CANSO

SHAPING OUR FUTURE SKIES

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CANSO Initiatives for Progress and Excellence

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ICAO MIDANPIRG/21

Abu Dhabi, UAE, 4 – 8 March 2024

Who we are

Voice of Air Traffic Management

181 Members

93 technology and other service providers

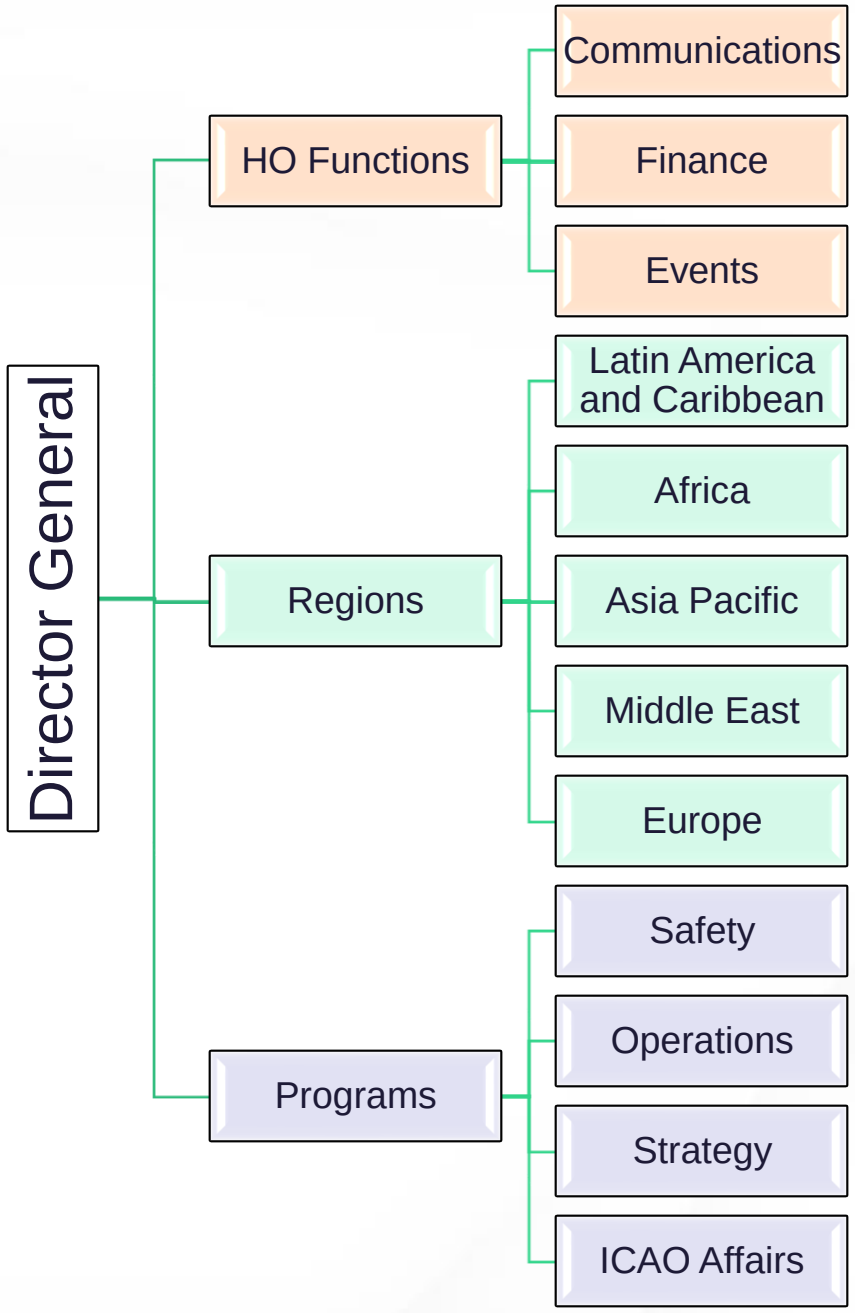
88 ANSPs

90% of world traffic

Agenda

CANSO Work Programmes

CANSO Initiatives for Progress and Excellence

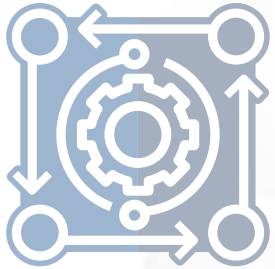


20 Global Workgroups

Work Programmes

Safety

Operations



Strategy and Integration

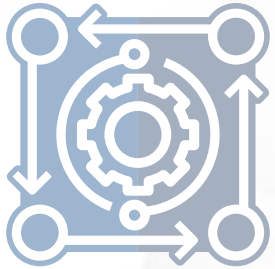
Safety Programme

- **Safety Intelligence Workgroup (SIWG)** - identifies and measures global safety issues, hazards or risks. Seeks to advance data analysis and promotes the use of advanced analytical methodologies, tools and techniques.
- **Human Performance Management Workgroup (HPMWG) -** helps ANSPs measure current human performance management (HPM) maturity and improve their effectiveness by supporting targeted assessments and workshops.
- **Cyber Safety Task Force (CSTF)** – working on a cyber maturity model that focuses on how ATM prepares for, detects, responds and recovers from a cyber incident and provides guidance on cyber security risk assessment.
- **Next Generation SMS Workgroup (NexSMS)** - maintains the global Standard of Excellence in SMS for ATM and promotes new safety management concepts and methods.

