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INTERNATIONAL CIVIL AVIATION ORGANIZATION

A UN SPECIALIZED AGENCY

PRE-VALIDATION WORKSHOP OF THE REGIONAL GENERIC DOCUMENTATION DEVELOPED FOR THE IMPLEMENTATION OF AIRPORT COLLABORATIVE DECISION MAKING(A-CDM)

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SESSION 2:
UNDERSTANDING THE A-CDM CONCEPT

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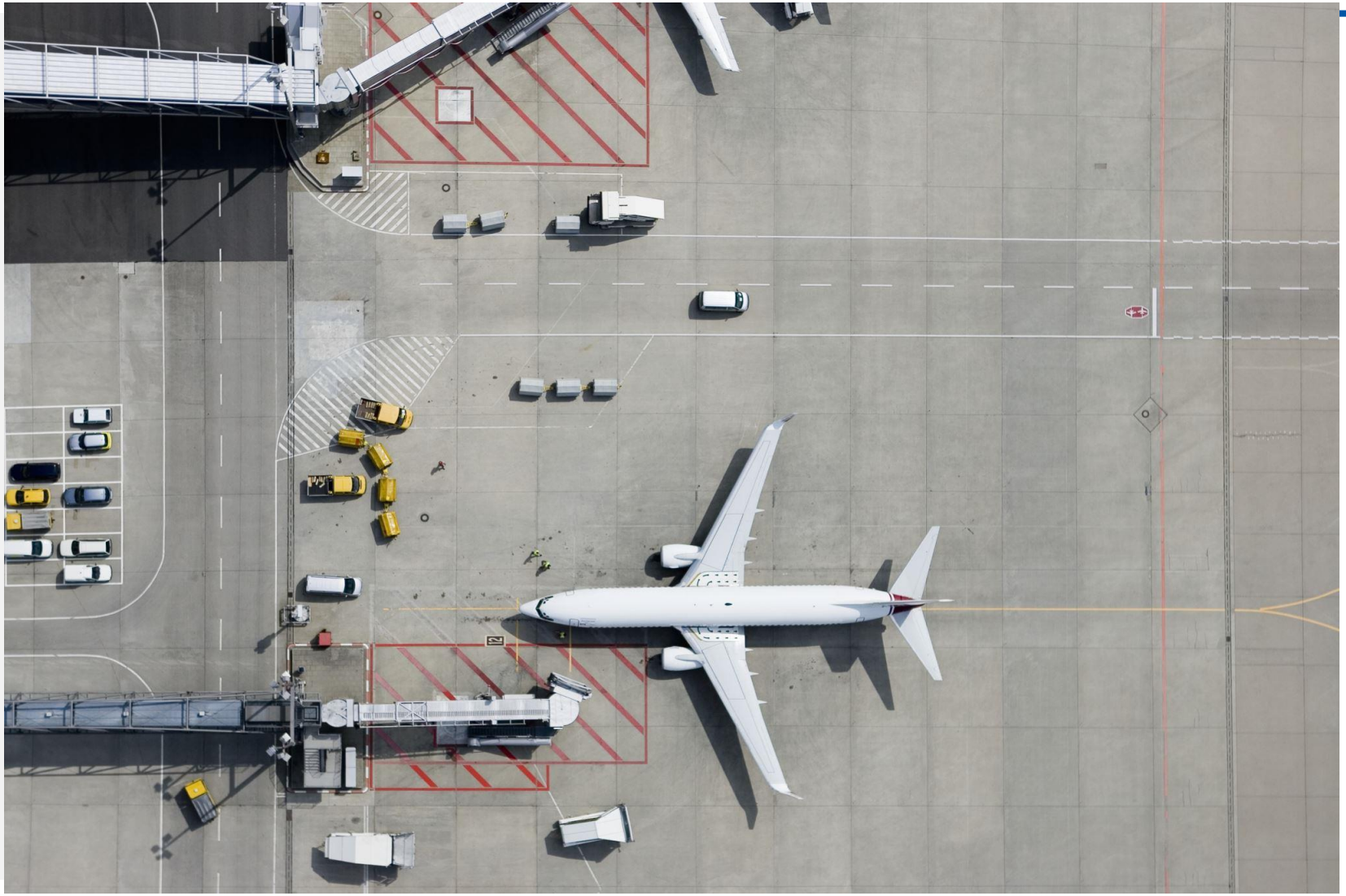
Background : The Global air navigation plan (GANP)

