

# AI is Set to Accelerate... Is Your Organization Ready?

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**JUNIPER** | Engineering  
NETWORKS | Simplicity

# The AI Gap

Artificial Intelligence (AI) is firmly taking root in our world. As consumers, we use it more and more knowingly—by using maps on our phones that adapt on the fly to get us where we’re going—and perhaps *unknowingly*, like when we apply for a loan or use Wi-Fi at work.

Thanks to the rapid pace of AI innovation, we now expect technology everywhere—whether in our personal lives or corporate IT infrastructure—to be smart, to be simple to use, to anticipate our wants and needs and to allow us to get back to tasks that humans do best: building relationships, making strategic judgements and creating.

*In January 2021, Juniper Networks conducted primary research of organizations to assess company positions in the Artificial Intelligence market. The survey (700 respondents) was conducted across various industries, covered AI market usage, acceptance, opportunities for growth, challenges in adoption, AI governance and strategic decisioning. The insights shared in this document summarize the survey results and Juniper’s experience in understanding the future of the Enterprise Artificial Intelligence space. See APPENDIX for additional details.*



We surveyed 700 people across different levels and industries—all of whom have direct involvement in their organization’s AI and machine learning plans or deployments—and found that we are all ready for AI in the enterprise. Fear, uncertainty and doubt has given way to excitement, optimism and proven outcomes in the enterprise.



Organizational leadership even says they realize the potential of AI as well, with almost two-thirds noting that implementing the technology is a top priority for their FY21 strategic plans.



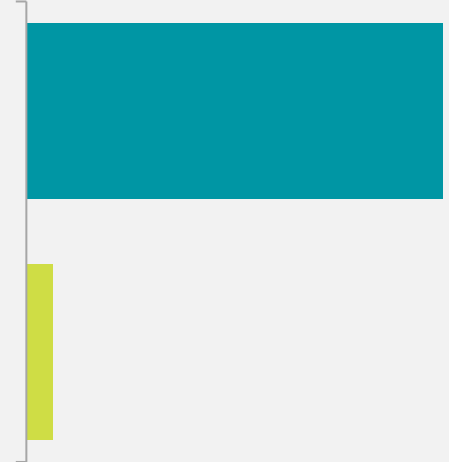
Still, while AI is all around us and users are eager to utilize it in every aspect of their lives, enterprises and organizations lag in adopting AI into their daily operations.

We define artificial intelligence (AI) as the automation of tasks that require human cognition. It has quickly become deeply embedded into everyday aspects of our lives, resulting in high expectations of what technology can—and should—do.

This personal adoption is in stark contrast to AI adoption at the enterprise level, where many organizations report they are still exploring the benefits and are slower to adopt due to several challenges, our research identified.



Our survey found that **95%** of all 700 respondents believe that their organizations would benefit from embedding AI into their daily operations, products and services.



This compares with only **6%** of C-level leaders (163 surveyed in our study) who have reported adoption of AI-powered solutions across their organization.

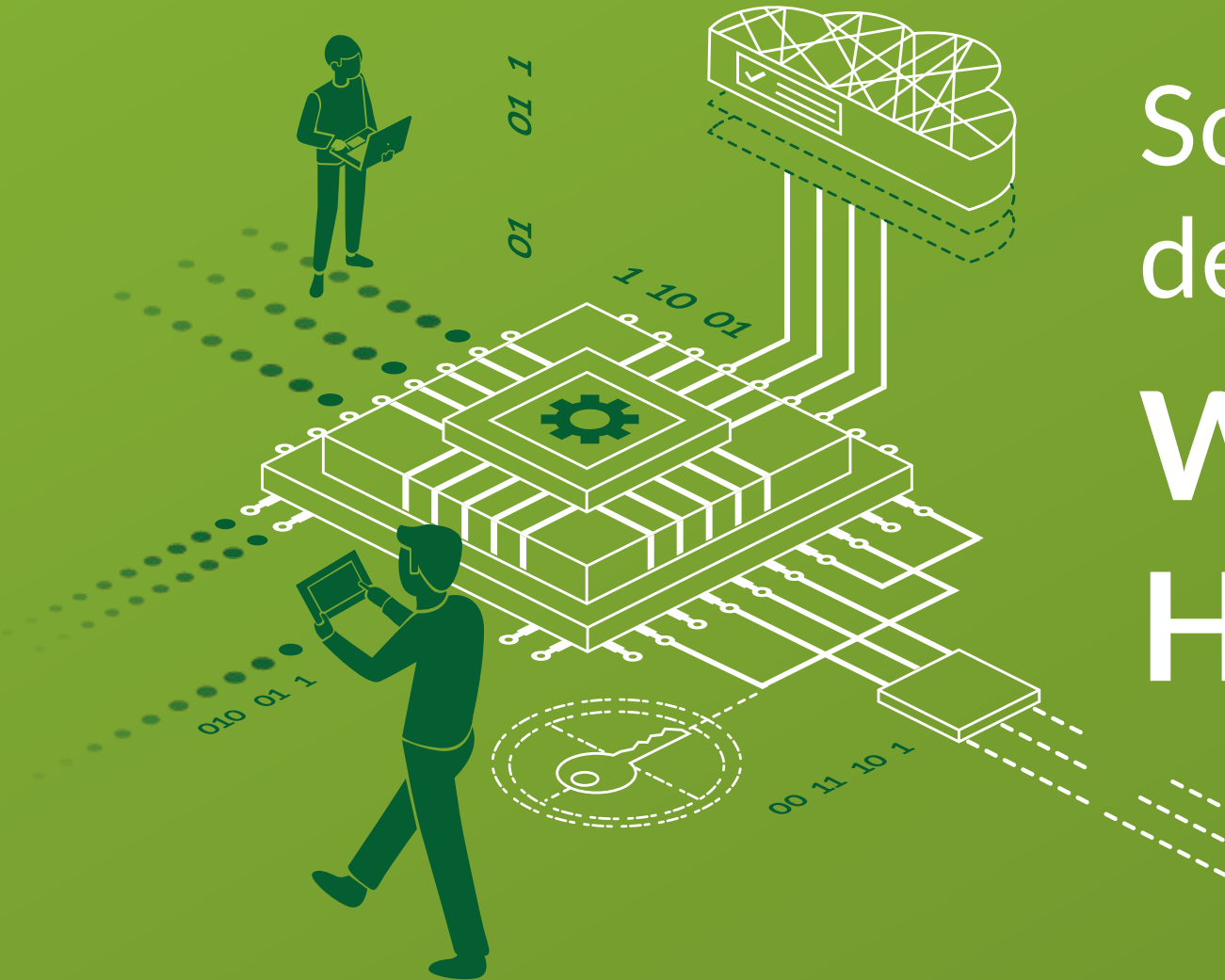
Additionally, a full **88%** of respondents say they want to use AI as much as possible.



While only **22%** of respondents' organizations are using AI-powered solutions to automate or aid decisions for their employees.

So, if there's a clear  
desire to use AI more...

**WHAT'S THE  
HOLDUP?**



Juniper's survey showed that respondents across the board rank the following as the

# 3 top challenges related to AI adoption

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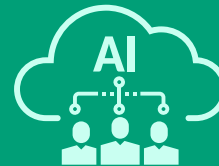
## AI-Ready Technology Stacks



Organizations have just begun to understand the integration challenges and investment required for AI-ready technology stacks that can ingest and process quality and unbiased data required to adopt and grow scalable AI-enabled solutions.