Work Programmes

Safety

Operations



Strategy and Integration

Operations Programme

- **Digital Transformation WG** - Supports the global transition to digital services and exchange models such as digital AIPs, AIXM, FIXM, SWIM services and the safe integration of remote and digital towers.
- **Air Traffic Flow Management/Airport-Collaborative Decision Making WG** - Helps members with their ATFM and A-CDM implementations, planning for special events and the safe management of contingency operations. They also explore novel concepts like Long-Range ATFM.
- **Communication, Navigation and Surveillance (CNS) WG** - Guides members in the implementation of new CNS related technologies such as controller-pilot data link communications (CPDLC), Automatic Dependence Surveillance (ADS) - Contract, terrestrial and space-based ADS-Broadcast and Performance Based Communication Systems (PBCS).
    - **Spectrum Management TF** - Supports improved spectrum management related to CNS technologies.

Operations Programme

- **Environment WG** - Supports improved environmental sustainability through the identification and promotion of means to reduce unnecessary emissions and noise.
- **Operational Systems Integration WG** - Influence policy and provide guidance and best practice on safe and effective means of incorporating space operations, RPAS and other emerging technologies into airspace
  - **UTM Subgroup** - Advises CANSO Members on issues relating to the integration of UAS with special focus on operations at very low altitude levels.
  - **Space Operations TF** – Provides guidance material to members to help them with the safe and efficient integration of commercial space operations into their existing ATM systems.

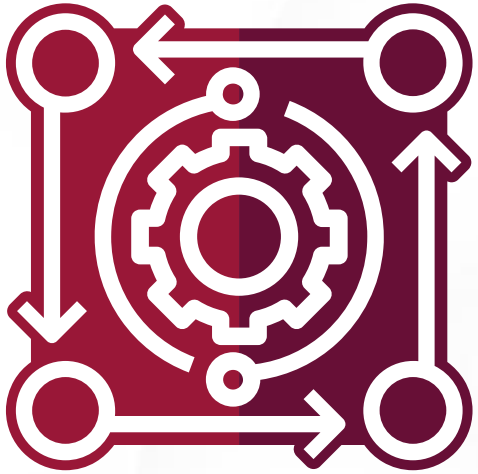
Operations Programme

- **Airspace Optimisation WG** - Advances the implementation of PBN, reduced lateral and longitudinal separation minima and improved, civil-military collaboration through best practice guidance material and the identification of strategic concepts.
- **CADENCE TF** –Supports regional multi-nodal ATFM Collaborative Decision Making (CDM) by providing a simple, yet effective, web-platform where important operational information can be exchanged with international ANSP and airline stakeholders for improved situational awareness.

Work Programmes

Safety

Operations



Strategy and Integration

Strategy and Integration Programme

- **Global Benchmarking Workgroup** – develops KPIs to measure ANSP performance and publishes the annual Global ANS Performance Report. Recently merged with OPWG. Collaborating with other CANSO Workgroups on performance issues.
- **Strategic Technology Workgroup** - identifies and assesses emerging technologies for potential impact/benefit to enable Members to better understand their potential and make well-informed decisions on technology. Recent work includes 6 part emerging technology whitepaper series.
- **ICAO Affairs Workgroup** – ensures CANSO is effective as the collective Voice of ATM at ICAO. Approves CANSO signed papers to Assembly, Air Navigation Conference or other High Level Meetings. Reviews papers to develop consensus positions.

Strategy and Integration Programme

- **Human Resources Workgroup** - provides a platform for sharing experience and data on human resources issues and best practices in human resources management. Produces a biannual ATCO Remuneration and HR Metrics report

- **Operational Training Task Force** - provides a forum for global collaboration on best practices in ATM recruitment, selection and training, and enables members to explore best practice in training excellence

NEW

- **Economic and ATS Charges Workgroup** – coordinating collective input into ICAO review of Doc 9082 *ICAO's Policies on Charges for Airports and Air Navigation Services* collaborating on issues related to charging methodologies, benchmarking and other economic issues. *Invitation out currently to join.*

ICAO Affairs

- Official Observer Status at ICAO
- Represent the ATM industry in the ICAO Council and Air Navigation Commission
- Coordinate the ATM industry's representation in ICAO General Assemblies, Air Navigation Conferences, and ICAO working groups (e.g., ANC Panels, Study Groups, Ad Hoc groups)

CANSO Initiatives for Progress and Excellence

1. CANSO ATFM Data Exchange Network for Cooperative Excellence (CADENCE)
2. Green ATM accreditation programme
3. CATS Global Council - Our Shared Vision for 2045
4. Airport System Capacity Enhancement Program – ASCE
5. Training - ANSP Learning Portal – ALP
6. Standard of Excellence in Air Navigation Services Safety – SEANS

CANSO ATFM Data Exchange Network for Cooperative Excellence

- **Purpose of CADENCE**

  The CADENCE TF is a strategic initiative designed to help develop, or enhance, a network for

  - **operational coordination** and
  - **information sharing**

  among air navigation service providers (ANSPs) in flight information regions (FIRs) around the world.

