SAFE SKIES.
SUSTAINABLE FUTURE.

ESAF Regional Aeronautical Meteorology Seminar

Hilton Garden Inn Windhoek_ 4-6 June 2024

COLLABORATION BETWEEN AIR TRAFFIC MANAGEMENT AND AERONAUTICAL METEOROLOGY

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Presentation overview

01 Introduction

02 Air Traffic and MET services Organisation

03 MET Information for air traffic and search and Rescue Services

04 Sources of MET information for ATS other than MET authority

05 Coordination between ATS and MET offices/stations

06 Coordination between AIS and MET services

07 MET support to ATM system

08 Conclusion

Introduction

Definition - Air Traffic Management (ATM)

- A dynamic, integrated management of air traffic and airspace – safely, economically and efficiently- through provision of facilities and seamless services in collaboration with all parties.

Primary mission of Air Traffic management:

- Ensuring high levels of safety;
- Making efficient use of finite airspace;
- Making efficient use of airport resources

Introduction

Objectives of Air Traffic Services:

- Prevent collisions between aircraft in the air or on the manoeuvring area of an aerodrome;
- Prevent collisions between aircraft on the manoeuvring area and obstructions on that area;
- Expedite and maintain an orderly flow of air traffic;
- Provide advice and information useful for the safe and efficient conduct of flights; and
- Notify appropriate organizations regarding aircraft in need of search and rescue aid and assist such organizations as required

Air Traffic and MET services Organisation

Units providing air traffic and search and rescue services

- Aerodrome Control Tower (TWR)
- Approach Control Unit (APP)
- Area Control Centre (ACC)
- Flight Information Centre (FIC)
- ATS Reporting office
- Air-ground control radio station
- Rescue Coordination Centres (RCCs)

