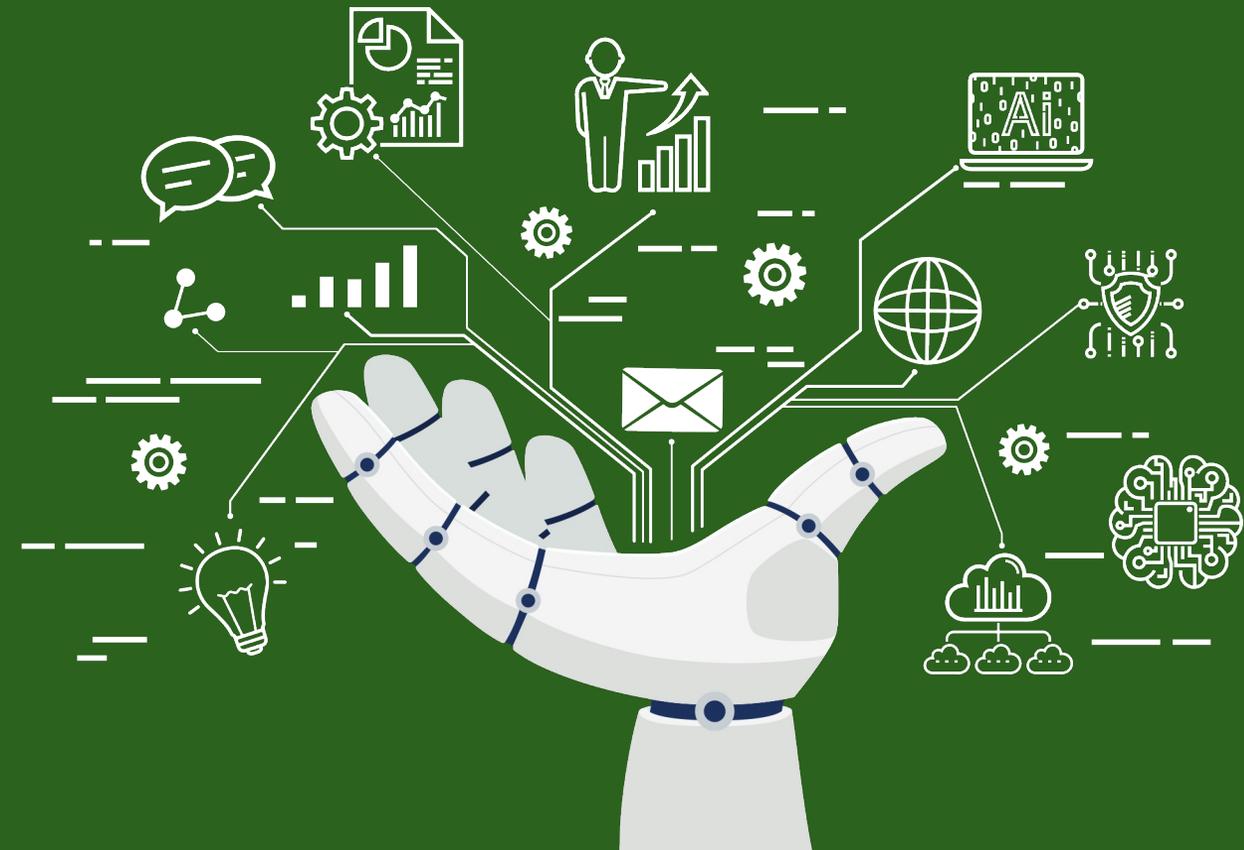


AI adoption is accelerating – now what?

Enterprises are further along adopting artificial intelligence to simplify operations through advanced, human-like function. But without proper policy, governance and structure in place, do they risk creating a monster?



June 2022

Executive Summary

Juniper Networks, for the second year in a row, surveyed 700 people across different titles and industries to gauge sentiment and adoption levels of artificial intelligence (AI) in their organizations. Last year, we found a wide gap between excitement surrounding AI's promise and actual adoption. Despite 95% of respondents believing it would benefit them, only 6% of C-level executives reported any level of AI adoption within their companies at the time.

This year, Juniper found that **63% of companies surveyed in our 2022 report say they are at least most of the way to their planned AI adoption goals.**

Additionally, 145% more company leaders (27% in 2022 vs. 11% in 2021) say they're looking in the future to deploy "fully enabled" AI use cases with widespread adoption, a shift away from only looking ahead at "limited" AI use cases.

Yet only 9% surveyed currently consider the governance and policy around their organization's deployments "fully mature."

Without governance comes the potential for irresponsibly developed AI, which could result in security breaches, unethical or biased AI, falling behind potential future legislation, or even simply ending up with an AI system that's not fulfilling its intent, just to name a few possible risks.

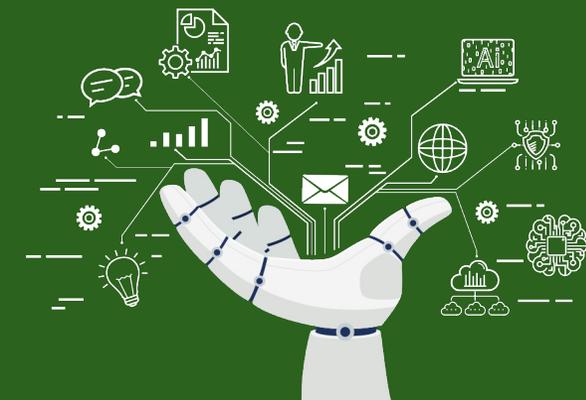
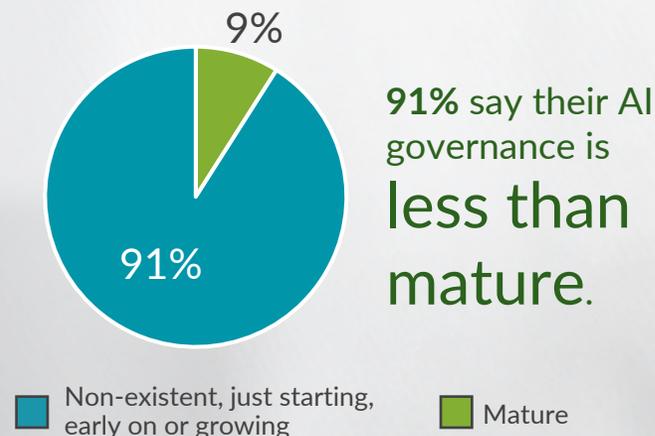
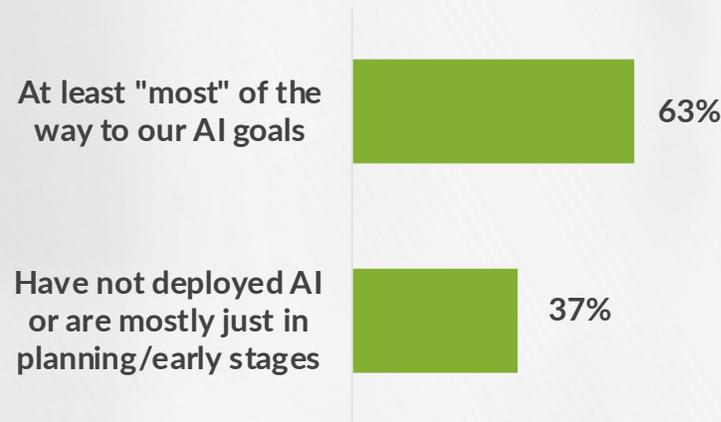


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AI use is growing and not slowing down

01

AI is on the rise throughout various industries and enterprises, with its use in networking reportedly more than doubling since last year's survey. Additionally, companies are reporting that AI is having a positive effect on decision-making for employees, as well as creating a better operational experience.

02

03

04

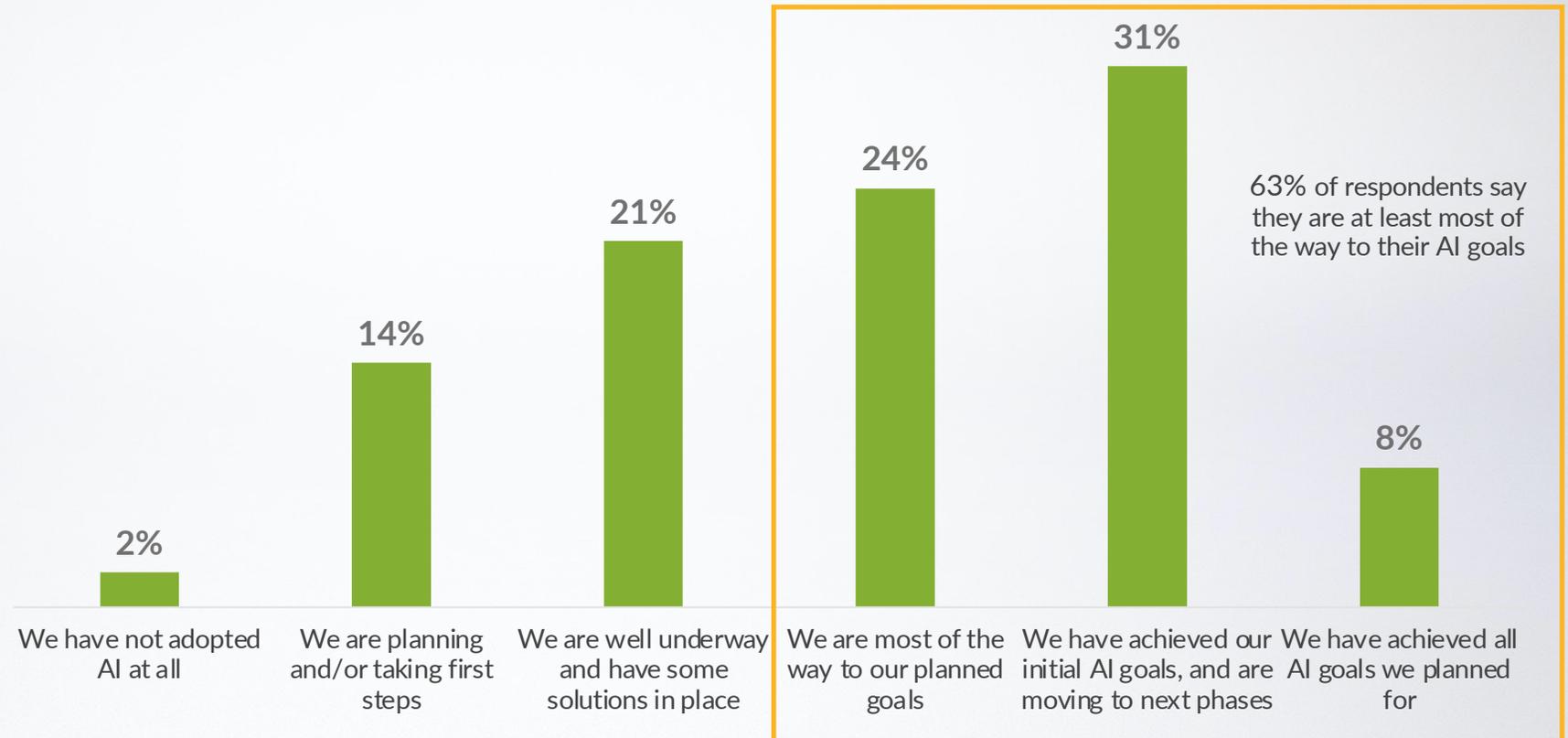
05



Most organizations say they are approaching, meeting and even going beyond their AI adoption goals

63% of organizations are at least “most of the way” to achieving planned goals for AI adoption

How far along is your company with AI adoption?





Most AI/ML leaders (94%) indicate that organizations are at least moderately reliant on AI to perform tasks and assist in decision making, with few (6%) indicating they are “only a little reliant.”

94% of those using AI describe their organization’s level of reliance on AI as very to moderately reliant.

