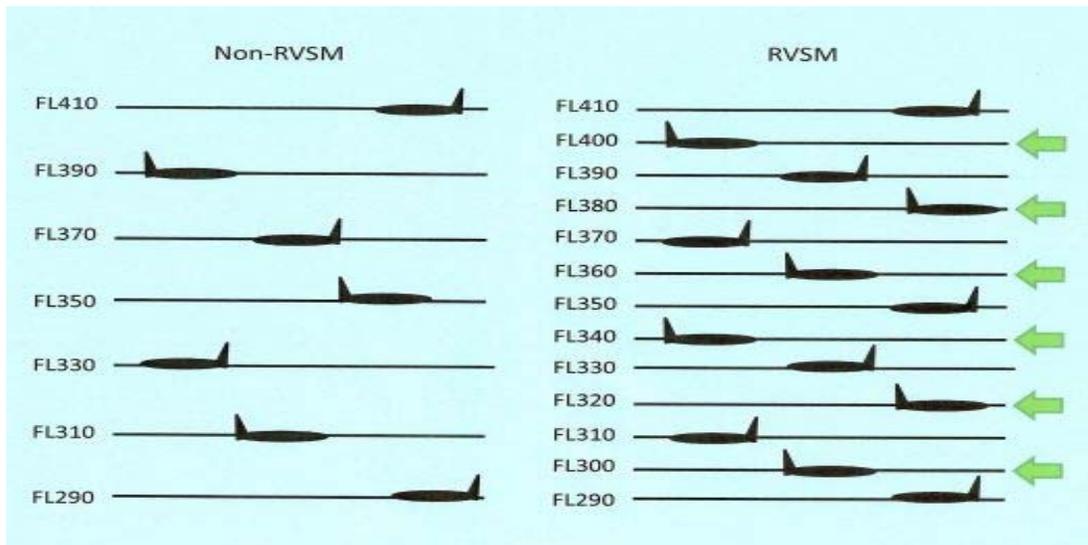
AIRCRAFT TECHNOLOGY – Fleet renewal for the older aircraft, Retrofitting and upgrade improvements on existing aircraft , Avionics Upgrade

OPERATIONAL IMPROVEMENTS – Air Traffic Management (ATM): RVSM, PBN and CCO/CDO Implementation, Improvements in the ATS Route Network, FUA, AMAN, DFLOW, Improved Infrastructure , LNAV/VNAV And RNP AR approach and A-SMGCS Operations : Efficient Ground Operations, minimizing weight, minimizing flaps (take-off and landing), minimizing reversers use, single engine taxi and improved ground operations



Examples of Mitigation Measures used within the MID Region

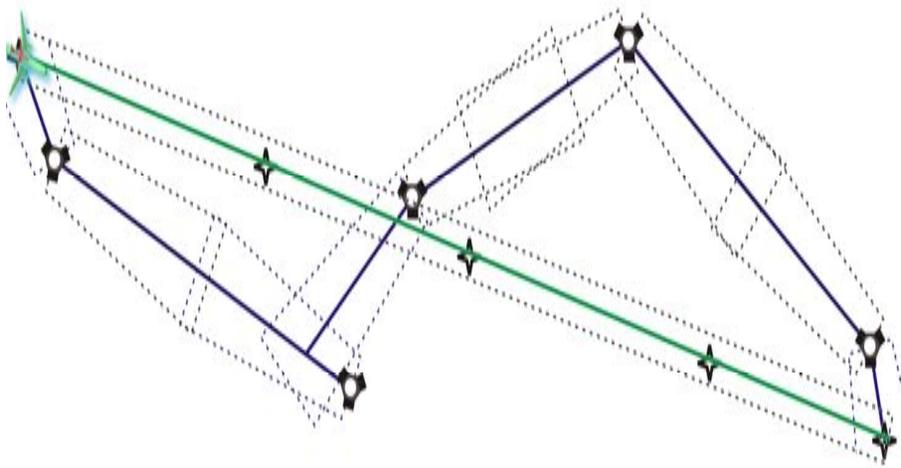
- ✓ RVSM implementation and monitoring (since 2003)
- ✓ 6 more flight levels available: 300, 320, 340, 360, 380 & 400
- ✓ Status of implementation: 100%