2

## Readying the Workforce



Organizations continue to struggle in readying their workforce to integrate with their AI solutions and take advantage of the emerging data sources that could be applied to AI technologies.

3

## AI Governance



Cross-functional and executive involvement is critical to ensure proper AI governance. Yet, an enterprise-wide approach to AI governance (monitoring and mitigation of reputational, operational and financial risk associated with AI) is still in its infancy.

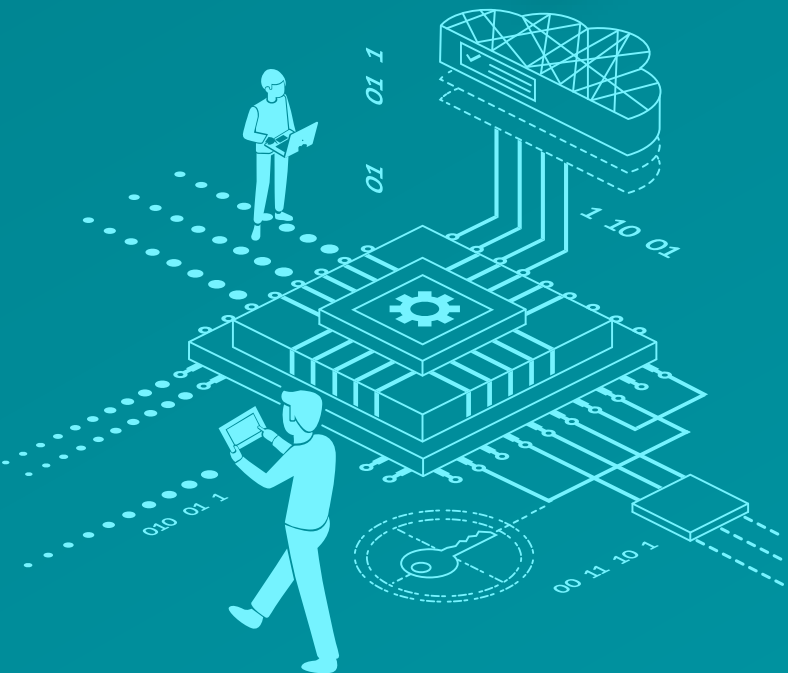
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AI Enterprise Adoption Challenge #1

# AI-Ready Technology Stacks

Organizations have begun to understand the necessity and investment required for AI-ready technology stacks, including a robust, cloud-based infrastructure to enable the computing power required to process and manage the data for enterprise-grade AI.

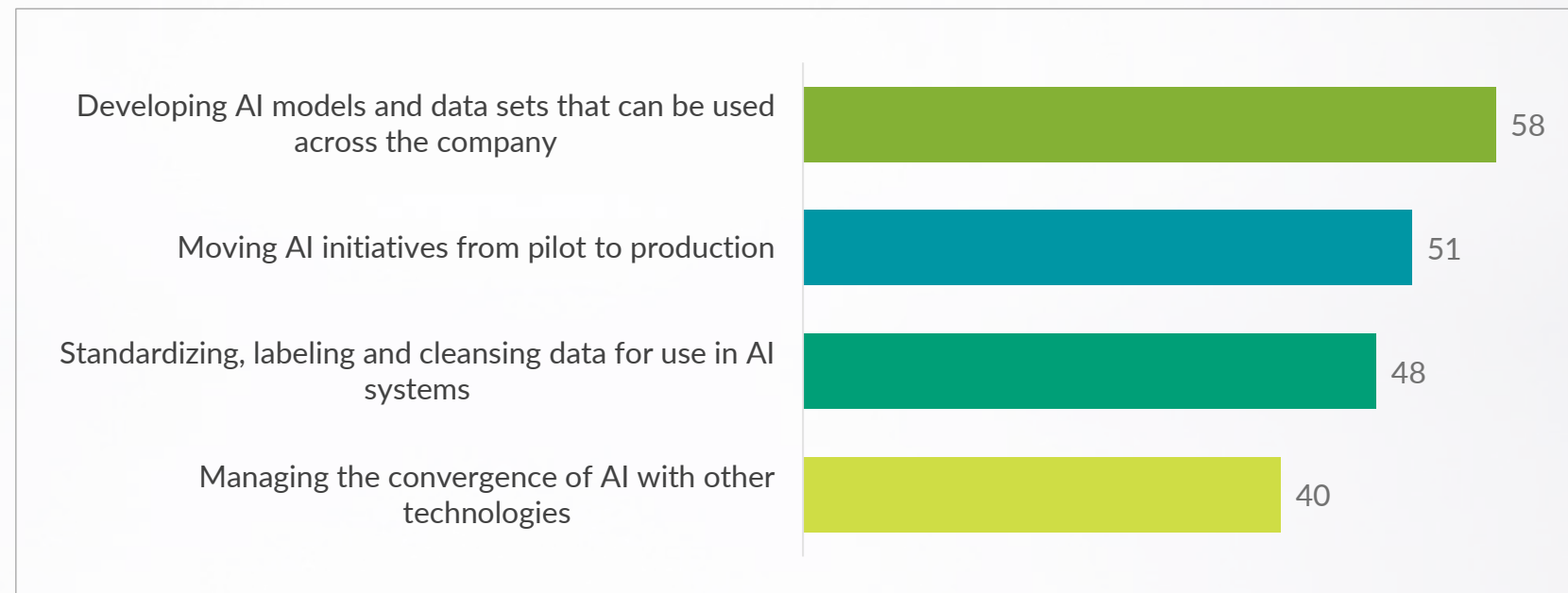


1



# Ingesting, processing and managing data to feed AI is tech challenge #1

**Question:** What AI-related challenges are the top priorities for your company in 2021?  
(Below responses are specifically for technology stack-related challenges.)



Our research found that the top technology stack challenges revolve around creating and managing the data sets that AI solutions need to function properly.