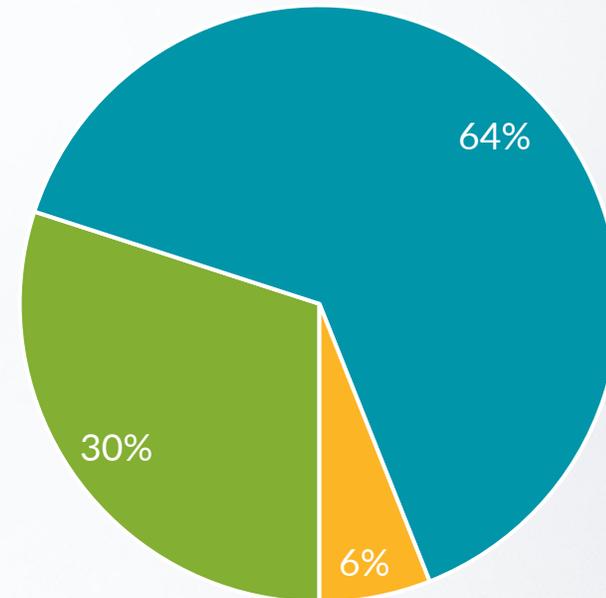
01

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Dependence on AI is pervasive across organizations

How would you describe your organization’s level of reliance on AI to perform tasks and assist in decision making?

- Very reliant
- Moderately reliant
- Only a little reliant



Asked among those utilizing AI-powered solutions, N=656



Networking/Cloud is the business area receiving the most AI automation (55%); however, Operations (45%), Information Technology (44%), and Sales and Marketing (39%) are not far behind.

Organizations are leveraging AI in a variety of ways

In what areas of business are you currently automating through AI?

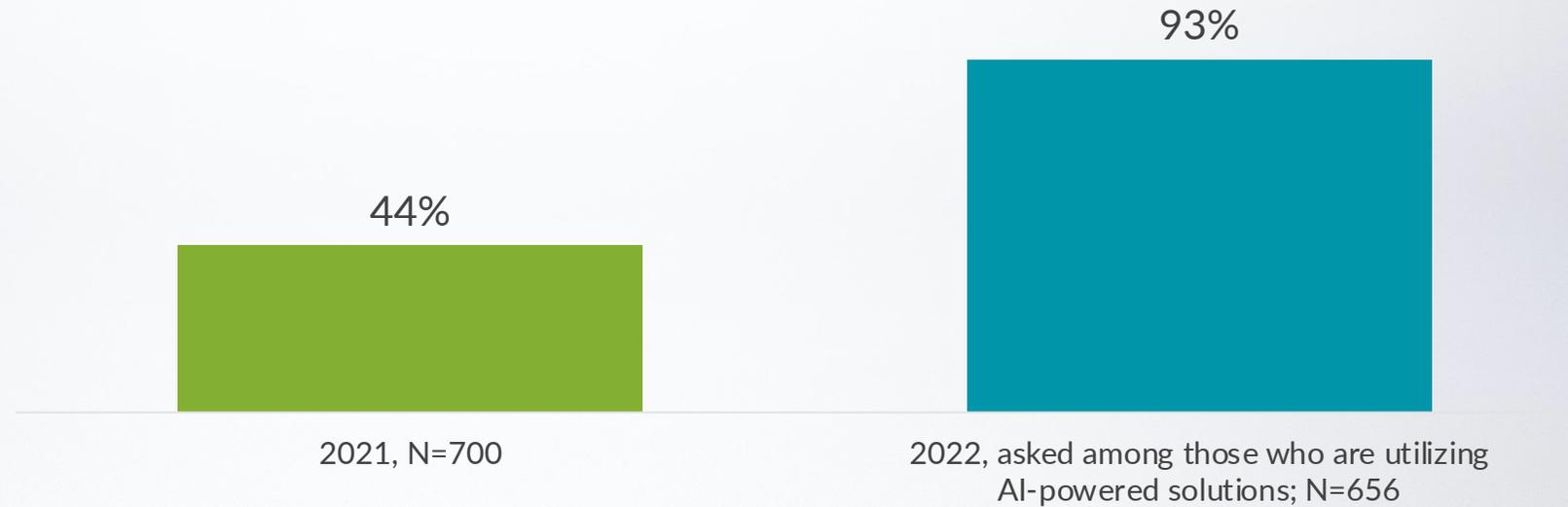




More than doubling the previous amount who indicated they have done so, AI/ML leaders at a vast majority of organizations (93%) say they have incorporated AI into their networking infrastructure and capabilities.

AI in networking infrastructure and capabilities has more than doubled in the past year

Has your company incorporated AI, including digital assistants and/or automated decisioning, into your networking infrastructure and capabilities?



01

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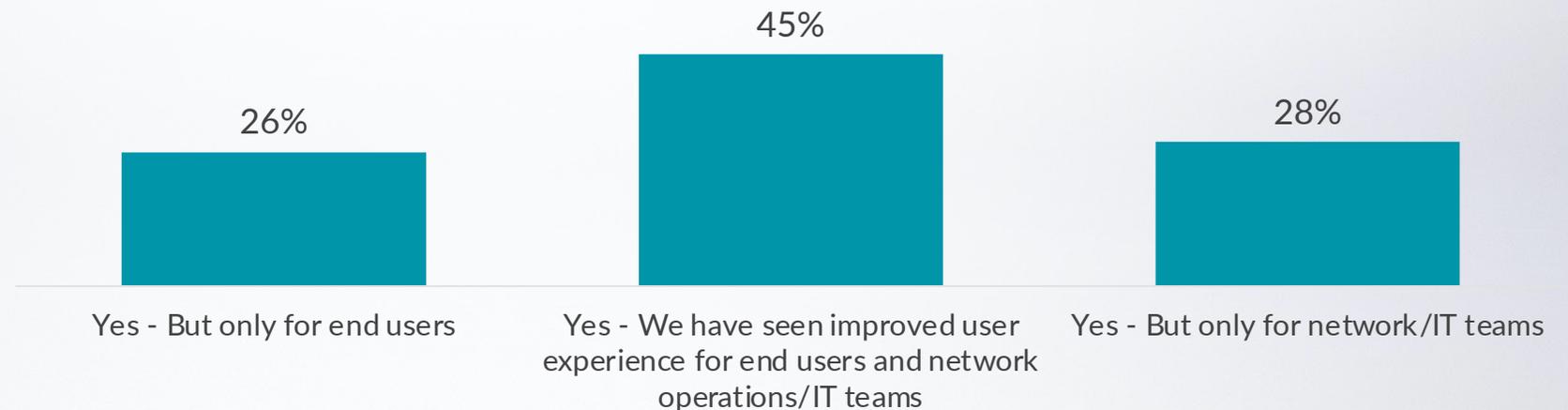
Asked among those utilizing AI-powered solutions



The number of AI/ML leaders overall who indicate they have seen improvements in total has increased (100% vs. 97% YoY), with nearly half (45%) seeing improvements in user experience for end users and network operations/IT teams.

Nearly all respondents have seen improvements in the end user or network operations/IT teams' experiences

Have you seen improvements to both the user experience for end users and network operations/IT teams?



01

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Asked among 611 respondents who have incorporated AI

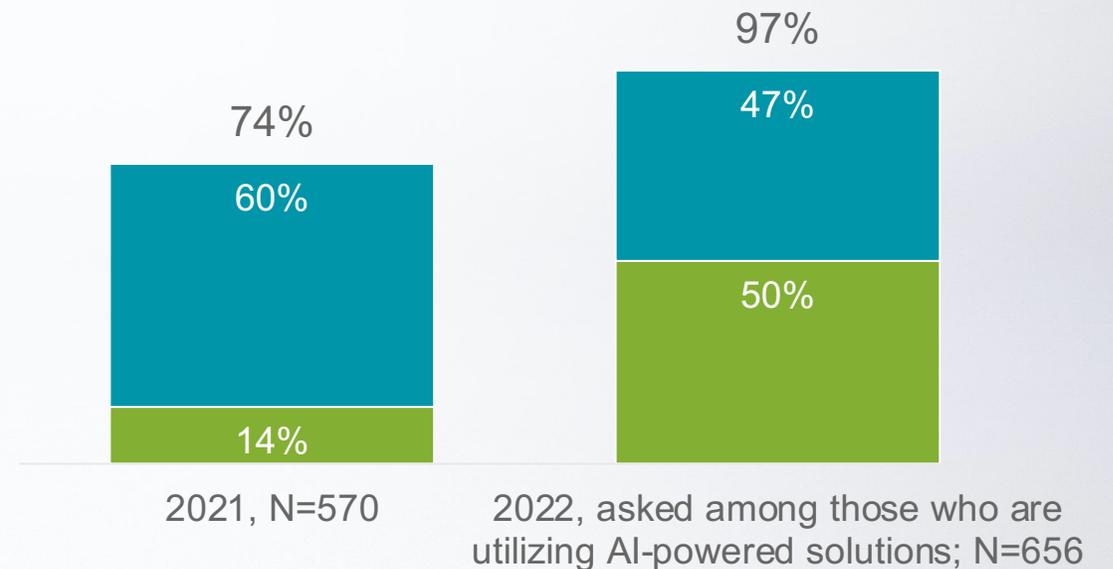


The positive impact of AI solutions being implemented to assist with operational tasks can be seen with nearly all (97%) AI/ML leaders agreeing that employee satisfaction has increased since doing so.

Employee satisfaction is on the rise with AI solutions implemented for operational tasks

What are your thoughts on the following statement: “Employee satisfaction has increased since implementing AI solutions to assist with our operational tasks”?

- Agree with the statement
- Strongly agree with the statement

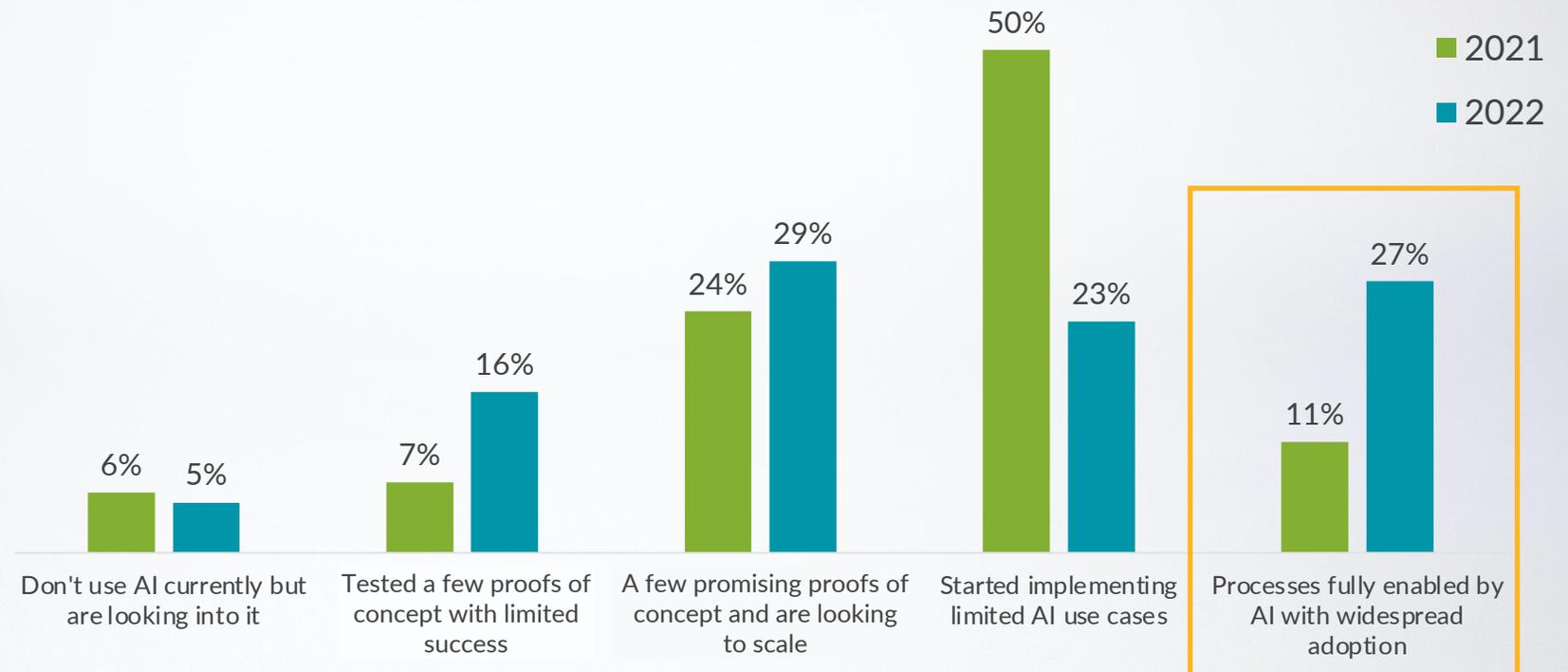




Even more AI/ML leaders are indicating their organizations have operational processes fully enabled by AI with widespread adoption (27% vs. 11% YoY), with more proofs of concept being tested and planned to scale as well.

