

CANSO LATIN AMERICA AND CARIBBEAN CONFERENCE 2022

Orlando, Florida, USA

6 – 8 December 2022

In coordination
with



THE COMPLETE AIR TRAFFIC SYSTEM (CATS) GLOBAL COUNCIL AND THE LATIN AMERICA AND CARIBBEAN REGION

Organiser: **CANSO**

In coordination
with:



PRESENTERS



Simon Hocquard

General Director
CANSO



Sherry Yang

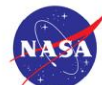
Senior Manager of Airspace Operational Efficiency
The Boeing Company

Our shared vision for 2045

By the Complete Air Traffic System (CATS)
Global Council



The Complete Air Traffic System (CATS) Global Council



The first ever cross-industry vision for our future skies

In October 2021 the Complete Air Traffic System (CATS) Global Council, a forum of industry aviation leaders, launched '**our shared vision for the skies of 2045**'





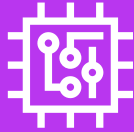
2045 Vision Statement

To create global airspace that is safe, fair, intelligent and interoperable, leveraging revolutionised design, technology and services to power global mobility and prosperity

2045 Vision Building Blocks



Services and Service Delivery



Technology and Digitisation



Safety and Regulation



Environmental Sustainability and Social Impact



Airspace Design and Classification



Data and Security



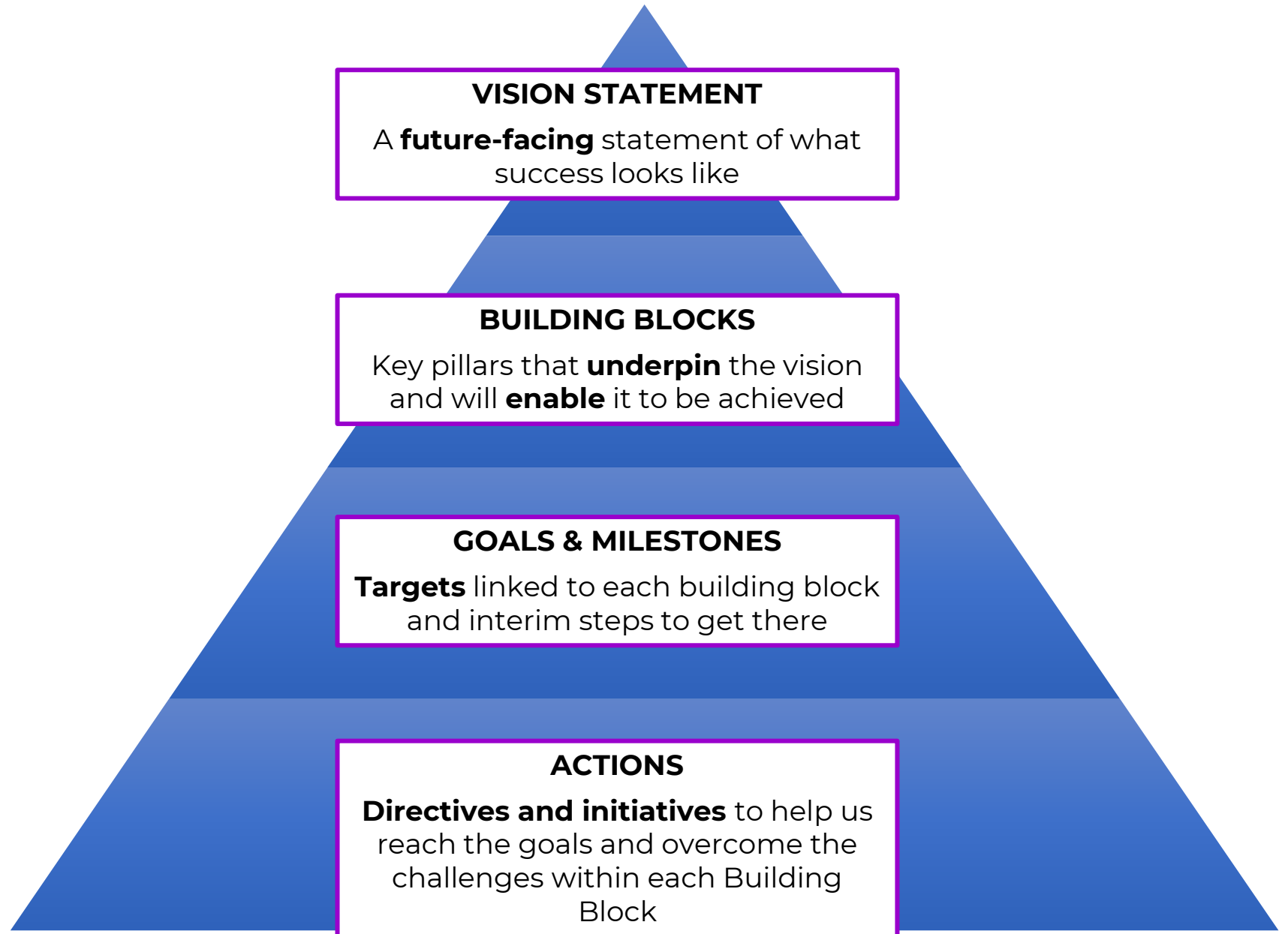
People, Organisation and Talent

The Complete Air Traffic System (CATS) Global Council

CATS GC Vision Roadmap



CATS GC Vision Roadmap Structure





GOAL 1 Improved performance through automation	GOAL 2 Harmonised service delivery	GOAL 3 Integrated airspace	GOAL 4 Harmonised, efficient and flexible systems
GOAL 5 Digital Collaboration	GOAL 6 Safety and Security by design	GOAL 7 Predictive approach to risk management	GOAL 8 Strong safety and quality culture
GOAL 9 Towards reduced climate impact	GOAL 10 Environmental sustainability and social impact management are broadly integrated into the air transport system	GOAL 11 Integrated and connected multimodal transportation network and infrastructures	GOAL 12 Data-powered ecosystem
GOAL 13 Thriving airspace management community	GOAL 14 High performing teams		

LONG TERM GOALS (2045)

GOAL 1

Improved performance through automation

Advancements in technology and digitisation have enabled higher levels of automation and fuelled the rise of new and improved user-centric services.

2025

2030

2035

M1 New CONOPS

