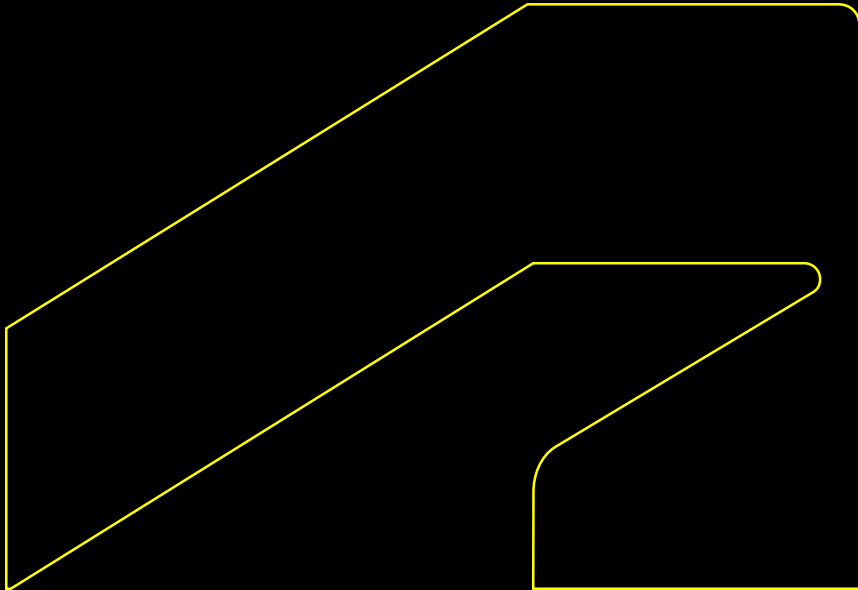


State of Design & Make

 AUTODESK

AECO INDUSTRY REPORT



2024
2025
2026
2027

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About the AECO report

The *State of Design & Make* report is a global, annual, longitudinal study for leaders who design and make places, objects, and experiences. It identifies the most pressing issues shaping today's businesses and helps leaders make informed, strategic decisions about how to prioritize and invest for the future.

For the *2025 State of Design & Make AECO industry report*, Autodesk surveyed and interviewed 1,965 industry leaders, futurists, and experts across architecture, engineering, construction, and operations (AECO). Survey data has been broken down by global region: Asia-Pacific (APAC); Europe, Middle East, and Africa (EMEA); and the Americas (AMER). This is the third longitudinal year of this report series with data comparisons from the previous two reports.

What is Design and Make?

A convergence of technologies and methodologies in industries that produce digital and built assets over the past 40-plus years has resulted in a distinct category of work: Design and Make. Design and Make shapes the surrounding world, translating complex ideas into powerful experiences, whether it's transforming a sketch into a school, turning a concept into a car, or making a myth into a movie. Globally, Design and Make employs, conservatively, 295.7 million people.¹

Before digitalization, much of this work took place in discrete, siloed phases, handed off from specialist to specialist. With the advent of digital workspaces and modeling tools, these phases have converged into a centralized way of working informed by data-driven insights. Today, teams collaborating on Design and Make projects see their work as part of a larger, interconnected process. Digital tools and standards make it easier to map interdependencies, refine processes, and democratize solutions.

For the professionals immersed in it every day, Design and Make is more than a way of working—it's a philosophy and a mindset. It represents a deep belief that every challenge and complexity can be overcome with the right tools and the right skill set. Designers and makers are optimists united by a shared drive to make a better world for all.

¹ [World Economic Forum, 2023](#)

Introduction

Leaders in AECO report that they are confronting daunting headwinds, from increased geopolitical uncertainty and inflation to talent gaps and challenges implementing emerging technologies like artificial intelligence (AI). But for the third year, digital transformation has proven to help AECO organizations identify opportunity amid disruption, providing benefits nearly across the board.

2025 State of Design & Make key findings in AECO

Leaders were clear on the challenges they are facing.

Cost control remains top of mind for AECO organizations amid continued inflation and increasing supply-chain fragility. Implementation of AI and emerging technologies is the second most-cited challenge, one that is compounded by both cost and labor concerns. Talent remains a perennial problem, with 27% of AECO organizations experiencing a skills gap, and the majority saying lack of skilled talent is hindering growth.

Optimism about AI is down, and concern about its destabilizing effects is up among leaders in AECO as organizations struggle with implementation and finding practical use cases for the new technology. And, finally, global uncertainty is depleting organizational confidence and increasing feelings of unpreparedness.

Despite this uncertainty, business leaders in AECO are still feeling bullish in some areas as they identify opportunity amid disruption.

- Although overall investments are down year-over-year, 64% of leaders say they will increase overall future investments.
- Sustainability is experiencing a surge of optimism, with 95% of leaders saying their organizations are taking steps to be more sustainable. Sustainability also continues to be a key differentiator in talent acquisition.
- This year, AI solidified its place as the top sustainability enabler for AECO organizations, with 39% of leaders using the technology to enable sustainability.

One standout finding this year is that most AECO leaders surveyed say digital transformation efforts led to improvements. In fact, the majority of organizations benefiting from digital transformation are seeing more than 50% improvements in categories such as customer satisfaction, innovation, and productivity. Digitally mature companies tend to invest more heavily in technology, and those investments are now paying outsize dividends during the current period of caution.

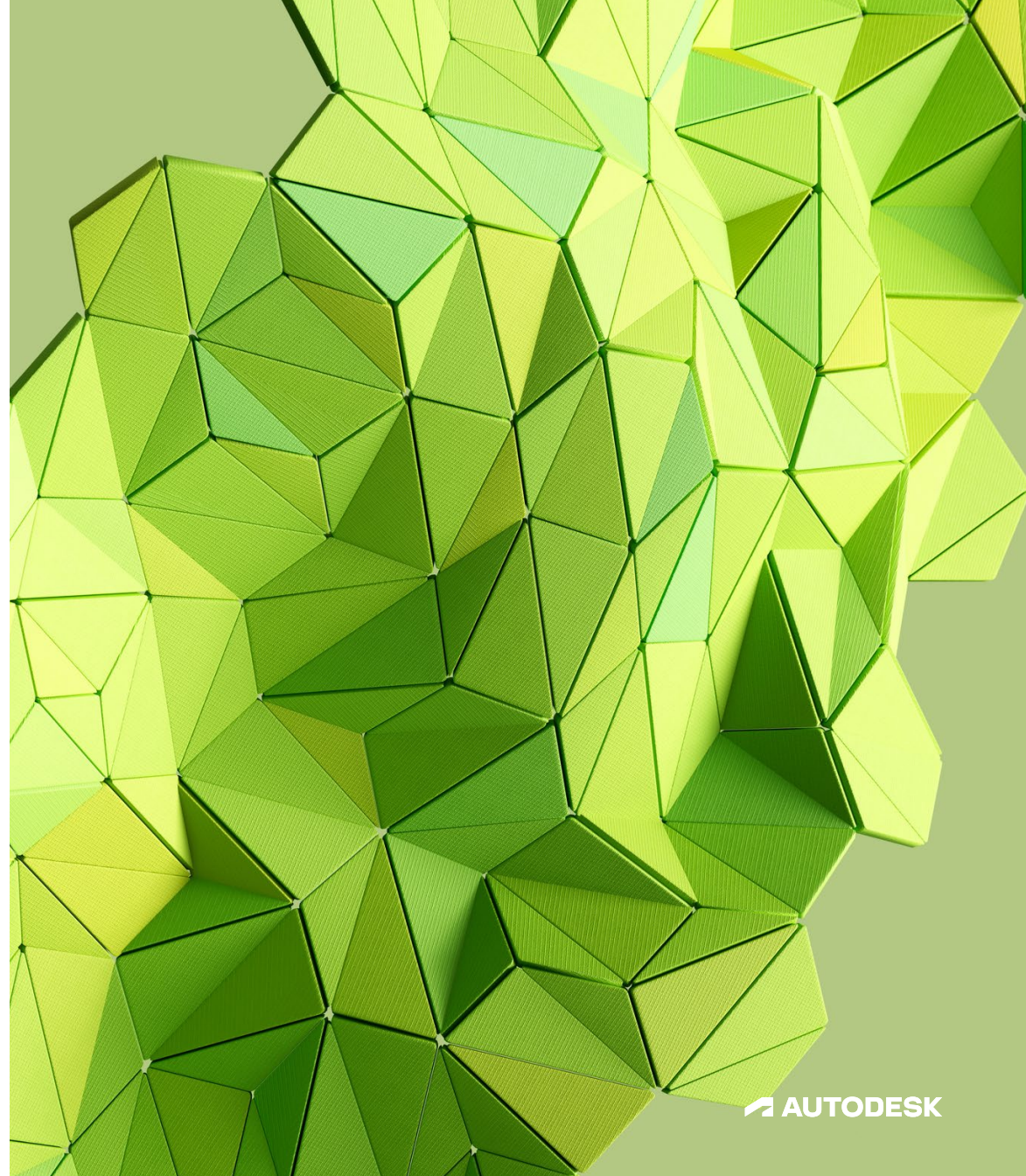
The digital maturity difference in AECO

In this report, “digitally mature” companies are defined as those that are approaching or have achieved the goal of their digital transformation journey. “Less digitally mature” companies are defined as those that are in the early stages or right in the middle of their digital transformation journey.

- Digitally mature AECO organizations are 47% more likely to diversify their supply chains, and leaders at these organizations feel more prepared to handle unforeseen changes compared to less digitally mature companies, giving them an advantage when it comes to resilience.
- These organizations are also more likely to leverage internal data to gain a competitive edge, more quickly develop products and services, and complete projects faster than other companies.

- Digital maturity eases talent concerns, with a 10-point improvement in talent acquisition and retention from their technological advancement over less digitally mature organizations.
- Organizations that are digitally mature are more likely to enter new markets and increase investments into acquisitions, allowing them to expand while others are contracting.

There’s no question that leaders in AECO organizations are confronting a challenging geopolitical and macroeconomic environment. But given the findings of the *2025 State of Design & Make* survey, a resilience agenda centered on digital transformation can provide strong protection against uncertainty.



Digital transformation
efforts have an
overwhelmingly
positive impact

01

INSIGHT 1: AECO

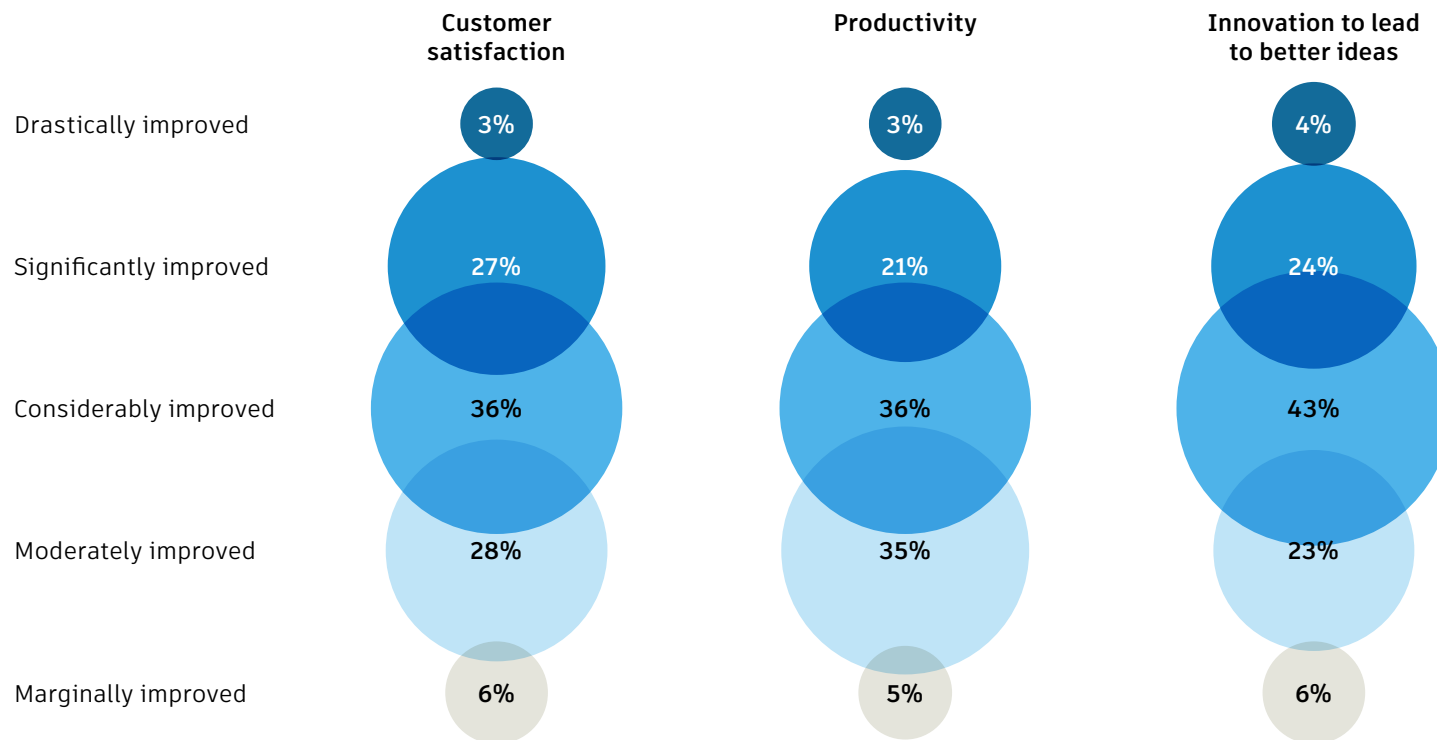
Implementation of new technology is a perennial challenge for leaders in AECO, but those who tackle the complexities of digital transformation are reaping the rewards of their efforts. The majority of AECO leaders surveyed for the *2025 State of Design & Make* report have already realized a 50%+ return on their digital transformation efforts in the form of increases in innovation, productivity, and other categories.

50%+

return on investment from digital transformation

Digital transformation efforts have an overwhelmingly positive impact

Majority of organizations realize more than 50% ROI from digital transformation



AECO respondents. Survey question: Has your company or organization experienced any of the following benefits of digital transformation? Select all that apply. Followed by survey question: You selected [benefit] as a benefit of digital transformation. How much has digital transformation improved [benefit]? Response scale: "Marginally," "Moderately, by 25%," "Considerably, by 50%," "Significantly, by 75%," and "Drastically, by 100%."

INSIGHT 1: AEEO

Along with improvements in customer satisfaction, productivity, and innovation, leaders benefitting from digital transformation report it is also having positive effects on company reputation (72%), expansion of products and services (68%), and improved data exchange (67%).

“Digital transformation is a journey, not a destination. What we have invested in the last three years will be different from what I’m investing in the next three years.”

DR. MAX CLARK

Senior Vice President, EMEA
CTO & Sector Manager, Parsons,
a global engineering firm headquartered
in the United States

Digital maturity benefits the entire organization

In this report, “digitally mature” companies are defined as those that are approaching the goal or have achieved the goal of their digital transformation journey. “Less digitally mature” companies are defined as those that are in the early stages or right in the middle of their digital transformation journey.

In AEEO, respondents from digitally mature companies report they are ...