2022 saw increased enthusiasm for full AI adoption, whereas 2021 revolved around limited use cases

To what extent is your company *looking* to integrate AI technologies into its operations?



N=700 *Note: 2% were 'unsure' last year; 0% were 'unsure' this year*

01

JUNIPER
NETWORKS



AI use is growing and not slowing down

01



AI can create growth opportunities

02



While leaders acknowledge that AI savings could prime certain areas of the business for headcount reduction, most are optimistic that AI will help grow the business and diversify employees' experiences and opportunities.

03



Needs to catch-up with

04



The future of AI

05

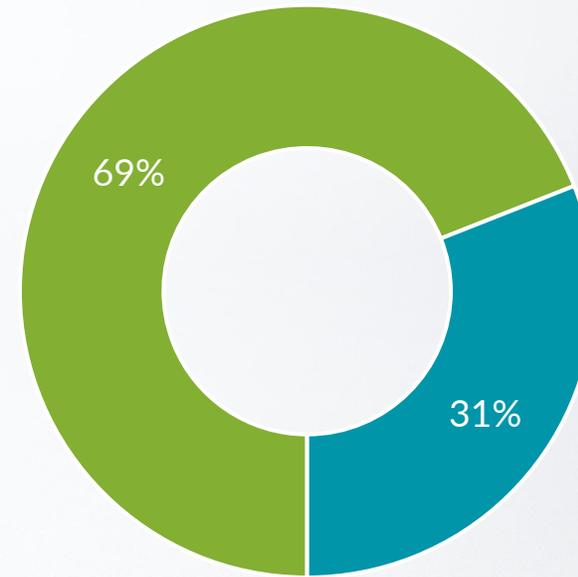


More than 2 in 3 (69%) AI/ML leaders say their organization's ideal use of savings from AI use would be for company growth.

Most agree any savings due to AI will ideally be used to grow the business

Please complete the following statement using the option that most reflects your organization's view of AI: "My company's ideal is to use savings from AI to..."

- Grow the business
- Cut costs

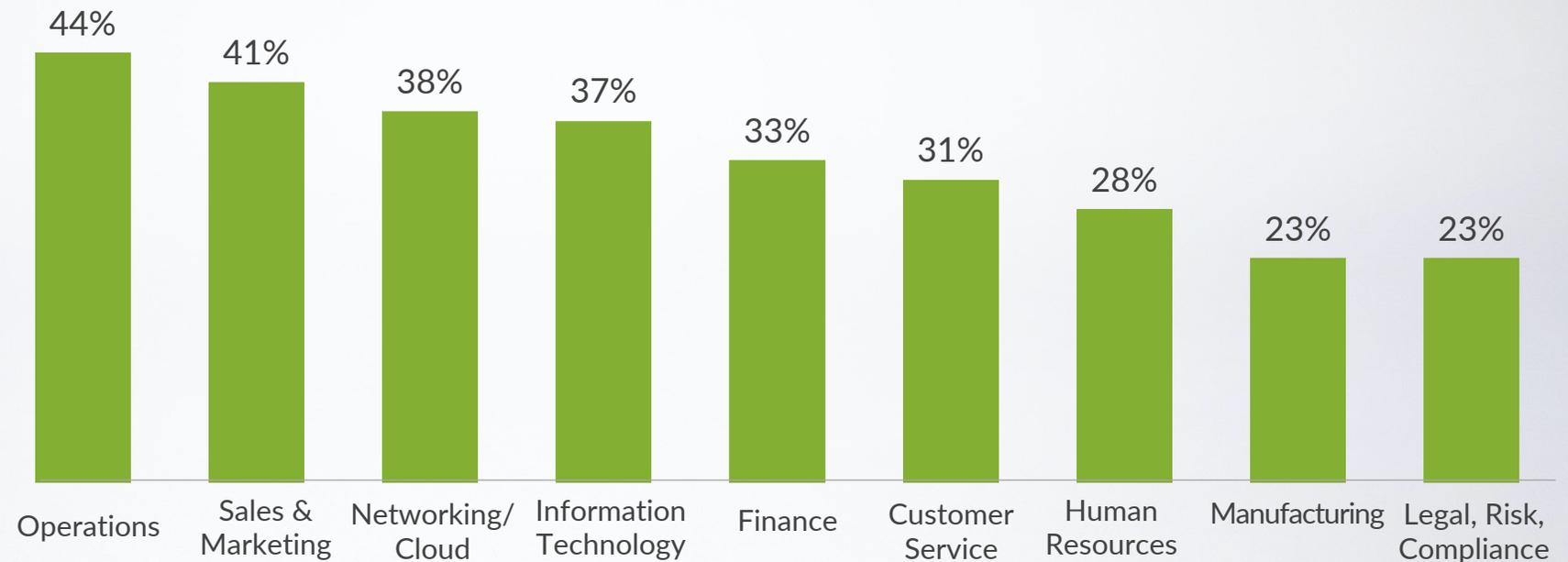




Despite the belief savings resulting from AI use would be used to grow the company, AI/ML leaders recognize some areas are prime for reduction in size as a result, including Operations (44%), Sales & Marketing (41%) and Networking/ Cloud (38%).

But of the 31% who said they would use AI to cut costs, operations is most likely to be affected

In which departments will AI use at your company be most likely to reduce headcount?



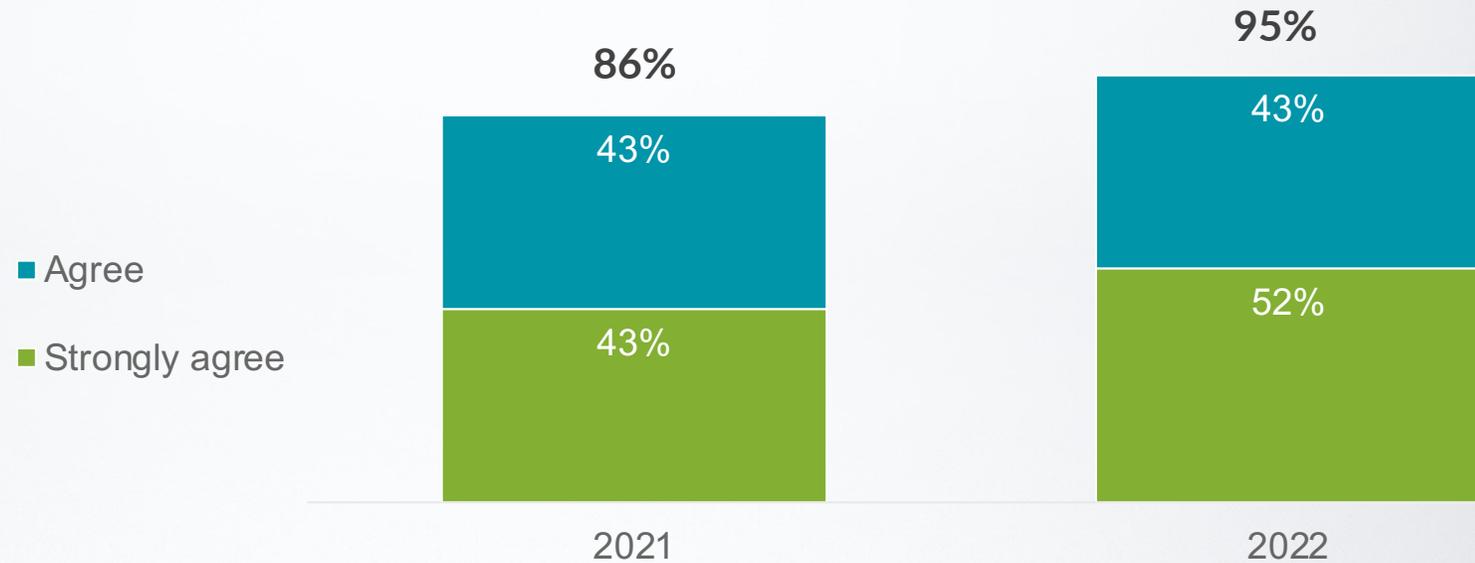
N=219



Nearly all (95%) AI/ML leaders agree AI won't be used to take the place of humans, instead improving the experience and offering opportunities for employees to focus their efforts elsewhere.

Most still believe AI can elevate user experiences without cutting staff

Do you agree with the following statement? "AI, such as predictive capabilities, will not replace humans but instead elevate the user experience."



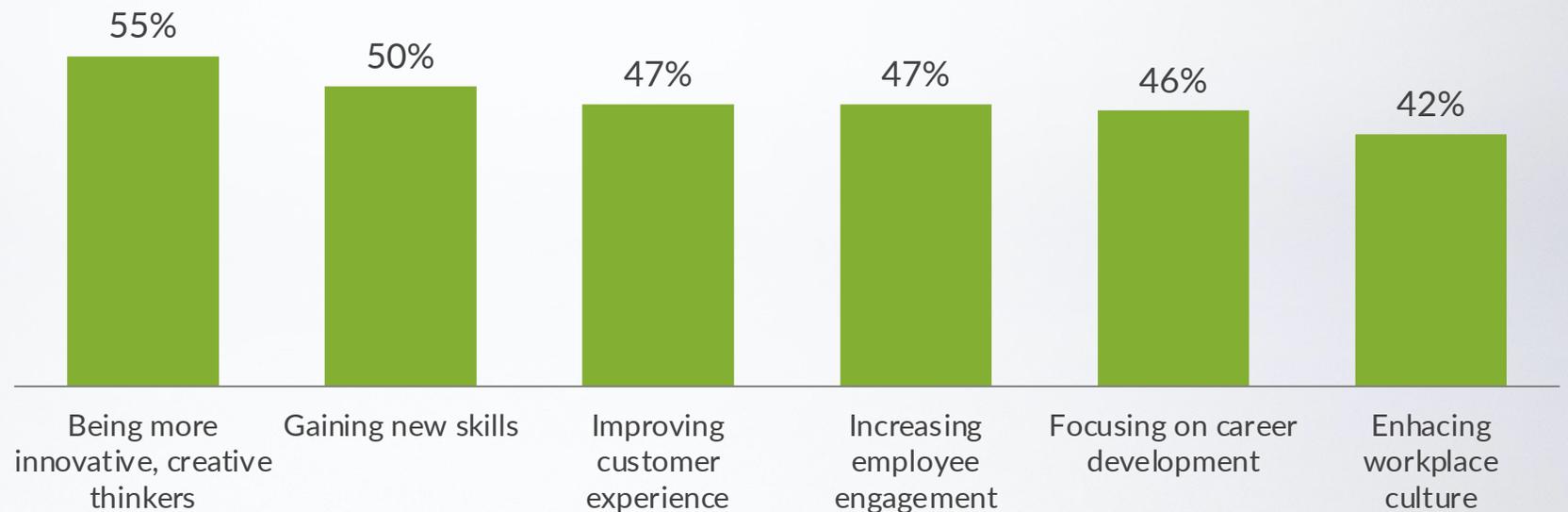
N=700



As AI adoption and use increase across organizations, existing employees will be able to focus more on higher level strategic areas like being more innovative, creative thinkers (55%), gaining new skills (50%), improving customer experience (47%) and increasing employee engagement (47%).

AI use will free up workers to focus on more strategic and creative areas

Which of the following higher level strategic areas, if any, do you think employees can focus on more due to the use of AI?



