

Global C-Suite Insights

The Economics of Software Innovation

\$750B+ Opportunity at a Crossroads

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Methodology, Introduction, and Key Takeaways



Methodology

In this survey, “software innovation” was defined as “creating new or significantly enhancing existing software to introduce novel capabilities, improve efficiency, or solve problems in new ways.”

This study was conducted by The Harris Poll on behalf of GitLab from April 25, 2025, to May 19, 2025, among 2,786 executives.

All respondents worked at the C-Suite level and had at least some decision-making authority over software at their companies.

Respondents represented industries like: Financial Services; Automotive; Embedded Systems; Manufacturing; Public Sector; Telecommunication.

Region	Country	Total
NAM	 US	n=1,003
EUR	 UK	n=253
EUR	 Germany	n=252
EUR	 France	n=256
AP	 Australia	n=259
AP	 India	n=260
AP	 Japan	n=251
AP	 Singapore	n=252
		n=2,786



A \$750+ Billion Opportunity at a Crossroads

Introduction

AI is transforming software innovation from a technical function into a global economic engine.

However, leaders face complexity: the faster the gains, the greater the pressure to solve for talent gaps, governance, and strategic alignment.



What executives are saying

91% say software innovation is now a core business priority

\$750B+ potential annual global value unlocked through AI-driven developer efficiency

44% revenue growth already realized from AI-enhanced innovation

But, they have rising concerns

43% say AI is driving a need for greater training to fill skills gaps

85% agree that agentic AI will create unprecedented security challenges

*Evans Data Corporation | Worldwide Developer Population Grows to 27 Million | Press Release



The headlines ahead

01

Macroeconomic Story

AI-powered software innovation emerges as the new economic growth engine, unlocking billions in value

- AI-driven software innovation is delivering ROI, revenue, and productivity gains.
- But companies must translate early wins into sustainable long-term transformation.

02

Security Story

Agentic AI takes off, but execs say security & trust must catch up

- The adoption of Agentic AI is accelerating, creating new innovation pathways.
- But risks around security and trust demand stronger governance to avoid setbacks.

03

Workforce Story

Talent gaps threaten the human edge in the age of AI, making upskilling an imperative

- Human creativity and strategic vision remain essential in development.
- Yet skill gaps and talent shortages could slow progress. The upskilling imperative is urgent.

04

Tech Industry Story

AI is a boardroom priority as software innovation proves its bottom-line impact

- Leaders are building frameworks to connect software investments with revenue, time-to-market, and growth.
- However, execution gaps could weaken the business case for future innovation investments.



01

Software Innovation is the Growth Engine of Modern Business





Global Impact

Investment in AI software innovation could unlock \$750B+ in global economic value

Based on developer time savings alone, companies report saving ~\$30K per employee annually (\$28,249) from AI investments over the past year. When extrapolated across the global developer pool of 27M*, this translates to over \$750 billion in potential economic value.



* In USD, [^]Evans Data Corporation | Worldwide Developer Population Grows to 27 Million | Press Release
Q12: What is the average annual salary of an employee on your software development team? (Global Total n=2,786)
Q11c: Our development team has saved ___ hours as a direct result of our investment in AI software innovation over the last 12 months. (Global Total n=2,786)





US Impact

In the US alone, investment in AI software innovation could unlock \$149B in economic value

Based on developer time savings alone, companies report saving ~\$78K per employee annually (\$78,182) from AI investments over the past year.

When extrapolated across the US developer pool of 1.9M[^], this translates to \$149 billion in potential economic value.



* In USD, [^]Software Developers, Quality Assurance Analysts, and Testers
Q12. What is the average annual salary of an employee on your software development team? (Global Total n=2,786) | Q11c: Our development team has saved __ hours as a direct result of our investment in AI software innovation over the last 12 months. (Global Total n=2,786)



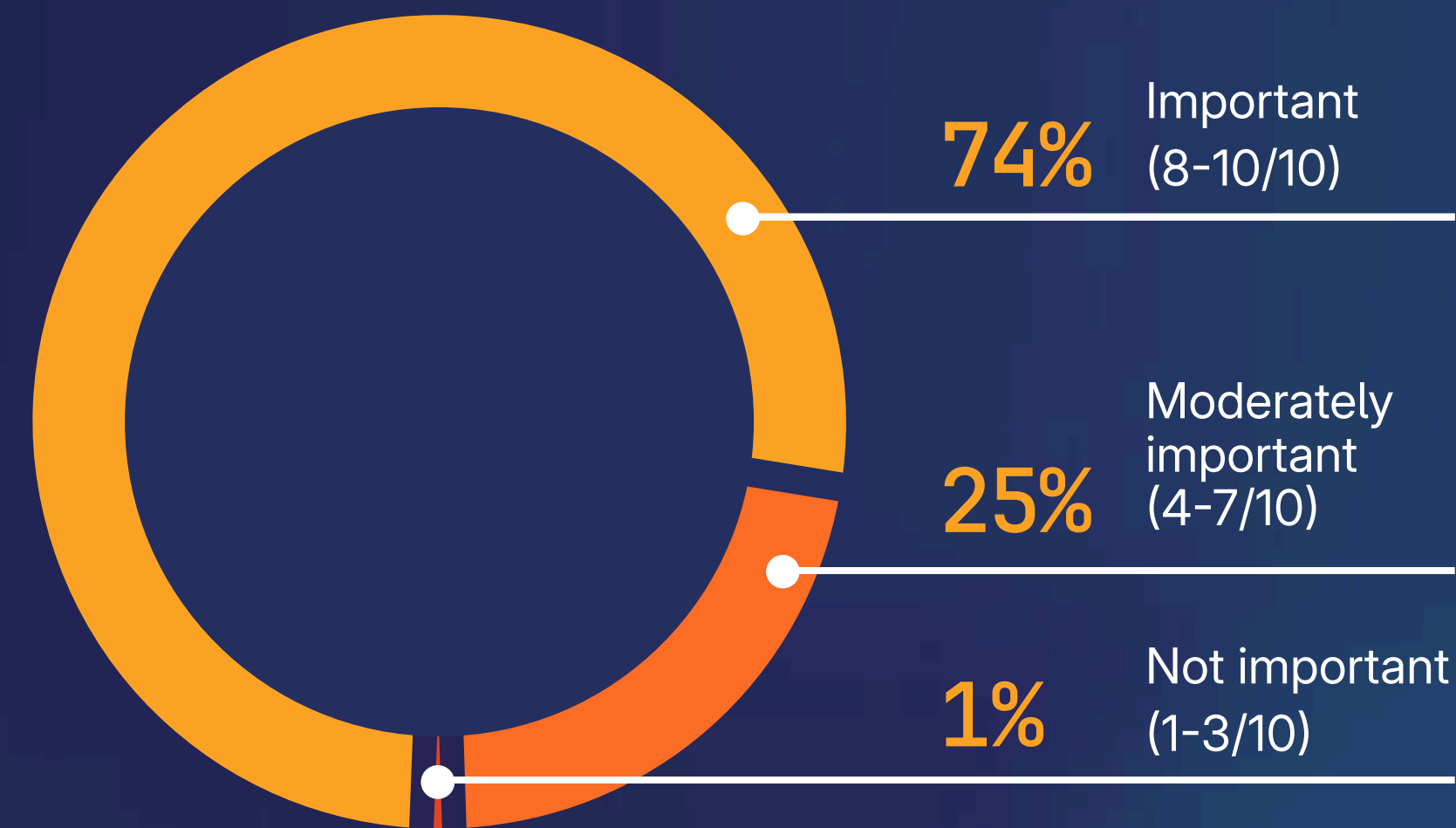
Software innovation is central to enterprise success, with most companies increasing investment

Nearly three-quarters (74%) rate software innovation as highly important to their company's success. For companies where AI is part of their core strategy, that number jumps to 85%.

