

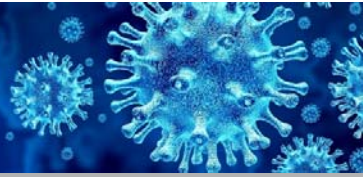


ICAO MID

## **MSG/7 meeting (1-3 September 2020)**

Agenda Item 5: Air Navigation Planning and Implementation  
Specific Air Navigation issues

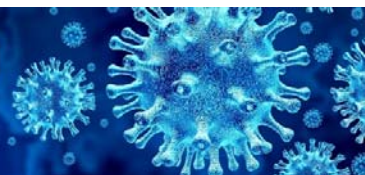




## AIM

### DIGITAL DATASETS IMPLEMENTATION PLANNING

- The AIM SG/6 meeting reviewed the outcomes/deliverables of the Digital Datasets Implementation Ad-hoc Working Group (DDI Ad-hoc WG).
- The meeting noted that there is a need for a detailed implementation plan for digital datasets outlining technical steps of the implementation, in line with the Global developments.
- The meeting agreed that the composition of the DDI Ad-hoc WG should be reviewed to ensure active participation and contribution by all WG members.



## DIGITAL DATASETS IMPLEMENTATION PLANNING

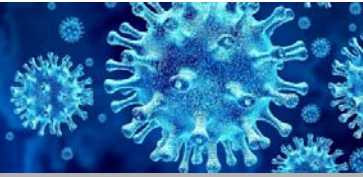
- The meeting agreed to the following Draft Decision to replace and supersede MIDANPIRG Decision 17/17:

### DRAFT DECISION 6/1: DIGITAL DATASETS IMPLEMENTATION AD-HOC WORKING GROUP (DDI AD-HOC WG)

*That, the Digital Datasets Ad-hoc Working Group (DDI Ad-hoc WG):*

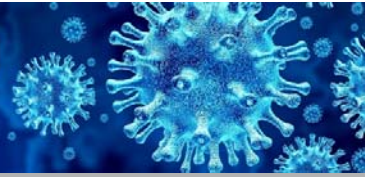
*a) is tasked to develop a detailed Regional Implementation Plan for Digital Datasets and update MID Doc 008, to be presented to AIM SG/7; and*

*b) be composed of: Abdulla Hasan AlQadhi (Bahrain), Moataz Abdel Aziz Ahmed (Egypt), Rouhahah Salehi (Iran), Mohammad Hussien Al Anezi (Kuwait), Bassem Ali Nasser (Lebanon), Faisal Al Busaidi (Oman), Pamela Erice (Qatar), Hind A. Almohaimeed (Saudi Arabia), Sorin Dan. Onitiu (UAE, Rapporteur) ; and ICAO MID Office .*



## **ACTION BY THE MEETING**

The meeting is invited to endorse the AIM SG/6 DRAFT DECISION 6/1: DIGITAL DATASETS IMPLEMENTATION AD-HOC WORKING GROUP (DDI AD-HOC WG).



## ATM RELATED ISSUES

- Updates from
  - ATFM TF
  - FWC2022
- Action by the meeting



## ATFM TF

- **Terms of Reference**
  - ATFM ToR was revised in the last ATFM TF/3 meeting (Amman, Jordan, 12 – 14 January 2020),
  - also its has been revised recently to includes COVID-19 crisis related tasks and priorities (next slide).
- **Action Plan (key activates, Action items and timelines):**
  - **ATFM CONOPS:**

ATFM CONOPS was revised to incorporate the comments highlighted in the last ATFM TF meeting, the CONOPS will be circulated for feedback (to Core team and States), to be finalized in the ATFM TF/4 meeting. To be presented to the MIDANPIRG for endorsement.
  - **Timelines:**

ATFM Action Plan Timelines will be accordingly amended in the ATFM TF/4
- **Challenges:**
  - Lack of operational data (Airspace, Airports and Air operators' operational data),
  - Non-standardized publications related to ATFM measures.
- ATFM TF/4 VTC meeting is scheduled 20-22 September, the invitation was circulated.



