World Meteorological Organization

Weather • Climate • Water

AMCOMET-3

Praia, Cabo Verde, 10 to 14 February 2015

Safe Skies for Air Navigation over Africa

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Introduction

WMO Convention

- one of the purposes of the WMO is **“to further the application of meteorology to aviation”**

WMO together with the International Civil Aviation Organization (ICAO) establish the regulatory framework for meteorological (MET) service for international air navigation

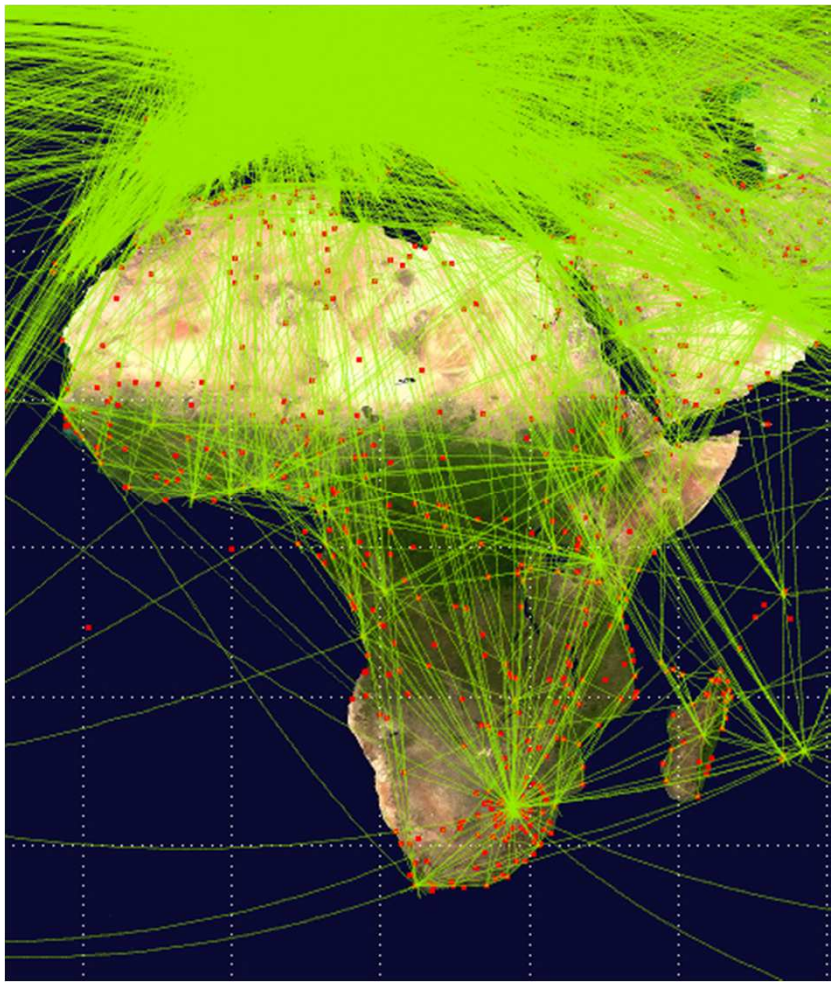
- The purpose of the MET service to aviation is:

  “to contribute to safety, efficiency and regularity” of the air transport

The BIG Aviation Picture

The Africa Aviation Picture

- Currently 3% of the global aviation but raising vary fast
- 6,7 million jobs; ~ US$ 70 billion of GDP
- Passenger traffic growth projections of 6.1% (3rd in the world)
- By 2040, all airports will need to be expanded or supplemented by additional airports so as to handle the anticipated growth of 350% to 600%
- Between 2020 and 2030, Air Traffic Control will reach saturation and will need to be replaced with a satellite-based air traffic management
- Need to address gaps in the air transport systems, particularly in the areas of air navigation services, human resource development and airport capacity

