



**INTERNATIONAL
CIVIL AVIATION
ORGANIZATION**



Outcomes of the ICAO Global Artificial Intelligence Survey

ICAO APAC Office

Agenda

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Background of Survey

Why was the survey conducted?

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Survey details

How was the survey conducted?

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What will we do with the survey results?

01 Background of Survey





Survey on Artificial Intelligence (AI) Governance Frameworks in Aviation – Current Status and Future Needs

Survey- global

- The 42nd Session of the ICAO Assembly reviewed several working papers related to AI.
- The Assembly noted a series of common themes and initiatives outlined in these papers.
- While one of the common themes highlighted the need for ICAO to develop comprehensive regulatory frameworks and standardised approaches for AI implementation, the Assembly recognized the need to first consider developing a strategic vision and high-level framework for the use of AI in aviation.
- ICAO sought to assess the current status of relevant developments by States and industry through this survey

02 Survey Details





International
Civil Aviation
Organization

Organisation
de l'aviation civile
internationale

Organización
de Aviación Civil
Internacional

Международная
организация
гражданской
авиации

منظمة الطيران
المدني الدولي

国际民用
航空组织

Ref. S 1– AP004/26 (CNS)

13 January 2026

Subject: Survey on Artificial Intelligence (AI)
Governance Frameworks in aviation – Current Status and
Future Needs

Action Required: Complete the Survey by **28 February
2026**

Dear Sir/Madam,

I have the honour to invite you to participate in an on-line survey to gather relevant insights into the development of strategies by States and Industry for the use of Artificial Intelligence (AI) in aviation.

During its deliberations under *Agenda Item 20 – Innovation in Aviation*, the 42nd Session of the ICAO Assembly reviewed several working papers related to AI. The Assembly noted a series of common themes and initiatives outlined in these papers. While one of the common themes highlighted the need for ICAO to develop comprehensive regulatory frameworks and standardized approaches for AI implementation, the Assembly recognized the need to first consider developing a strategic vision and high-level framework for the use of AI in aviation.

To ensure that the Organisation's actions in implementing the relevant decisions of the Assembly, particularly paragraph 20.9 of A42-WP/692 Report on Agenda Item 20, are properly informed, ICAO seeks to assess the current status of relevant developments by States and industry through this survey. This initiative will also help establish a network of focal points on this subject within the community.

You are kindly requested to provide your response by completing the survey using the link [Microsoft Office Survey form](#) or by scanning the [QR code](#) shared below. Please be assured that the completed survey will be kept strictly confidential, stored in a restricted area in the ICAO secretariat file system, and only consolidated results will be shared outside of ICAO.

Please acknowledge the submission of the response by sending an email to this office at apac@icao.int with cc: jpxu@icao.int; ymseefuengart@icao.int; and smbhani@icao.int; at your earliest convenience, preferably before **28 February 2026**.

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Survey on Artificial Intelligence (AI) Governance Frameworks in Aviation – Current Status and Future Needs

Survey- global

- ICAO APAC Office, in collaboration with ICAO HQ, conducted a survey on AI.
- SL Ref. S 1– AP004/26 (CNS) dated 13 January 2026 was sent
- Response by 28 February 2026
- Further extension of deadline- 31 March 2026

03 Survey Questions



Survey Questions

Key Areas

Section 1- General Information:

3. Does your State/organisation have a **dedicated department, committee, or focal point** responsible for AI-related matters in aviation?

Section 2- Current AI Adoption in Aviation

4. To **what extent is AI currently being used** or planned for use within your aviation sector?

5. In which **specific aviation domains** are you currently using or planning to use AI? (Select all that apply)

6. How would you **rate the general awareness level within your aviation sector** regarding the specific challenges and risks associated with AI (e.g., safety, ethics, security, liability)?

Survey Questions

Key Areas

Section 3: Development of AI Governance Frameworks

7. Does your State/Organisation **currently have or is it currently developing a dedicated governance framework, policy, or strategy** specifically addressing the use of AI in aviation?
9. Please describe **the level of awareness regarding the need for AI governance framework(s)** in aviation

Section 4: Challenges, Needs, and ICAO Support

10. What are **the most significant challenges** that your State/Organisation faces in developing and implementing **AI governance frameworks for aviation?** (Rank top 3, with 1 being the most significant)
11. In which **5 areas would your State/Organisation most benefit from ICAO's guidance, tools, or support** regarding AI governance in aviation?

04 Survey Responses



Global Outcomes



Survey Responses

Key Outcomes

 **ICAO**
AI Governance Survey

Overview

AI Adoption

Governance

Challenges

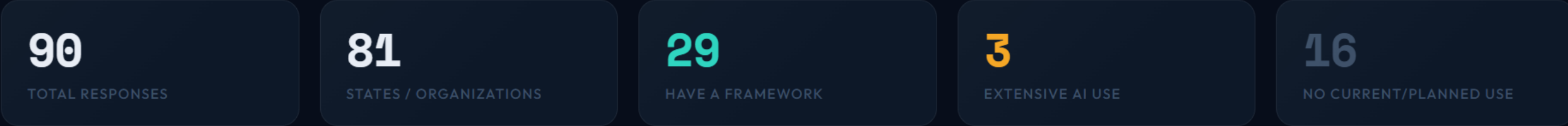
Entities



90 responses

Survey at a Glance

Global snapshot of AI adoption and governance maturity across ICAO Member States and International Organizations



Survey Responses

Key Outcomes



ICAO
AI Governance Survey

Overview

AI Adoption

Governance

Challenges

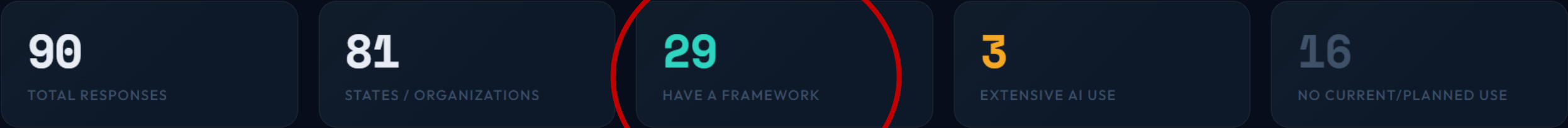
Entities



90 responses

Survey at a Glance

Global snapshot of AI adoption and governance maturity across ICAO Member States and International Organizations