  The core capabilities offered by the CADENCE TF are based on the successful operational work accomplished by the CANSO ATFM Data Exchange Network for Americas, CADENA.

CANSO ATFM Data Exchange Network for Cooperative Excellence

CADENCE tangible results

Latin America and the Caribbean

- CADENA is supporting information sharing and collaboration with more than 18 ANSPs, 18 major airlines (Delta, Emirates, United, American Airlines, Avianca, KLM, among others) and ACI, ALTA, IATA, ICAO and others.
- In 2023, the CADENA initiative supported yearly savings estimated to be 55,000 minutes, 5 million kg fuel, 14 million kg CO2 and 9 million US dollars saved.

Asia Pacific

- CANSO is working with the North Pacific region to utilise the CADENCE Operational Information System - OIS (web-based exchange information platform) to enhance the information exchange.

Africa

- CANSO is collaborating with the region to increase Free Route Airspace (FRA) and initiated several FRA trials with positive results.

Green ATM Environmental Accreditation Programme

- **CANSO GreenATM** is an environmental accreditation programme to provide air navigation service providers (ANSPs) with an independent, industry-endorsed, accreditation of their *environmental efforts*. Through the programme your organisation will be assessed on how you facilitate minimising excess emissions in your airspace, as well as efforts to reduce your own direct environmental footprint.
- GreenATM covers a range of topics related to governance and policy, ground/terminal and en route operations, infrastructure, and procurement practices. ANSPs will be assessed against 5 defined levels for each topic

The topics in each of the four categories are:

Governance	Improved ATM	Infrastructure & Utilities	Other
• Policy and Plan • Environmental Management System • Environmental Targets • Environmental Culture	• FUA • MET • Improved Surveillance • A-CDM • PBN • Surface Movement • CCO • CDO • Wake • Trajectory Optimisation • ATFM • Research and Development	• CNS Rationalisation • CNS Flight Inspection • Energy Management • Power Procurement and Production	• Sustainable procurement • Airport and Community Relations • Airspace Change Management • Mobility Management

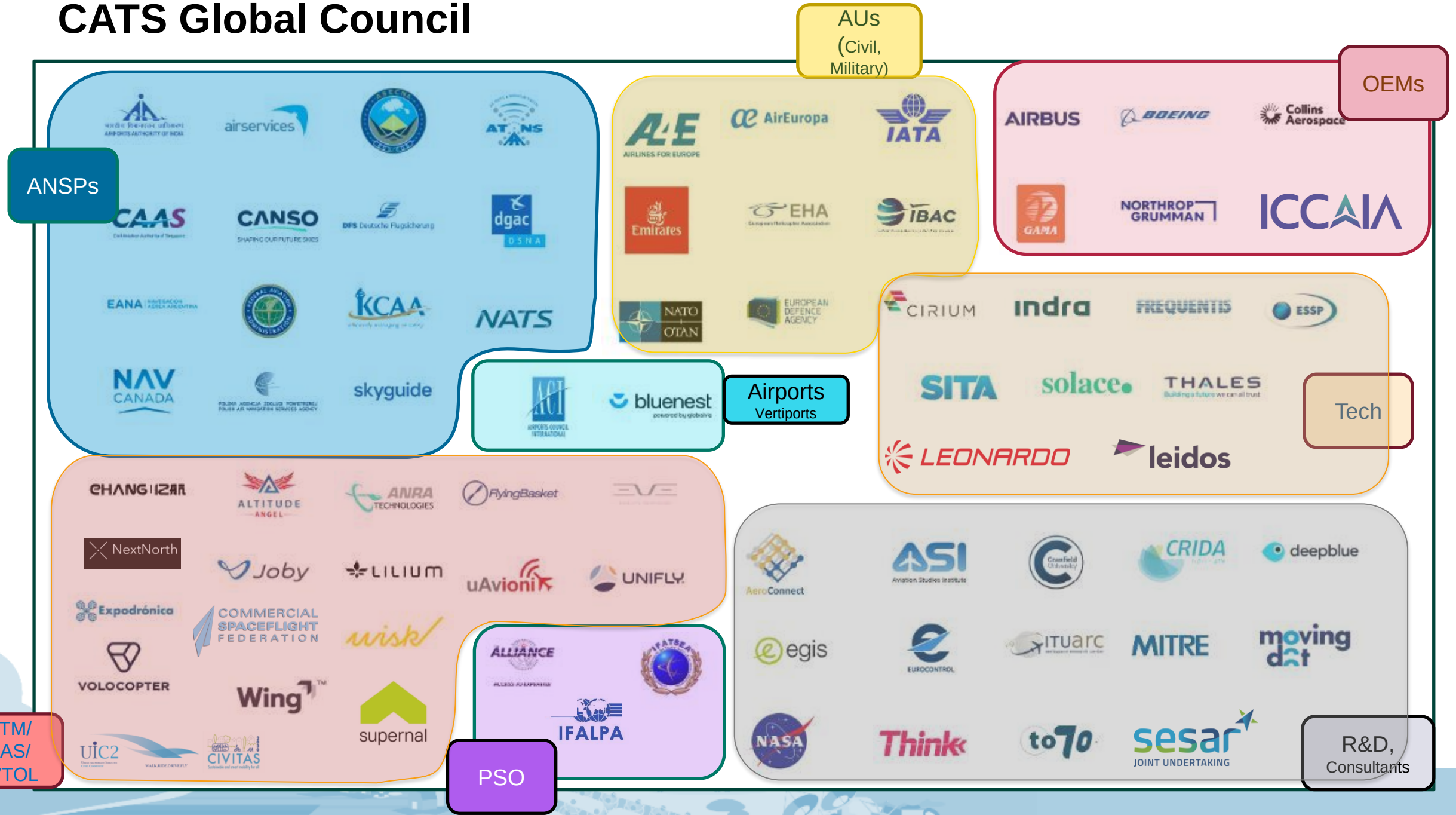
Green ATM Environmental Accreditation Programme