+28%

... more likely to have experienced “above average” or “exceptional” **performance**

+30%

... more likely to “agree” they **are prepared** for the future

+35%

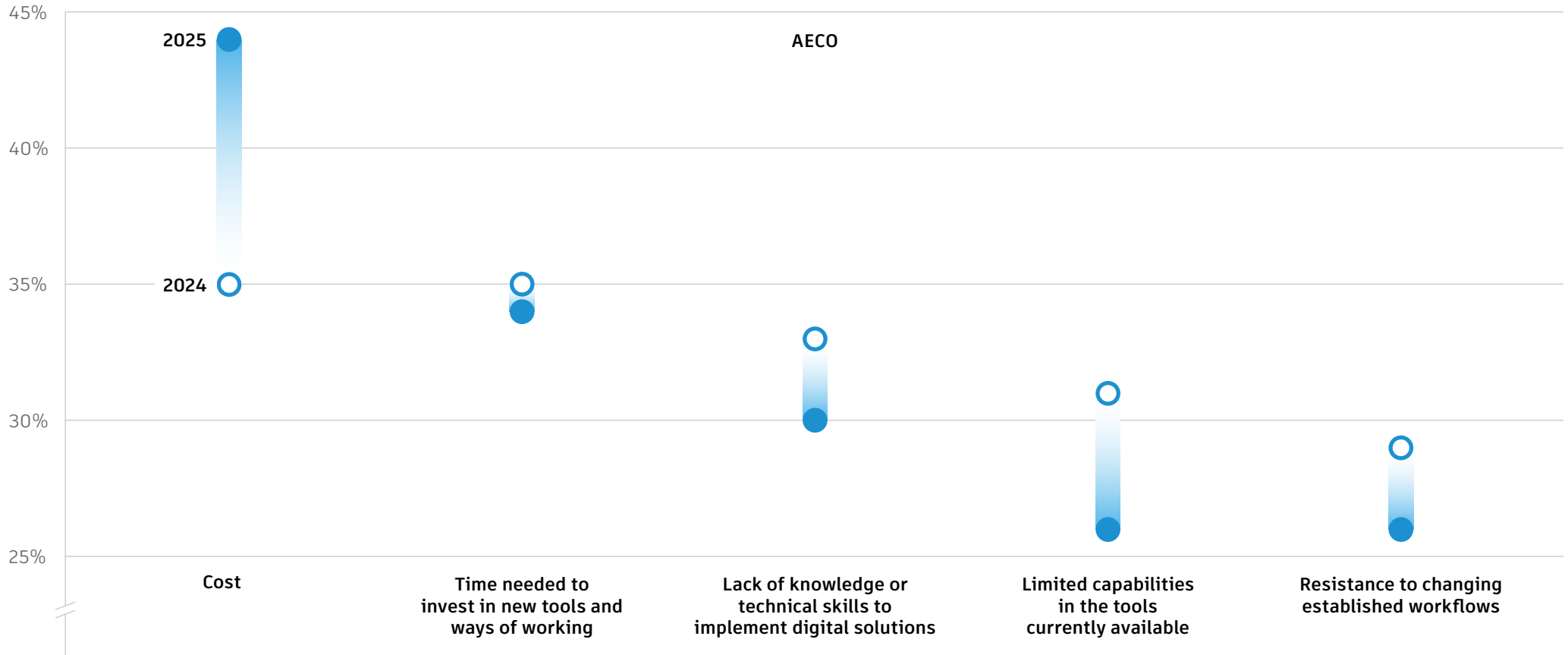
... more likely to have “increased” or “strongly increased” **investment** in the past 3 years

+28%

... more likely to have kept up “very well” with **change in the industry**

With results like these, less digitally mature organizations thinking about reducing their digital transformation investments in the next few years should reconsider. The benefits of digitalization are clear, and the longer organizations take to get up to speed, the greater the drag on their performance will be. While sometimes challenging, the long-term benefits of digital transformation far outweigh short-term struggles.

Cost, time, and talent are the biggest barriers to digital transformation



Survey question: What are the barriers to digital transformation in your company or organization?
Select all that apply.

INSIGHT 1: AECO

“Construction is always behind other industries, but we are working very hard to provide digital solutions and facilities at our job sites that provide the ability to work collaboratively.”

MARCELO PILLER

Director of Engineering and Innovation, OEC Engenharia,
an engineering and construction firm headquartered in Brazil

The cost of digital transformation is a growing challenge for many organizations, with 44% of leaders saying it's their main barrier, up from 35% in 2024 and reflecting a global increase in concern about cost control. But given the outsized returns organizations are seeing from their digital transformation investments, cost-cutting measures could have equally outsized negative effects if they impact technology initiatives. Time and talent follow as most-cited obstacles as organizations struggle to meet implementation goals while also trying to do more with fewer resources.

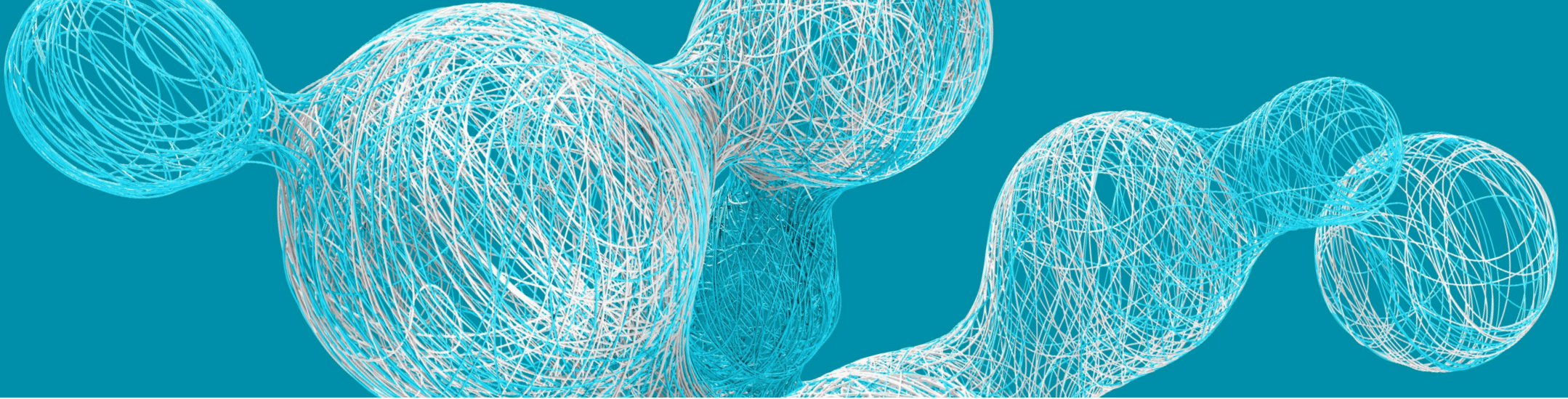
Concerns about cost are followed by the persistent challenges of time and

talent as organizations struggle to meet implementation goals while also trying to do more with fewer resources.

The more digitally mature an organization, the less concerned they are with cost and talent and the more concerned they are with the actual technology. In AECO, digitally mature companies less often cite cost (39% compared to 49%) and more often cite the limited capabilities of the tools (28% compared to 24%) as a barrier. These organizations also have an advantage when it comes to talent, with 73% of leaders saying digital transformation has improved talent acquisition and retention compared to 52% at less digitally mature companies.

Sustainability transitions from pressure to profitability

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03



INSIGHT 2: AECO

Increasing awareness of the business value of sustainability has many leaders changing their perspective, seeing sustainability initiatives less as an obligation and more as an opportunity for greater performance. The number of executives globally who understand the business case for sustainability tripled between 2022 and 2023,² and the majority of 2025 *State of Design & Make* survey respondents say that sustainability is

crucial for future business growth in the next three years.

This signals a shift in sentiment and priorities, driven by both the short- and long-term opportunities that sustainability can provide. Seventy-two percent of AECO business leaders believe that sustainability measures can generate in excess of 5% of their annual revenue, a figure that has remained relatively strong compared

to last year (81%), despite this year's cost concerns.

While organizations across Design and Make industries are still influenced by stakeholders to become more sustainable, that influence appears to be waning. For instance, this year in AECO, 71% of leaders say their sustainability initiatives were influenced by customers, compared to 83% in 2024—a 14% year-over-year decline.

“In terms of digital elements, we are seeing exponential advances in AI, such as generative AI, which has been around since last year, so I think it will be quite a challenge to make use of these advances.”

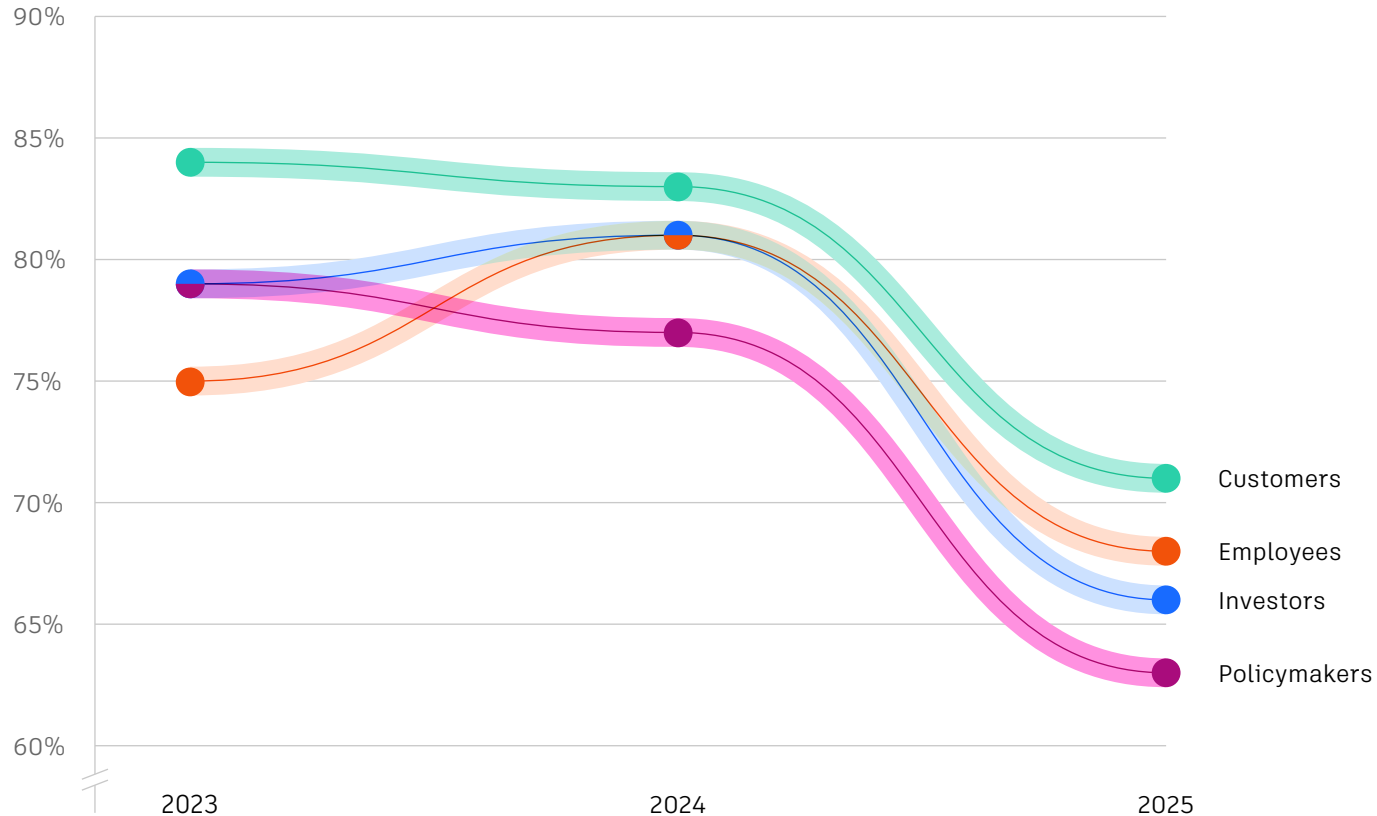
FUMIHIRO OJIMA

General manager, Digital Innovation Department, Value Creation Office, Tokyu Construction Co. Ltd., a Japanese civil engineering and building construction company.

² [World Economic Forum, 2023](#)

Stakeholder influence is in decline

Leaders have other reasons for sustainability initiatives



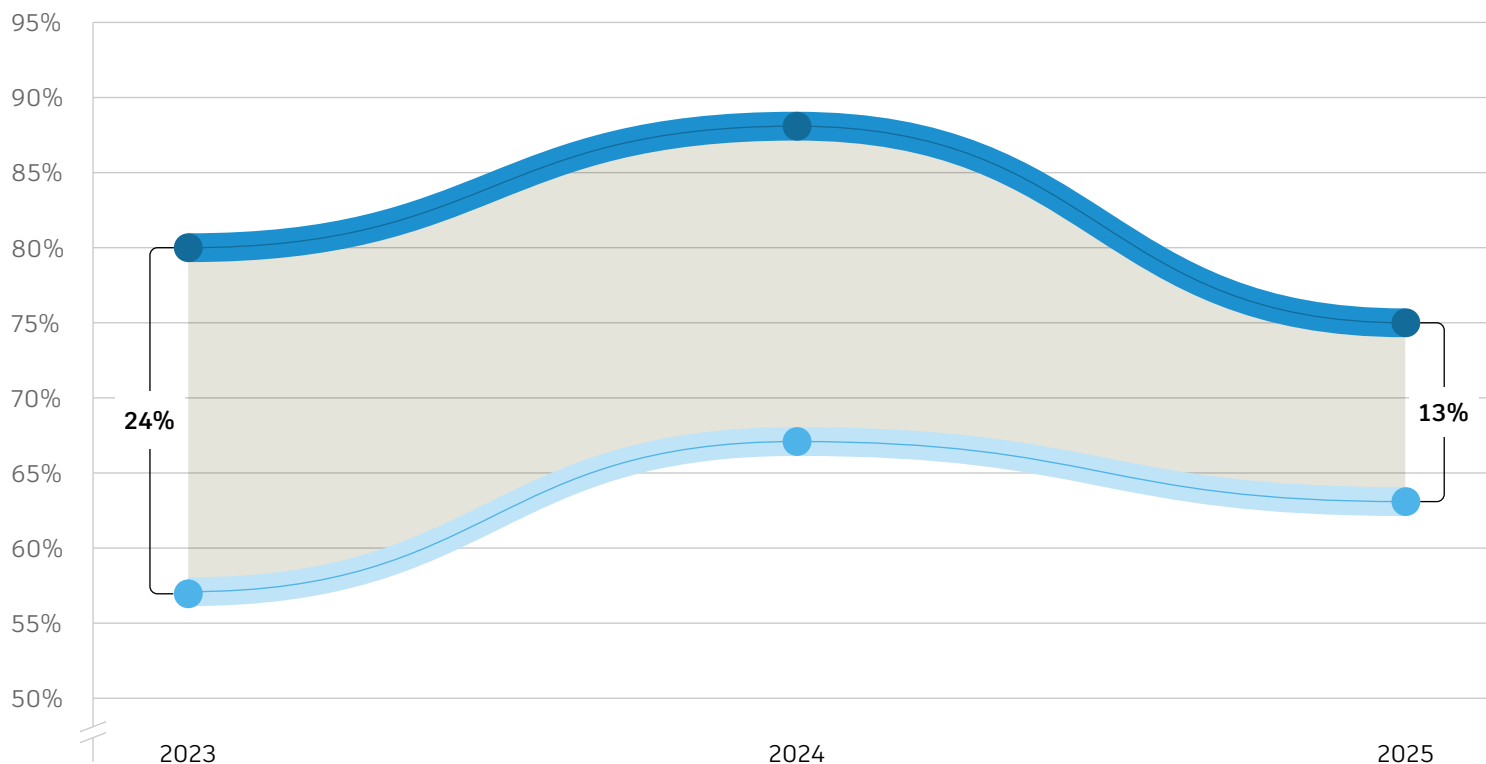
AECO respondents. Survey question: How influential are the following groups in motivating your company or organization to create and meet sustainability goals? 5-point scale. Top two = influential.

In AECO, the decline in stakeholder influence is universal across all groups, including customers, employees, investors, and policymakers. New to the survey this year as possible influencers are partners (68%) and suppliers (63%).

Although the influence of stakeholder groups is down, sustainability efforts remain steady, with 95% of leaders in AECO reporting their organizations are making changes to be more sustainable. This suggests that organizations are starting to take the reins on sustainability initiatives rather than allowing external influences to guide decisions.

Closing the gap between long-term and short-term strategy

- AEEO: ● Improving sustainability practices is a good **long-term** business decision
● Improving sustainability practices is a good **short-term** business decision



Percentage of respondents who agree to statements: 1. Improving sustainability practices is a good long-term business decision. 2. Improving sustainability practices is a good short-term business decision. 5-point scale. Top two = agree. Gap = difference between long-term and short-term for each year.

“Sustainability is very important for us, of course, because of the nature of what we do -- because we design buildings and infrastructures in transportation and for energy. And these sectors represent together, close to 70% of carbon emissions worldwide.”