ICAO

Survey Responses

Key Outcomes

 **ICAO**
AI Governance Survey

Overview

AI Adoption

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Challenges

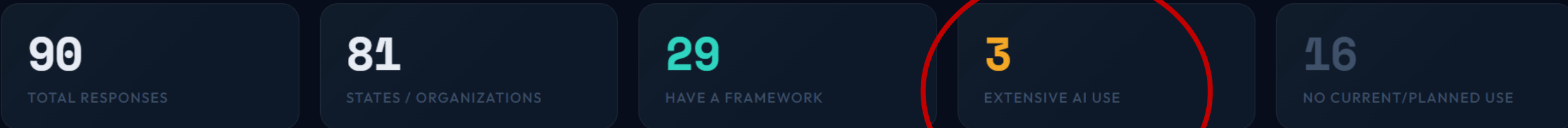
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Survey at a Glance

Global snapshot of AI adoption and governance maturity across ICAO Member States and International Organizations



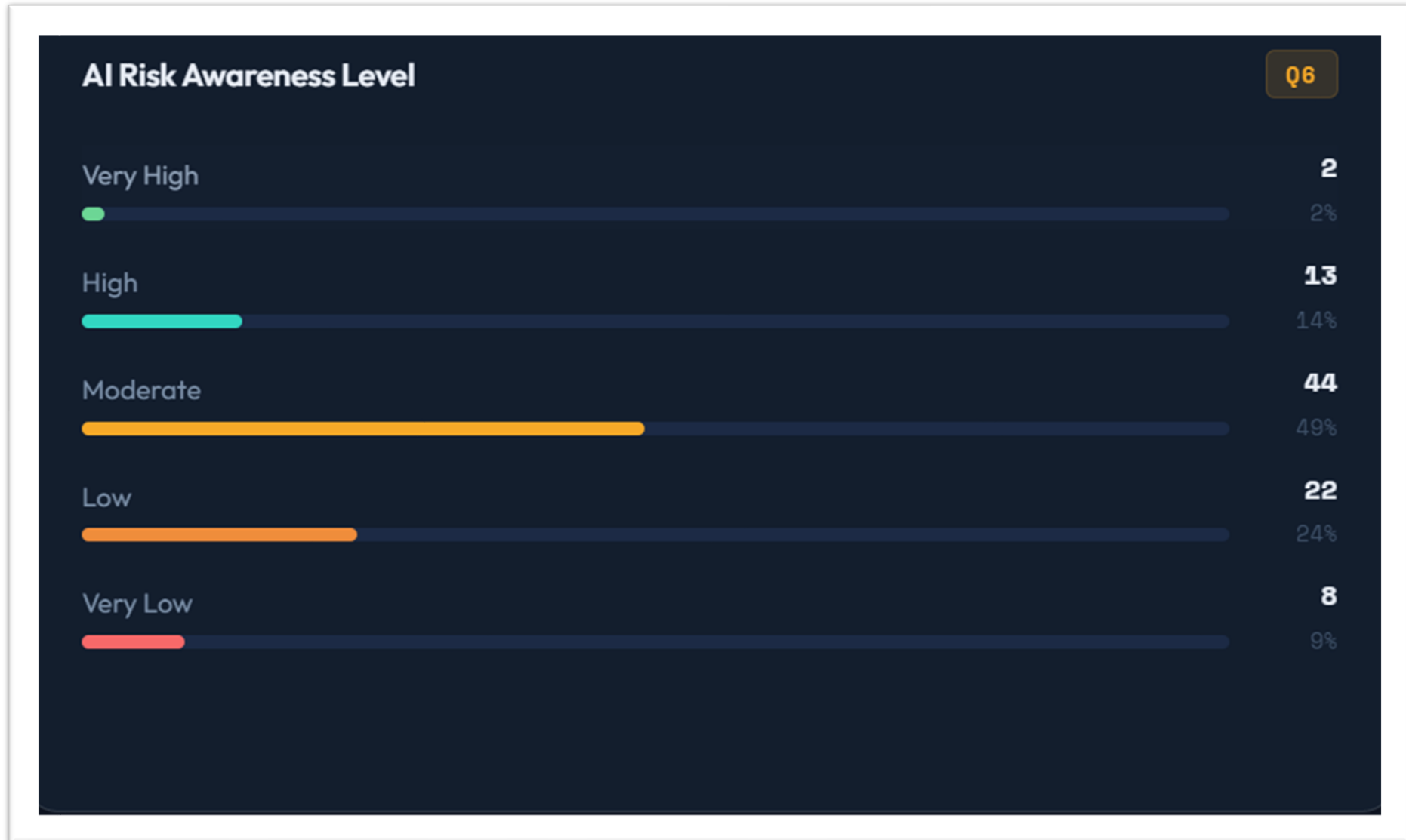
Survey Responses

Key Outcomes



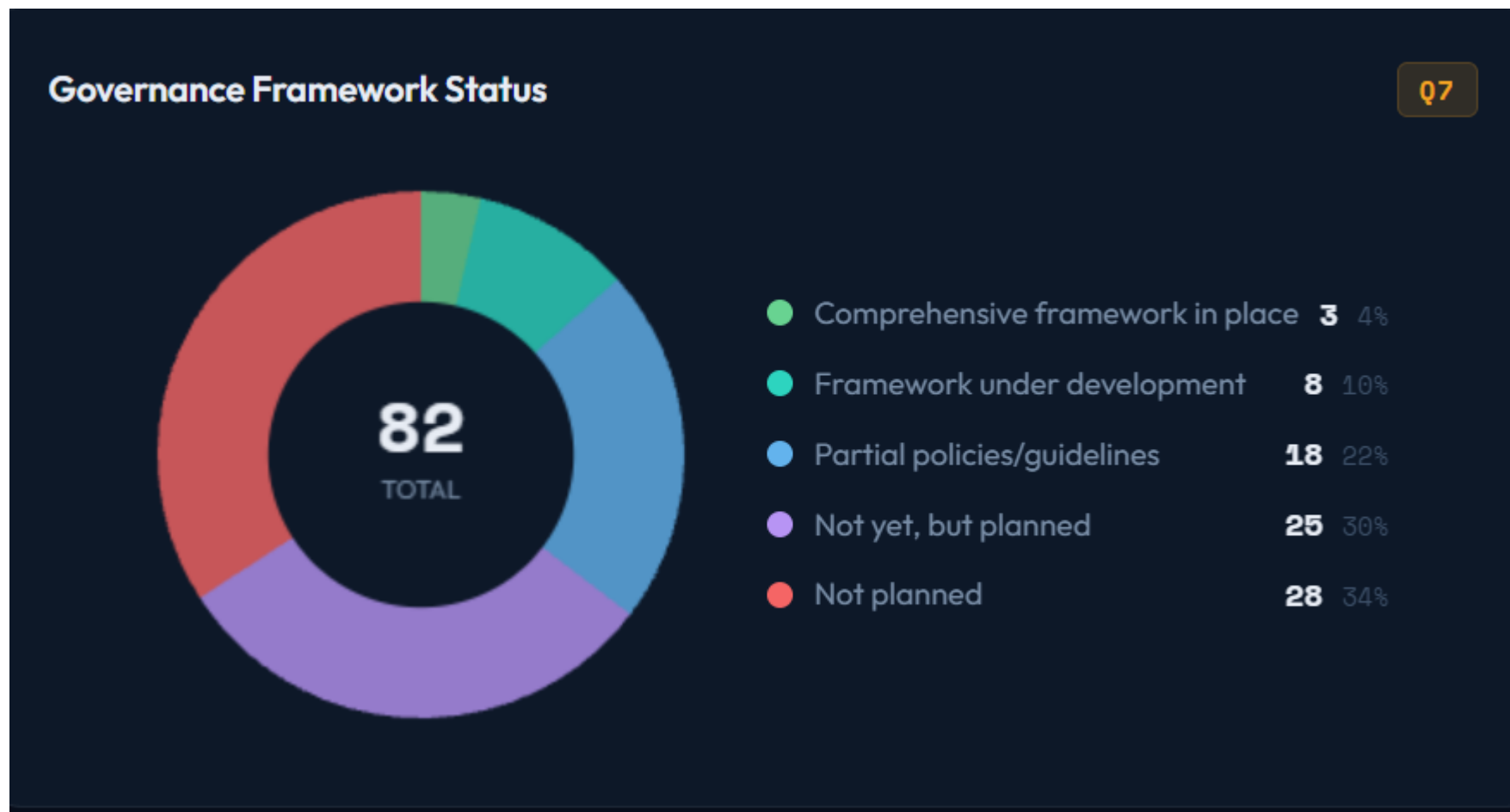
Survey Responses

Key Outcomes



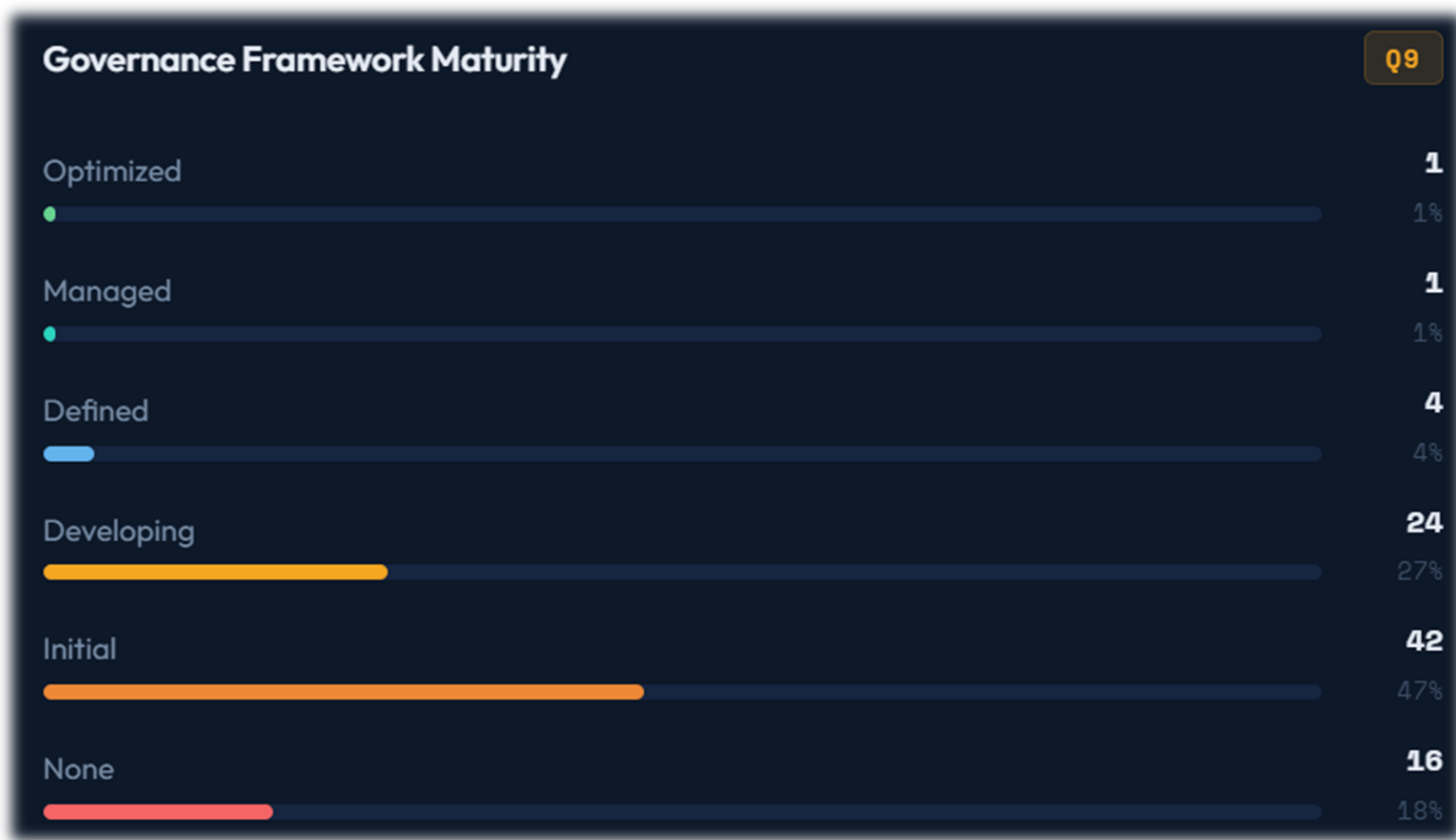
Survey Responses

Key Outcomes

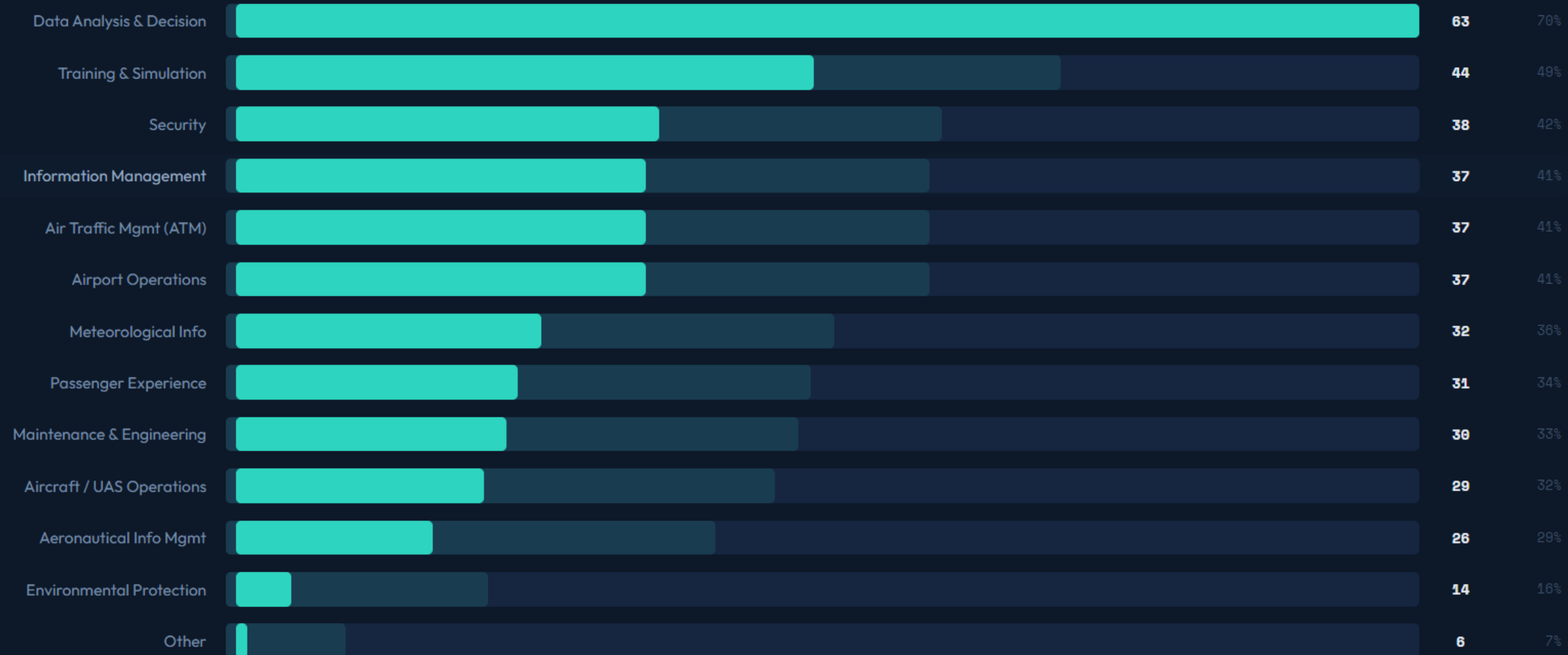