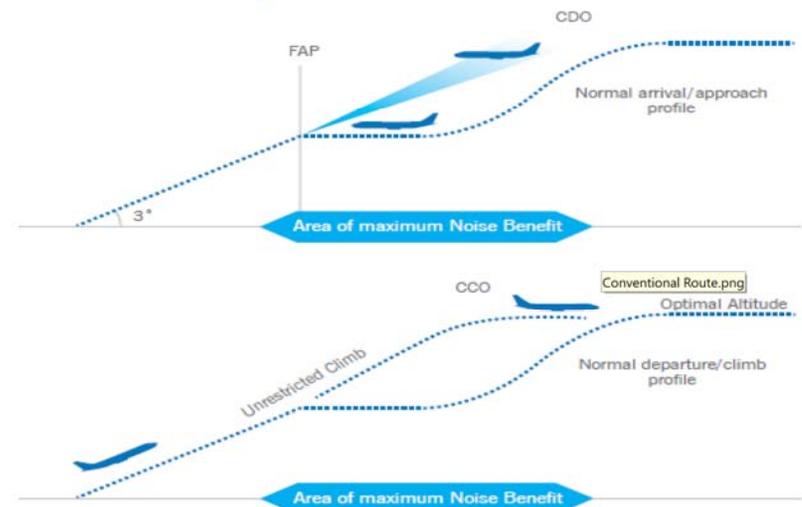
Examples of Mitigation Measures used within the MID Region

PBN and CCO/CDO Implementation



PBN Route Using Waypoints

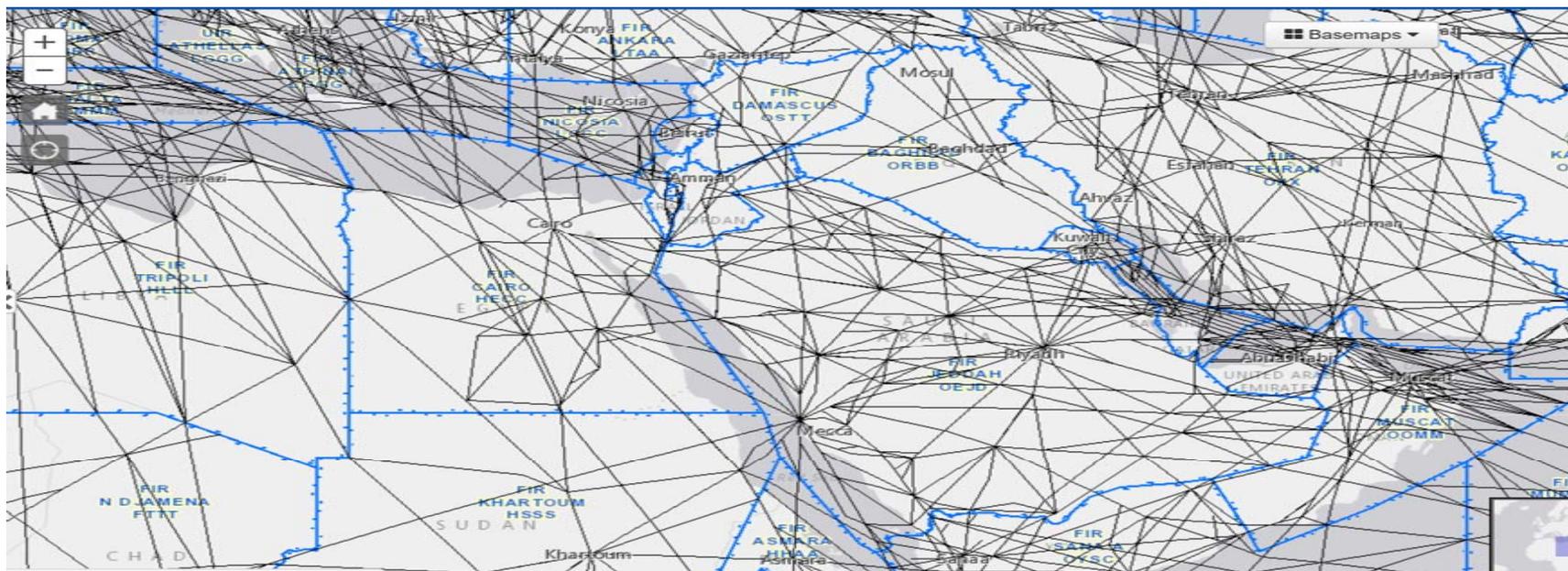
CDO/CCO Benefits





Examples of Mitigation Measures used within the MID Region

Improvements in the ATS Route Network





Examples of Mitigation Measures used within the MID Region

- ✓ Vast improvements in the regional ATS route network and the implementation of RNAV routes through close cooperation between neighboring States (Bahrain, Egypt, Iran, Iraq, Jordan, Libya and UAE)
- ✓ Establishment of new PBN SIDs and STARs (Bahrain, Egypt, Iran, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia and UAE)
- ✓ CCO/CDO implementation (Bahrain, UAE and Qatar)
- ✓ Implementation of LNAV/VNAV (Egypt, Iran, Jordan, Kuwait, Oman, Qatar, Jordan and UAE) and Implementation of RNP AR (UAE)
- ✓ Implementation of A-SMGCS (Bahrain, Egypt, Oman, Qatar and UAE)