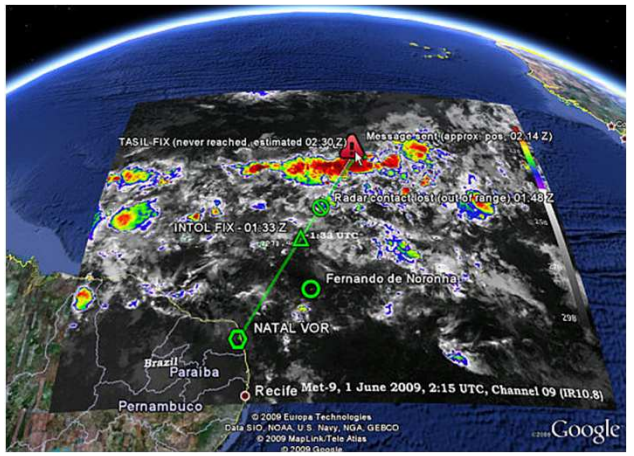


(source: African Air Expo 2014)

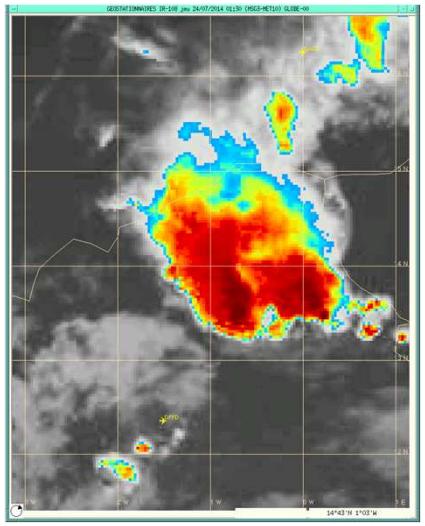
The Weather Factor

- Weather is a major contributing factor to aviation accidents
- IATA classifies weather as an “environmental threat” that induces pilot’s error
- Weather is the second biggest threat to flight safety after aircraft malfunction

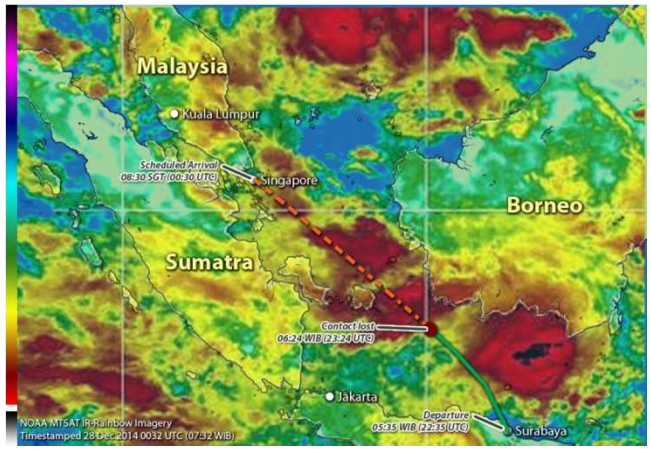
1 June 2009
Air France 447



24 July 2014
Air Algerie 5017



28 December 2014
AirAsia 8501



July 2014
SA Airways 286

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Weather · Climate · Water

The Weather Factor

- Many lessons learned
- AirAsia case:

  The loss of Flight 8501 also brought attention to the lack of weather radar at Indonesian air traffic control centres.

  An immediate air transport directive had been issued "making it mandatory for pilots to go through a face-to-face briefing by an airline flight operations officer on weather conditions and other operational issues prior to every flight."