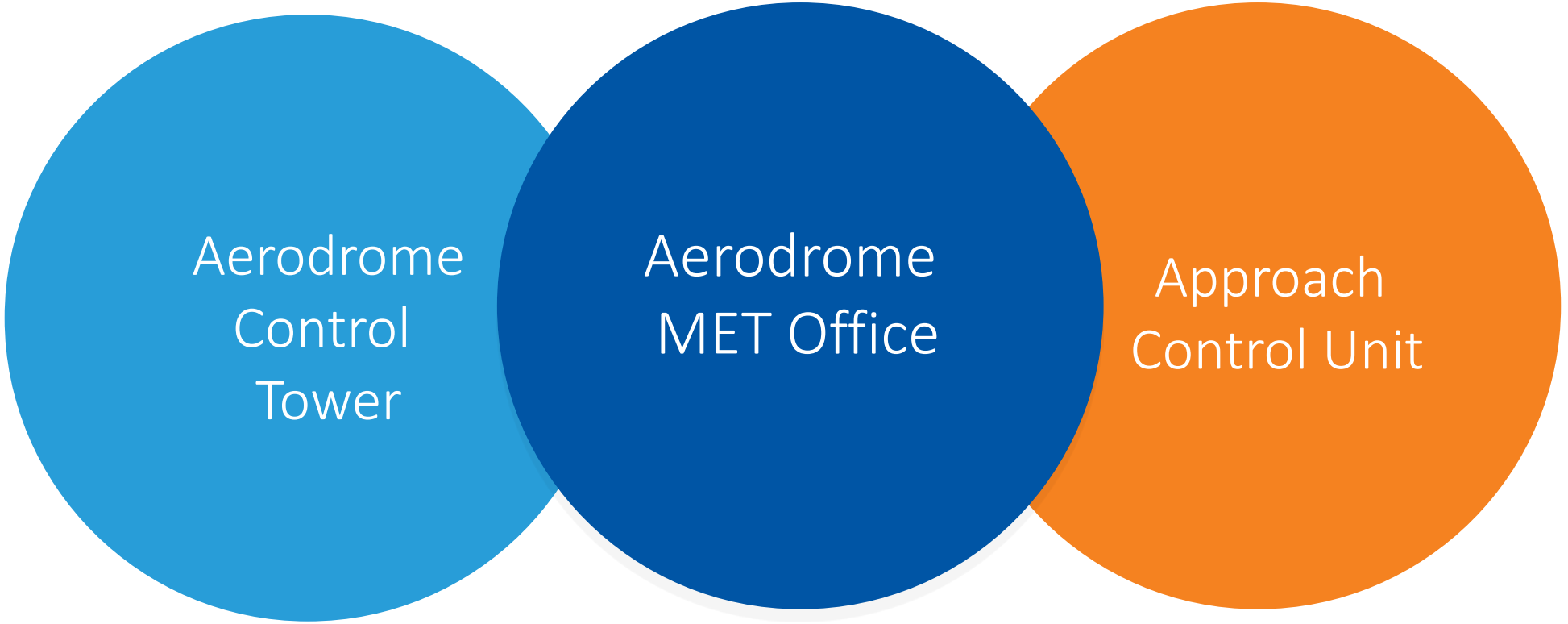
MET Organisation

Offices, stations, and Centres providing Meteorological service

- Aerodrome Meteorological Office (AMO)
- Meteorological Watch Office (MWO)
- Aeronautical Meteorological Station (AMS)
- World Area Forecast Centre (WAFC)
- Tropical Cyclone Advisory Centres (TCAC)
- Volcanic Ash Advisory Centre (VAAC)
- Space Weather Advisory Centre (SWXC)