Additionally, more than half of business leaders rank AI as top tech priority (59%) for 2025, more than any other initiative and outpacing cybersecurity and cloud, which were top priorities for 2024.

This prioritization renders meaningful investment, as nearly all companies (91%) report increasing their investment in software development over the past 12 months.

Importance of software innovation to market position



91%
of executives agree

“ My company has increased its investment in software development in the past year.”

Q1. On a scale from 1 to 10, where 1 is "Not important" and 10 is "Business-critical," please rate how important software innovation (i.e., creating new or significantly enhancing existing software to introduce novel capabilities, improve efficiency, or solve problems in new ways) is to your company's overall market position (Global Total n=2,786) | Q7: In which of the following areas has your company concentrated or will it concentrate on technology investment and resources? (Global Total n=2,786) | Q8. Please indicate how much you agree or disagree with the following statements. (Global Total n=2,786)



Business leaders see innovation as an economic growth engine and are ready to invest accordingly

82%
of executives agree

" I'd be willing to invest over half of my company's annual IT budget to prioritize software innovation."

9 in 10 executives agree

- " In the AI era, software development isn't just an expense - it's an economic growth engine for companies."
- " My company is planning to increase AI investment for software development in the next 18 months."
- " Software innovation is now a core business priority."
- " We must lead with software innovation to stay ahead in the next 18 months."
- " Our board is bought into the benefits of software innovation."

Q8. Please indicate how much you agree or disagree with the following statements. (Global Total n=2,786),
Q19. Please indicate how much you agree or disagree with the following statements. (Global Total n=2,786)



Revenue potential is the top driver of greater investment

91%
of executives agree

“ In the next 5 years, I expect my organization's biggest source of revenue to change due to AI (e.g., AI innovation, new markets unlocked due to AI, etc.).”

Factors that would increase software investment



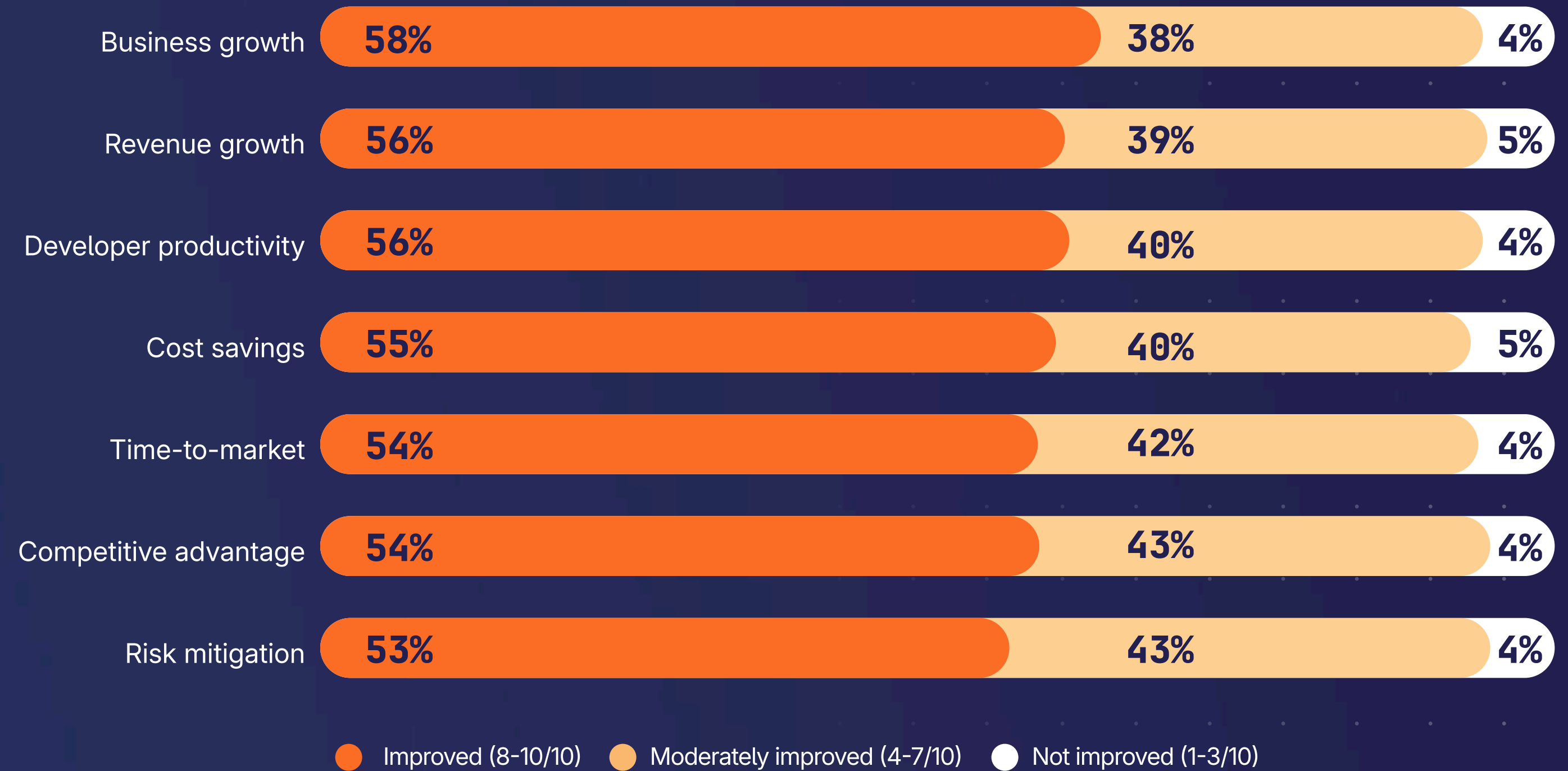
Business and revenue have seen growth over the past year

For businesses where AI is a part of core strategy, 72% have experienced business growth and 74% have experienced revenue growth over the past year.

90%

agree, "Our business has seen growth as a direct result of our investment in AI software innovation over the last 12 months."

