

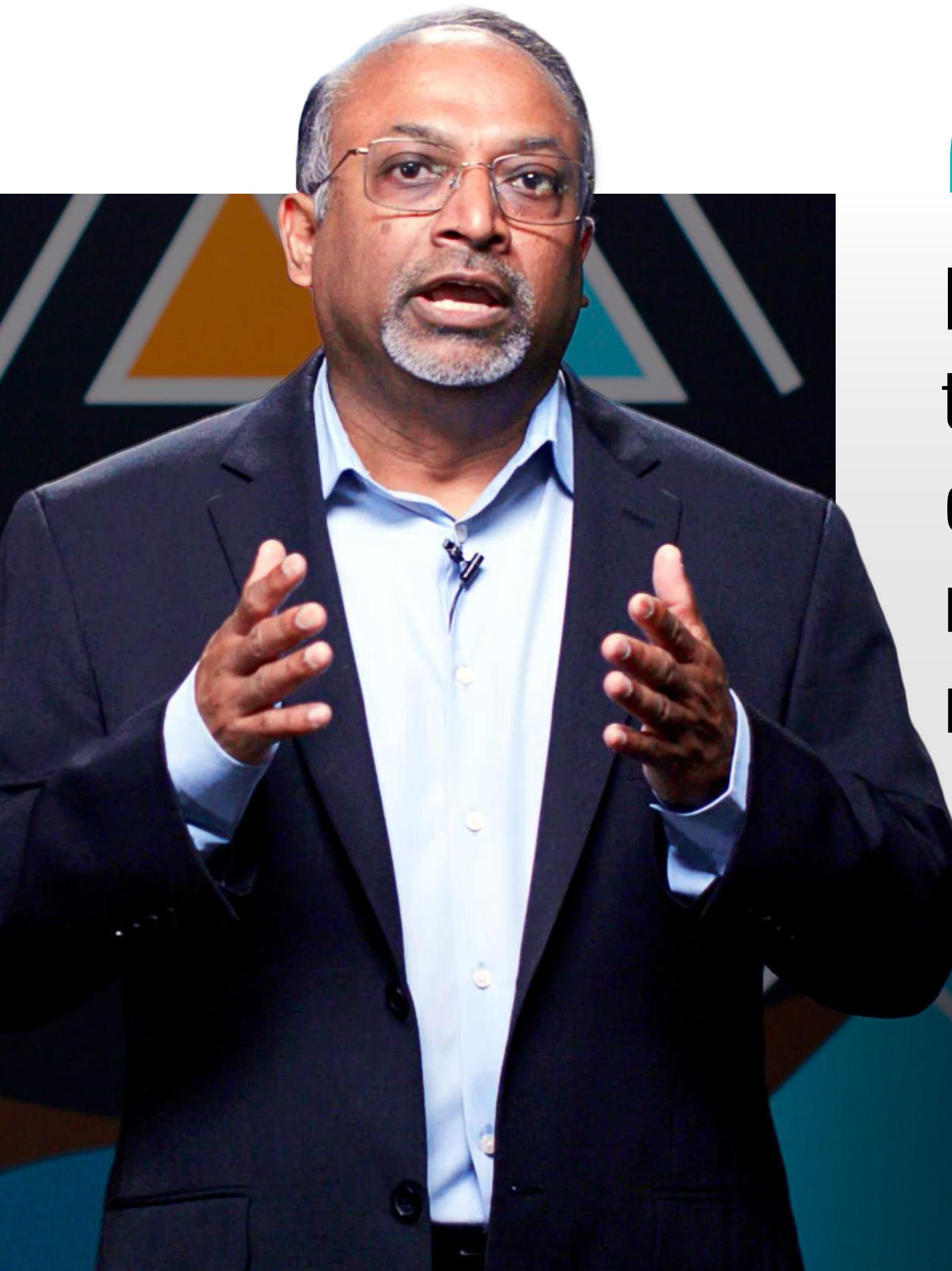


DIGITAL TECHNOLOGY TRENDS IN THE AEC INDUSTRY

| 2025 REPORT

FOREWORD

BY DR. BIPLAB SARKAR, CEO, VECTORWORKS



“

I believe it's our job to create tools that enhance workflows rather than limit or redefine them.

The architecture, engineering, and construction (AEC) industry has been changing for a long time, in part due to technological advancement and in part because of the workflow pressure provided by increasing demands on public infrastructure. In tandem, these forces create an opportunity for AEC professionals to adjust their processes to deliver intelligent, climate-sensitive work.

But I'll be the first to admit that changing established workflows is uncomfortable, especially because our livelihood is tied to the projects we deliver. However, as you'll read in this report, we're approaching a point where adopting new technology is non-negotiable.

This is a complex challenge. How do you embrace new technology when the process of implementing it comes at the cost of daily billable work? This challenge influences every step of our development process at Vectorworks — we strive to deliver effective digital technology solutions that meet the needs of today while ensuring these solutions easily fit right into day-to-day work.

In other words, you're not alone. Software providers share the responsibility; I believe it's our job to create tools that enhance workflows rather than limit or redefine them.

- DR. BIPLAB SARKAR, CEO, VECTORWORKS

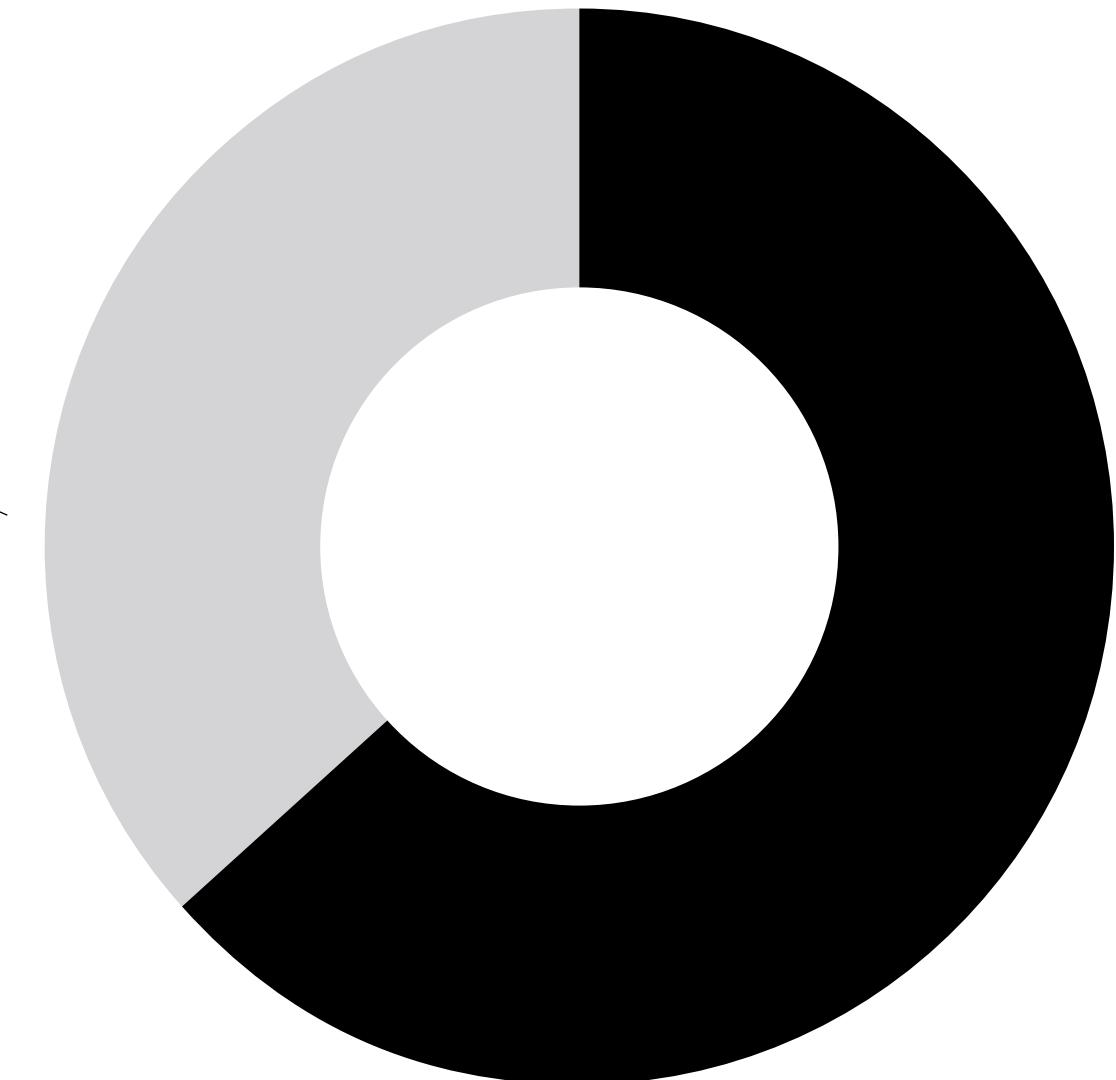
INTRODUCTION

We've ventured to measure the current and expected prevalence of digital technology trends in the AEC industry through a survey. Hearing directly from practitioners provides valuable insight into the industry that we can use to inform our ongoing development. Examining **Building Information Modeling (BIM)**, **artificial intelligence (AI)**, **augmented reality and virtual reality (AR/VR)**, and **sustainable design analysis tools** allowed us to draw meaningful conclusions about these technologies.

- ▶ BIM
- ▶ AI
- ▶ AR/VR
- ▶ SUSTAINABLE DESIGN ANALYSIS

37.5%

don't plan to adopt any of these trends.



62.5%

plan to adopt at least one trend.



PALAOON FORSCHUNG-BERLEBNISZENTRUM | COURTESY OF HOLZER KOBLECK ARCHITEKTUREN

KEY FINDINGS:



Collectively, surveyed **AEC professionals rated BIM as the most prevalent digital technology in the industry today**. It's expected to continue to be so over the next decade.

AI has seen a meteoric rise in adoption recently, but practitioners are aware that **AI needs to evolve and become more bespoke** before it reaches the same prevalence as BIM's.

Lack of training was the largest barrier to adoption for every digital trend except AR/VR. This speaks to the need for comprehensive training resources and opportunities as the industry continues to move towards digital transformation.

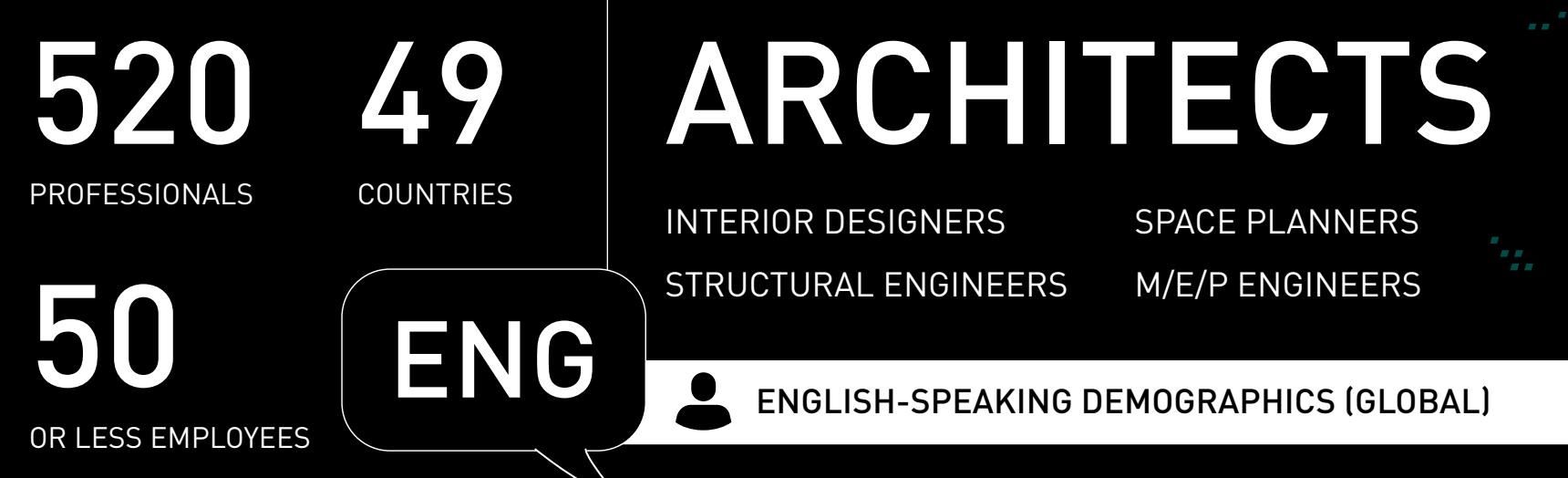
Respondents expect **every trend to be more widespread** in the industry over the next decade.