PIERRE-YVES MASSILLE
CTO, Egis Group,
an engineering and consulting
firm headquartered in France



INSIGHT 2: AEEO

At the heart of this perspective shift is the growing understanding that, while historically seen as a long-term revenue play, improving sustainability is also a good near-term strategy. This year in AEEO, the gap between leaders who see sustainability as a short-term versus long-term strategy has narrowed to just 13%, signaling that sustainability is seen as good for business overall.

Digitally mature companies are at an advantage when it comes to reaping sustainability benefits. In AEEO, 85% of digitally mature organizations see long-term benefits from sustainability and 74% see short-term benefits, compared to just 66% and 52% respectively at less digitally mature organizations.

Sustainability efforts are also easing talent struggles at digitally mature

companies, with 72% of AEEO leaders reporting their sustainability efforts help attract and retain talent, compared to 52% at less digitally mature companies. Industry interviews reinforce these findings, with leaders saying younger skilled workers want to join organizations that are both technologically advanced and committed to building a better future.

Leaders at digitally mature companies appear to be seeing the transformational potential of sustainability across their organizations—and are likely increasing their budgets to match. In AEEO, 74% of leaders say they will increase their investments in environmental sustainability, compared to just 51% at less digitally mature companies.

AI solidifies its place as the top sustainability enabler

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INSIGHT 3: AECO

In AECO, AI is the top sustainability enabler with 39% of leaders saying they use AI to be more sustainable, more than any other action; up from 32% last year and 28% in 2023.

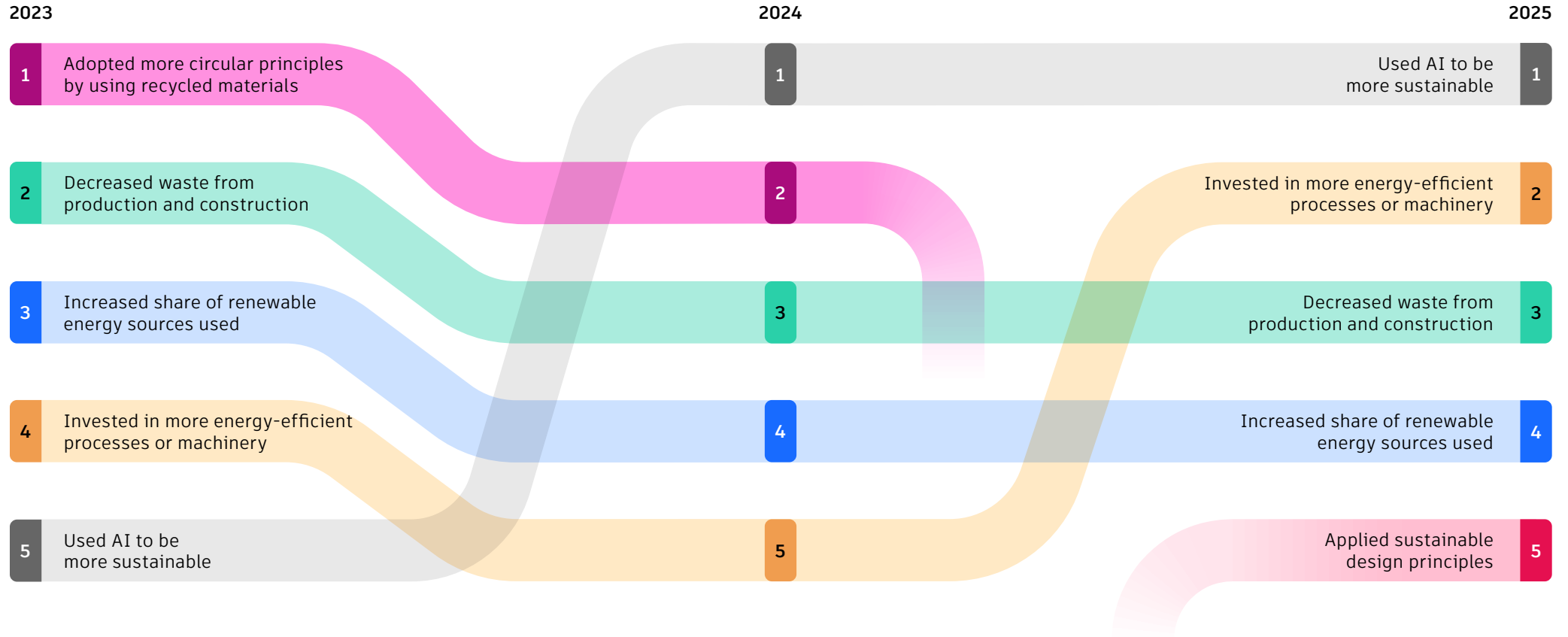
With nearly all organizations taking steps to be more sustainable, many are turning to AI technology to help enable sustainable outcomes.

39%

of businesses in AECO have used
AI to be more sustainable

The continuing integration of AI and sustainability

AEEO: AI is the top sustainability enabler for the second year in a row



Survey question: What changes has your company or organization already made to be more sustainable?
Select all that apply. 12 response options.

“AI could analyze a model’s carbon footprint. It’s a huge workload to do this, we have six people who reviewed 500 projects last years AI could help in this case, and hopefully in other ways as well.”

CHRISTIAN AHLERS

CAD Systems Administrator, Lindner Group,
an interior construction specialist headquartered in Germany

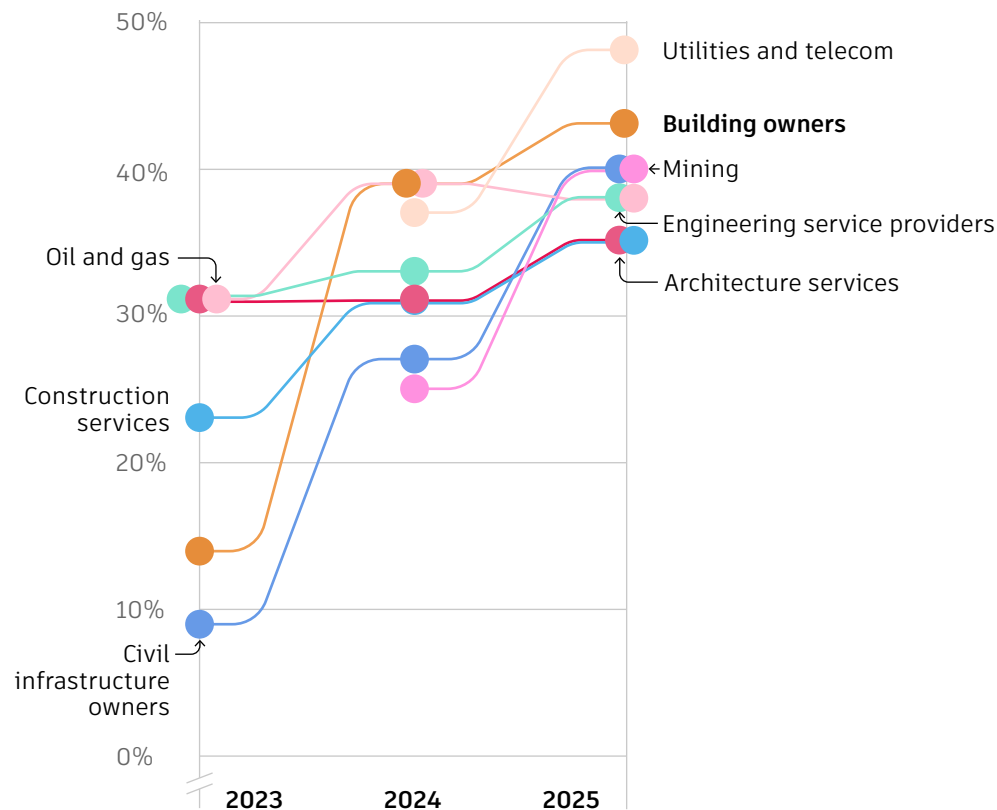
The integration of AI into sustainability efforts is having an impact across AECO. Among other things, AI helps to reduce carbon footprint by optimizing building energy use and preventing material waste; and assess product lifecycles, providing a detailed view of environmental impact from materials sourcing through disposal.

Not surprisingly, digitally mature companies in AECO report using the technology for sustainability more than less digitally mature organizations (44% and 35%, respectively). At data-effective organizations—organizations at which leaders said they are “very effective” at leveraging data—46% of leaders are using AI to

enable sustainability, compared to 38% of other organizations. These numbers highlight an AI implementation gap—one that may widen as technology advances, providing a competitive advantage for digitally mature organizations.

Ironically, the AI technology enabling more sustainable outcomes is also increasingly taxing on the environment. Data centers require a large amount of water and energy to run and cool and produce electronic waste that is difficult to dispose of. AECO organizations are exploring solutions to this problem to offset the impact of data centers, including carbon removal technology or carbon offset programs.

AECO sees the increase in AI adoption for sustainability



Percentage of respondents who selected “Used AI to be more sustainable.” Survey question: What changes has your company or organization already made to be more sustainable? Select all that apply. 12 response options.

The AI hype cycle meets reality

04

INSIGHT 4: AECO

“AI requires a much larger investment than we expected. So, there is a bit of a delay moving forward. And, not all things related to AI are positive signals; there are clear limitations. We look at AI in two different ways: we can use AI more practically in our work processes, and our employees can harness AI to effectively increase their efficiency and productivity. We are also exploring new business areas related to AI, which is a longterm effort that requires more time. We see AI developing very fast. The level of technology we looked into last year is completely different, and we clearly believe that we will be able to reach ROI when we invest in AI for new business opportunities and business areas.”

YONGSIK JEONG

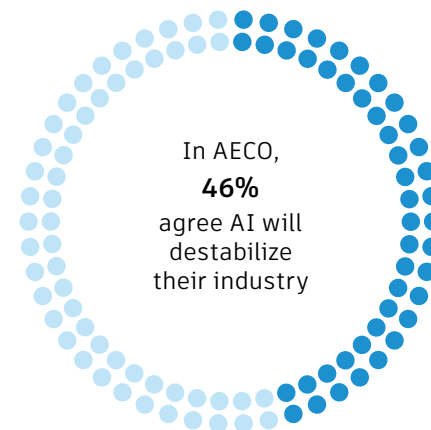
Vice President, Sustainable Design Team, Samoo Architects & Engineers,
a global architecture and engineering firm headquartered in South Korea

Since the introduction of ChatGPT in late 2022, businesses have been racing to tap the potential of AI, making it a strategic priority across industries. 2024 *State of Design & Make* survey results underscored this enthusiasm, with 80% of leaders in AECO saying that AI would enhance their industry.

But the reality of AI hasn't yet lived up to the hype, according to leaders in AECO. Sentiment toward AI and other emerging technologies is down significantly year over year, with

just 68% of business leaders saying AI will enhance their industry—representing a 15% drop from 2024. Industry disruption from AI is also a major concern, with nearly half of AECO leaders now agreeing that AI will destabilize their industry.

This global drop in sentiment signifies that AI is following the classic tech hype cycle, as leaders face the reality of implementation, an ongoing technical skills shortage, and the limitations of the current technology.



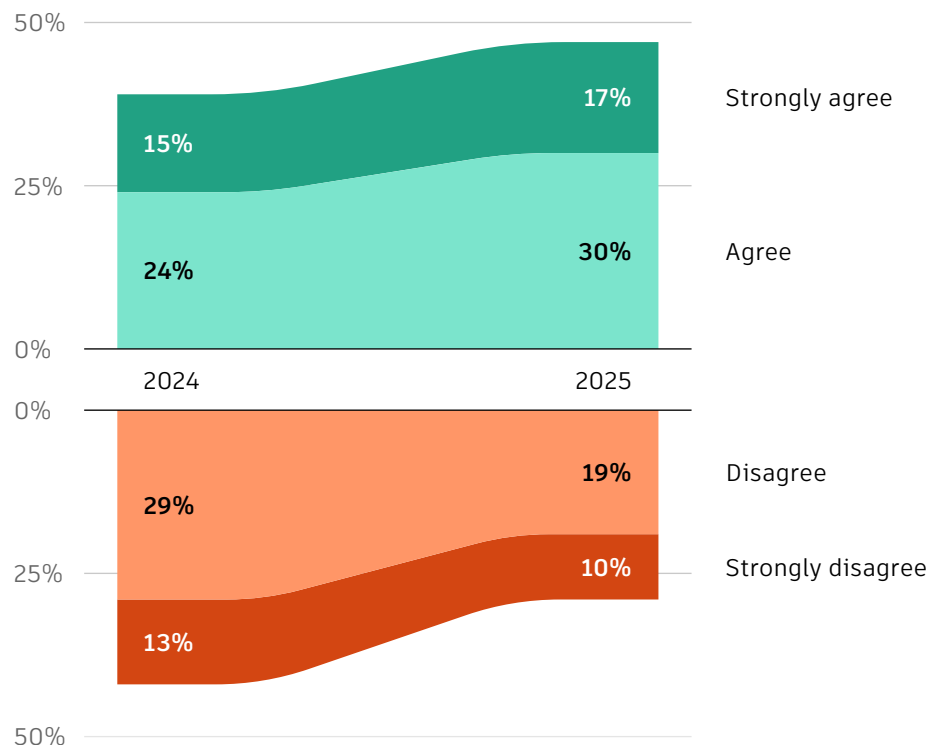
INSIGHT 4: AECO

Forty-seven percent of leaders and experts in AECO agree AI will destabilize their industry, up from 39% in 2024, and representing a 20% year-over-year increase. This indicates leaders are becoming more concerned about AI and emerging technology as its implementation in their industry, and at their organizations, grows.

From the standpoint of digital maturity, there is a stark difference in perceptions of disruption. Digitally mature AECO companies are far more likely to say that AI will destabilize their industry (55%) compared to less digitally mature companies (38%). This makes sense when considering that digitally mature organizations will have more processes, systems, and workers impacted by AI implementation.

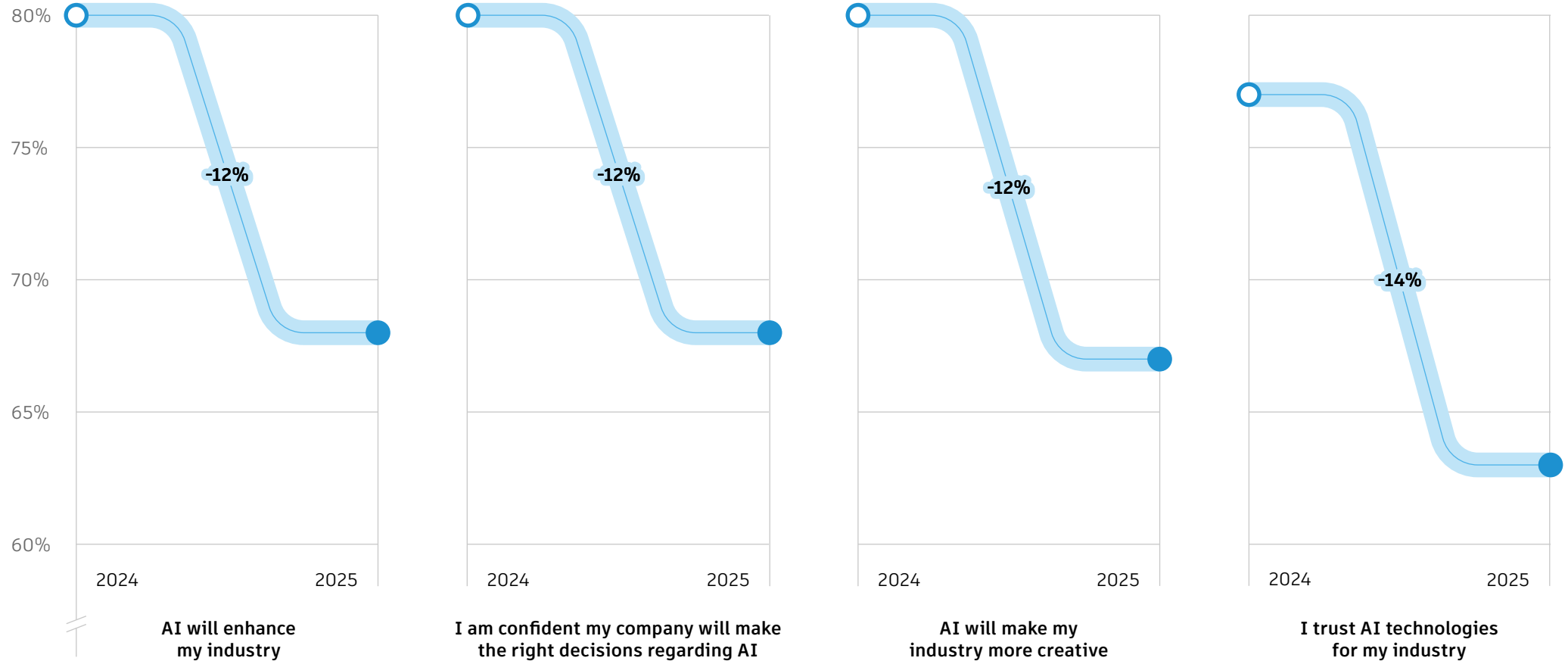
Concern about AI-related industry disruption is up

Nearly half of business leaders agree AI will be destabilizing



AECO respondents. Survey question: When you think about artificial intelligence (AI) in your industry and company, to what extent do you agree or disagree with the following? 5-point scale. Data for "neither agree or disagree" not shown.