Improvements resulting from AI over the past 12 months

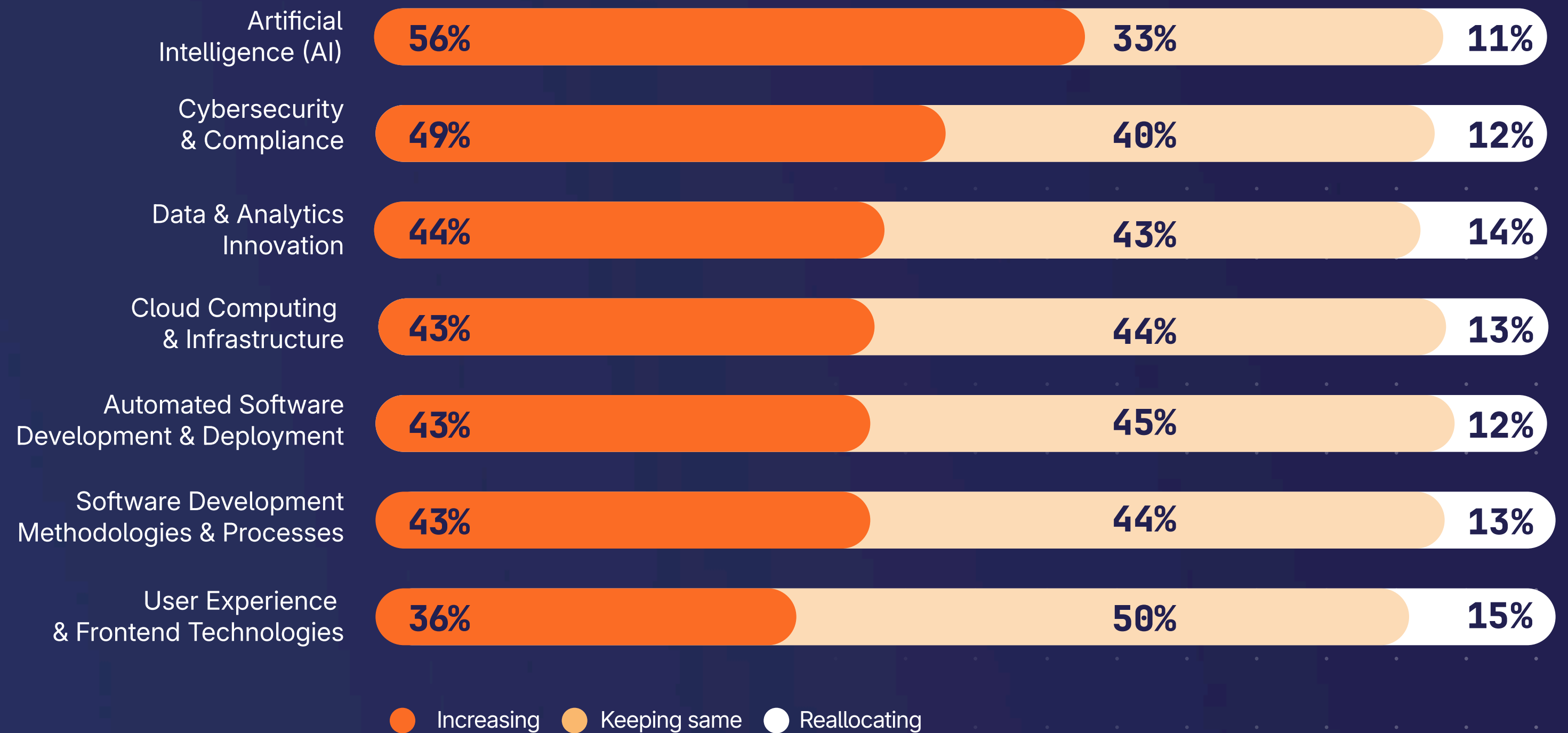


Q10. Over the past 12 months, how much, if at all, have the following improved because of investing in AI software innovation? (Global Total n=2,786) | Q19. Please indicate how much you agree or disagree with the following statements. (Global Total n=2,786)



Budgets are increasingly shifting toward AI-enabled innovation, while maintaining investment in cybersecurity

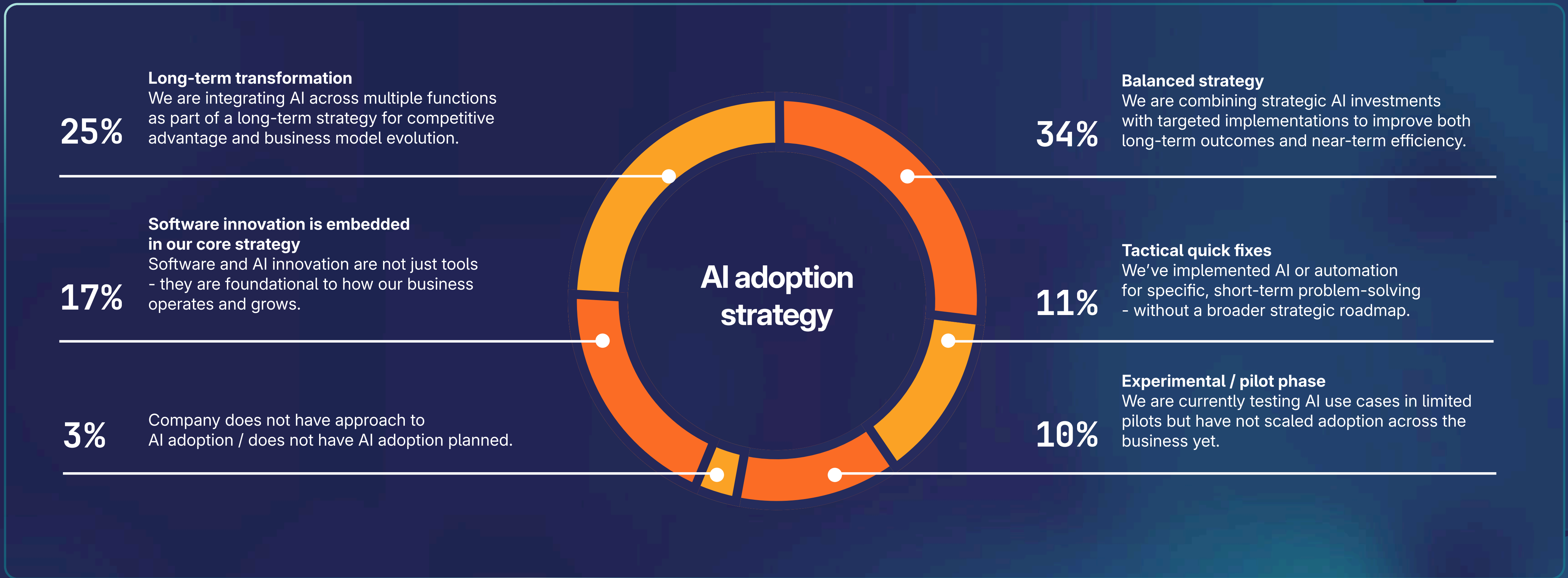
Areas where execs plan to allocate budget in the next 18 months



Q3. In the next 18 months, how do you plan to allocate your budget toward the following areas? (Global Total n=2,786)



Strategic deployment, not experimentation, is now the norm



Q9. How does your company approach AI adoption? Please select your top response. (Global Total n=2,786)



The biggest blockers to increased investment in software innovation have shifted from legacy systems to talent shortage

Challenges preventing organization from investing in software innovation

5 years ago

27% Legacy systems

26% Budget constraints

26% Cultural resistance

26% Skills gaps

26% Risk aversion

Today

27% Talent shortage

26% Market uncertainty

26% Skills gaps

25% Regulatory concerns

25% Budget constraints

Q5. What challenges, if any, have prevented or currently prevent your organization from investing more in software innovation over the following time intervals? Please select all that apply for each time frame. (Global Total n=2,786)



02

Agentic AI Momentum is Shaping Governance Priorities



Execs are excited about agentic AI's benefits, especially its potential to foster software innovation

90%

"Integrating **agentic AI fosters creativity and innovation** among software development teams."

