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# B1-AMET implementation - IWXXM

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**ACAO-ICAO EUR/NAT and MID ASBU Symposium**

*Marrakech, Morocco, 10-13 December 2018*





## Regional activities



- ***Workshop on Implementing the ICAO Meteorological Information Exchange Model IWXXM for the exchange of OPMET data*** (EANPG C57/23 refers – for OPMET exchange centres)
  - 31 May to 2 June 2016, Paris
  - 11 of 14 OPMET exchange hubs from AFI, EUR, MID, APAC attended
  - Implementation issues discussed and harmonization of method of notification on exchange in IWXXM as well as implementation survey
  - High level implementation plans and potential testing between centres developed



## Regional activities



- ***ICAO Meteorological Information Exchange Model (IWXXM) Implementation Workshop*** (EANPG C57/23 refers – for States)
  - 17 to 18 May 2017, Paris
  - 56 participants, 23 States, 2 industries, ICAO and WMO
  - Topics of information exchange included:
    - » Global developments (e.g. WG-MIE, WMO IWXXM schema)
    - » Overview of *Guidelines for the Implementation of OPMET Data Exchange using IWXXM in the EUR Region* (EUR Doc 033)...



## Regional activities

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- » Steps on IWXXM implementation
- » Bilateral testing
- » AMHS Profile for OPMET IWXXM data exchange (new App H to AMHS Manual – EUR Doc 020)
- » Extended AMHS implementation
- » IWXXM implementation challenges and potential solutions
- » Translation agreements
- » Industry perspective on IWXXM implementation



## Regional activities

- ***ICAO Meteorological Information Exchange Model (IWXXM) Implementation Workshop***
  - Outcomes included:
    - » States and industry exchanged information on the implementation of IWXXM in the EUR Region
    - » Developed list of outstanding IWXXM implementation issues forwarded to WG-MIE by direct membership
    - » Developed roadmap of various supporting documents
    - » Agreed to recirculate 2015 IWXXM implementation survey
    - » Agreed to provide summary of outcomes to this workshop
    - » Agreed to conduct another IWXXM implementation workshop Q4 2018 subject to IWXXM schema version 3.1 release



## Regional activities

- ***ROC/IWXXM Implementation Workshop***
  - 12 to 13 November 2017, Cairo
  - 16 participants, 3 States, ICAO and WMO
  - Same topics as EUR Workshop
  - Recommendations developed for the implementation of IWXXM in support to SWIM





## IWXXM Roadmap – Annex 3

What	When	Details
Annex 3, Amendment 77	Nov 2016	Recommended practice that METAR and SPECI, TAF, SIGMET, AIRMET, TCA, VAA, SWA (Nov 2019) exchanged using XML/GML
Annex 3, Amendment 78	Nov 2018 (applicable Nov 2020)	Requirement that METAR and SPECI, TAF, SIGMET, AIRMET, TCA, VAA, SWX Advisory exchanged using XML/GML



## IWXXM Roadmap – IWXXM schema

Release	When	Associated with Am to Annex 3
<b>IWXXM 3.0</b>	Nov 2019	78
<b>IWXXM 4.0</b> (or IWXXM 3.1 if 3.0 permits backwards compatibility of release)	Nov 2021	79 (initial support for SWIM)
<b>IWXXM 4.1</b> (or IWXXM 3.2 if 3.0 permits backwards compatibility of releases)	Nov 2023	80
<b>IWXXM 5.0</b> (or IWXXM 4.0 depending on above)	Nov 2025	81 (compatible with SWIM)

Follow evolution of IWXXM at <https://wiswiki.wmo.int/tiki-index.php?page=dataModelStatus> & at <https://wiswiki.wmo.int/tiki-index.php?page=iwxxm-schedule>