02 A-CDM fundamental principles

03 Regional priorities and initiatives

THE GLOBAL AIR NAVIGATION PLAN

BACKGROUND



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THE GLOBAL AIR NAVIGATION PLAN (GANP)

PURPOSE

Growing expectations and demand on the aviation system require the rapid evolution of the global air navigation system

The GANP is a planning tool for setting global priorities to drive the evolution of the global air navigation system in order to:

- ✓ Ensure harmonized, interoperable, and seamless global Air Navigation System;
- ✓ Provide an overarching framework ;
- ✓ Provide strategic direction to high-level and technical managers;
- ✓ Assist ICAO Regions and States in establishing air navigation priorities and prepare Navigation plans.

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THE GLOBAL AIR NAVIGATION PLAN (GANP)

STRUCTURE

- **Four Layer structure**

GLOBAL STRATEGIC

GLOBAL TECHNICAL

REGIONAL

NATIONAL

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THE GLOBAL AIR NAVIGATION PLAN (GANP)

STRUCTURE

- **Global strategic level**

  - Provides high-level strategic directions
  - Addresses decision-makers, policymakers and executives
  - Drives towards a common agreed vision on the evolution of the global air navigation system

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THE GLOBAL AIR NAVIGATION PLAN (GANP)

STRUCTURE

- **Global technical level**

  - Support technical managers in the implementation of global priorities
  - Include two frameworks:
    - ✓ **Basic building blocks framework (BBBs):** essential services to be provided for international civil aviation
    - ✓ **Aviation system blocks upgrade (ASBU) framework:** operational improvements needed to support the modernization of the global air navigation system

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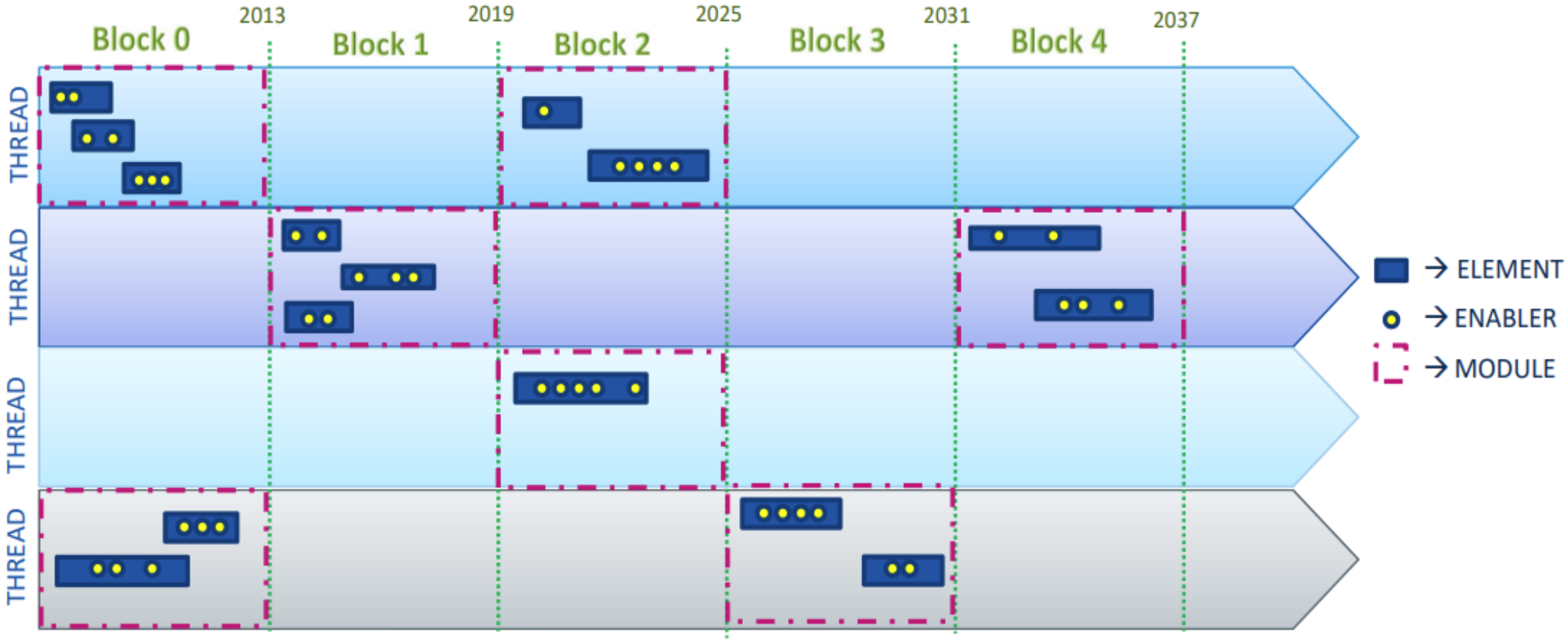
ASBU key concepts



