The National Aviation Conference

May 2026

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IATA

Leveraging Artificial Intelligence for operational efficiency, safety improvements, and customer experience in the aviation industry

1945
Founded

360+
Airlines Members
(Passenger and Cargo)

+85%
Air Traffic

IATA's Mission: "**Represent**, **lead** and **serve** the airline industry"

"**Working together** to **shape** the future growth of a **safe**, **secure** and **sustainable** air transport industry that connects and enriches our world"

"Aviation is safety-critical by definition. This means we need systems that are not only intelligent, but also explainable, reliable, and certifiable. EASA's work — including its AI roadmap and guidance on machine learning assurance levels — is essential in addressing these questions."

Why an AI network?

AI is transforming aviation, but airlines face common challenges

Fragmented AI efforts

Duplicated work and slow adoption

Evolving regulations (e.g. EU AI Act)

Require coordinated advocacy response

Need for safe experimentation

Including peer learning and shared insights

Technology

Increased Automation

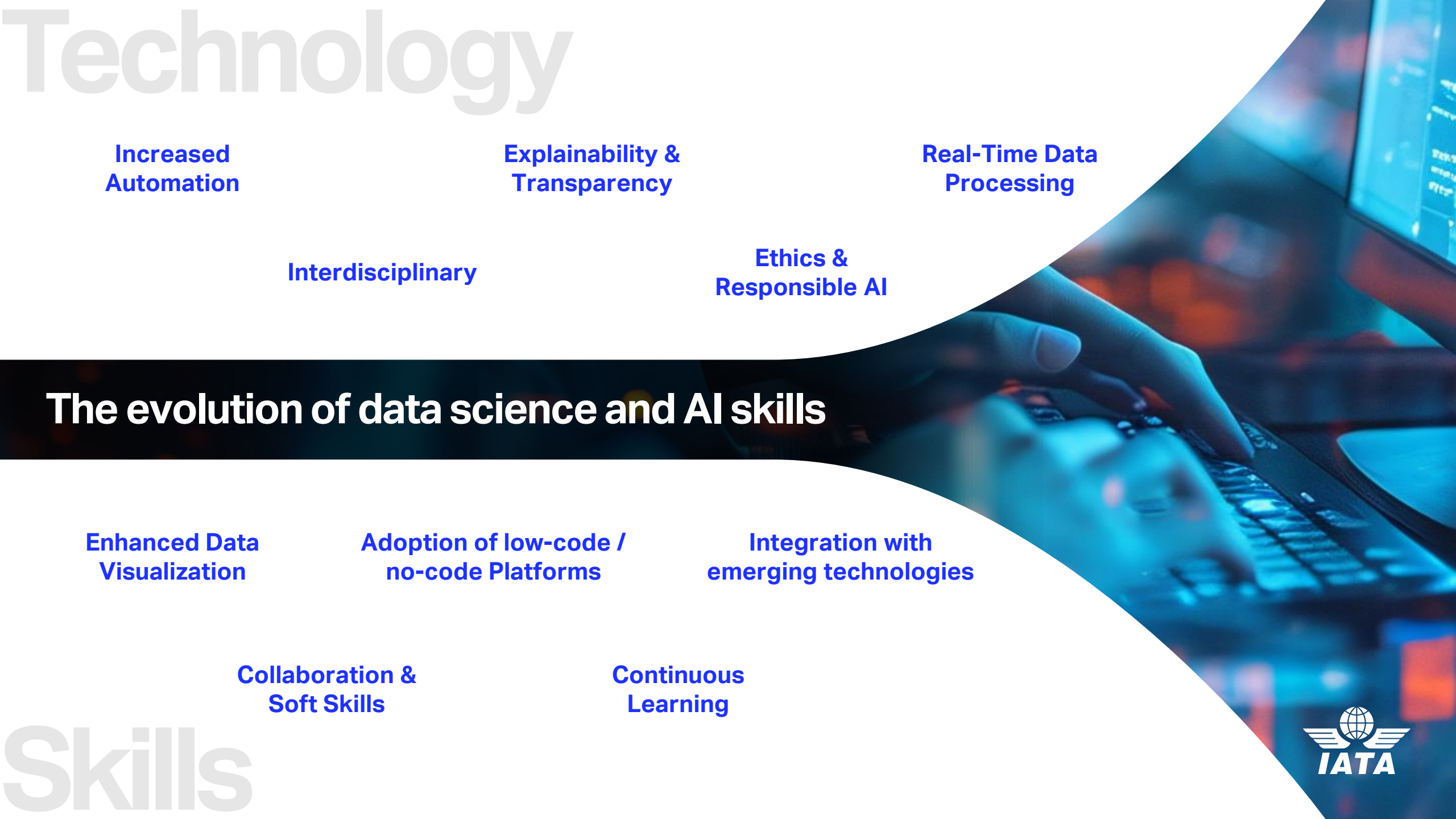
Explainability & Transparency

Real-Time Data Processing

Interdisciplinary

Ethics & Responsible AI

The evolution of data science and AI skills



Enhanced Data Visualization

Adoption of low-code / no-code Platforms

Integration with emerging technologies

Collaboration & Soft Skills

Continuous Learning

Skills

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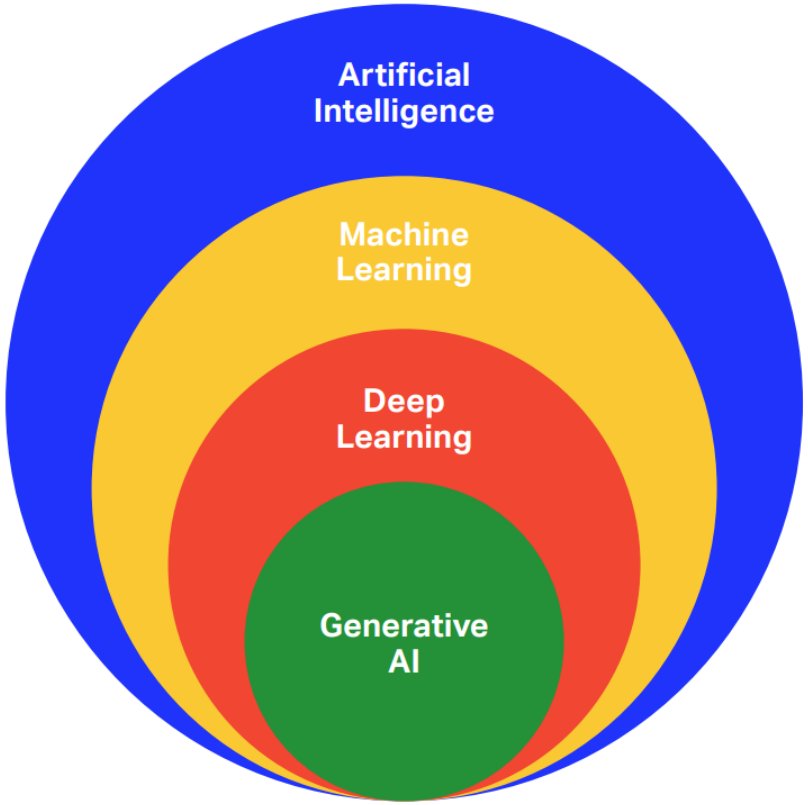
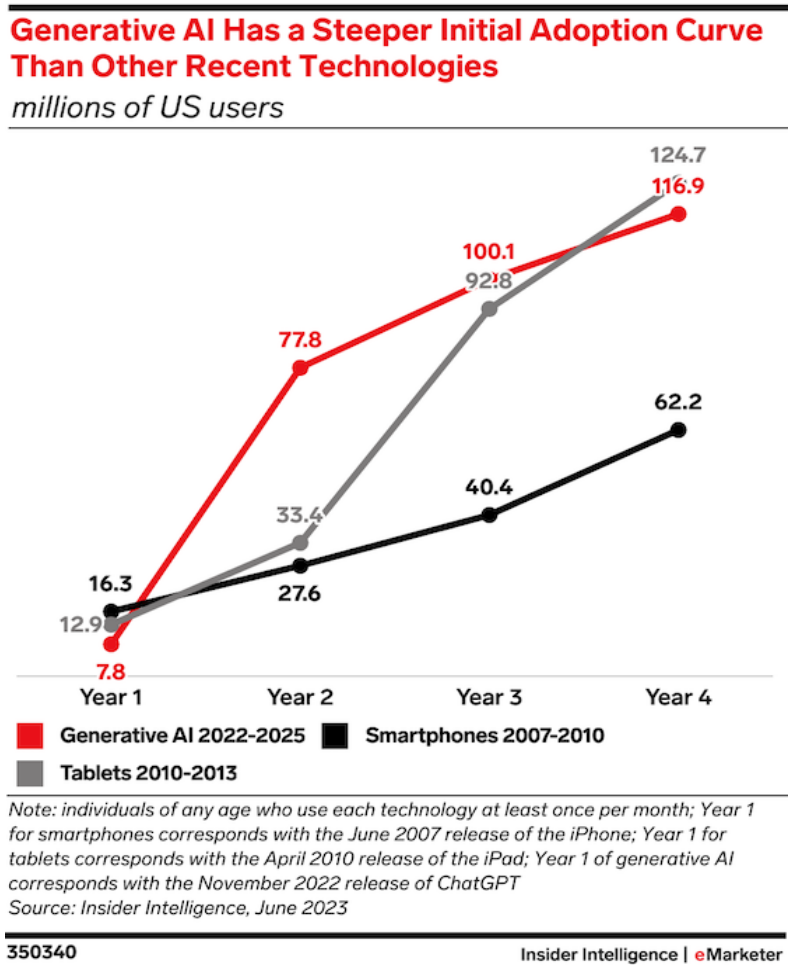
Data Science, AI, Machine Learning and Generative AI