## IWXXM Roadmap – Regional Docs

What	When	Details
<b>File Transfer Body Part Testing Document</b> (App 5.2.2N to MIDANPIRG/16 Report)	Feb 2017	MIDANPIRG/16 endorsed document developed by MIDAMC STG/3 for States to participate in trials on use of extended services
<b>EUR Doc 020 – EUR AMHS Manual</b>	Jun 2017	Appendix H that includes the AMHS profile for IWXXM as well as testing to be published
<b>EUR Doc 033 – Guidelines for the Implementation of OPMET Data Exchange using IWXXM in the EUR Region</b>	Oct 2018	Added space weather advisories in XML format (2019, 2020) Clarity that from November 2020 States required to produce IWXXM data in addition to TAC data for international exchange Clarity on extensions Introduction of new chapter called Generation and use of IWXXM Introduction of new chapter called Data Validation and Statistics



## IWXXM Roadmap – Regional Docs

What	When	Details
Guidelines for IWXXM Validation Statistics to be gathered by ROCs and RODBs	Oct 2018	More specific content in new chapters referenced above in <b>EUR Doc 033</b>
Guidelines for Translation Centre Operations – including draft Letter of Agreement	Oct 2018	
Guidelines on the use of Operational and Non-operational Status Indicators in IWXXM messages	Oct 2018	
IWXXM exchange testing	Oct 2018	



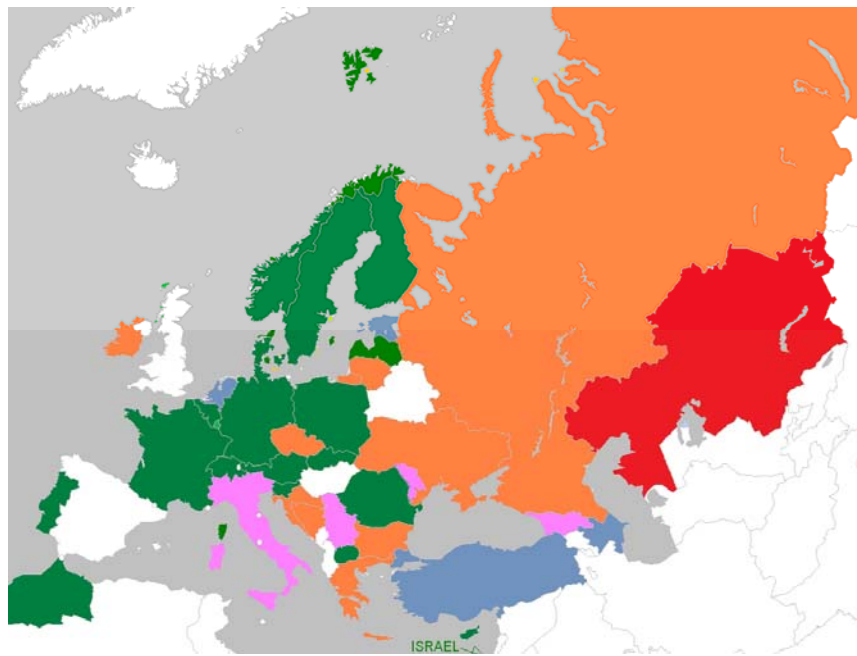
## IWXXM Roadmap – Future Events

What	When & Where	Purpose
Workshop on IWXXM Implementation	Q4 2019; Paris, France	Facilitate implementation – EUR Region <i>(could extend invitation to other Inter-Regional OPMET Gateways – MID, APAC, SAM, NAM, AFI)</i>
Workshop on SWIM developments	late 2020/ early 2021; tbd	Facilitate exchange of SWIM developments in context of implementation