TERMS OF REFERENCE (TOR) OF THE MIDANPIRG AIR TRAFFIC FLOW MANAGEMENT TASK FORCE (ATFM TF)

I. TERMS OF REFERENCE

- 1.1 Perform a joint assessment and confirmation of the Pre-requisites for a regional ATFM. This shall include:
a) Assessment of the performance objectives of the individual participating States and definition of common performance objectives for a regional ATFM service.
b) Perform a data collection and analysis to identify hot-spot areas and critical times in a regional ATFM service area where demand consistently exceeds capacity.
c) Analysis of air traffic flows within the designated area of the regional ATFM service that is causing unbalanced demand and capacity.
1.2 Develop an ATFM Concept of Operations and a Framework which addresses ATFM minimum requirements for the implementation of ATFM in the ICAO MID Region.
1.3 Agree on a mechanism to support the phased implementation of ATFM measures in the MID Region, when and where required.
1.4 Identify, research and recommend appropriate guidance regarding:
a) aerodromes and enroute capacities under the normal circumstances and adjustment factors affecting the capacity;
b) regular review for all aerodromes and ATC sectors where traffic demand is expected to reach capacity, or is resulting in traffic congestion;
c) regular review of the implemented ATFM measures and the related publications; to support implementation of the required measures and reflection by the data houses and compliance of the airspace users.
d) mechanisms for ATFM data gathering, and exchanging operational data related to airspaces/aerodromes availability and air operation data between States, ANSPs, Airspace users, Organizations and ICAO, which may include:
i. adjusted aerodromes and enroute capacity due to factors affecting capacity such as:
- Amid and after crisis management measures (mainly related to ANS

Business Continuity Plans and recovery),

- special use airspace status, runway closures, or
- weather phenomena;
ii. traffic demand information which may include flight schedules, flight plan data, repetitive flight plan data as well as associated surveillance updates of flight status; and
iii. ATFM Daily Plan.
e) measure compliance of airspace users with the applicable ATFM measures; and
f) any other guidance relevant to the Regional ATFM Framework.
1.5 Consider existing and planned ATFM initiative in the Region, and make specific recommendations to ensure their alignment.
1.6 Ensure inter-regional ATFM harmonization with adjacent ICAO Regions.
1.7 Recommend appropriate inputs to the ASBU Modules relevant to ATFM such as NOPS, A-CDM, etc.
1.8 Report to the ATM SG.
1.9 Review periodically its Terms of Reference and propose amendments as necessary.
1.10 Coordinate as deemed necessary with the Runway and Ground Safety Working Group (RGS WG) and the Meteorology Sub-Group (MET SG) the issues of mutual interest.

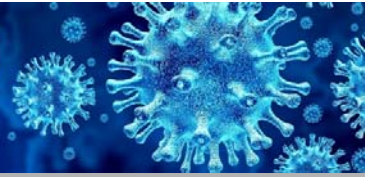
II. COMPOSITION

- 2.1 The Sub-Group is composed of MID ATFM focal points and experts from:
a) MIDANPIRG Member States;
b) India, FAA, AACO, ACAO, AEROTHAI, CANSO, EUROCONTROL, IATA, and ICAO (Bangkok, Cairo, Paris Offices and HQ); and
c) other representatives from provider States and Industry may be invited on ad hoc basis, as observers, when required.
2.2 The Task Force shall elect a Chairperson to act as the point of contact on behalf the

Task Force.

- 2.3 The Task Force shall meet at least once a year and when deemed necessary.
2.4 ICAO MID Office will act as the Secretary of the ATFM Task Force meetings.

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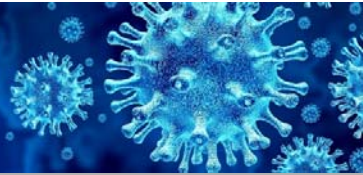
## DRAFT DECISION 7/X: REVISED ATFM TF TERMS OF REFERENCE

