# The art of AI maturity in Travel

Adapt to advance from practice to performance

accenture

From baggage screening and wayfinding apps in airports to hotel concierge services and booking engines, artificial intelligence (AI) has arrived in Travel. AI investments are poised to improve traveler experiences, increase operational efficiency, empower employees, simplify logistics and more.

AI is especially important in Travel because historical data is not as relevant as it once was. Now, understanding travelers' needs, capturing demand, managing revenue, streamlining operations—so many fundamentals of the Travel business—hinge on capturing real-time moments and trends.

# Travel has yet to take full advantage of everything that AI can do

While the travel industry is much stronger than it was two years ago, companies are still recovering and adapting to a very different reality. Traveler patterns have shifted. Leisure travel is now a massive force. At the same time, post-pandemic workforce trends are changing the nature of business travel.

To capture dynamic demand and win loyalty, travel companies must work harder to inspire segments they previously relied on and simultaneously understand new ones. This means working differently across the business and with ecosystem partners. Already, we're seeing an emergence of travel data spaces (or models) for sharing data in a secure and compliant way across ecosystem partners. Necessary shifts touch everything from developing strong B2B marketing capabilities to reinventing pricing, revenue

management and intelligent distribution strategies. This is hard work. It's harder still amid pressure to optimize costs while creating extraordinary experiences across the traveler journey and beyond.

None of this is possible without AI, which makes it possible to fully capitalize on the value of data and leverage it at scale for better decision-making. This is how travel companies can deliver the highly personalized travel experiences without disruptions and with real-time communication. It's what every traveler wants—from the bold adventurers to the nervous skeptics. So as travel companies define their new segmentation strategies, tailor offers, ensure real-time predictive communications and provide disruption management, AI is the means to the end. It's a powerful enabler of experience and operations in Travel moving forward.

Yet an Accenture survey of travel executives—part of an extensive cross-industry analysis of over 1,600 C-suite executives and data science leaders from the world's largest organizations—reveals that most travel organizations are barely scratching the surface in AI.[1] **Just 13% of travel companies have the AI maturity today to unlock its full potential. We call them the AI Achievers.** AI Achievers are different because they know that success with AI is a science and an art. It's where the science of algorithms meets the art of organizational adaptation.

**AI maturity measures the degree to which organizations have mastered AI-related capabilities in the right combination to achieve high performance for customers, shareholders and employees.**

Computer scientist John McCarthy coined the term "artificial intelligence" in 1955, proposing that, "every aspect of learning ... can in principle be so precisely described that a machine can be made to simulate it."[2]  In fewer than 70 years, AI has evolved from a scientific concept to a societal constant.

# AI maturity: Why it matters

# The race to embrace AI in Travel is on

There is growing consensus that AI is increasingly essential for competitive advantage in Travel, according to our survey. [3] Signaling their intention to scale AI broadly (and quickly), 74% of travel organizations have re-worked their strategies and cloud plans to achieve AI success. We're also seeing confidence in AI as a value-driver among travel industry executives. About half (47%) say the return on their AI initiatives exceeded their expectations. Only 1% say that returns didn't meet expectations.

This confidence exists beyond Travel. As early successes build confidence in AI as a value-driver broadly, we estimate that across industries, **AI transformation will happen much faster than digital transformation—on average, 16 months faster** (Figure 1). What does this mean for Travel specifically?

It creates a clear sense of urgency for action. After all, leaders haven't forgotten what happened to Travel's digital laggards. Those still in business today continue to play catch up.