## EUR IWXXM survey results – AFS COM-Centre implementation of ATSMHS including FTBP

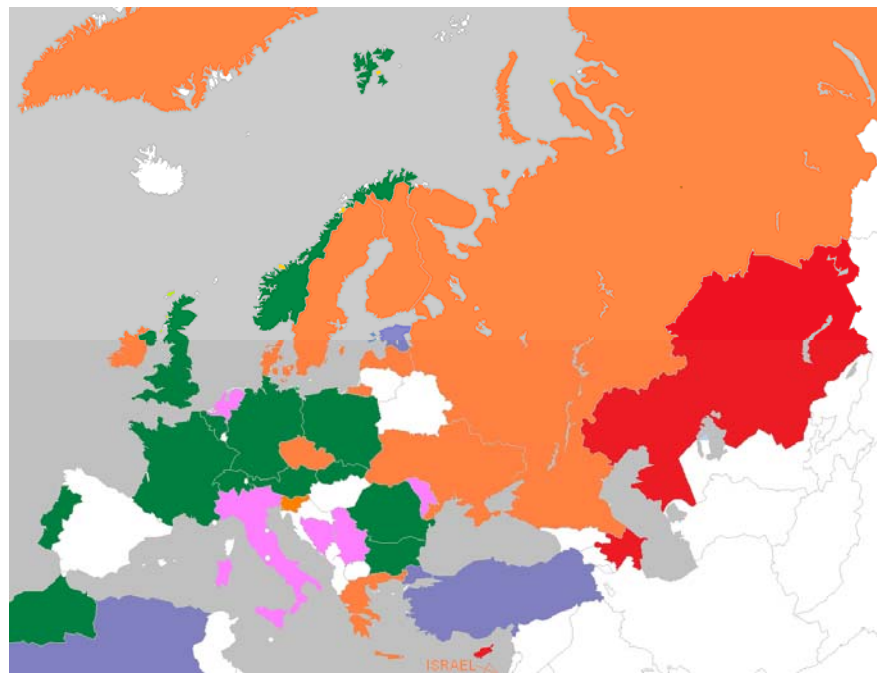
- Green by end of 2017 (37%)
- Orange by end of 2018 (17%)
- Pink by end of 2019 (8%)
- Red no plan (2%)
- Grey no date provided (8%)
- White no response (29%)





## EUR IWXXM survey – MET-Switch system support exchange of IWXXM MET messages by means of extended ATSMHS including FTBP

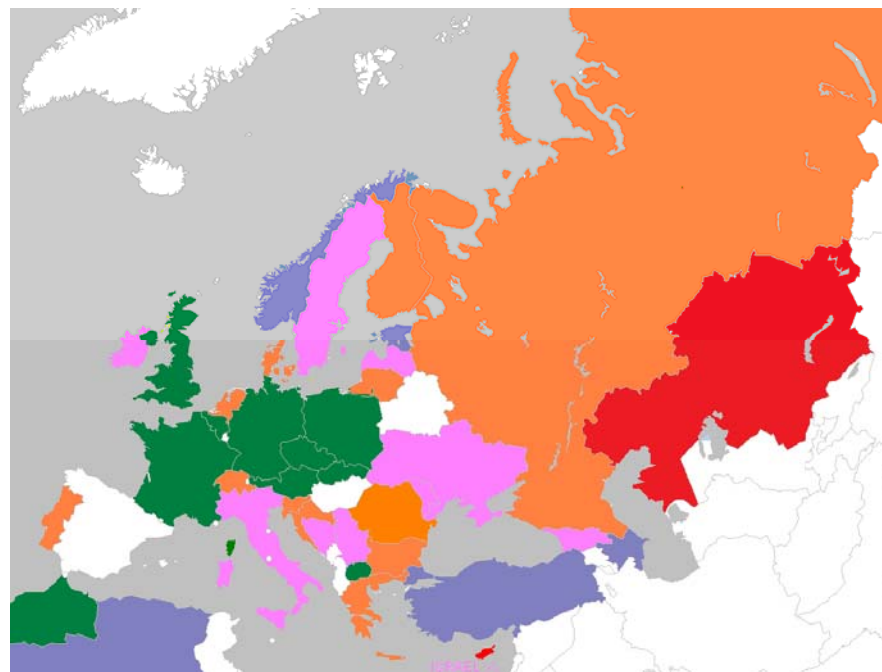
- Green by end of 2017 (25%)
- Orange by end of 2018 (21%)
- Pink by end of 2019 (10%)
- Red no plan (6%)
- Grey no date provided (6%)
- White no response (33%)





