

International Civil Aviation Organization


## Evolution of ICAO requirements

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## Background: Global ATM

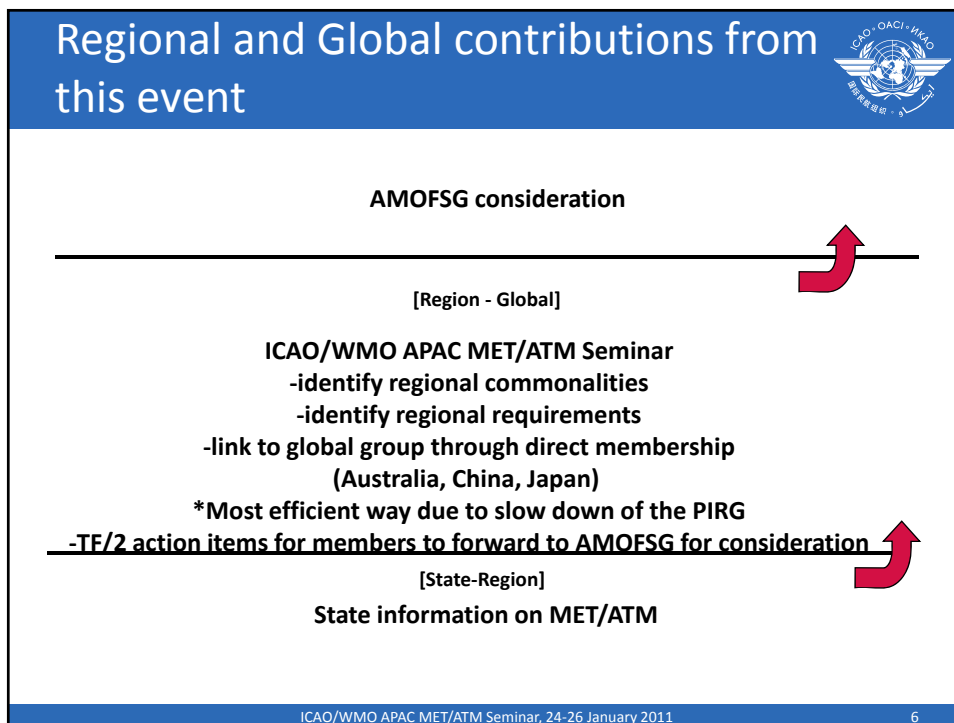
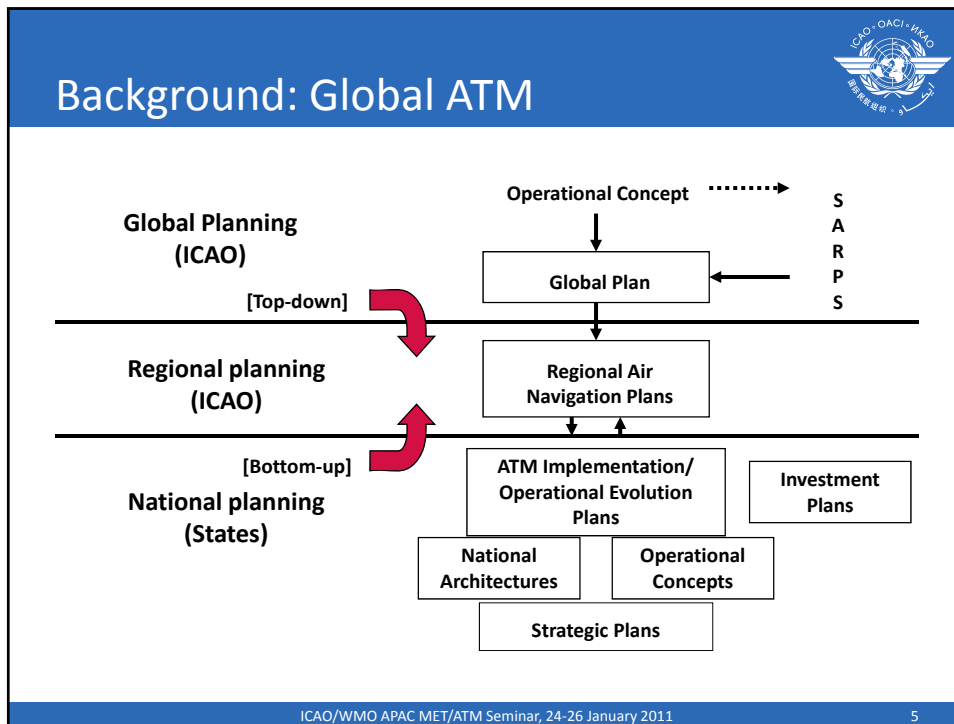