Examples of Mitigation Measures used within the MID Region

- ✓ FUA implementation (Bahrain and Jordan)
- ✓ Implementation of Arrival Manager (AMAN) (Bahrain and UAE)
- ✓ Implementation of Departure Flow Manager (DFLOW) Web Interface (UAE)
- ✓ Improving situational awareness using modernized aeronautical and MET information management systems (Bahrain, Qatar, Saudi Arabia and UAE)
- ✓ Modernization of CNS/ATM infrastructure and equipment (Oman, Qatar, Saudi Arabia, UAE)



Examples of Mitigation Measures used within the MID Region

- ✓ Improvement of airside structure including enhancing aprons, taxiways (rapid exit taxiways, etc.) (Bahrain and Oman)
- ✓ Implementation of Single-engine taxi operation (Bahrain, Qatar, UAE)
- ✓ Packs off Take-off , Minimizing weight, Idle Reverse Selection, etc. (Bahrain)



Capacity Building Activities

- ICAO MID has developed a Capacity Building Programme to provide tailored support to the MID States on ENV related matters;
- Dedicated seminars for smaller groups of states will be organized on States Action Plan with priority to the States that did not developed a SAP;
- Teleconf/calls on specific aspects of the SAP will be organized after this regional seminar.



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Take away message

- ICAO support its Member States to update and submit their Action Plan by **June 2021**
- Guidance document and tools are available on the APER website
- ICAO Hq/RO provide **tailored support to States Focal Points**



ICAO Public Website – MID Office Homepage

www.icao.int/MID

- MID Home
- Overview
- About MID Office
- MID Member States
- MID Office Bulletin
- Links
- MID Schedule
- COVID-19 MID Message
- RPTF
- Webinars
- MID Meetings
- MIDANPIRG and RASG-MID
- CAPSCA-MID
- DGCA-MID
- MID-RASFG (Secure)
- MANDD
- Secure Portal
- Environment
- CORSIA
- State Action Plans
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ICAO Store



Middle East Regional Office

Welcome to the International Civil Aviation Organization Middle East Regional Office– ICAO MID Office. The ICAO MID Office was established in Cairo, Egypt, in 1953 and encompasses 15 member States: Bahrain, Egypt, Islamic Republic of Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Oman, Qatar, Saudi Arabia, Sudan, Syrian Arab Republic, United Arab Emirates and Yemen.

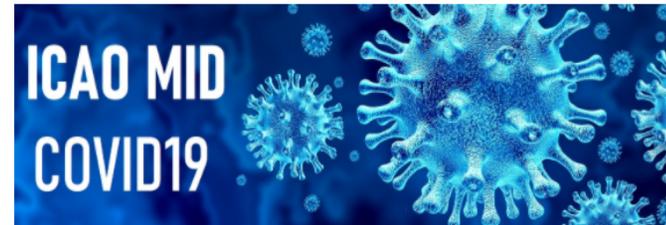
Continuous improvement in global aviation safety and security is fundamental to ensuring air transport continues to play a major role in driving sustainable economic and social development around the world. A safe, secure, economically viable and environmentally friendly air transport system is the ultimate goal of ICAO and its Member States.

ICAO MID Office closely liaises with the States of accreditation and with appropriate organizations, Regional civil aviation bodies and sub-regional bodies and UN Agencies and programmes operating in the Region.

The ICAO MID Office ensures interregional coordination and promotes the timely and harmonized implementation of ICAO Strategic Objectives, policies and decisions, as well as Standards and Recommended Practices (SARPs) and the MID Air Navigation Plan (ANP) provisions. The ICAO MID Office coordinates and provides required assistance and capacity building activities for establishing and maintaining a coordinated and high performance air navigation system aiming at a safe, orderly and efficient air transport, which validates effective implementation of ICAO's international standards.

ICAO MID Office endeavors to meet the challenges in this expanding region with a goal to provide the highest level of safety, security, efficiency and to achieve a sustainable and environment friendly growth of international civil aviation.

[ICAO MID Message on COVID-19](#) (click)



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(MID) Office
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(ESAF) Office
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(APAC) Office
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THANK YOU