Survey Responses

Key Outcomes

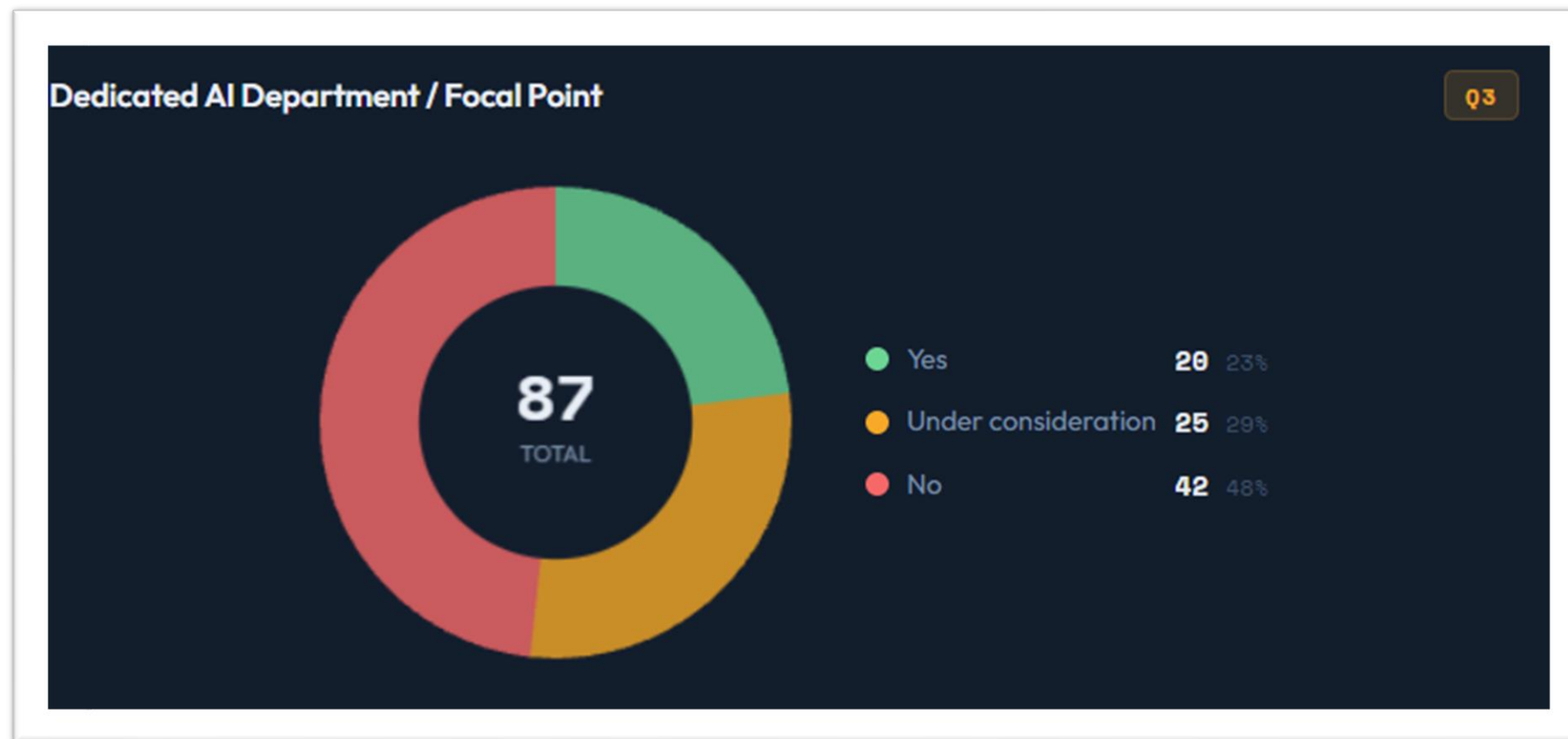


Aviation Domains Using AI (Q5 – select all that apply)



Survey Responses

Key Outcomes



Survey Responses

Key Outcomes



ICAO

Domain Coverage Breakdown

Q5 Summary

ATM

37

41%

AIRCRAFT / UAS

29

32%

MAINTENANCE

30

33%

AIRPORT OPS

37