## EUR IWXXM survey results – METAR in IWXXM

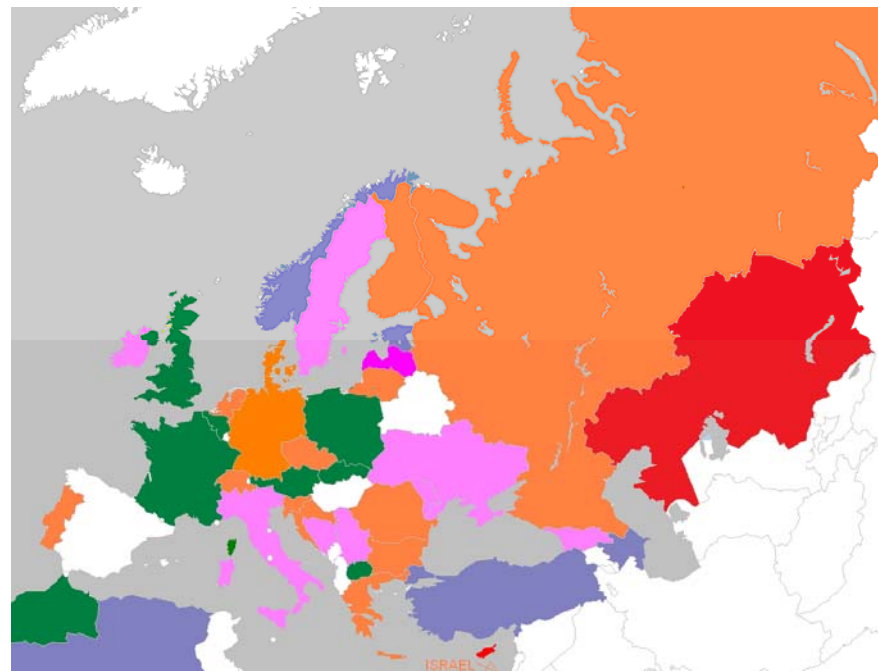
- Green by end of 2017 (29%)
- Orange by end of 2018 (23%)
- Pink by end of 2019 (19%)
- Red no plan (4%)
- Grey no date provided (10%)
- White no response (25%)





## EUR IWXXM survey results – TAF in IWXXM

- Green by end of 2017 (15%)
- Orange by end of 2018 (29%)
- Pink by end of 2019 (15%)
- Dark pink by end of 2020 (2%)
- Red no plan (4%)
- Grey no date provided (10%)
- White no response (25%)





## EUR IWXXM survey results – SIGMET in IWXXM

- Green by end of 2017 (17%)
- Orange by end of 2018 (23%)
- Pink by end of 2019 (15%)
- Dark pink by end of 2020 (4%)
- Red no plan (4%)
- Grey no date provided (8%)
- White no response (29%)

