

A woman in silhouette is walking from left to right, pulling a rolling suitcase. She is positioned in the center of a futuristic, tunnel-like environment. The walls and floor are illuminated with vibrant, curved beams of purple and blue light, creating a sense of depth and movement. The overall atmosphere is sleek and modern.

Charting Aviation's path to reinvention

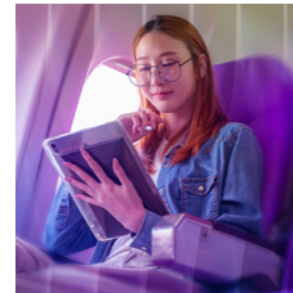
**accenture**

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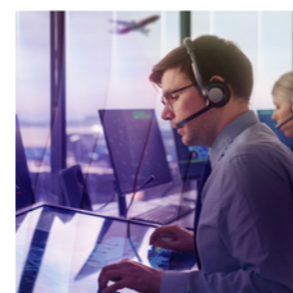
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The aviation industry is undergoing a profound transformation—nothing short of a fundamental reconsideration of the entire air travel ecosystem. Its aims are to enhance convenience, sustainability and resilience in an ever-changing and disrupted global landscape.

Technology is an enabling and driving force of this change. It's reshaping customer experiences, overcoming operational challenges and fostering a future that's both sustainable and innovative. For e.g., 62% of airlines surveyed are piloting New Distribution Capability (NDC) in various capacities today while 85% are currently in ideation stage when it comes to OneOrder. In the face of **significant and pervasive disruption**, aviation companies need to reinvent themselves continually. The industry's new narrative is all about the convergence of customer-centricity, talent, technological evolution and a sustainable future. And to realize it, airlines and airports must address the key challenges and opportunities that will shape the trajectory of aviation in the coming years.

By surveying the views of 300 Aviation leaders (including 250 CXOs across airlines and airports), our aim is to find out where they see their largest areas of challenge and opportunity and the steps they're taking to address them. We have designed this report to capture the key findings across 4 key areas. These are uppermost in executives' minds as they steer their organizations through a future that's as daunting as it is exciting.

## The four key areas include:

- 01** The need to develop new revenue streams both to offset rising costs and to augment and lessen reliance on traditional sources of income
- 02** Placing the customer at the center of the aviation experience to develop deeper, stronger and more trusted relationships
- 03** Unlocking operational efficiency improvements and addressing the shift to more sustainable aviation to achieve net-zero targets and beyond; and
- 04** Developing a workforce that has the skills and abilities needed to fly confidently into the future.

Underpinning all these goals is the necessity to make technology the foundational engine of reinvention. This requires the development of a strong digital core. That means integrating the power of cloud, data and artificial intelligence (AI) to create an interoperable set of secure, flexible platforms. This core will enable companies to rapidly create new capabilities and growth opportunities for the enterprise. The digital core powers reinvention, including transforming talent and workforce capabilities. It's how travel companies can reach the destination they aspire to, amid all the disruption confronting them.



Getting new  
revenues off the  
ground

## With costs set to rise, aviation leaders need to maximize efficiency while driving revenue from new business models and partnerships

Aviation leaders predict substantial cost pressures will have a profound impact on the industry's dynamics. Factors such as volatile fuel prices, regulatory changes, geopolitical uncertainties and fluctuating demand also pose persistent challenges. Because of these, executives<sup>1</sup> stress the continual need to contain costs as they also seek to increase operational efficiency.

Overall, most executives expect major cost areas to normalize in the short term (i.e., the next six months), including labor—from the current highs. However, in the longer term, leaders anticipate an increase in costs across the majority of categories.



### Labor costs

80%

of our Aviation leaders predict a normalization or decrease from current levels—next six months

45%

believe it will further normalize or decrease or stay the same—next 12 months

45%

predict a normalization or decrease—next two years



### Fuel costs

No clear trend. It's split evenly—next six months

53%

believe it will stay the same—next 12 months

64%

predict an increase—next two years



### Maintenance/MRO costs

39%

predict a normalization or decrease from current levels—next six months

58%

believe it will stay the same—next 12 months

53%

predict an increase—next two years



### IT costs

77%

predict a normalization or decrease from current levels—next six months

46%

predict a further normalization or decrease—next 12 months

47%

predict an increase—next two years

Balancing cost pressures with customer experience improvements and sustainable practices remains a primary concern for the Aviation C-suite. To achieve it, they will need agile strategies to navigate a fast-evolving landscape.

## Opening new revenue runways – through Loyalty, Offers and Orders, NDC and more

Today's challenging economic environment makes it essential for airlines and airports to diversify their sources of revenue. Relying solely on traditional revenues such as ticket sales or landing fees leaves organizations vulnerable to market fluctuations. Therefore, there is a pressing need to explore and establish alternatives. These could encompass unlocking offer/order and new distribution capabilities, ancillary services, retail ventures within airlines and airports and innovative partnerships. The use of data-driven insights to shape personalized and targeted consumer offers will also be crucial. **Executives are already acting: 70% expect to see revenues from new business models increase in the next six months.**

Partnering with non-travel companies to provide new products and services to customers also remains a key priority for most companies. 66% say they will do this in the next six months.

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And 93% indicate they will maintain or increase partnerships with non-travel businesses over the next 12 months.

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## Earning a loyal future

One of the major avenues for new growth is loyalty and frequent flyer programs. Airlines and airports have a prime opportunity to revolutionize loyalty programs by designing next-generation initiatives that cater to evolving consumer needs and preferences. Accordingly, 65% of leaders say they will increase focus on loyalty over the next six months, while 60% are likely to maintain their focus over the next 12 months.

Key features of these advanced loyalty programs could include personalized experiences tailored to individual travelers. Leaders overwhelmingly (90%) agree with the need to continuously enhance and innovate their loyalty programs, which they see as a valuable source of differentiation.

Our research reveals that as they envision and design their best-in-class loyalty programs, leaders are focusing on six key components:



**Introducing new reward tiers or benefits**



**Real-time earn and redeem offers**



**Gamification**



**Investing in broader partnerships**



**Data-driven personalization and inspiration**



**Enhancing omni-channel experiences**

Expectations of rising travel volumes have led airlines and airports to explore new avenues for revenue generation. These include collaborations with travel-related businesses, loyalty programs and digital platforms. All contribute to the projected rise in ancillary revenues over the coming months. Over half (54%) of airport leaders surveyed expect non-aeronautical revenues (as a % of total revenues) to increase in the next six months. 66% expect them to rise over the next two years. Similarly, 48% of airline executives expect ancillary revenues to rise within six months. 62% predict that they'll increase over the next two years. Surprisingly, 33% of airline executives predict ancillary revenues to decline in the immediate term (6 months). This could potentially be attributed to a combination of higher customer control over discretionary spend, recessionary and macro headwinds and rise in bundled fares/all-inclusive packages, impacting standalone ancillary services.

# What should aviation companies do?

01

Unlock value through partnerships and ecosystems, such as developing new offerings (for example, integrating travel, fintech, healthcare and insurance into a single customer experience).

02

Help provide convenience and contextuality to meet customers' real-time situations - such as everyday micro "earn and burn," contextual offerings and milestone rewards. Generate data-driven customized offers to drive increased loyalty.

03

Pivot into a lifestyle or digital brand, powered by a strong digital core, providing travel as a key offering in the product/service mix.

04

Develop and enhance payment platforms to support multiple currency and payment options, and simplify cross-border, multi-party travel payments.



## Who's doing it today?

Qatar Airways adopted Avios as its loyalty currency in March 2022, joining IAG carriers British Airways, Aer Lingus and several others. Once their accounts are linked, member travelers can now move Avios between the British Airways Executive Club and Qatar Airways Privilege Club. This makes it possible to access the best redemptions in both programs without crediting flights separately. Over 250,000 members have linked their accounts in the past year and a half. This has led to billions of Avios points flowing in both directions, allowing travelers to choose from the best availability and prices at both carriers.





Making  
customers first,  
last, everything

New technologies, from generative AI to augmented reality, as part of a strong digital core, promise to transform the traveler experience — and companies' ability to connect with and serve them.

## Customer journeys: Making the digital connection from A to Z (and back)

While they push for innovation, most airlines and airports must also grapple with a significant technical debt of outdated infrastructure and software. These legacy technologies, often too essential or costly to replace easily, can hinder the seamless integration of new digital solutions. Striking a balance between leading-edge technologies and maintaining existing systems, therefore remains a persistent challenge in the aviation sector's pursuit of digital transformation.

However, as they transform, airlines and airports have intensified their focus on digital retailing, deploying technology to enhance the entire passenger experience. They are using personalized offers and innovative digital platforms to improve travelers' interactions and engagement with services.

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In fact, 92% of aviation leaders surveyed believe that the digital experiences they offer are at least as good as those from online retailers. 56% believe their digital offering is significantly better. However, our consumer research suggests there may be something of a disparity between what leaders believe and what travelers experience.

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These include common problems faced by travelers such as combining various services in one purchase and the complexities of navigating multiple payment interfaces. While it is encouraging to see investments heading in the right direction, there's likely some way to go before leaders' and travelers' perceptions totally align.