IATA Generative AI report

Big Data & Data Sharing Programs

Engaging in collaborative data sharing across all stakeholders in the value chain allows for better AI, Analytics and benchmarking

- Turbulence Aware
- CO2 Connect
- DDS (Direct Data Solutions)
- Cargo IS
- Schedule Data Exchange Program (SDEP)
- Global Aviation Data Management (GADM)

AI in The Aviation Industry

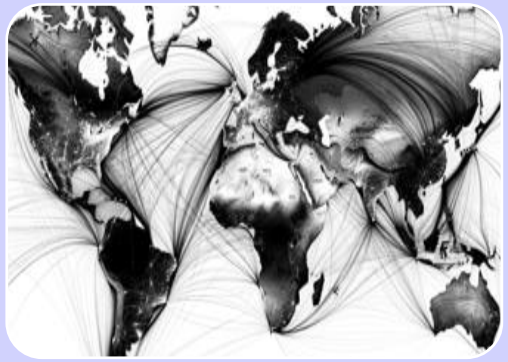
AI is disrupting the Aviation Industry on the full value chain. Some examples:

Customer satisfaction

- Personalization **and PAX** segmentation
- Baggage handling
- Cabin baggage prediction
- Gen AI (chatbots)

Ground operations

- Ops optimization
- Baggage profiling
- offload prediction
- Air Traffic Management optimization
- Cargo Virtual Reality Crate Movements
- Cargo documentation like DGR



Flight Operations

- Route optimization
- ATM optimization
- Crew management
- Flight Safety management
- NOTAM's AI
- AI Pilot training in simulators

Sustainability

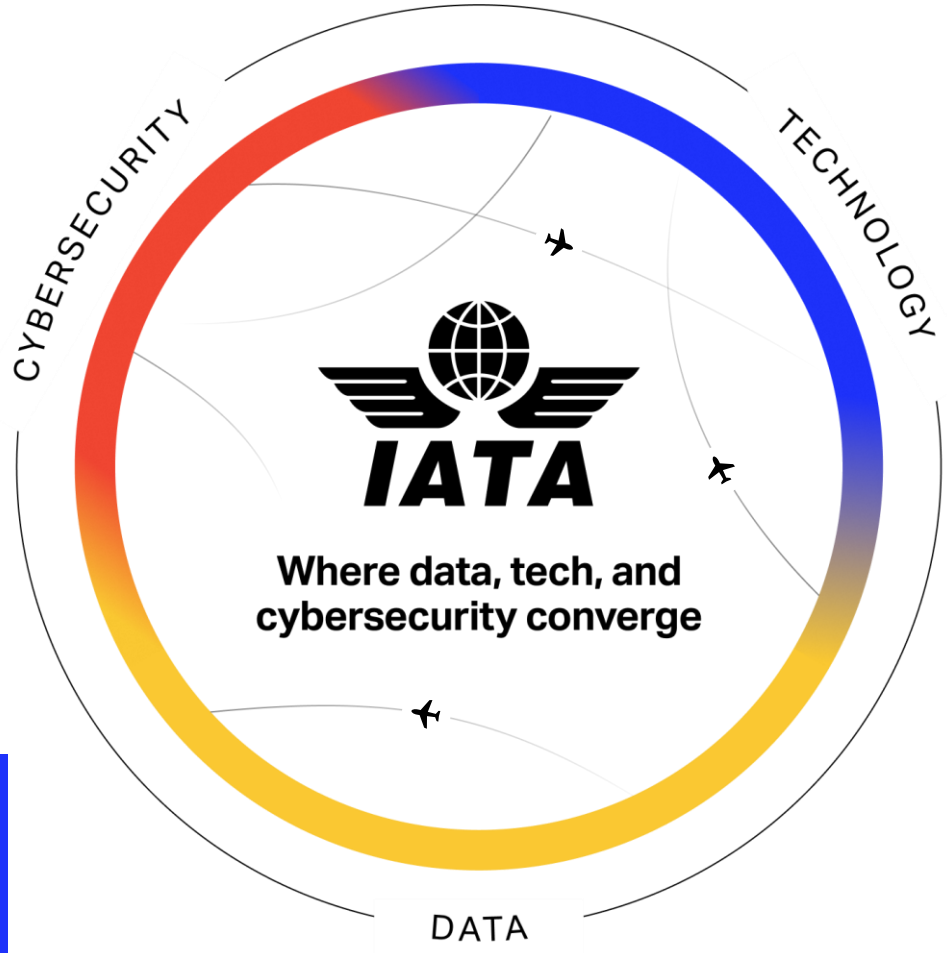
- Environmental impact cases
- Contrail prevention
- Fuel burn optimization