AI sentiment is down across the board



AECO respondents. Percentage of respondents who agree to statements: 1. AI will enhance my industry. 2. AI will make my industry more creative. 3. I am confident my company will make the right decisions regarding AI. 4. I trust AI technologies for my industry. Survey question: When you think about artificial intelligence (AI) in your industry and company, to what extent do you agree or disagree with the following? 5-point scale. Top two = agree.

INSIGHT 4: AEEO

Concern about disruption is up and overall positivity about AI has dropped significantly from 2024. Notably, trust in AI technology in AEEO has decreased 14 points year-over-year, representing an 18% change in sentiment.

One of the many reasons for this sharp decline is concern about cybersecurity incidents; privacy issues; biased or harmful outcomes; and limited control over how, where, and when their data is used. For example, organizations struggle to manage how to use third-party AI tools without exposing their sensitive data or sensitive customer data. Also challenging is the implementation of AI solutions across the organization, both in terms of time and money. In interviews, leaders said that in some industries or regions, AI regulations are lagging behind the pace of technology, leaving businesses in a difficult position when it comes to implementation, limitations on use, and liability.

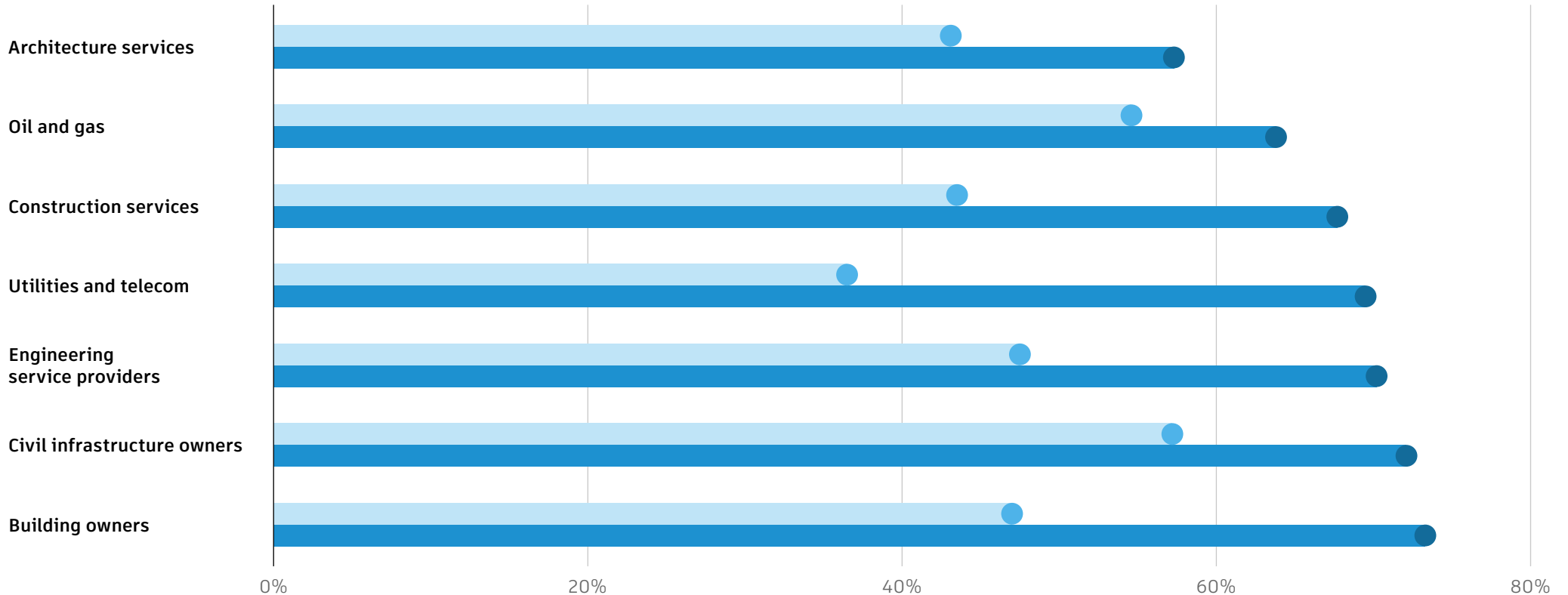
“Most people get the AI discussion around the wrong way. They go, AI is good, let’s find a purpose for it. We always take the opposite approach when we have a problem to solve, and then we’ll use AI to solve it. So we’re not going to go down that rabbit hole of people just playing with it, we need to use it as any other tool because that’s what it is. It’s a tool. We shouldn’t replace the human in the equation.”

BRAD SONTER

Practice Design Technology Lead, Cox Architecture,
a design-focused architectural practice headquartered in Australia

Utilities and telecom are least concerned about AI

AECO: ● AI will destabilize my industry ● AI will enhance my industry



Percentage of respondents who agree to statements: 1. AI will destabilize my industry. 2. AI will enhance my industry.

Survey question: When you think about artificial intelligence (AI) in your industry and company, to what extent do you agree or disagree with the following? 5-point scale. Top two = agree.

INSIGHT 4: AECO

In AECO industries, leaders in utilities and telecom, one of the most enthusiastic sectors about the potential for AI, are least concerned about industry destabilization, with 70% saying AI will enhance their industry. Seen less as a replacement for current workers than as a tool to enhance their work, AI is being used by utilities firms to predict service disruptions and plan preventative maintenance, lowering energy consumption and optimizing grid usage.

On the flip side, architecture sees the least potential in AI technology, with just 57% saying AI will enhance their industry, well below the global average.

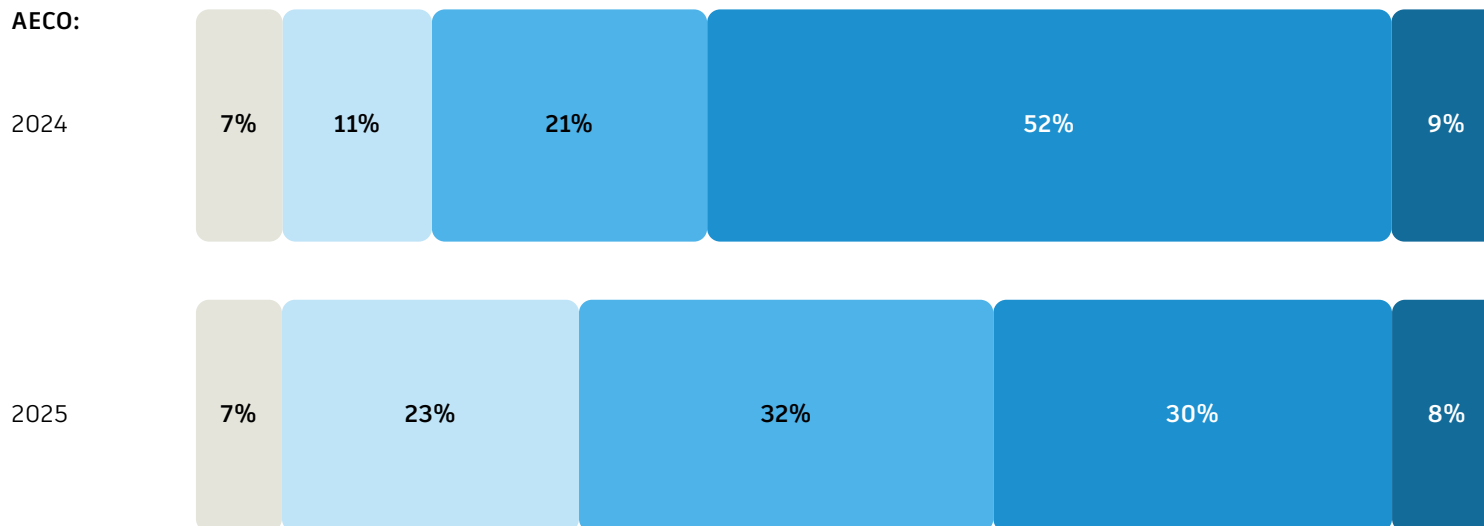
“We are actually quite optimistic about AI and the future of AI in our industry. There is big concern about AI taking over the industry and changing it completely and potentially putting architectural firms out of business. We actually look at this as another step, albeit a potentially exponential jump, in the evolution of how we will work with new innovative tools that will help in streamlining our design activities and providing us with more intelligent ways to create, improve how we design buildings, and improve overall productivity and efficiency.”

AMMAR AL ASSAM

CEO, Dewan Architects, an architecture firm headquartered in the UAE

AI journeys adjust to reflect implementation realities

● Not started ● Early stage ● Middle of the effort ● Approaching goal ● Achieved goal



Survey question: Where is your company or organization in incorporating artificial intelligence (AI) technology?
5 point scale.



INSIGHT 4: AECO

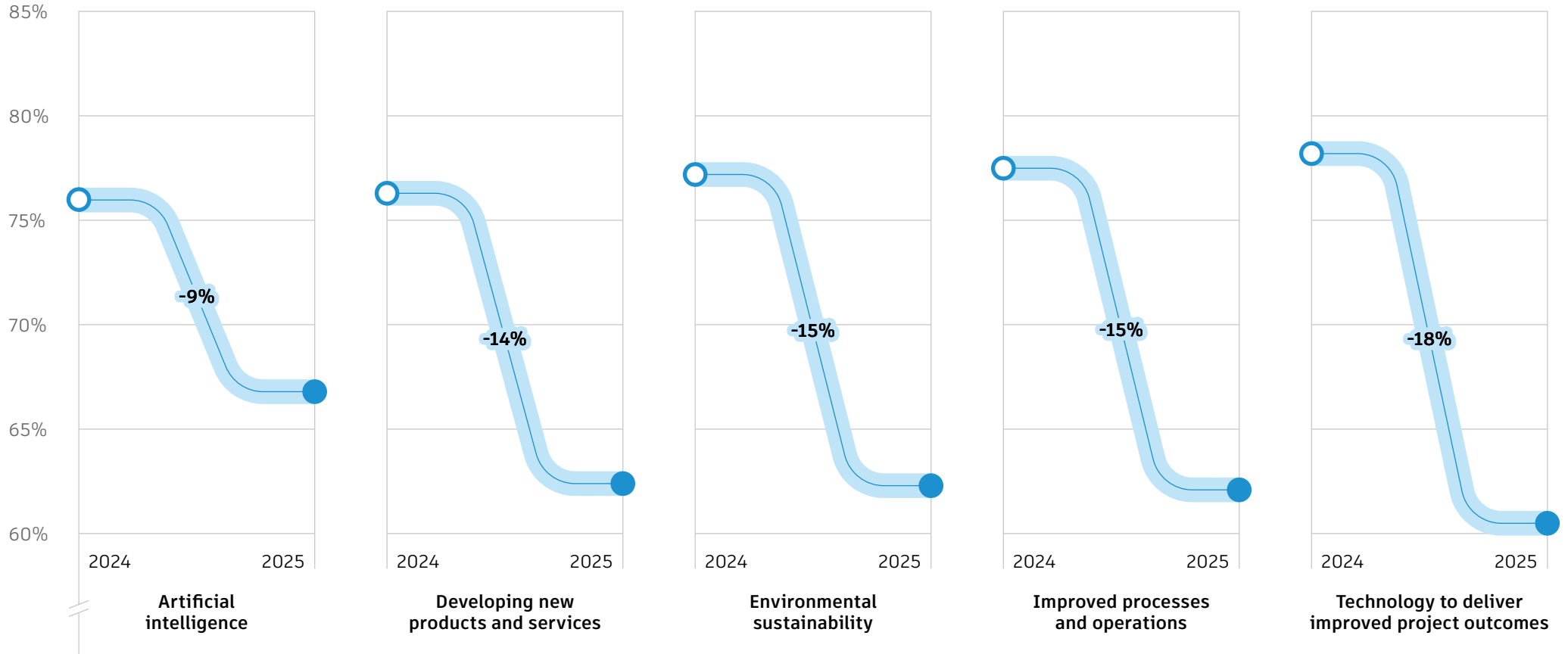
In 2024, leaders in AECO were confident about progress toward reaching their AI goals, with 61% saying they were approaching or had already achieved their goals. This year, as leaders are faced with the complexities of implementing AI solutions across their organizations, they are rethinking where they are on their AI roadmaps.

Only 38% of leaders in AECO say they are approaching or have achieved their AI goals, a 22-point

decrease, that represents a 38% decline year-over-year. Leaders are more conservative this year when estimating their progress, with a 72% increase in leaders who say they are in the early or middle stages of their AI journey. This finding suggests that leaders are struggling to progress in their AI journeys as they encounter a confluence of cost, talent, and time concerns, and that the technology is not quite mature enough to easily implement across organizations as leaders hoped.

Their response is to invest, but there is a stark divide in who is betting big on AI. In AECO, 77% of leaders at digitally mature organizations say they will increase investment in AI, compared to 57% at less digitally mature companies. These increased investments could lead to outsized benefits for more digitally mature organizations who are already seeing benefits in hiring, productivity, and innovation from digital transformation efforts.

Investments dip overall but remain high in AI



AECO respondents. Survey question: How do you think your company or organization's investment in the following will shift in the next 3 years?
5-point scale. Top two = increase. Drop = Increase for 2024 minus 2025.

INSIGHT 4: AECO

Despite implementation challenges and a dip in sentiment, AECO leaders are still optimistic about AI's potential. When asked how their organization's investments will shift over the next few years, 67% say their investments in AI will increase.