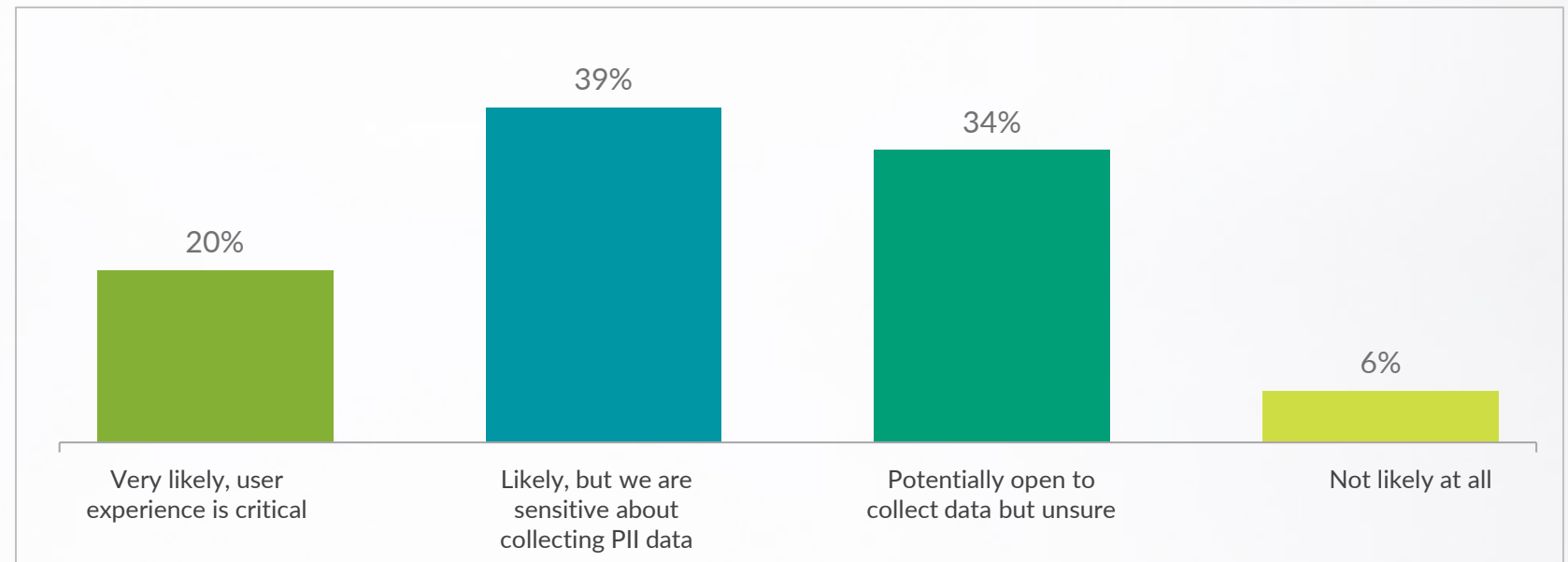
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Organizations continue to struggle with data and cloud-related challenges as they begin their AI journey. Companies are starting to realize the need for investment in robust cloud solutions and preparing the right data for AI to use. More than half of executives report that their company is likely to collect telemetry data to enhance AI to improve user experience, as well as ensure sensitive data is protected in the process.

## Protecting sensitive data is key while feeding AI systems

**Question:** How likely is your organization to collect telemetry data (automatic recording and transmission of data from remote or inaccessible sources to an IT system, i.e., work calendars, inventory location using RFID, user access locations, etc.) to IMPROVE the user experience of AI embedded in products?



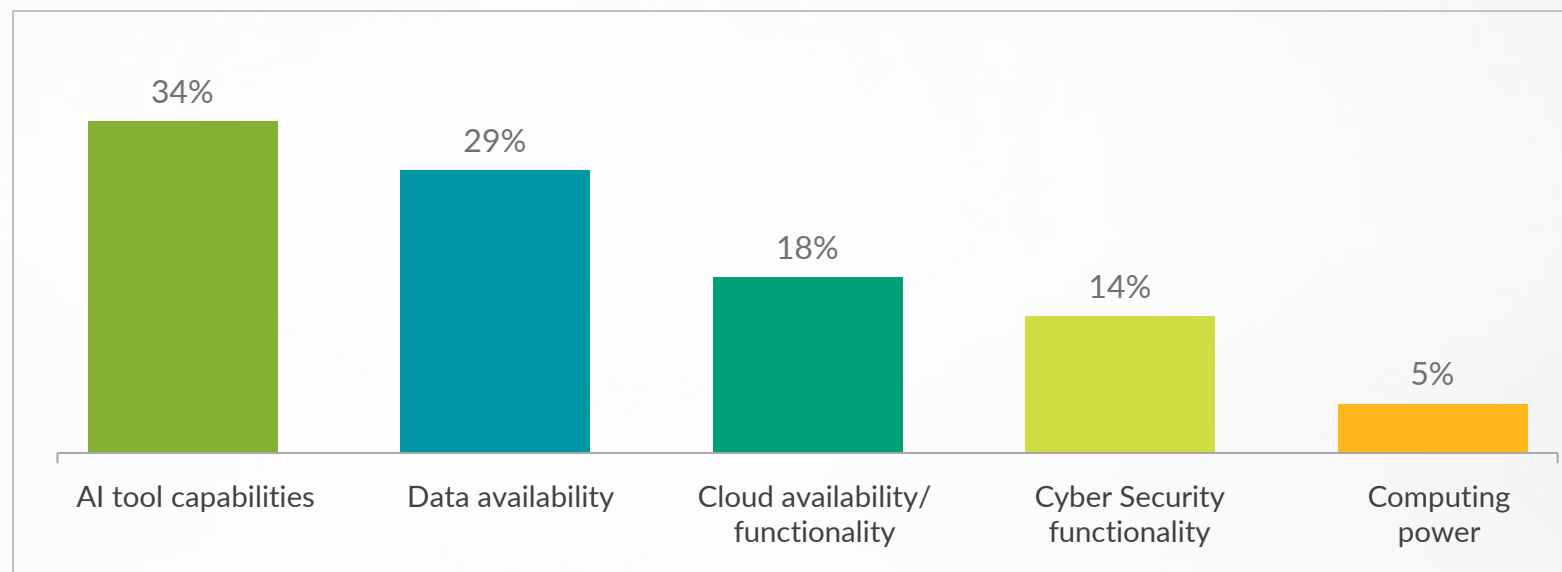


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# Technology + infrastructure enable AI Adoption

**Question:** Which of the following is most critical in order to enable AI adoption across your industry?



At the most foundational level, a strong network supports an organization's cloud aspirations, which in turn provides the necessary data for AI to be properly trained and scaled across the enterprise.

To scale AI, the need for a strong infrastructure—including data, cloud and networking capabilities—become more apparent. AI demands larger amounts of data to continually optimize its performance.

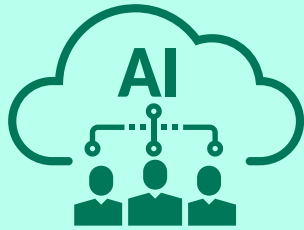
# KEY TAKEAWAYS



## AI-ready technology stacks

- AI needs quality data, data needs cloud, cloud needs a network.
- Breaking even isn't necessarily bad for an investment that could be the foundation of your company's future. It is possible, however, to invest smarter, for better returns right now and long into the future.
- Investment includes gathering, cleansing and labeling data and then protecting and governing that data.
- AI needs serious computing power that can be obtained from the cloud.
- If companies want to get the value they expect out of their AI, they should adapt—and fast.

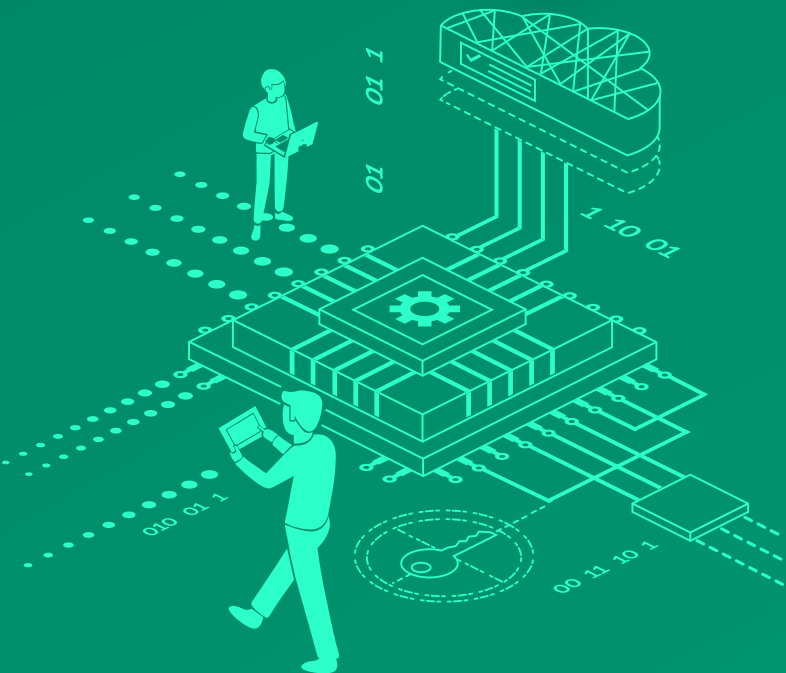
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AI Enterprise Adoption Challenge #2

# Workforce Readiness

Our research revealed that organizations continue to struggle in readying their workforce to integrate with AI systems and take advantage of the emerging data sources that could be applied to AI technologies.