ASBU ELEMENTS – AERODROME OPERATIONS

ACDM

ACDM-B0/1	Airport CDM Information Sharing (ACIS)	Operational
ACDM-B0/2	Integration with ATM Network function	Operational
ACDM-B2/1	Airport Operations Plan (AOP)	Operational
ACDM-B2/2	Airport Operations Centre (APOC)	Operational
ACDM-B2/3	Total Airport Management (TAM)	Operational
ACDM-B3/1	Full integration of ACDM and TAM in TBO	Operational

THE GLOBAL AIR NAVIGATION PLAN (GANP)

STRUCTURE

- **Regional level**

  - Under the responsibility of the planning and implementation regional groups (PIRGs)

  - Addresses regional performance and operational needs aligned with the global objectives:
    - ✓ **Regional air navigation plans** aligned with the global objectives
    - ✓ **Regional initiatives**

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PIRGs

- PIRGs are responsible for the development and maintenance of regional air navigation plans (ANPs)

- **Volume 1 and 2** – *Aligned with BBBs and contain the list of essential services to be provided for international civil aviation at the regional level*

- **Volume 3** – *Identifies operational improvements within the ASBU framework to be implemented by States based on regional requirements.*
  - *A performance-based approach is used for the selection of ASBUs*

THE GLOBAL AIR NAVIGATION PLAN (GANP)

STRUCTURE

- **National level**

  - Under the responsibility of States

  - Addresses the development of national air navigation plans aligned with regional and global objectives.
    - ✓ National air navigation plan= the **reference for national investment in air navigation infrastructure**

  - National Plans to consider State needs in collaboration with regional and global partners