41%

AERO INFO

26

29%

METEOROLOGY

32

36%

INFO MGMT

37

41%

SECURITY

38

42%

TRAINING

44

49%

PASSENGER

31

34%

DATA ANALYSIS

63

70%

ENVIRONMENT

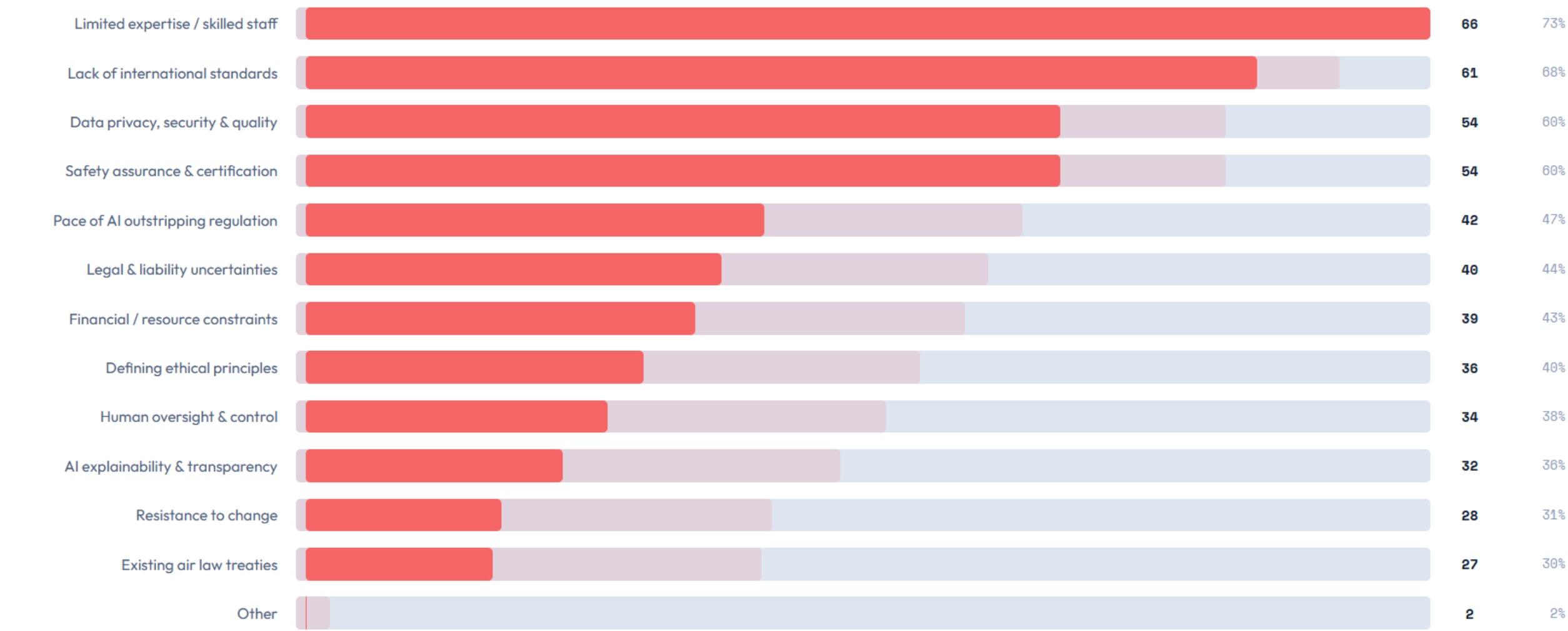
14

16%

Challenges & ICAO Support Needs

Barriers to AI governance development and priority areas for international support