Creating a unified customer journey across various touchpoints demands cohesive strategies. Adapting swiftly to evolving technologies, maintaining customer trust and meeting regulatory requirements remain pivotal for airlines striving to revolutionize digital retailing in aviation. Nearly three-quarters (72%) believe that their technology investments are at least meeting requirements for innovation and competitive advantage, 38% say they go beyond.

**Q** For innovation and competitive advantage, do you feel your current technology investments are adequate?

**No**—investments are low

2%

**Definitely not** – there exists a significant gap

26%

**Yes**—our investments are on par with requirements

34%

**Definitely yes**—our tech investments far exceed the required budget

38%

Despite these, the industry has struggled with the pace of change of key transformation initiatives, highlighting the need for focused value creation.

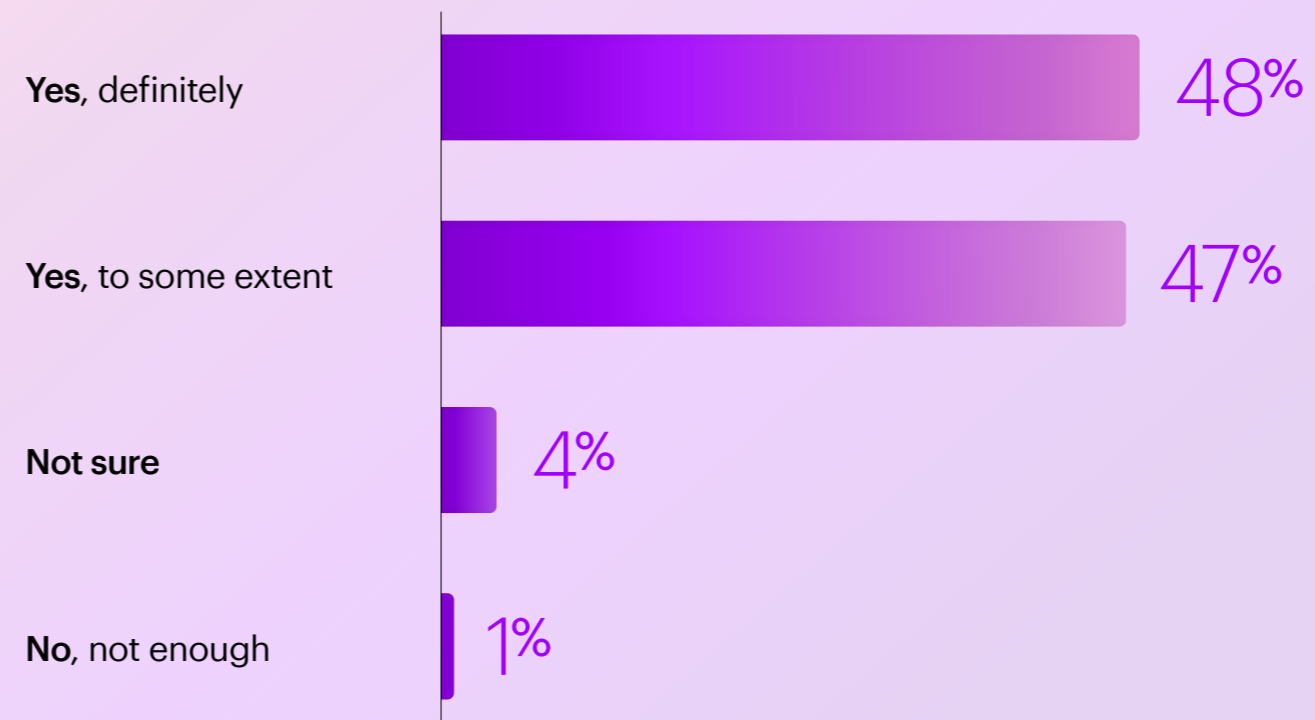
The problem for many airlines and airports is not the technology per se but the business processes running on it. Resolving that calls for change management to sync talent and cross-functional business processes with the technology.

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Only 48% respondents to our survey believe that their organization invests in the necessary tools and technologies to fully support the workforce.

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**Q** Do you feel that your organization invests in the necessary tools and technologies to support the workforce, to deliver exceptional customer service?



**Q** Which technologies are you likely to prioritize/focus on, over the next one year?

**AR and VR** (e.g., in-flight entertainment, supporting maintenance crew, etc.)

74%

**Blockchain** (e.g., booking, ticketing and loyalty programs)

71%

**Cloud computing** (e.g., check-in, baggage handling and airport security)

68%

**IoT** (e.g., predictive monitoring of engine data, fuel consumption and temperature conditions)

68%

**Big data and analytics, including AI and ML** (e.g., managing flight schedules, weather-related disruptions and baggage handling)

63%

**Biometrics** (contactless operations)

53%

Augmented reality (AR) and virtual reality (VR) technologies promise to enhance both customer experience and operations (e.g., maintenance, MRO, pilot training, design prototyping, to name a few.) That makes them a priority investment for airlines and airports. Augmented reality (AR) and virtual reality (VR) applications offer immersive and interactive experiences that can help passengers make more informed decisions. They can do this, for example, by showcasing cabins, amenities and destinations. These technologies can also be used in airports to help passengers navigate their way around and receive real-time information and guidance. All of this can help reduce stress and enhance passenger satisfaction.

What's more, Augmented reality (AR) and virtual reality (VR) can deliver innovative marketing campaigns that engage travelers in unique ways. That could be vital to establish a competitive edge in an ever-evolving industry where customer-centricity and technological advances are key drivers. Here again, a strong digital core is a prerequisite for success.

## Taking (back) control of the customer

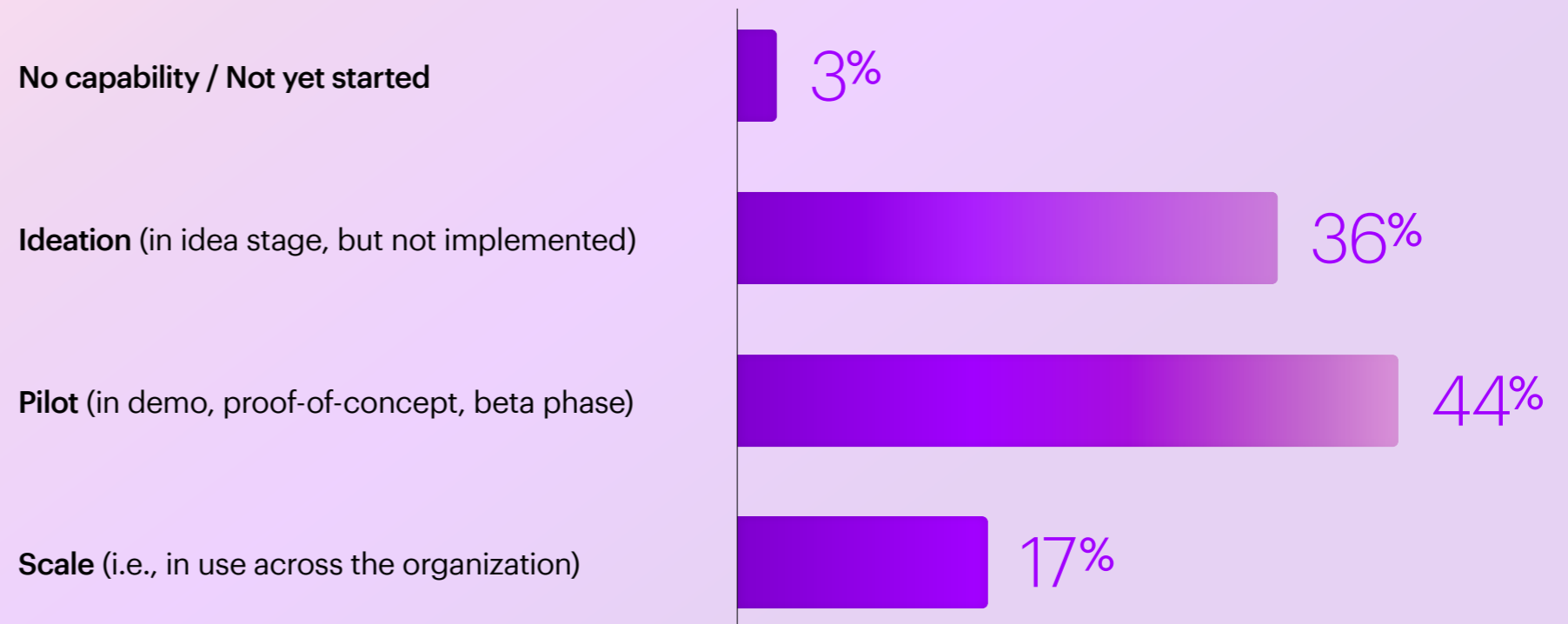
A key focus for airlines and airports today is the ability to wrest control back from third parties—and to better engage and cater to customers through direct channels. A few low-cost carriers (LCCs) have already achieved this.