2

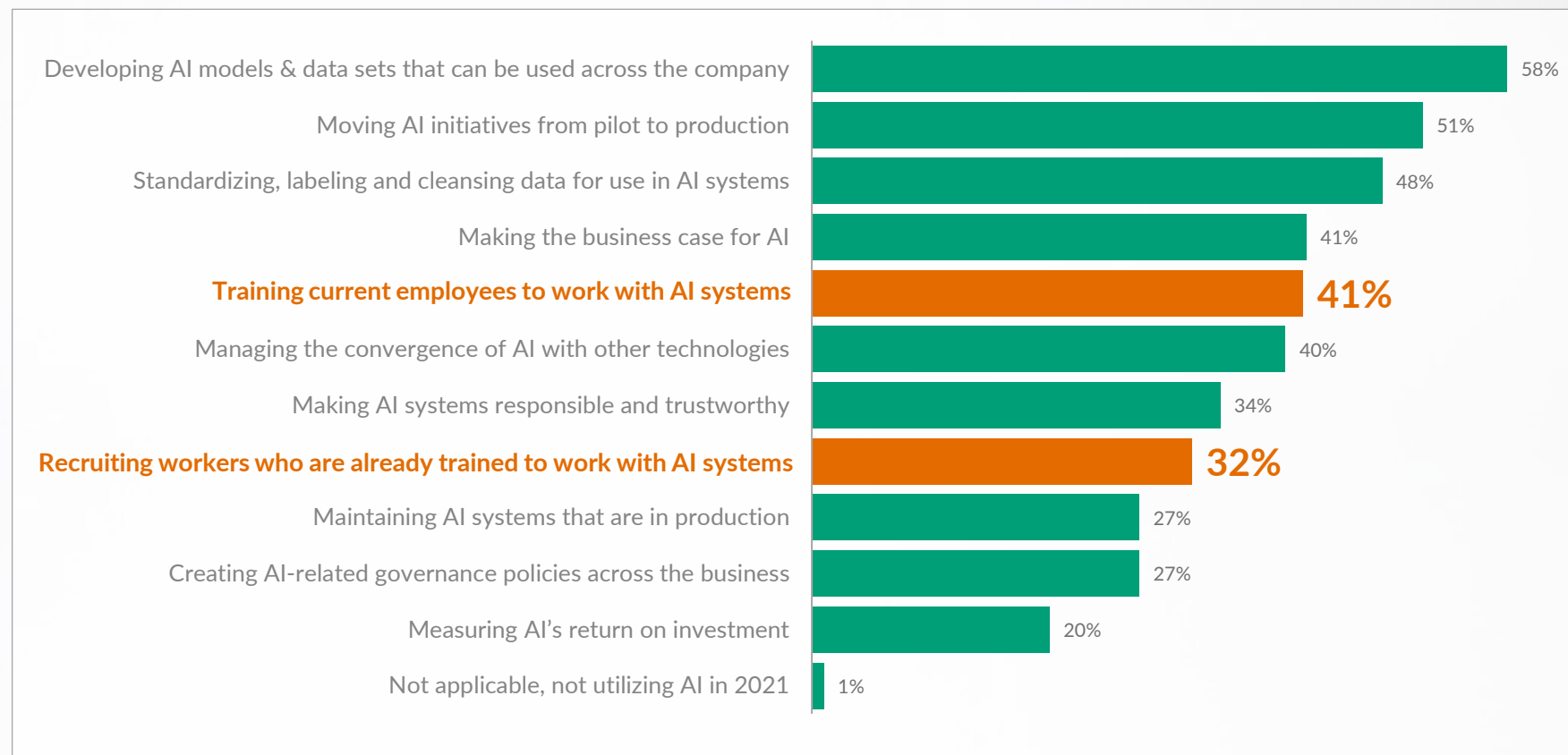


# 73%

of respondents' organizations are currently struggling with preparing and expanding their workforce to integrate with AI systems.

## Recruiting for and training up AI skillsets prove difficult

Question: What AI-related challenges are the top priorities for your company in 2021?

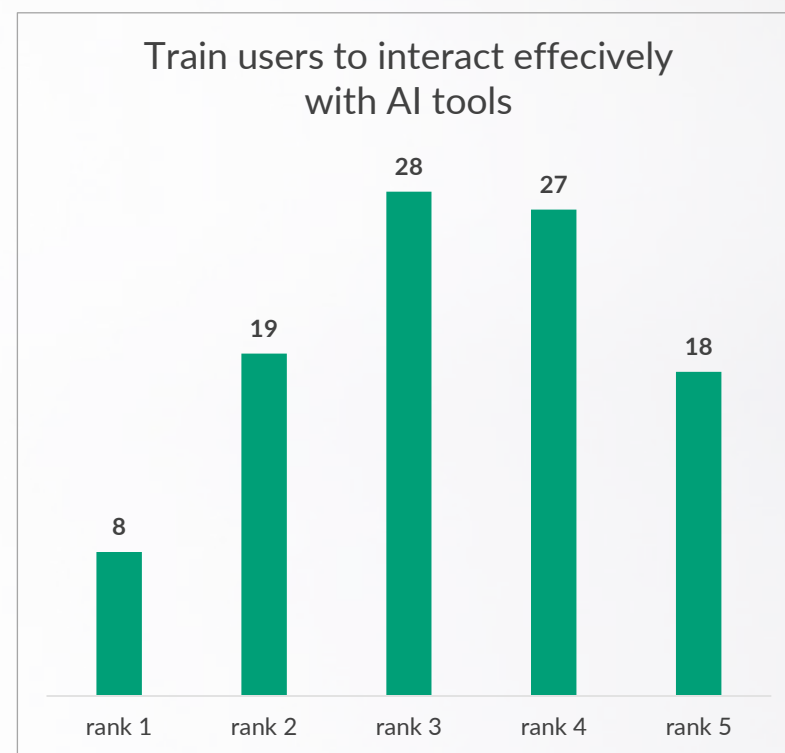
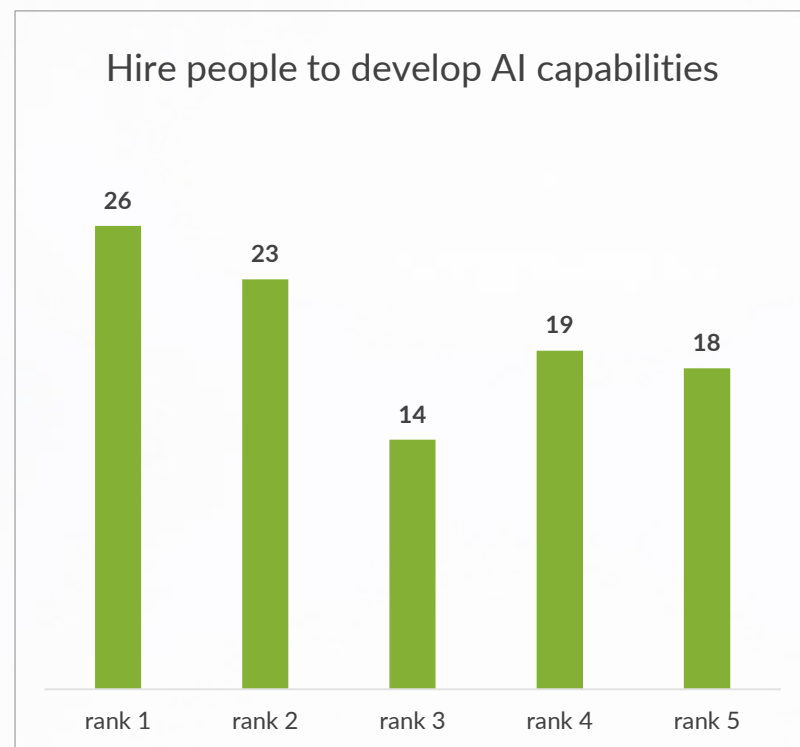