*That, the ATFM TF Terms of Reference are amended as at Appendix A.*



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Document





## FWC2022

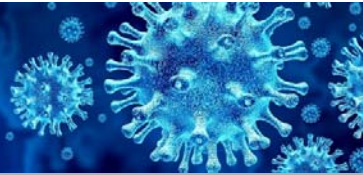
- FWC2022 TF/3 meeting reviewed and updated the plan of actions, which included:
  - Develop FWC2022 Roadmap and Operational Plan,
  - Follow up to MIDANPIRG CONCLUSION 17/24: Impact assessment of airspace structure based on the expected traffic, to identify the peak periods, hotspots, bottle-necks, etc,
    - As a first step, the assessment for the impact across the MID region route network within RVSM airspace, based on 13% traffic growth and scenarios of the forecasted traffic,
    - Second step, is to assess the impact on lower than the RVSM level, which requires MIDRAS analysis software modification, Qatar has provided initial forecasted traffic data that was found not usable/suitable for the analysis software, and provided initial draft “ATFM ROADMAP AND IMPLEMENTATION PLAN” which still needs improvement to cover all required procedures, action plan, contingency measures, etc...
  - FWC2022 TF to share the results of the airspace assessment with the ATFM Core Team to support the roadmap and operational plan,
  - Accordingly, FWC2022 Plan of actions Timelines will be amended in the FWC2022 TF/4,
  - FWC2022 TF/4 VTC meeting is scheduled 21-22 September, the invitation was circulated.
- Challenges
  - MIDRMA analysis software capabilities, and the required funds to cover the upgrade cost,
  - Forecasted traffic data and traffic flow scenarios.



## ACTION BY THE MEETING

The meeting is invited to:

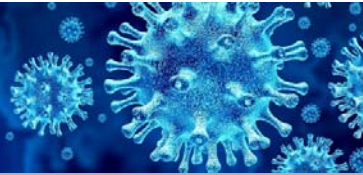
- Endorse Draft Decision 7/X;
- Urge States to ensure ATFM Operational Flexibility during COVID-19 crisis, and to ensure Regional Network Operations Recovery preparedness, using standardized publications;
- encourage States, ANSPs and ORGs to participate in the ATFM TF/4 and FWC2022 TF/4 meetings;
- Urge State of Qatar to provide forecasted FPL/Traffic data to be provided to MIDRMA for the analysis with the required details and format, and to provide FWC2022 Roadmap and Operational Plan to be shared with ATFM Core Team that includes all required procedures, action plan, contingency measures, etc...; as soon as possible to allow time for the MIDRMA and ATFM TF analysis.



## CNS

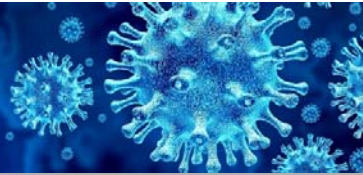
### Frequency Management

- The MIDANPIRG/17 meeting agreed to establish a Frequency Management Ad-hoc Working Group
- The first meeting of the Frequency Management WG (FM WG/1) was planned in June 2020 back to back with the Frequency Management workshop. The two activities were postponed.
- The FM WG/1 was convened virtually 28-29 July 2020. The meeting was attended by 47 Participants from 12 States (Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Oman, Qatar, S. Arabia, Syria and UAE) and 1 Organization (GCC).



## Frequency Management

- The meeting reviewed frequency coordination process and highlighted the need to use ICAO frequency finder tool. The meeting was provided with the latest version of the FF Tool.
- The meeting was apprised of the new development of NAV module.
- The meeting agreed that inaccurate frequency assignment parameters may result in either:
  - an overprotection of the desired facility or,
  - an erroneous incompatibility of current frequency assignments
- ICAO MID office issued a state letters Ref: AN7/5.7-20/117 dated 21 May requesting States to review and update the registered frequencies in the ICAO COM List2 (VHF Navigation aids).
- Reply received from **12** States (Bahrain, Egypt, Iraq, Iran, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria and UAE)

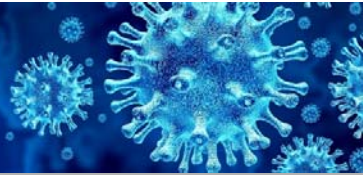


## Frequency Management

- The meeting agreed to the **Draft Conclusion (1/1): Frequency Coordination Process in the MID Region**

*That, in order to enhance the frequency coordination process in the MID Region, States are invited to:*