**Figure 1: We project that AI transformation across industries including Travel will take less time than digital transformation**
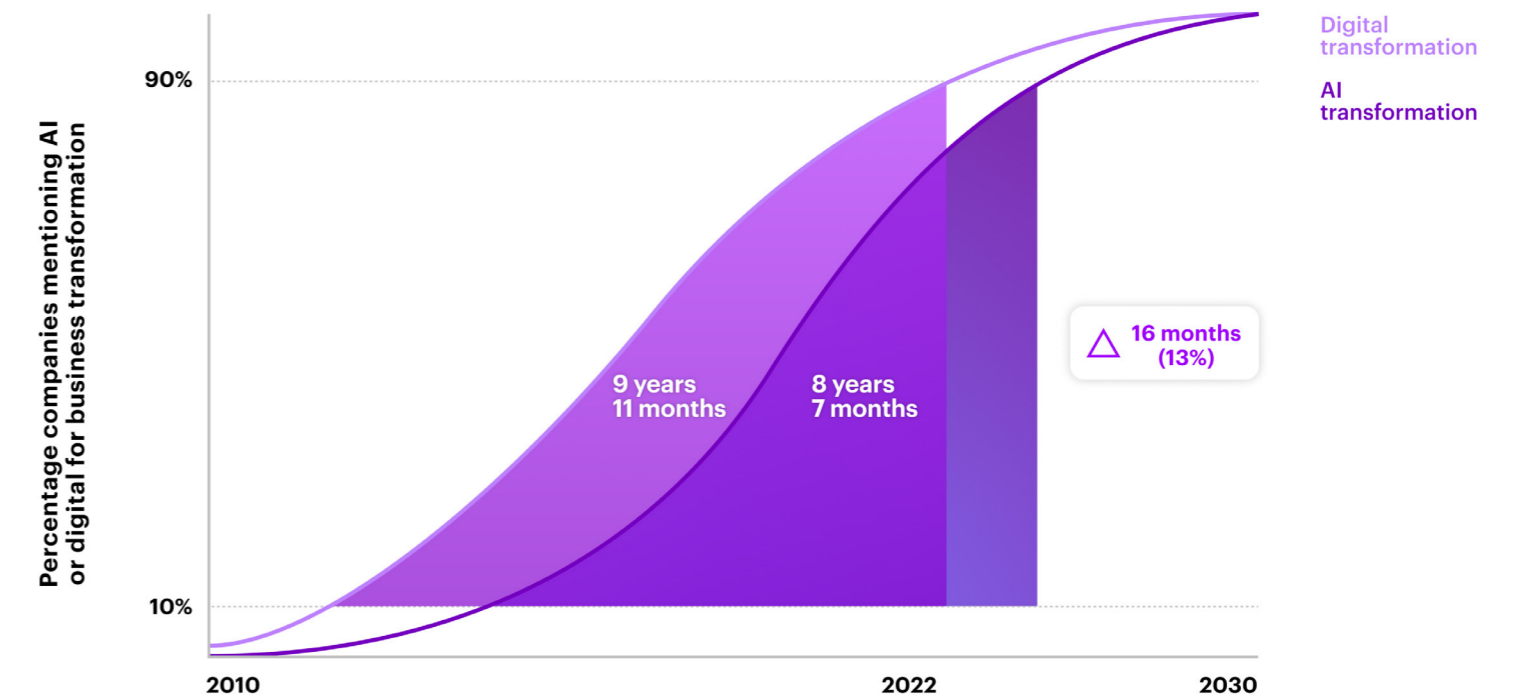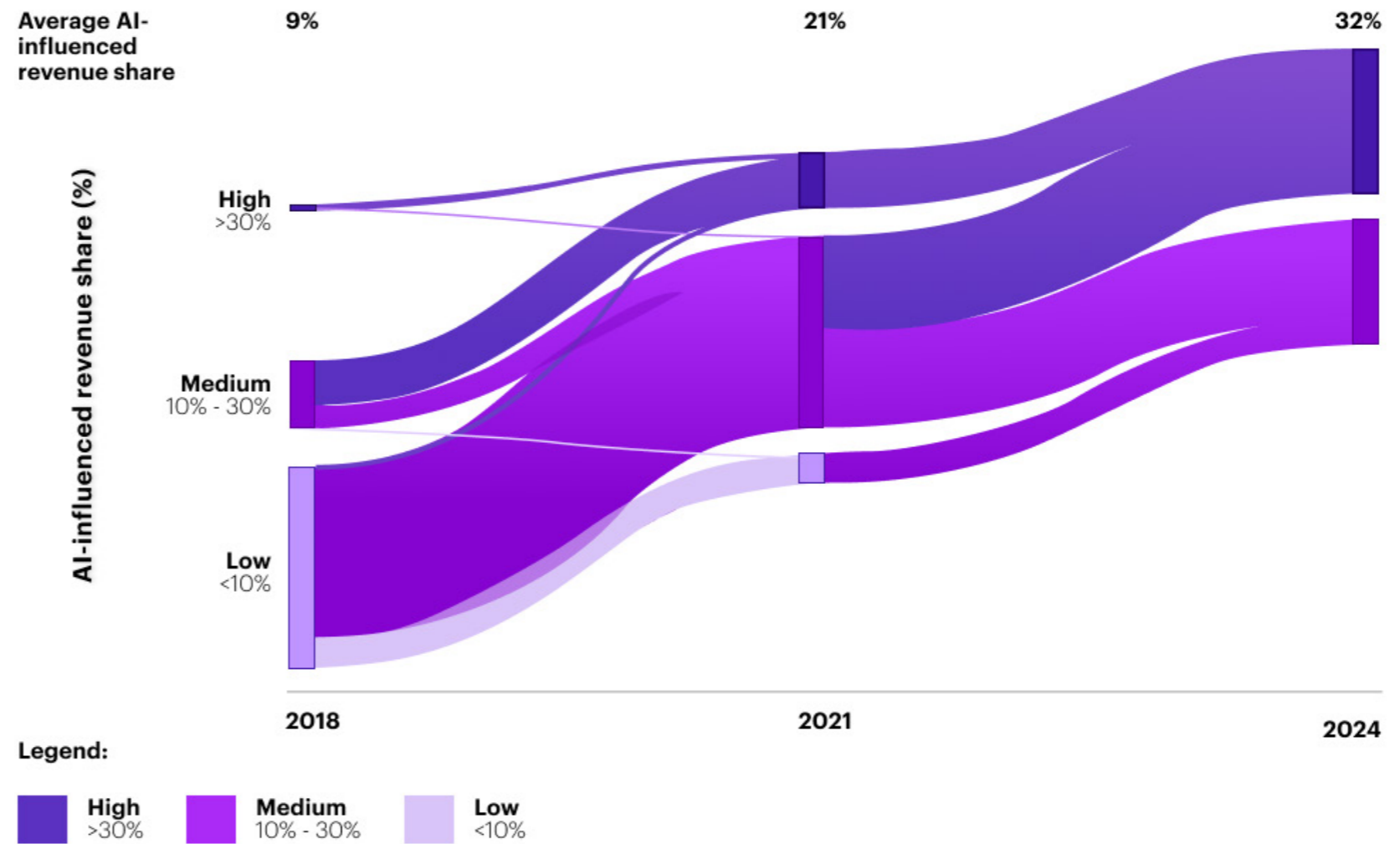
**Source:** Accenture Research

**Note:** Our estimate is derived from a natural language processing analysis of investor calls of the world's 2,000 largest companies (by market cap), from 2010 to 2021, that referenced "AI" and "Digital" in tandem with "business transformation," respectively. Data was sourced from S&P earnings transcripts.