M4 Conceptual framework for cross border service delivery and management of sovereign airspace

M9 Technology roadmap

M18 Network of sandboxes

M68 New ANS financing mechanisms

M25 Agile regulatory practices

M31 Sustainable integration of new technologies

M34 Electric UAS and eVTOLS reduce emissions in urban areas

M72 Disruption management

M17 Autonomous and decentralised operation

M50 Digitally connected aviation

GOAL DESCRIPTION

GOAL 3

Integrated airspace

Airspace becomes a unified environment that seamlessly integrates a diverse mix of airborne vehicles (piloted and unpiloted), equipment and services.

2025

M1 New CONOPS

M3 International collaborative ATFCM process

M4 Conceptual framework for cross border service delivery and management of sovereign airspace

M6 Harmonised FUA

M18 Network of sandboxes

M39 UAM operations are increasing

M45 Civil-military collaboration

M67 New data requirements for integration of new entrants

2030

M2 Cross border service delivery

M27 New approach to surveillance services and Detect and Avoid for all traffic

M42 Integrated and collaborative information systems

M43 Harmonised and optimised airspace

M44 Harmonised upper airspace

M47 Airspace design supports dynamic airspace and user integration of all users

M48 Airspace design supported by common rules

M69 Harmonised control traffic regions and terminal areas

2035

M5 UAS deconfliction strategy & cooperative avoidance provision

M7 Integrated and harmonised high altitude

M8 Integrated and harmonised AAM

M41 Simplified airspace design

GOAL DESCRIPTION

GOAL 4

Harmonised, efficient and flexible systems

Implementation of harmonised, efficient and flexible systems is based on a technology platform which is based on latest technology practices and paradigms and allows simplification and modularisation of systems with a multi-cloud platform.

2025

M9 Technology
roadmap

M16 Use of open
standards

M54 Cyber security and
resilience

2030

M26 Clear standards
development path and
outcome

2035

M10 Open architecture

M17 Autonomous
decentralised
operations

M70 Global
standardisation
strategy

GOAL DESCRIPTION

GOAL 9

Towards reduced climate impact

The sky of 2045 is cleaner and more efficient. Even though our skies are busier than ever before the aviation sector continues to limit its impact on the environment.

The aviation industry is tracking towards net zero through in-sector and out of sector measures, including carbon capture and storage.