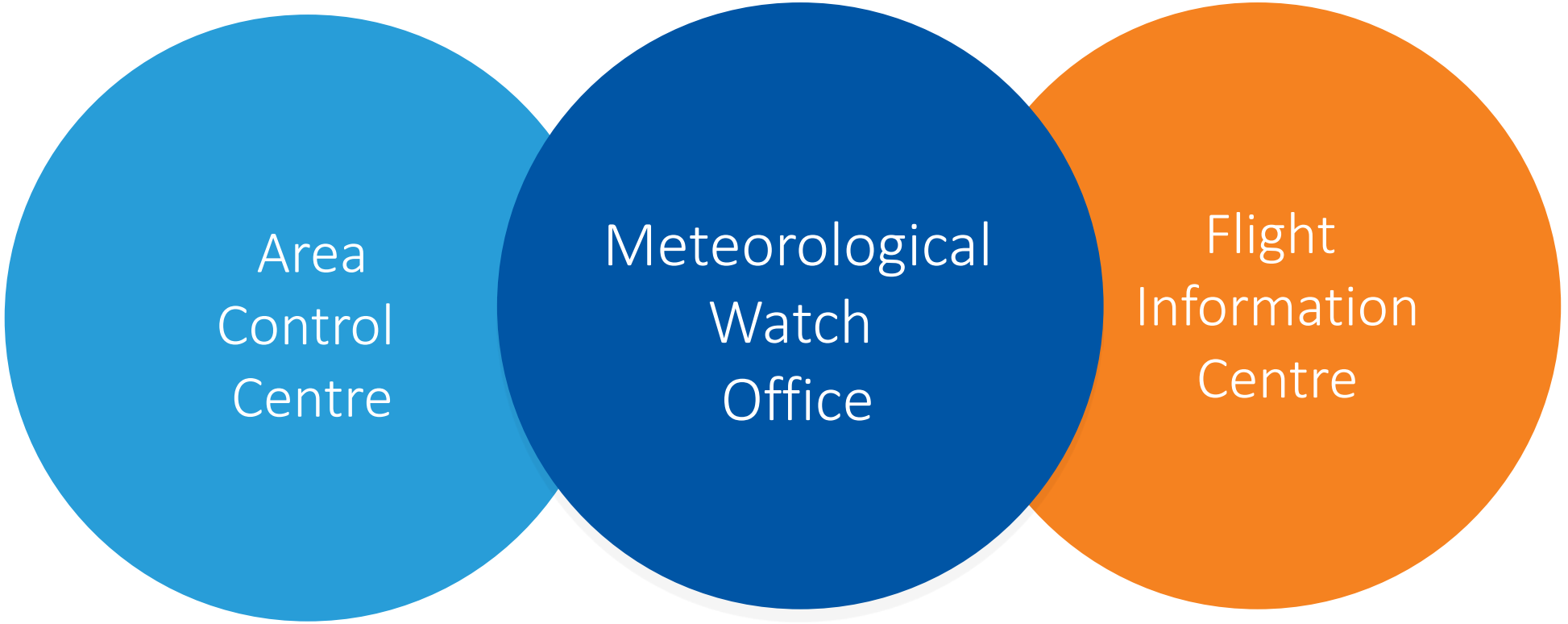
MET Organisation

Linkages between ATS and MET



MET Organisation

Linkages between ATS and MET



MET Information for ATS and SAR units

Information for Tower and Approach unit;

- METAR, SPECI, local routine reports plus trend forecast
- TAF, Aerodrome warnings
- SIGMET, AIRMET
- Windshear warnings and alerts
- Information on volcanic eruption and volcanic ash

MET information for ATS and SAR Units

Area Control Centre and Flight Information Centre

- METAR, SPECI, local routine reports plus trend forecast
- TAF, SIGMET, AIRMET
- Upper wind and temperature forecasts
- Significant enroute weather forecast
- Tropical Cyclone and Volcanic Ash advisories
- Information on release of radioactive material

MET information for ATS and SAR Units

Information for Communication stations

- METAR, SPECI, local routine reports; trend forecasts
- TAF, Aerodrome warnings
- SIGMET, AIRMET

Information for Rescue Coordination Centres

- Meteorological conditions that existed at position of missing aircraft.

MET information for ATS and SAR Units

Communication between ATS units and MET

- Suitable telecommunication facilities to be used;
- communication by direct speech (speed 15 seconds)
- Transit time < 5 minutes for printed communication
- Other forms of communication (data, visual, audio etc)

MET Information for ATS from sources other than MET

- Control Tower
- Observations from Aircraft in flight – Air reports
  - Through Voice communication,
  - Through datalink communication
- Observations through AMDAR (Aircraft Meteorological Data Relay)

Coordination between ATS and MET

Done at two levels;

- Administrative – LOAs necessary
  - Provides systematic listing of services and responsibilities available for use;
  - Better understanding of the needs and capabilities of the parties
  - Cater for legal aspects
- Operational;
  - Between ATS and MET personnel

Meteorological support for the ATM system

- Global Air Navigation Plan – Strategy to achieve ATM benefits.
- Objective of Global Plan Initiative for Meteorology – Improve availability of MET information in support of the ATM system.
- Initiative related to;
  - Airspace organization and management
  - Demand and capacity planning
  - Aerodrome operations
  - Airspace user operations

Meteorological support for the ATM system

Global plan requires;

- Access to real time, global OPMET information.
- Improved accuracy and timeliness of forecasts and advisories.
- Increasing use of datalinks to provide MET information.

Meteorological support for the ATM system

Benefits of MET information for the ATM System

- Improved accuracy and timeliness of MET information – Optimize flight trajectory planning and prediction increasing safety.
- Increased availability of shared MET information onboard aircraft allows preferred trajectory to be refined in real time.
- Better identification, prediction and presentation of adverse weather allows more efficient management of its effects.

Meteorological support for the ATM system

Benefits of MET information for the ATM System

- Improved MET reports and forecasts facilitates optimum use of aerodrome capacity.
- Increased availability of air reports will contribute to improved MET forecasts.
- Minimizes environmental impacts of air traffic.

Conclusion

- Collaboration between ATM and MET is critical in enhancing aviation safety in the aviation industry.
- Increased timeliness, accuracy and presentation of MET information important.

Thank You

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