- The essential safety role of the meteorological service is to provide information that fits to the overall situational awareness to help pilots keep a safe distance from the weather hazards

The Global Air Navigation Plan (GANP)

Objectives:

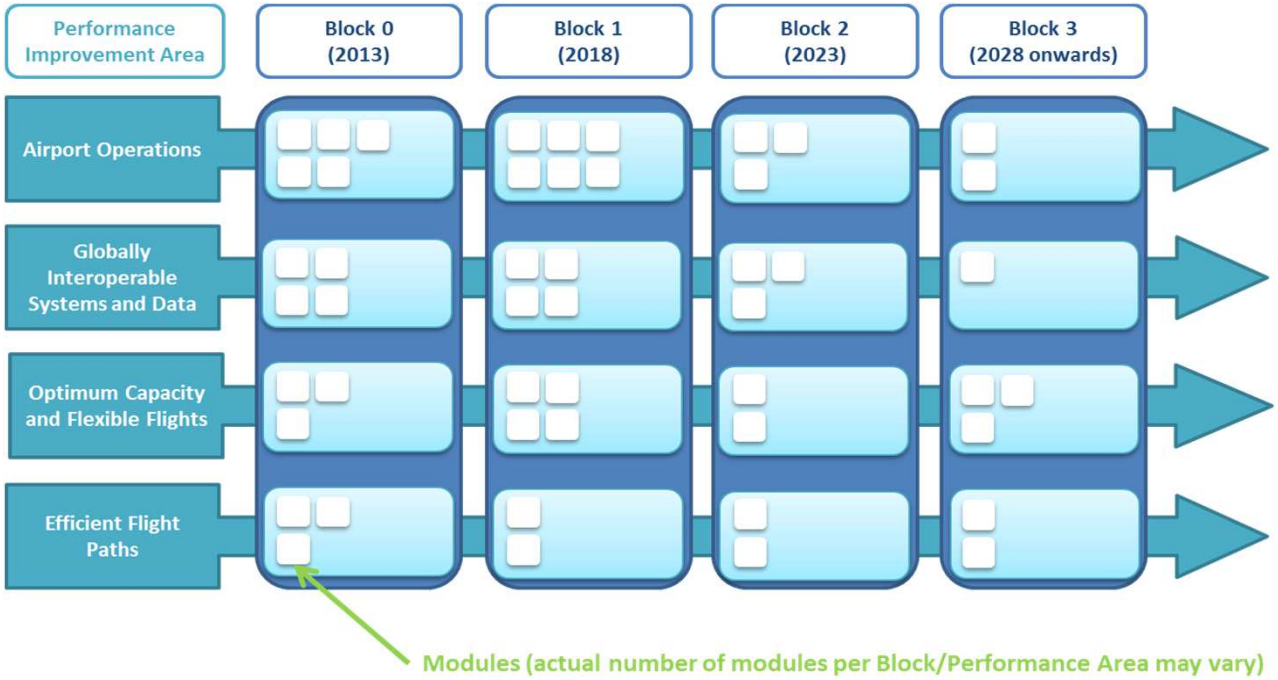
- To increase capacity and improve efficiency of the global civil aviation system
- Reduction of environmental impacts
- A strategic approach ensuring continuous safety improvement
- A rolling 15-year strategy to guide complementary and sector-wide air transport improvements over the period 2013 to 2028

Aviation System Block Upgrades (ASBU)

- ASBUs provide a systems engineering modernization strategy for international air navigation, comprising a series of modules across four performance improvement areas and four time blocks.

National Projects:

- *SESAR – Europe*
- *NextGen – USA*
- *CARATS – Japan*
- *SIRIUS – Brazil*
- *China*
- *Canada*