90%

"In my industry, **agentic AI can provide a distinct competitive advantage** over those who don't use it."

89%

"**Regulatory frameworks** for agentic AI should **focus on fostering innovation** rather than restricting its development."

89%

"Agentic AI will be the **industry standard for software development** in less than 3 years' time."

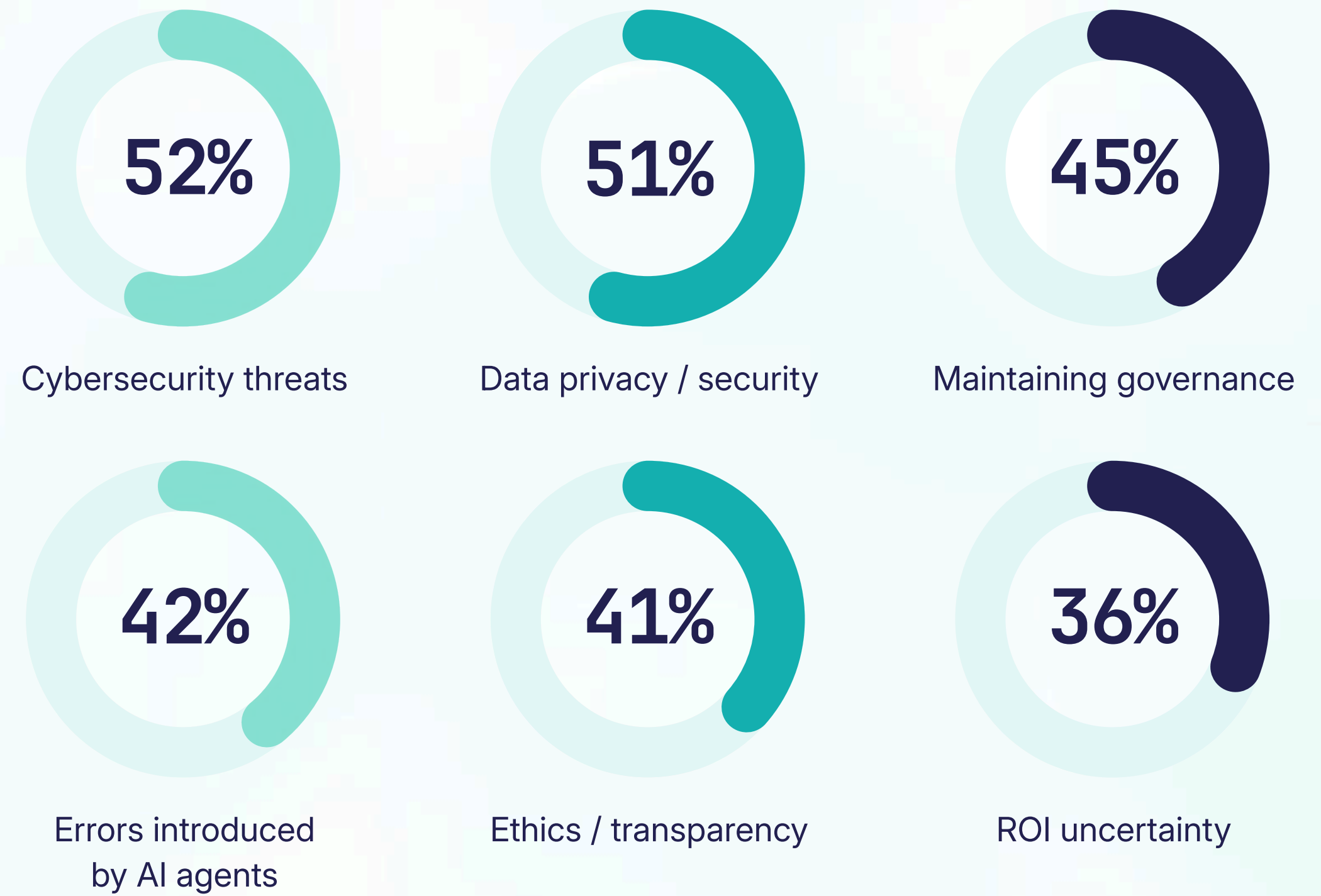
Q31. Please indicate how much you agree or disagree with the following statements about agentic AI (i.e., artificial intelligence that makes decisions independently and performs tasks with minimal human intervention). (Global Total n=2,786)



As agentic AI use rises, so do concerns about risk and control

85% agree "Agentic AI will create unprecedented security challenges for our organization to navigate."

Top concerns around adoption of agentic AI



Note: 4% answered "N/A - No concerns around the adoption of agentic AI."



Governance frameworks are maturing to keep pace with agentic AI

Agentic AI governance frameworks in place today

53%

Regulatory alignment

52%

Internal policies

51%

AI ethics committee

47%

Third-party audits

46%

Pilot programs / training

3%

N/A—my company is not implementing governance frameworks to navigate agentic AI

Q30. Which of the following governance frameworks is your company implementing to navigate agentic AI (i.e., artificial intelligence that makes decisions independently and performs tasks with minimal human intervention)? Please select all that apply. (Global Total n=2,786)



Agentic AI's future depends on trust, human collaboration, and readiness

About 9 in 10 executives agree

92%

"Businesses should prioritize training employees to work alongside agentic AI to address skill gaps."

90%

"For widespread acceptance in the workplace, trust in agentic AI decision-making is critical."

89%

"There are essential human qualities that agentic AI will never fully replace."

87%

"My organization is using AI agents to drive software innovation amidst a talent shortage."