N=700



AI use is growing and not slowing down

01



AI can create growth opportunities

02



Mounting potential risks must be addressed

03

With AI adoption on the rise and a significant increase in AI tool capabilities over the past year, leaders are now focused on enhancing cybersecurity to mitigate potential risk.

04



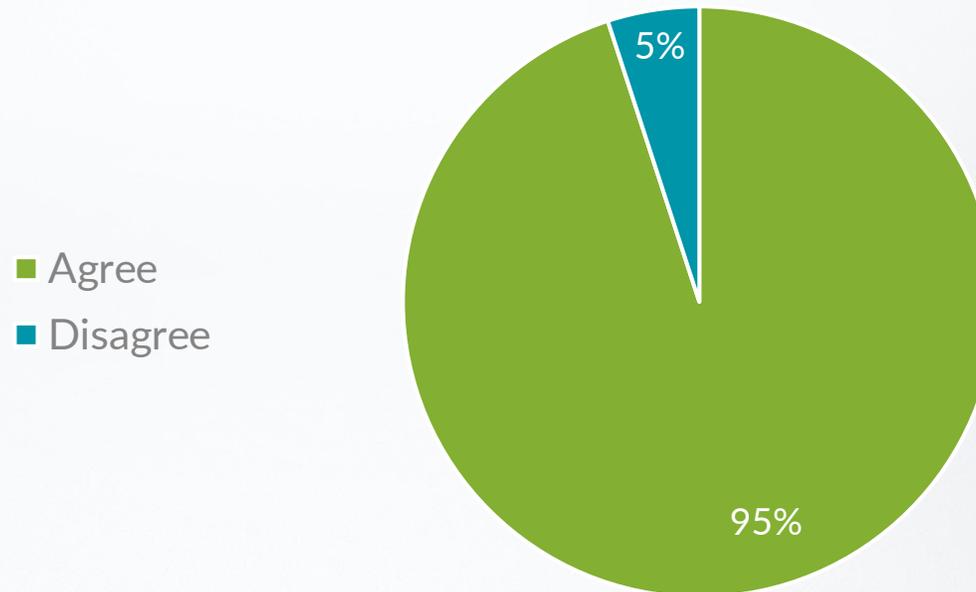
05



AI/ML leaders agree cybersecurity is a critical component to AI solutions at the enterprise level

To ensure their ability to maintain and secure enterprise-level AI solutions, even more AI/ML leaders agree cybersecurity is critical.

Do you agree with the following statement? “Cybersecurity is a critical component to maintaining and securing an enterprise AI solution.”



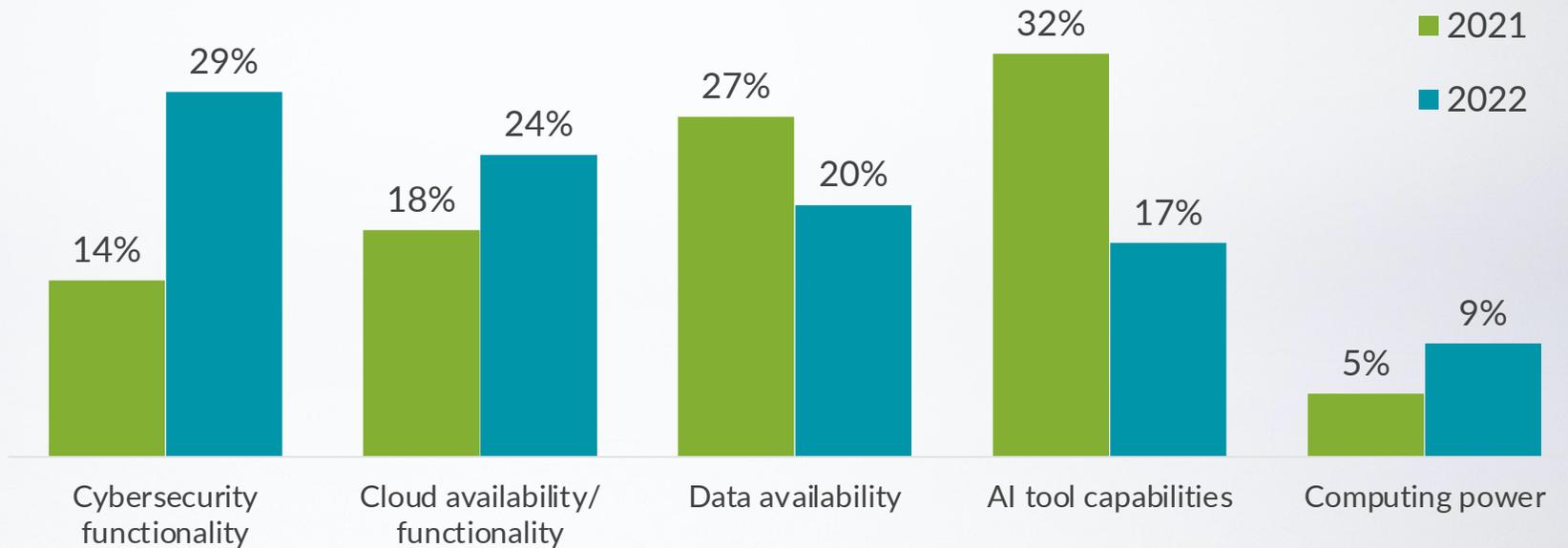
N=700



Respondents now view cybersecurity functionality and cloud availability as most critical for AI adoption

Which of the following is most critical to enable AI adoption across your industry?

Cybersecurity (29%) and cloud availability (24%) are seen as the most critical components of AI adoption.



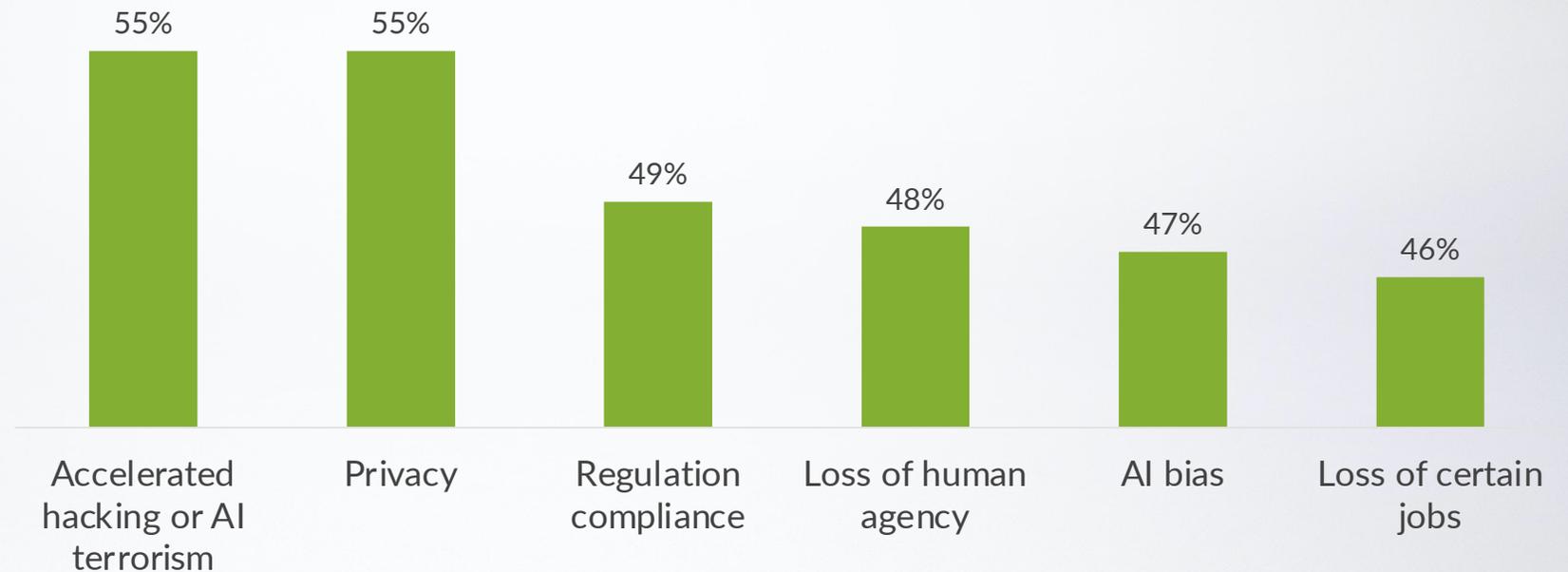
N=700



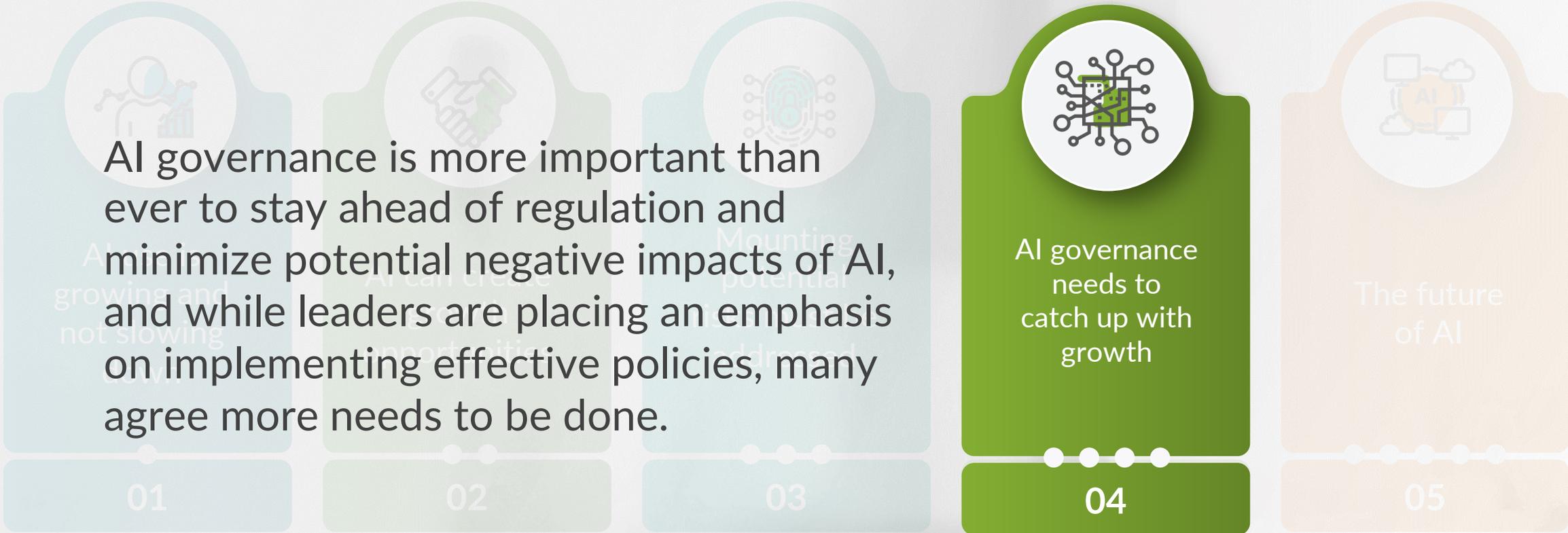
Security and privacy concerns are top risk areas when AI doesn't receive appropriate oversight

Supporting the importance for security with AI solutions at the enterprise level, AI/ML leaders indicate the top risks from inadequate oversight of AI as accelerated hacking or AI terrorism (55%) and privacy (55%). Regulation compliance (49%) and loss of human agency (48%) are also seen as top risks.

Please rank the following in terms of their level of risk from not being able to adequately oversee AI implemented at your company.



Top 3 ranked responses, N=700



AI governance is more important than ever to stay ahead of regulation and minimize potential negative impacts of AI, and while leaders are placing an emphasis on implementing effective policies, many agree more needs to be done.