A key part of this includes encouraging customers to book directly through airline and airport platforms by offering exclusive deals, personalized offers and loyalty rewards. Providing a user-friendly and efficient booking experience is crucial too. And this needs to be complemented with data analytics and AI to understand and predict customer preferences and behavior.

Airlines and airports can also create partnerships within the travel industry (such as with hotels, transportation and tourist attractions) to create bundled services or seamless connections.

While a few LCCs have done this well, 80% of airlines and airports surveyed are still in the ideation or pilot stage, in having an established strategy to disintermediate 3<sup>rd</sup> parties.

**Q** Disintermediating 3<sup>rd</sup> parties (OTAs, GDS) and regaining customer control—at what stage of maturity is your organization?



# A digital core for tomorrow's retailing

Airlines and airports are bringing together generative AI, cloud and data to provide seamless, personalized and dynamic retail experiences. This digital core will enable them to offer tailored packages, ancillary services and personalized offers. That will give customers more choice while also streamlining backend operations. The convergence of these technologies underpins a more agile, customer-centric approach to retailing, including both sales and service. That's vital to increase customer satisfaction and loyalty, and to grow airlines' and airports' revenues.





Both **OneOrder**<sup>2</sup> and **NDC**<sup>3</sup> in aviation continue to gain momentum and are poised for significant adoption across the industry. Both are seen as critical elements in reshaping the aviation industry through innovation, improving customer engagement and enhancing operational efficiency. Airlines are increasingly working toward integrating these standards into their systems to drive a more seamless and personalized travel experience for passengers. But our survey reveals that for both OneOrder and NDC, most airlines are still in the ideation or testing phase.

### Implementing OneOrder and moving away from legacy systems

|                                               |     |
|-----------------------------------------------|-----|
| No capability / Not yet started               | 5%  |
| Ideation (in idea stage, but not implemented) | 85% |
| Pilot (in demo, proof-of-concept, beta phase) | 9%  |
| Scale (i.e., in use across the organization)  | 2%  |

### Adopting NDC – Stage of maturity

|                                               |     |
|-----------------------------------------------|-----|
| No capability / Not yet started               | 1%  |
| Ideation (in idea stage, but not implemented) | 30% |
| Pilot (in demo, proof-of-concept, beta phase) | 62% |
| Scale (i.e., in use across the organization)  | 7%  |

### Capability to offer continuous and dynamic pricing

|                                               |     |
|-----------------------------------------------|-----|
| No capability / Not yet started               | 3%  |
| Ideation (in idea stage, but not implemented) | 31% |
| Pilot (in demo, proof-of-concept, beta phase) | 45% |
| Scale (i.e., in use across the organization)  | 21% |

## How are companies planning to integrate generative AI?

Today, airlines and airports are exploring how generative artificial intelligence (AI) can revolutionize travelers' experiences and transform back-end operations. By integrating generative AI into their systems, airlines and airports can analyze vast amounts of data, predict patterns and generate insights. All of these will considerably enhance the entire passenger journey. From personalized travel recommendations and tailored services to predictive maintenance and optimized resource management, the implementation of generative AI is set to reshape the aviation landscape.



Our survey revealed insights from key areas with the most potential in the coming years:

## A copilot for trip planning

Airlines are testing and piloting the capabilities of generative AI to revolutionize trip planning, search and booking processes. Generative AI algorithms, powered by vast data sets and machine learning, will enable airlines to provide travelers with more personalized and efficient services. However, **to date, only 6% of companies surveyed are using generative AI to support their customers' inspiration, search and booking.** 91% are at the ideation or piloting phases of implementing these technologies.

## This is your GenAI-powered chatbot speaking

The aviation industry is seeking to implement generative AI capabilities within chatbots to revolutionize customer service and engagement. By leveraging GenAI, airlines will be able to enhance chatbot functionalities so that they can efficiently handle a wider range of queries, anticipate customer needs and deliver more accurate and relevant personalized responses—while reducing the workload on customer support teams. **Our research shows that 82% of companies are still in the ideation or pilot phases, with 15% having scaled their generative AI capabilities in chatbots.**

From personalized travel recommendations, seat preferences and in-flight entertainment choices to targeted promotions and loyalty programs, AI enables airlines and airports to cater to individual preferences effectively.

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Only 19% companies believe they have been able to scale AI across their enterprise, in a meaningful way.

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## New retail strategies - from super-apps to buy-now-pay later

Super-apps aim to offer consumers a digital, one-stop range of services, including hotel reservations, car rentals, ancillary purchases, travel experiences, destination information and more - all within a single user-friendly application. By adopting a super-app approach, airlines seek to provide travelers with an all-encompassing digital ecosystem that goes beyond flight bookings. Most companies surveyed are at the pilot and ideation phases, and just 7% offer a super-app at scale. Our research shows that countries in Southeast Asia are more likely to scale super-apps vis-à-vis other geos, owing to drivers such as mobile first population, strong digital infrastructure and favorable ecosystem integration.

**Q** Implementing a super-app—at what stage of maturity is your organization?

**No capability or not yet started**

5%

**Ideation** (in idea stage, but not implemented)

63%

**Pilot** (in demo, proof-of-concept, beta phase)

26%

**Scale** (i.e., in use across the organization/  
customer-ready)

7%

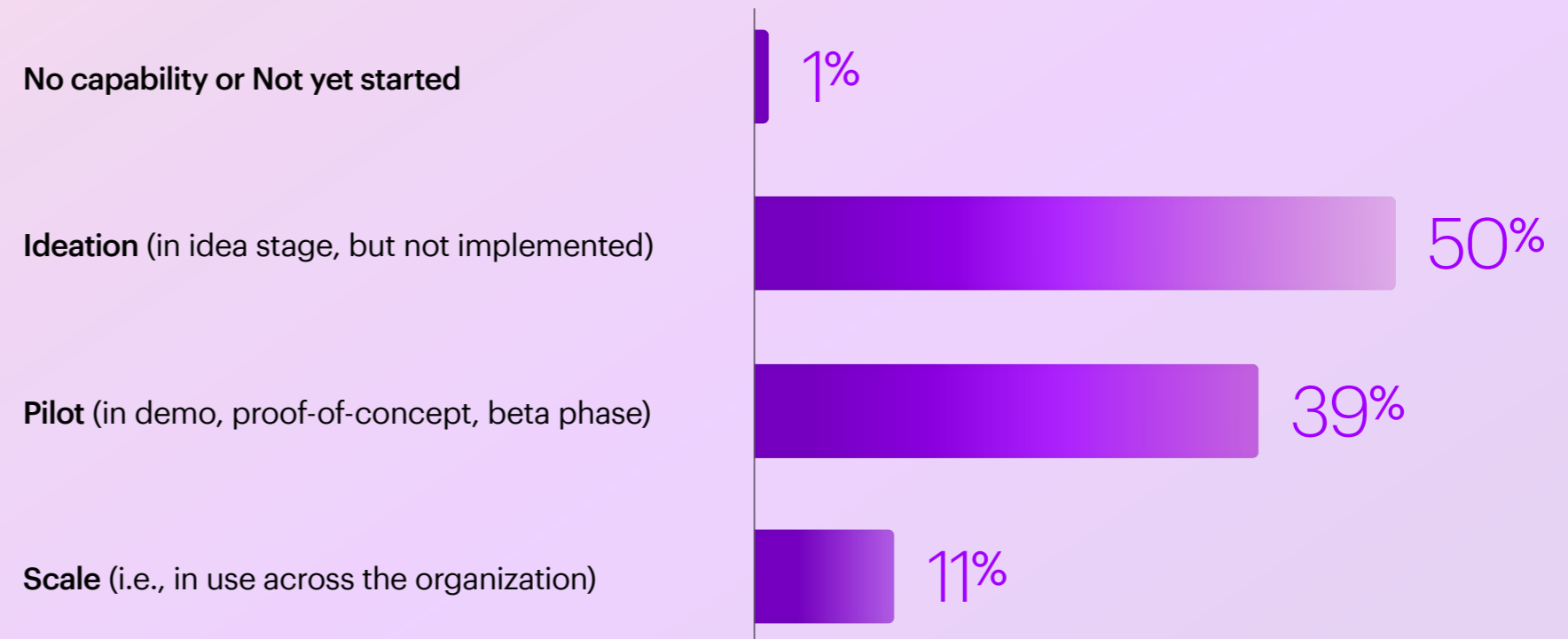
Airlines are also increasingly bundling offers from various partners, including hotels, car rentals and experiences, to create comprehensive and seamless travel packages. Dominantly, this is maturing more on the sales side vis-à-vis the service side of things. The aspiration is to create a more integrated travel experience, encouraging loyalty and simplifying the planning process for customers. Most companies (89%) surveyed are piloting or ideating this capability— with just 11% reporting they are using it at scale.

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Most companies (89%) surveyed are piloting or ideating this capability — with just 11% reporting they are using it at scale.

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**Q** Ability to bundle offers from partners for a connected trip (car rental, insurance, etc.)—at what stage of maturity is your organization?



Our survey reported that 21% of airlines are deploying buy-now-pay-later at scale and other innovative payment schemes; 78% are still ideating or piloting this capability.