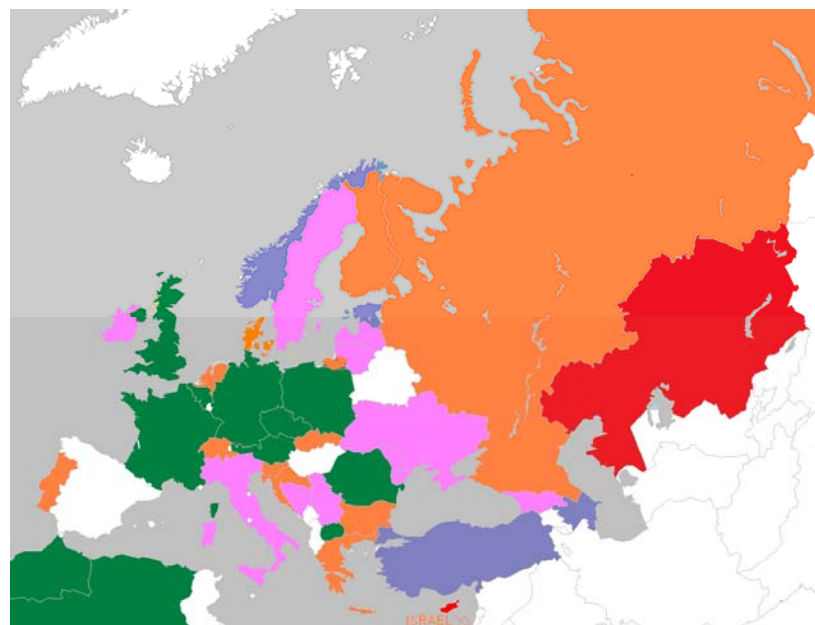






## EUR IWXXM survey results – receive OPMET data in IWXXM format

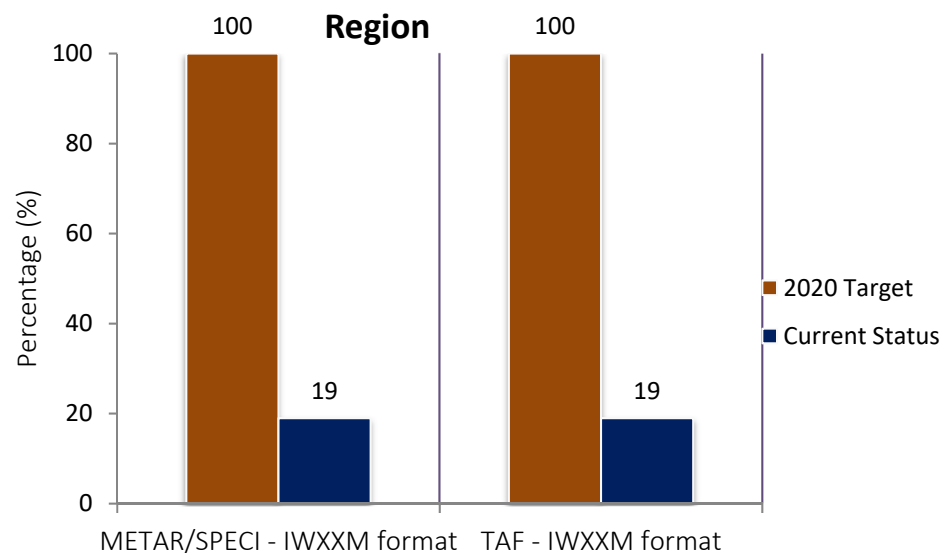
- Green by end of 2017 (21%)
- Orange by end of 2018 (25%)
- Pink by end of 2019 (17%)
- Red no plan (4%)
- Grey no date provided (8%)
- White no response (25%)





# IWXXM implementation – current snap shot

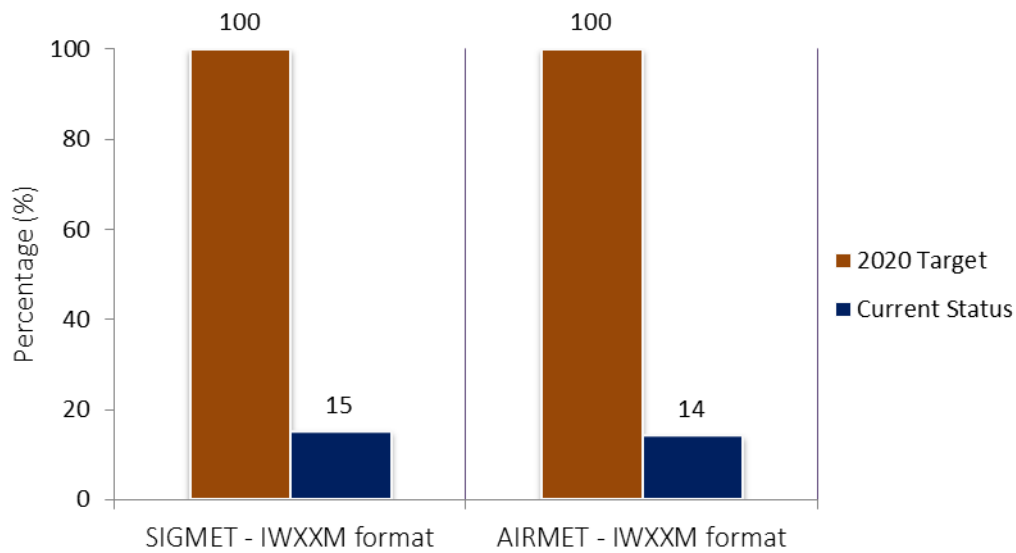
**B1-AMET Status of implementation in the EUR**