Q31. Please indicate how much you agree or disagree with the following statements about agentic AI (i.e., artificial intelligence that makes decisions independently and performs tasks with minimal human intervention). (Global Total n=2,786)



03

The Human Edge Remains a Strategic Advantage in the Age of AI

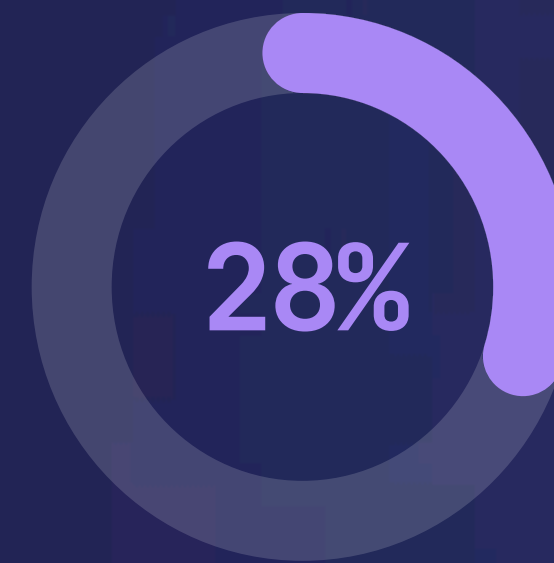


Companies are under pressure to cut costs, but not at the expense of talent

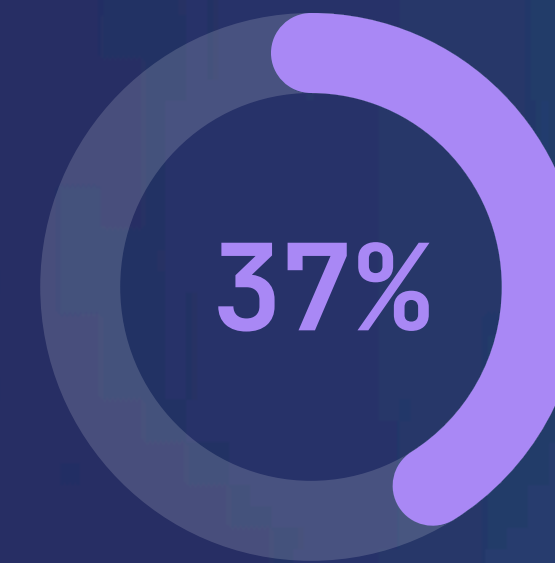
Even as cost pressures mount, executives are mindful of the need to maintain a strong engineering talent base. Just 28% say their industry prioritizes cost efficiencies over high-value talent, compared to 35% who see talent as the top priority.

The largest group, at 37%, strikes a balanced approach — recognizing that while cost management is important, investing in high-value engineering talent is equally critical for long-term success and innovation.

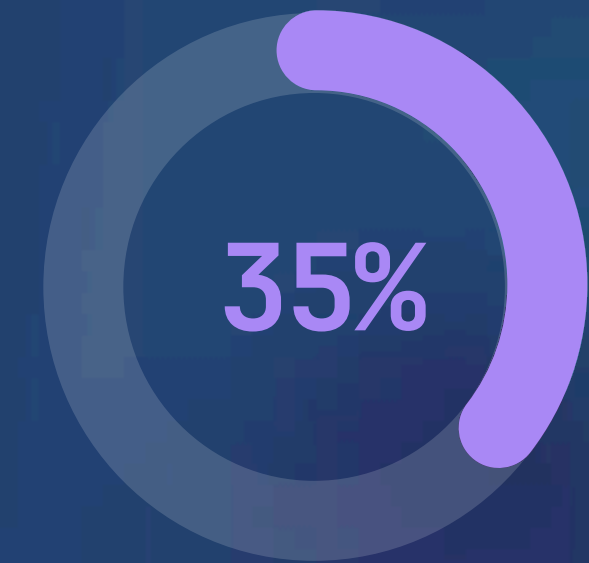
Priority balance between cost savings and talent investment today



Cost Over Talent
My industry prioritizes cost efficiencies over high-value engineering talent.



Balanced Approach
My industry balances cost efficiencies and investment in high-value engineering talent equally.



Talent Over Cost
My industry prioritizes high-value engineering talent over cost efficiencies.

Q22. To what extent did / does your industry prioritize balancing cost efficiencies (e.g., downward salary pressures, etc.) with investing in high-value engineering talent over the following time intervals? Please select one response per time interval. (Global Total n=2,786)



Talent strategies are being reshaped by AI's growing role in software development

How AI is impacting hiring and talent strategy

45%

Increasing headcount for AI-focused roles

43%

Using AI and contract labor to fill in the talent gaps

43%

Need for greater training to fill AI skills gaps

42%

Hiring different skill sets

32%

Hiring fewer developers

5%

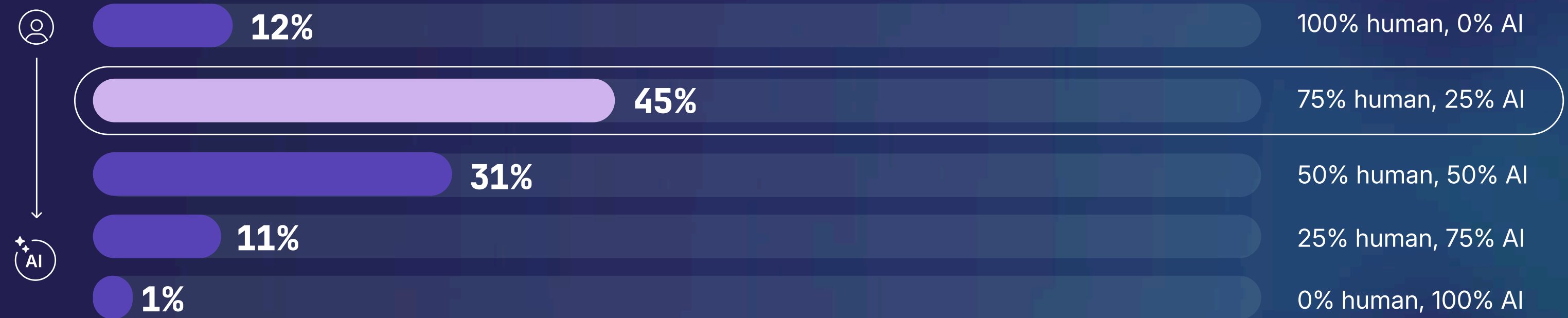
N/A - AI is not affecting our hiring and talent strategy

Q20. How is AI affecting your hiring and talent strategy? Please select all that apply. (Global Total n=2,786)

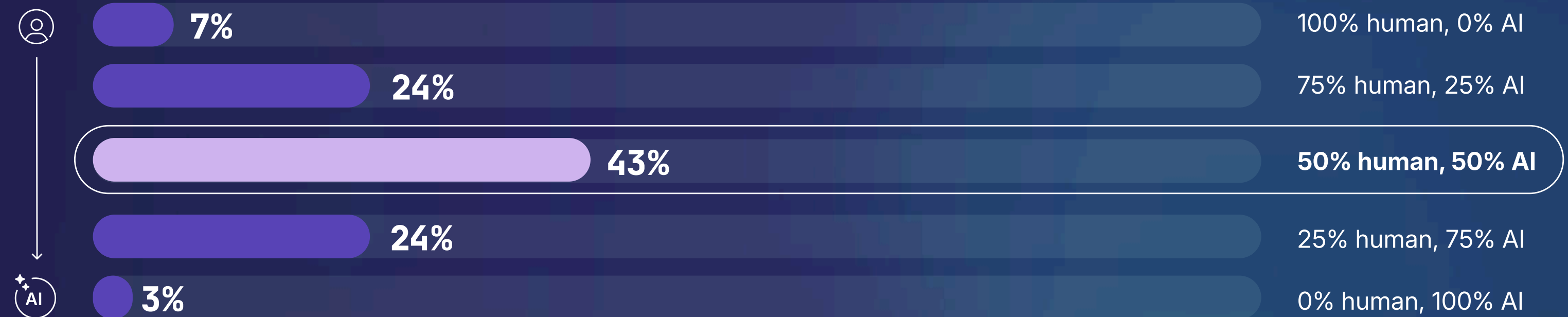


While the current human-AI contribution split looks like 75/25, the ideal split would be 50/50