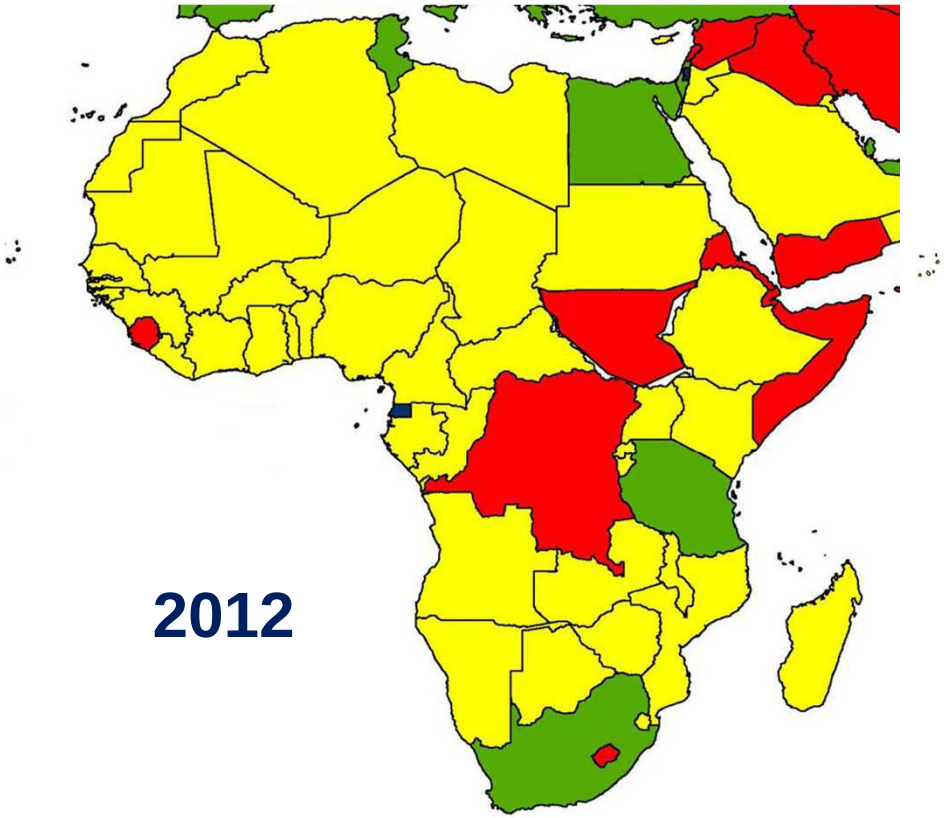
Meteorological information will be a Key Enabler of the future global ATM system

ICAO/WMO MET Divisional Meeting

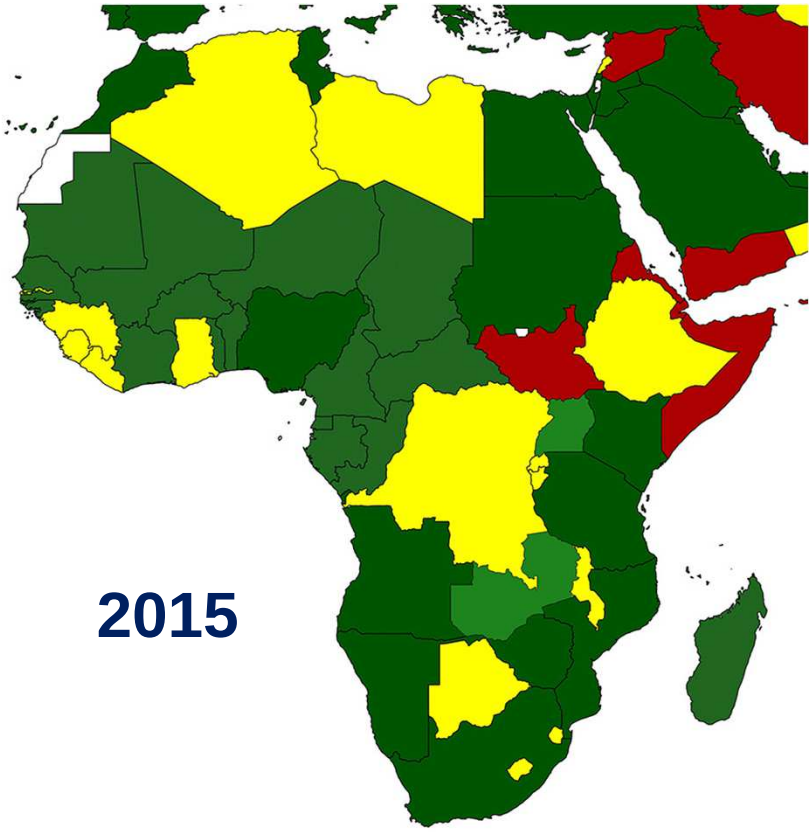
- The future development of meteorological service will be fully aligned and integrated into the future ATM system as part of the Global Air Navigation Plan (GANP) and its Aviation System Block Upgrades (ASBU) methodology
- The complex ATM and MET developments currently being planned at the global and regional level would have significant impacts on the future aviation MET service provision, including in Africa
- **There is a need to gain a greater understanding of these issues to better inform future decisions**
- **RA I-16 Session** requested WMO to organize a