Challenges and Barriers to Unlocking Data Value

- Data fragmentation/Silos and lack of interoperability
- Regulatory complexity and cross-border data sharing
- Cybersecurity and data privacy concerns
- Legacy systems and infrastructure gaps (e.g. Operations/Distribution/Logistics)
- Difficulty in operationalization and scaling
- Skills and talent shortages in ML/data science and analytics

Where do you start?

Executive support & solid data strategy	**Organization wide** **Capability centered**
Skillsets	**Data Scientists** **ML Ops**
Access and good quality data	**Data quality**
Data Governance	**Data Catalog**
Experimentation	**Sandbox** **Multi-cloud strategy**
Value-based use cases	**Business led**
Production ready	**Fast and agile**



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Data, Tech & Cybersecurity

Adoption Survey

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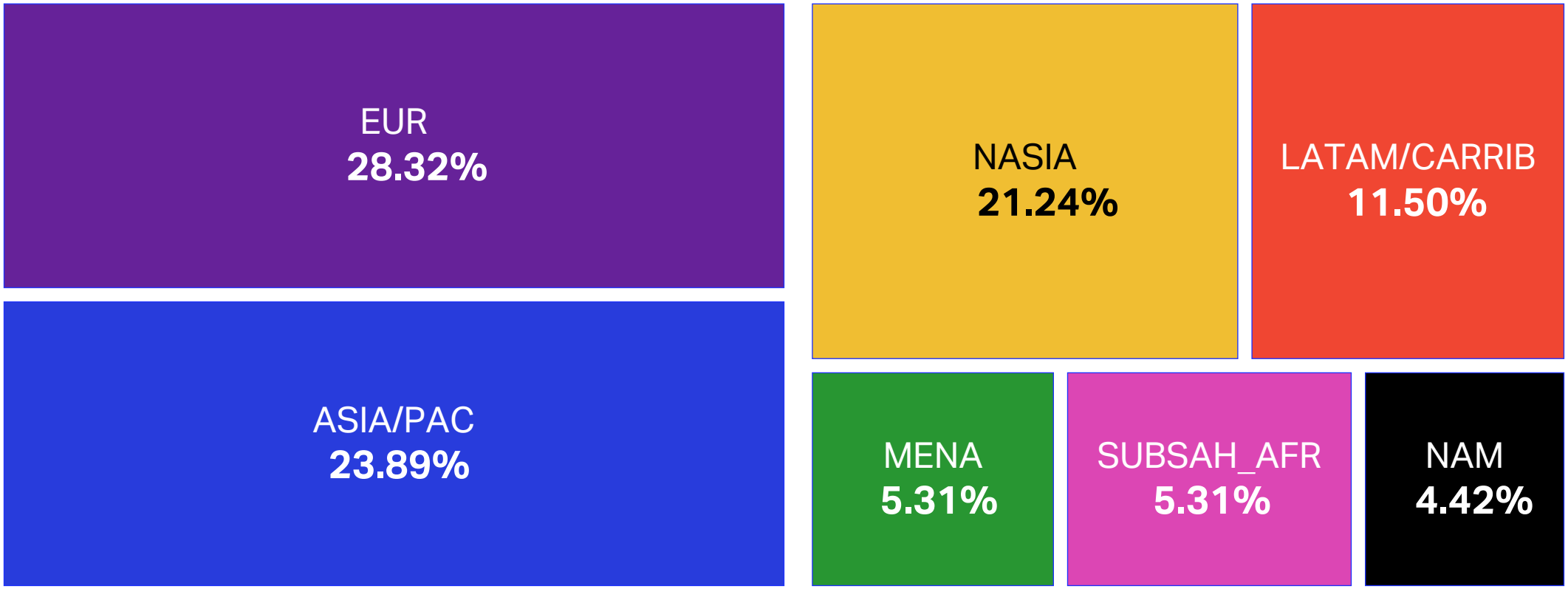
The survey