Current human-AI contribution split *



Ideal human-AI contribution split *



*The balance between human input and AI Automation

Q21. How would you rate the balance between human input and AI automation in your current software development projects vs. your ideal balance? (Global Total n=2,786)



Upskilling is increasingly treated as a strategic investment, not overhead

Ways execs measure ROI of using AI to upskill/free time for developers to gain new skills

39% Improved problem-solving capability

37% Improved risk mitigation

38% Enhanced developer productivity

36% Enhanced customer experience

38% Accelerated revenue growth

34% Faster time-to-market

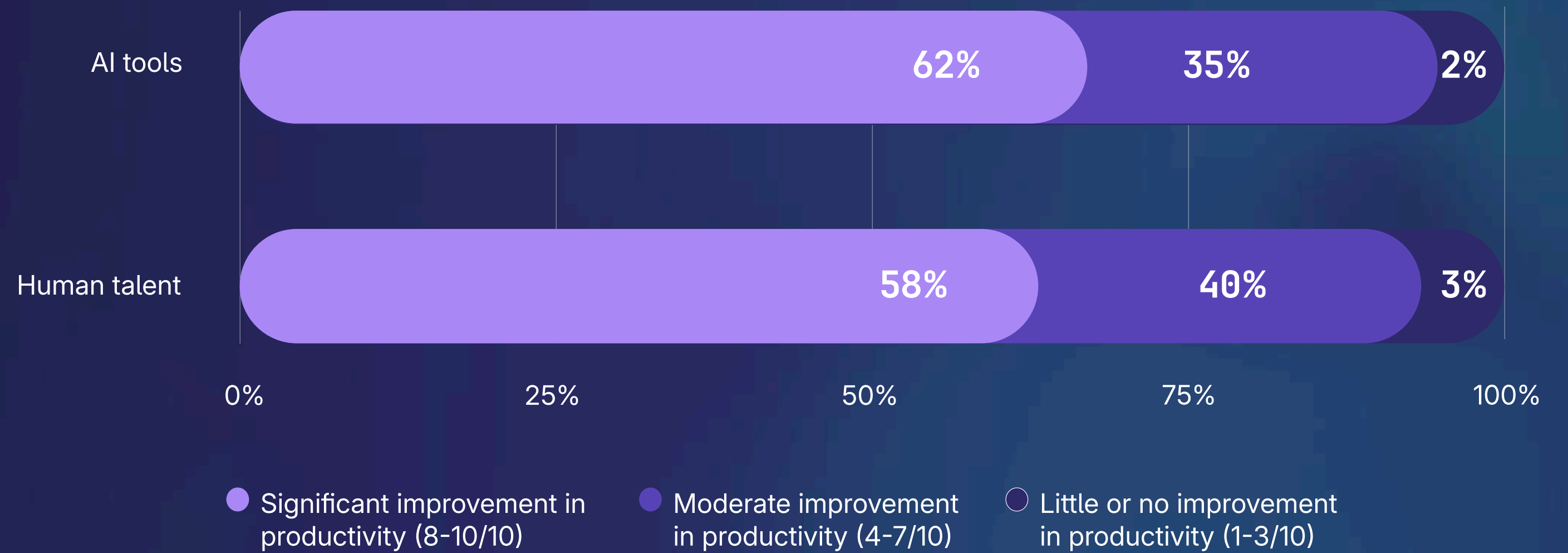
38% Greater cost efficiency

Q23. How do you measure the ROI of using AI to upskill and free up time for developers to gain new skills? Please select all that apply. (Global Total n=2,786)



AI tools and human talent are equally matched in boosting productivity

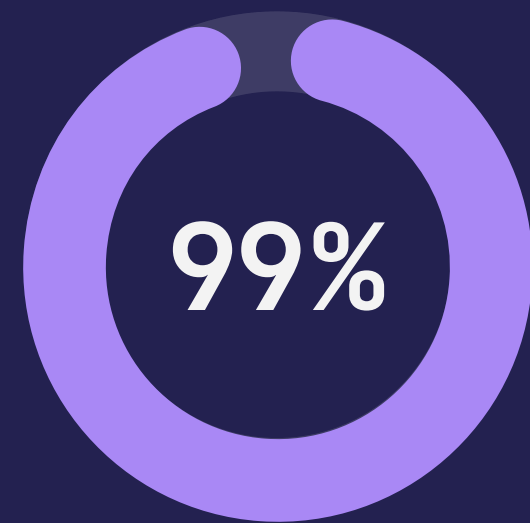
Which contributes more to developer productivity: AI tools vs human talent



Q25. On a scale of 1 to 10, how much would investing in the following areas improve developer productivity at your organization? (Global Total n=2,786)



The most valued human contributions to software development include creativity, strategic vision, and collaboration



Nearly all executives find the human element valuable to software development.

Most valuable human contributions to software development



Q27. What aspects of the human element do you find most valuable in software development? Please select up to three responses. (Global Total n=2,786)



04

AI is Proving its ROI and Driving the Future of Software Development



Software innovation is delivering measurable business results through AI

Investing in innovation is not only driving value, but leading to tangible gains for businesses. Execs report a 44% increase in revenue and a 48% increase in developer productivity. Those who lead the C-Suite or have AI in their core strategy are reporting even greater gains.

In addition to revenue and productivity, there are demonstrable benefits for efficiency. Business leaders estimate that developers have saved 943 hours (117 business days) over the past year as a result of investing in AI software innovation.

AI's impact on outcomes over past 12 months

44%

Increase
in revenue

48%

Increase
in developer
productivity

943

Average #
of hours saved
by developers

Q11a: Our organization has seen revenue increase by __% as a direct result of our investment in AI software innovation over the last 12 months (Global Total n=2,786) | Q11b: The productivity within our organization has increased by __% as a direct result of our investment in AI software innovation over the last 12 months (Global Total n=2,786) | Q11c: Our development team has saved __ hours as a direct result of our investment in AI software innovation over the last 12 months (Global Total n=2,786)



Innovation success is measured by business outcomes, not technical output

91% agree, "Measuring business impact provides a more accurate reflection of software development team performance than traditional metrics like code volume."

A similar number (90%) say, "My organization has a framework in place to link software development activities to key business outcomes."