  Regional Conference on the Future of Meteorological Service Provision to Civil Aviation in Region I (Africa)
- Request to AMCOMET to support this important event to ensure that all stakeholders are engaged

QMS Implementation



2012

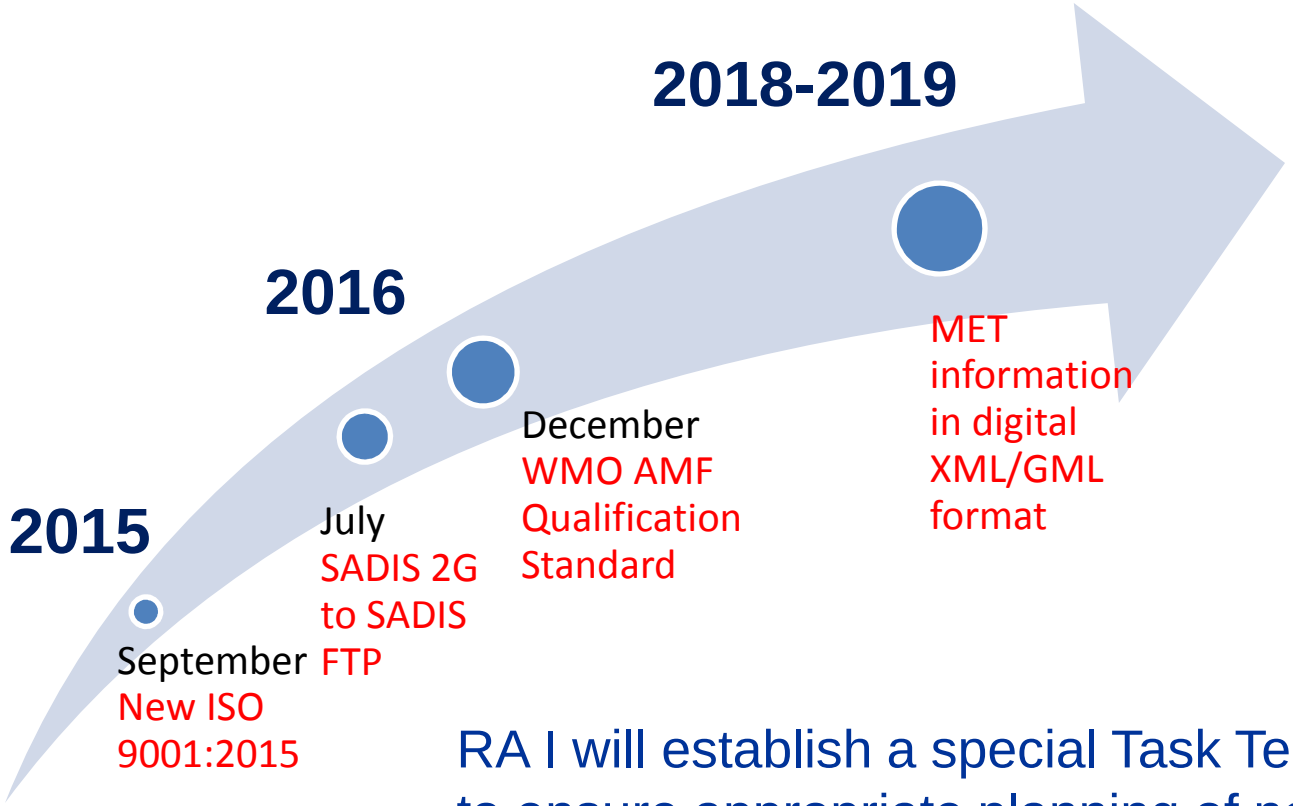


2015

QMS Implementation

- The implementation of QMS demonstrated the strength of a coordinated concerted effort by Members, supported by WMO and other partners through appropriate capacity development action
- The action should continue through targeted assistance to those countries that lag behind
- Cooperation between countries through the “twinning mechanism” proved very efficient
- Compliance with the WMO standards on Competency and Qualification of the Aeronautical Meteorological Personnel is another big challenge