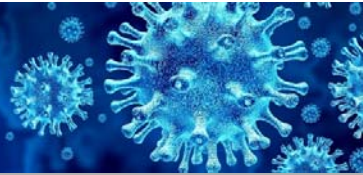
- 1) Download the latest version of the FF tool;*
- 2) Provide ICAO with updated frequency list for COM VHF and NAV with accurate info to the extent possible if have not done so;*
- 3) Use FF tool in frequency coordination process;*
- 4) Provide feedback on FF tool usage;*
- 5) Nominate FM members if have not done so; and*
- 6) Participate actively in the frequency management workshop planned in November 2020 and FM WG/2 meeting in Morocco.*



## **Spectrum capacity assessment for the frequency band 108 – 117.975 MHz**

The meeting was apprised of the study performed to assess the spectrum availability for VHF NAV systems (ILS/DME and VOR/DME) operating in the frequency band 108 – 117.975 MHz ,with the view to:

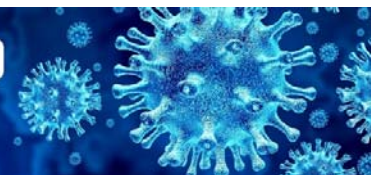
- Determine the need for a full implementation of 50 kHz channel spacing
- Identify areas where future implementation of ILS or VOF systems may be difficult.



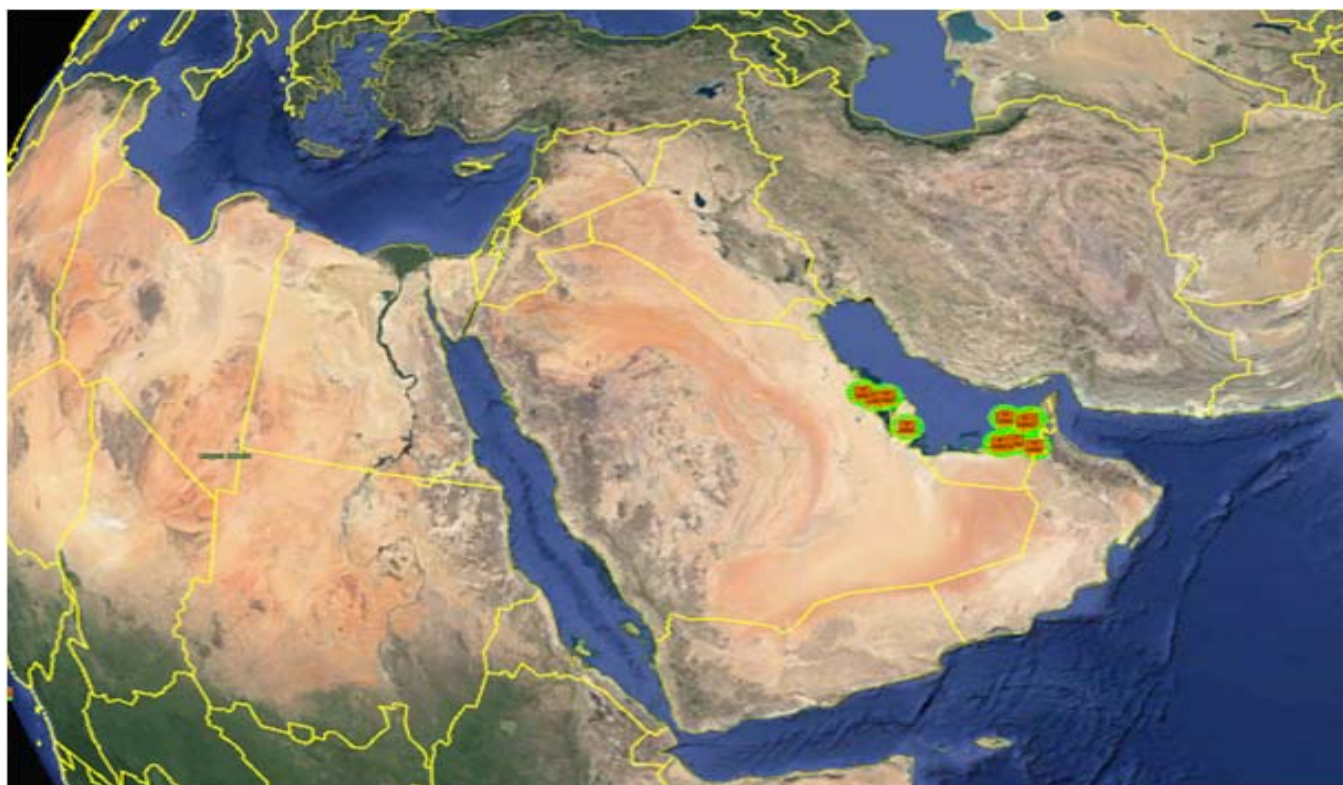
## Spectrum capacity assessment for the frequency band 108 – 117.975 MHz