62.5%

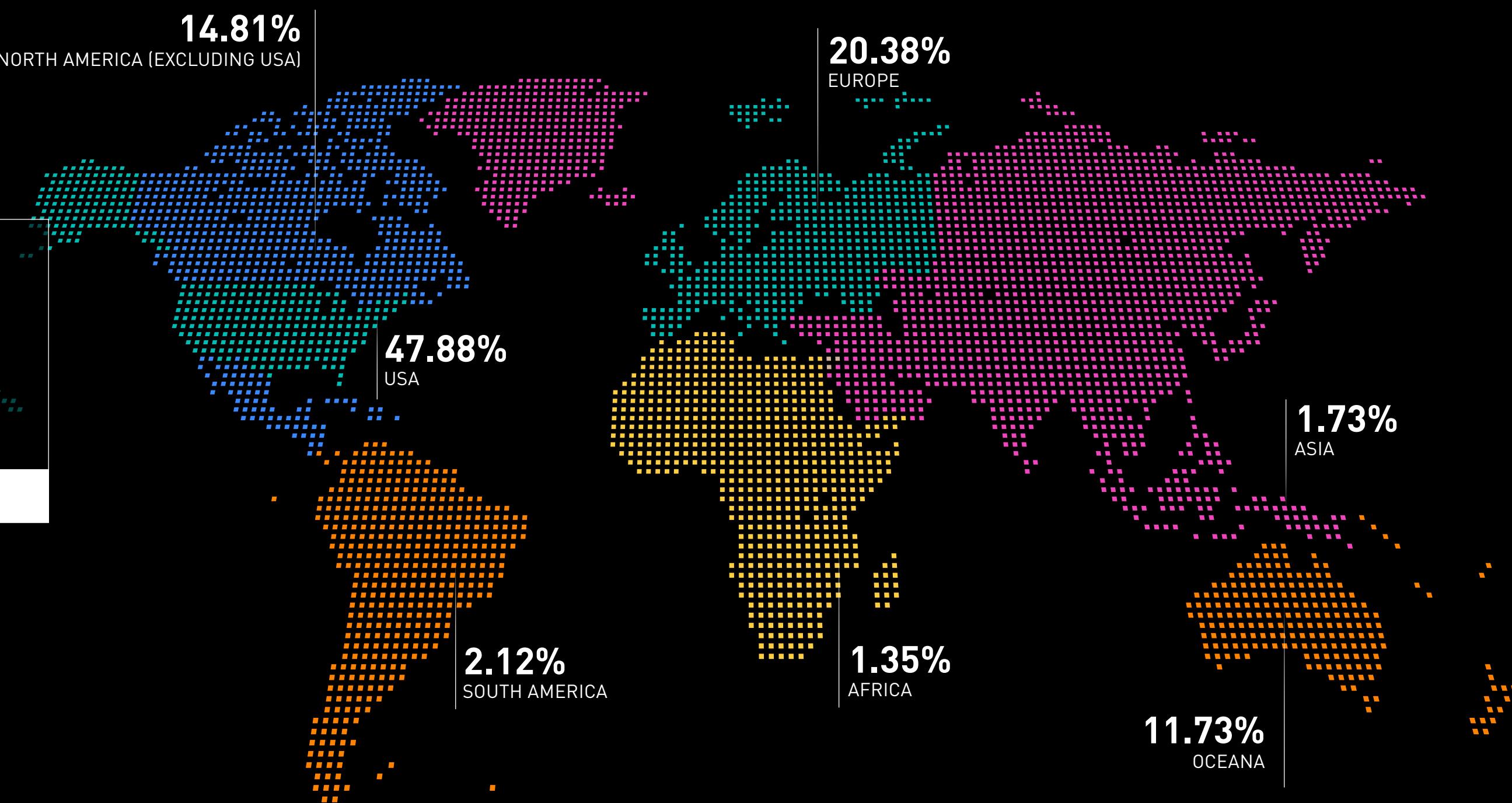
OF RESPONDENTS PLANNED TO ADOPT **AT LEAST ONE OF THESE TRENDS IN THE NEXT 5 YEARS.**

| DATA ACQUISITION

We surveyed 520 current AEC professionals on their opinions of technology trends in the industry. To gather insight into how the typical AEC professional is approaching these technologies, we surveyed practitioners who worked in firms with 50 employees or less.



Focusing on these firms provides a more accurate picture of the prevailing perceptions of technology trends because, in the United States, firms with fewer than 50 employees make up over 90% of the industry. The largest group of responders was architects, but the survey received responses from interior designers, structural engineers, space planners, and M/E/P engineers as well.



SURVEY RESULTS

- ▶ BIM
- ▶ AI
- ▶ AR/VR
- ▶ SUSTAINABLE DESIGN ANALYSIS



SURVEY RESULTS

BIM

Of the four digital trends present in the survey, [BIM](#) scored highest on average, indicating that BIM is the front-runner among the four selected digital trends in terms of familiarity, prevalence, projected prevalence in 10 years, and ROI. This comes as no surprise as BIM has been a driving force in the AEC industry for over a decade, though it's traditionally been considered a workflow employed by larger firms that have more resources to dedicate to implementing it. Given that this survey is focused on firms with 50 or fewer employees, it's clear that this perception is fading in the eyes of industry practitioners.

68%

of survey respondents noted that they have already adopted BIM and are currently using it in their practice, which is the largest adoption rate among the selected digital trends by a large margin.



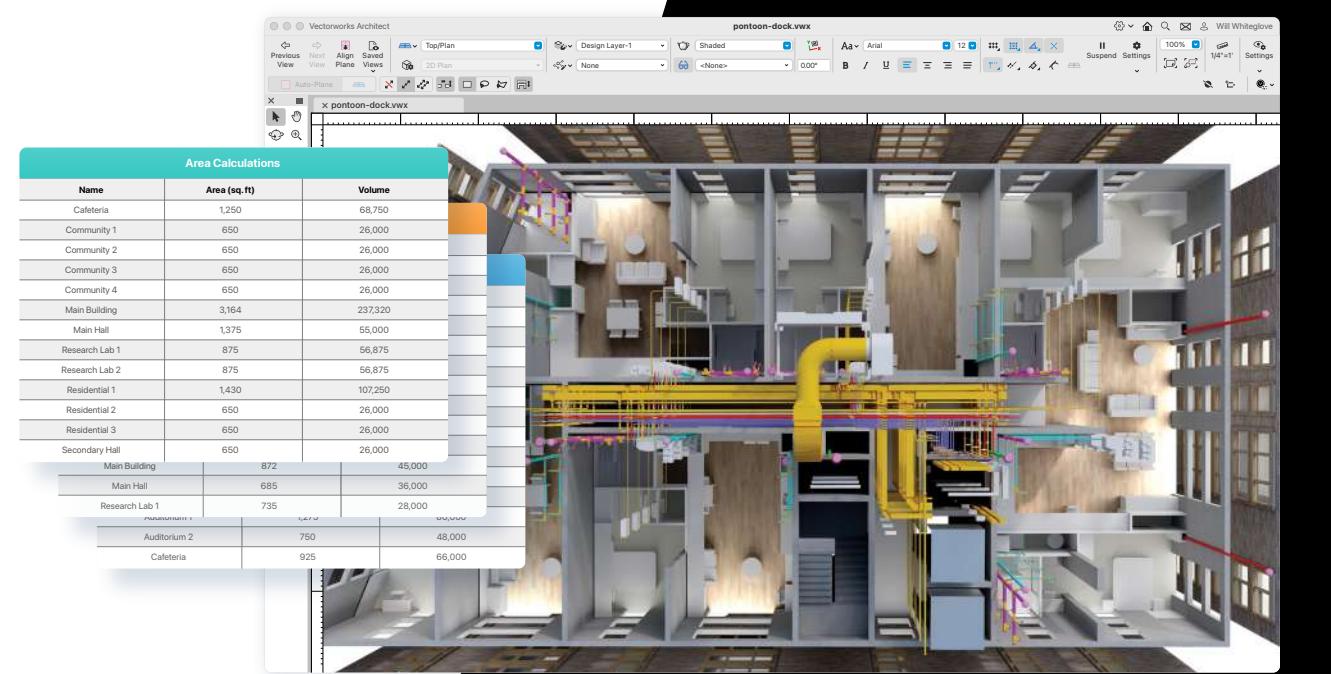
65%

of BIM adopters noted that this trend delivers the most ROI to their practice.



35%

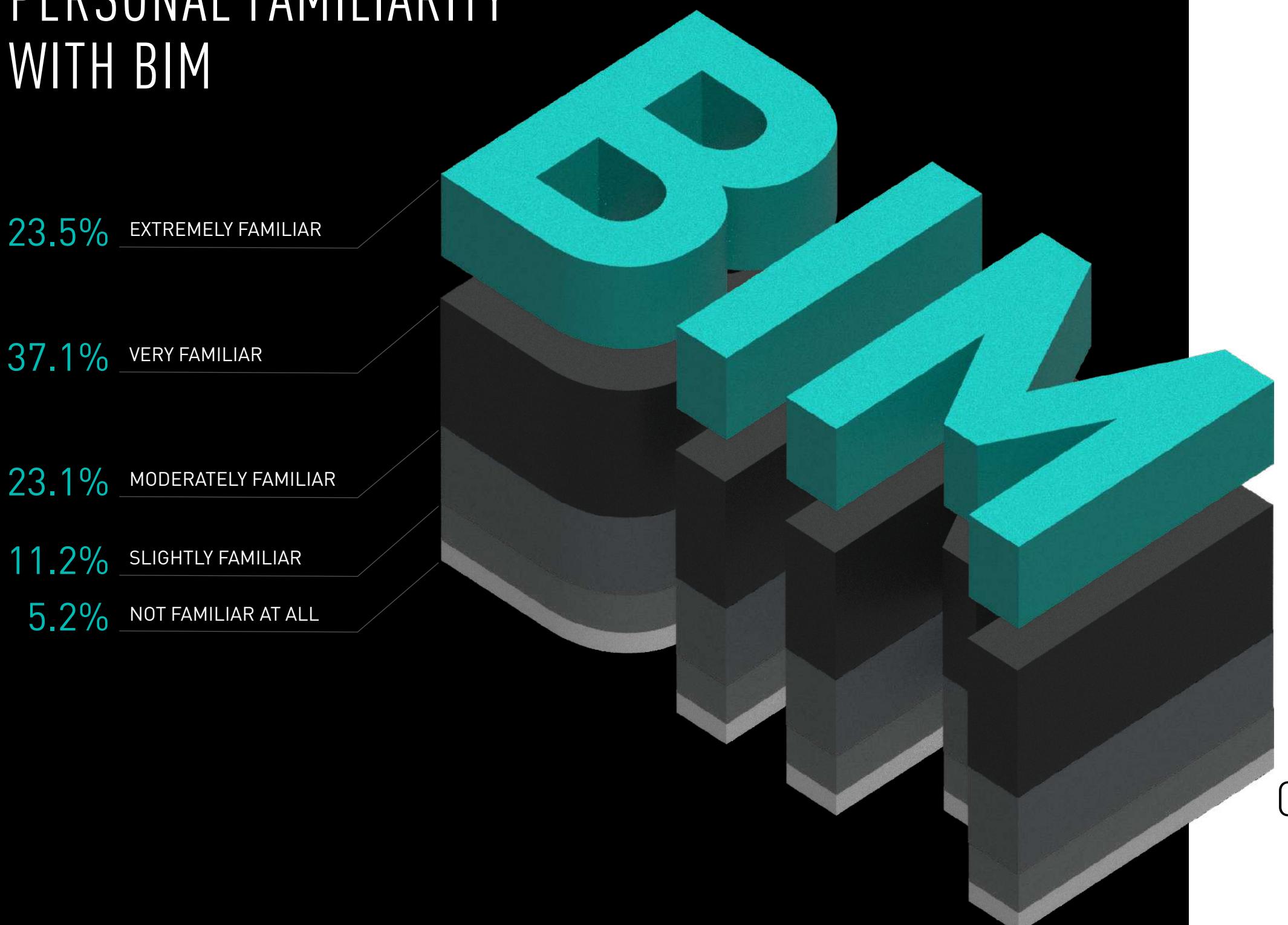
of respondents noted that clients have asked them about incorporating BIM into a project.



BIM SCORED THE HIGHEST FOR:

- FAMILIARITY
- PERCEIVED PREVALENCE TODAY
- PROJECTED PREVALENCE IN 10 YEARS

PERSONAL FAMILIARITY WITH BIM





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BIM
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AR/VR

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BIM

PERCEIVED INDUSTRY PREVALENCE TODAY



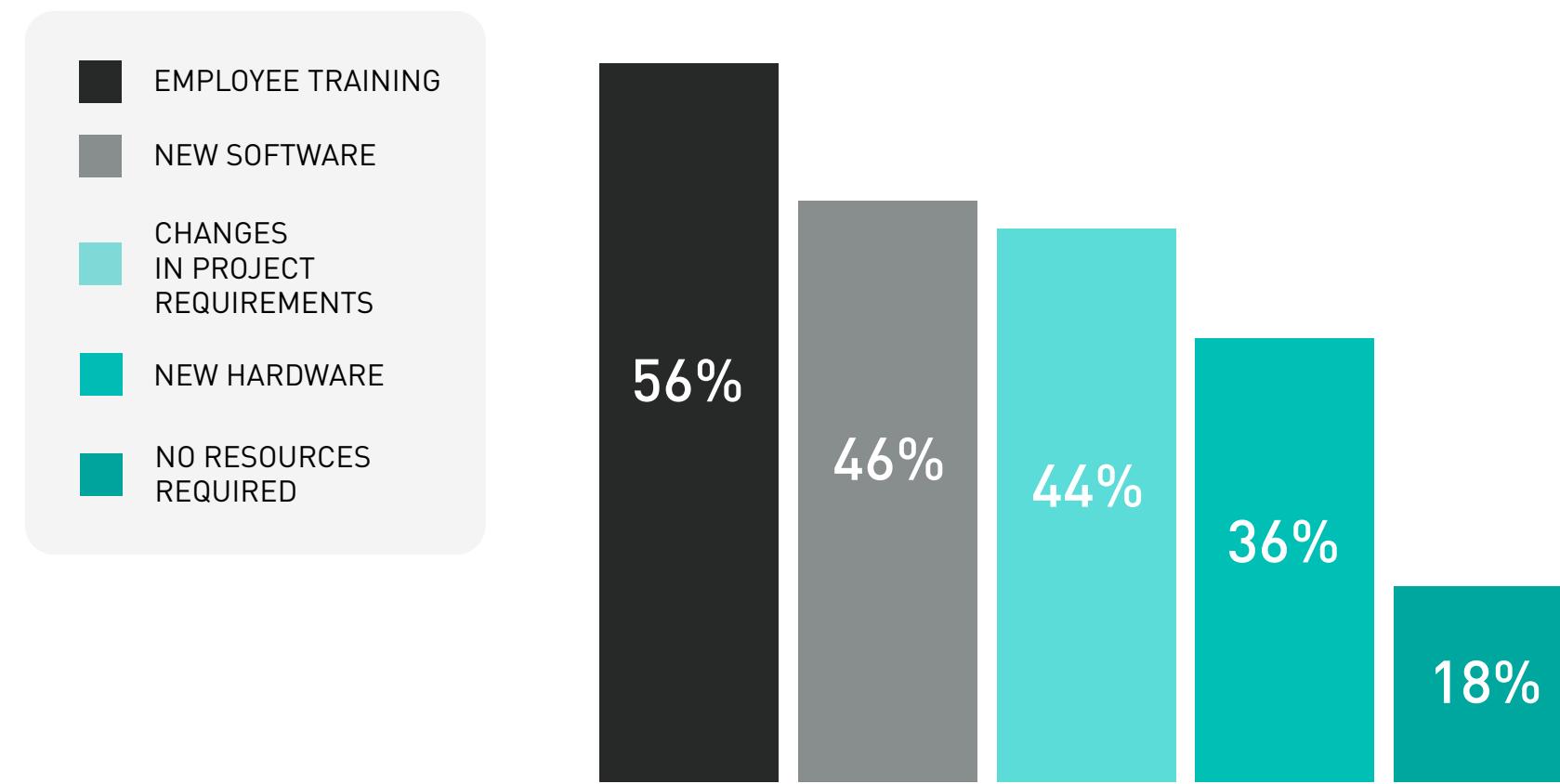
PREDICTED INDUSTRY PREVALENCE IN 10 YEARS