- The GreenATM programme, launched at the end of 2022, has been awarded the GreenATM accreditation by CANSO to **three ANSPs.**
- These ANSPs are displaying the GreenATM quality label to demonstrate that their environmental management activities have reached a level of maturity where the active implementation of plans affecting emissions has been demonstrated.

Complete Air Traffic System (CATS) Global Council's Vision

An independent innovation **forum for leaders** across the industry to create and align on a unifying blueprint for our **future skies**!

CATS Global Council



This is a joint endeavor…

…with a special emphasis on **collaboration with ICAO**

CATS Work Programme 2023-2025

- **WA1:** New CONOPS for Global Airspace Management
- **WA2:** Integration roadmap in Low-Level and High Airspace & Pathway to AAM
- **WA3:** Optimised & simplified airspace
- **WA4:** Innovation & Digitalisation
- **WA5:** Global safety and security
- **WA6:** Reduced climate impact
- **WA7:** Thriving aviation community
- **WA8:** New ANS financing

Our Shared Vision for 2045

ICAO

Priorities

Gaps

Needs

WA1

GANP major update (v8) 2025

New version of the Global ATM Operational Concept (GATMOC)

Review of the Aviation System Block Upgrades (ASBU)

GANP Study Group

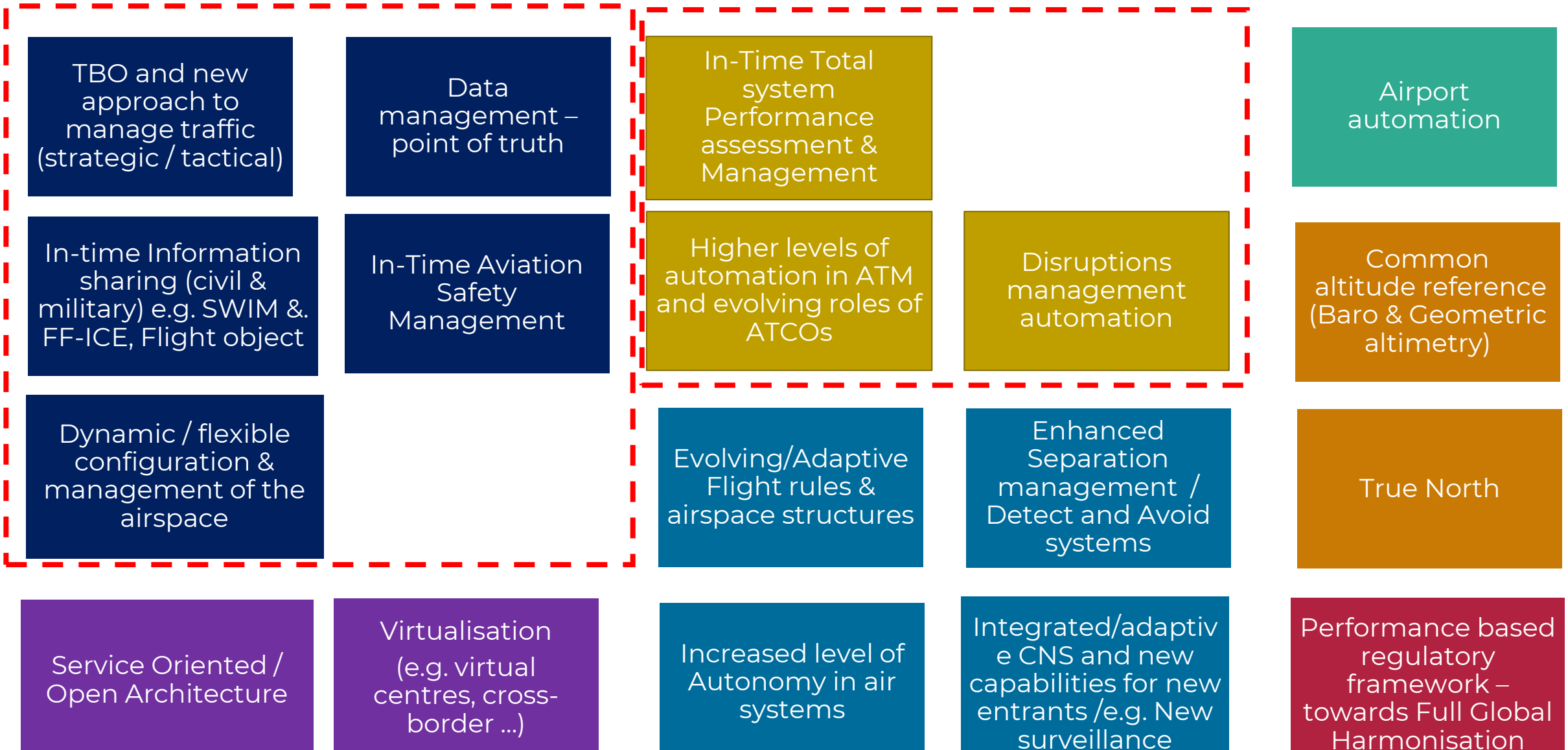
ATMRPP

ASBU PPT

Our GOAL

CATS VISION supported by a CONOPS for Global Airspace Management

What are the fundamental transformations in ATM that will be required?



ICAO

Priorities

Gaps

Needs

WA2

GANP major update (v8) 2025

AAM vision & Global traffic management integration roadmap

Review of the Aviation System Block Upgrades (ASBU)