99% Nearly all companies have a method for measuring ROI / impact of software investments.

Metrics used to measure software innovation success

40% Increased business growth

39% Greater cost efficiency

40% Improved problem-solving capability

38% Enhanced customer experience

39% Enhanced developer productivity

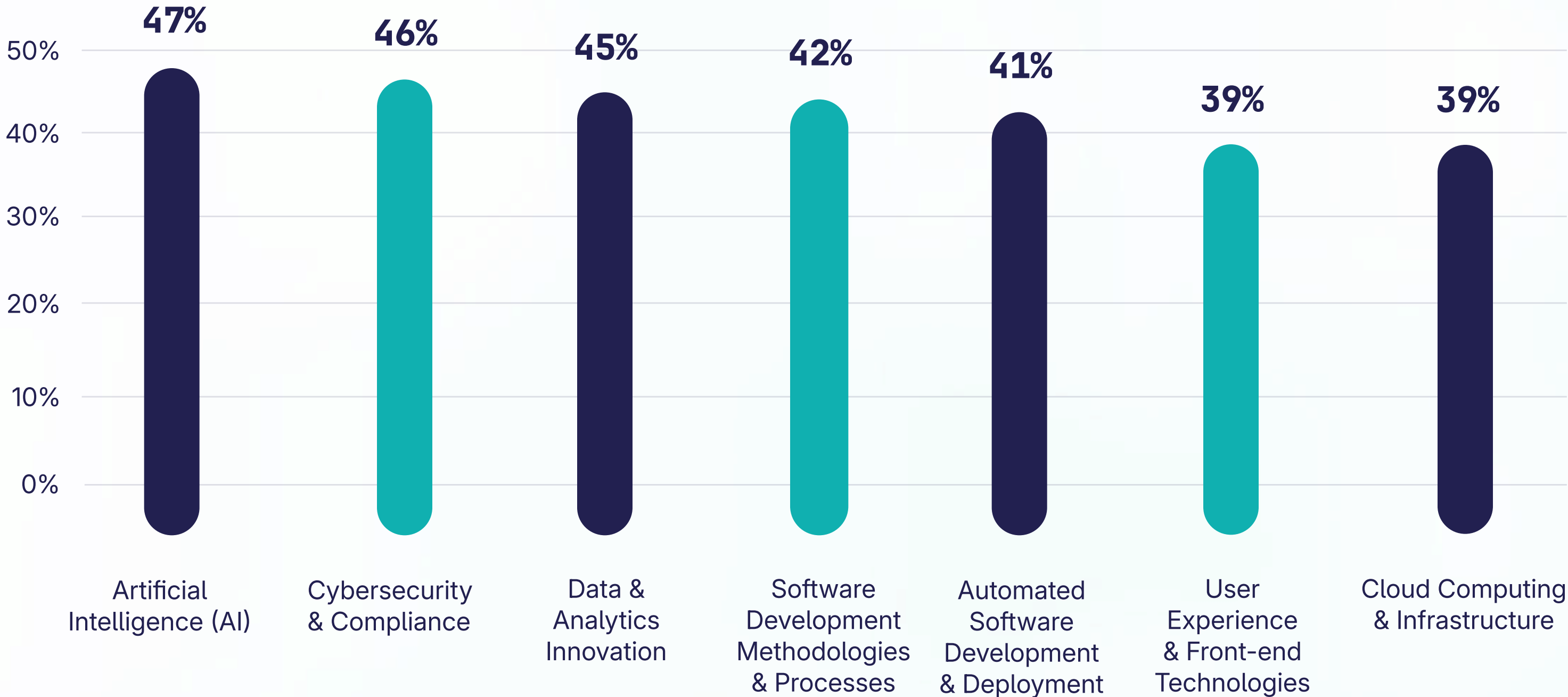
Note: 1% answered "N/A—my company does not have a method of measuring ROI / impact of software investments."

Q4. How does your company evaluate the ROI / impact of software innovation investments? Please select all that apply. (Global Total n=2,786) | Q8. Please indicate how much you agree or disagree with the following statements. (Global Total n=2,786) | Q19. Please indicate how much you agree or disagree with the following statements. (Global Total n=2,786)



AI, cybersecurity, and data & analytics are the most important aspects of software innovation to companies' overall strategy

Most important aspects of software innovation (Ranked 1-3)



Q2. Which aspects of software innovation are most important to your company's overall strategy? Please rank the following where 1 is "Most important" and 7 is "Least important." (Ranked 1-3) (Global Total n=2,786)