### Result

- In the MID Region, 98 requirements for an ILS/DME frequency were established and 477 requirements for a VOR/DME and 98 requirements for an ILS/DME
- ILS/DME - No frequency could be assigned to 16 (out of 98) ILS/DME facilities



## Spectrum capacity assessment for the frequency band 108 – 117.975 MHz

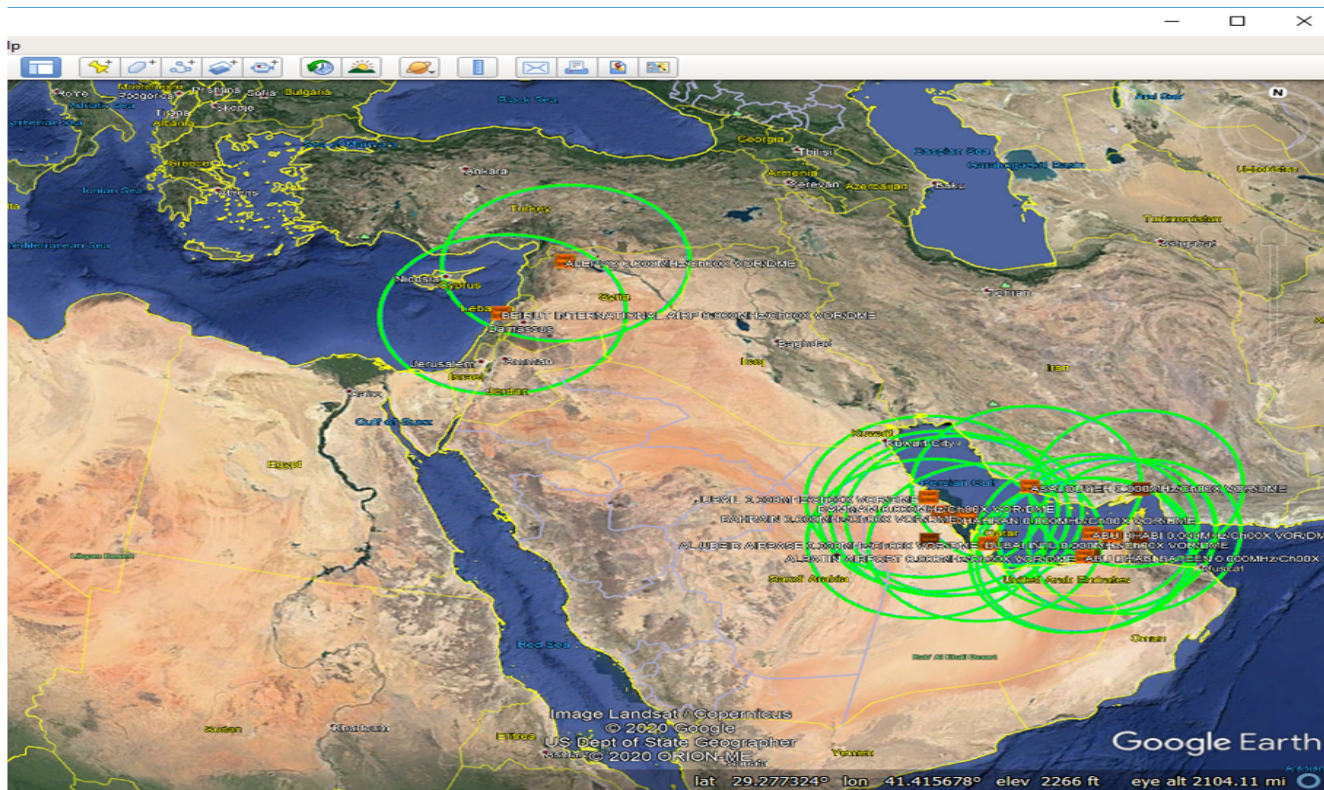


Locations of  
ILS/DME  
facilities where  
no frequency  
assignment  
could be made