# Customer experience: What should aviation companies continue to do?

01

Contextualize offerings based on travelers' real-time preferences and broader travel agenda, travel context and real-time situations. Tap into and refer to these insights before, during and after each trip and into the next one.

02

Use emerging technologies such as generative AI to efficiently develop and manage product information and content.

03

Disintermediate third parties by providing inventory listings directly to travelers through rich media and content.

04

Enable partners to share data and link across the ecosystem for shared success. What might this look like? A company that sells or services a bundled travel product can still access the customer to sell them ancillary services.

05

Create a shopping cart-inspired interface for travel offerings showcasing the full experience and allow for travel planning collaboration with friends, family and colleagues.

06

Develop a phased execution plan with necessary technology and process updates, working with key partners.

07

Create blueprints for front-end personalization (e.g., what customers order and how they want to order) and for back-end implementation (e.g., a single integrated customer record and order management deployment) — complete with futuristic offer-order architecture, governance and delivery mechanisms and a detailed change management plan.

## Who's doing it today?

Accenture helped Changi Airport Group develop and launch Changi Airport's first metaverse experience on a virtual platform. The aim was to boost customer acquisition, customer engagement and brand loyalty. Audiences now have an immersive new way to connect with the airport — which was recently awarded the World's Best Airport by Skytrax for the 12th time — and explore its notable sights in a digital space. The experience adds a new digital aspect to visitor engagement and showcases the airport's goal of continuous innovation, strengthening its leading position in the travel and aviation industry.

## Expedia offers generative AI inspiration:

Expedia announced a new in-app travel planning experience powered by ChatGPT that recommends places to go, where to stay, how to get around and what to do. Recommendations are all based on customer interactions with the app's chat function. The experience brings in intelligent shopping by automatically saving hotels discussed in the conversation to a "trip" in the app, helping members stay organized and making it easy to choose travel dates, check availability and add flights, cars or activities.

As Peter Kern, Vice Chairman and CEO of Expedia Group explains, **"By integrating ChatGPT into the Expedia app and combining it with our other AI-based shopping capabilities, like hotel comparison, price tracking for flights and trip collaboration tools, we can now offer travelers an even more intuitive way to build their perfect trip."**



# Operations: Running the future airport – autonomous vehicles to video analytics

The aviation industry is harnessing the latest technologies to enhance operational efficiency and safety standards. This concerted adoption of digital technologies underscores the industry's commitment to comprehensive innovation and continual improvement.

The use of autonomous vehicles and robotics for both airside and landside activities is gaining traction. On the airside, autonomous vehicles will transform ground-handling processes by efficiently towing aircraft, transporting baggage and performing runway inspections. The result? Greater operational efficiency, improved safety and security and less human error.

**Tomorrow's airports are likely to leverage autonomous technologies to create predictable, repetitive and autonomous end-to-end processes from landside to airside.**

On the landside, robotic systems will automate baggage handling, cleaning services and security patrols, while also optimizing terminal operations and improving passenger experiences.

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Our research indicates that 78% of airports are either in the ideation or pilot stages of operationalizing autonomous vehicles and robotics. Only 14% report that they have scaled them across their operations.

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Airlines and airports are also making advances in the use of video analytics to improve crowd management. 15% of airports surveyed have deployed video analytics throughout their operations. 81% are still ideating or piloting. Advanced surveillance technologies equipped with AI-powered video analytics can monitor passenger flow, detect congestion points and accurately predict peak times. Real-time analysis of footage enables swift responses to potential bottlenecks or security concerns. And with insights from video analytics, airports can efficiently allocate resources, improve terminal layouts and streamline operations.

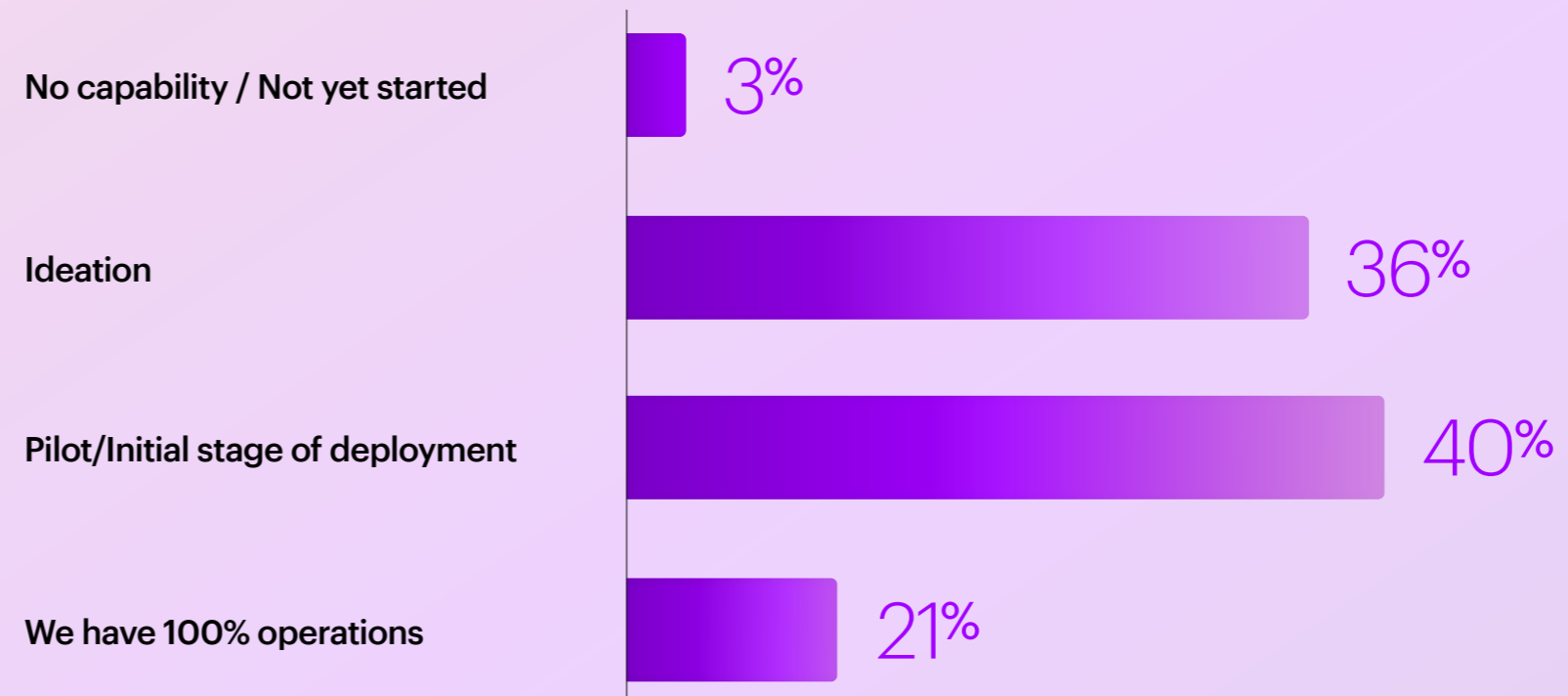


## Framing cybersecurity

As vital hubs for global connectivity, airlines, airports, Air Navigation Service Providers (ANSPs) and Air Traffic Controllers (ATCs) are prime targets for cyberthreats. Robust frameworks for cybersecurity are therefore essential. These need to safeguard critical systems, passenger data and operational functionalities. Greater reliance on digital technologies for flight operations, baggage handling and passenger services increases airports' susceptibility to cyber risks. These could include data breaches, ransomware attacks and disruptions to air traffic control systems.

A comprehensive cybersecurity framework not only protects sensitive information but also ensures the uninterrupted flow of operations. However, we found that currently only ~20% of airports surveyed have a comprehensive framework in place, while 76% are still ideating or piloting.

**Q** Framework for cybersecurity—at what stage of maturity is your organization?



## Monitor, simulate, predict

Digital twins create a digital replica of complex physical infrastructure, processes and systems. For airlines and airports, they offer the opportunity to improve operations, enhance efficiency and improve decision-making. The real-time monitoring, predictive analysis and simulations that a digital twin provides enable airport authorities to proactively manage maintenance, improve resource allocation and streamline passenger flow for safety and efficiency. It's an opportunity that's ripe for scaling. Today, only 13% of airports surveyed have scaled digital twins, with the remainder in ideation or piloting stages.

## Data-driven disruption management

Airlines can use data analytics to manage disruptions, improve operational resilience and optimize resources. They can also enhance customer satisfaction by minimizing the inconvenience caused during unexpected events. The integration of data analytics into disruption management strategies continues to evolve as airlines seek more efficient and effective ways to handle and mitigate disruptions.

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Data analytics adoption has shown a promising trend—28% of companies surveyed have enterprise-wide capabilities, with regards to this technology, while the rest are either in ideation or pilot stage.

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## Building a digital core for aviation

A digital core integrates the power of cloud, data and artificial intelligence (AI) to create an interoperable set of secure, flexible platforms. This enables companies to rapidly create new capabilities and growth opportunities for the enterprise. The digital core powers enterprise-wide reinvention, including transforming talent and workforce capabilities. It's how travel companies can reach the destination they aspire to amid all the disruption.