Given this reality, it's not surprising that the share of travel companies' revenue that is "AI-influenced" more than doubled between 2018 and 2021 and is expected to roughly triple by 2024 (Figure 2).



Figure 2: The evolution of travel companies' AI-influence revenue share—2018, 2021, 2024

**Note:** Color indicates the achieved AI-influenced revenue threshold within each time period.

**Source:** Accenture Research
**Note:** *2024 = projected

*Definition of "AI-influenced" revenues:
**a.** Sales of existing products and services made possible through better AI-driven insights on customers, supply chain, channels; **b.** Sales of new products and services made possible by human + AI, **c.** Higher prices through dynamic pricing ML algorithms. These sales include some cannibalization and net new revenues. In contrast, this definition is excluding higher efficiencies in production operations thanks to AI.

AI maturity: What it is

# A critical question for travel leaders

## If most travel players are racing to embrace AI, why are some seeing more value than others?

To find out, we designed a holistic AI-maturity framework and completed our analysis using AI. We applied machine learning models to unravel massive survey datasets and uncover drivers of AI maturity that would have been impossible to detect using more traditional analytical methods. We found that AI maturity is about mastering a set of key capabilities in the right combinations across two categories:
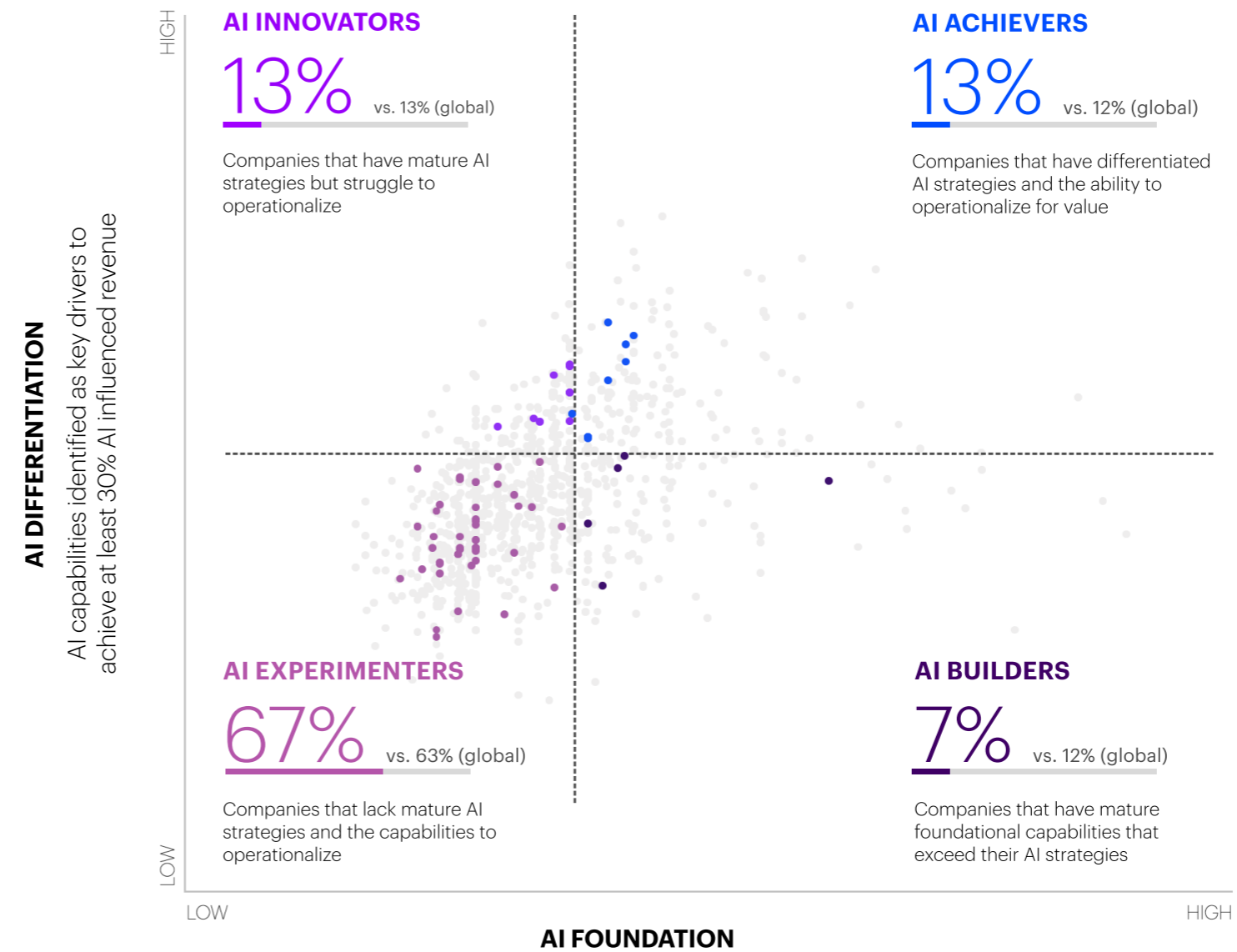
- **Foundational AI capabilities**—cloud platforms and tools, data platforms, architecture and governance—that are to keep pace with competitors.