C-level respondents reported they feel it's more of a priority to *hire* people to develop AI capabilities within an organization (Priority No. 1) than it is to train end users to operate the tools themselves (Priority No. 3).

## Hiring people to manage AI beats a self-service model

**Question:** Prioritize the following investment options for optimizing AI capabilities within your industry. (Move the answers up or down to show priority.)

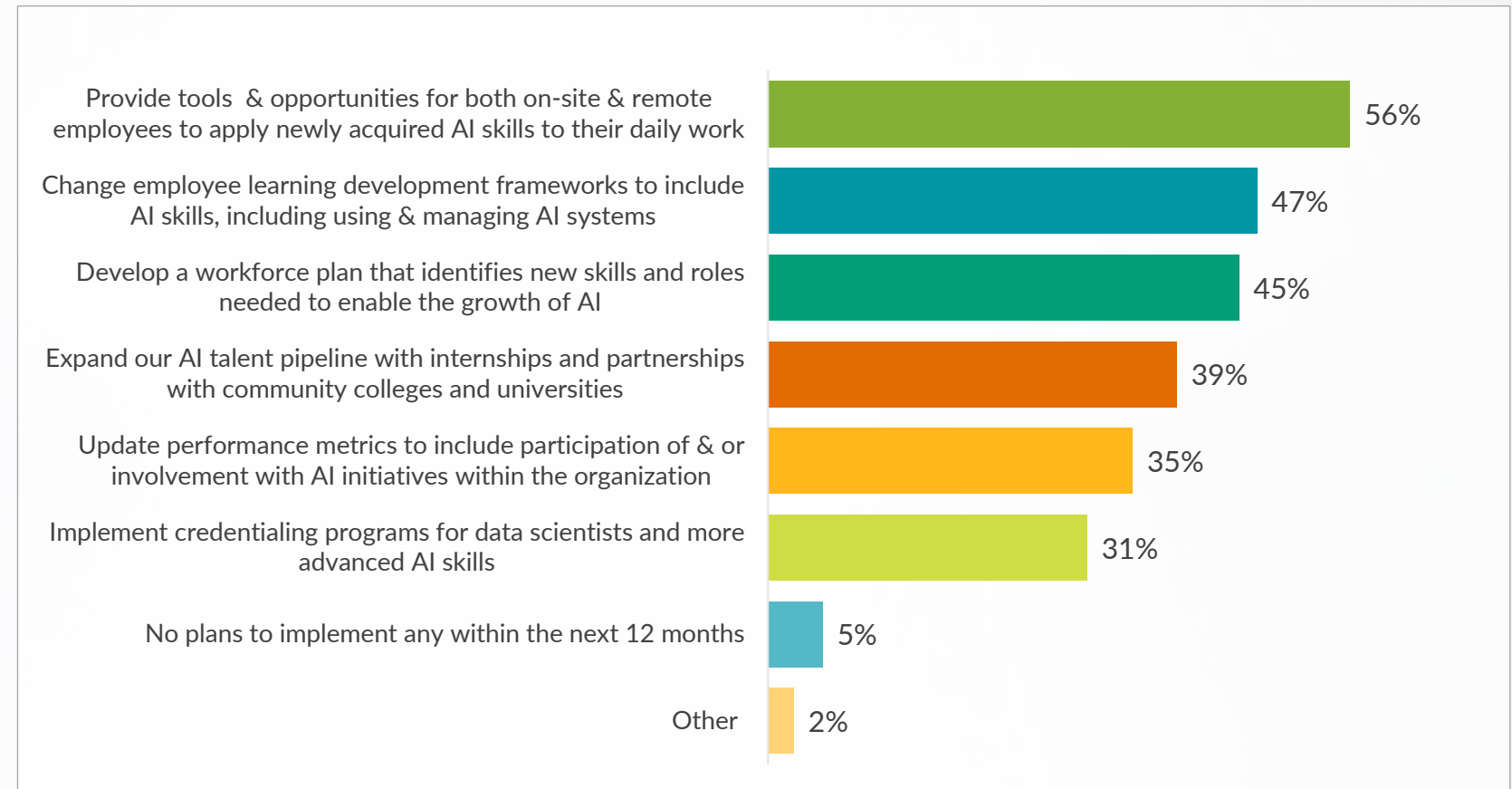




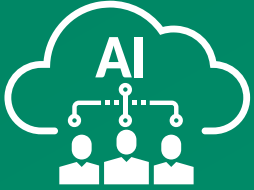
Providing tools and opportunities that actually apply AI skills is a top priority for leaders, while developing plans, metrics and expanding the recruiting pipeline is also of importance.

## Practice makes perfect in using AI

**Question:** What steps, if any, has your business function taken (or plans to within the next 12 months) to help enable the growth of AI in your workforce? (Check all that apply.)



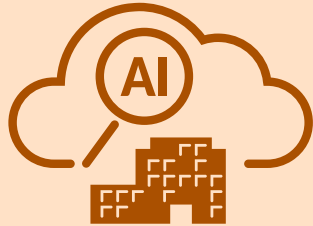
# KEY TAKEAWAYS



## Readying their workforce

- Not everyone has to learn to code, but many people need to understand and manage artificial intelligence and other technologies we can't yet predict.
  - Make the investment in their employees; the cost of inaction will be worse.
  - Already, there is a skills mismatch around the world and millions of jobs are going unfilled.
- It's important to lay the cultural foundation that embraces digital upskilling.
- The upskilling experience involves learning how to think, act and thrive in a digital world that is sustainable over time.