## Future in the cloud

The future of the industry lies in cloud-based platforms that are open, modular and order-native — for offers and orders. The shift toward open, modular and order-native platforms has been gaining traction, albeit at varying paces across different airlines.

Open and modular platforms allow for easier integration of third-party services and applications, enabling airlines to create tailored solutions that suit their specific needs. What's more, order-native systems focus on managing various ancillary services and flight-related products seamlessly within a single platform. The result is a more comprehensive and personalized customer experience. Several airlines have been investing in or exploring partnerships with tech companies to develop or adopt such platforms.

However, the adoption of these advanced platforms varies among airlines. That's because of limiting factors such as legacy systems,

regulatory constraints and the complexity of transitioning from traditional infrastructure to cloud-based solutions. Some airlines have made significant progress in this realm, while others are still in the early stages of evaluating or implementing these innovative technologies.

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19% of airlines surveyed have adopted cloud-based platforms that are open and modular. Unsurprisingly, 77% of companies are still in early stages (no capability or in pilot/ideation), while 3% have highlighted no current capabilities of any sort.

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## Rebuilding the tech stack

Airlines have been exploring and adopting microservices-based technology stacks as part of their retailing strategy. The transition toward microservices architecture allows airlines to break down their software systems into smaller, more manageable components or services. These services operate independently, communicate through application programming interfaces (APIs), and can be updated or modified without affecting the entire system.

Several airlines have been progressively moving toward microservices-based architectures to bolster their retailing strategies and to improve operational efficiencies. However, the pace and extent of adoption significantly varies between different airlines, depending on their technological readiness, organizational priorities and the extent of legacy systems they need to modernize.

The adoption of microservices in the airline industry remains a complex process. Some of the barriers to progress? Legacy systems, data integration challenges, security concerns and the need for talent proficient in microservices architecture.

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With these in mind, our research reveals that over 80% of organizations surveyed are still in early stages (no capability or in pilot/ideation). 19% of companies have scaled this technology across their key operations.

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# Operations: What should aviation companies continue to do?

01

Invest in a digital core to achieve continuous strategic visibility of airline and airport decision-making.

02

Digitize and mechanize key processes across the value chain to continually optimize and reduce unit costs.

03

Leverage data-rich optimization models for real-time decision making on operational issues and on big-ticket CAPEX items.

04

Creating a single source of truth, surfacing actionable insights through a data-powered enterprise strategy.

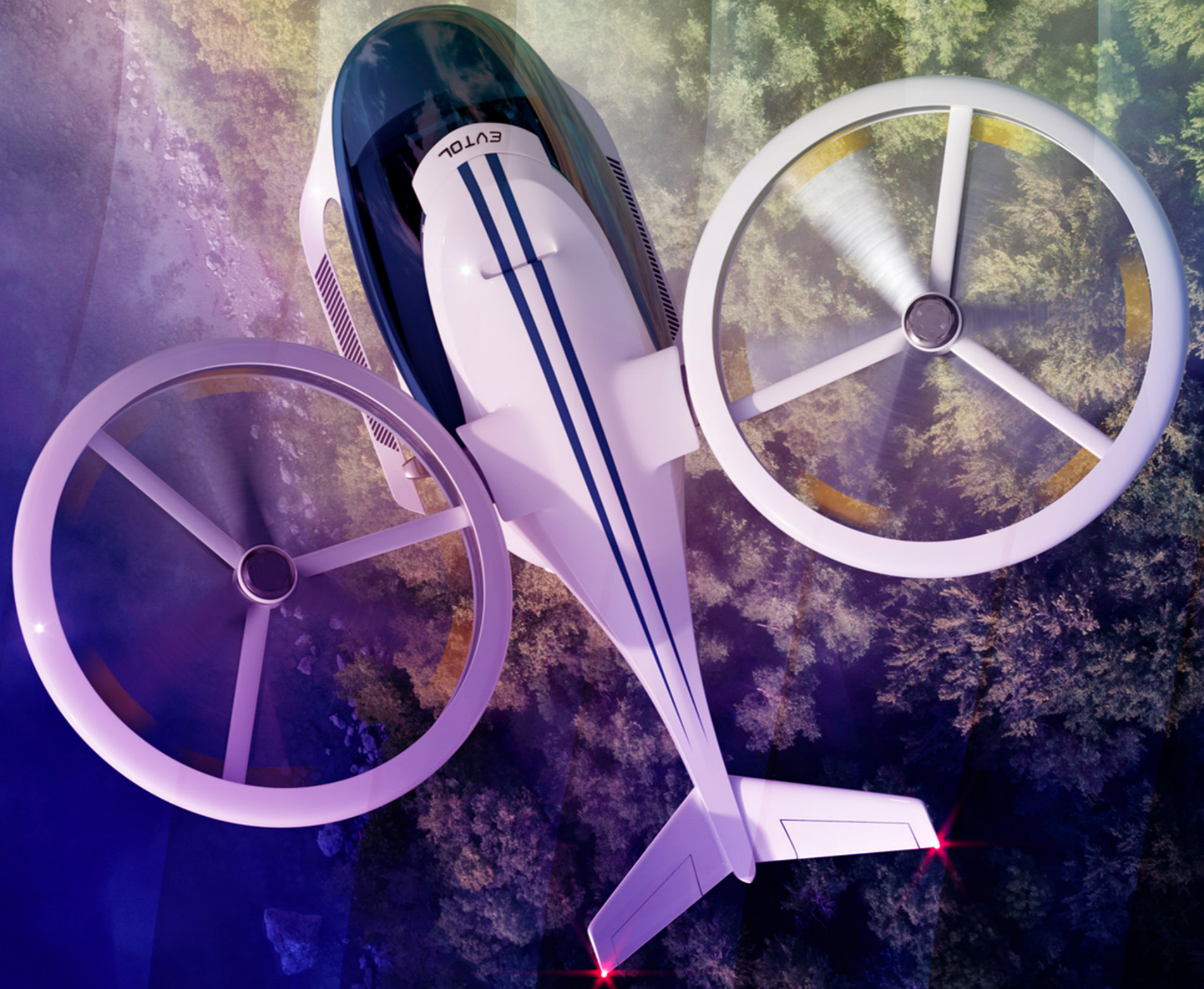
05

Unifying data flows across enterprise functions and processes, breaking down silos and supporting real-time visibility across neighboring functions and different locations.

06

Establishing interactive dashboards and enabling analysts to work with real-time data with context, and proactively recommend sound decisions.

Sustainability:  
the must-reach  
destination



# Airlines and airports alike are committing to net-zero operations. To achieve them means addressing some significant challenges.

The aviation industry has set its ambition to achieve net-zero emissions by 2050. In line with that commitment, airlines and aviation stakeholders are investing in innovative technologies, adopting sustainable aviation fuels (SAF) and optimizing operational efficiencies.

However, the global nature of air travel complicates efforts to establish uniform regulatory frameworks and emissions reduction strategies across diverse regions. And that impedes cohesive progress toward net-zero targets. Additionally, the sector's heavy reliance on fossil fuels, coupled with aircraft's lengthy lifespans, demands a holistic approach to fleet renewal and technological innovation.

Collaboration between airlines, airports, manufacturers and policymakers underscores a concerted drive toward sustainable aviation, emphasizing fleet modernization, improved air traffic management and adoption of carbon sequestration techniques.

Our survey revealed that companies will increase their own focus on sustainability in both the short and longer term. In the next six months, 64% of companies will increase their focus on sustainability. However, our survey revealed something of a surprise: over the next two years, the trend sees a slight decline and normalization, where just 41% of companies will increase their focus.

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Our survey reveals that 85% of companies are confident or very confident in the aviation industry's realization of net zero goals by 2050.