GANP Study Group

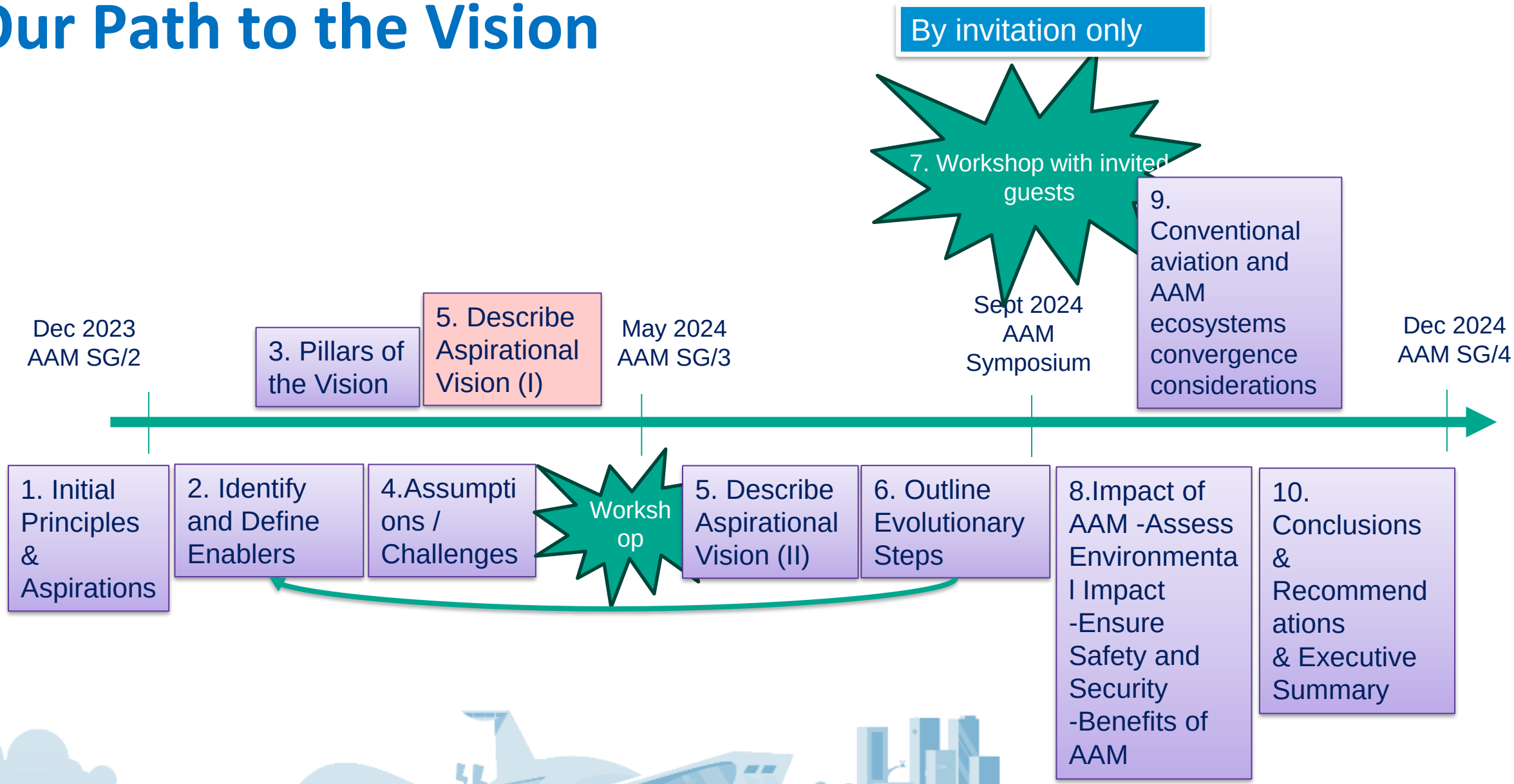
ICAO AAM SG – VISION WG

ASBU PPT

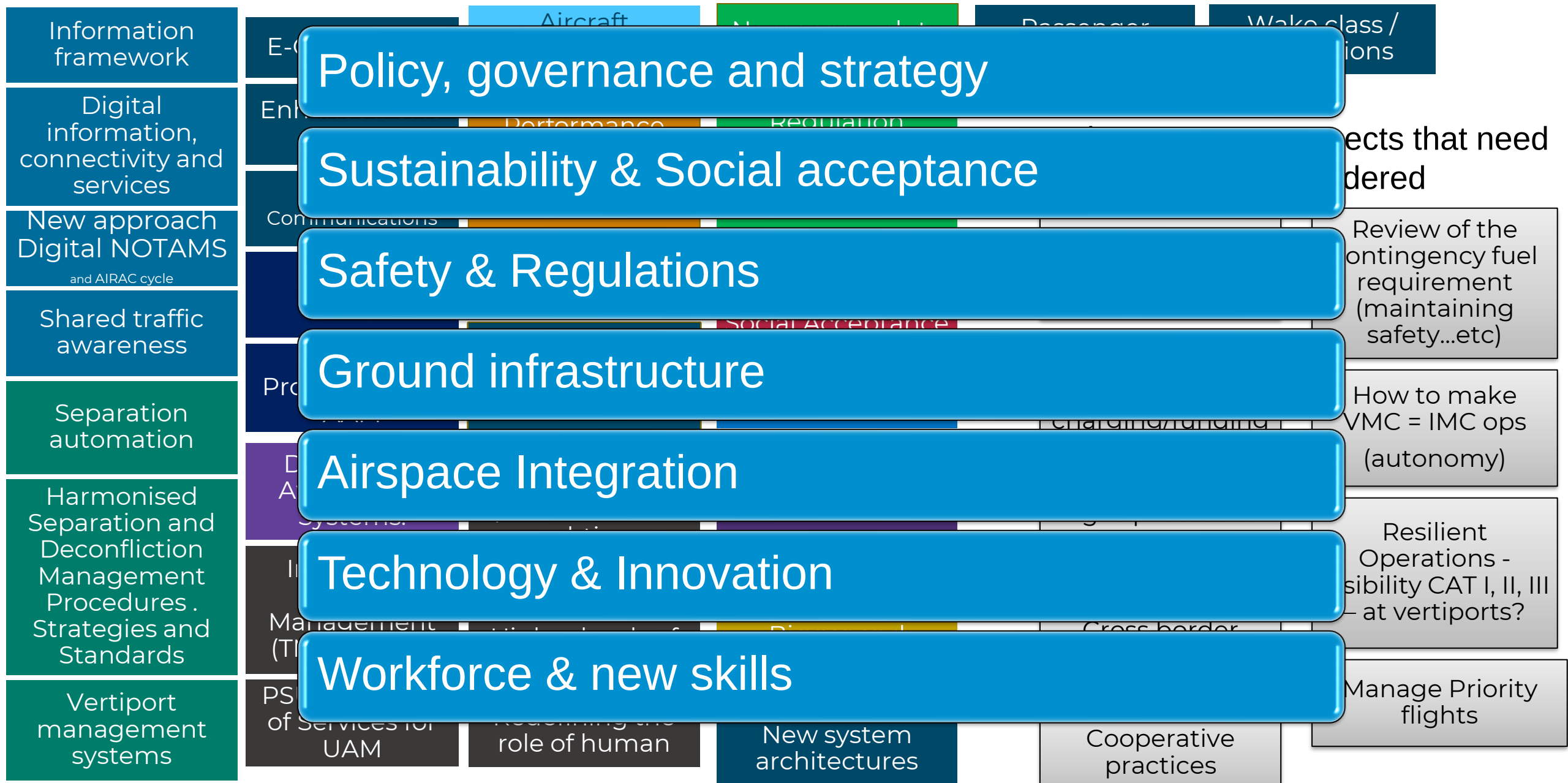
Our GOAL