"AI presents exciting opportunities but also raises challenges, such as ensuring originality, privacy and accountability. As we integrate AI into construction, we must prioritize transparency, creativity and ethical use to harness its full potential responsibly, with a focus on augmenting and not displacing people. Where I see limitations in AI is the mediocrity in the results it produces and the lack of transparency to the underlying data and therefore trust. If I also start to think about the growing number of sole purposes bots, agents and models that are starting to emerge, I see a similar pattern to the tech bubble of sole-focused websites that rapidly emerged at the dawn of e-commerce. My prediction is that AI will be most disruptive to existing search engine and SaaS business models. "

MICHAEL ZEPPIERI

Vice President, Emerging Technology, Skanska, a global project development and construction company headquartered in Sweden

Cost, tech, and talent are top concerns

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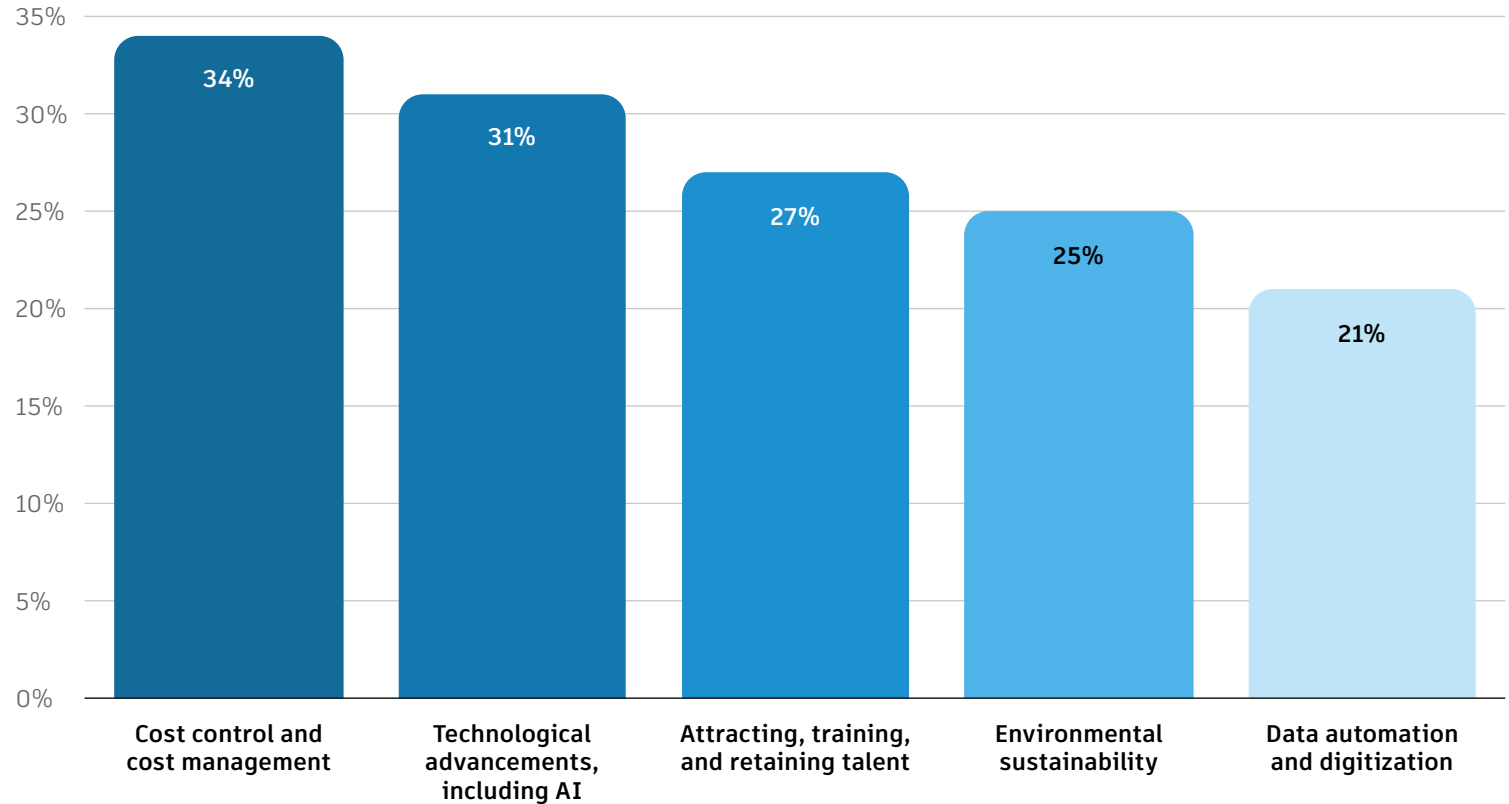
INSIGHT 5: AEEO

In the wake of a year of geopolitical and economic turmoil, continued inflation, and supply-chain fragility, it's not surprising that cost control is top of mind for leaders in AEEO, with 34% citing it as their main business challenge.

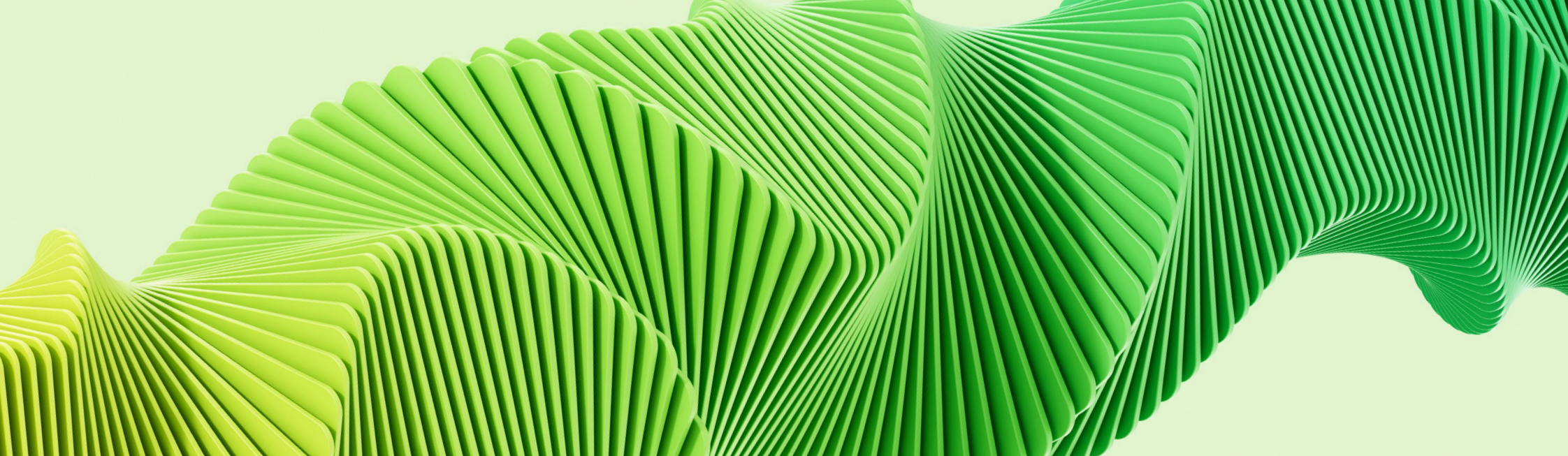
Spending is down in nearly all categories from technology to talent as leaders hope to mitigate the continued challenges of a post-pandemic economy. This dip in future investments could compound both talent and technology troubles, as organizations will struggle to do more with less.

Cost control is the top global challenge

AI and other emerging technologies a close second



AEEO respondents. Survey question: What are the top three challenges your company or organization faces today? Select up to three. 12 response options.



INSIGHT 5: AECO

In AECO, 31% of leaders identify technological advances (including AI) as a top challenge as their organizations struggle to implement new and emerging technologies. Cost-control measures will likely have a downstream impact here and could affect how quickly companies are able to reach their technology and digital transformation goals.

Ironically, cutting investment in technology can have a negative impact on budgets because new tools and processes can often lead to greater efficiencies across the organization. For instance, leaders at data-effective organizations see cost as less of a challenge—just 25% identify it as a top concern compared to 36% at other organizations.

Talent remains a perennial struggle, identified by 27% of AECO leaders as a top challenge at their organization. The search for skilled talent is especially difficult, with nearly two-thirds of leaders saying they struggle to find the skills they need. Exacerbating the talent crunch is the growing number of organizations that are letting people go because they lack the right technical skills, further widening their talent gap.

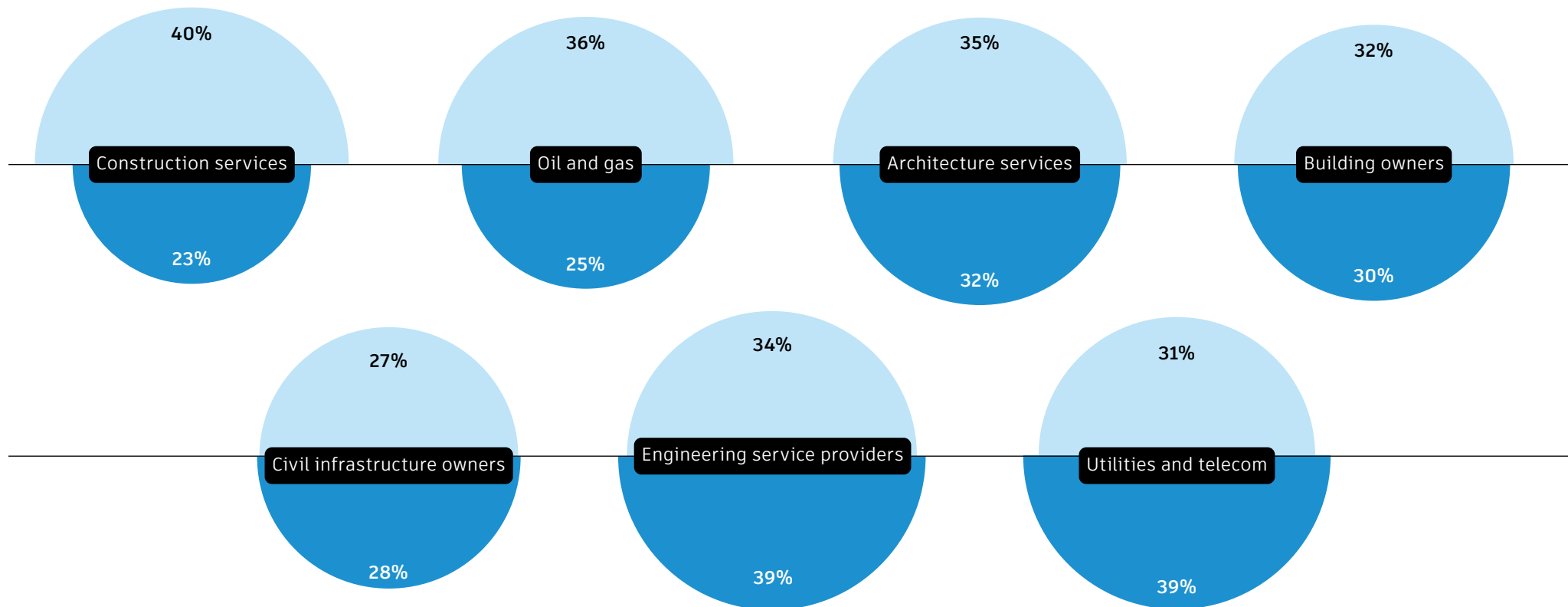
“I think our biggest issues now are cost and also the new processes that we are trying to implement at the company.”

VINICIUS PRATA

Leader of the Power Generation BIM Committee, Eletrobras,
an electric power generation and transmission company
headquartered in Brazil

Construction services is least concerned about AI, most concerned about cost

AEEO: ● Cost control and cost management ● Technological advancements, including AI



Percentage of respondents who selected “cost control and cost management” and “technological advancements, including AI” as their top challenge.
Survey question: What are the top three challenges your company or organization faces today? 13 response options.

INSIGHT 5: AECO

Within AECO, leaders in construction services are most concerned with cost control (40%) and less concerned with technology advancements and AI (23%). Although the contrast is less dramatic, other segments—including oil and gas, architecture services, and building owners—are also more preoccupied with costs than with technology and AI.

On the other hand, a higher percentage of respondents working in utilities and telecom and engineering services sees technology, including AI (39%), as a top challenge than costs (31%). This isn't surprising for utilities, given that the sector is historically slower to adopt new technologies amid increased security concerns around data.

“Our projects can be 10–15 years and longer. To be successful, we must continuously plan for technological change, all within a live project environment.”

ROBERT HICKS

Strategic Partnership Manager, Skanska, a global project development and construction company headquartered in Sweden

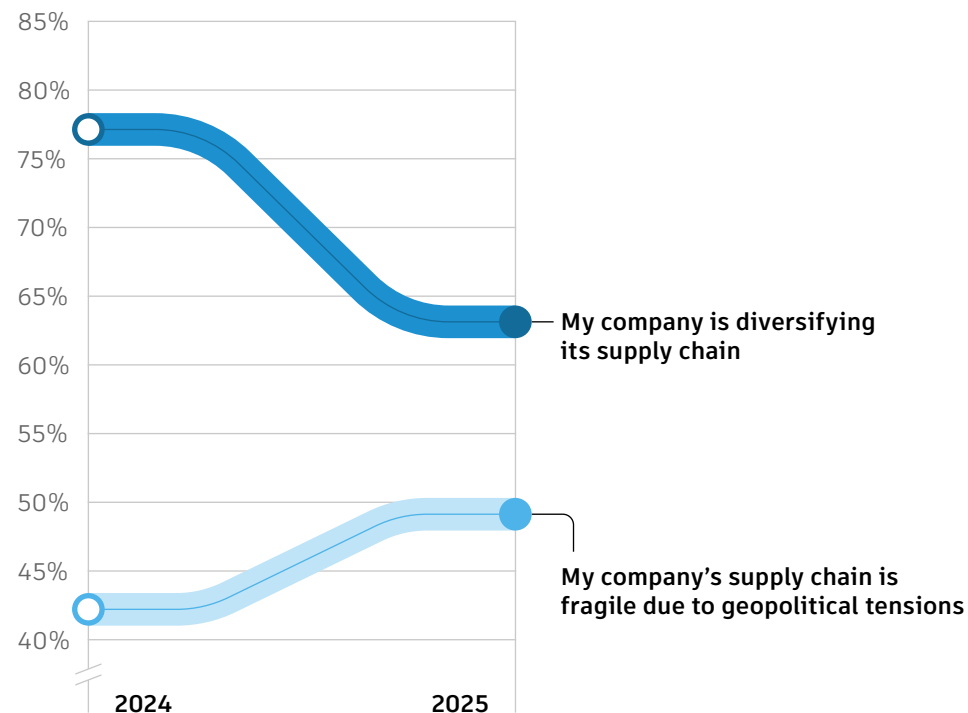
Solution spotlight

Norway is one country embracing AI in AECO. Construction engineering company Norconsult designed the Sotra suspension bridge using a fully digital approach. The project used a cloud platform for 3D modeling, reporting, cost control, and facility management, eliminating traditional drawings. The digital model minimized errors and provided clear visibility into progress, saving time and effort, while automation streamlined repetitive tasks. This led to significant cost control, reducing hand drawings by 99.5% and cutting drawings from 4,000 to just 15. APIs facilitated efficient data management and workflow integration.

→ **READ MORE**
about Sotra suspension bridge

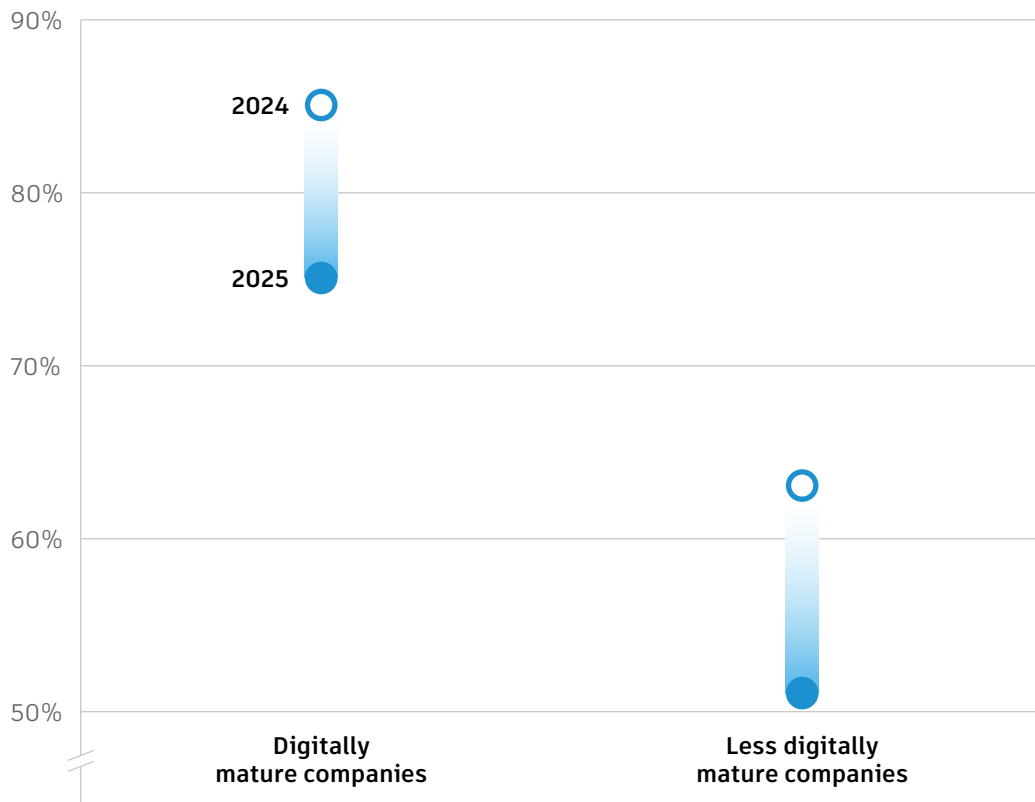
Supply chains remain fragile and undiversified

Supply-chain diversification is down despite increased global uncertainty



AEEO respondents. Percentage of respondents who agree to the statements: 1. My company's supply chain is fragile due to geopolitical tensions. 2. ...to be more resilient... My company is diversifying its supply chain. 5-point scale. Top two = agree.