- **Differentiation AI capabilities**—AI strategy and C-suite sponsorship, combined with a culture of innovation that can set companies apart.
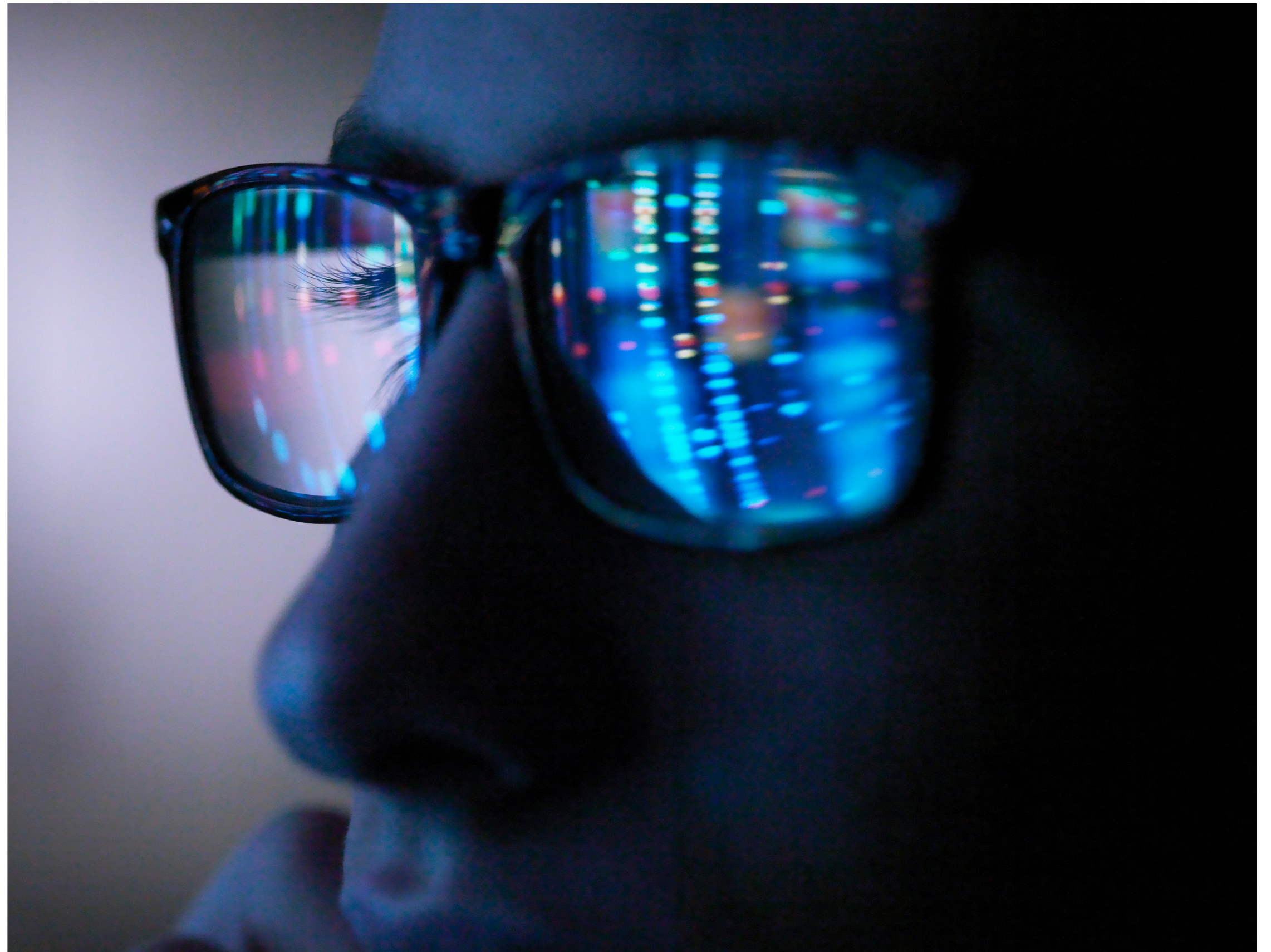
Consider the breakdown of travel companies across these categories. AI Achievers (13%) show strength in both categories. AI Builders (7%) show strong foundational capabilities and average differentiation capabilities. AI Innovators (13%) show strong differentiation capabilities and average foundational capabilities. AI Experimenters (67%) have average capabilities in both (Figure 3).

**Figure 3: Only 13% of travel organizations are AI Achievers**



**AI INNOVATORS**

**13%** vs. 13% (global)

Companies that have mature AI strategies but struggle to operationalize

**AI ACHIEVERS**

**13%** vs. 12% (global)

Companies that have differentiated AI strategies and the ability to operationalize for value

**AI EXPERIMENTERS**

**67%** vs. 63% (global)

Companies that lack mature AI strategies and the capabilities to operationalize

**AI BUILDERS**

**7%** vs. 12% (global)

Companies that have mature foundational capabilities that exceed their AI strategies

AI DIFFERENTIATION
AI capabilities identified as key drivers to achieve at least 30% AI influenced revenue

HIGH

LOW

AI FOUNDATION

LOW                    HIGH

**Global N=1286, Travel N=76**     AI capabilities identified as key drivers to achieve at least 10% AI influenced revenue

**Source:** Accenture Research

# The AI Achievers' advantage

## Masters of multi-tasking

When compared to the other groups, Achievers demonstrate high performance across a combination of both foundational and differentiation capabilities. Their ability to combine strengths across strategy, processes and people—not the sophistication of any one single capability—defines (and differentiates) them. They implement AI in big, bold and meaningful ways, turning pilots into production to scale AI across the enterprise. The result is superior business performance.

In all industries, AI Achievers' commitment pays off in superior performance across financial metrics and beyond

### 50%
**Greater revenue growth**

Pre-pandemic (2019) Achievers already enjoyed 1.5x greater revenue growth on average, versus their peers.