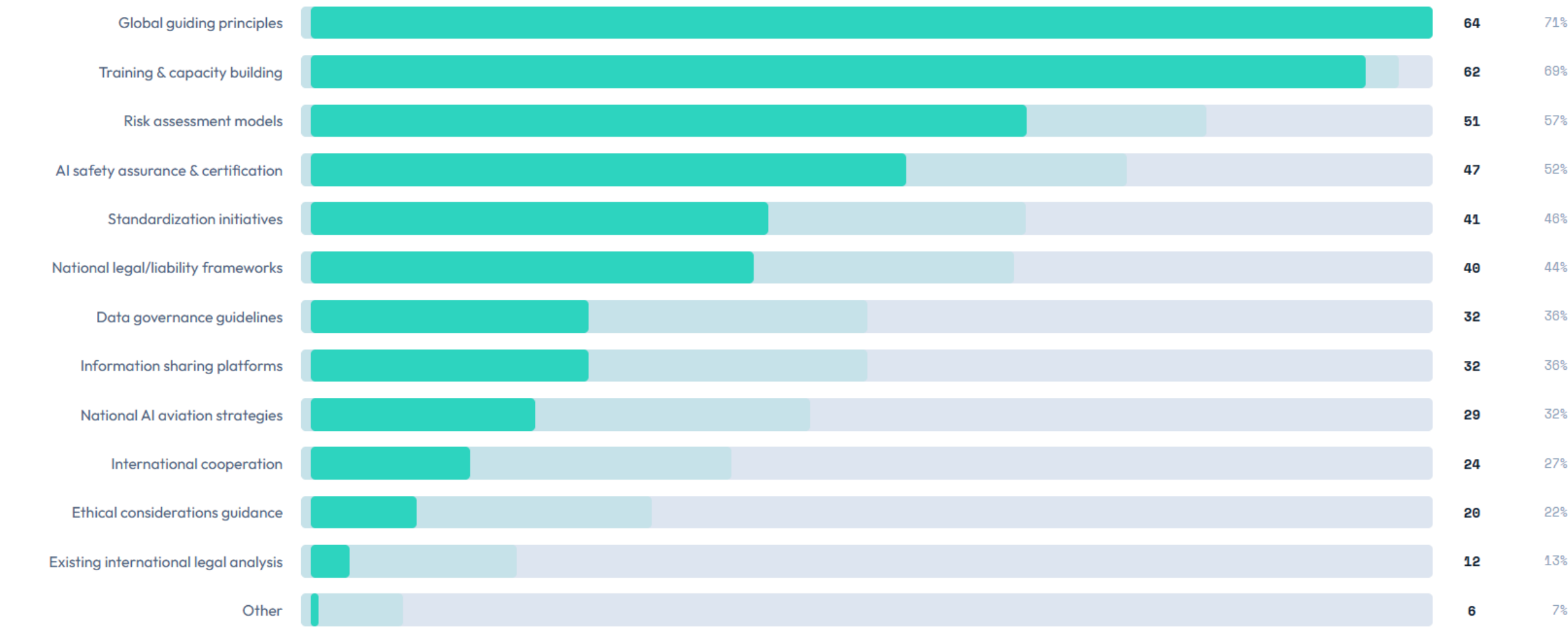
Most Significant Challenges (Q10 – ranked top 3)



Challenges & ICAO Support Needs

Barriers to AI governance development and priority areas for international support

Areas Benefiting from ICAO Guidance (Q11 – select top 5)

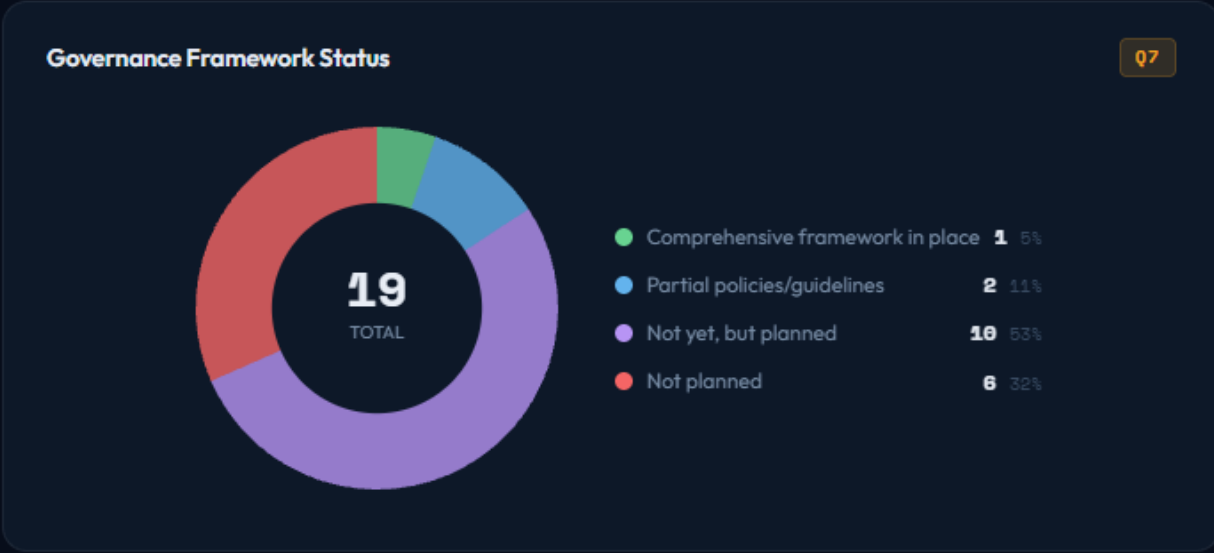
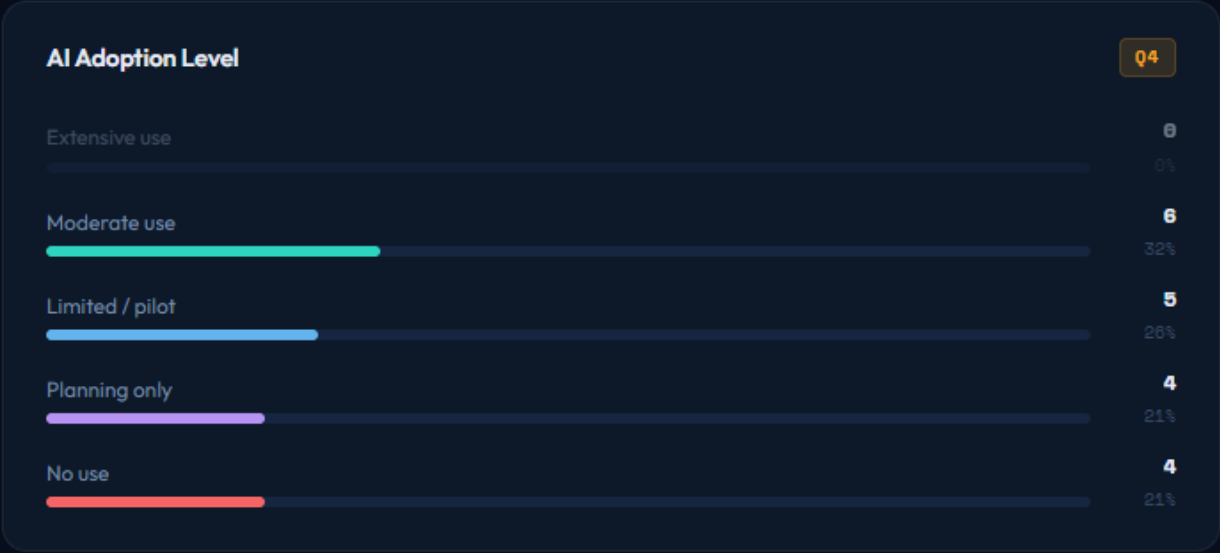
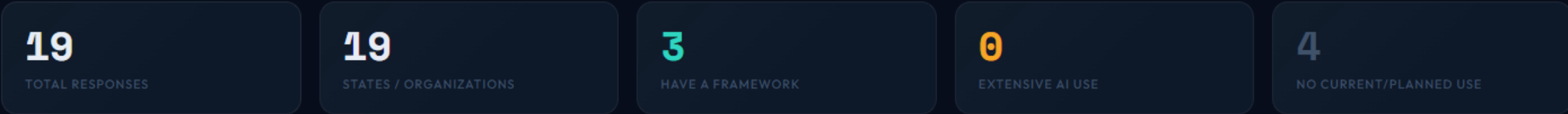