SURVEY RESULTS

BIM

56% of respondents who hadn't adopted BIM indicated that lack of understanding, know-how, or mastery is the biggest barrier preventing them from adopting BIM. This figure shows that training is necessary to empower remaining small firms to adopt BIM and join the 68% of their peers who are currently using BIM. It's reasonable to expect that, with the advent of [learning resources](#) and increasing normalization of BIM in the AEC industry, this 56% figure should decrease over the next decade.

RESOURCES THAT WERE REQUIRED DURING BIM ADOPTION PROCESS



BARRIERS TO ADOPTION FOR NON-ADOPTERS



SURVEY RESULTS

KEY BIM STATISTICS

RESPONDENTS THAT HAVE ALREADY ADOPTED BIM

**68%**BIM ADOPTERS THAT SAID IT WAS CURRENTLY
DELIVERING THE MOST ROI**65%**NON-BIM ADOPTERS THAT PLANNED TO ADOPT
WITHIN 5 YEARS**38%**RESPONDENTS THAT HAD CLIENTS ASK THEM
ABOUT INCORPORATING BIM**35%**

“

BIM is the cornerstone of modern AEC innovation, transforming how we design, build, and collaborate. Centralizing data and fostering seamless communication empowers teams to create smarter, more efficient, and sustainable projects, making it the most essential technology in our industry today.

RUBINA SIDDIQUI, ASSOC. AIA, SENIOR PRODUCT MARKETING DIRECTOR, VECTORWORKS



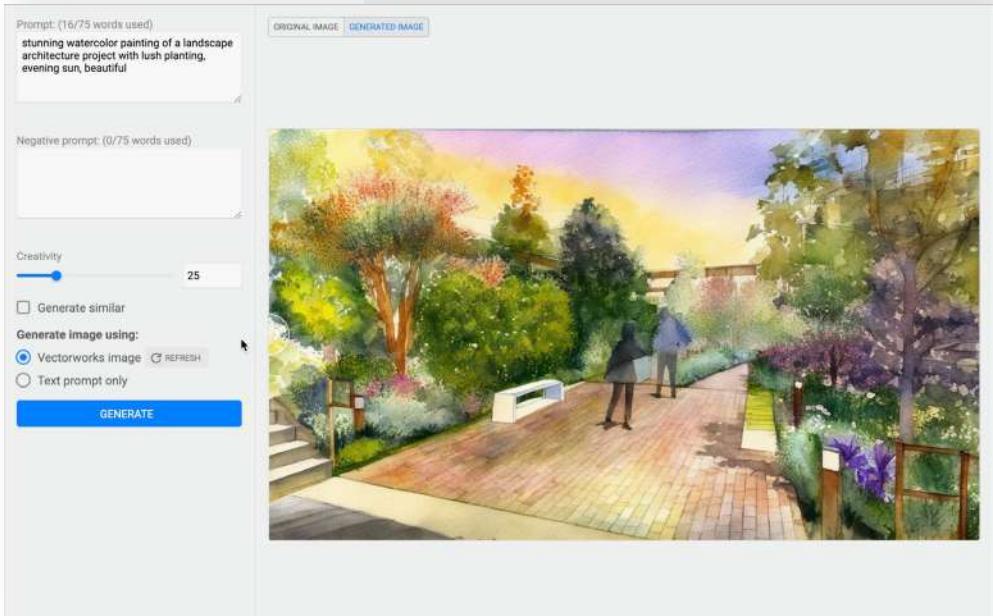
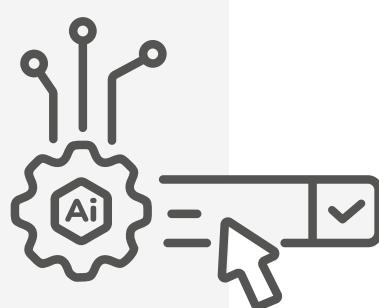
SURVEY RESULTS

AI

AI fills an interesting niche among the selected technology trends; only recently has AI emerged as a legitimate force in the industry, and yet it's reached high relative scores from respondents.

36%

of respondents noted that no resources were required for them to adopt AI. These resources include new hardware, new software, training, or changes in project delivery/requirements.



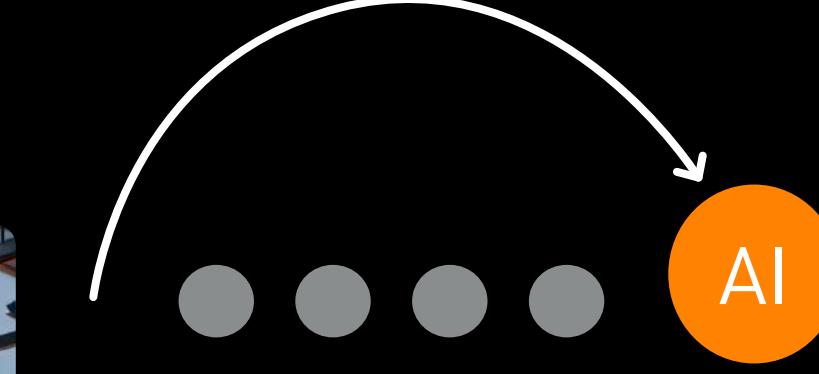
51%

of respondents rated AI as moderately prevalent or higher in the industry today.

86.2%

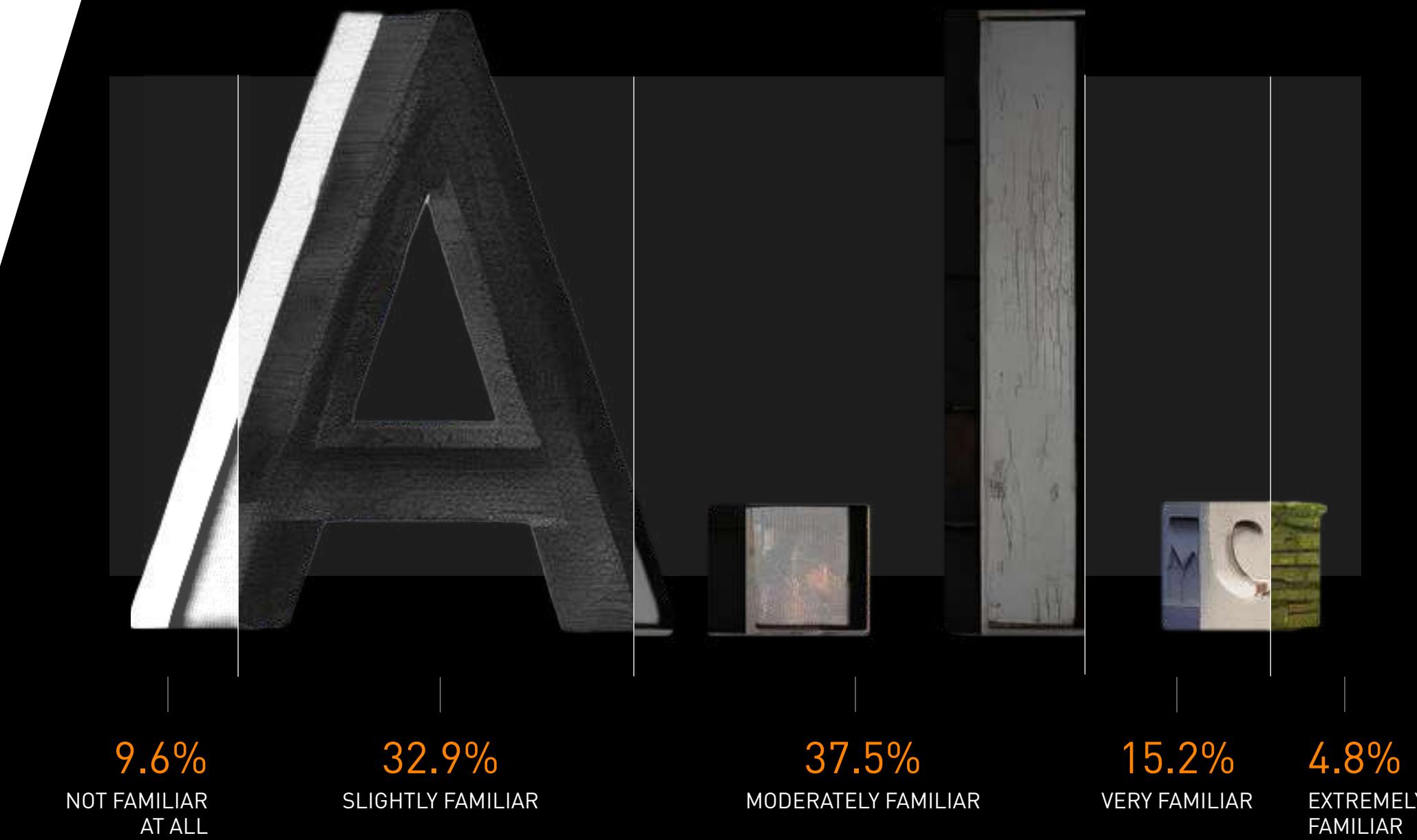
of respondents expected it to be moderately prevalent or higher in 10 years.

This significant gap shows that AEC practitioners expect AI to continue evolving to meet the needs of their practices.



RESPONDENTS EXPECT AI TO MAKE THE LARGEST LEAP IN INDUSTRY PRESENCE OVER THE NEXT 10 YEARS WHEN COMPARED TO THE THREE OTHER TRENDS.