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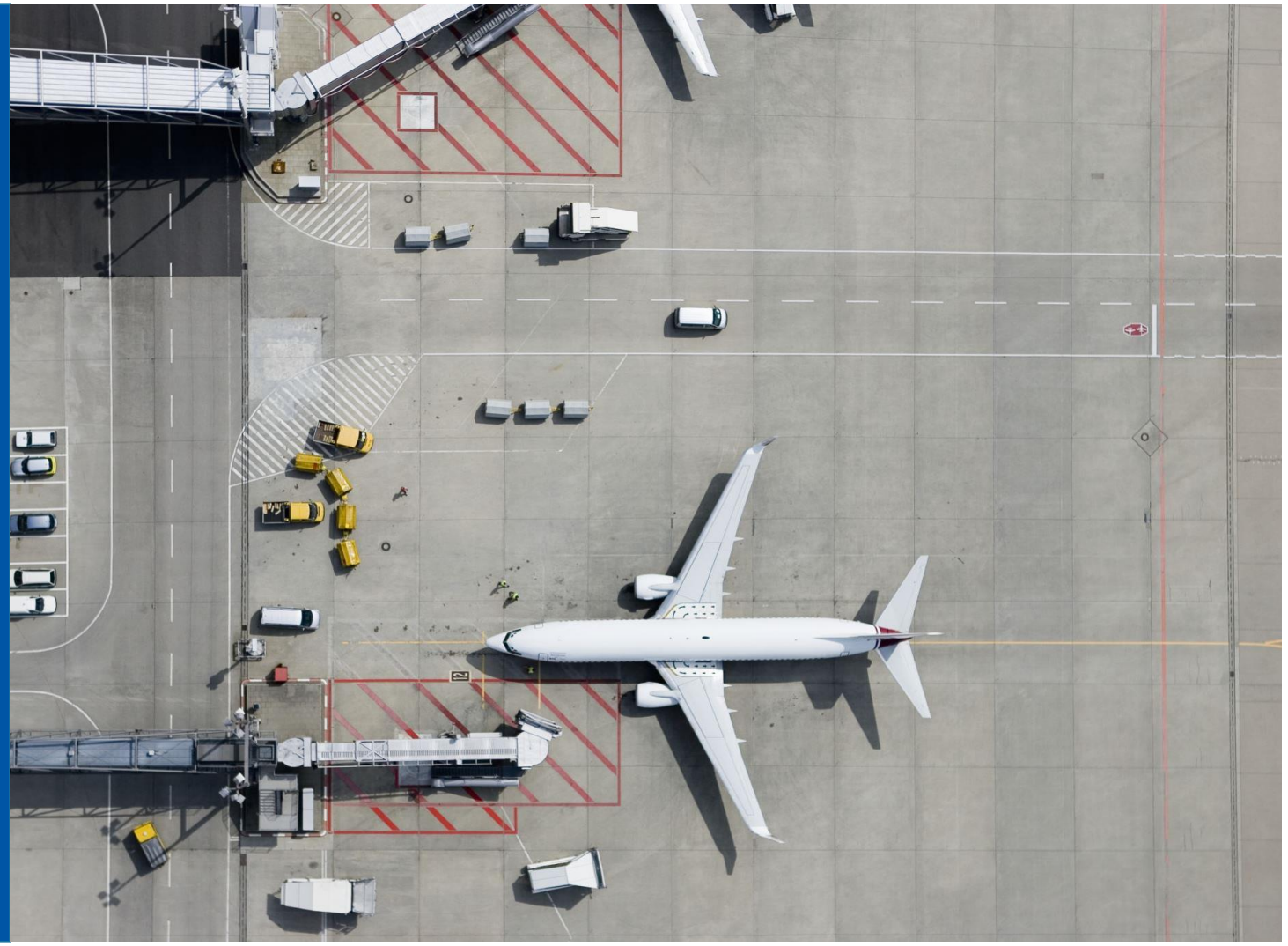
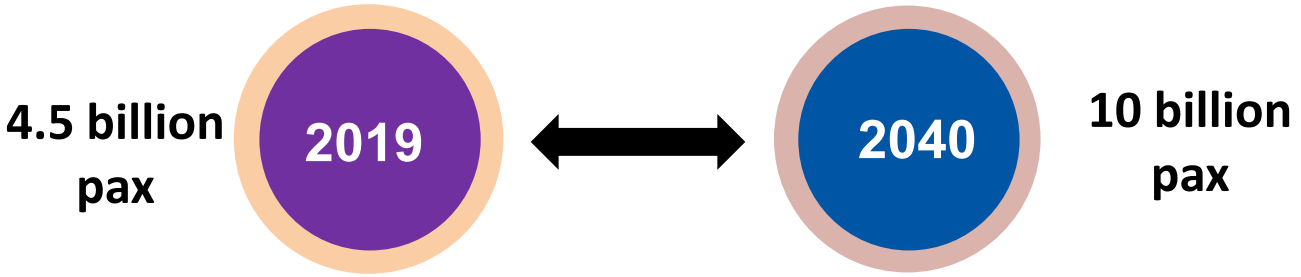
02

FUNDAMENTAL PRINCIPLES OF A-CDM



Increasing demand at airports conflicts with existing capacity



- Capacity/resources constraints increases likelihood of delays
- Delays adversely affects airports' effectiveness & customer service

INFLUENCES

Airports performance **influences** Network performance

IMPACTS

Network performance **impacts** Airport performance

FUNDAMENTAL PRINCIPLES OF A-CDM

WHAT IS A-CDM?

- A-CDM is a **set of processes** that allow airport partners to **exchange operational information and work together** to **enhance efficiency** and **improve the predictability** of air traffic