- Eleventh Air Navigation Conference (2003)
  - endorsed the Global ATM Operational Concept
- 35<sup>th</sup> Session of the Assembly (2004)
  - Resolution A35-15:
    - calling for the States, regional planning groups and the aviation industry to use the Global ATM Operational Concept

## Background: Global ATM



- Common vision
  - ICAO Global ATM Operational Concept (ICAO Doc 9854)
  - *“To achieve an **interoperable global** air traffic management system, for **all users** during **all phases of flight**, that meets **agreed levels of safety**, provides for **optimum economic operations**, is **environmentally sustainable** and meets national security requirements.”*
- Common ICAO planning framework
  - Global Air Navigation Plan
  - Regional Air Navigation Plans
  - ICAO guidance
- Performance objectives
  - targets, metrics, measurement



## ICAO consideration of national/regional developments (NextGen/SESAR)



- NextGen/SESAR
  - building on ICAOs Global ATM Operational Concept
- ICAOs role to:
  - promote harmonization
  - ensure global collaboration in the development of Standards for required future systems

## ICAO consideration of national/regional developments (NextGen/SESAR)



- **MET key enabler for the ATM Concept of operations**
  - Common and universal access to MET information by users (systems)
    - “Real-time”
  - knowledge about the past, current and future state of the atmosphere
    - “Weather picture”
  - to be integrated into collaborative and dynamic decision making
    - Decision support tools (DSTs)
  - virtual “4-Dimensional Weather Data Cube”
    - subset to be designated as “Single Authoritative Source”
    - consistent (i.e. one answer) to support collaborative decision making
  - Net-centric (network-enabled) environment