### 3.5%
**More likely to have 30% AI-influenced revenue**

Today, they're 3.5 times more likely than Experimenters to see their AI-influenced revenue surpass 30% of their total revenues.

### 8%
**More likely to outperform on CX**

Our stakeholder performance model showed with high statistical significance that Achievers score 8% higher than Experimenters on customer experience metrics.

Taken together, Achievers, Builders and Innovators tend to have more resources (such as technology, talent and patents) than Experimenters to deliver on their AI visions and to transform their organizations. We see this across a wide range of industries: healthcare, financial services, life sciences, utilities, retail, energy and more. For industry laggards, factors like legal and regulatory challenges, inadequate AI infrastructure and a shortage of AI-trained workers may be what's contributing to their relatively low AI maturity.

A closer look at the key capabilities of AI maturity (Figure 4) reveals why there are so few Travel Achievers. The majority of travel companies don't have a formal AI strategy aligned with their overall business plan. They tend to take a reactive approach to adopting AI strategies and lack readily available and cutting-edge AI and machine learning (ML) networks, respectively. And without these tools, workforce readiness and engagement suffer.

**Figure 4: Most travel companies don't have an AI strategy and struggle to get full value from data**

## Strategy and sponsorship

While travel companies fared well on "Senior sponsorship," they:

• Lacked a core "AI strategy."
• Were reactive to AI vs. being proactive.
• Operated without readily available AI and ML tools and developer networks, respectively.

## Data and AI core

Travel companies are making the right moves—albeit, still at an early stage—in platform and technology, data management and governance.

## Talent and culture

While the majority of travel organizations did not have mandatory AI trainings in place, they are making the right moves—albeit, still at an early stage—in AI talent strategy and workforce competency in AI-related skills.

## Responsible AI

While travel organizations recognize the need for a "Responsible data and AI strategy," the majority of them have yet to adapt "Responsible AI by design."
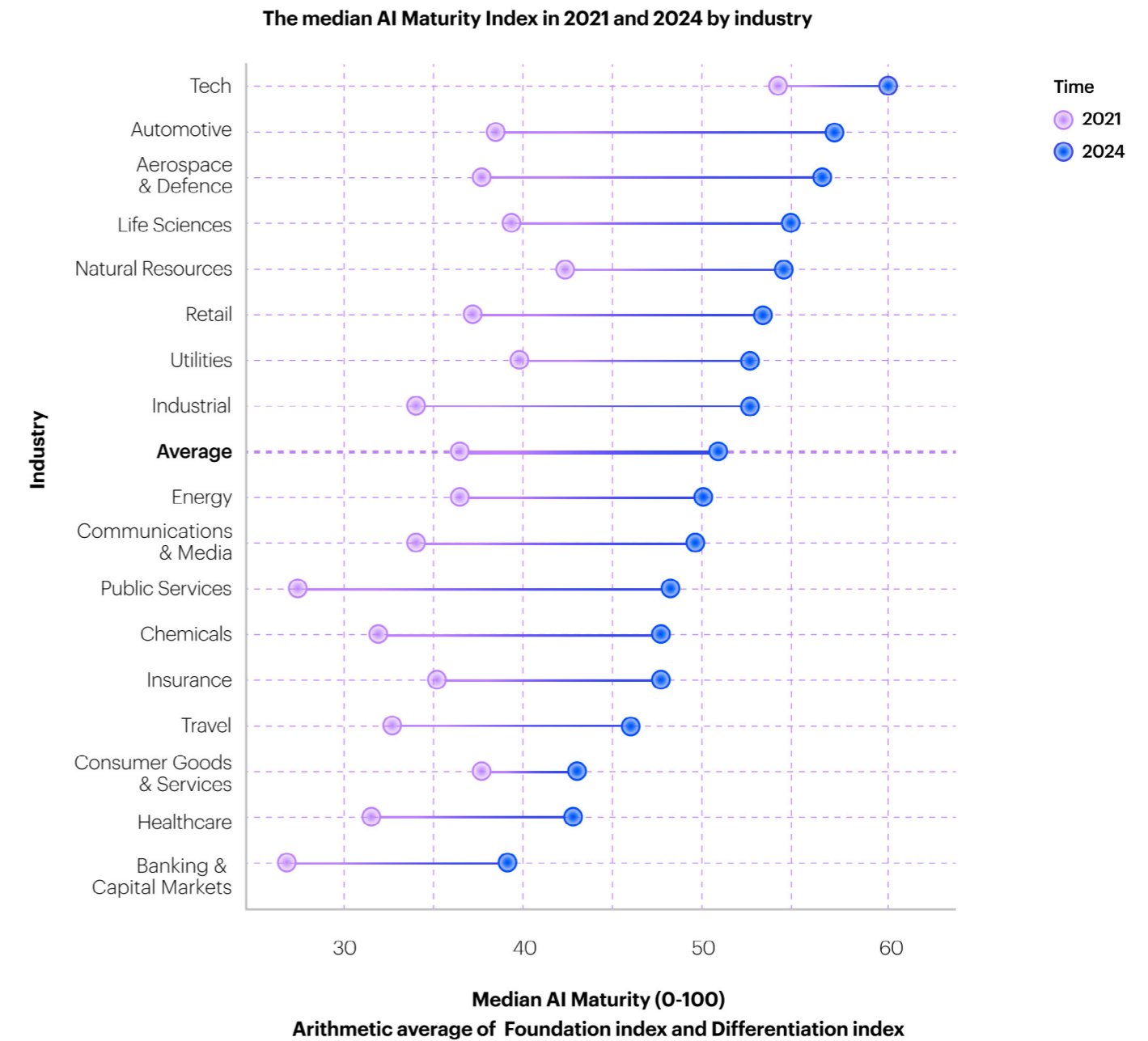
**Source:** Accenture Research

# Running in the back of the pack

Our research shows that Travel's AI maturity lags most other industries (Figure 5). Among consumer-facing industries, only public service, healthcare, and banking and capital markets have less AI maturity.