# IWXXM implementation – current snap shot

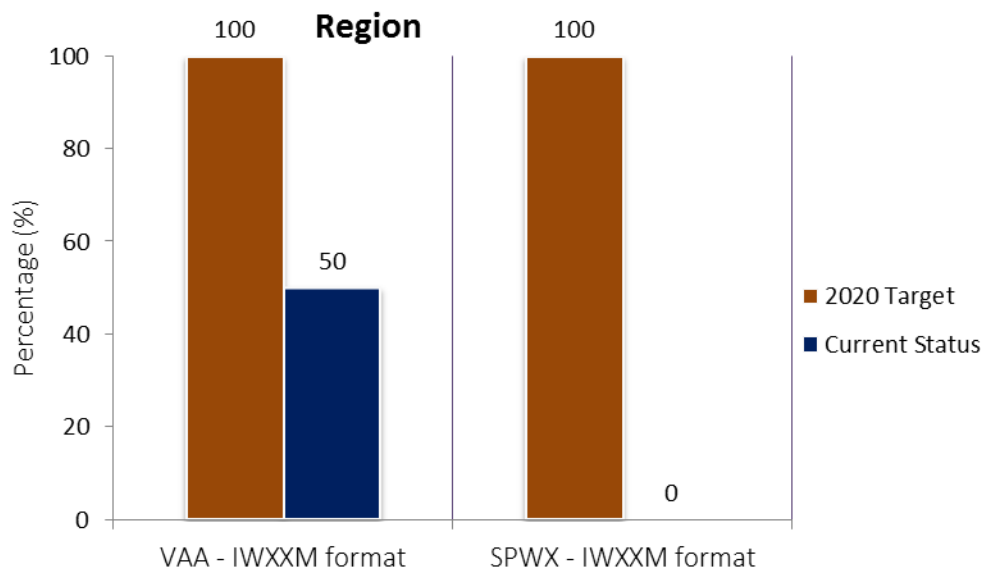
**B1-AMET Status of implementation in the EUR Region**





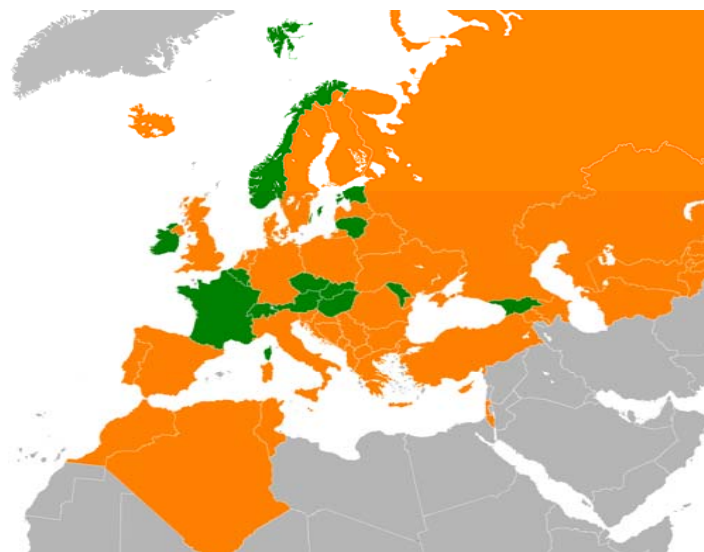
# IWXXM implementation – current snap shot

**B1-AMET Status of implementation in the EUR**











# IWXXM implementation – current snap shot



Legend

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

The progress for B1-AMET is on-going (with approximately 18% implementation).