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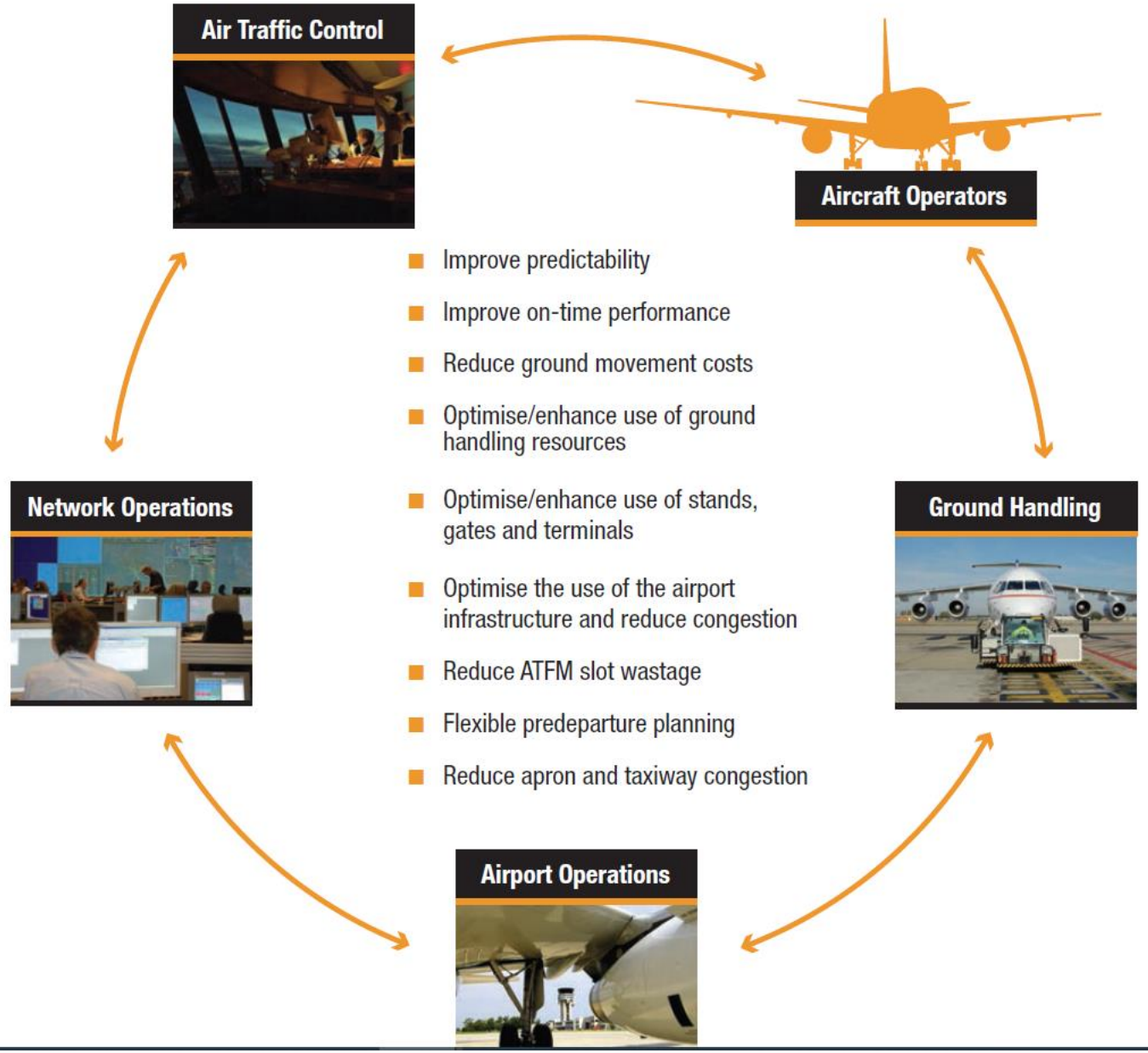
A-CDM PURPOSE

To improve the efficiency and resilience of airport operations by optimizing the use of resources and improving the predictability of air traffic.



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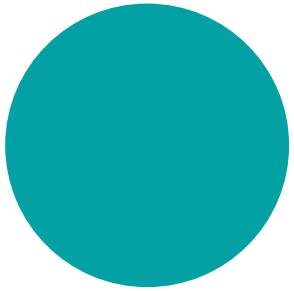
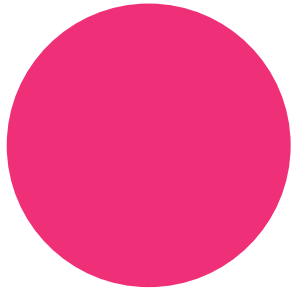
Collaborative Decision Making(CDM) Fundamentals