## ICAO activities related to APAC

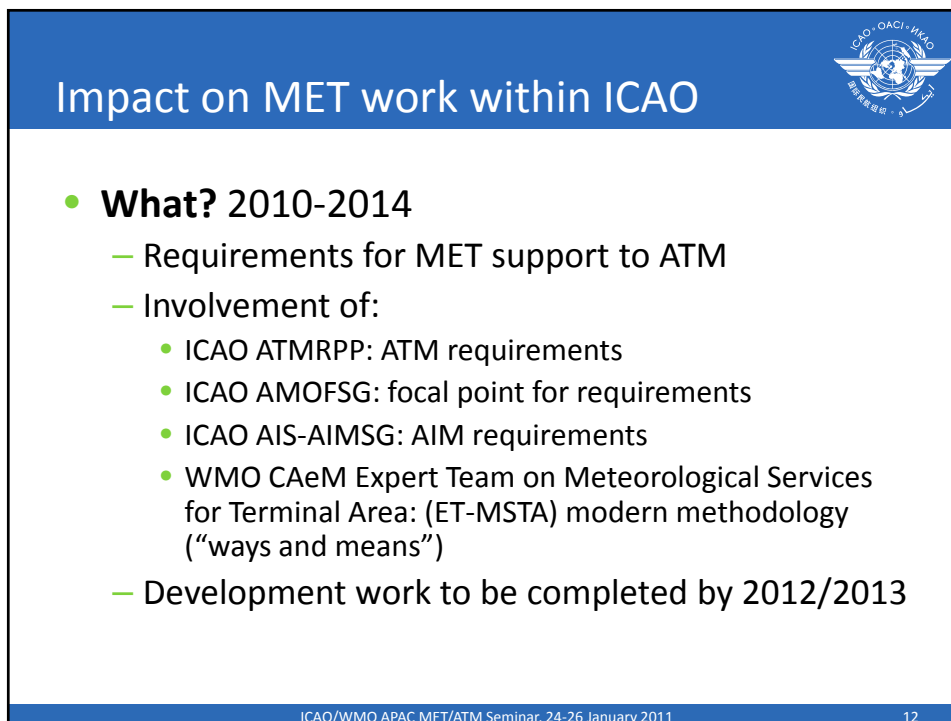
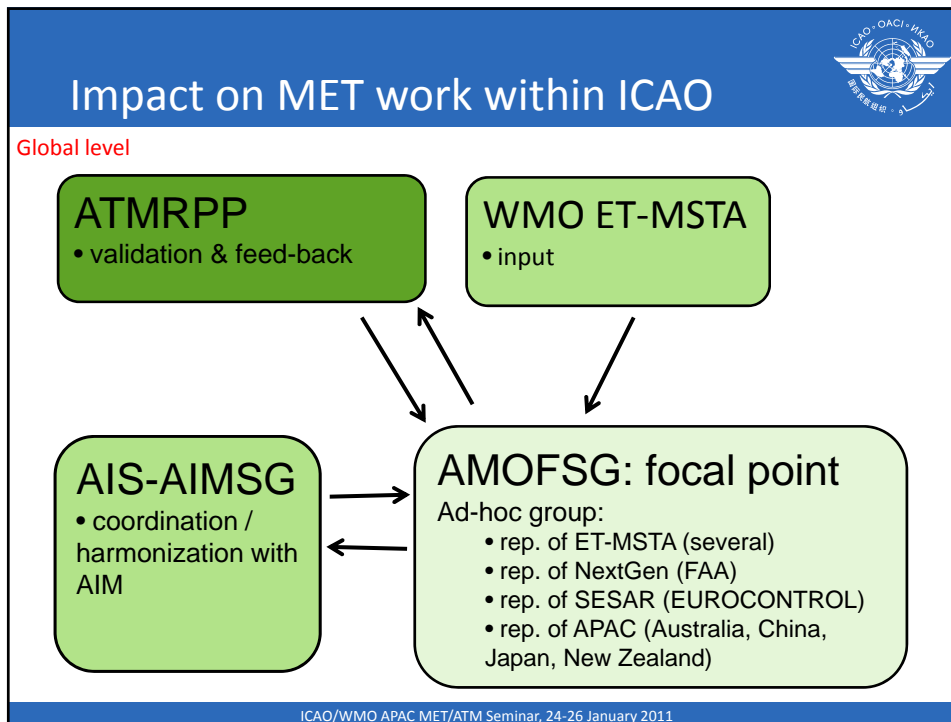


- **DGCA Action Item 46/1 – Seamless Sky ATM (Oct 2009)**
- **APANPIRG Conclusion 21/8 – ICAO Asia/Pacific Seamless ATM Workshop**
  - ...Foster discussion and action for APAC States in planning of future ATM system...
  - to take place in Tokyo, Japan, *11-12 April 2011*
- **APANPIRG Conclusion 21/12 – Convening of the Seamless ATM Ad-Hoc Meeting**
  - To address implementation of future ATM requirements related to seamless skies and coordinate with HQ on developing requirements
    - (i.e. Assure CARATS (Collaborative Action for Renovation of Air Traffic Systems) development does not conflict with global developments that are currently based on NextGen and SESAR)
  - To take place in Tokyo, Japan, *13 April 2011*
  - APANPIRG sub-group may take on this endeavour in future

## Impact on MET work within ICAO



- MET work within the following projects:
  - MET information to support ATM
  - Implementation of table-driven OPMET messages
- Two main issues:
  - **What** to be provided?
  - **How** is the information to be provided?