Digitally mature companies 47% more likely to diversify their supply chains



AEEO respondents. Percentage of respondents who agree to the statements: ...to be more resilient... My company is diversifying its supply chain. 5-point scale. Top two = agree. For the definition of digital maturity, see glossary.

"In contemporary society, de-globalization trends are gaining momentum, posing significant challenges to our global operations. Political and economic changes, such as increased tariffs, directly affect our international trade. Consequently, we must strategically maintain our business layout both domestically and internationally amidst these uncertainties."

WEI FENG LU

Senior Vice President, Morimatsu International Holdings Company Ltd.,
a global manufacturing and solutions company headquartered in China

Supply-chain reliability continues to be a concern in AEEO worldwide, with 49% of business leaders saying their supply chain is fragile due to geopolitical tensions, up from 42% last year.

Despite this increased fragility, there is a global decline in the percentage of leaders who say their organizations are diversifying their supply chains. This year saw a 14-point drop (to 63%) in the number of AEEO leaders saying their company is diversifying their supply chains.

During interviews, leaders cited the cost of diversification, competing demands within the organization, and the lack of alternative options to their current supply chain as ongoing struggles with supply-chain resilience.

But one additional and critical factor companies need to consider when it comes to supply-chain stability is digital maturity. Survey results this year revealed that digitally mature organizations in AEEO were 47% more likely to diversify their supply chains—giving them a significant edge when it comes to resilience.

Leaders are cautious in the near term

04
05
06
07



INSIGHT 6: AECO

This year saw a general cooling of sentiment across AECO, with the majority of business leaders feeling both more uncertain about the future and less prepared to handle unforeseen changes.

Sixty-four percent of AECO leaders surveyed for this year's report agree that the global landscape is now more uncertain, a 13-point jump that represents a 26% increase year-over-year. Leaders are also less confident in their organization's ability to weather unforeseen obstacles with just 60% saying they are well prepared, down from 75% in 2024.

This conflation of uncertainty and unpreparedness is having far-reaching impact across AECO organizations. From a general reduction in spending to decreased enthusiasm for new technologies, leaders are experiencing a lack of organizational confidence.

Leaders feel the future global landscape is more uncertain

+13 points
from 2024

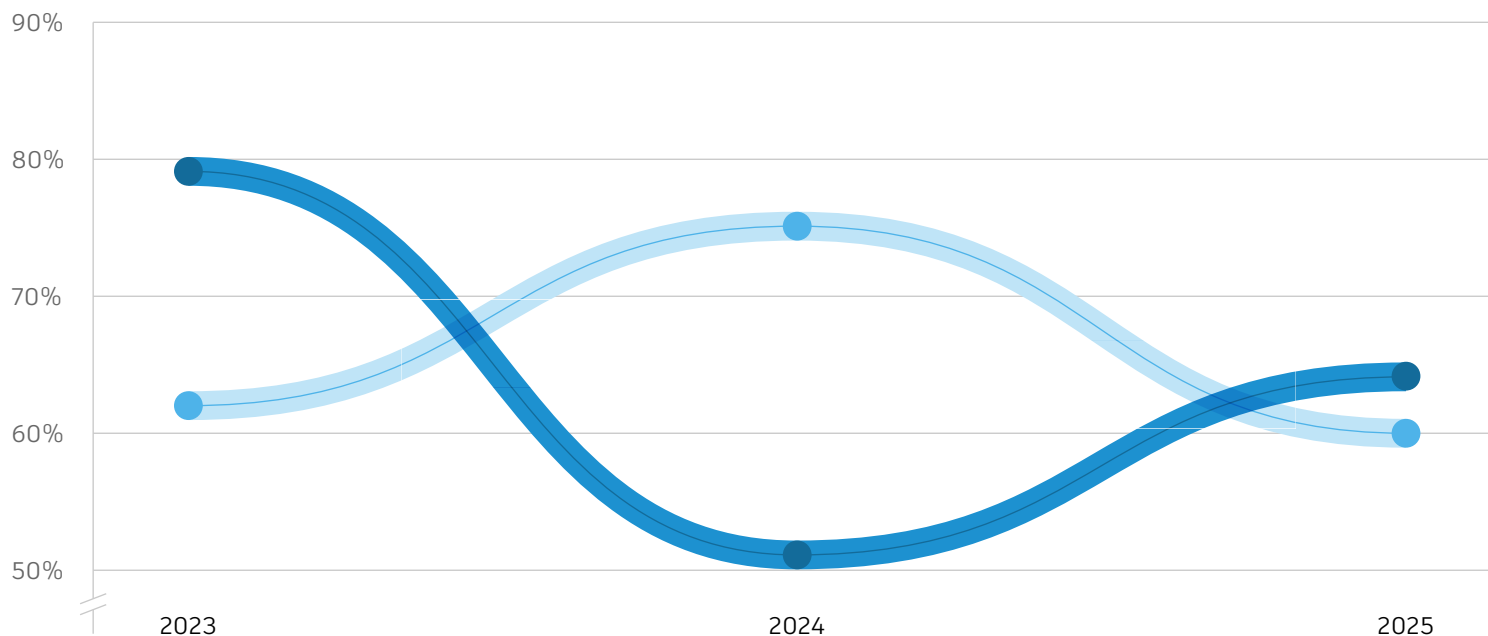
Leaders feel less prepared to handle unforeseen future changes

-15 points
from 2024

Leaders feel more uncertain about the future and less prepared to face it

Global uncertainty is affecting organizational confidence

- AECO:**
- My company is well prepared to handle unforeseen future change
 - The future global landscape feels more uncertain now than 3 years ago



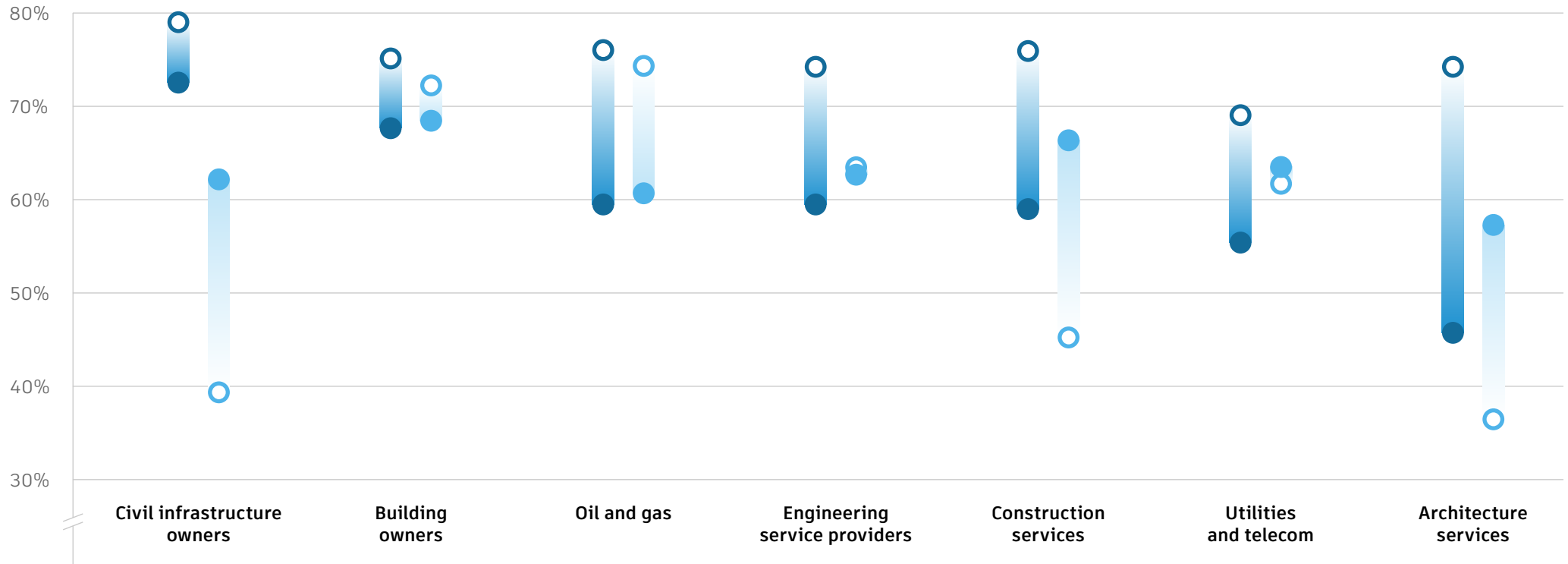
Percentage of respondents who agree to statements: 1. My company is well prepared to handle unforeseen future macroeconomic and geopolitical changes.
2. The future global landscape feels more uncertain now than 3 years ago. 5-point scale. Top two = agree.

But amid uncertainty, some organizations in AECO are faring better than others. Leaders at digitally mature organizations, for example, feel better prepared to handle unforeseen changes—75% of leaders at these companies feel prepared, compared to only 45% at less digitally mature organizations. And data-effective organizations are most confident, with 83% of leaders at those organizations feeling prepared to handle unforeseen changes. This points to yet another advantage of digitalization across AECO: increased resilience.

Architecture services sees large shift in both preparedness and uncertainty

AECO: ● My company is well prepared to handle unforeseen future changes
● The future global landscape feels more uncertain now than 3 years ago

○ 2024
● 2025



Percentage of respondents who agree to statements: 1. My company is well prepared to handle unforeseen future macroeconomic and geopolitical changes. 2. The future global landscape feels more uncertain now than 3 years ago. 5-point scale. Top two = agree.

INSIGHT 6: AECO

AECO, in general, is feeling less prepared to handle unforeseen changes than the previous year, with architecture services seeing the steepest decline, from 74% to 46%, representing a 38% change year-over-year. Leaders in architecture services not only feel their organizations are less prepared to handle unforeseen changes, but their confidence in the future has also fallen—there is a 21-point year-over-year increase in the number of leaders who see the future as uncertain. From increased materials costs to the shifting regulatory landscape and disruption from AI, architecture services is currently seeing, and feeling, the effects of ongoing global uncertainty.

“The future appears to be progressing towards a significant divide between technology adopters and nonadopters, with this gap continually widening. This presents opportunities for smaller companies to leverage emerging technologies and establish new trends. However, it is important to acknowledge that integrating such technology on a large scale within established companies may not always be feasible.”

OLIVER HALL

BIM Manager - Senior Staff, Stefan Antoni Olmesdahl Truen Architects (SAOTA),
an architecture and design firm headquartered in South Africa

The search for talent intensifies, with a focus on AI skills

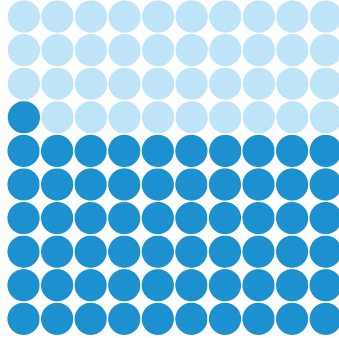
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INSIGHT 7: AECO

AECO as an industry has struggled in recent years to find skilled talent, and this year, that struggle has become acute enough to hinder growth. Fifty-eight percent of AECO business leaders say that lack of access to skilled talent is a barrier to their company's growth, up from 43% from last year.

When it comes to bridging and filling the skills gap, digitally mature companies are at a distinct advantage. In AECO, 75% of digitally mature companies will invest more in digital training, compared to 59% of less digitally mature companies. They are also more likely to implement continuous learning programs than less digitally mature companies, at 71% and 53% respectively. Digitally mature companies also see a boost when it comes to talent. In AECO, 27% of digitally mature companies report improved talent acquisition and retention as a benefit of digital transformation compared to only 17% of less digitally mature companies.

**61% in AECO say
they have difficulty finding
employees with the right skills**



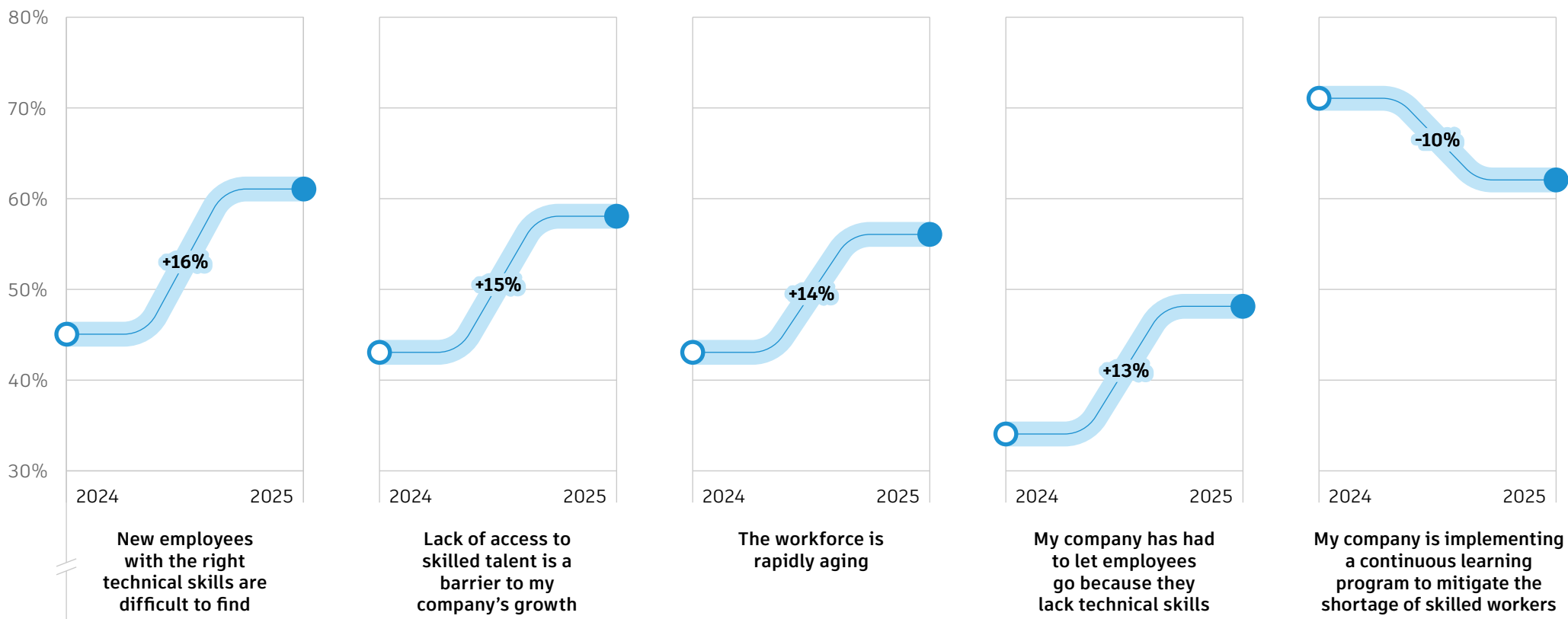
In AECO, 61% of business leaders worldwide agree that new employees with the right technical skills are difficult to find, up from 45% the previous year. Moreover, the number of leaders who say they have had to let people go because they lack technical skills has jumped to 48%, up from 34%, compounding labor shortage problems.

“In the construction business, a really big achievement is we restructured our company and got the younger generation to head different departments, because this younger generation absorbs and adopts to new technology. Many of the older generations struggle and sometimes resist to change the old ways and would rather keep the ‘business as usual’ processes.”