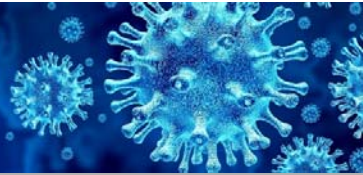




## Spectrum capacity assessment for the frequency band 108 – 117.975 MHz



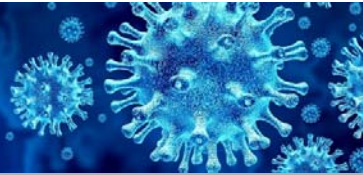
VOR/DME - No frequency on 100 kHz channels could be assigned to 17 VOR/DME facilities



## Spectrum capacity assessment for the frequency band 108 – 117.975 MHz

### Conclusions

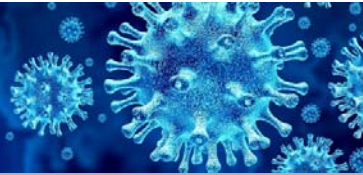
- From the simulation it can be concluded that currently in the MID Region in the area around the UAE as well as in the northern part of the MID Region the frequency band is heavily congested or saturated for ILS/DME and VOR/DME frequency assignments.
- A further simulation is being prepared.
- The congestion in the areas identified may raise questions with regard to additional implementation of requirements for GBAS/VDB frequency assignments in these areas.



## Spectrum capacity assessment for the frequency band 108 – 117.975 MHz

The meeting agreed to the **Draft Decision (1/2): Long-Term Frequency Assignment Plan in the MID Region**

*That, in order to secure adequate spectrum for these facilities for the near future, the Frequency Management Working Group is tasked to develop a rolling frequency assignment plan for VHF-COM and ILS, VOR, DME and GBAS/VDB facilities in coordination with concerned parties to meet the operational requirements until [2030].*



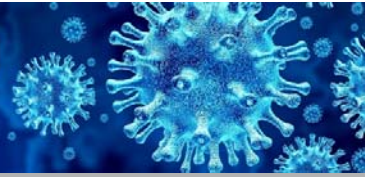
## Frequency Management Workshop

- The meeting noted that GCC States had requested ICAO to conduct frequency management workshop for GCC States in UAE. The workshop was rescheduled to 2021. The meeting agreed to conduct a webinar on frequency finder tool to provide an overview about frequency management principles and the functions of the ICAO frequency finder tool.
- It was agreed that the webinar will be conducted in the 4<sup>th</sup> quarter with the support of experts from MID States and ICAO HQ (Might need to be endorsed as a conclusion)



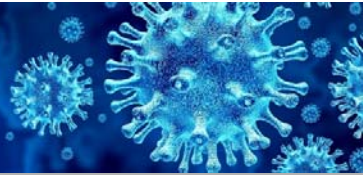
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## Action by the meeting

*The meeting is invited to endorse the proposed Draft Conclusions and Decision.*

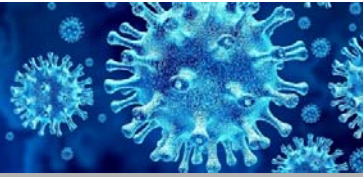


## IWXXM Implementation

### ICAO provisions related to IWXXM implementation

In accordance to Amendment 78 to Annex 3 applicable 5 November 2020, the following MET related data shall be disseminated in IWXXM GML form in addition to Traditional Alphanumeric Code (TAC) form:

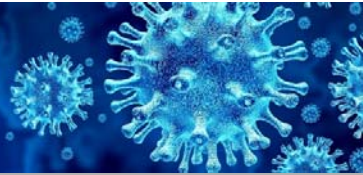
- METAR and SPECI;
- TAF;
- SIGMET and AIRMET;
- Tropical Cyclone Advisory;
- Volcanic Ash Advisory; and
- Space Weather Advisory Information.