## Impact on MET work within ICAO




- **What? 2010-2014**
  - Twelfth Air Navigation Conference
    - November 2012
    - “One Sky” theme – a global ATM architecture
    - high-level vision for AIM, ATM, CNS, MET
  - MET/AIM Divisional Meeting for endorsement
    - May or September 2014
    - endorsement of Annex 3 (MET) and Annex 15 (AIM) SARPs
    - re-structure to deal with the net-centric data provision

## Impact on MET work within ICAO



- **How? 2010-2019 in two phases:**
  - 1) Replacement of alpha-numeric codes for OPMET by XML (2013-2019) (not by BUFR)
    - endorsement of XML for OPMET by ANC (2010)
    - finalization of “code tables” for XML (2010-2012)
    - enabling clauses to use XML in Annex 3 (2013)
    - endorsement of XML by the MET/AIM DIV Meeting (2014)
    - mandatory use of XML in Annex 3 (2016/2019)
      - long period of transition to accommodate developing States

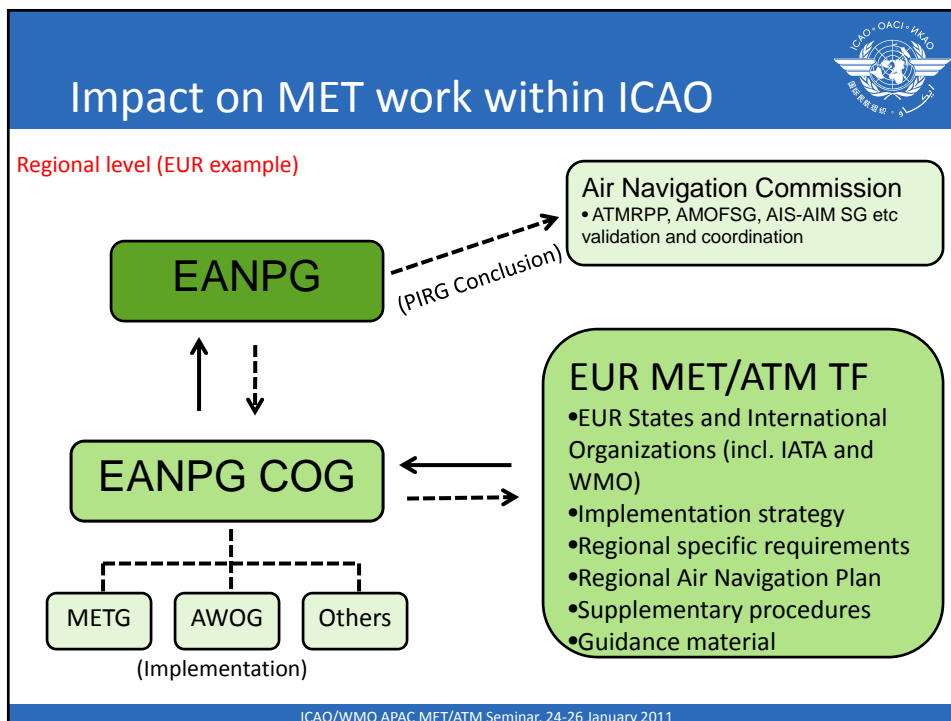
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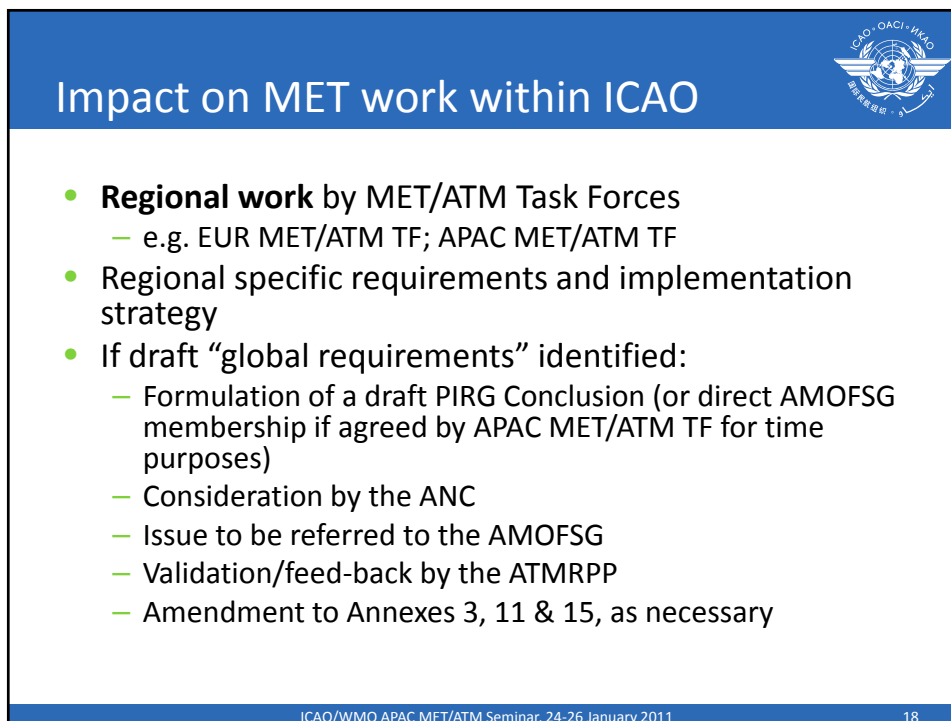
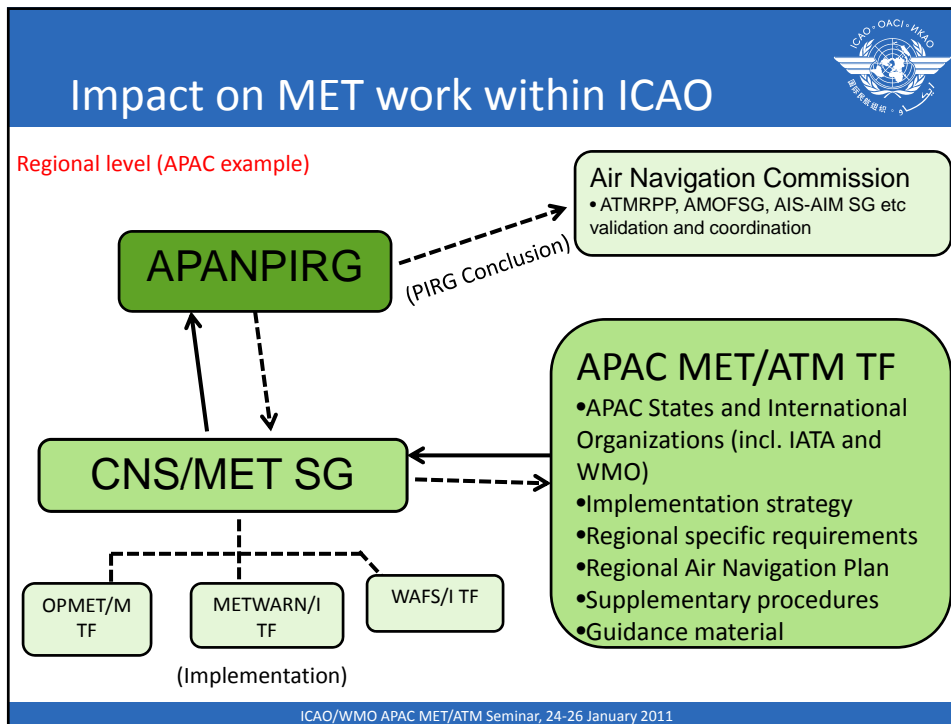
2) Replacement of OPMET messages by OPMET data (2016-2019 and beyond)


- proposal to be endorsed by MET/AIM Divisional Meeting (2014)
- transition to the net-centric environment ( $\geq 2016$ )
- in line with AIM/MET information exchange models

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Thank you



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