01

02

03

04

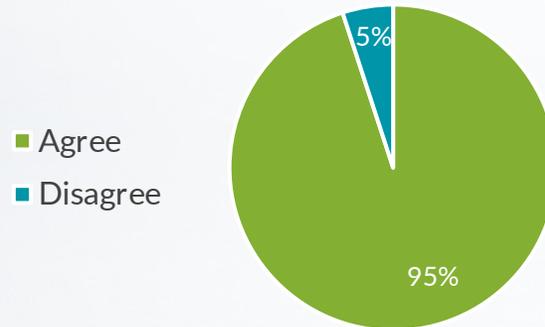
05



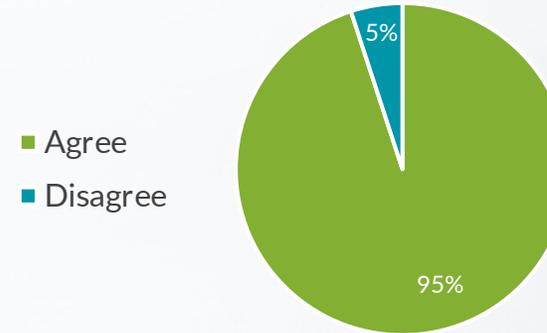
Nearly all AI/ML leaders (95%) agree that in order to minimize potential negative impacts, companies must have policies for AI governance and compliance. They even overwhelmingly agree they wouldn't trust the AI outputs of a vendor that *doesn't* have a formal responsible AI use policy in place.

AI/ML leaders agree across the board that having some form of AI governance is important

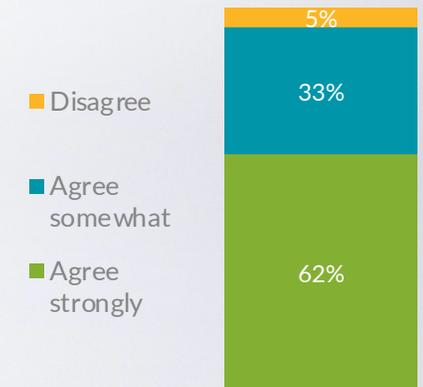
Do you agree with the following statement?
"Organizations have a responsibility to have governance, compliance policies in place to minimize negative impacts of AI."



Do you agree with the following statement?
"Having proper AI governance in place is important to stay ahead of legislation."



How much do you agree or disagree with the following statement: "I wouldn't trust the AI outputs from a company that did not have formal responsible AI use policies."



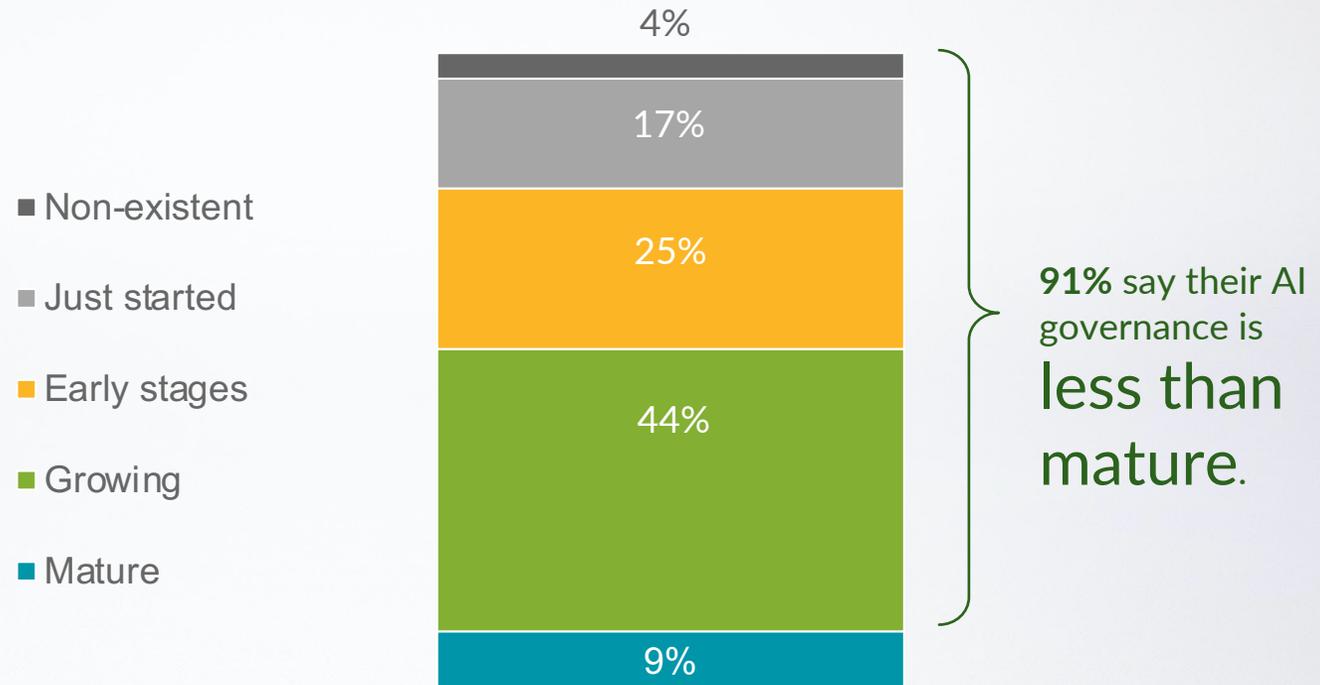


Governance is well-understood and agreed upon as critical to successful AI use and growth, however, not even 1 in 10 (9%)

AI/ML leaders describe AI governance at their company as mature, and 46% total say it is in early stages or less mature.

Yet, companies are still playing catch-up with their AI governance

How mature would you say AI governance at your company is?

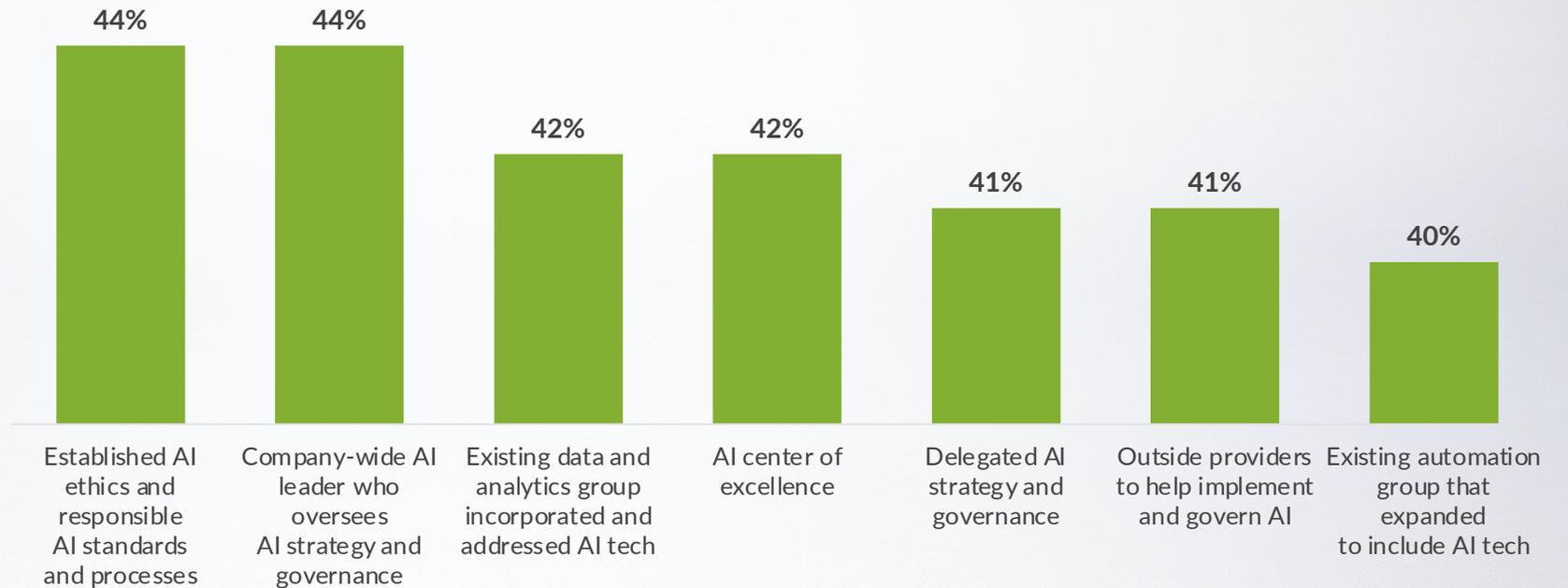




More than 4 in 10 AI/ML leaders say their companies are utilizing each of the means asked to manage and govern AI.

Despite this, companies are still taking steps to implement AI governance

Which, if any, of the following has your company used to manage and govern AI?



N=700



Top AI-related challenges facing companies in 2021 were focused more around developing models and standardizing data. In 2022, those challenges remain, but ones related to creating governance policies (35%) and maintaining AI systems (34%) have risen in importance.

As AI use becomes more common, challenges shift from initial development to management and maintenance

What AI-related challenges are top priorities for your company in 2022?



N=700



AI use is growing and not slowing down

01



AI can create growth opportunities

02



Mounting potential

03



AI needs to grow

04



The future of AI

05

As the benefits of AI continue to present themselves, enterprises are seeing enormous potential to grow their businesses and differentiate themselves from their competitors and are focused on optimizing AI capabilities for the future.

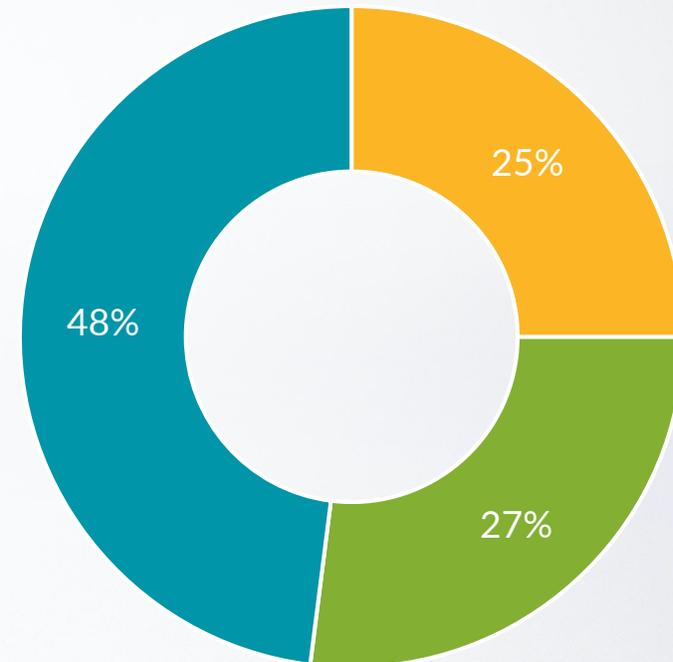


While just over 1 in 4 AI/ML leaders (27%) believe humans will continue to control AI, nearly as many (25%) think AI cannot be effectively controlled. The future likely falls in the hands of increased AI governance: nearly half (48%) say more needs to be done to effectively govern AI.

Nearly half of respondents agree more needs to be done to effectively govern AI

Which best describe your thoughts about who ultimately controls AI?