## Why IWXXM?

These are some of the advantages of providing MET data in IWXXM format:

- TAC data not geo-referenced;
  - Not linked to aeronautical information;
- National extensions not easily supported;
  - Such as reporting wind at various altitudes where vertical wind shear is common;
- Supports SWIM (as does AIXM and FIXM);

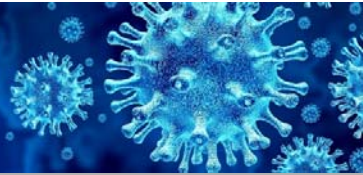


## IWXXM Implementation readiness

### IWXXM implementation survey

- In order to gather and analyse information pertaining to States' action plans for IWXXM implementation in the MID Region and present the results of the survey to MIDANPIRG/17 (MET SG Draft Conclusion 7/1 refers).
- Survey developed and distributed to States on 10 April 2018 (State letter Ref.: ME3/2.3 – 18/114).
- Replies have been received from six (6) States (Egypt, Jordan, Libya, Oman, Saudi Arabia and Sudan).



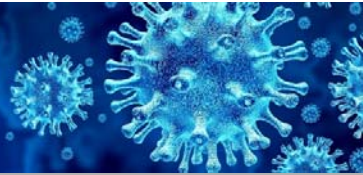


## Communication to enable IWXXM

### Extended AMHS implementation to enable iWXXM implementation

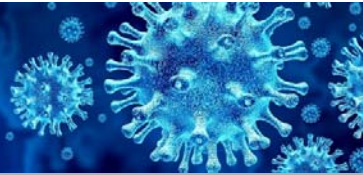
- MIDANPIRG/17 meeting reviewed and updated the AMHS plan of the MID ROC connectivity plan.
- The implementation of extended AMHS “FTBP” will enable the exchange of MET messages in iWXXM format.
- Most of the AMHS systems in the MID Region are capable to run the extended services and in particular the File Transfer Body Part (FTBP). The current communication systems used (AMHS) have the required capabilities to meet the performance requirements of exchanging XML-based messages (IWXXM, FIXM, and AIXM) in the MID Region.



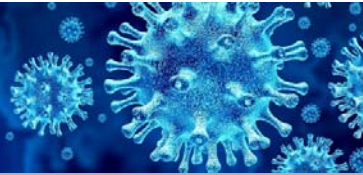


## States' readiness

- MET/MIDAMC teleconference on IWXXM implementation was convened on 9 June 2020.
- The meeting followed up States' readiness to implement IWXXM at application and communication levels.
- MET Vienna shared their experience with the meeting and highlighted the following points and recommended a bandwidth of at least 256kB, even better would be 512kB.
- It was noted that the exchange of IWXXM-data test with EUROPE is only possible once the communication links between the MID-region and EUR gateways (Nicosia) have been upgraded to AMHS (planned in Q4/2020).



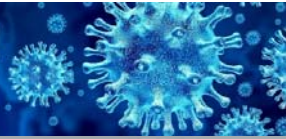
- IWXXM implementation **achievements**
  - ROC Jeddah implemented extended AMHS between MET-Switch/COM-Centre end of July 2020 (tbc)
  - Information exchange on IWXXM implementation between ROC Vienna and ROC Jeddah
- IWXXM implementation **challenges**
  - Some States will implement extended AMHS only in 2021
  - Some States still have to purchase/install MET-Switches with IWXXM capabilities
  - Some States have basic infrastructure deficiencies
  - AMHS link between Nicosia/Jeddah & Bahrain Q4/2020



## Actions by the meeting:

The meeting is invited to:

- 1) encourage States to continue efforts on implementing IWXXM noting available guidance
  - a) MID Doc 12 – Guidance for the Implementation of OPMET Data Exchange using IWXXM.
  - b) ROC/IWXXM Implementation Workshop (Cairo, Egypt, 12-13 November 2017) (<https://www.icao.int/MID/Pages/Meetings/meetings2017.aspx>)
  - c) MID AMHS Plan
  
- 2) If IWXXM is not implemented by 5 November 2020, States need to file a difference with Annex 3; and
  
- 3) Consider translation capabilities in the MID Region (preferably ROC Jeddah).



**Thank you for your Attention**