The good news is that we expect this maturity gap will likely narrow considerably by 2024. But for now, the biggest liability relates to traveler expectations. The more AI-powered experiences that people have in other consumer-facing industries—regardless of whether they are aware that AI fuels the "magic" of these interactions—the more they will expect similar experiences in their travel journeys.

## Figure 4: Levels of AI maturity by industry, 2021 and 2024*



**The median AI Maturity Index in 2021 and 2024 by industry**

**Source:** Accenture Research

**Note:** *2024 = estimated scores. Industries' AI maturity scores represent the arithmetic average of their respective Foundational and Differentiation index.

# How AI Achievers master their craft

## Five success factors

# How to be an Achiever

Today's Achievers have set the standard and are poised to remain leaders. They have demonstrated that excellence in areas like vision and culture are just as critical as algorithmic integrity. Our research uncovered five key success factors for Achievers.

| 01 | 02 | 03 | 04 | 05 |
|---|---|---|---|---|
| Champion AI as a strategic priority for the entire organization, with full sponsorship from leadership | Invest heavily in talent to get more from AI investments | Industrialize AI tools and teams to create an AI core | Design AI responsibly, from the start | Prioritize long- and short-term investments |

# Champion AI as a strategic priority for the entire organization, with full sponsorship from leadership

To be successful and to avoid competing with a sea of other initiatives for resources and attention, AI strategies need the support of the CEO and the entire executive suite. 79% of Travel companies have some type of formal senior sponsorship.

For the majority of other travel companies, this support is often missing because
AI strategies are typically designed in pockets of the business. Travel companies have a strong track record of applying AI, data and analytics in isolated domains. Consider airlines' use of AI for both revenue management and disruption management, for example. While these applications deliver results, the future is

increasingly about bolder applications of AI that spur innovation.

Going big and bold with AI requires cross-departmental use cases and senior leadership to connect the dots for the biggest impact. At Meliá Hotels International, CEO Gabriel Escarrer is fully behind the hospitality company's focus on technologies like AI. Viewing technology as a key enabler of Travel's recovery in the post-pandemic era, Escarrer believes that "AI will be very present in the entire management process of tourism companies, especially in the area of the customer journey." [4]

# 79%
of Travel companies have formal senior sponsorship
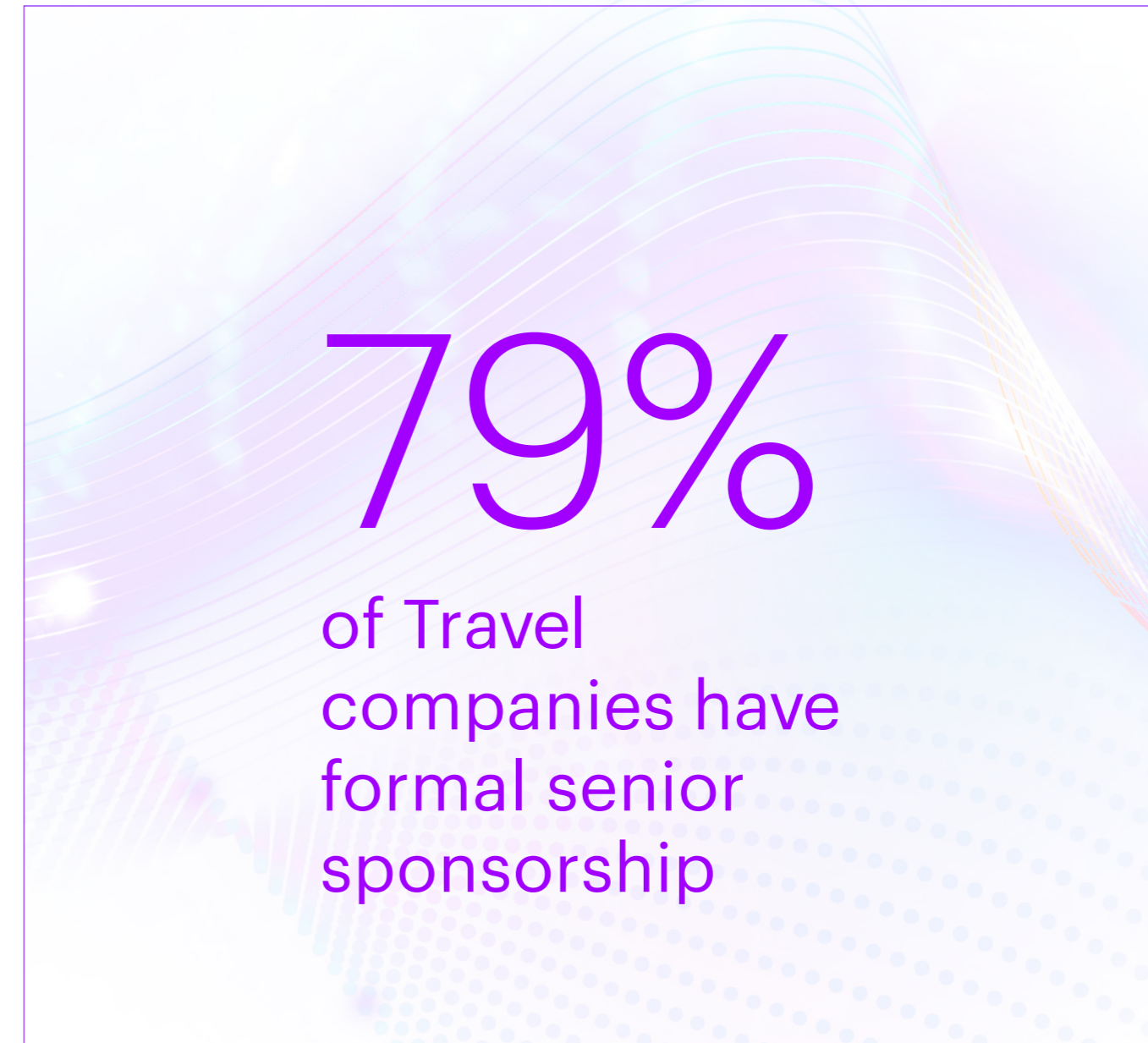
## Invest heavily in talent to get more from AI investments