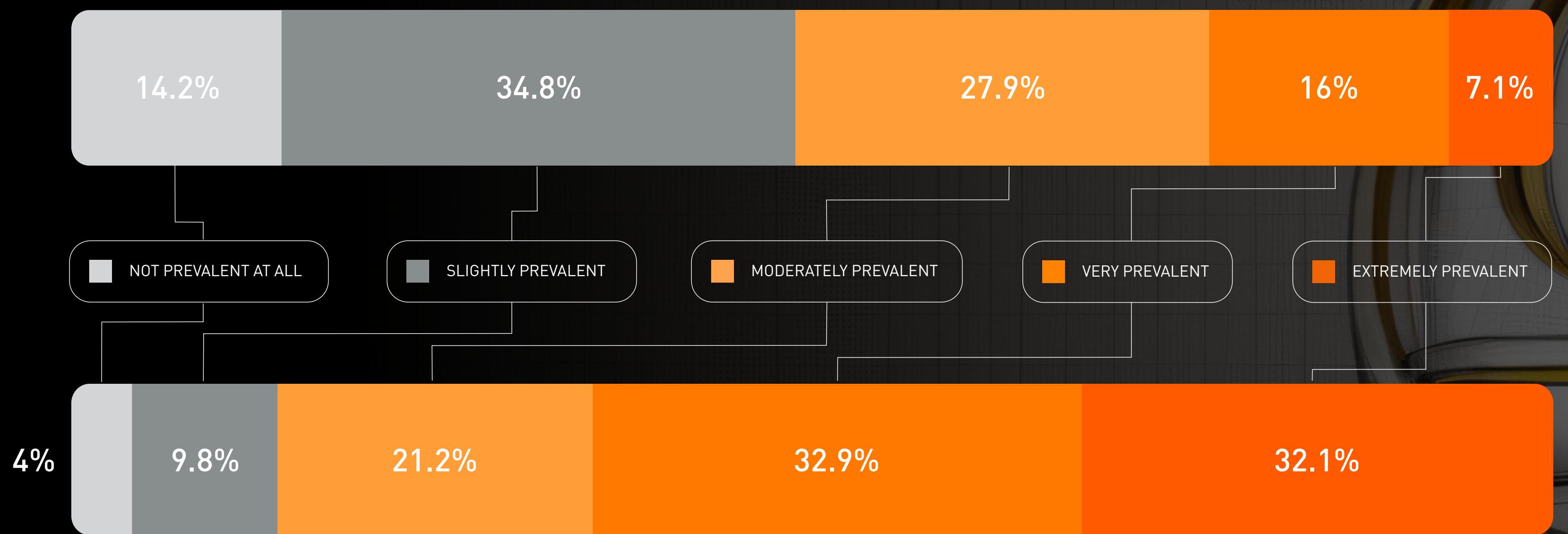
PERSONAL FAMILIARITY WITH AI



SURVEY RESULTS

AI

PERCEIVED INDUSTRY PREVALENCE TODAY



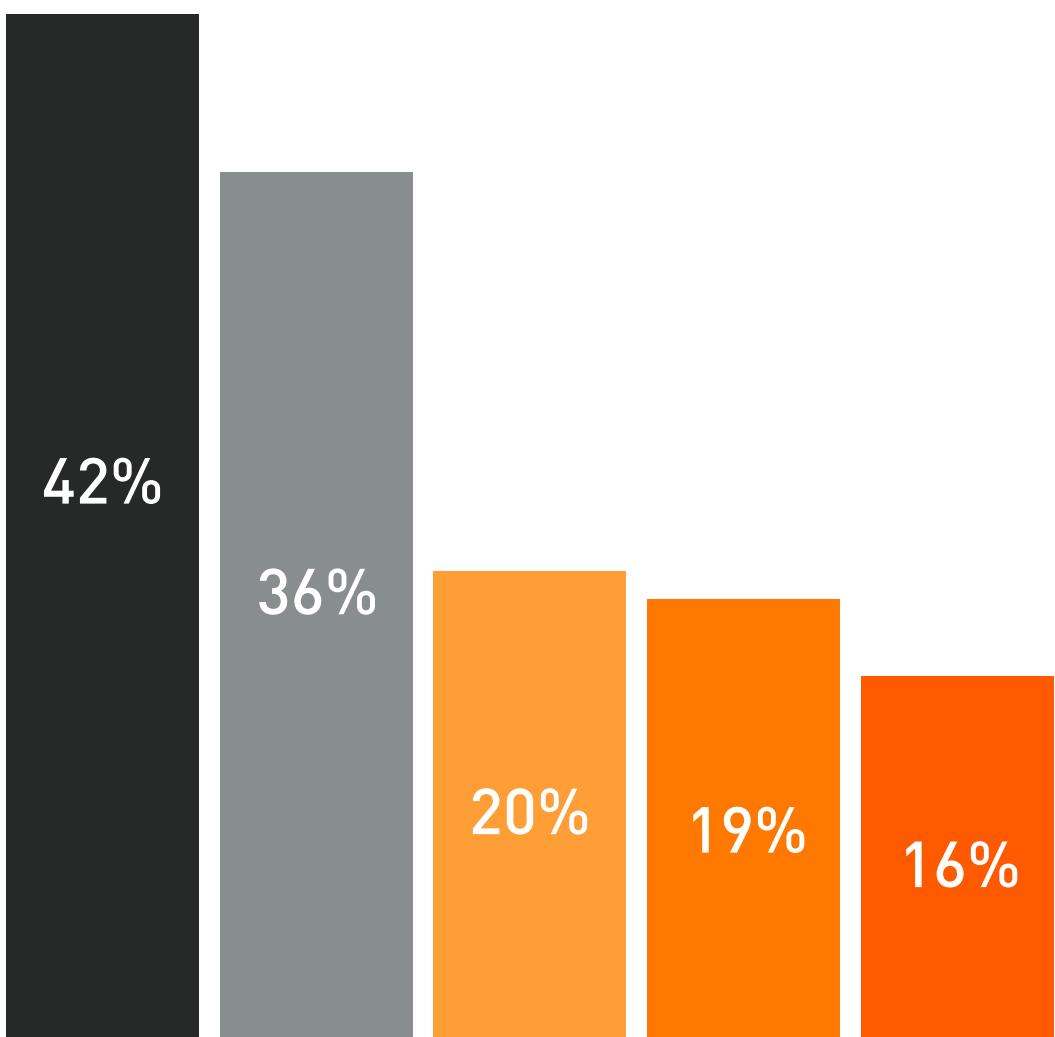
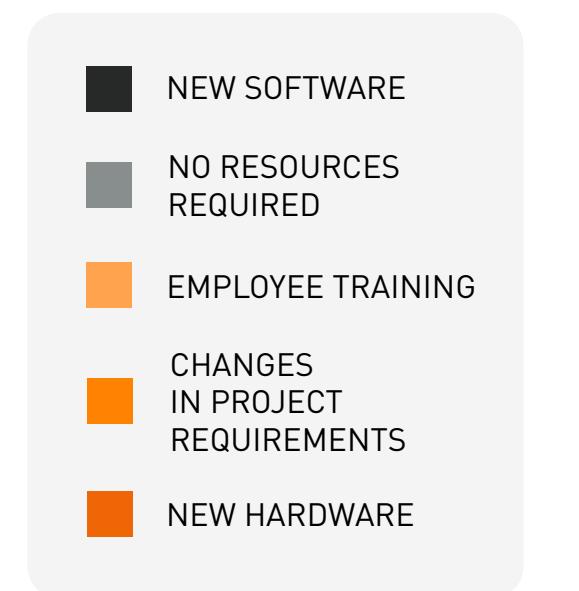
PREDICTED INDUSTRY PREVALENCE IN 10 YEARS

SURVEY RESULTS

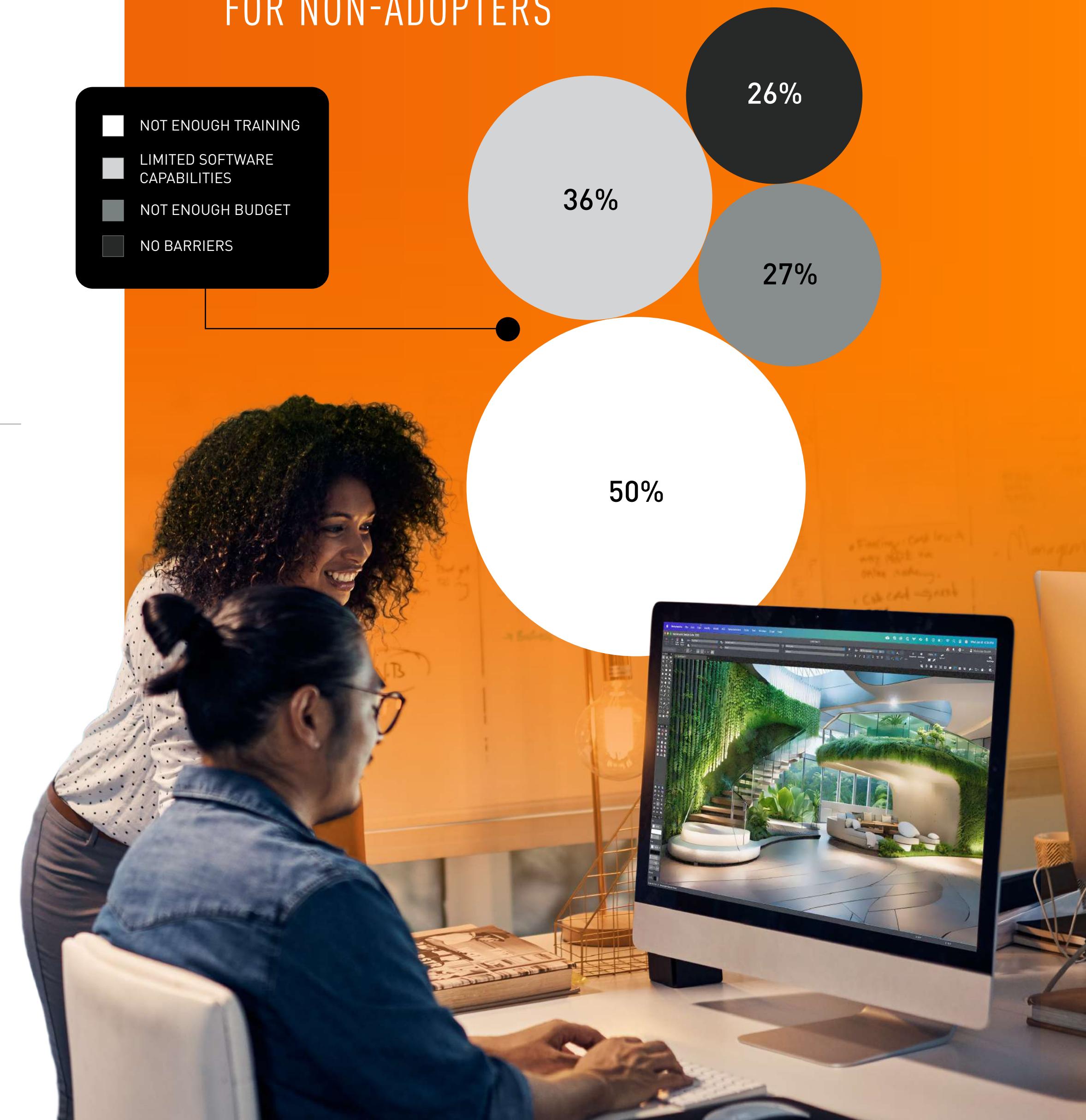
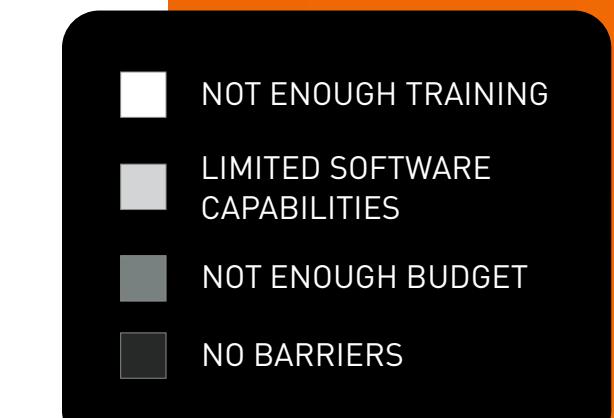
AI

It's clear that AI has generated a considerable amount of awareness in a short amount of time. This speaks to the perceived value AI can provide to a practice with fewer obstacles than other technology trends, in addition to the fact that AI has a vast scope of what it can accomplish, as opposed to some of the trends, like AR/VR, which have much more specific applications.

RESOURCES THAT WERE REQUIRED DURING AI ADOPTION PROCESS



BARRIERS TO ADOPTION FOR NON-ADOPTERS



SURVEY RESULTS

KEY AI STATISTICS

RESPONDENTS THAT HAVE ALREADY ADOPTED AI



AI ADOPTERS THAT SAID IT WAS CURRENTLY DELIVERING THE MOST ROI



NON-AI ADOPTERS THAT PLANNED TO ADOPT WITHIN 5 YEARS



RESPONDENTS THAT HAD CLIENTS ASK THEM ABOUT INCORPORATING AI



“

AI is revolutionizing the AEC industry by streamlining workflows and amplifying creativity. Automating routine tasks and analyzing complex data frees designers to focus on what they do best — innovating and crafting spaces that resonate with purpose and vision.