2025

M1 New CONOPS

M3 International collaborative ATFCM process

M28 Agreed sustainability goals

M29 Harmonised decarbonisation roadmaps

M30 Impact of contrails

M32 Aerodrome/vertiports infrastructure

2030

M31 Global sustainable procedures

M33 Formation flying

M34 Electric UAS and eVTOLs reduced emissions in urban areas

M43 Harmonised and optimised airspace

2035

M36 Low carbon and zero carbon energy sources

M37 Reduction of UFP emissions

M38 Infrastructure support for green technologies

M41 Simplified airspace design

GOAL 12

Data-powered ecosystem

Airspace is supported by an intelligent globally distributed data-powered ecosystem with millions of nodes based in the air and on the ground.

2025

M3 International collaborative ATFCM process

M6 Harmonised FUA

M11 Global electronic conspicuity

M15 Authoritative data

M16 Use of open standards

M49 Aviation trust

M51 Security culture

M53 Cybersecurity training

M54 Cyber security and resilience

M67 New data requirements for integration of new entrants

2030

M14 Trusted entities

2035

M10 Open architecture

M50 Digitally connected aviation

M64 More efficient use of spectrum

M65 Communication infrastructure

M71 Civil-military interoperability is ensured

GOAL DESCRIPTION

GOAL 14

High performing teams

The adoption of technology continues to amplify the combined strengths of humans and machines. People and technology interact seamlessly together as high performing teams.

2025

M1 New CONOPS

M59 Open and collaborative social dialogue

M66 Automation strategy

2030

M63 Adapted contingency provisions

2035

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- The working paper presented by CANSO on behalf of on behalf of ACI, IATA, IBAC, ICCAIA and IFALPA (WP356) titled: “Industry Roadmap for future skies” was well received and the actions proposed in the paper were accepted ensuring ICAO attention on key items essential to the achievement of the CATS Global Council future sky vision.
- *The Committee invites the Assembly to:*
 - *Request ICAO to consider the development and prioritization of the activities identified as part of the Industry Roadmap for Future Skies in ICAO's work programme for the triennium 2023-2025.*

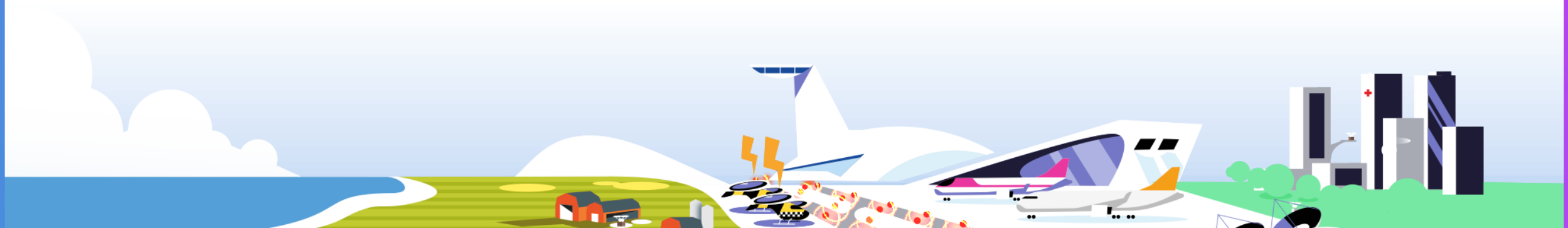


Collaborating on our Future Skies

The event “Collaborating on our Future Skies”, kindly hosted by NASA at their HQ in California attracted many leaders from Silicon Valley tech companies .

The event provided a platform to discuss the CATS, FAA and NASA visions and to consider how the industry can work together to create an exciting future for air mobility.

We received positive feedback on the CATS vision and organisations from unmanned and manned aviation recognised the need to move forward with pace.



Next Steps

- Continued engagement and enrolment of stakeholders in the vision
- Define a 3-year work programme focussed on 2025 actions
- Drive alignment through involvement with global and regional planning activities



**Any
questions?**



THE COMPLETE AIR TRAFFIC SYSTEM (CATS) GLOBAL COUNCIL AND THE LATIN AMERICA AND CARIBBEAN REGION

Presenters:

- **Simon Hocquard**, General Director, CANSO
- **Sherry Yang**, Senior Manager of Airspace Operational Efficiency, The Boeing Company



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Organiser: **CANSO**

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