With a clear AI strategy and strong CEO sponsorship, travel organizations are more likely to invest heavily in creating data and AI fluency across their workforce. This is what 70% of Travel organizations do; They have mandatory AI trainings for most employees across levels, including leadership. The more proficient all employees are in AI-related skills, the easier it is for travel players to scale human and machine collaboration.

AI workforce training is part of Meliá Hotels' CEO-championed embrace of AI as a transformative technology. To support the automation of administrative tasks and focus staff on guest service, the company has trained 1,000 "change makers" in AI technologies. [5]

In addition to training the staff they have, it's critical for travel companies to attract AI and data talent. Defining and implementing dedicated workforce strategies with separate career paths and compensation models is one way to do this. In addition to hiring top talent, travel companies can explore partnering with specialist companies to fill critical roles such as data and behavioral scientists, social scientists and ethicists. Part of the workforce strategy should be developing a plan to support strong collaboration among workers with different disciplines.

# 70%
of Travel companies have mandatory AI trainings for most employees—from product development engineers to executives.

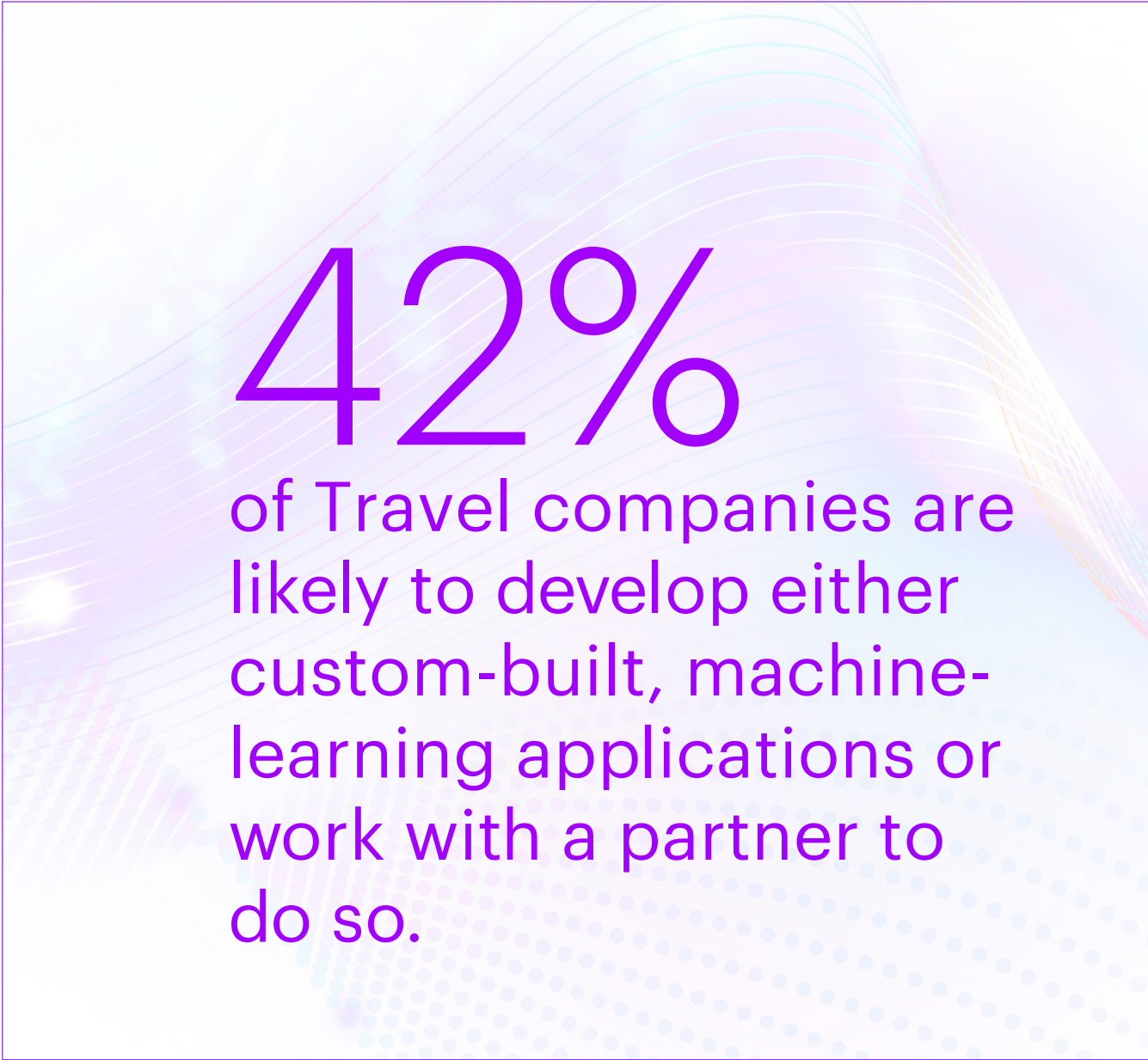# Industrialize AI tools and teams to create an AI core

Another priority for Travel Achievers involves building an AI core: an operational data and AI platform that taps into companies' talent, technology and data ecosystems. An AI core helps travel players productize their AI applications and integrate AI into other applications, which makes differentiation with AI more seamless.