DAVE DONLEY, SENIOR DIRECTOR OF RENDERING & RESEARCH, VECTORWORKS



SURVEY RESULTS

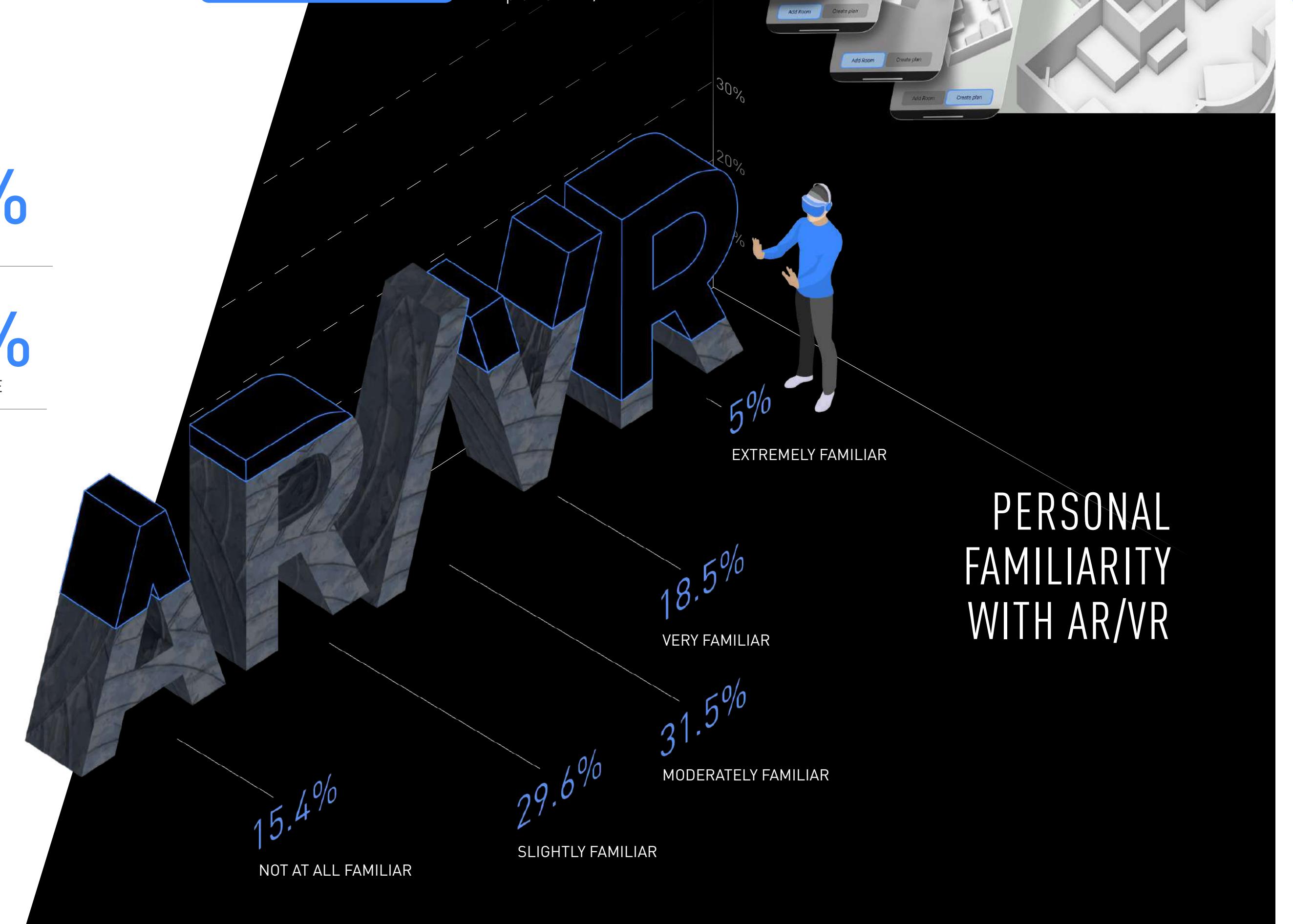
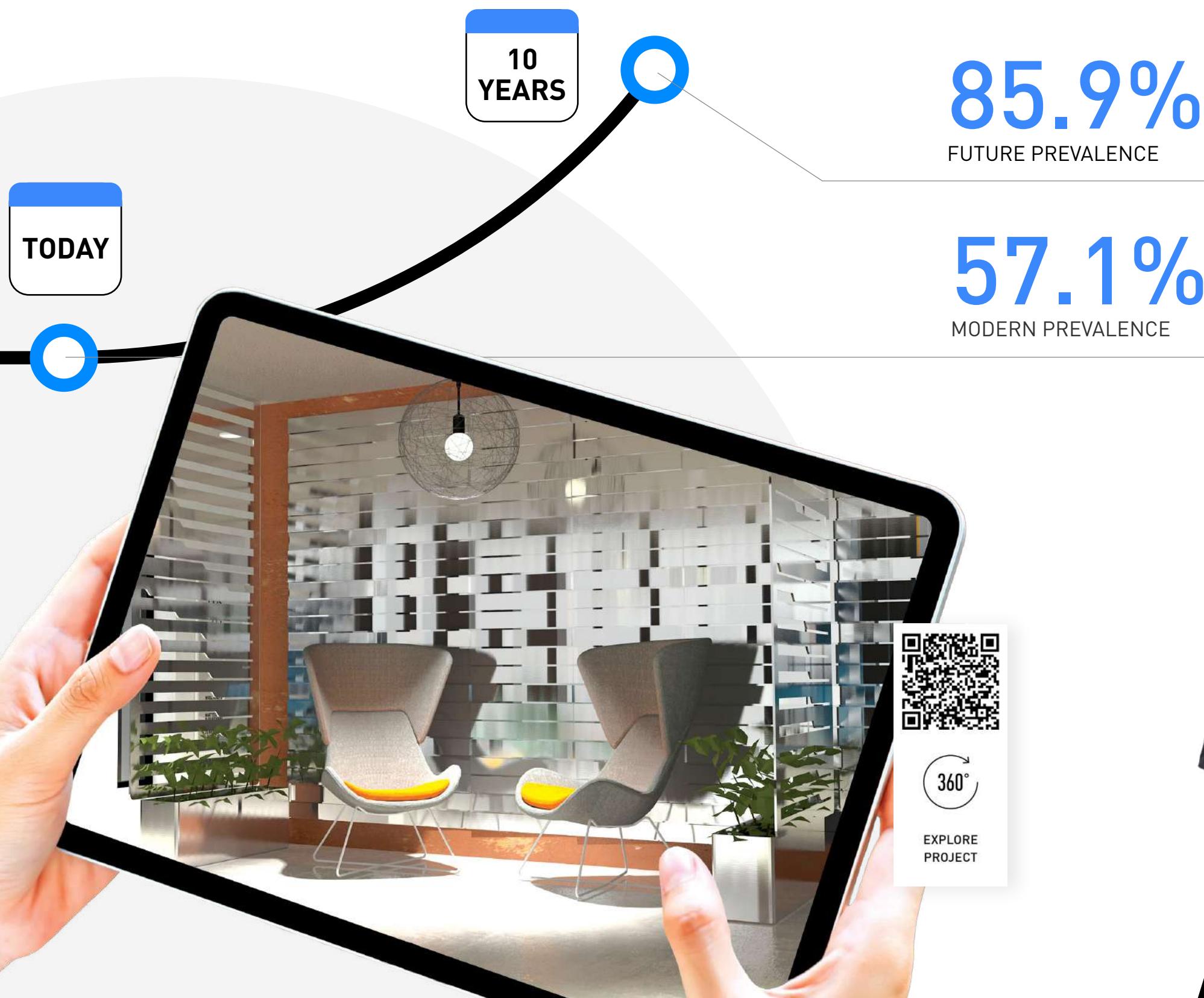
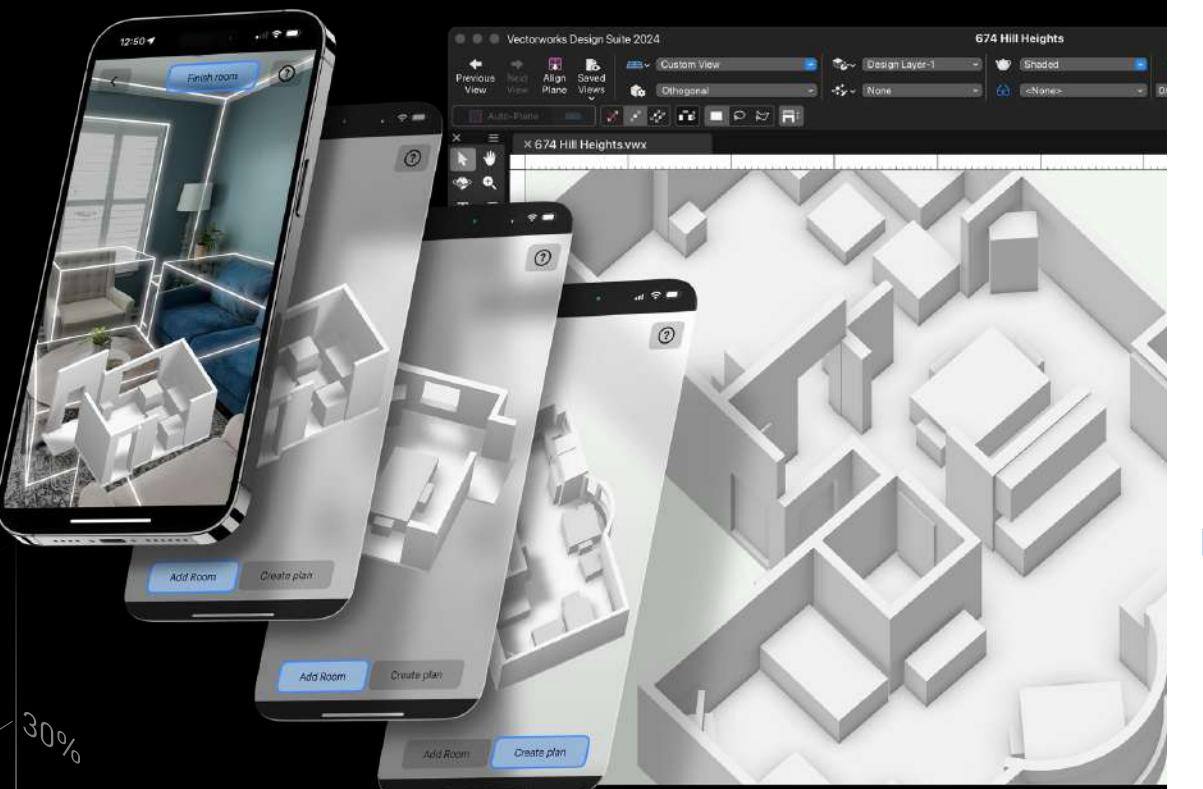
AR/VR

The most significant finding in this area lies in the gap between the perceived current prevalence (57.1% rated moderately prevalent or higher) and the 10-year-projected prevalence (85.9% rated moderately prevalent or higher). This significant gap indicates that practitioners anticipate the technology will adapt to meet their needs before it becomes a true industry standard, much like AI.

16%
OF THOSE WHO HAVE
ADOPTED AR/VR CITED
IT AS THE TREND THAT
DELIVERS THE MOST ROI.



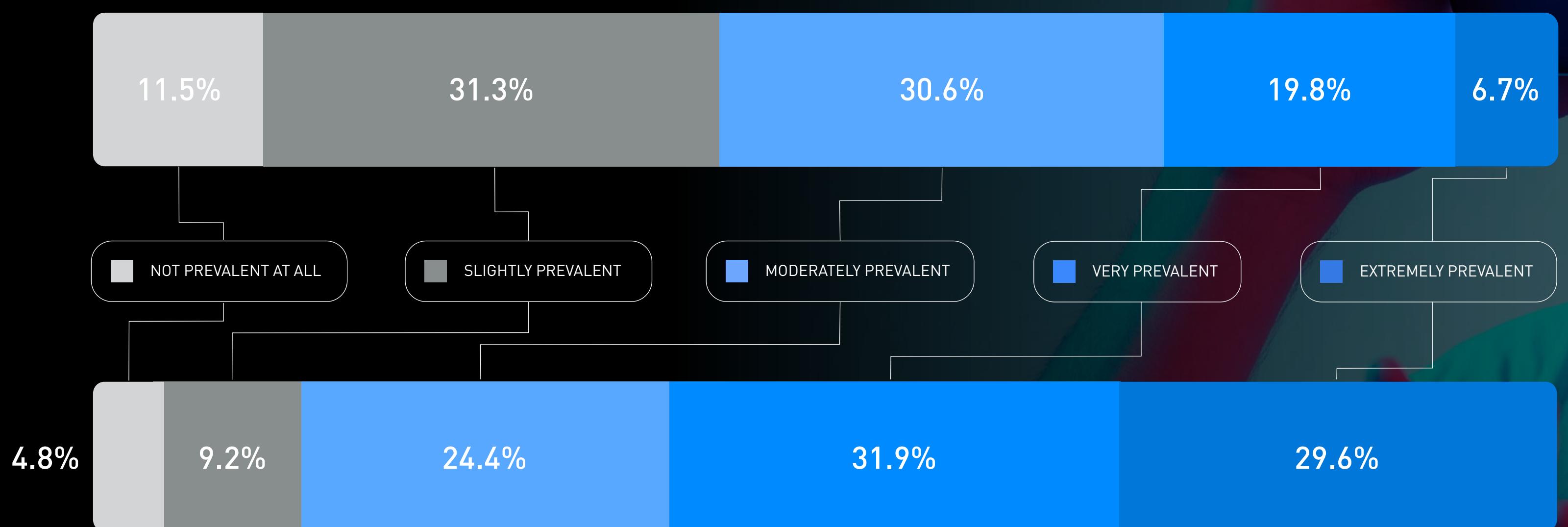
Though it's difficult to compete with the ROI BIM workflows provide, this low figure still speaks to the relatively high investment needed to implement AR/VR.



SURVEY RESULTS

AR/VR

PERCEIVED INDUSTRY PREVALENCE TODAY



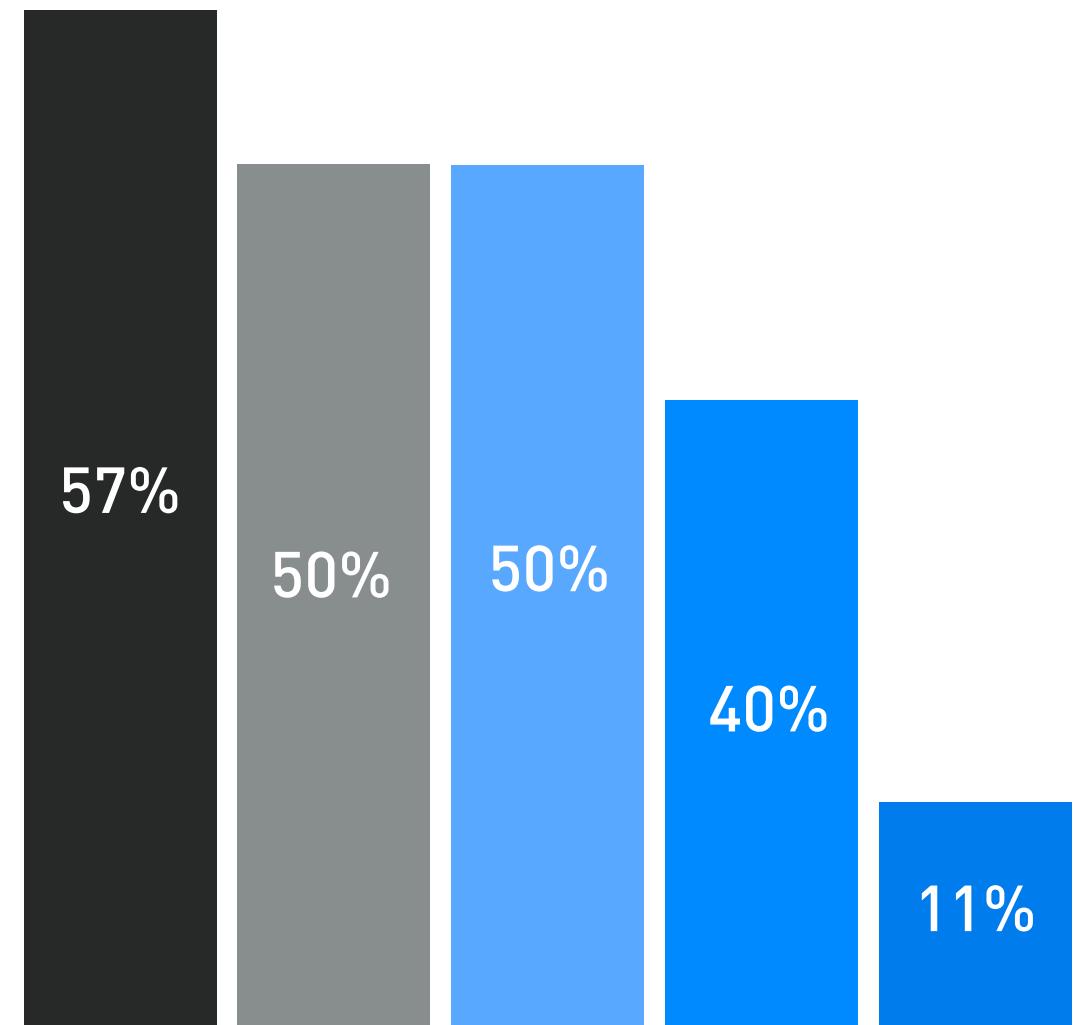
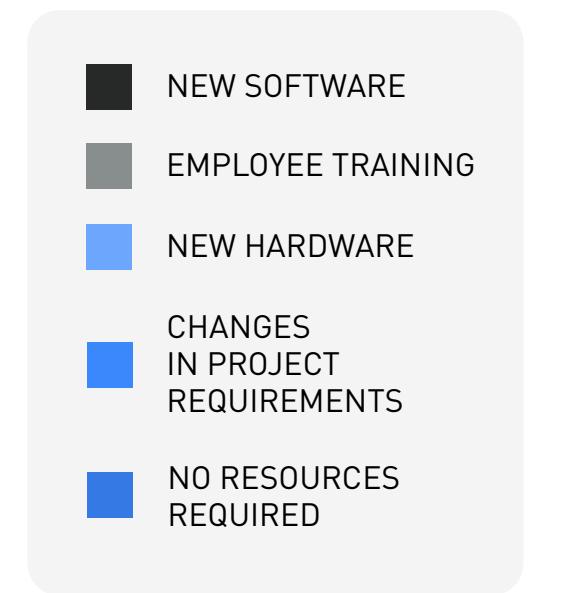
PREDICTED INDUSTRY PREVALENCE IN 10 YEARS