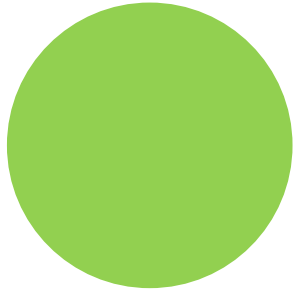
Stakeholders

All the entities involved



Data

Options /Alternatives



Joint Decision

Select optimal solution

A-CDM fundamentals

A-CDM is scalable

A-CDM should be tailored to local constraints and the processes should meet local needs and requirements

Multiple Stakeholders

A-CDM stakeholders may vary from airport to airport

- Key A-CDM partners: Airport operator, aircraft operators, ANSPs
- Other potential Stakeholders : Ground handlers, meteorological service providers, centralized network managers(Eurocontrol),etc.

Data

Data supports decision-making processes

Stakeholders should define which data to collect and how to use such data.

Information sharing

Accuracy of information shared is critical for A-CDM success

Information sharing ensure common situational awareness and enhance understanding of each stakeholder needs and limits.

Common language

Enhanced information exchanges require stakeholders to agree on a common denomination

Stakeholders should define a single set of acronyms and definitions

Joint decision-making

A-CDM is about partners working together to take optimal decisions based on data available

Stakeholders should agree on processes and procedures that will support decision making

A-CDM vary from airport to airport. However, all A-CDM programs have in common the basic elements described above.

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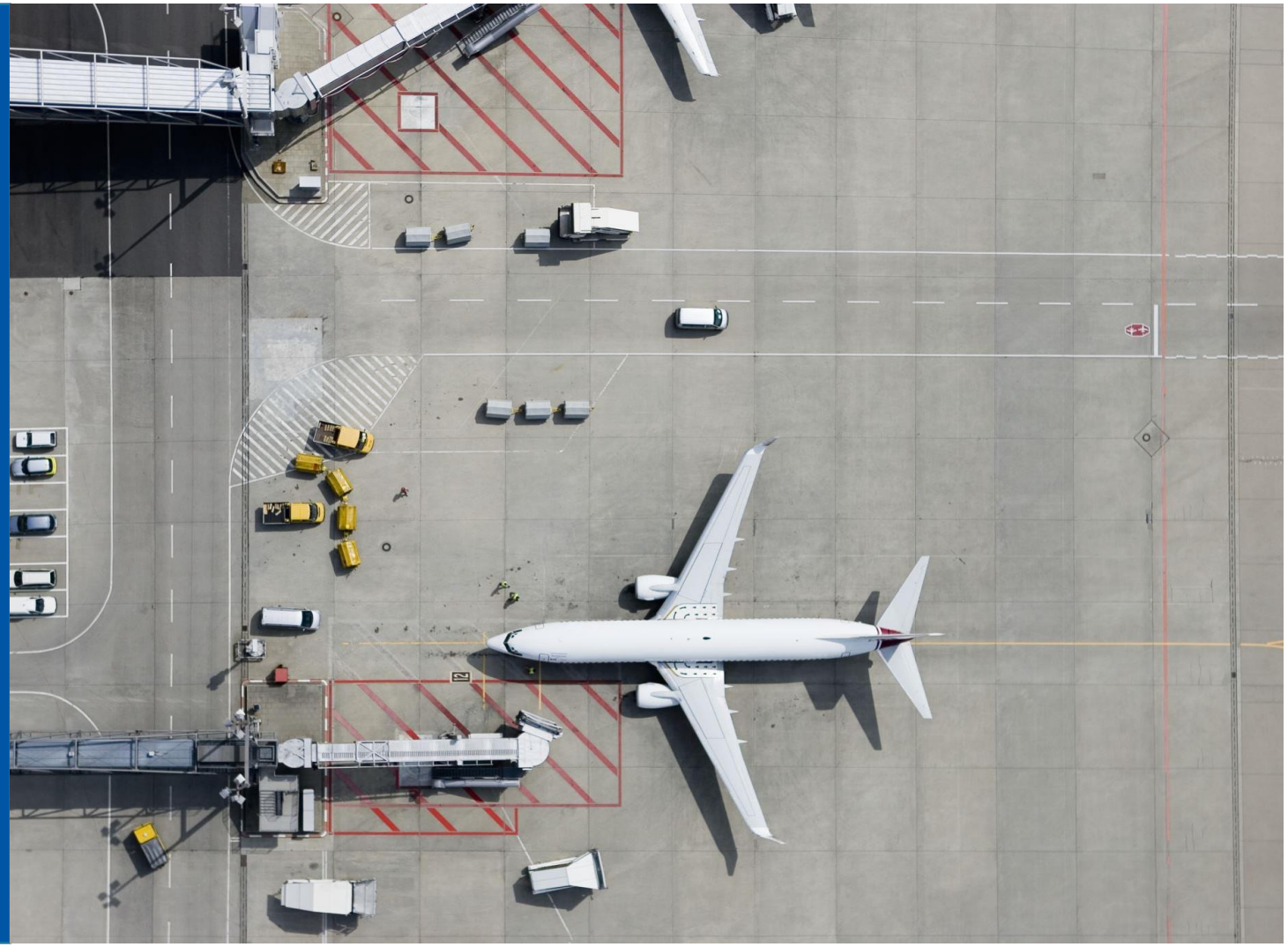
REGIONAL INTIATIVES AND PRIORITIES