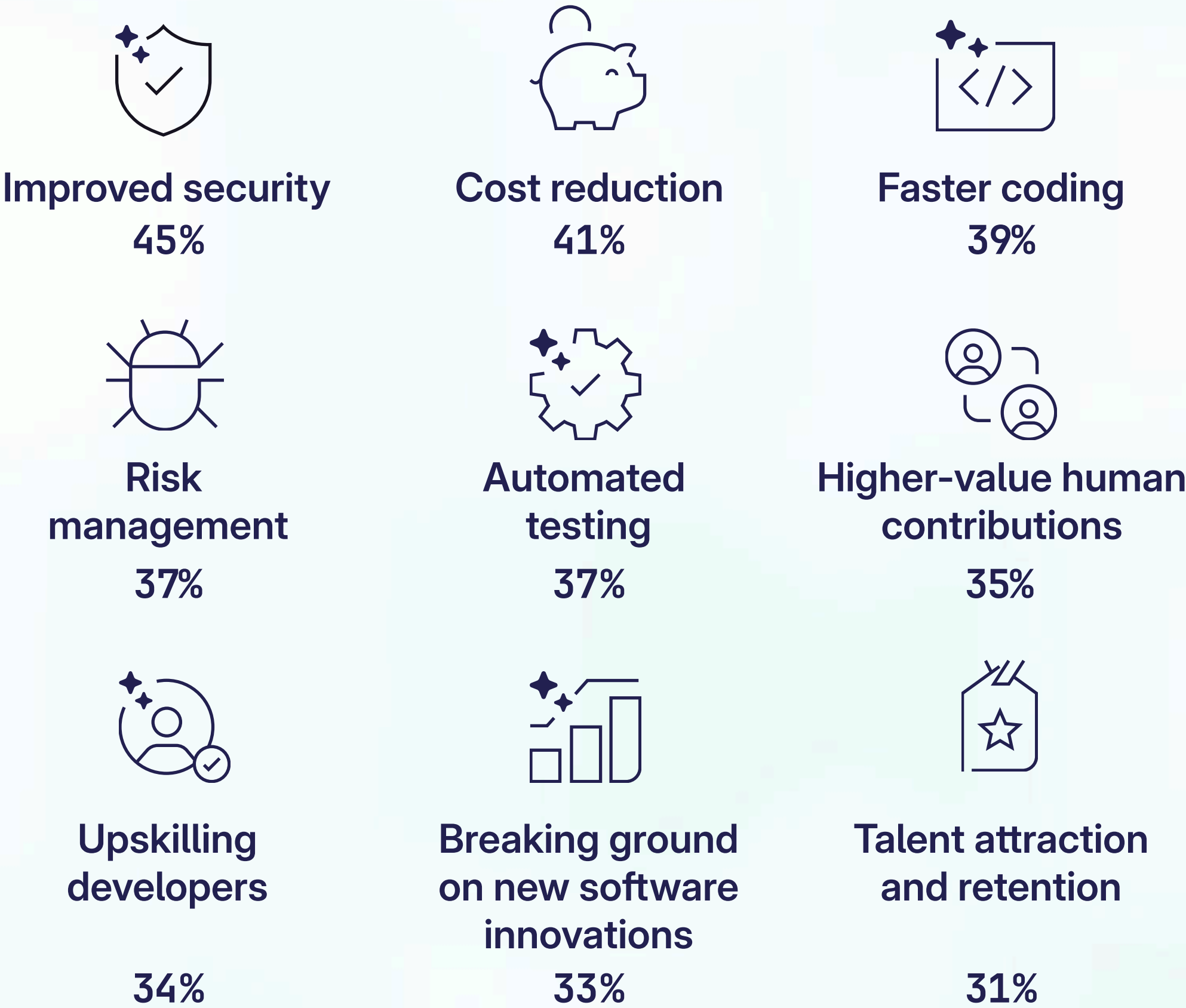


AI is already amplifying the value of software development across core outcomes



agree, "The integration of AI into the software development lifecycle is moving faster than expected at my organization."

Most valuable AI contributions to software development

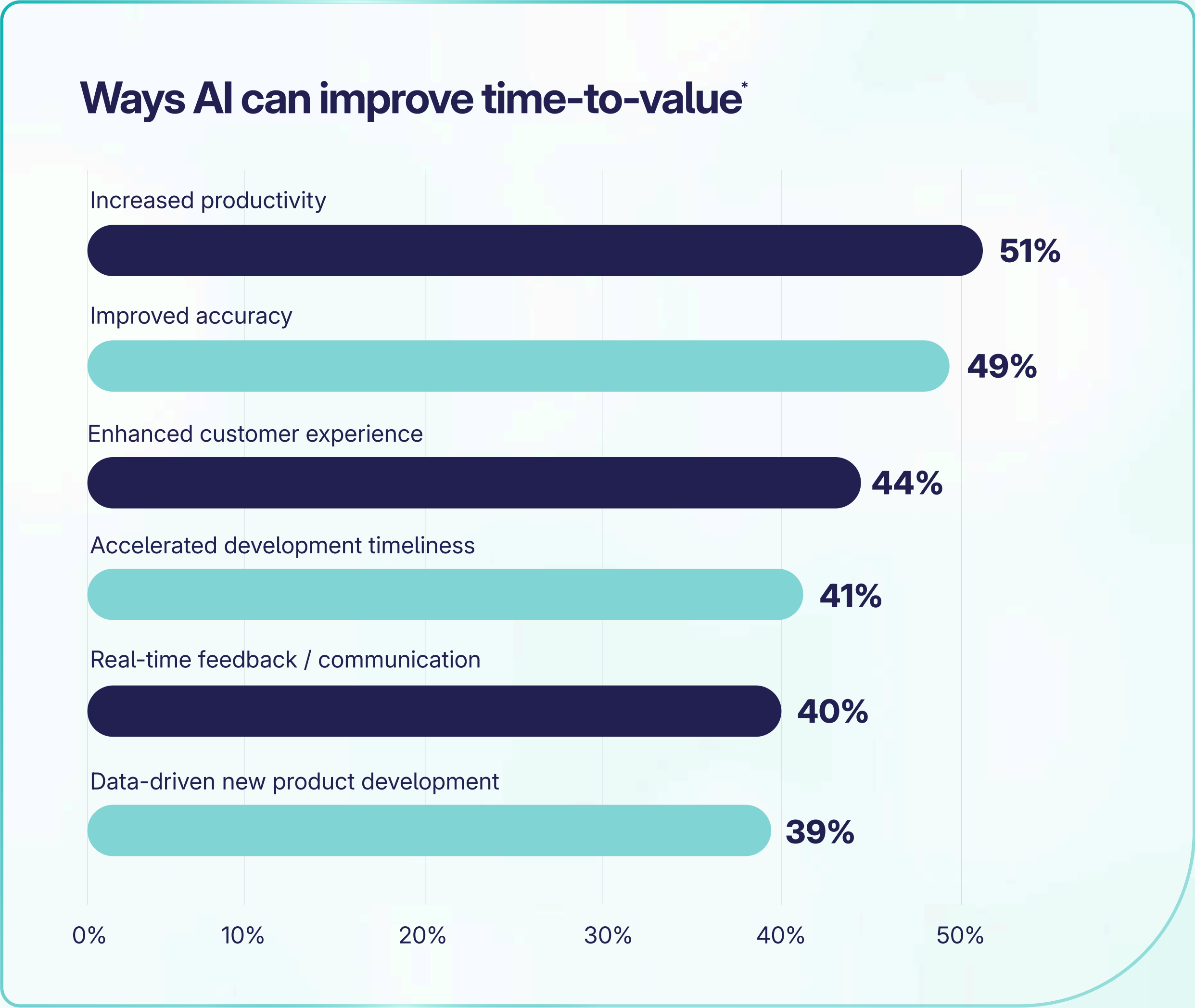


Q15. What are the biggest benefits AI offers to software development in your organization? Please select all that apply. (Global Total n=2,786)
 Q19. Please indicate how much you agree or disagree with the following statements. (Global Total n=2,786)



AI pays for itself in less than 2 years, and AI enhances time-to-value through increased productivity and improved accuracy

How long it takes AI investment in software innovation to pay for itself ^	2 years or less *	
	Less than 1 year*	44%
Less than 6 months	7%	
6-12 months	37%	
<hr/>		
1-2 years*	50%	
13-18 months	39%	
19-23 months	11%	
<hr/>		
2+ years	4%	
<hr/>		
* Net		



*Note: 2% responded: "N/A—AI investment in software innovation does not pay for itself". *Note: 2% responded "N/A – I don't believe AI adoption can improve time-to-value for software development". Q14. On average, how long does it take for AI investment in software innovation to pay for itself? (Global Total n=2,786) Q17. In which areas can AI adoption help improve the time-to-value for software development? Please select up to three responses. (Global Total n=2,786)



Enterprise leaders already see real savings and performance gains



98% think AI adoption can save costs for software development.

Where AI can help save the most costs for software development

36% Automating repetitive tasks so developers can focus on problem solving

29% Automated vulnerability detection

36% AI-driven security cost reduction

27% Generating / reviewing code

32% Enabling predictive maintenance for potential software issues

26% Streamlining UX / UI design

32% Automating testing and QA

25% Powering low-code/ no-code solutions

29% Determining efficient methods of resource allocation



In the next 18 months, AI priorities include data security, improving developer AI experience, and investing in AI infrastructure