SURVEY RESULTS

AR/VR

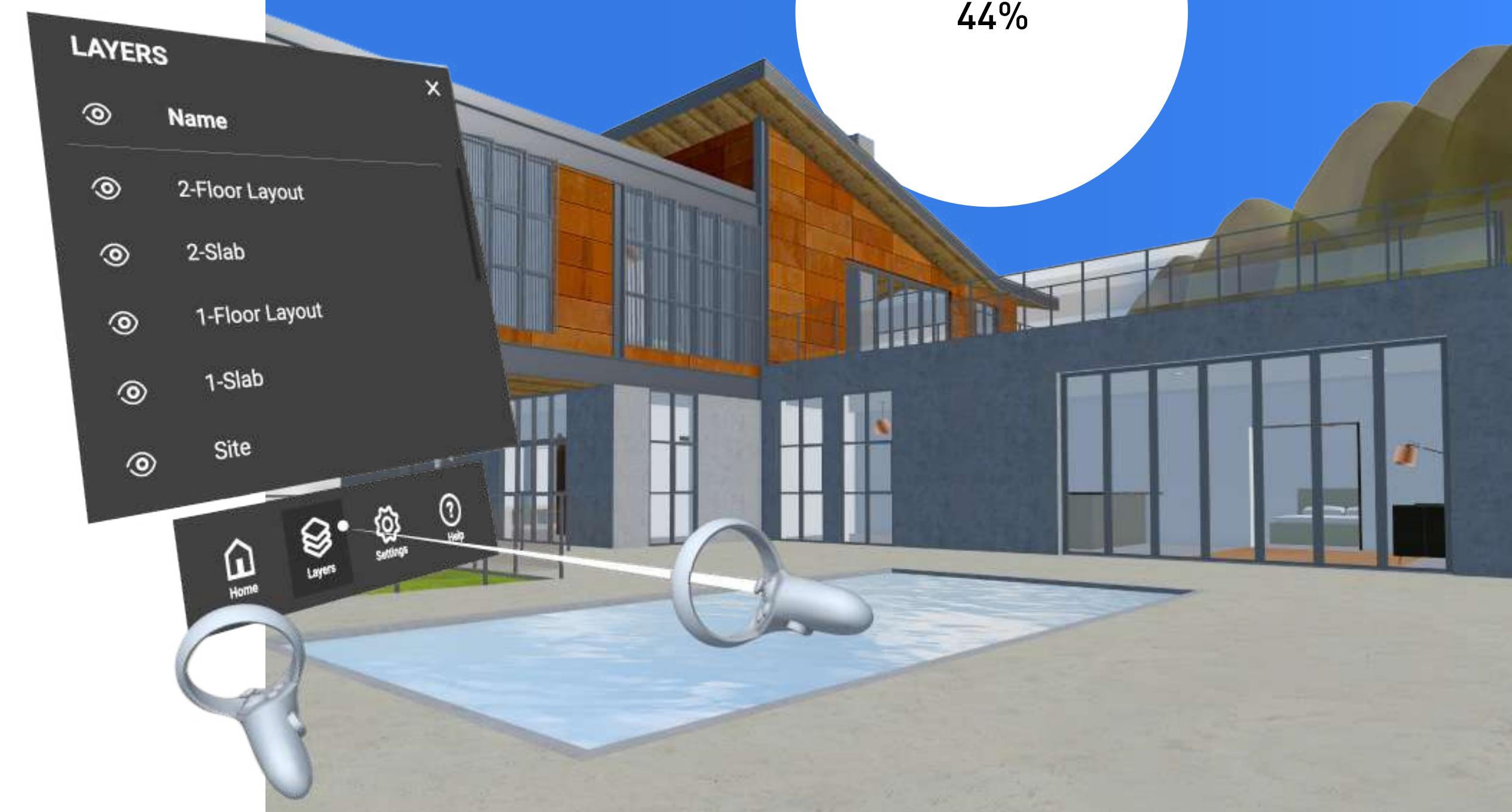
Only 11% of responders who have adopted AR/VR noted that no new resources were required for adoption, indicating a clear barrier to entry. 50% noted they needed new hardware, 57% indicated they needed new software, 50% shared they needed training, and 40% suggested they needed changes in project delivery or requirements to comfortably adopt AR/VR.

RESOURCES THAT WERE REQUIRED DURING AR/VR ADOPTION PROCESS



BARRIERS TO ADOPTION FOR NON-ADOPTERS

- NOT ENOUGH BUDGET
- NOT ENOUGH TRAINING
- LIMITED SOFTWARE CAPABILITIES
- NO BARRIERS





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AI

► AR/VR

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KEY AR/VR STATISTICS

RESPONDENTS THAT HAVE ALREADY ADOPTED AR/VR



20%

NON-AR/VR ADOPTERS THAT PLANNED TO ADOPT
WITHIN 5 YEARS



29%

AR/VR ADOPTERS THAT SAID IT WAS CURRENTLY
DELIVERING THE MOST ROI



16%

RESPONDENTS THAT HAD CLIENTS ASK THEM
ABOUT INCORPORATING AR/VR



19%

SURVEY RESULTS

SUSTAINABLE DESIGN ANALYSIS

This category encompasses technology that helps practitioners analyze the sustainability aspects of their projects. This technology aims to help the world reach its [sustainability targets](#).

76.3%

of respondents rated sustainable design analysis as moderately prevalent or higher in today's design environment which is the second highest result next to BIM.



This shows that sustainability analysis technology is already a staple in the AEC industry — but, given climate demands and increasing expectations surrounding sustainable design solutions, there is still a **significant gap of 14.4%** between these percentages.

40%

of responders have already adopted sustainable design analysis technology.



50%

of adopters indicated that they needed training to adopt.



This proves the importance placed on sustainability in the AEC industry today.



45.6%

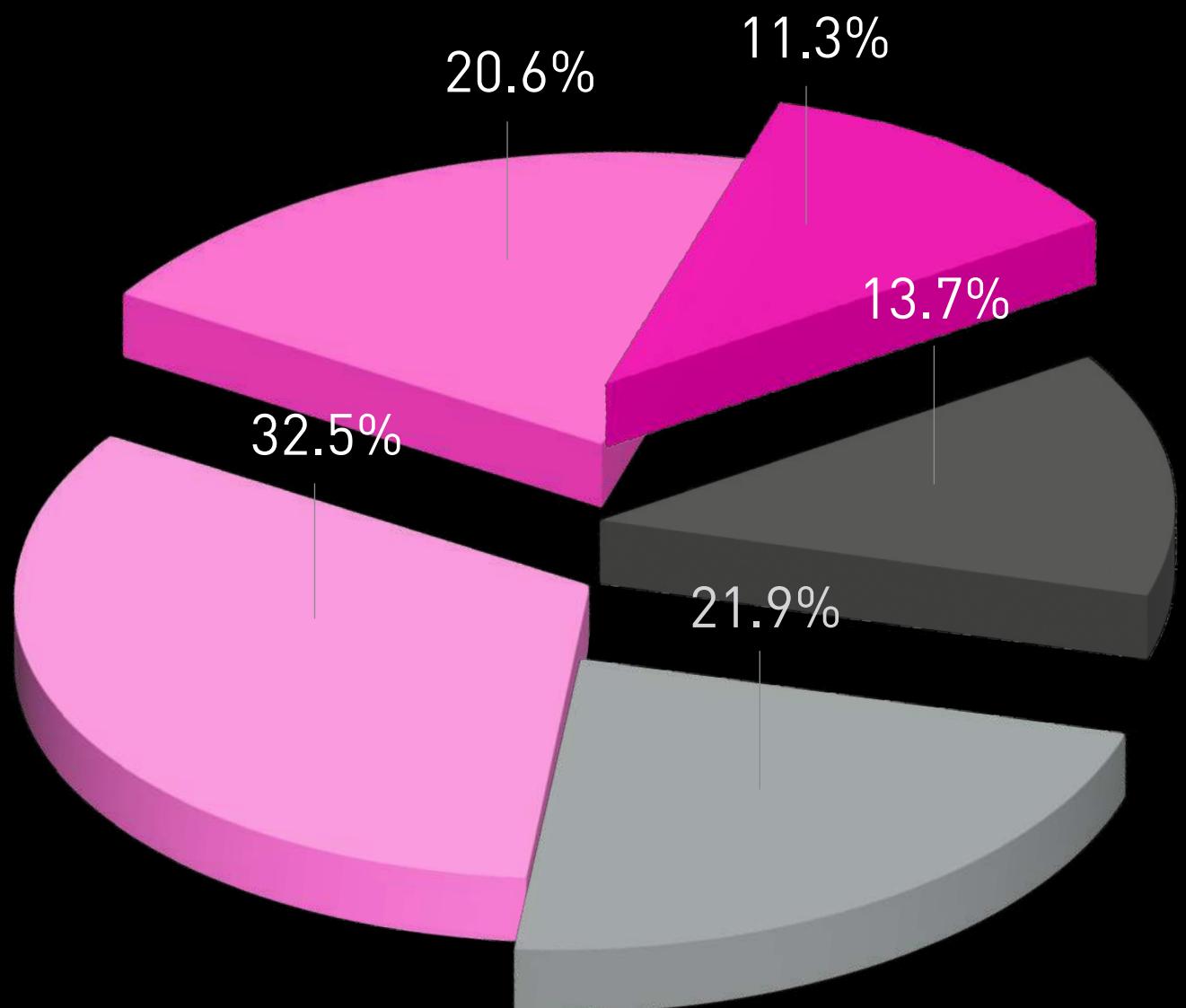
OF RESPONDERS WHO HAVEN'T ALREADY ADOPTED SUSTAINABLE DESIGN ANALYSIS TECHNOLOGY INDICATED THAT THEY PLAN ON DOING SO WITHIN THE NEXT 5 YEARS.



This gives sustainable design analysis the highest percentage of planned adoption among all surveyed trends.