PIRG



AVIATION CHALLENGES IN AFRICA

- Costs
- Infrastructure
- Connectivity
- Resources (Human, material, financial)

These challenges limit aviation capacity and impede the establishment of adequate air services.

CRITICAL ISSUES FOR AIRPORT OPERATIONS IN AFRICA

- Lack of predictability
- Flights delays
- Low on-time performance
- Difficult allocation of resources
- Inefficient use of ground-handling resources
- Inefficient use of stands and gates
- Apron and taxiway use conflicts

Regional priorities

APIRG/24 Decision 24/30:

Alignment of the Regional Air Navigation Plan with the 6th Edition of the GANP

- *That, in order to ensure consistency between the AFI Regional air navigation plan and the GANP:*
  - *The Secretariat to coordinate with the AAO and IIM Sub-Groups Projects teams to identify the applicable elements of ASBU for the AFI region, by 31 July 2022; and*
  - *The Secretariat to coordinate the development of a draft revised Regional Air Navigation Implementation Plan for integration into the AFI eANP Volume III*

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Regional priorities

APIRG/25 Decision 25/10:

Adoption of the ASBU Elements applicable to the region

- *That, to align the Regional Air Navigation Plan to the Sixth Edition of the GANP, the ASBU elements, as identified ¨(…) are endorsed.*

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A-CDM ASBU ELEMENTS – AFI REGION

ASBU ELEMENT	PURPOSE	ELEMENTS ENABLERS
B0/1 Airport CDM information sharing All international airports to implement this element	To generate common situational awareness by sharing relevant surface operations data among the local stakeholders involved in aerodrome operations	Surface operation milestones procedure (Doc 9971) ACIS system Phraseology

A-CDM ASBU ELEMENTS – AFI REGION

ASBU ELEMENT	PURPOSE	ELEMENTS ENABLERS
B2/1 Airport Operations Plan Applicability depends on the traffic density (At least medium)	To enhance the planning and management of airport operations and allow their full integration into the ATM network	Airport operations plan CDM information management processes

A-CDM ASBU ELEMENTS – AFI REGION

ASBU ELEMENT	PURPOSE	ELEMENTS ENABLERS
B2/2 Airport Operations center Applicability depends on the traffic density (At least medium)	To enable integration of all stakeholders, both landside and airside, into a coherent decision-making entity/process (and team), using the shared information and capabilities provided through the AOP.	Airport operation center(APOC)sharing system Operational facility APOC monitoring and decision support systems

Regional initiatives

WORKSHOPS:

- Workshop on ASBU elements conducted in 2022 and 2023

- Workshop on the update of regional air navigation plan conducted in 2023
    - Development of AFI eANP Vol III completed

- **Planned in Q4 2025**
    - Workshop on air navigation deficiencies, regional air navigation plan and ASBU elements

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Regional initiatives

PROJECTS:

Establishment of an A-CDM Project team

- Established in 2018 to foster the implementation of A-CDM in the region
- Members: Kenya, South Africa, Togo, Ghana, Senegal
- Under the coordination of the PIRG's Airspace and aerodrome operations subgroup (AAO-SG)

Assignment of the project team

- Develop generic documentation to facilitate A-CDM implementation
    - Draft documentation completed
    - Pre-validation of the generic documents ongoing
- Develop a project document to assist states in implementing A-CDM

Thank You!

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