The survey provides an overview of the current state of data, technology, and cybersecurity adoption in the airline sector.
The survey received input from 113 airlines across all seven IATA regions.



Access the regions and countries info here:

Main Global Trends

1.	Approximately one third (35%) of airlines consider themselves to be in the early stages of Data Strategy implementation, while a comparable share (36%) have reached advanced maturity.
2.	A mature Data Strategy is achieved with a solid Data Governance framework.
3.	A comprehensive data catalogue and classification system is essential for achieving data maturity within airlines.
4.	Most of the Data Science use cases require experimentation, and scaling them requires specific Data Pipelines crafted for AI/ML.
5.	Adopting a multi-cloud approach is indicative of technological maturity.
6.	The industry demonstrates consistent mid-level maturity, generally reflected in Defined level across the main domains of the NIST Cybersecurity Framework, with cybersecurity governance being well established across more than half of the airlines surveyed.
7.	Automation in cybersecurity activities remains a notable gap, with relatively few organizations indicating mature automation across the protect-detect-respond domains.

Key takeaways

The industry demonstrates consistent mid-level maturity, generally reflected in Defined level, with limited adoption of more advanced adaptive or automated practices

Detection capabilities show room for enhancement, as behavioural analytics and anomaly detections are not yet widely deployed across respondents.

Governance is a well-established, as nearly one half of organizations place themselves at Optimized levels.

Incident response and recovery activities are not widely tested, with many organizations indicating that plans exist but are not regularly exercised.

Automation remains a notable gap, with relatively few organizations indicating mature automation across the protect–detect–respond lifecycle

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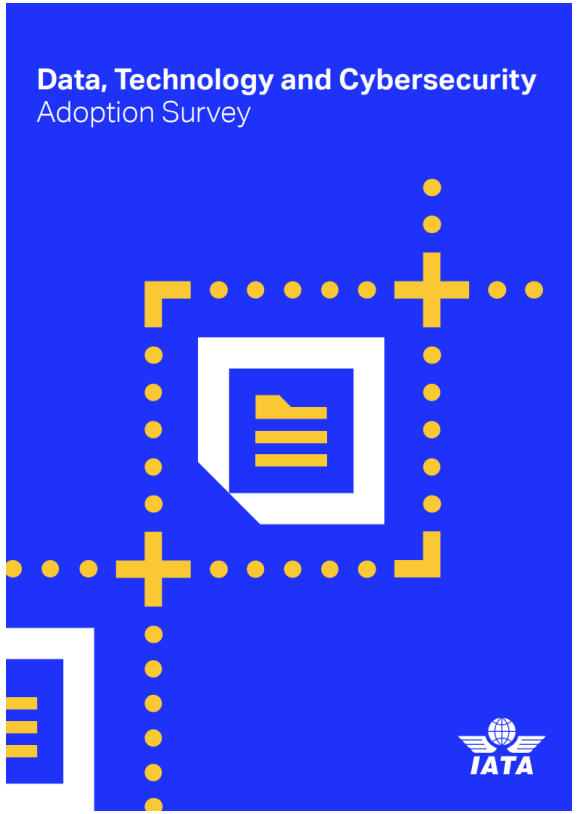
The survey

The 2026 Data Maturity Survey provides an overview of the current state of data, technology, and cybersecurity adoption in the airline sector.



www.iata.org/innovation

Thank you!

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