An AI core also works across the cloud continuum (e.g., from migration to innovation), provides end-to-end data capabilities (foundation, management and governance), manages the machine learning lifecycle (workflow, model training, model deployment) and provides self-service capabilities.

A strong AI core is particularly important for travel companies because of how ecosystem dependent the industry is.

While travelers ideally perceive their journey as a single, seamless trip that flows from one experience to the next, the travel journey is orchestrated by many different providers. Collaboration across all ecosystem players is key for the traveler experience as well as to support operational efficiency and sustainability. This collaboration can't happen successfully without an AI core.

There are cross-industry movements focused on supporting data sharing among ecosystem partners that may influence how travel companies create an AI core. In Europe, for example, Gaia-X is bringing together a multidisciplinary group of stakeholders from across the private and public sectors to create secure data infrastructure that uses a federated model to support data sharing while preserving data sovereignty. [6]

**42%** of Travel companies are likely to develop either custom-built, machine-learning applications or work with a partner to do so.

# Design AI responsibly, from the start

As travel companies deploy AI for more tasks, adhering to laws, regulations and ethical norms is critical to building a sound data and AI foundation. There is growing awareness of this in the industry: 38% of travel companies aspire to scale responsible AI practices by the end of 2024. However, the potential for regulatory changes in many countries makes the challenge even more daunting.

Governments and industry associations are focused on the topic. For example, as part of the aviation industry's interest in AI, the European Commission worked with partner organizations to establish the European Aviation High Level Group on AI, which has already published an action plan. [7]

The issue of responsible AI goes hand-in-hand with the evolution of this technology and will continue to. Travel companies are advised to stay close to ways to embed ethical standards into AI algorithms to avoid bias, ensure data privacy and safeguard traveler and employee trust. The ability to demonstrate high-quality, trustworthy AI systems that are "regulation ready" will give first movers in Travel a significant advantage in the short- and long-term, enabling them to attract new customers, retain existing ones and build investor confidence.

# 43%

of travel companies are "responsible by design"

In 2018, travel companies devoted 10% of their total technology budgets to AI, while in 2021 they devoted 22%. In 2024, they expect to devote

# 33%.

# Prioritize long- and short-term AI investments

It's clearly important for travel companies to aggressively increase their spending on data and AI. After all, one reason that Travel Achievers get more out of AI is simply because they invest more in it. But with so many travel companies still reeling from the impact of the pandemic, doubling-down on AI investments is not always a realistic possibility.

This is why prioritization is so important for travel companies when it comes to investing in AI. Getting the data house in order and operating as a data-powered travel company is paramount. With a strong data foundation, travel companies can then support smaller AI initiatives that deliver cross-enterprise benefits without massive transformation efforts. In fact, AI Achievers across industries have pursued

strategies to "cross pollinate" AI solutions while redeploying resources in the process to create efficiencies and lower costs.

Accor Group has pursued a unique investment strategy to build its data management and AI capabilities. Its subsidiary, D-Edge, which supplies hotel reservation systems, made a strategic investment in dailypoint™ (a customer data management provider). The "technical merger" is enhancing D-EDGE with guest insight capabilities powered by AI. This has elevated customer profiles and made it possible for hotel operators to improve personalization across guests' travel journey. [8,9]

Practice makes progress

# Practice makes progress

We are confident that travel companies can pursue these success factors and expect to see the share of AI Achievers in Travel increase rapidly and significantly, more than doubling to 26% by 2024. This is encouraging news for an industry looking to put COVID-headwinds completely behind.

This prospect raises a critical question of where travel companies should target AI investments as they increase their AI maturity. The most promising applications for AI in Travel in terms of transforming experiences include customized travel planning and online customer service through chatbots, face-to-face traveler service though robots, facial recognition and identity management through biometrics, and dynamic pricing and predictive data analytics through AI and machine learning.

As AI technologies become more prevalent—and that's only a matter of time—the future of this industry is going to look very different. Some travel companies will lead the change, and some will be subjected to it. Those that transform will do more than get the science of AI right. They'll also master the art of AI maturity, using cloud as the enabler, data as the driver and AI as the differentiator. And they'll drive the next wave of Travel growth in the process.

# Meet the authors

**Sergiy Nevstruyev**
Managing Director, Enterprise
Architecture & Digital
Transformation Lead

in

**Rafael Pérez Martín**
Managing Director, Applied
Intelligence Global Data & AI
Captain for Travel

in

**Philippe Roussiere**
Accenture Research Innovation
and AI Global Lead

in

# Research director

**Praveen Tanguturi, PhD**
Thought Leadership Research
Principal Director

in

# Contributors

**Research Leads**

**Sankar Subramaniam**
Associate Manager – Global Travel Industry Research

**Yuhui Xiong**
Research Manager

**Deeksha Khare Patnaik**
Research Manager

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