Regional Outcomes



Survey at a Glance

Global snapshot of AI adoption and governance maturity across ICAO Member States and International Organizations



AI Risk Awareness Level

Q6

Very High

0

0%

High

2

11%

Moderate

11

58%

Low

4

21%

Very Low

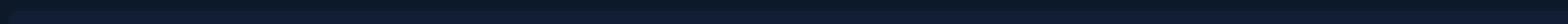
2

11%

Governance Framework Maturity

Q9

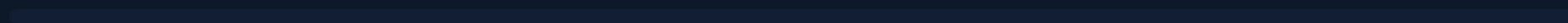
Optimized



0

0%

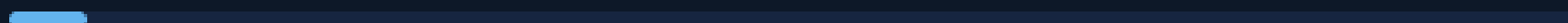
Managed



0

0%

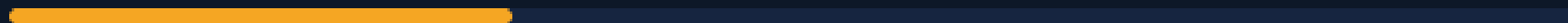
Defined



1

5%

Developing



6

32%

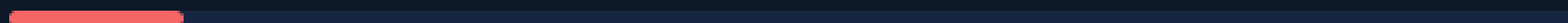
Initial



16

53%

None



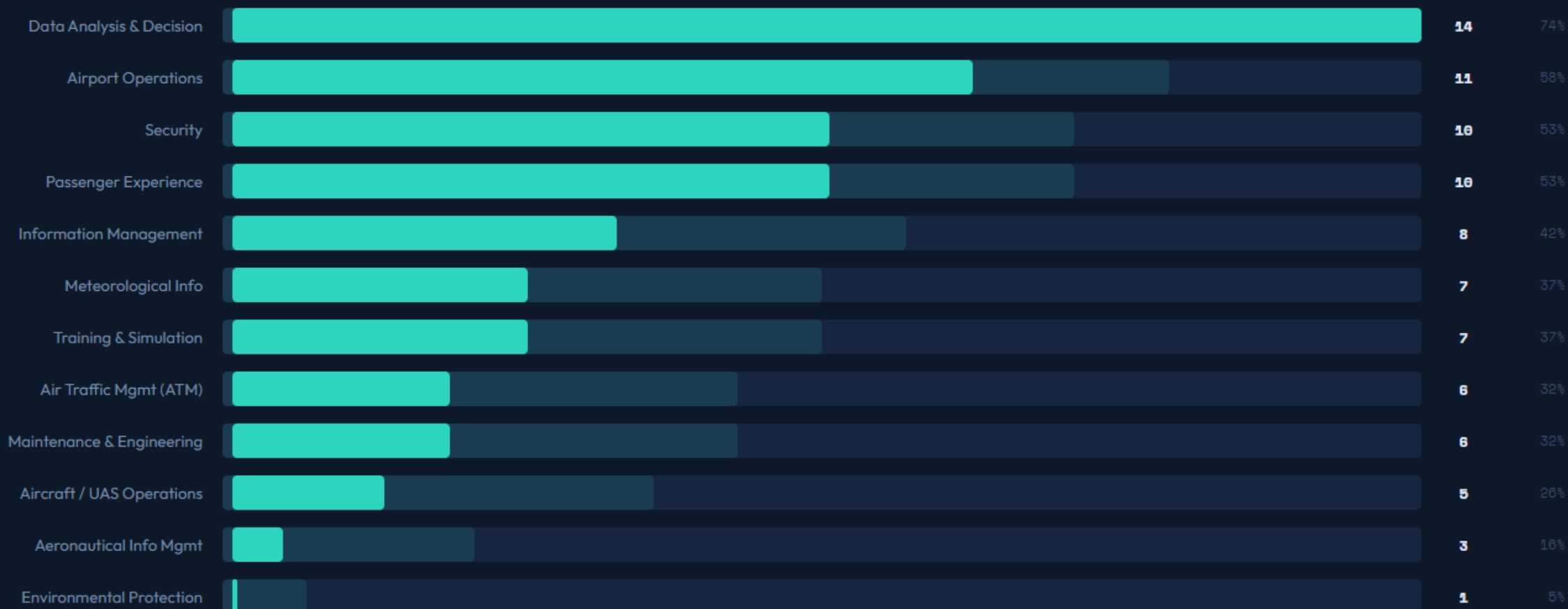
2

11%

AI Adoption in Aviation

Domains where AI is currently used or planned, across all respondents

Aviation Domains Using AI (Q5 – select all that apply)