*Note: These high-level implementation elements are not applicable to Andorra and San Marino.*



## IWXXM implementation – ROCs

- Regional OPMET Centres (ROCs)
  - » London – Q2 2019
    - Established mechanism to exchange IWXXM intra- & inter-regionally while it implements its IWXXM and AMHS capability
  - » Toulouse – Jul 2017
    - Also functions as translation centre for AoR Toulouse and London
  - » Vienna – Jul 2017
    - Also functions as translation centre for AoR Vienna



## IWXXM implementation – RODBs

- Regional OPMET Data Banks (RODBs)
  - Request/reply functionality for retrieval of IWXXM data
    - » Brussels – Jul 2017
    - » Vienna – Nov 2017
    - » Toulouse – Jul 2017



## Activities planned in MID Region

- Consider global template – *Guidelines for the Implementation of OPMET Data Exchange using IWXXM* – as regional guidance (*MID MET SG Draft Conclusion 7/2 refers*)
- Consider possible future translation agreements (*ROC Jeddah/ back-up ROC Bahrain – ANSIG/3*)
- Currently updating status of implementation (*MID MET SG Draft Conclusion 7/1 refers; SL Ref.: ME 2/2.3 – 18/114 dated 10 April 2018*)





## Summary of IWXXM Implementation Survey - MID

Question \ State	Bahrain	Egypt	Iran	Iraq	Jordan	Kuwait	Lebanon	Libya	Oman	Qatar	Saudi Arabia	Sudan	Syria	UAE	Yemen
1 AFS COM ATSMHS includes FTBP		Yes			Yes			Plan when CAA upgrades their system	Plan No Date			No			
2 AMHS direct connect AFS COM- ROC Jeddah		Yes			Yes			Yes	Plan No Coord			Yes			



## Summary of IWXXM Implementation Survey - MID

Question\ State	Bahrain	Egypt	Iran	Iraq	Jordan	Kuwait	Lebanon	Libya	Oman	Qatar	Saudi Arabia	Sudan	Syria	UAE	Yemen
3 MET switch Suppose exchange IWXXM MET mssg Extended ATSMHS including FTBP		Plan 2018-2020			No			Plan Planning to connect the MET-Switch System with the COM-Centre	Plan End of 2018			No			
4 National OPMET data in IWXXM		Plan 2018-2020			Yes			Yes 2019	Plan No Date			No			



## Summary of IWXXM Implementation Survey - MID

Question \ State	Bahrain	Egypt	Iran	Iraq	Jordan	Kuwait	Lebanon	Libya	Oman	Qatar	Saudi Arabia	Sudan	Syria	UAE	Yemen
5 Rx OPMET data in IWXXM		Plan 2018- 2020			Plan 2019			Plan When CAA upgrade s their AFTN Circuit to the AMHS	Plan No Date			No			
6 Need of assistanc e in IWXXM impl		No			Yes Training			Yes Guidanc e	Yes Training			Yes Work- shop			



## IWXXM implementation – challenges identified

- SIGMET TAC to IWXXM ambiguities
  - Preference to provide TAC SIGMET as polygon – no ambiguity
- Coordination with MET and COM
  - Some States will have to coordinate with different Ministry for upgrade to MET and COM switch
- IWXXM translation
  - Results can be different – testing recommended to harmonize results
- WMO and ICAO documentation
  - Need harmonized release of documentation and endorsement by both WMO and ICAO
- Outstanding implementation issues addressed by WG-MIE
  - Many issues such as compression type need to be addressed at global level



## IWXXM implementation – the way forward

- Disseminate information on WG-MIE decisions (e.g. compression) to MET groups and CNS groups
- WMO and ICAO documentation releases harmonized
- Update regional documentation in light of global developments
- Provide States option for translation from TAC to IWXXM
- Update implementation plans by States routinely
- Conduct workshops when necessary
- Work together – MET, COM – understand overall picture (AIXM, FIXM, IWXXM – SWIM)





## SWIM preparation

- Global developments
  - Provisions
    - » **GANP/ASBU** mid-2019
    - » **Manual on SWIM Concept (ICAO Doc 10039) Vol II (implem)** early-2020
    - » **PANS-SWIM** Nov 2020
- EUR SWIM Project Team established (EANPG59 RASG-EUR06 Conclusion/14)
  - **SWIM PT/1; 27 Sep 2018**; Brussels
    - » ToRs & Work Programme developed (endorsed COG72 RCOG09 Conclusion/02)
  - **SWIM PT/2, 27-28 May 2019**; Moldova
    - » Needs-capabilities matrix
    - » Prerequisites of SWIM



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