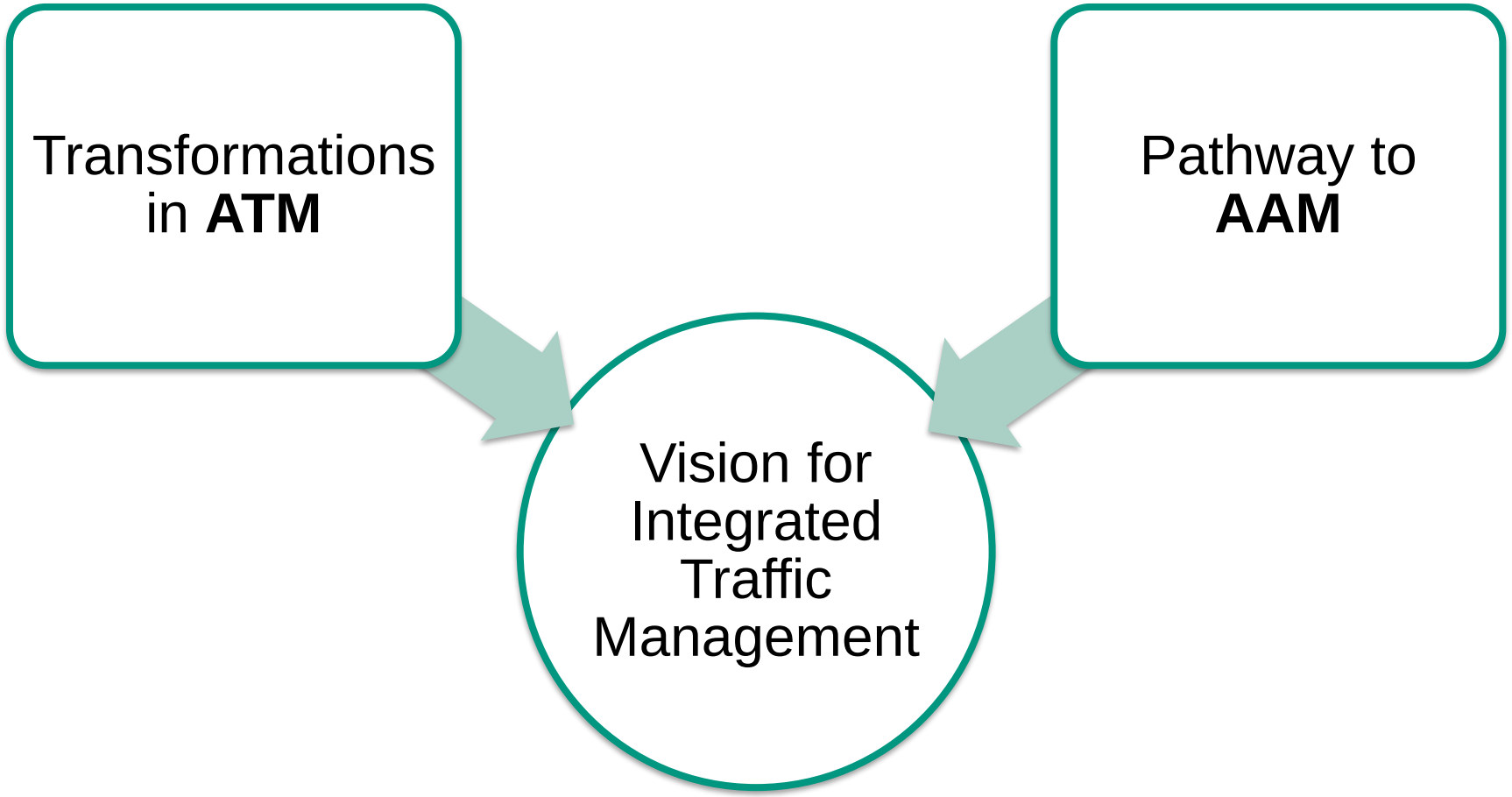
CATS VISION supported by a CONOPS and a Traffic Management integration roadmap & Pathway to AAM

Our Path to the Vision



Key enablers to scale up AAM operations




Transformations in **ATM**
Pathway to **AAM**
Vision for Integrated Traffic Management