ENG. TAREK ELGAMAL
Chairman, Redcon Construction,
an engineering, construction,
and infrastructure company
headquartered in Egypt

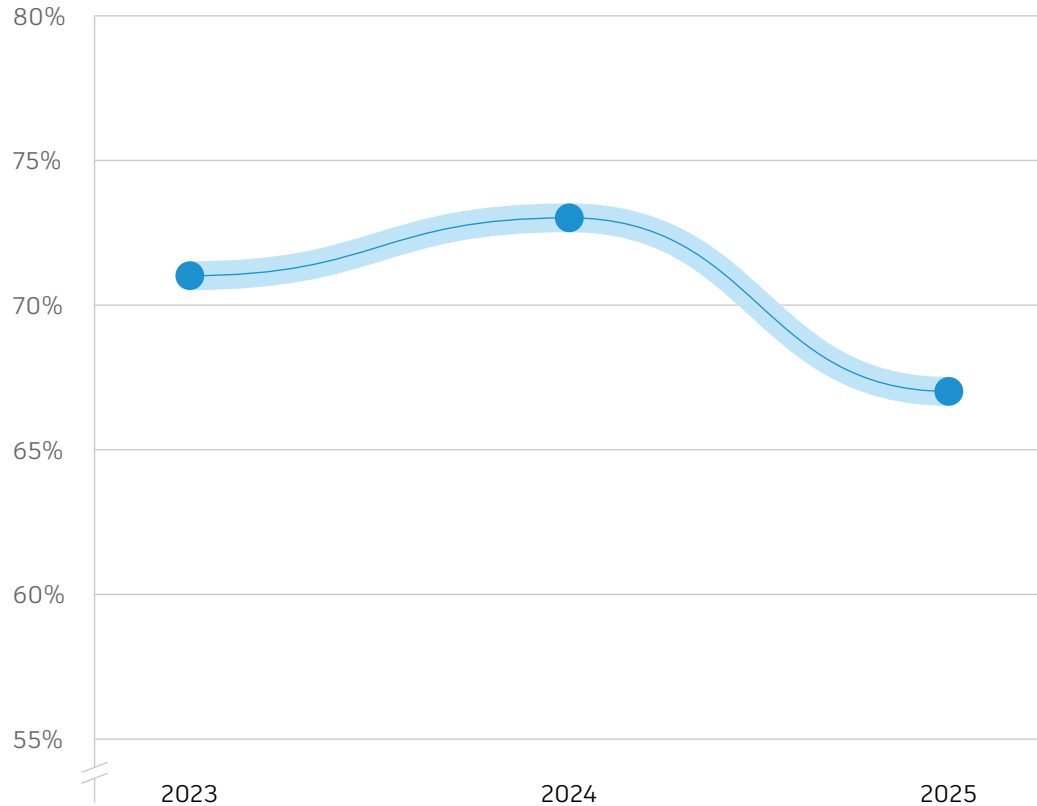
Nearly two-thirds of organizations are confronting a skills gap

36% year-over-year increase in leaders who say they struggle to find candidates with the right technical skills



AEEO respondents. Percentage of respondents who agree to statements: 1. New employees with the right technical skills are difficult to find. 2. My company has had to let employees go because they lack technical skills. 3. Lack of access to skilled talent is a barrier to my company's growth. 4. The workforce is rapidly aging. 5. My company is implementing a continuous learning program to mitigate the shortage of skilled workers. 5 point scale. Top two = agree.

Despite the skills gap, investment in training is down



AECO respondents. Percentage of respondents who agree to the statement: In the next 3 years, my company is planning to invest more in digital skills training. 5 point scale. Top two = agree.

One way to bridge the skills gap is to invest more in workforce training through continuous learning programs, but implementation of continuous learning programs has declined to 62% from 71% in 2024.

Budget aside, training holds other challenges. In AECO, 47% of respondents say they do not have the resources to design internal training programs, up 10 points from 2024, indicating that the tight

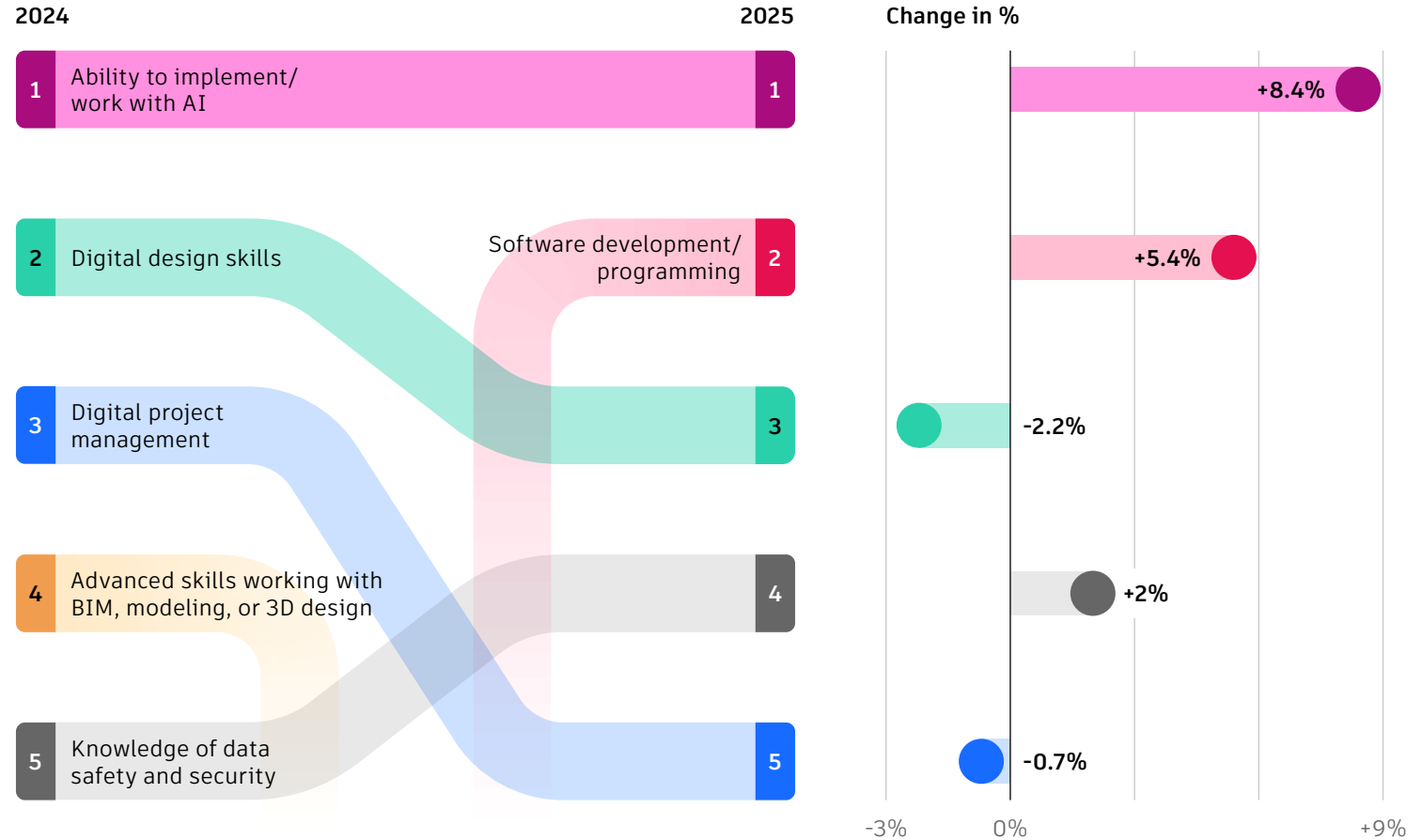
labor market is impacting initiatives across organizations.

Confronted by multiple implementation obstacles, some AECO organizations are turning to third parties to train their employees. While external training programs seem like an ideal solution for those organizations tight on resources, their efficacy remains in doubt, with 50% of leaders saying these do not meet the needs of their organization.

INSIGHT 7: AECO

Forty-seven percent of AECO leaders say the ability to work with AI will be their top priority when hiring in the next few years, up from 38% last year. This indicates that, despite a more cautious approach to the technology this year, leaders are still dedicated to integrating AI into their organizations.

AI skills top the list of future hiring priorities



AECO respondents. Survey question: What technical or digital skills do you believe your company or organization will be prioritizing when hiring over the next 3 years? Select all that apply.

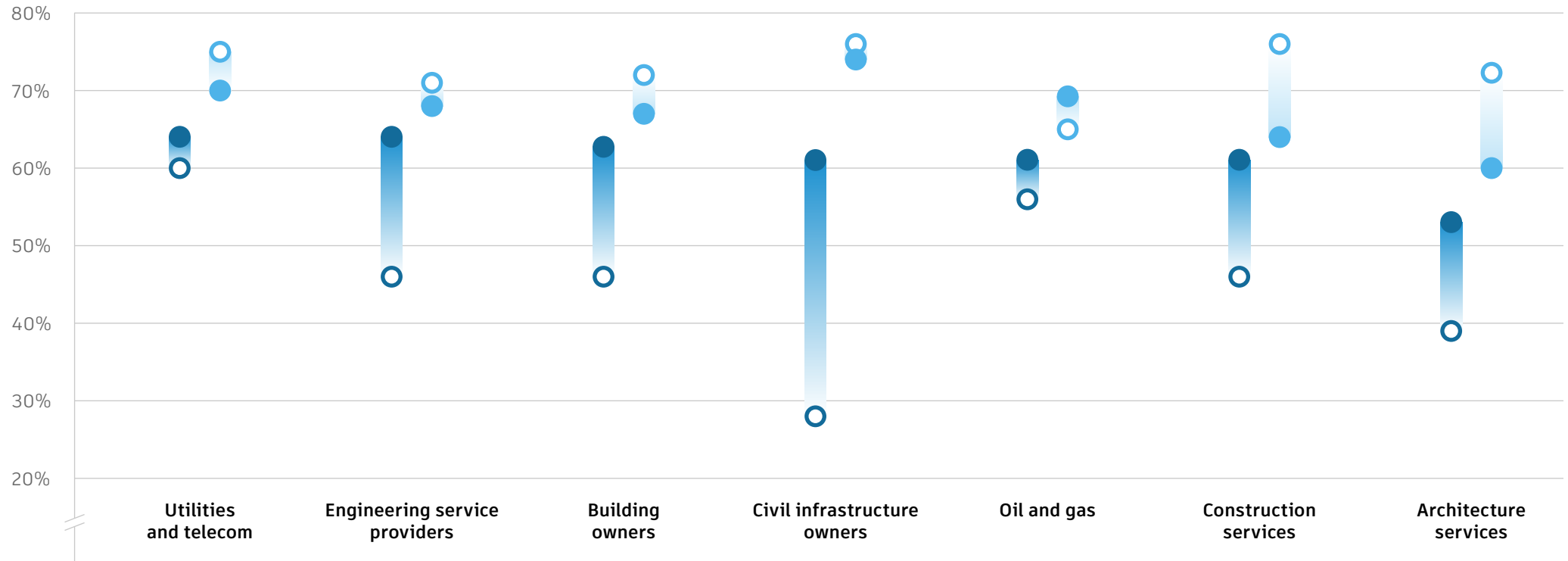
Civil infrastructure sees dramatic technical skills shortage

AEEO: ● New employees with the right technical skills are difficult to find

● In the next 3 years, my company is planning to invest more in digital skills training

○ 2024

● 2025



Percentage of respondents who agree to statements: 1. New employees with the right technical skills are difficult to find. 2. In the next 3 years, my company is planning to invest more in digital skills training. 5-point scale. Top two = agree.

INSIGHT 7: AEEO

Civil infrastructure organizations are experiencing a major increase in their skills gap. This year, 61% of leaders in the sector say the right technical skills are hard to find, up from 28% in 2024 and representing a 118% year-over-year change. Concerns about an aging workforce are compounded by the industry's difficulty in attracting young talent who see civil engineering as less technologically advanced than other sectors.

"Recruiting younger generations is a challenge. People don't think our

industry is cool enough," said Linn Arenö, head of digital development at Skanska Sweden, a global project development and construction company. "Personally, it's quite hard because everyone else is depending on our industry. You don't have anything if you don't have roads, if you don't have houses. Younger generations want to do cool computer stuff." To combat this image and attract future generations, Skanska invests in outreach programs for students of all ages, from university students to preschoolers.

"One problem is education. Nowadays, we are making people more general instead of training for specialties. Today, we see mechanical engineers instead of, say, a mechanical engineer for the utility industry or a mechanical engineer for the automotive industry. So for us, we say that it will take an engineer one to three years, at least, to be ready to work effectively."

VINICIUS PRATA

Leader of the Power Generation BIM Committee, Eletrobras, an electric power generation and transmission company headquartered in Brazil

**Investments remain
strong but reflect
uncertainty**

08

INSIGHT 8: AEEO

“Resources are limited, and with increased uncertainty, businesses tend to adopt a more cautious approach. Therefore, in the current domestic climate of diminished confidence, a defensive strategy is natural, and reducing investments is a rational decision. It is not wise to make substantial investments when the direction is unclear; being cautious is prudent. However, it is crucial to note that this is part of a cyclical change. Despite the current downturn in the domestic economy, there are still many opportunities in overseas markets, and our company has been shifting our business focus to overseas markets.”

WEI FENG LU

Senior Vice President, Morimatsu International Holdings Company Ltd.,
a global manufacturing and solutions company headquartered in China

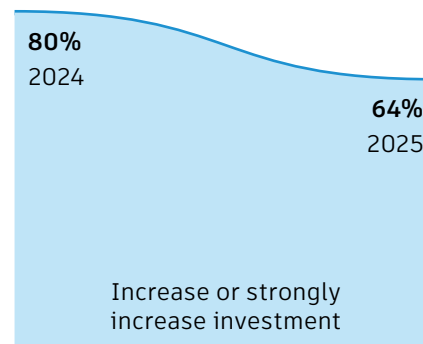
Future investment projections have fallen this year but are still robust—in AEEO, 64% of business leaders say their organizations will increase or strongly increase their investments over the next three years. While this reflects confidence in the future, this number is down from 80% last year, indicating that leaders are being more conservative in an uncertain geopolitical and macroeconomic environment.

However, digitally mature organizations are significantly more bullish on the future, with 79% of

leaders planning to increase future investments, compared to 50% at less digitally mature companies.

Further, future investments are higher at data-effective companies where 87% of leaders say they will increase future investments. This indicates that organizations are seeing outsized benefits from their investments and that digital transformation efforts may have eased implementation challenges, resulting in long-term cost savings and productivity gains.

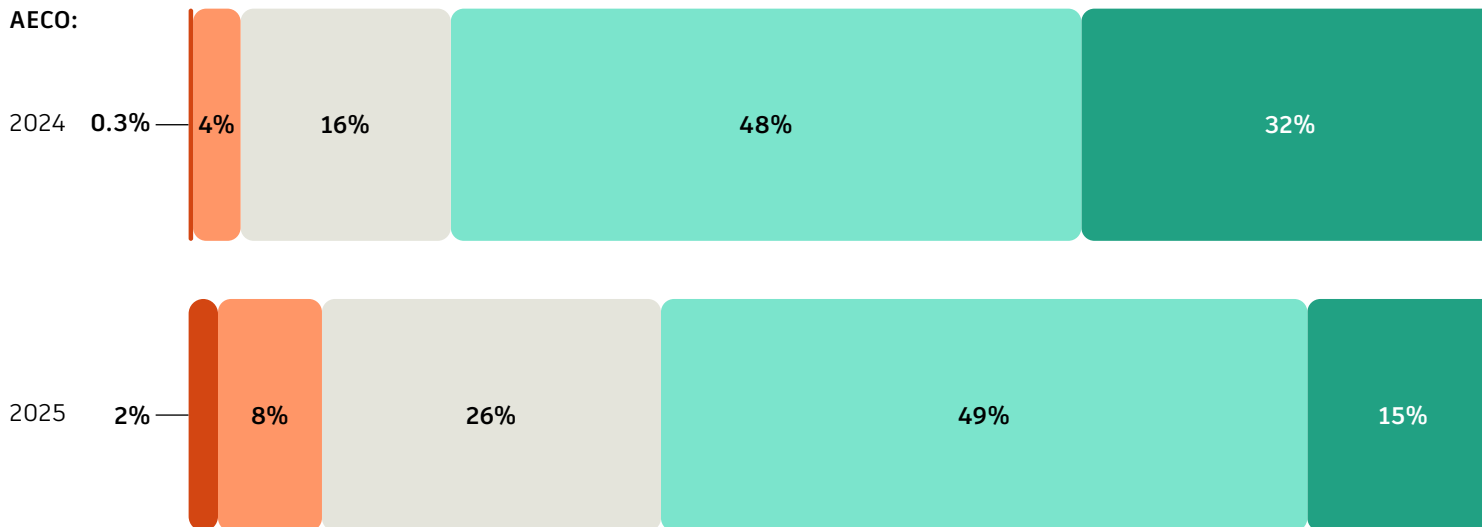
AEEO businesses scale back investment plans



Future investments still robust

Two-thirds of organizations will increase their investments, down from 2024

● Strongly decrease ● Decrease ● Stay roughly the same ● Increase ● Strongly increase



Survey question: How do you think your company or organization's level of investment will shift over the next 3 years?
5-point scale. Values do not add up to 100% due to rounding.