- Humans will continue to govern AI
- More needs to be done to effectively govern AI
- AI cannot be effectively governed

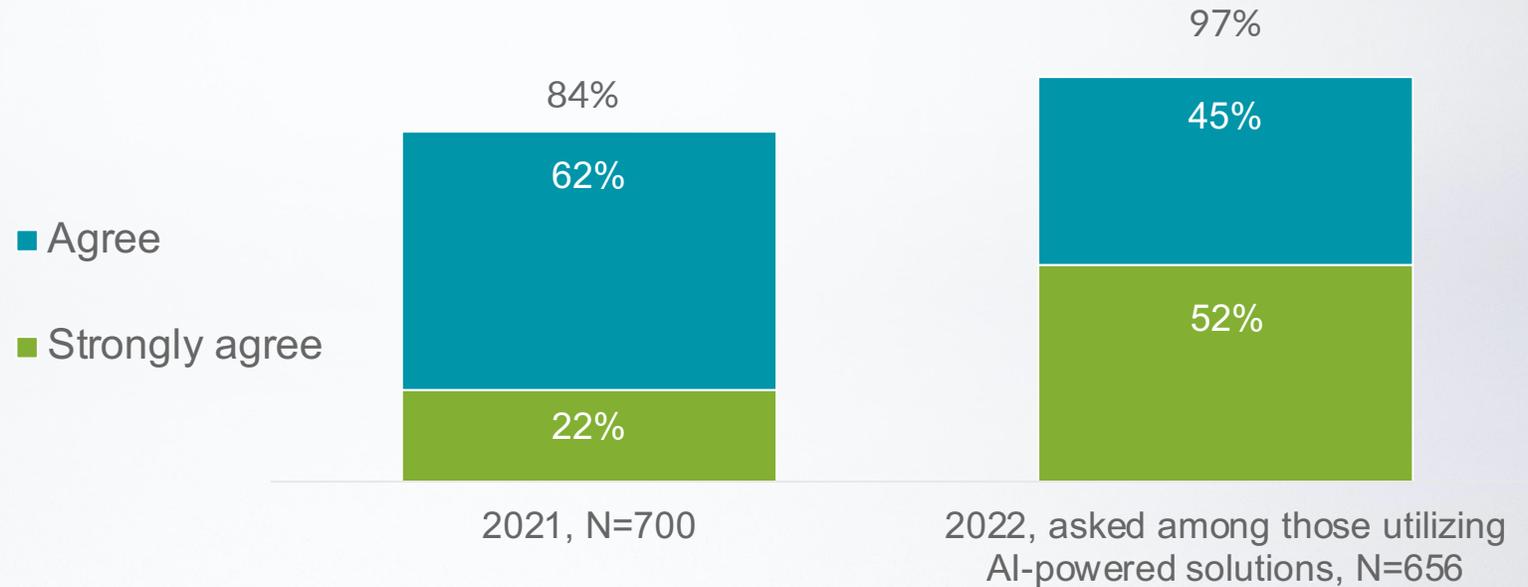




Almost all AI/ML leaders (97%) agree that in the next 12 months AI will assist in reducing risk and increasing quality within their organization, compared to 84% previously.

There is strong and growing consensus that AI will continue benefitting the enterprise

What are your thoughts on the following statement: "AI will (in the next 12 months) assist in reducing risk and increasing quality within our organization"?

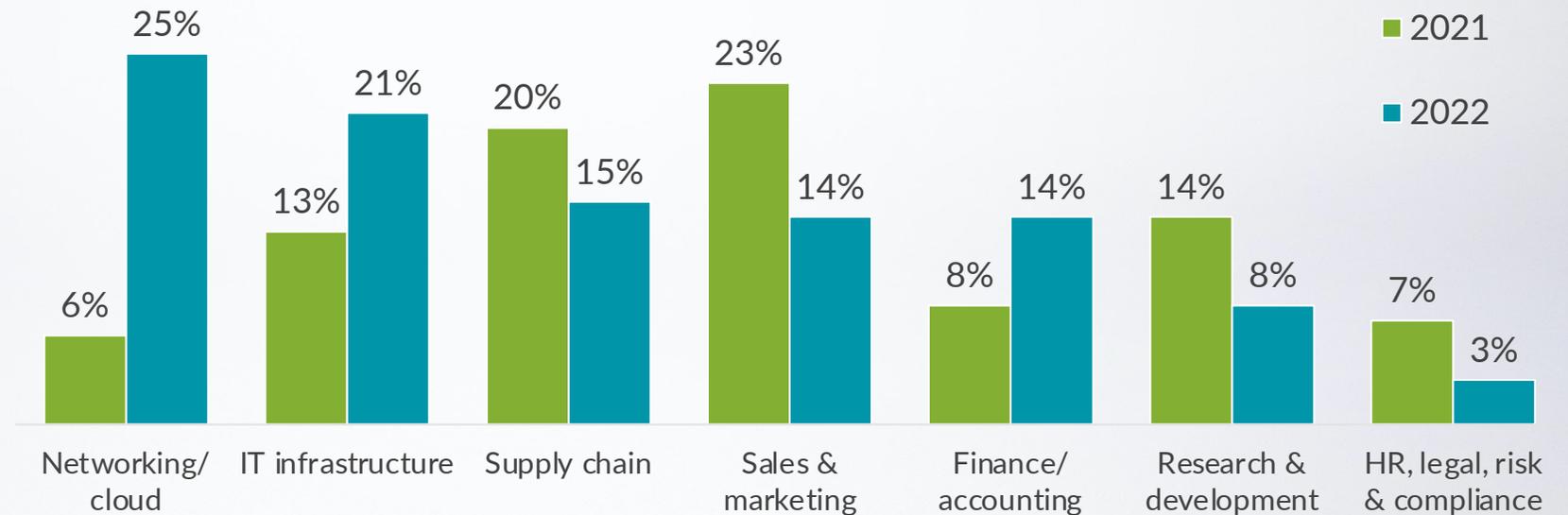




AI/ML leaders see potential for AI across their organizations

In 2022, networking/cloud (25%), IT infrastructure (21%) and supply chain (15%) are the business functions thought to have the greatest potential to derive benefits from implementing AI, with sales and marketing (14%) and finance/accounting (14%) close behind.

What business function do you think has the greatest potential to derive benefits from implementing AI?

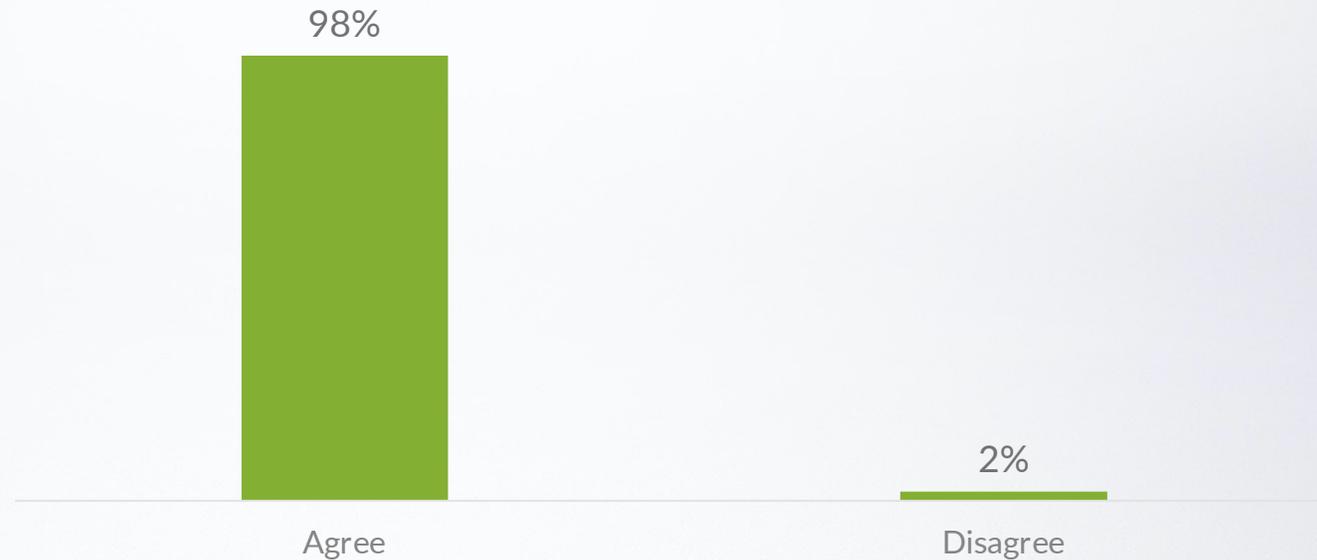




Leveraging AI to differentiate will continue yielding positive results for organizations

What are your thoughts on the following statement: "Our organization will benefit from embedding AI in our daily operations, products and services in an effort to differentiate ourselves from competitors"?

Nearly all (98%) also agree embedding AI in daily operations, products and services in order to differentiate from competitors will benefit their companies.



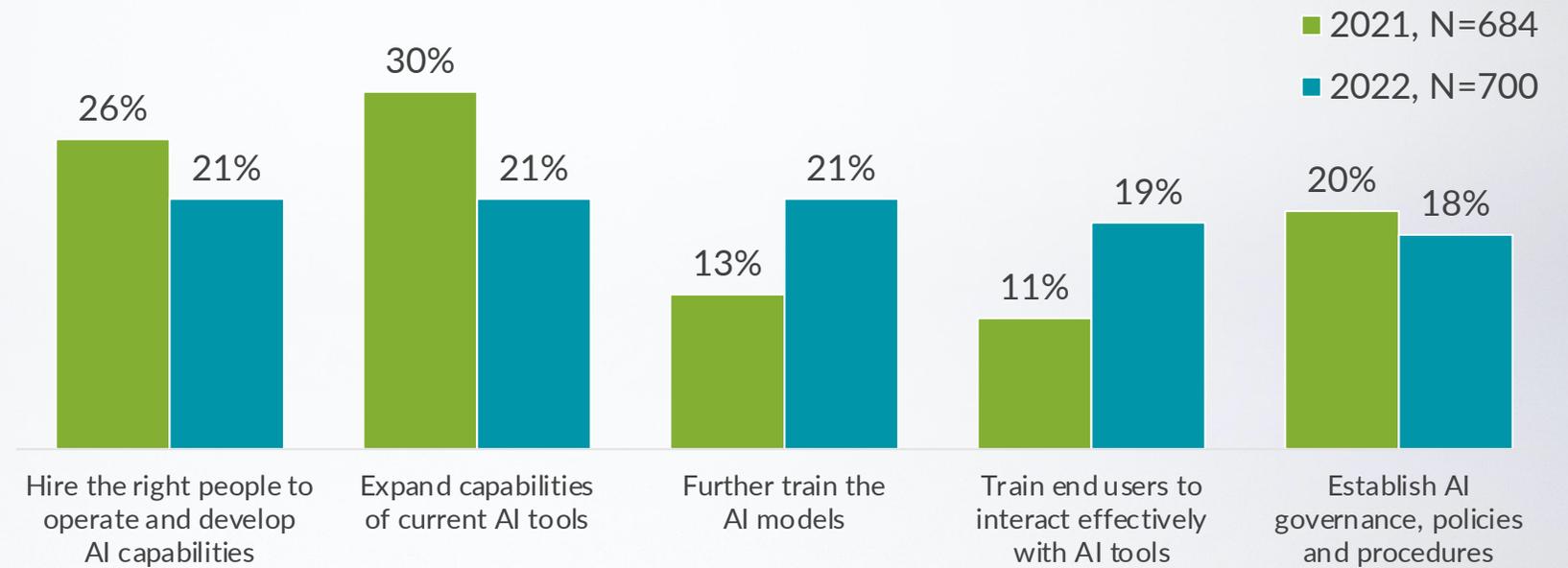
N=700



Hiring the right people to operate and develop capabilities (21%) is indicated as a top ranked investment option for optimizing AI capabilities within the organization, along with expanding capabilities of current AI tools (21%), and further training the AI models (21%).

Companies are prioritizing diverse AI investments

Prioritize the following investment options for optimizing AI capabilities within your organization.