Dedicated AI Department / Focal Point



- Yes
- Under consideration
- No

Domain Coverage Breakdown

Q5 Summary

ATM 6 32%	AIRCRAFT / UAS 5 26%
MAINTENANCE 6 32%	AIRPORT OPS 11 58%
AERO INFO 3 16%	METEOROLOGY 7 37%
INFO MGMT 8 42%	SECURITY 10 53%
TRAINING 7 37%	PASSENGER 10 53%
DATA ANALYSIS 14 74%	ENVIRONMENT 1 5%

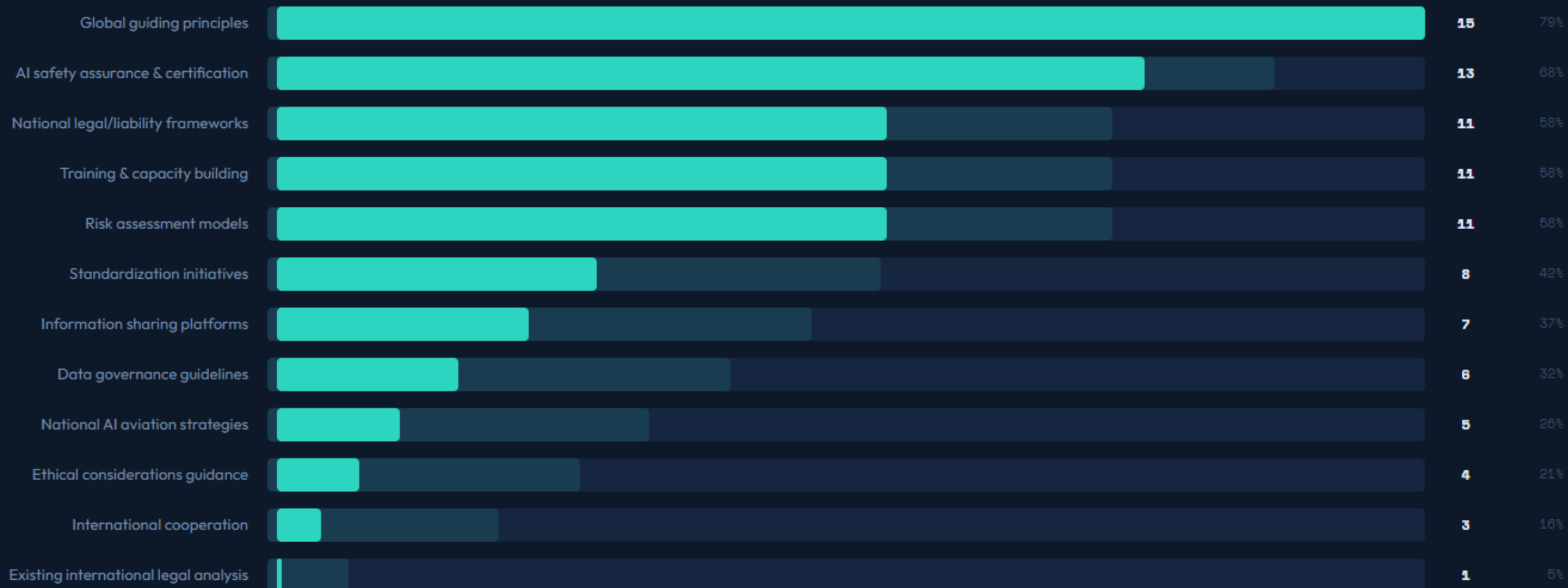
Challenges & ICAO Support Needs

Barriers to AI governance development and priority areas for international support

Most Significant Challenges (Q10 – ranked top 3)



Areas Benefiting from ICAO Guidance (Q11 – select top 5)



05 Summary of Key Outcomes



Current situation and future needs

1. Of the **81 States/Administrations** that responded to the survey, **29** have a governance framework, and **3 use AI extensively**.
2. Of the **19 APAC States/Administrations** that responded to the survey, **3** have a governance framework, and **no one uses AI extensively**
3. Of the **3**, **China** has a **comprehensive governance framework**, while **Australia and Singapore** have partial ones.
4. **Data Analysis & Decision** is the most widely used domain for AI, while **Airport Operations** is the second most widely using AI.



Current situation and future needs

5. Global guiding principles and AI safety assurance & certification are two domains where States need ICAO support.
6. Lack of international standards, Limited expertise / skilled staff, Data privacy, security & quality and Safety assurance & certification are key challenges in using AI.
7. Most of the global and regional challenges are the same.



06 Way forward



Way Forward

What we plan to do with these results?



Survey Outcomes have been shared with the ANC Ad Hoc Working Group on Innovation

Way Forward

What we plan to do with these results?



Item No.	Strategic Goal(s) and/or High Priority Enabler(s)	Title	Description	Presented by
6.	Innovation	Review of the outcome of the survey on the use of artificial intelligence (AI) in aviation and assessment of the need for the development of a strategic vision and high-level framework for the use of AI in aviation	The Council will be invited to review the outcome of the survey on the use of artificial intelligence (AI) in aviation and assess the need for the development of a strategic vision and high-level framework for the use of AI in aviation.	SG COG (Oral) ANC (Oral)

Way Forward

What we plan to do with these results?



Survey Outcomes have been shared with the ANC Ad Hoc Working Group on Innovation



The directions could be:

1. Advise ICAO to continue to study the issue;
2. Develop a proposal for a task force with ToRs to start work on high-level deliverables.

Thank You