PERSONAL FAMILIARITY WITH SUSTAINABLE DESIGN ANALYSIS

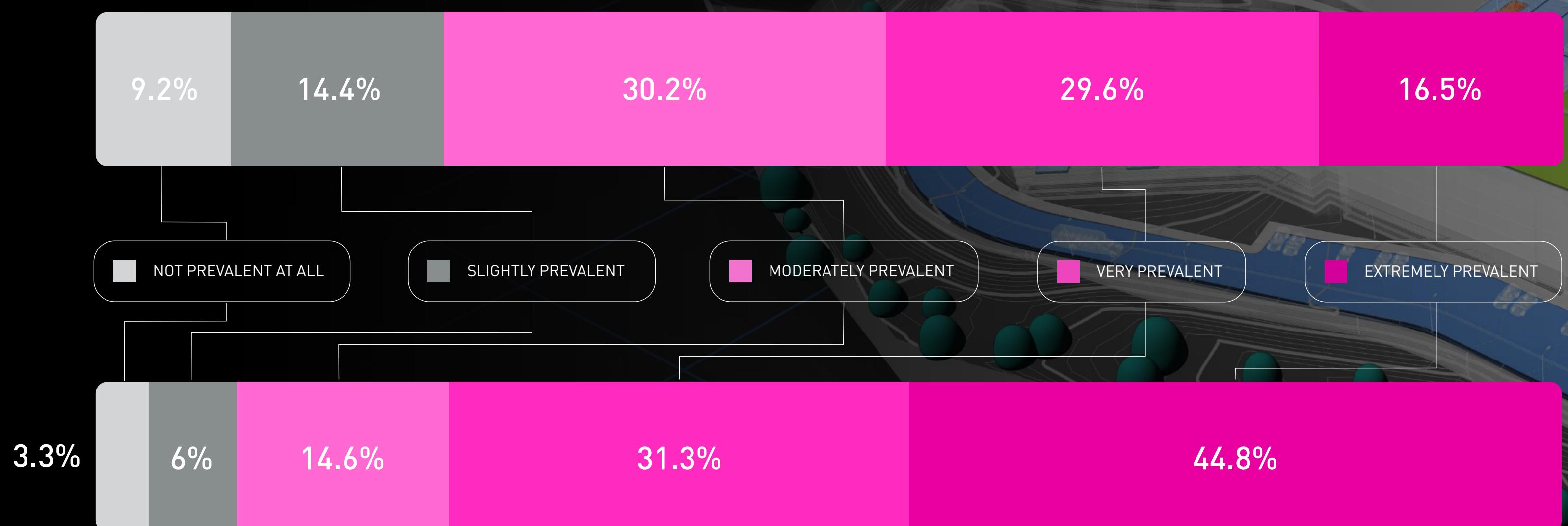
- EXTREMELY FAMILIAR
- VERY FAMILIAR
- MODERATELY FAMILIAR
- SLIGHTLY FAMILIAR
- NOT AT ALL FAMILIAR



SURVEY RESULTS

SUSTAINABLE DESIGN ANALYSIS

PERCEIVED INDUSTRY PREVALENCE TODAY



PREDICTED INDUSTRY PREVALENCE IN 10 YEARS

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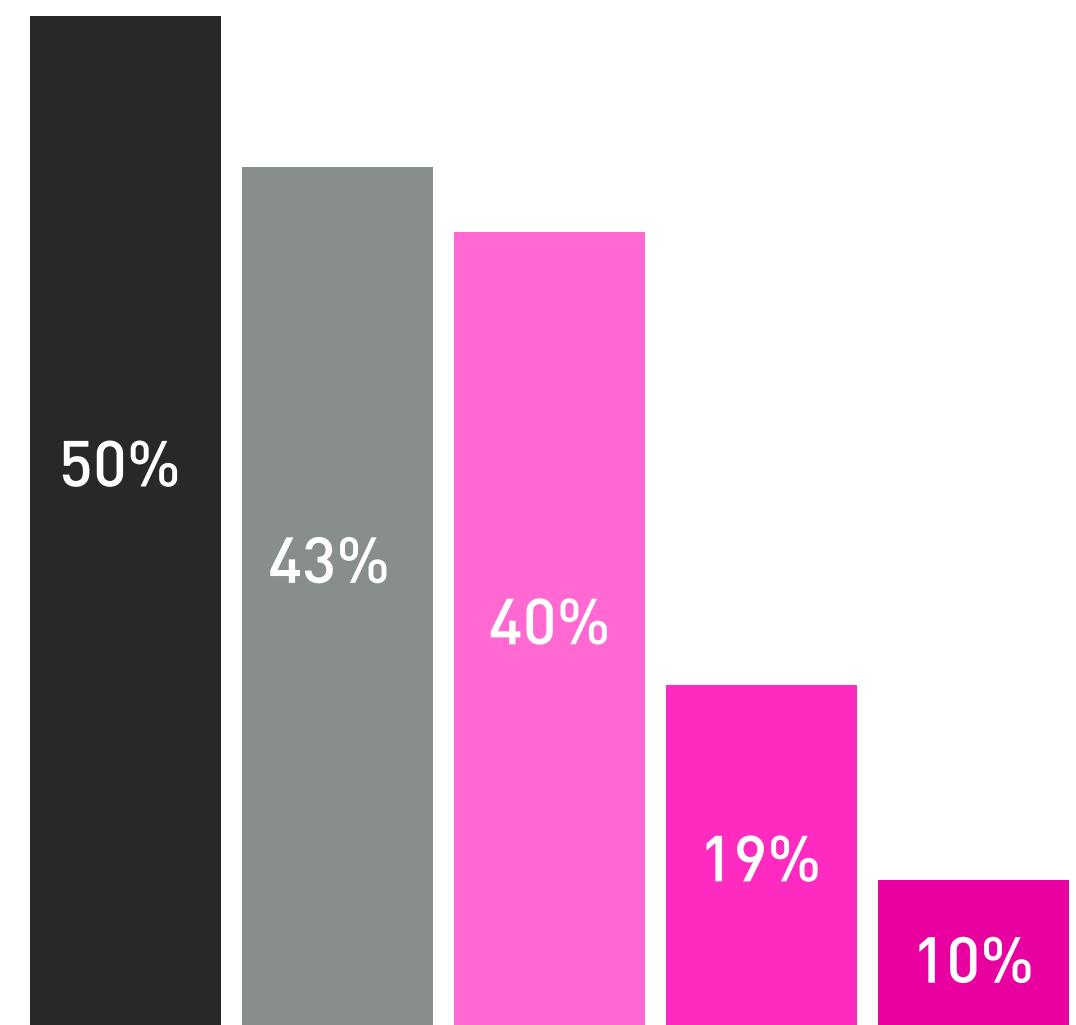
TREND COMPARISONS

SURVEY RESULTS

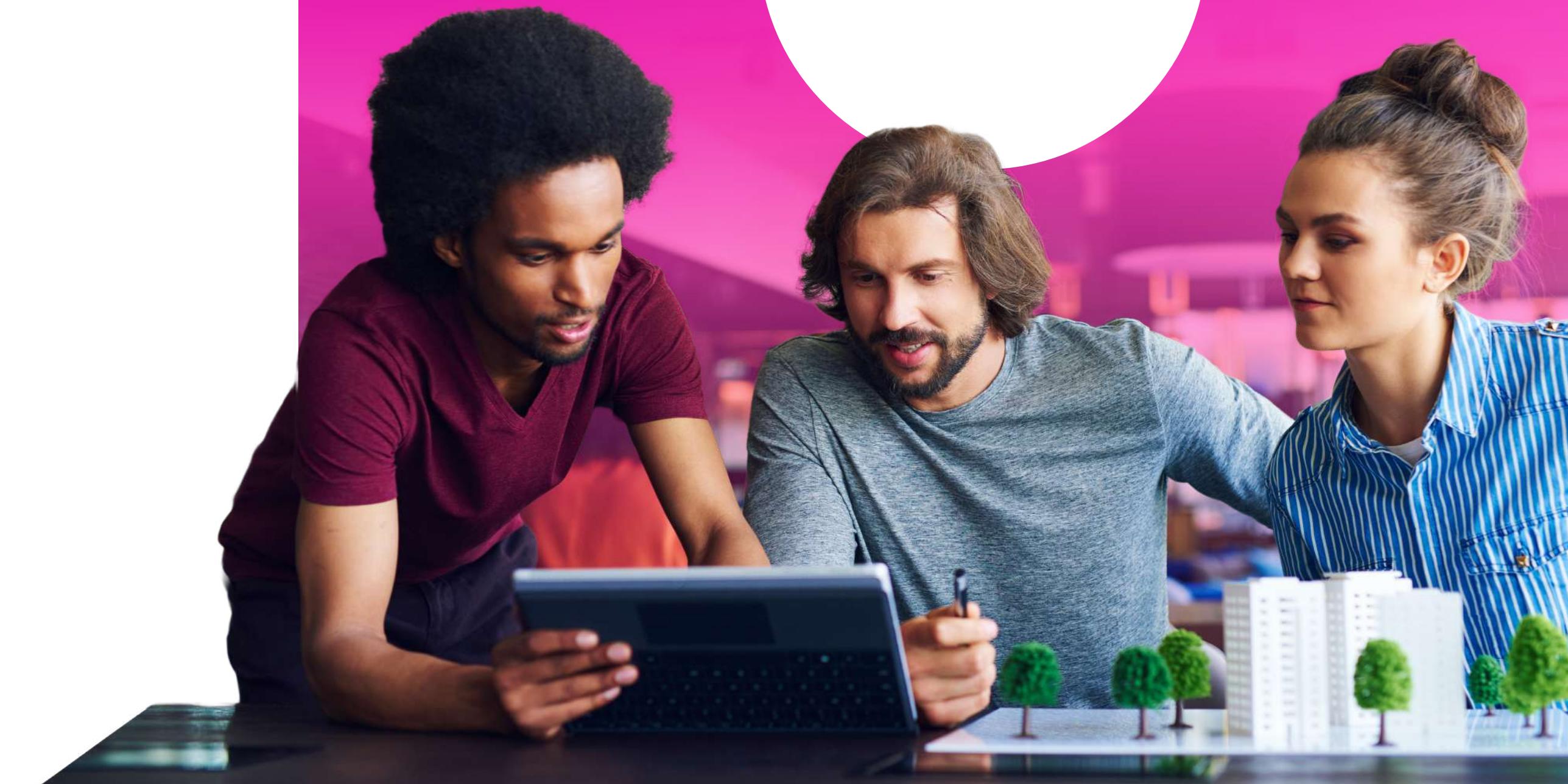
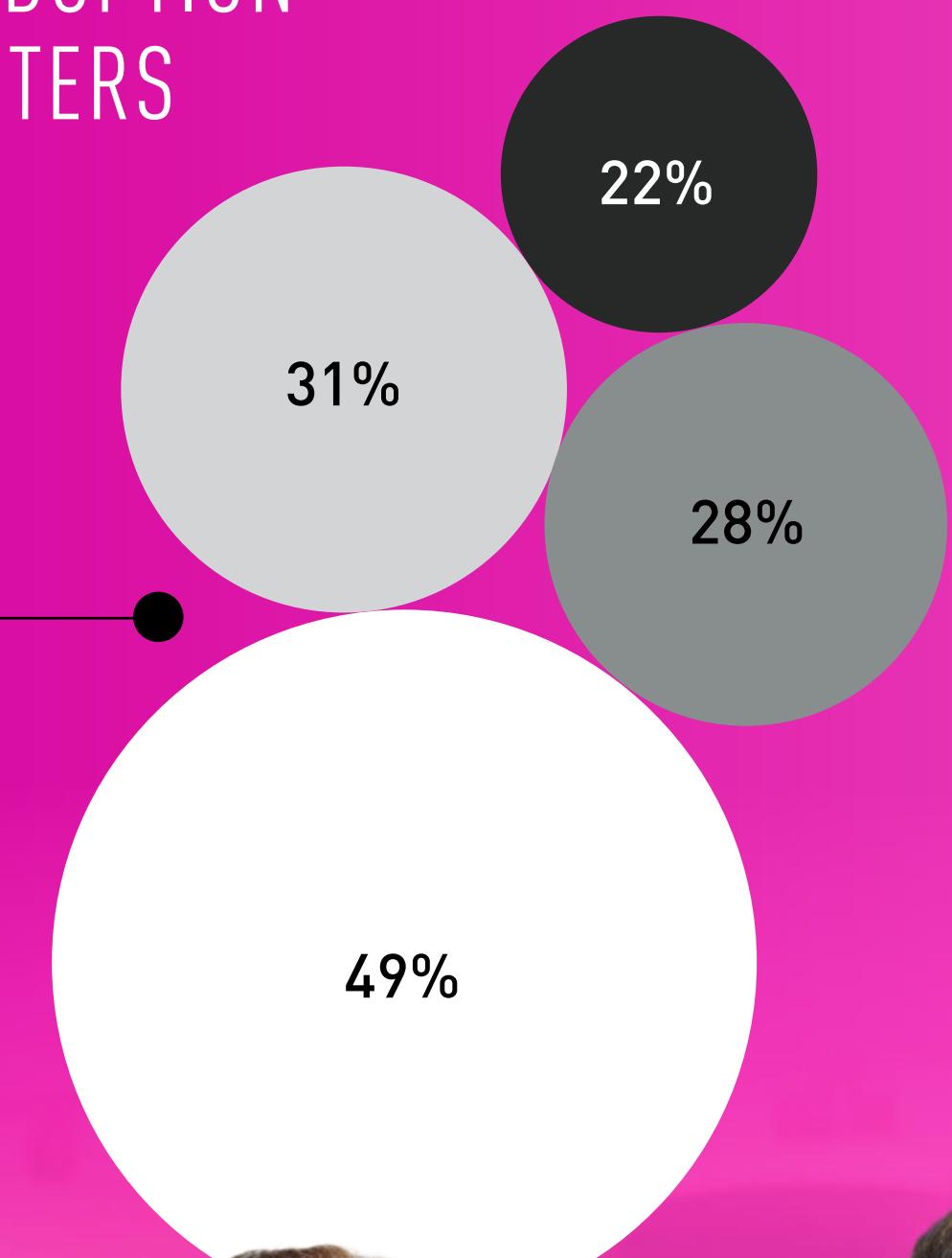
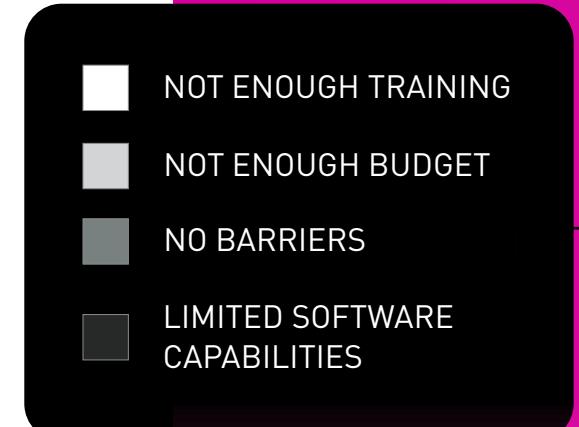
SUSTAINABLE DESIGN ANALYSIS

As the need for sustainable design in the AEC industry continues growing, these results indicate that so, too, does the industry's willingness to take steps to incorporate sustainable solutions into their projects.