“We service the Australian market, and, other than New Zealand, we don’t export. We are somewhat of an island, and even our island is seeing the effects of what’s going on in the world. Construction is down, investment is down, and available funding is down. That’s a reaction to what’s going on in the world.”

SHARMY FRANCIS

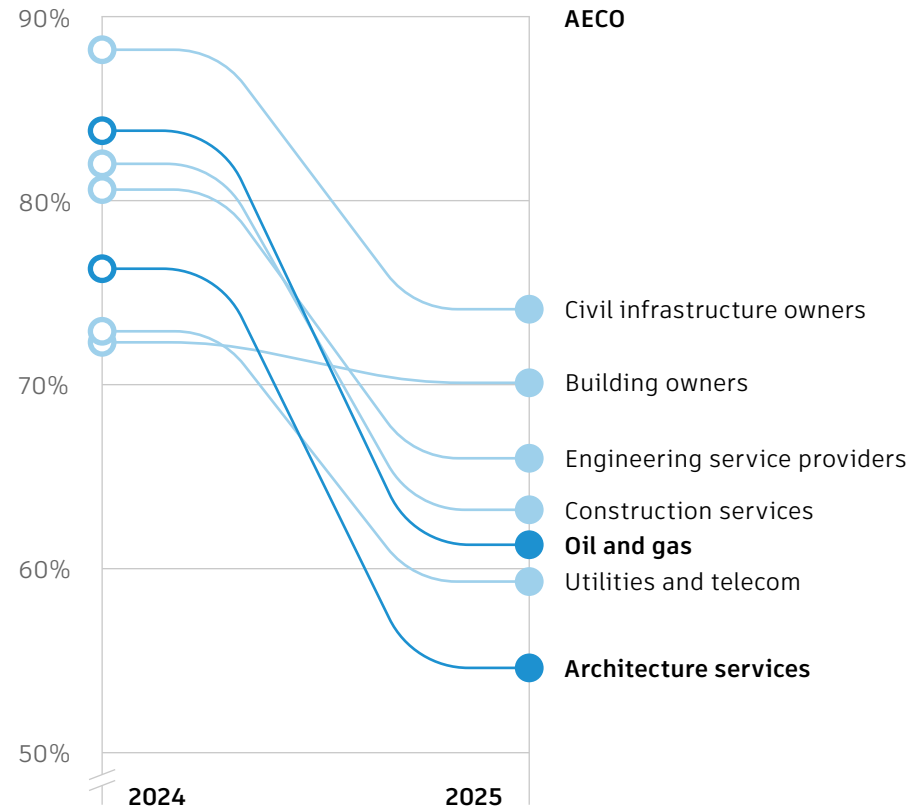
Manager – Innovation, InfraBuild, a steel manufacturing company headquartered in Australia

While all sectors in AECO are seeing a decline in the percentage of leaders that will increase future investments, architecture services and oil and gas are seeing the sharpest decline.

Architecture services, specifically, is reining in spending, with just 55% of leaders in this sector saying they will increase investments in the next three years, a 28% decline year-over-year. This makes sense when considering the unique confluence of pressures for the sector from rising materials and labor costs to supply-chain fragility.

Oil and Gas also saw a steep year-over-year decline in spending, with 61% of leaders saying they will increase investments, compared to 84% in 2024. Oil producers are taking a more conservative approach to spending owing to a host of factors—concerns about oversupply amid a tightening of consumer spending, for example—and are reducing capital investments and focusing on improving operational efficiencies.

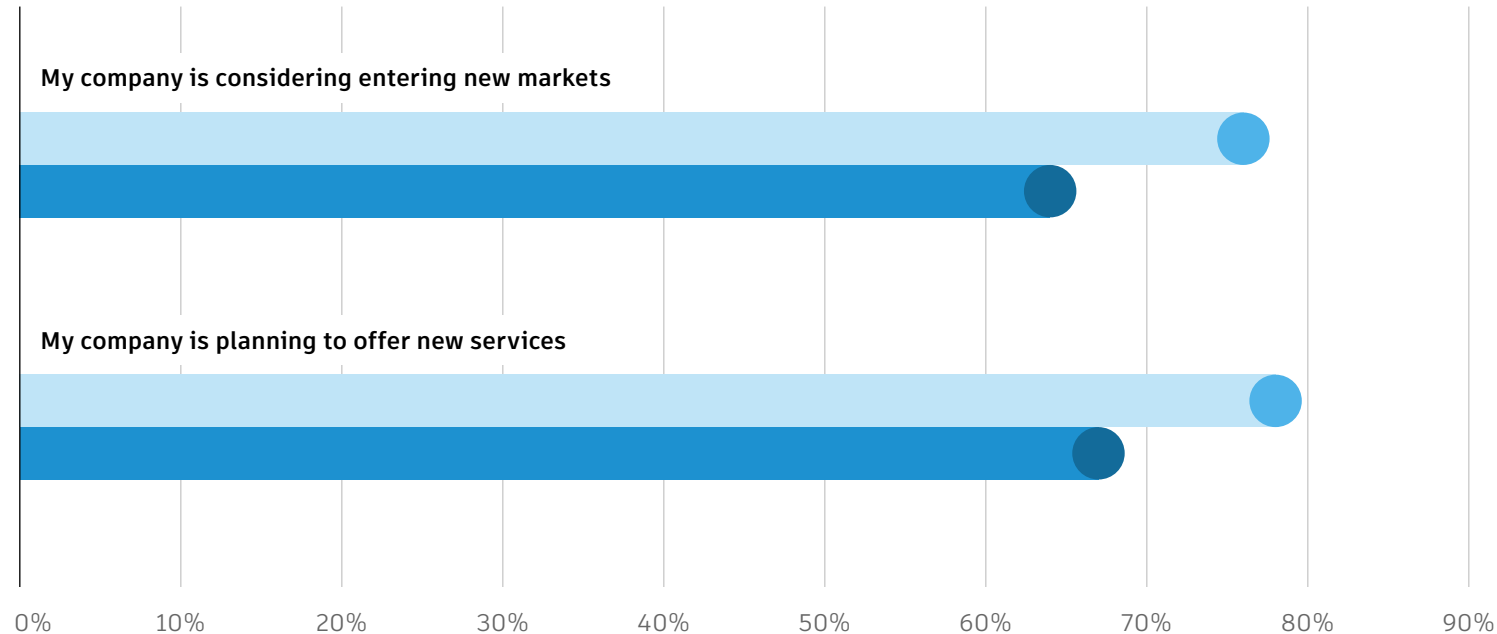
Architecture services, oil and gas see sharpest decline in investment level



Survey question: How do you think your company or organization’s level of investment will shift over the next 3 years? 5-point scale. Top two = increase.

Companies are pulling back on expansion efforts

AECO: ● 2024 ● 2025



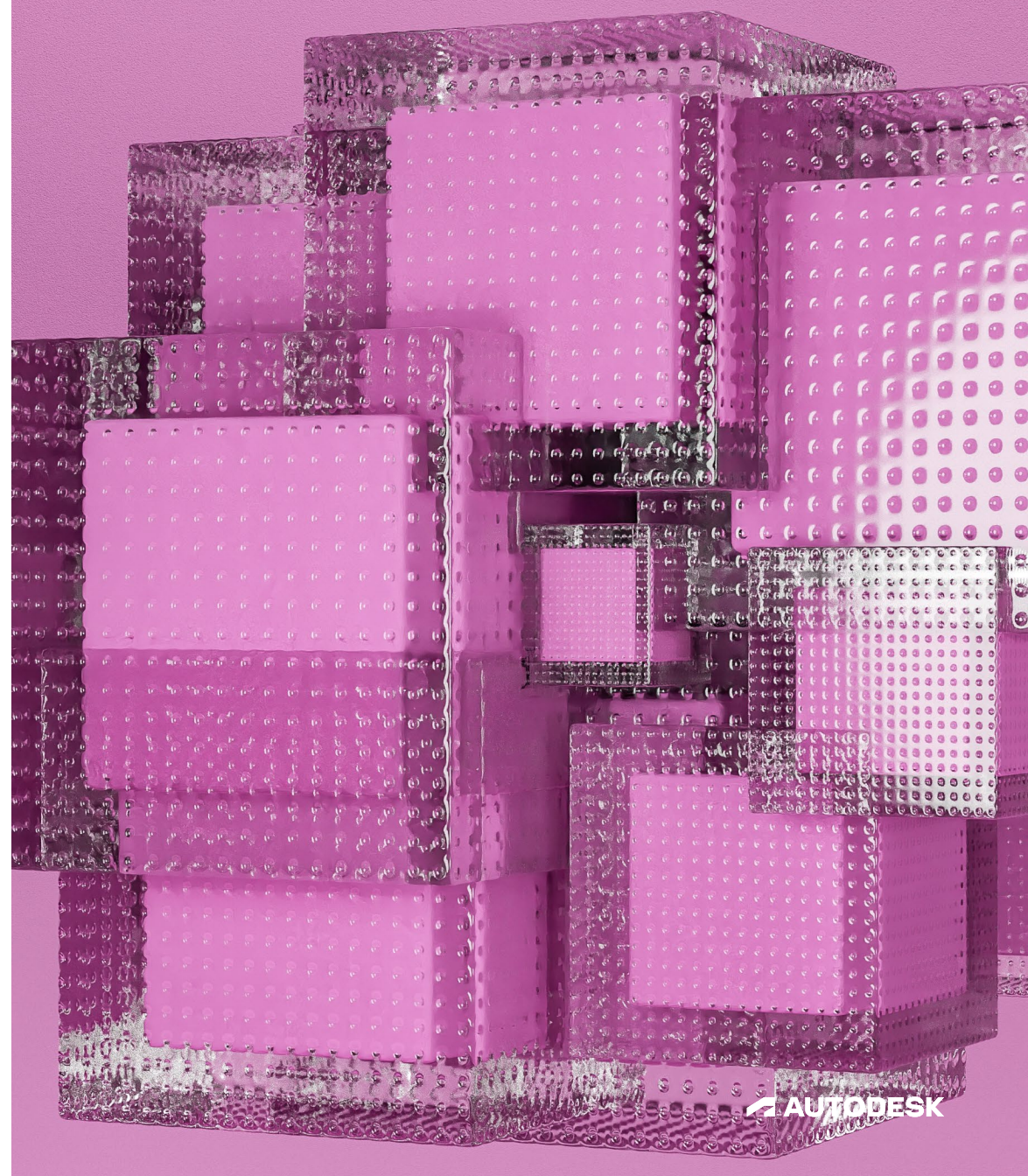
Percentage of respondents who agree to statements: 1. My company is considering entering new markets. 2. My company is planning to offer new services.
Survey question: To what extent do you agree or disagree that your company or organization is doing the following to be more resilient? 5-point scale. Top two = agree.

INSIGHT 8: AECO

Most AECO leaders surveyed for the *2025 State of Design & Make* report say their companies continue to invest in entering new markets and in offering new products and services, but at a lower rate than last year—64% say they will enter new markets this year, compared to 76% in 2024. Enthusiasm for offering new services is also down, with 67% of AECO leaders this year saying they will offer new services compared to 78% last year.

These findings echo the global drop in sentiment seen this year and align with efforts to control costs in the near term.

But as with so many aspects across AECO, digitally mature organizations are much less likely to be affected by this general belt-tightening. Seventy-four percent of digitally mature AECO companies say they are considering entering new markets, compared with 53% of less digitally mature companies. They are also more likely (78%) to offer new products and services than their counterparts (57%), and to increase their investments into acquisitions (66% compared to 37%). These actions give digitally mature organizations a competitive advantage, allowing them to expand while others contract under market pressures.



Conclusion

Regardless of recent headwinds, leaders in AECO are focused on solving today's problems with an eye toward future opportunity. While cautious in the near term, leaders that want to gain a competitive edge need to think about the long-term benefits of investing in digital transformation now—and the implications that falling behind could have across the organization.

Methodology

For the 2025 report, Autodesk surveyed and interviewed 5,594 industry leaders, futurists, and experts in the architecture, engineering, construction, and operations; product design and manufacturing; and media and entertainment industries from countries around the globe. This report contains key findings from this research, including details at the sector and regional level.

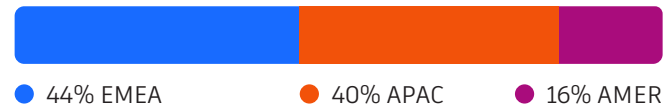
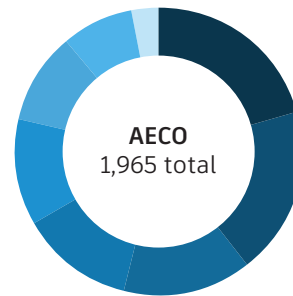
The quantitative data in this AECO subsample (n=1965) was collected between May and August 2024 through a 20-minute online survey.³ Autodesk partnered with Qualtrics for the collection of this data. In addition, 34 qualitative interviews with business leaders and futurists were conducted in October and November 2024.

AECO survey sample:

2025:
1,965 AECO respondents

2024:
2,002 AECO respondents

2023:
884 AECO respondents



65%

of survey participants are decision-makers in their companies

12 years

is the average time of experience in their industry

38%

of respondents said that they primarily use Autodesk Design and Make software

³ 2025 State of Design & Make questionnaire

Glossary

Data-effective companies:

Respondents were asked, “How effective would you say your company or organization is at leveraging data?” Those who responded with “very effective” on a 4-point scale are referred to as data-effective companies. This is 17% of respondents.

Digital maturity:

Respondents were asked how far their companies were in their transformation journeys. Respondents who described their organization as “early stage” or “right in the middle” of their digital transformation journeys are considered less digitally mature companies. Those who responded “approaching the goal” or having “achieved the goal” of digital transformation are considered more digitally mature companies. Of the AECO respondents, 49% are digitally mature.

Industry:

AECO: Architecture, engineering, construction, and operations

- Architecture services
- Building owners (i.e., developers, real estate companies, governments)
- Civil infrastructure owners (e.g., transportation infrastructure, water infrastructure)
- Construction services
- Engineering service providers
- Mining
- Oil and gas
- Utilities and telecom

D&M: Design and manufacturing

- Aerospace and defense equipment
- Automotive, mobility, and other transportation (including supply chain)
- Building products and fabrication
- Consumer products
- Industrial machinery
- Life sciences manufacturing
- Process manufacturing

M&E: Media and entertainment

- Advertising, publishing, and graphic design
- Film and TV
- Games

Leaders and experts:

- *Leaders:* Sixty-five percent of survey participants in AECO are decision-makers in their companies. In this report, this group is referred to as leaders. Job roles for the leaders group include business owners/entrepreneurs, directors, and VP- and C-level executives.
- *Experts:* The remaining 35% of AECO respondents are referred to as experts. This group includes respondents at the nonmanagerial level and managers.

Region:

APAC: Asia-Pacific

Australia, China, India, Japan, Singapore, South Korea

EMEA: Europe, the Middle East, and Africa

France; Germany; Italy; Middle East (Saudi Arabia, United Arab Emirates); Netherlands; Nordics (Denmark, Finland, Norway, Sweden); Spain; Turkey; United Kingdom

AMER: North, Central, and South America

Brazil, Canada, Mexico, United States

Sustainability:

The survey questions about sustainability, for example, in the list of changes companies are making, focus on environmental sustainability; however, this definition was not explicitly stated.

In one-on-one interviews, a descriptive definition was used incorporating the United Nations definition: “Meeting the needs of the present without compromising the ability of future generations to meet their own needs.” Respondents were told this includes efforts related to the environment (mitigating the effect on climate change); the community (social well-being, improving the life of populations); and corporate governance.

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