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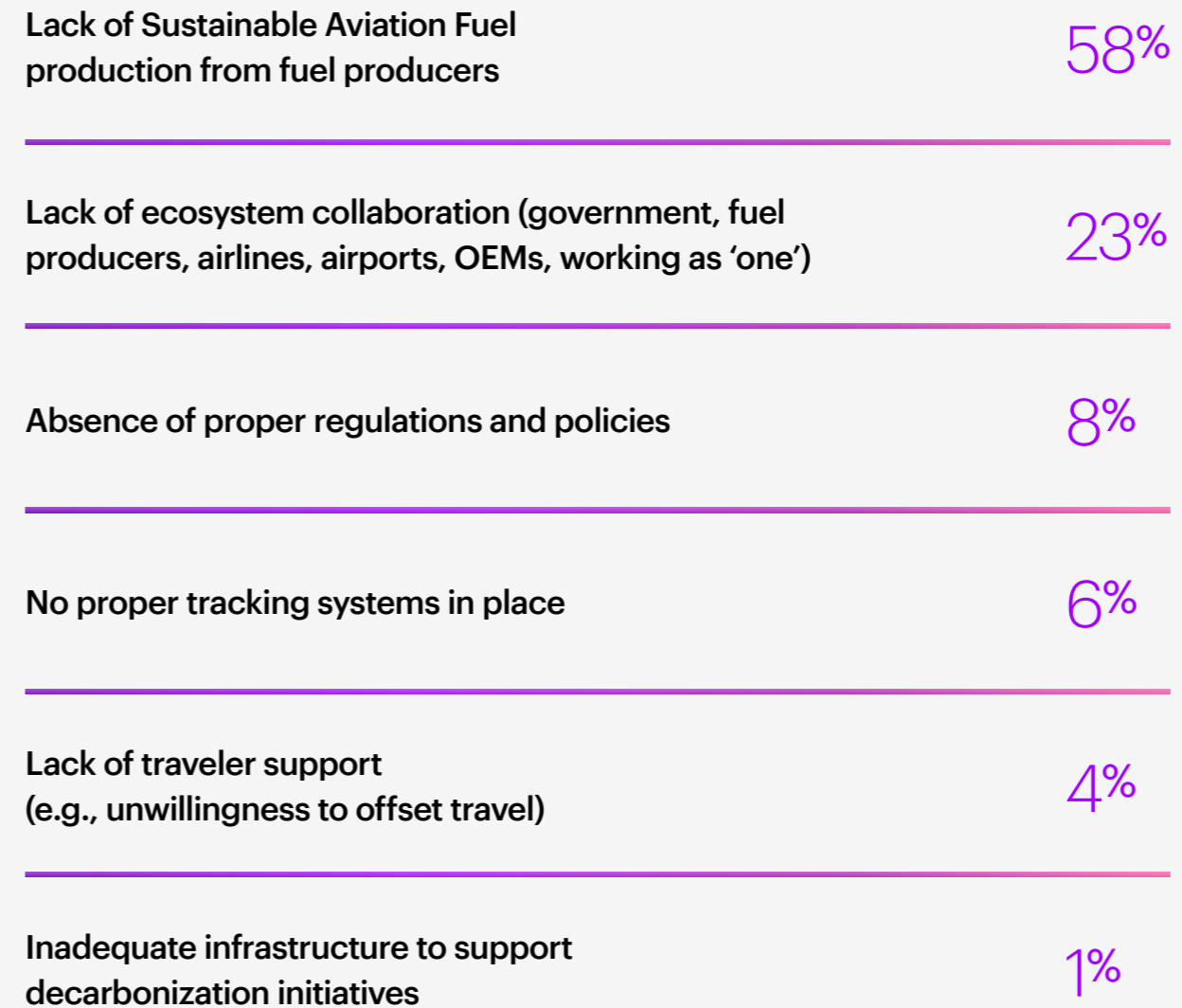
86% of companies also expressed confidence or very high confidence in tracking and complying with Environmental, Social and Governance (ESG) regulations and reporting.

## Obstacles to net-zero

However, the path to reaching these targets is a challenging one. This is principally owing to the industry's reliance on fossil fuels and the complexities of transitioning to sustainable alternatives. **Our survey confirms this, with 58% of leaders indicating that the primary barrier to realizing net-zero goals was the lack of SAF production from fuel producers.**

Scaling up production to meet the immense fuel demands of the aviation industry requires substantial investments in new infrastructure and technology. Additionally, the cost of producing SAF remains higher than for conventional jet fuels, posing economic challenges to their widespread adoption.

## Major challenges highlighted by Aviation leaders (related to their net-zero journey)



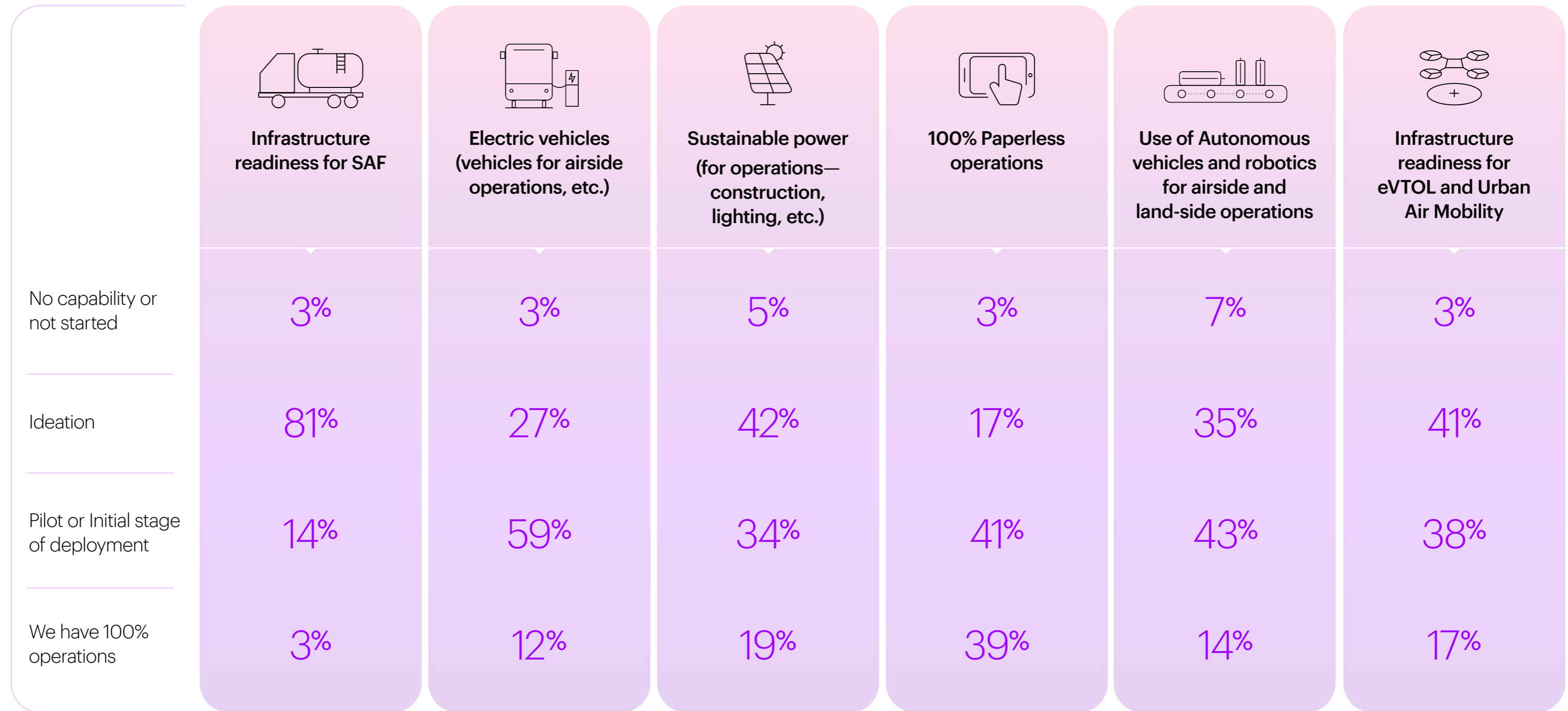




## **Green on the ground, green in the air**

Airports are implementing robust sustainability strategies and initiatives aimed at minimizing their environmental impact while enhancing operational efficiency. These initiatives include reducing greenhouse gas emissions, conserving energy, optimizing water usage, enhancing waste management practices and promoting eco-friendly transportation options. Moreover, to minimize their carbon footprints, airports are integrating green building designs and sustainable materials into their infrastructure projects.

## Airport decarbonization initiatives—progress to date



## What should aviation companies continue to do?

01

Reinvent intelligent operating models powered by data and AI, which enable them to identify new value capabilities across the ESG spectrum.

02

Embed ESG into corporate strategies and throughout the operating model.

03

Facilitate real-time operational collaboration across the value chain, by weaving technology into all key touchpoints, including suppliers, airline and airport partners and travelers.


04

Fund ESG initiatives through cost savings (for example, reduced fuel usage).

## Who's doing it today?

Accenture worked with the World Travel & Tourism Council and the UN Environment Programme to define a climate roadmap to accelerate the sector's decarbonization. We analyzed 250 public reports and conducted focus groups and interviews with experts from more than 60 companies across the industry. The focus was to propose a target corridor framework along three clusters — easy to abate, medium to abate and hard to abate — with carbon reduction targets and milestones. Of the 250 businesses we analyzed, 42% had a defined climate target. Of those, 20% were aligned with the Science-Based Target Initiative guidance. The framework offers a realistic and pragmatic overview of the roadblocks and how the industry can decarbonize to achieve a net-zero future.