RESOURCES THAT WERE REQUIRED DURING THE ADOPTION PROCESS



BARRIERS TO ADOPTION FOR NON-ADOPTERS



SURVEY RESULTS

KEY SUSTAINABLE DESIGN ANALYSIS STATISTICS

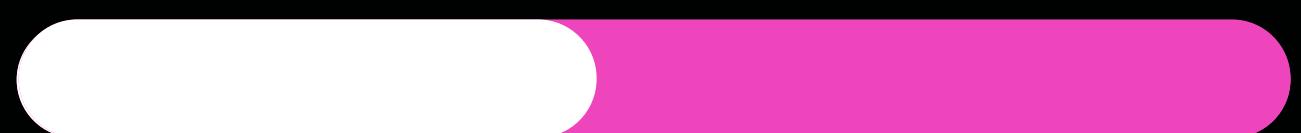
RESPONDENTS THAT HAVE ALREADY ADOPTED IT



40%

SUSTAINABLE DESIGN ANALYSIS ADOPTERS THAT SAID
IT WAS CURRENTLY DELIVERING THE MOST ROI

15%

NON-ADOPTERS THAT PLANNED TO ADOPT
SUSTAINABLE DESIGN ANALYSIS WITHIN 5 YEARS

46%

RESPONDENTS THAT HAD CLIENTS ASK THEM ABOUT
INCORPORATING SUSTAINABLE DESIGN ANALYSIS

29%

“

Embracing sustainability in the AEC industry isn't just about designing for today— it's about creating spaces that endure, inspire, and respect the natural systems that sustain us. Our legacy as architects, engineers, and builders is measured not only in structures but in the impacts we leave on the planet.

LUC LEFEBRVE, OAQ, LEED, AP
PRODUCT MARKETING MANAGER - ARCHITECT,
VECTORWORKS



TREND COMPARISONS



TREND COMPARISONS

Over 90% of respondents noted that they expect BIM and sustainable design analysis to be moderately prevalent or higher in 10 years. Practitioners who avoid adopting these technologies risk being left behind and losing future business.

AI is expected to have the highest growth rate in next 10 years.

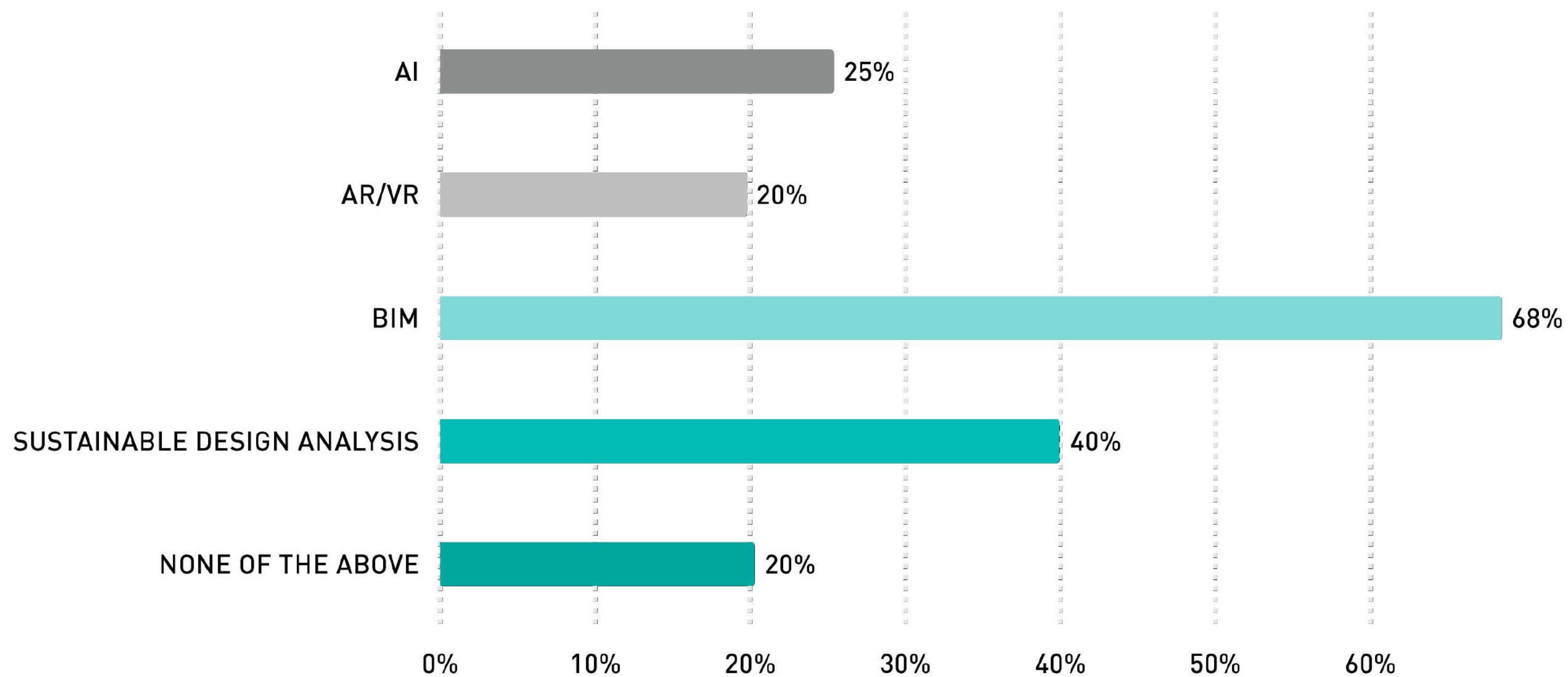
There's a gap between how familiar respondents are with most trends and how prevalent they think they are today. This gap is pronounced particularly for BIM and Sustainable Design Analysis. This suggests the need for further education and training in these areas.

AI is an exception to the above. Respondents rated their personal familiarity higher than how prevalent they think it is. This shows how much awareness AI has generated, but that industry use cases are still in their infancy.

	Percentage Of Responders That Were Moderately Familiar With The Trend Or Higher	Percentage Of Responders That Rated The Trend Moderately Prevalent Or Higher Today	Percentage Of Responders That Expected The Trend To Be Moderately Prevalent Or Higher In 10 Years
BIM	83.7%	90.8%	+4.8% → 95.6%
AI	57.5%	51%	+35.2% → 86.2%
AR/VR	55%	57.1%	+28.8% → 85.9%
SUSTAINABLE DESIGN ANALYSIS	64.4%	76.3%	+14.4% → 90.7%

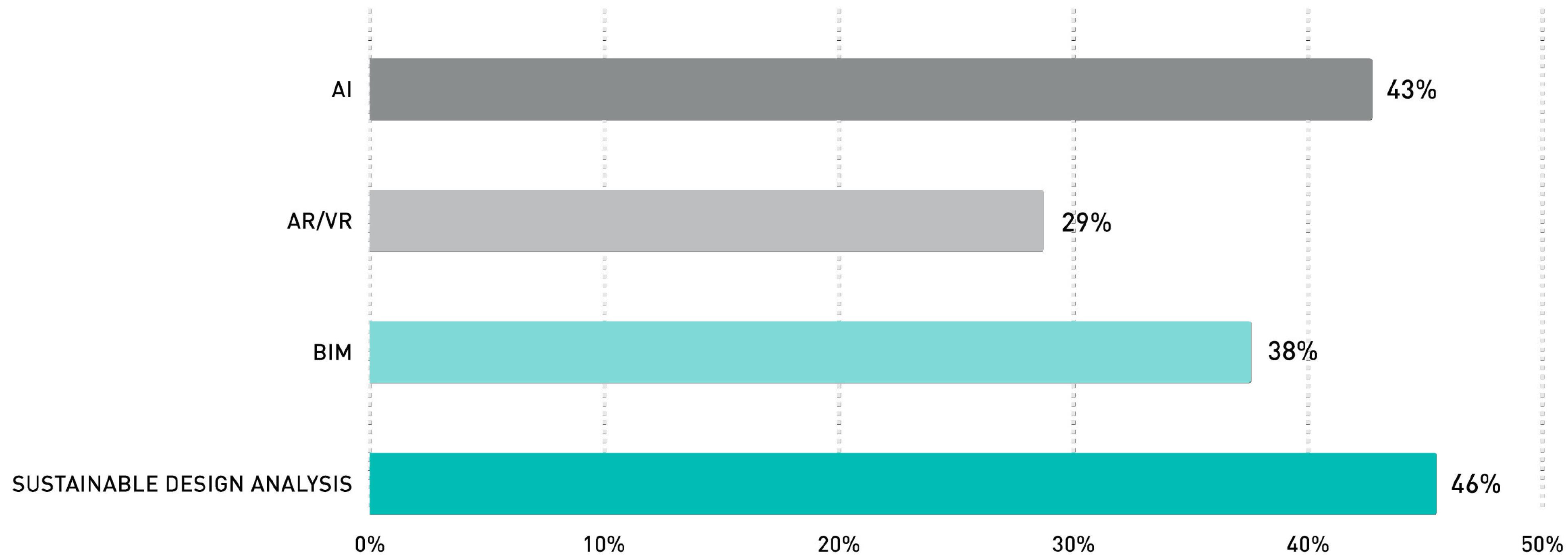
TREND COMPARISONS

WHAT DIGITAL TRENDS HAVE YOU ADOPTED?



TREND COMPARISONS

% NON-ADOPTERS WHO PLAN TO ADOPT IN NEXT 5 YEARS



TREND COMPARISONS

WHAT WERE THE BIGGEST BARRIERS PREVENTING YOU FROM ADOPTING THESE DIGITAL TRENDS?

	AI	AR/VR	BIM	SUSTAINABLE DESIGN ANALYSIS
Limited software capabilities	36%	29%	20%	22%
Not enough training	50%	43%	56%	49%
Not enough budget	27%	44%	37%	31%
No barriers	26%	20%	22%	28%

TREND COMPARISONS

WHICH OF THESE WERE REQUIRED TO ADOPT THE FOLLOWING DIGITAL TRENDS INTO YOUR PRACTICE?

The percentage of respondents who list "limited software capabilities" as a barrier to adoption is much lower for every trend than the percentage of respondents who required new software to adopt the trend. This suggests that practitioners might underestimate the importance of software in the adoption journey.

	AI	AR/VR	BIM	SUSTAINABLE DESIGN ANALYSIS
New hardware	16%	50	36%	10%
New software	42%	57%	46%	43%
Employee training	30%	50%	56%	50%
Changes in project delivery/requirements	19%	40%	44%	40%
No resources required	36%	11%	18%	19%

TREND COMPARISONS

WHICH DIGITAL TREND CURRENTLY DELIVERS THE MOST ROI?

Percentage of trend adopters
that said it was currently
delivering the most ROI for them

AI **11%**

AR/VR **16%**

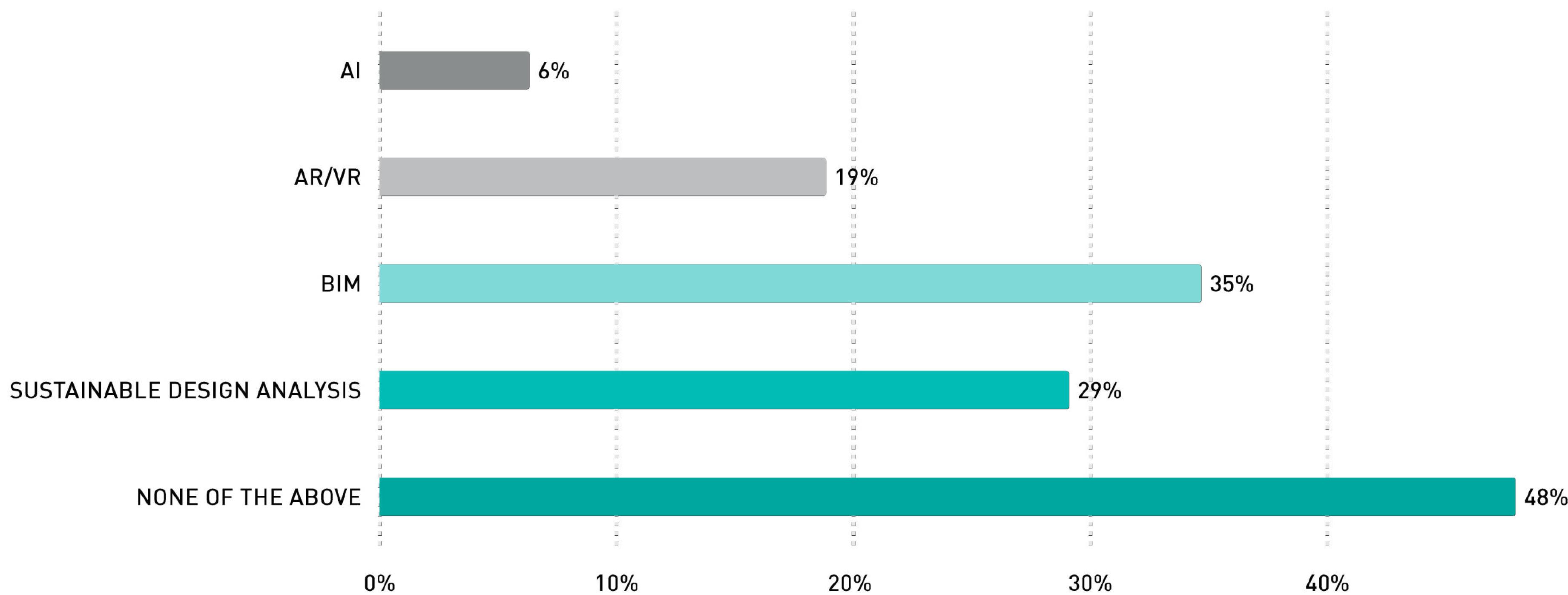
BIM **65%**

SUSTAINABLE DESIGN ANALYSIS **15%**

NONE OF THESE CURRENTLY DELIVER SIGNIFICANT ROI **27%**

TREND COMPARISONS

DO CLIENTS ASK YOU ABOUT INCORPORATING ANY OF THESE DIGITAL TRENDS INTO YOUR PROJECTS?





Design without limits®

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