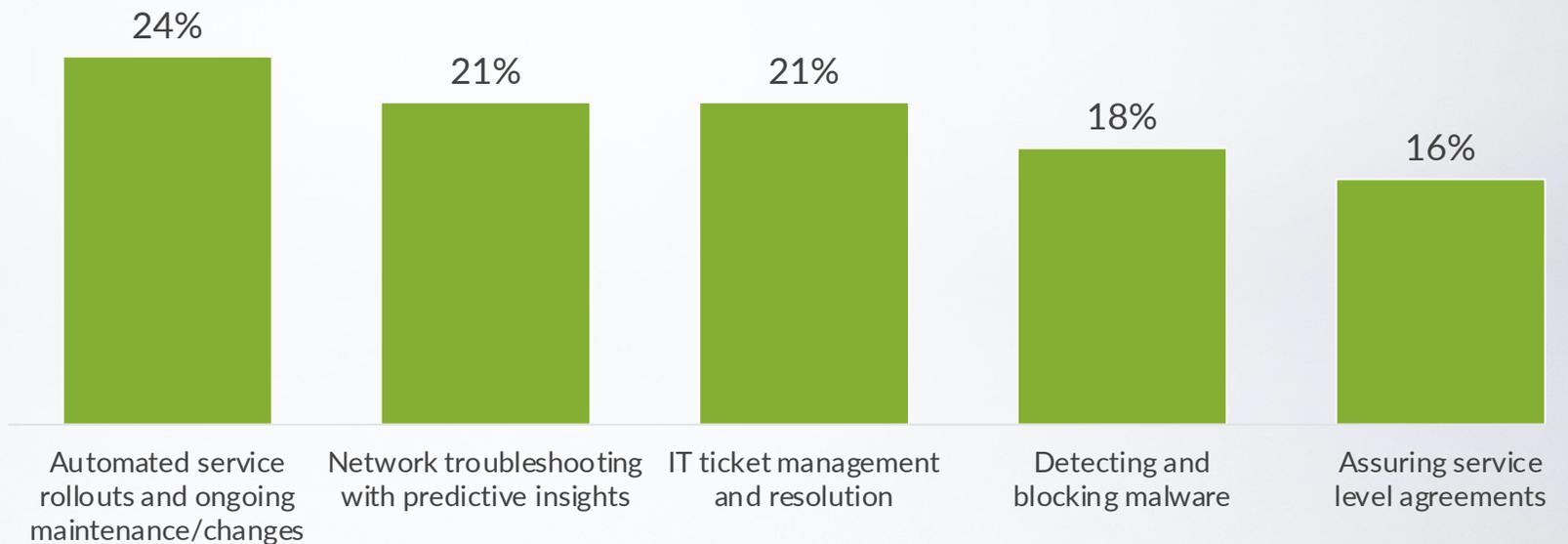
Top ranked response



AI/ML leaders say AI is poised to provide the most help for networking use cases via automated service rollouts and ongoing maintenance/changes (24%), network troubleshooting with predictive insights (21%), and IT ticket management and resolution (21%).

AI/ML leaders believe AI is most helpful for automating service rollouts and ongoing maintenance

Of the below options, select the top networking use case where AI would provide the most benefit to your organization.

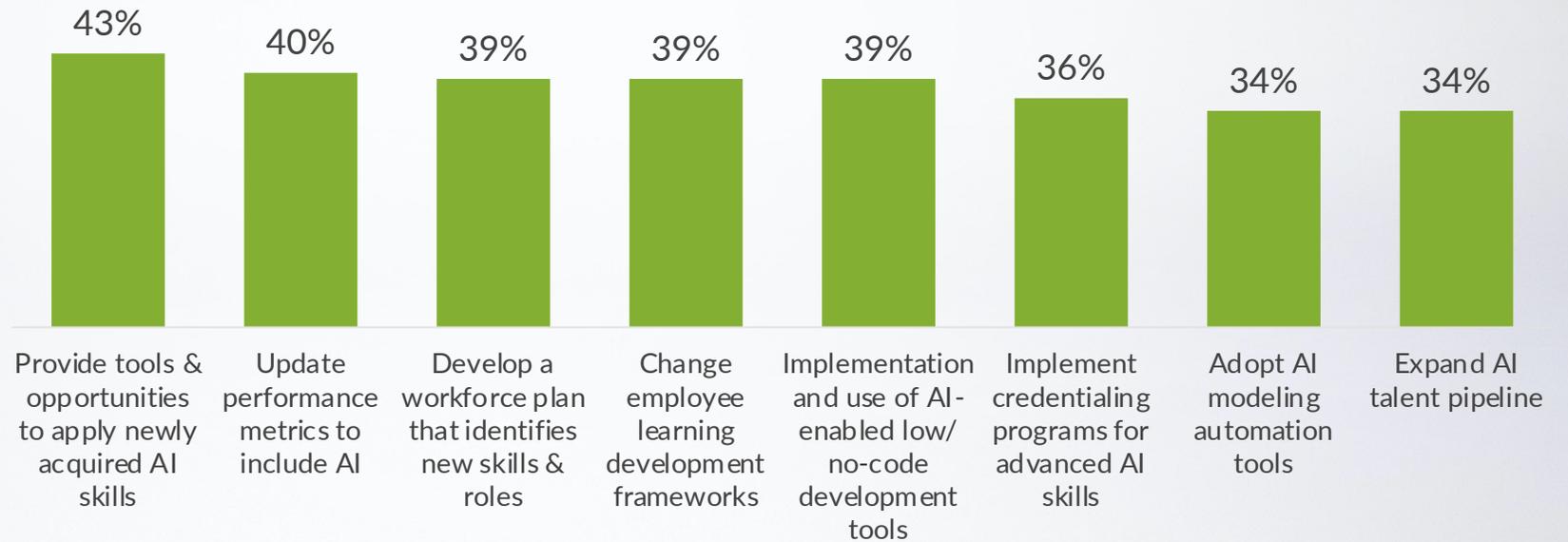




Top steps to enable workforce growth that business functions are planning (or have already taken) include providing tools and opportunities to apply newly acquired AI skills (43%), updating performance metrics to include AI (40%), developing a workforce plan that identifies new skills and roles (39%), and changing learning and development frameworks (39%).

AI/ML leaders are taking a variety of steps to assist employees in keeping up with AI growth

What steps, if any, has your business function taken (or plans to take within the next 12 months) to help enable the growth of AI in your workforce?



N=700

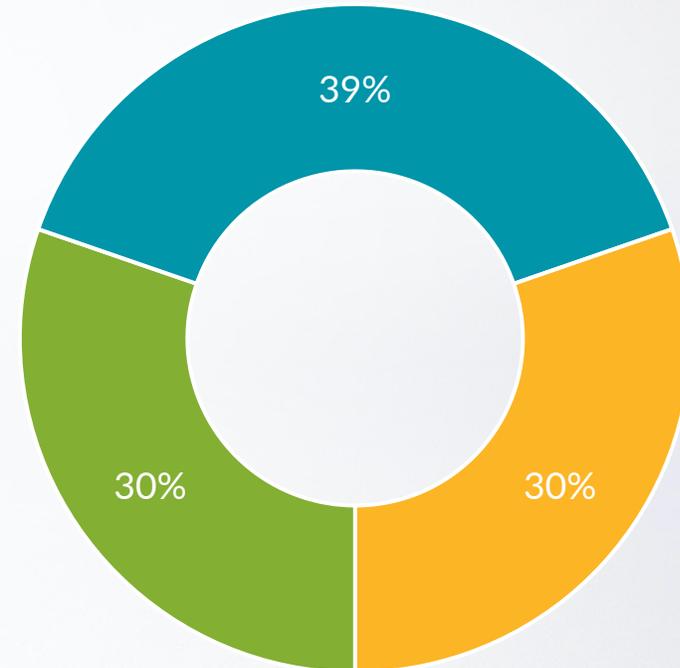


Nearly 4 in 10 AI/ML leaders (39%) indicate their organizations use a mix of off-the-shelf AI solutions with ones they fully build themselves, with 3 in 10 saying they either use only off-the-shelf or only fully in-house built solutions.

Companies are split on implementing off-the-shelf AI solutions compared to ones they build in-house

Which of the following has your company turned to for AI solutions?

- Fully off-the-shelf solutions
- Combination of off-the-shelf and solutions we build ourselves
- Solutions we fully build ourselves



Asked among those utilizing AI-powered solutions, N=656



The biggest challenge in building an AI solution in-house is being able to count on IT

More than half (53%) say reliability is a top challenge of their company building their own AI solutions, followed by integration with existing systems (46%), finding new AI-capable talent (44%) and development time (44%).

Which of the following, if any, would you say are the top challenges associated with building your own AI solutions?



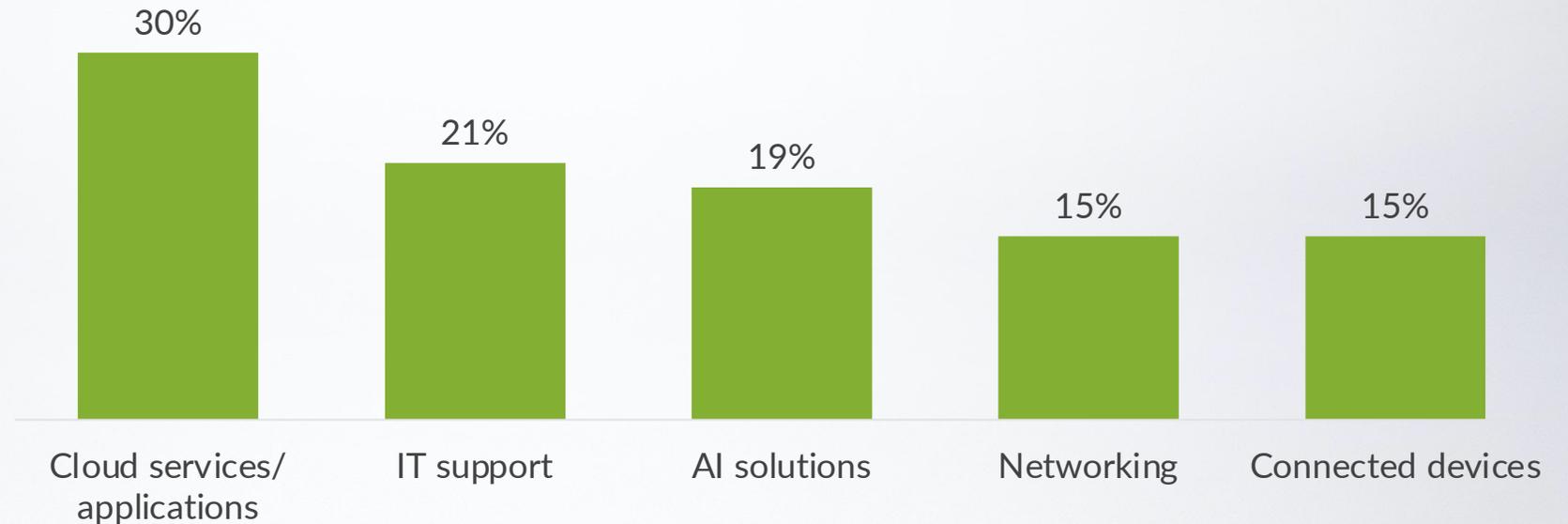
N=700



Nearly 1 in 3 (30%) AI/ML leaders believe cloud services/applications to be the most critical component in allowing remote or hybrid work models to continue.

AI plays a key role enabling remote/hybrid work as more enterprises embrace this model in a post-pandemic world

Which of the following do you believe is the most critical component to enable businesses and people to continue their remote or hybrid work models?



N=700

APPENDIX

JUNIPER
NETWORKS

Driven by
Experience™



RESEARCH OBJECTIVES

Juniper Networks partnered with Wakefield Research to assess AI adoption, growth, and integration at companies in North America, APAC and EMEA.

RESEARCH METHODOLOGY

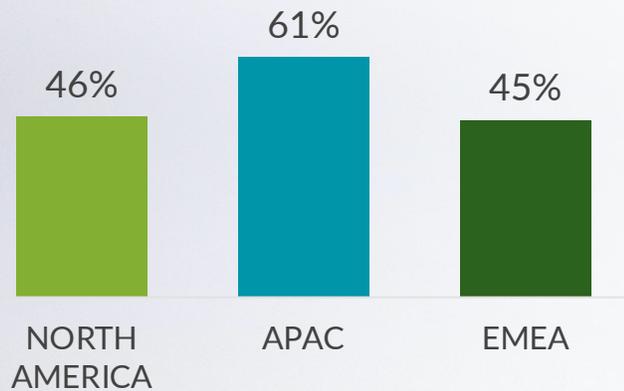
The Juniper Networks survey was fielded to 700 executives with a minimum seniority of Senior Manager, who are moderately or significantly involved in AI/Machine Learning, using an online survey between March 29th and April 10th, 2022.

For tracking purposes, results were compared to a Juniper Networks survey of 700 executives with a minimum seniority of Senior Manager, who are moderately or significantly involved in AI/Machine Learning, conducted in January 2021.