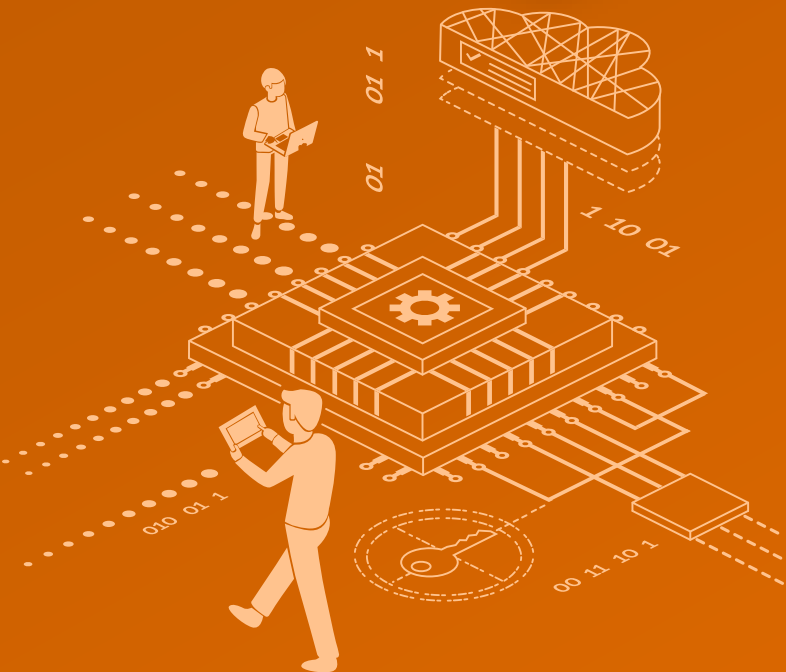
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## AI Enterprise Adoption Challenge #3

# AI Governance

Cross-functional and executive involvement is critical to ensure proper AI governance (monitoring and mitigation of reputational, operational and financial risk associated with AI). Yet, an enterprise-wide approach to AI governance is still in its infancy.





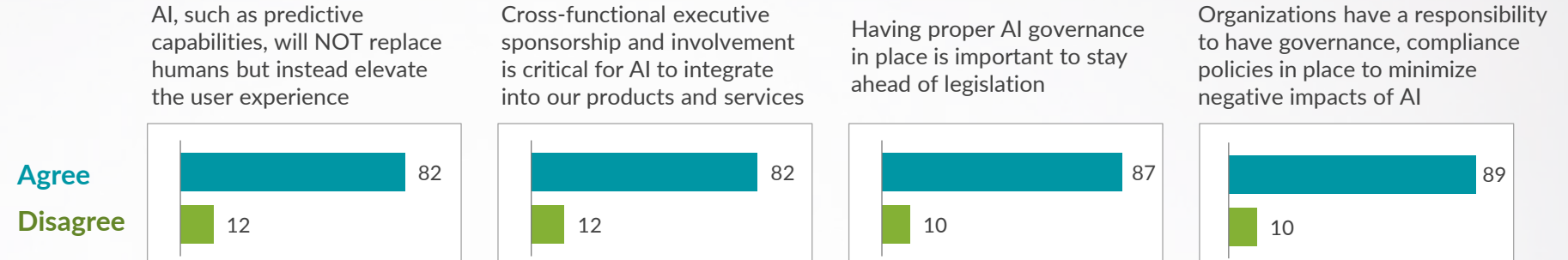
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87%

of executives **AGREE** that organizations have a responsibility to have governance and compliance policies in place to minimize negative impacts of AI, yet executives still ranked establishing AI governance, policies and procedures as one of their lowest priorities.

## We asked 163 C-level execs if they agreed or disagreed with the following statements



We then had them prioritize the following investment options for optimizing AI capabilities within their industry... and when it came to actual investment priorities, **only 20% said 'establishing AI governance' was a top priority.**





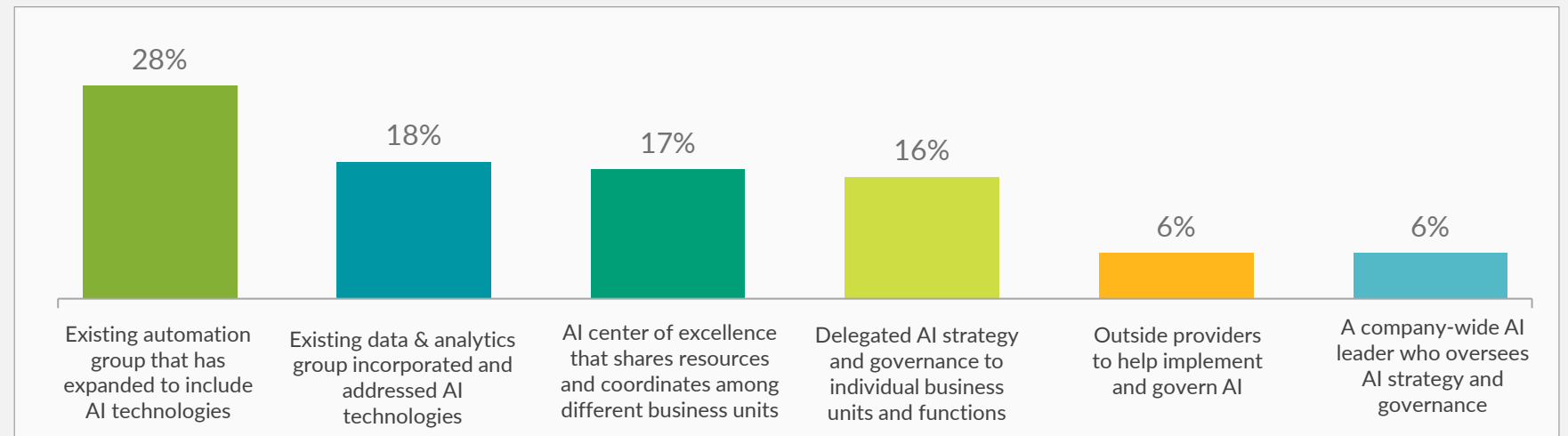
Furthermore, despite broad acknowledgment that they have a responsibility to govern AI, only a fraction of respondents have taken steps toward actually establishing that governance.

## Leaders aren't actively taking steps toward AI governance

Only **17%** of respondents' organizations have created an AI center of excellence that shares resources and coordinates among different business units.

and only **6%** of respondents' **organizations** have established a company-wide AI leader who oversees AI strategy and governance.

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



3



## Businesses increase AI's risks without proper governance

67%

of respondents reported that AI has been identified as a priority by their organization's leadership team for their FY21 strategic plan.

84%

of executives AGREE cross-functional executive sponsorship and involvement is critical for AI to integrate into their products & services.



**BUT**

**only 7%**

of executives reported that they have identified a company-wide AI leader who oversees AI strategy and governance.