Near-term challenges



RA I will establish a special Task Team to ensure appropriate planning of national actions and identify needs for capacity development

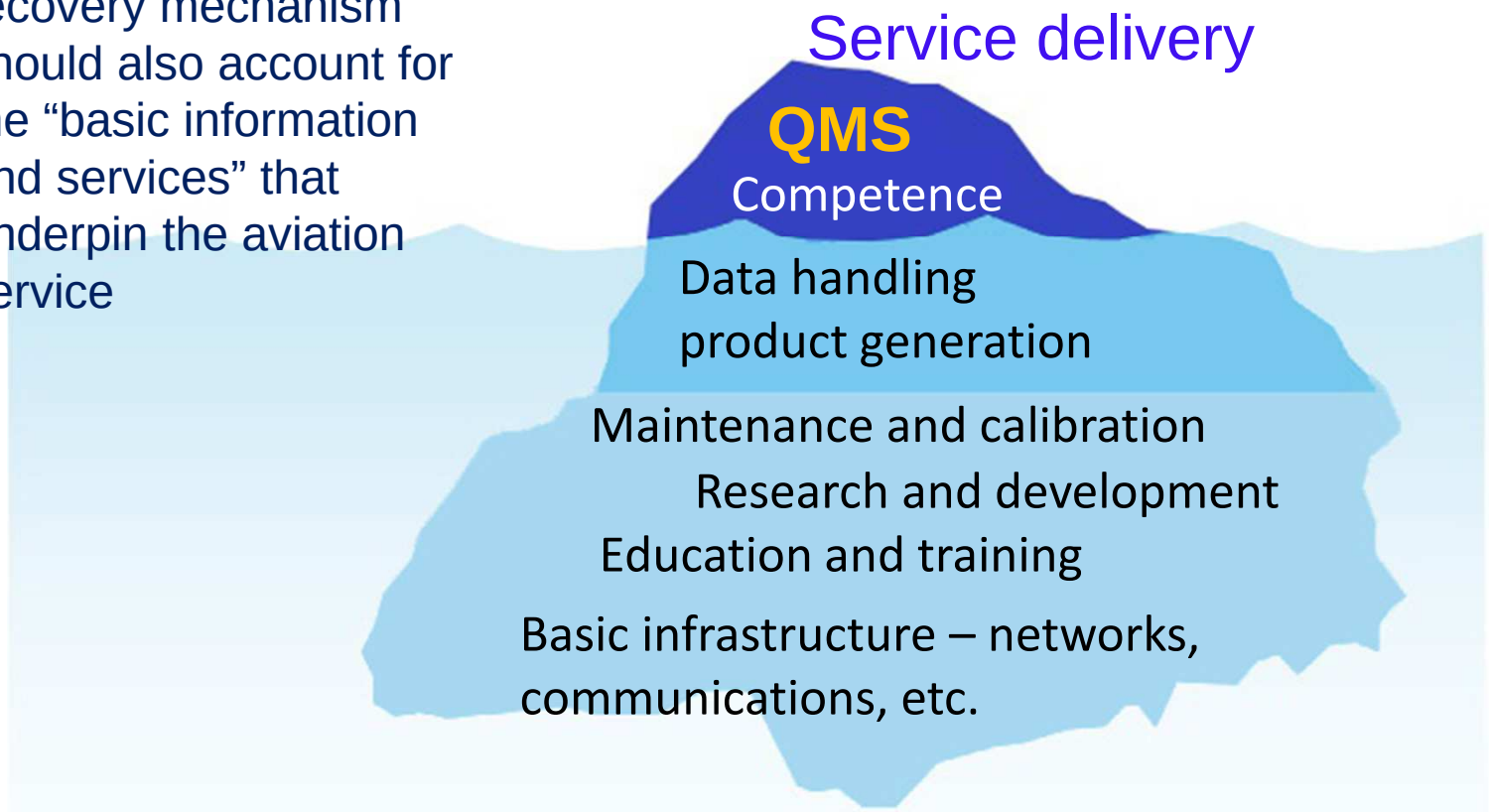
Cost recovery

- **The lack of adequate cost-recovery mechanism for the provision of meteorological service to aviation is a long-standing shortcoming with strong negative impact on the ability of many RA I Members to provide such services at the required level of quality, efficiency and sustainability**
- WMO continued to provide assistance to develop national cost-recovery mechanisms
- However, the successful implementation of the outcomes of such projects is strongly dependent on the support from the national authorities and governments

- AMCOMET is requested to assist in the process of promulgation of proper legislation to enable the NMHSs to implement cost-recovery for aviation MET services in accordance with the ICAO and WMO guidance and procedures

Cost recovery

An appropriate cost-recovery mechanism should also account for the “basic information and services” that underpin the aviation service



Cost-recovery scheme should be fair, equitable and transparent to users

Benefits

Why prioritizing improvements in the aviation meteorology is a WIN – WIN case

- As a direct contributor to safety of air navigation – brings tangible socio-economic benefits
- Helps in modernizing the overall capabilities of the NMHSs – including observing networks, communication facilities, etc.
- Brings a strong “Culture of Compliance” and “Quality Culture” to the organization as a whole
- Serves as a best “Use Case” for other service delivery areas
- It is a SMART task – where “S” stands for “specific” but also for “safeguarding”
- Accounts for the inherent liabilities of the air navigation services

Conclusion

- AMCOMET is requested to accord high priority to the improvements in the provision of meteorological service to aviation as a contribution to safety of air transport in Africa.

- The main focus to be on the governance issues:

  Business model - the role of the NMHSs and their adequate funding to ensure the provision of high quality, competitive and sustainable and competitive service; support for a more autonomous business model to be considered