APAC

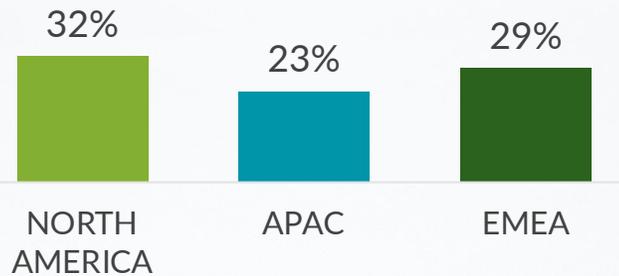
Compared to their peers in EMEA and North America, organizations within APAC across the board are more likely to believe more needs to be done to effectively govern AI. This could be part of the reason these companies are less likely to be very reliant on AI, but is also possibly behind why they are somewhat further along in expanding AI governance policies, as well.

MORE NEEDS TO BE DONE



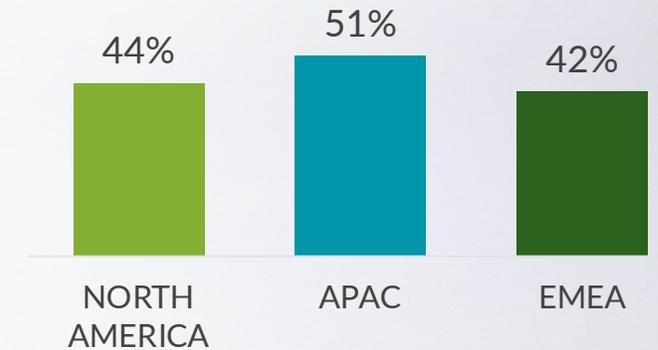
Which best describe your thoughts about who ultimately controls AI? Q34

VERY RELIANT ON AI



How would you describe your organization's level of reliance on AI to perform tasks and assist in decision making? Q33

AI GOVERNANCE - GROWING

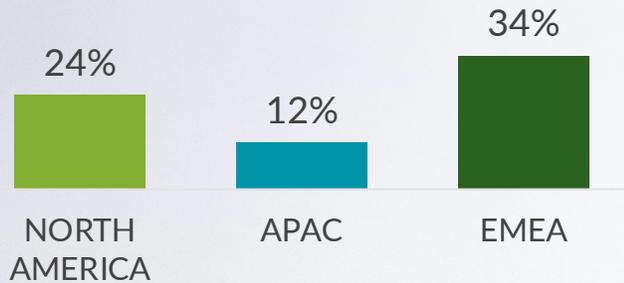


How mature would you say AI governance at your company is? Q7

EMEA

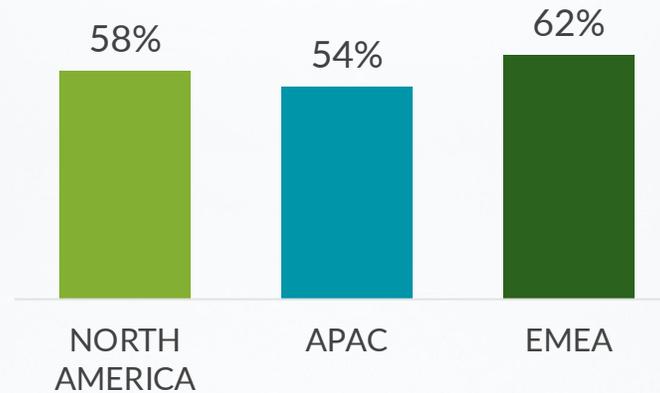
While AI/ML leaders at companies across EMEA may have somewhat less optimistic long-term views of AI use than their APAC and North American counterparts, they recognize the key components for not only successful AI adoption but establishing oversight and control across the entire organization.

AI CANNOT BE EFFECTIVELY GOVERNED



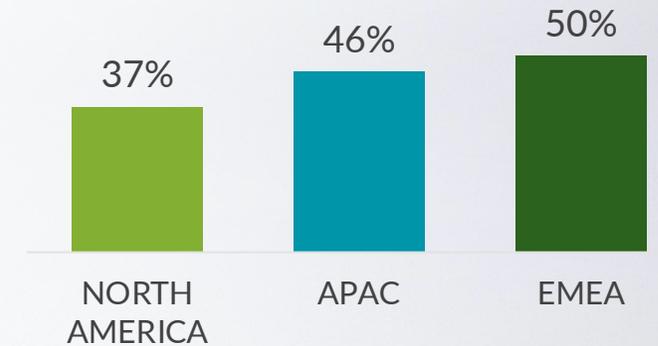
Which best describe your thoughts about who ultimately controls AI? Q34

HAVING UP-TO-DATE AI TOOLS & INFRASTRUCTURE



Which will have the biggest impact on AI adoption at your organization? Q25

AI CENTER OF EXCELLENCE

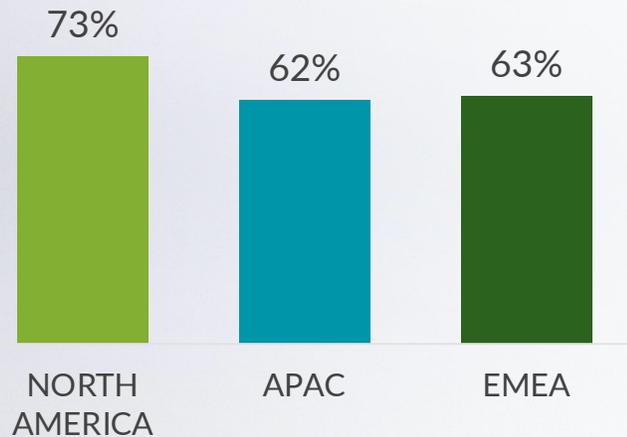


Which, if any, of the following has your company used to manage and govern AI? Q6

North America

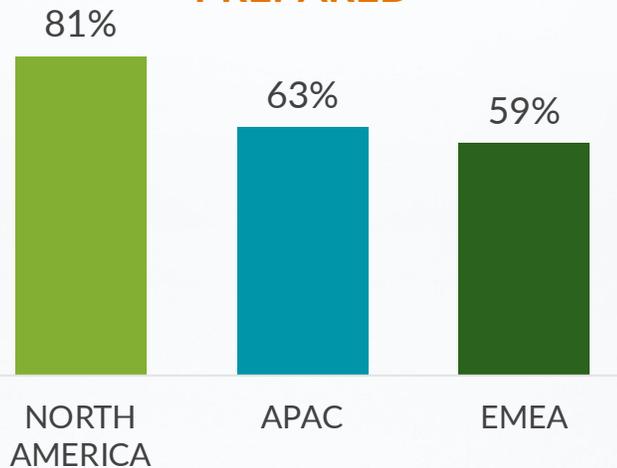
AI/ML leaders at North American organizations are more likely than those in APAC and EMEA to think their company's ideal is to use savings from AI to grow the business, rather than cut costs. They also concur that the current workforce is ready for that growth and is much more capable and prepared to work with AI. This perception of existing capabilities may explain why they are less likely to change employee learning development frameworks to include AI skills.

GROW THE BUSINESS



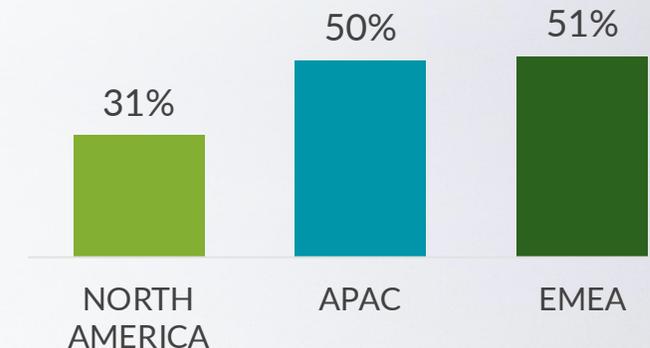
Please complete the following statement using the option that most reflects your organization's view of AI: "My company's ideal is to use savings from AI to..." Q39

FULLY/MODERATELY PREPARED



Thinking across your industry, how capable and prepared to work with AI do you believe the current workforce is? Q37

CHANGE EMPLOYEE LEARNING DEVELOPMENT



What steps, if any, has your business function taken (or plans to take within the next 12 months) to help enable the growth of AI in your workforce? Q13

AGE N=700	%
18-29	1%
30-39	20%
40-49	50%
50+	29%

GENDER N=700	%
Male	73%
Female	27%
Non-binary	-

REVENUE N=700	%
Less than \$50M	14%
\$50M-\$250M	8%
\$251M-\$500M	13%
\$501M-\$999M	13%
\$1B-\$5B	19%
More than \$5B	33%

- What is your age? / What is your gender? / What was your organization's revenue in the past financial year?

TITLE N=700	%
Partner/President/C-Level	25%
VP/SVP/EVP/Assistant VP	28%
Director/Senior Manager	46%

YEARS AT COMPANY N=700	%
LT 10 Years	57%
10+ Years	43%

COMPANY SIZE N=700	%
LT 10,000 Employees	52%
10,000+ Employees	48%

COMPANY AGE N=700	%
LT 15 Years	6%
15+ Years	94%

- Please select your title. / What is your organization's approximate headcount? / For how many years have you been at your current company? / For how many years has your current company been in business?

APAC

AGE N=100	%
18-29	-
30-39	6%
40-49	67%
50+	27%

GENDER N=100	%
Male	83%
Female	17%
Non-binary	-

REVENUE N=100	%
Less than \$50M	28%
\$50M-\$250M	20%
\$251M-\$500M	16%
\$501M-\$999M	13%
\$1B-\$5B	12%
More than \$5B	11%

What is your age? / What is your gender please? / What was your organization's revenue in the past financial year?

APAC

TITLE <i>N=100</i>	%
Partner/President/C-Level	18%
VP/SVP/EVP/Assistant VP	37%
Director/Senior Manager	45%

COMPANY SIZE <i>N=100</i>	%
LT 10,000 Employees	67%
10,000+ Employees	33%

YEARS AT COMPANY <i>N=100</i>	%
LT 10 Years	46%
10+ Years	54%

COMPANY AGE <i>N=100</i>	%
LT 15 Years	10%
15+ Years	90%

Please select your title. / What is your organization's approximate headcount? / For how many years have you been at your current company? / For how many years has your current company been in business?

EMEA

AGE N=200	%
18-29	-
30-39	19%
40-49	53%
50+	29%

GENDER N=200	%
Male	70%
Female	30%
Non-binary	-

REVENUE N=200	%
Less than \$50M	14%
\$50M-\$250M	11%
\$251M-\$500M	12%
\$501M-\$999M	12%
\$1B-\$5B	17%
More than \$5B	36%

What is your age? / What is your gender please? / What was your organization's revenue in the past financial year?

EMEA

TITLE N=200	%
Partner/President/C-Level	16%
VP/SVP/EVP/Assistant VP	29%
Director/Senior Manager	55%

YEARS AT COMPANY N=200	%
LT 10 Years	61%
10+ Years	40%

COMPANY SIZE N=200	%
LT 10,000 Employees	39%
10,000+ Employees	61%

COMPANY AGE N=200	%
LT 15 Years	4%
15+ Years	96%

Please select your title. / What is your organization's approximate headcount? / For how many years have you been at your current company? / For how many years has your current company been in business?

North America

AGE N=400	%
18-29	1%
30-39	24%
40-49	45%
50+	31%

GENDER N=400	%
Male	72%
Female	28%
Non-binary	-

REVENUE N=400	%
Less than \$50M	11%
\$50M-\$250M	5%
\$251M-\$500M	12%
\$501M-\$999M	14%
\$1B-\$5B	21%
More than \$5B	37%

What is your age? / What is your gender please? / What was your organization's revenue in the past financial year?

North America

TITLE N=400	%
Partner/President/C-Level	32%
VP/SVP/EVP/Assistant VP	26%
Director/Senior Manager	43%

COMPANY SIZE N=400	%
LT 10,000 Employees	54%
10,000+ Employees	46%

YEARS AT COMPANY N=400	%
LT 10 Years	58%
10+ Years	42%

COMPANY AGE N=400	%
LT 15 Years	7%
15+ Years	94%

Please select your title. / What is your organization's approximate headcount? / For how many years have you been at your current company? / For how many years has your current company been in business?