Workforce and  
Talent: building  
skills for the  
future, today

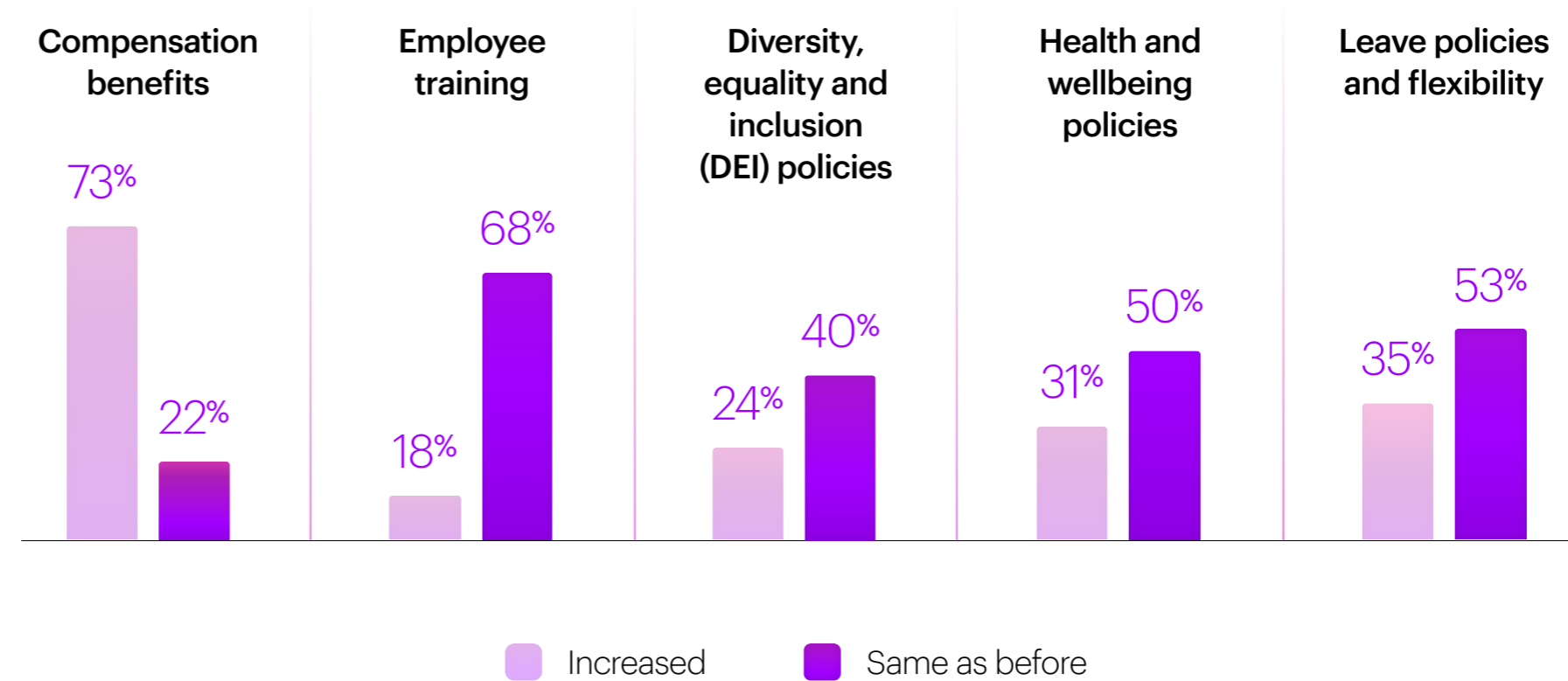
## New technology and digital ways of working call for new skills and talent. To thrive in a fast-changing future, airlines and airports need to become magnets for diverse talent.

The aviation industry's workforce and talent needs are changing fast. Driven by new technology, changing demographics and evolving industry needs, traditional aviation roles, such as pilots, flight attendants, call center agents, operations control, engineering, maintenance and ground staff, are now intersecting with new demands for digital expertise, data analytics, cybersecurity and sustainable practices. Automation and artificial intelligence are reshaping operational processes, requiring a workforce adept at handling and integrating these technologies.

**However, hiring and retaining talent post-COVID-19 is an industry-wide challenge as confirmed by nearly all (97%) executives.** While the aviation industry has increased their focus on several key initiatives, the industry can do more. Significantly more. The industry has now moved away from a recovery to a profitability zone, wherein focus on these will yield results.

To find out more and reveal some key trends, we asked aviation leaders about their views of the current talent landscape.

### Compared with pre-Covid, how has the focus changed on:



Layoffs, furloughs and restructuring during the pandemic have led to uncertainty among the aviation workforce, with many skilled individuals leaving the industry to seek employment in other sectors. The resulting skills gap is particularly acute for pilots, engineering and maintenance staff. Demand for pilots has surged, driven by the growth of the global aviation market and the impending retirement of many experienced pilots. This, coupled with the lengthy training period required to become a commercial pilot, has led to a shortage of qualified pilots.

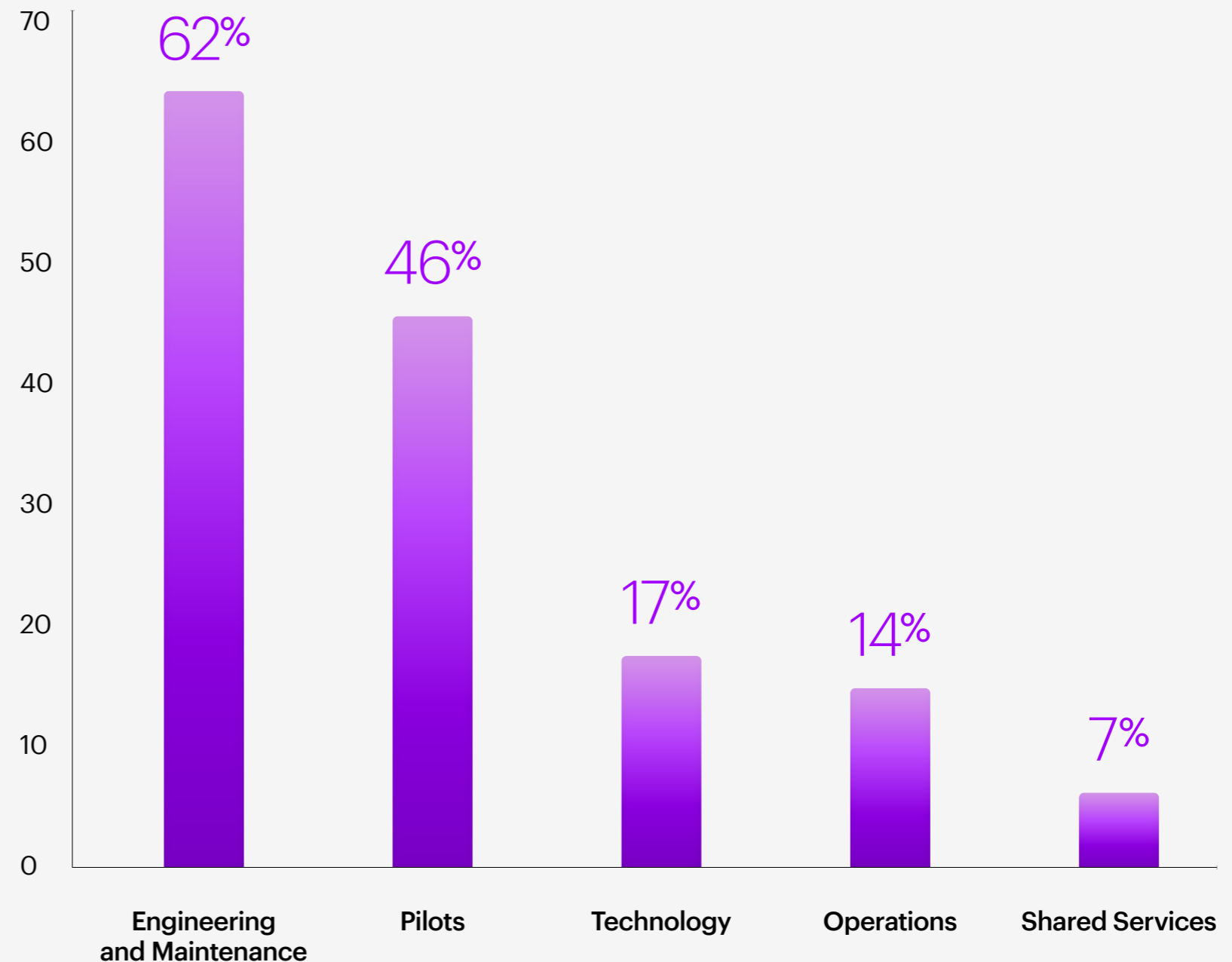
The industry also faces a shortage of skilled technicians and engineers capable of maintaining and repairing increasingly complex aircraft systems. Rapid technological advances and the introduction of new aircraft models demand a workforce with expertise in digital systems, avionics and emerging technologies. Matching the available talent with these specialized skills is proving to be a considerable challenge.

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Overall, 98% of companies surveyed identified a skills gap in the industry today, with 93% anticipating the gap persisting over the next 3–5 years.

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### Currently, where do you see the skills gap as most prominent?