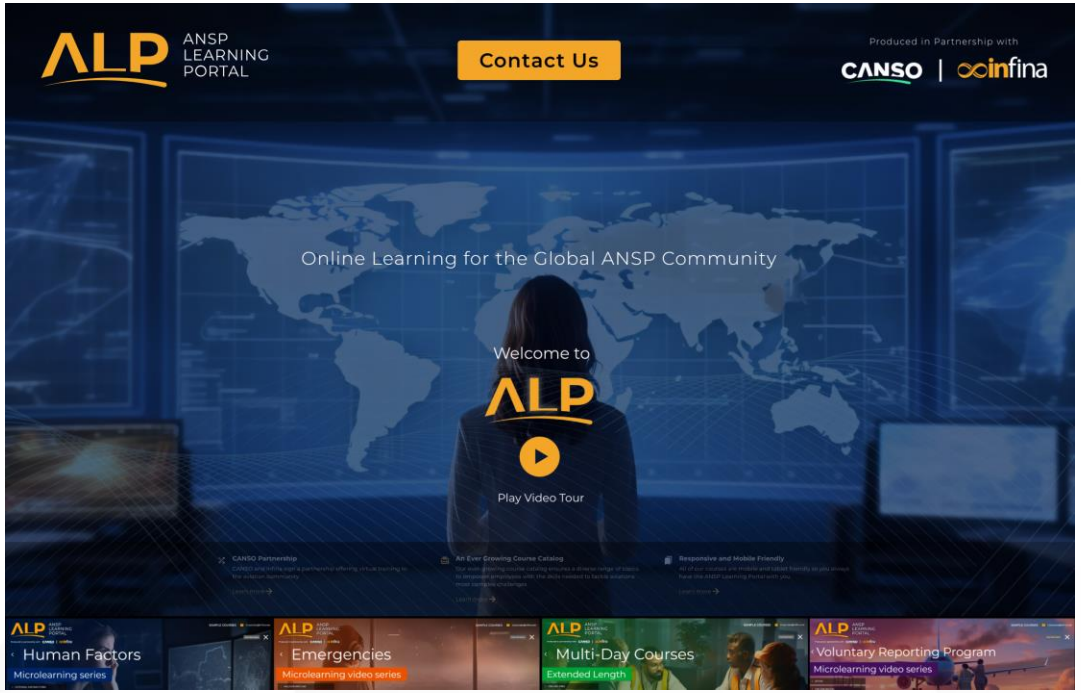
Airport System Capacity Enhancement Program - ASCE

- The ASCE program provides a comprehensive onsite review to optimise capacity, both in the air and on the ground (ANSP and airport).
- ASCE is an an assessment tailored to ANSPs and airports unique needs and receive expertise, practical recommendations, and targeted solutions that contribute to their long-term capacity usage and operational efficiency.
- Promotes best practices and aligns efforts across the industry
- Promotes harmonisation and collaboration between the ANSP and airports helping to set new industry guidance
- Can positively alter or reduce the scope and costs of future CAPEX investments
- Supports a more sustainable approach to the industry's growth
- Roadmap of solutions developed for the specific project

Training -ANSP Learning Portal – ALP

The courses available on the ALP website cover Air Traffic Management-related topics, including human factors, emergencies, and voluntary reporting, while an ATCO Technical Series currently offers a Pilot's Point of View on the issues of turbulence and birds' activity.
The courses are available to ANSPs and their employees via an annual membership subscription which gives full access to all the microlearning courses via a unique key name. ALP provides cost-effective computer-based learning that supports global ANSPs in achieving local and regional aviation safety requirements.

- Our media content library offers key air navigation topics that meet ICAO and industry standards to the benefit of CANSO member countries and stakeholders across the globe.
- Members have 24-hour access to microlearning, and mixed media courses curated by experts and formatted for a variety of platforms and learning styles, such as individual study, live-streaming, and classroom-style delivery.



Standard of Excellence in Air Navigation Services Safety - SEANS

- ANSPs can use the CANSO Standard of Excellence in Safety Management Systems as a self-assessment tool to ensure all aspects of their SMS are developed. It covers the main elements of Annex 19 and and beyond, to include leading practices from across the industry.
- Measure and understand SMS maturity against industry standards
- Make a business case for safety improvements
- Build and develop an SMS that meets their requirements and harmonises global operations
- Demonstrate alignment with regulation, including ICAO's Annex 19
- Share key learnings and best practice across the industry

Standard of Excellence in Air Navigation Services Safety - SEANS

Phase 1

SMS Maturity Assessment

- ANSPs are encouraged to participate annually
  - The safety programme manager sends call for participation in the first quarter of every year
- Approximately 300 questions covering 13 elements of an SMS (Study Areas)
- Self-administered via an online portal
  - ANSP's input is retained year-to-year which reduces workload after the first year
- Reviewed and discussed with the ANSP by an independent assessor
- Maturity level and score provided via confidential report
  - Results are not shared with anyone for any reason without the express consent of the ANSP

Phase 2

SEANS

- Available to ANSPs once they have completed the SMS Maturity Assessment (via the online platform)
- Typically, an in-person staff visit to deep dive into answers provided and answer questions about previous levels and scores (if applicable)
- When able, ANSPs are requested to assist in covering travel expenses for the in-person assessors
  - Virtual SEANS are an option but are not recommended
    - The in-person interaction proves to be highly valuable to both the ANSP staff and the assessors
    - In-person can be completed in as little as two full working days
    - Virtual can take up to a full week to complete

Thank You

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