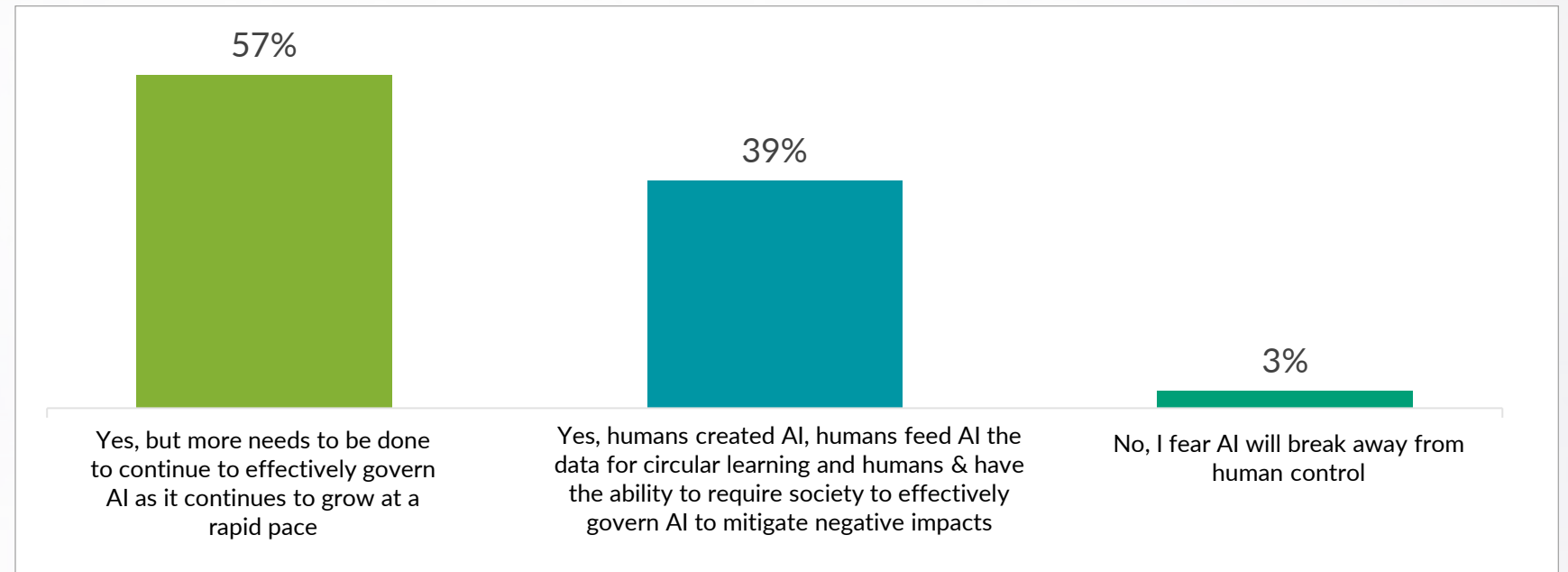
Even though organizational leadership has intentions of establishing AI governance over the next year, many companies continue to expand AI across the company without considering the impacts of a lack of proper governance.



Humans are calling the shots in a world increasingly filled with AI, but respondents agree that more needs to be done to ensure proper governance as AI use continues to expand.

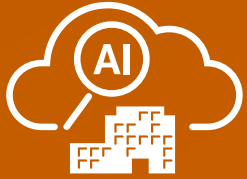
## Are humans still in control?

**Question:** What are your thoughts on the following statement: “Humans are still in control of AI.”



Organizations must keep focus on establishing consistent governance policies and standards concurrently with expanding their AI capabilities to keep AI accountable and streamlined across the enterprise.

# KEY TAKEAWAYS



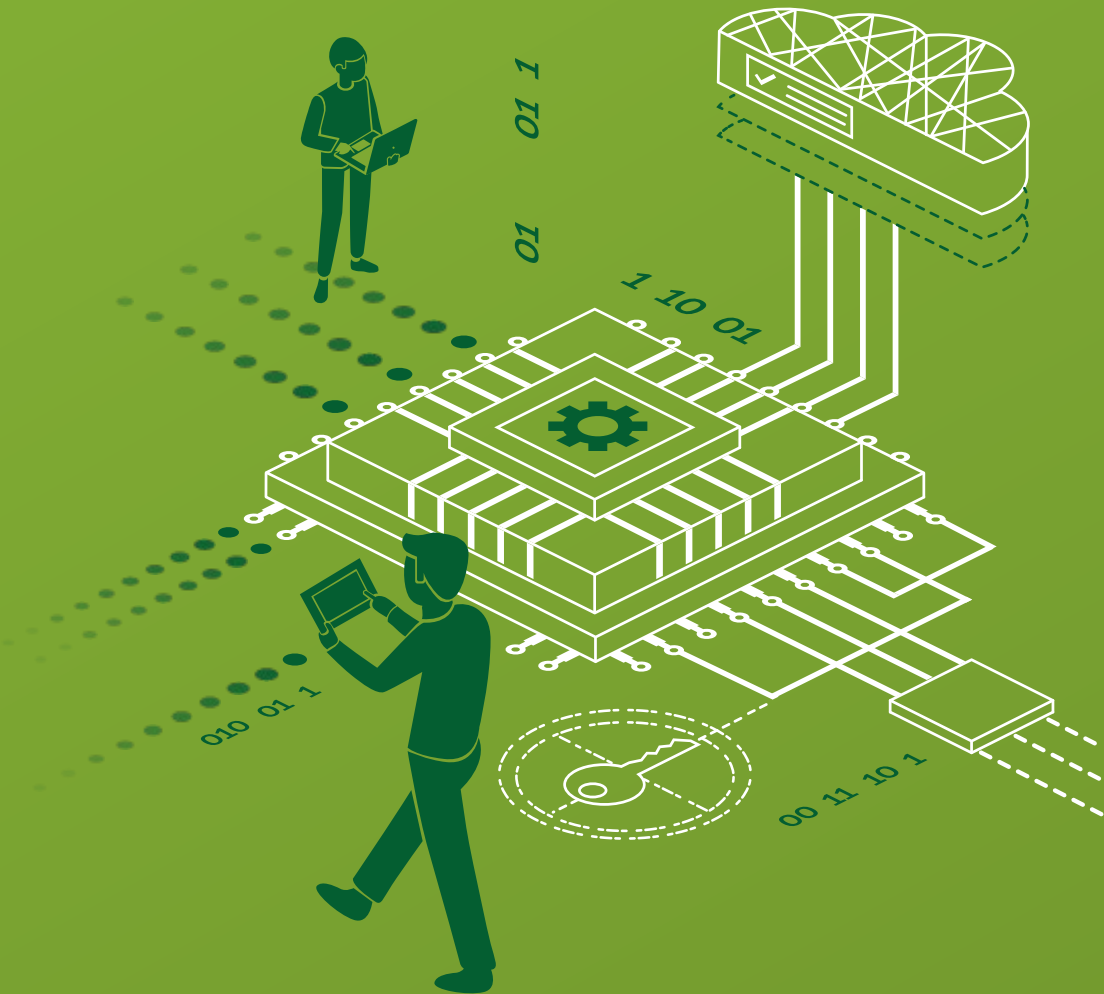
## AI Governance

- With great potential comes great risk. Start developing policies and procedures today.
- If your leadership hasn't experienced it already, your board members, customers and regulators will have many questions about your organization's use of AI and data, from how it's developed to how it's governed.
- Innovate responsibly.
  - Delegate responsibility and ensure it is cross-functional and covers the entire AI ecosystem and tool set.
  - Clarify use of AI within your organization.
  - Have consistent standards and ethics across the enterprise.
- Develop a governance structure to mitigate current and future risks, as local, state and federal governments start to draft AI governance legislation.