  Funding – cost recovery – this process need to be strongly supported by the government including through appropriate legislative actions

  Service performance – QMS and Competency – need to be expedited and maintained

  Improve the **national dialogue** between the NMHSs, Civil Aviation Administrations, all aviation stakeholders – to build an inclusive and equitable partnership

Conclusion

Regional dimension:

- Regional cooperation with all aviation partners, in particular, ICAO, ASECNA, IATA need to be raised at a new level
- Dialogue regarding ASECNA's support to NMHSs through fair and equitable cost recovery mechanism should be considered as one of the most important near-term tasks
- The GANP call for further regionalization of some services needs to be carefully assessed in view of the crucial governance issues, including the cost recovery in the case of multinational service model
- Urgent need for guidance and capacity development action with support from WMO and ICAO

Conclusion

The main messages:

1. In order to respond to the challenges of the strong growth of aviation transport sector with a demand for capacity, improved safety and efficiency, and safeguarding of environment, **the aviation meteorology should be prioritized as a key enabling factor**.
2. With proper governance, strong leadership, and close cooperation with all stakeholders, aviation meteorology could become, in a foreseeable future, a self-sustained sector, a "service of excellence" and a role model for all other service areas provided by the NMHSs of Africa countries.

WMO Congress-17 will call for a long-term planning of aviation meteorology and respective regional plans. An intensive capacity development programme will be developed with focus on the developing and least developed Members.

AMCOMET is requested to support this vision as a WIN-WIN case that will bring strong socio-economic benefits through safer skies over Africa and help the NMHSs to fulfil their mandate.

Thank You!

What makes the aviation safety case different is that there is no emergency lane in the air and no possibility for temporary stop to wait for the assistance vehicle to arrive.