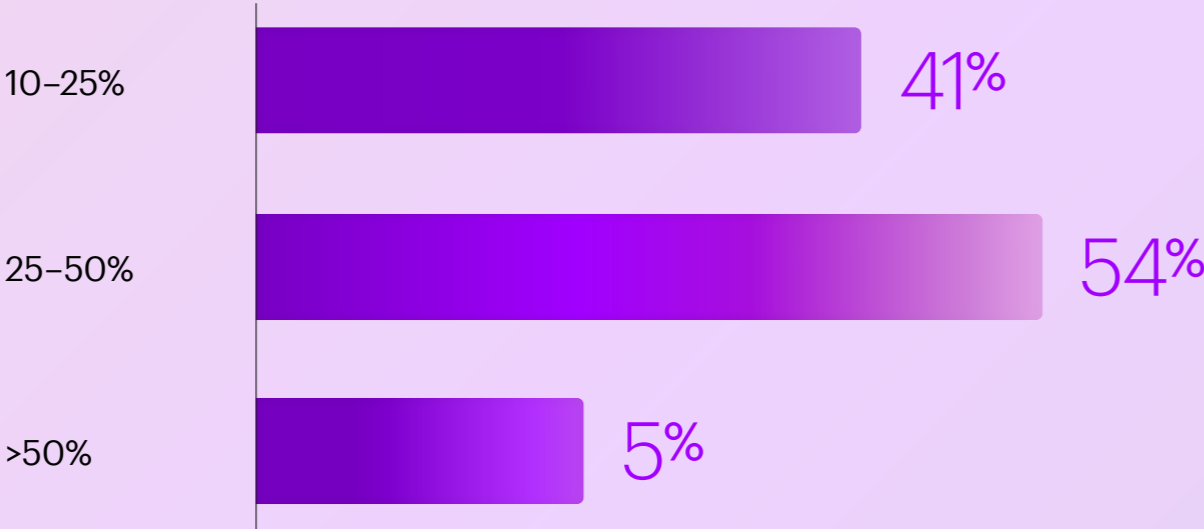


# Women in aviation

Women have played a significant yet historically underrecognized role in the aviation industry, with a rich legacy of pioneering achievements often overshadowed by gender disparities. Today, there's growing recognition of the need to promote gender diversity and inclusion, encouraging more women to pursue careers in aviation.

Our survey revealed that only 5% of organizations have more than 50% women representation in their leadership positions.

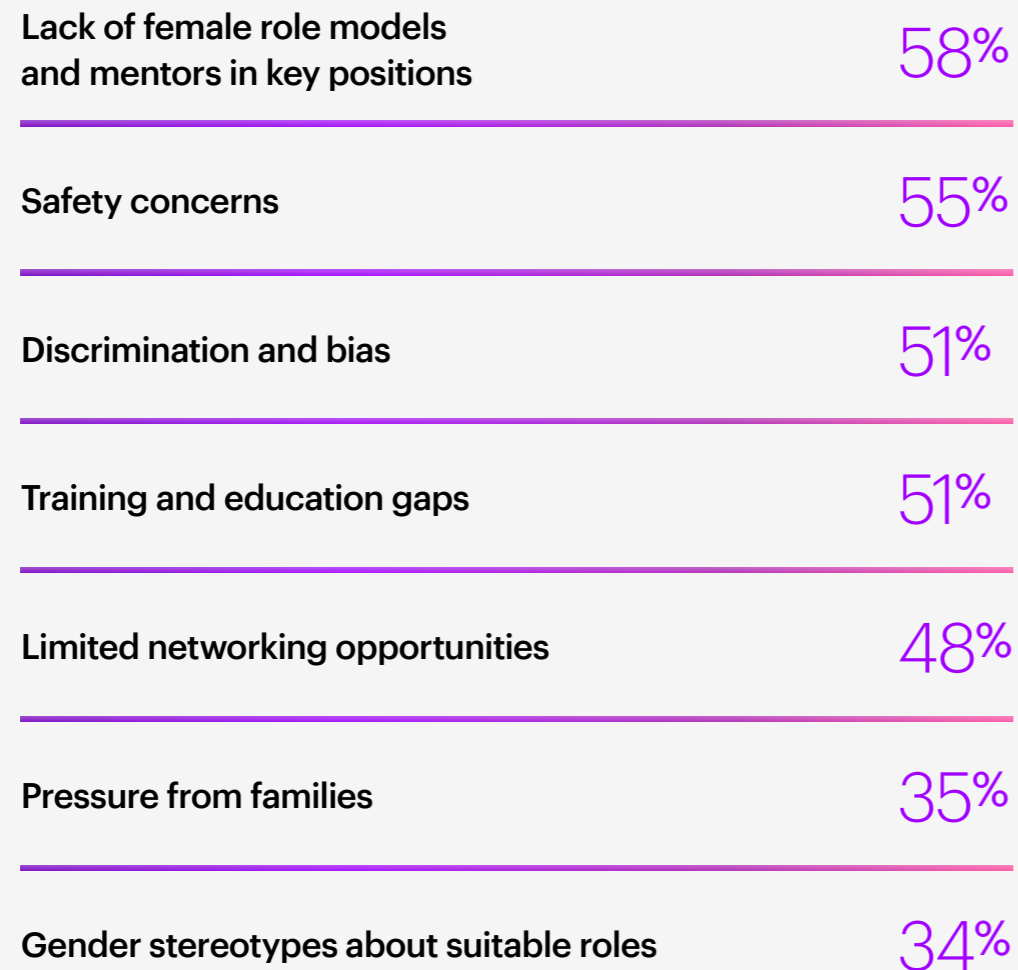
**Q** Women constitute what percentage of your organization's C-suite or executive leadership workforce?





However, women continue to face several barriers to achieving equal representation and opportunities in the aviation industry. Historically, the sector has been male-dominated, leading to deeply ingrained stereotypes and cultural biases that prevent or make it hard for women to start or advance careers in aviation.

### Our survey revealed seven key barriers to women’s representation in aviation:



Efforts to promote gender diversity, inclusion and equal opportunities are gaining momentum. That’s fostering a more supportive environment for women in aviation. Consequently, the industry anticipates a gradual but steady growth in the proportion of women in the workforce.

Our survey revealed the key trends:

**Q** How do you anticipate the share of women in the workforce to evolve?

**74%** predict representation to increase—over the next 6 months

**52%** predict the representation to increase—in the next 2 years

Recognizing the importance of gender diversity, airlines, aviation organizations and educational institutions are implementing programs to empower and support women in aviation careers. Today, 98% of organizations surveyed have women-centric policies in place.

## Key initiatives that are included in women in aviation programs

|                                                                |     |
|----------------------------------------------------------------|-----|
| Dedicated scholarship or financial support for female students | 60% |
| Dedicated women-only recruitment programs                      | 59% |
| Professional development programs for women                    | 57% |
| Flexible working models                                        | 50% |
| Sponsorship and mentoring programs                             | 37% |

As the aviation industry propels toward a more inclusive and diverse future, the presence and impact of women continue to elevate and inspire. Their presence in all areas of the industry, from piloting to engineering and leadership roles, enriches the industry's tapestry. Companies need to support women in aviation to shatter more stereotypes, pave new paths and serve as role models for future generations.



# What should aviation companies continue to do?

01

Wire the organization to encourage working in new ways through diversity and incentive programs, performance plans and organizational behaviors.

02

Adopt flexible and data-informed ways to allocate people with the right skills and potential to the correct roles and manage the talent pool.

03

Build a real-time, two-sided platform that connects employees with work and development opportunities suited to their skills and aspirations and that connects HR, managers and leadership to the best talent in a fully autonomous fashion.

04

Employ the full spectrum of workforce models, anticipating emerging needs for new skills (via visibility into the value chain) and meet those needs through skilling and hiring.

05

Continually invest in new skills and reverse-mentorship programs that help people learn from the newest members of the organization — often the experts in emerging areas.



# Aviation's new flightpath: reinvention

Travel leaders can build on the capabilities covered in this report to accelerate their reinvention. **Technology, talent and sustainable practices are the fundamentals for a flexible aviation business that constantly reinvents itself to align with consumer expectations and fly calmly through future shocks, making the ability to change part of the organizational DNA.** Every aviation company should identify the organizational, operational and cultural obstacles to delivering ambitious, net-new growth in the near term and beyond. This will make clear which areas to prioritize. And while many airlines and airports are at the ideation or piloting phase of many of the transformational technologies that will be pivotal to future success, far fewer are implementing at scale.

It's important to understand that reinvention isn't a to-do. It's a to-be; an opportunity to continually reinvent and transcend not only present practices, but also future possibilities. There's no going back — in fact, the gap between what technology makes possible and what's being done in practice is widening, and the urgency to act is escalating.

## Authors

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**Ray Stetter**  
Managing Director,  
North America  
Aviation Lead



**Carsten Weisse**  
Managing Director,  
Europe Aviation Lead



**Aaron Yu Qi**  
Senior Manager –  
Strategy & Consulting,  
Travel Industry



**Gaush Mohamad**  
Managing Director,  
Global Airports Lead



**Sankar Subramaniam**  
Senior Principal,  
Global Travel Industry  
Research Lead

## Research Team

---

**Victoria Casarrubios**  
(Research Manager – Travel Research)

**Aditi Abhijeet**  
(Research Specialist – Technology Research)

## Marketing and Communications

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Julien Legrand, Chaitanya Prakash,  
Lea Johann, Kristina Tomes

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