# AI is already making a difference

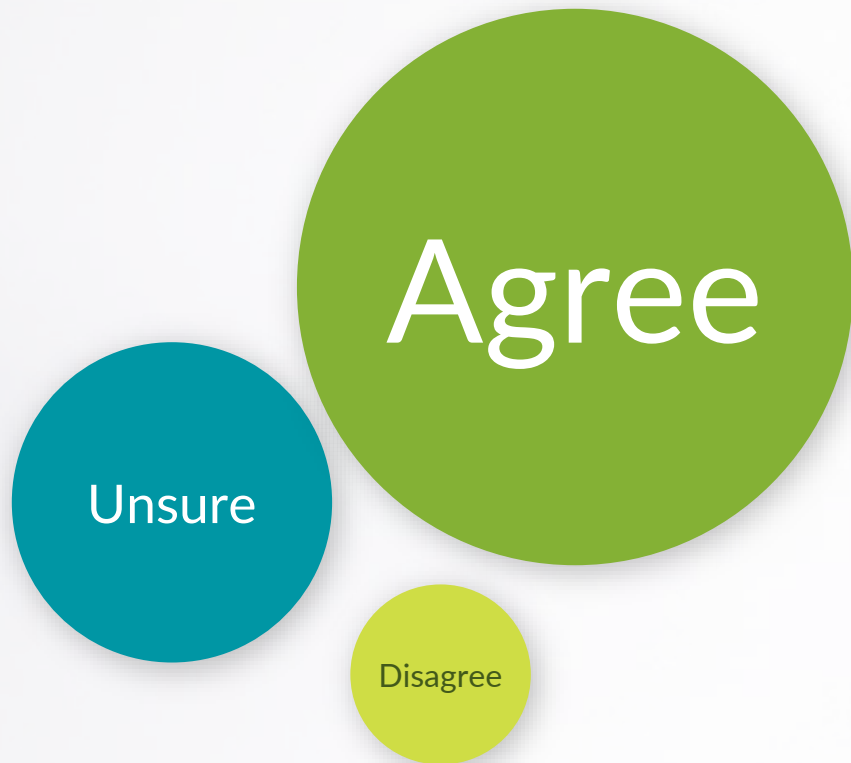
**There is light at the end of the tunnel.**

While AI does come with its set of challenges for organizations looking to reap its benefits, our report shows that companies who have adopted and harnessed the technology see real and meaningful outcomes.



# AI makes employees happier

**Question:** Do you agree or disagree with the statement: “Employee satisfaction has increased since implementing AI solutions to assist with our operational tasks”?

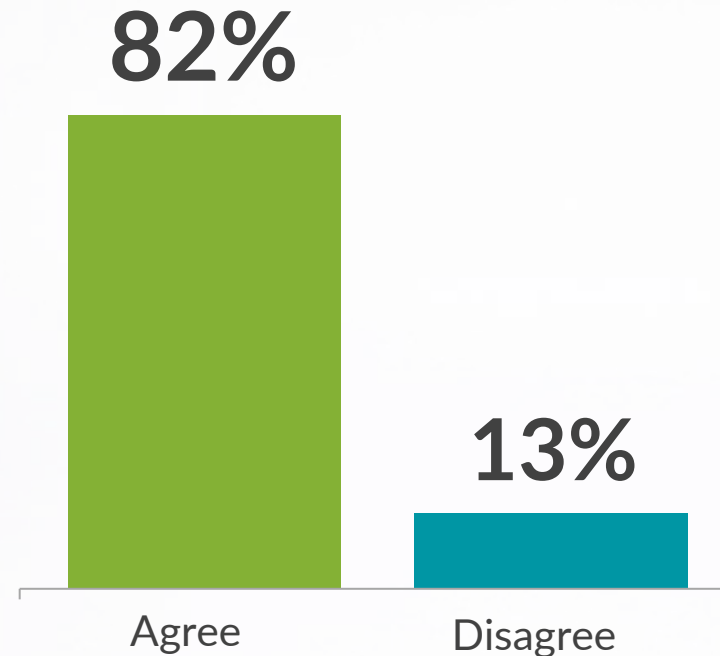


# 74%

of respondents agree that employee satisfaction has increased since implementing AI solutions to assist in their operational tasks.

# AI makes employees more productive

**Question:** Do you agree with the following statement? “AI has given back hours to be used to perform additional value-add activities, including innovation at my organization”\*



\*Remaining 5% were 'unsure'

A vast majority of survey participants agreed that AI can provide employees the time to focus on value-add tasks relieving them of mundane workloads and increasing employee satisfaction.



Increased optimization and AI enhanced insights continue to drive AI adoption across industries and have in recent years shown C-suite executives the benefits that can be gained - such as seamless system integration, improved security handling and identification of the “abnormal” to enhance the employee working experience.

# AI increases organizational efficiency

**Question:** What are your thoughts on the following statement: “AI has given back hours to be used to perform additional value-add activities, including innovation at my organization”?

**71%**

of respondents believe that AI enablement within their organization will have the biggest impact on **operational efficiency**.

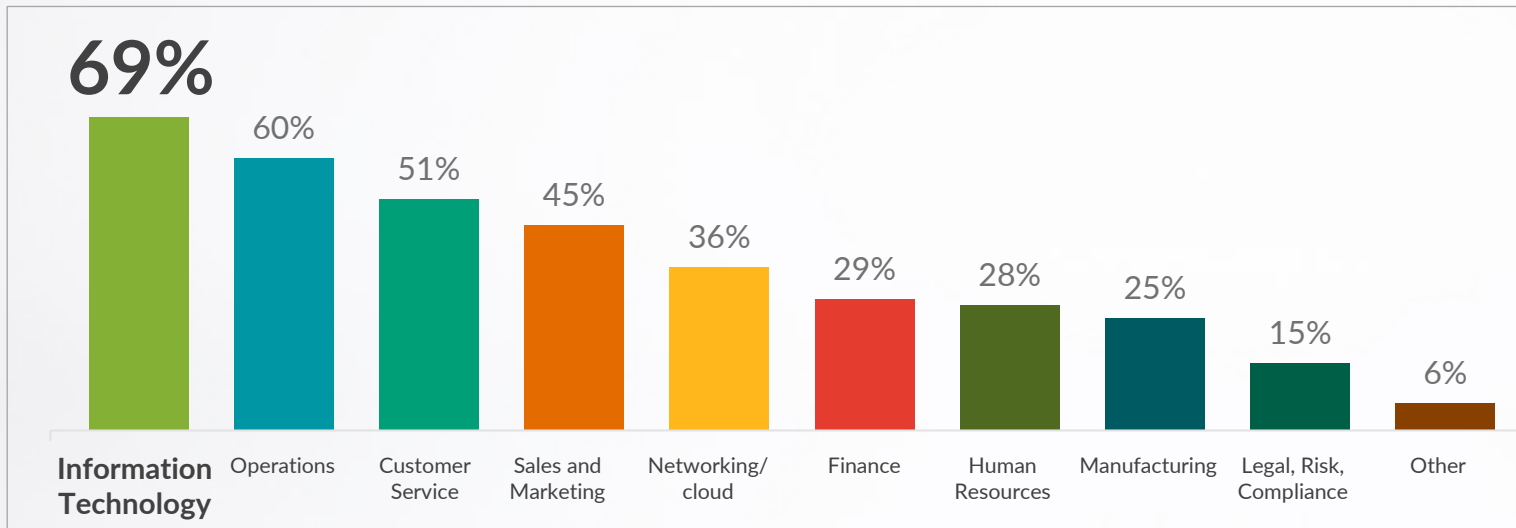
**87%**

of executives agree that AI will (in the next 12 months) assist in reducing risk and increasing quality within their organization.



**Information Technology** and **Operations** are reported as the most common business areas where organizations are currently utilizing AI.

**Question:** What areas of business are you currently automating through AI?  
(Select all that apply)



Businesses continue to optimize and upscale their IT and business operations functions as the demand of integrated technology and streamlined operations continue to rise. As these business functions deepen their AI capabilities, leadership continues to look for opportunities across the business.

For organizations that are starting their AI journeys, the effort has been focused on improving technology-led solutions. As such, these organizations are benefiting through the automation and assistance with decisioning in daily operations within the Information Technology & Operations functions. As a result, these organizations can see positive changes like operational efficiencies and enhanced user experience.

# AI offers a big boost to IT

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

59%

**Yes** - We have seen increased user experience for end users and network operations/IT teams

18%

**Yes** - But only for end users

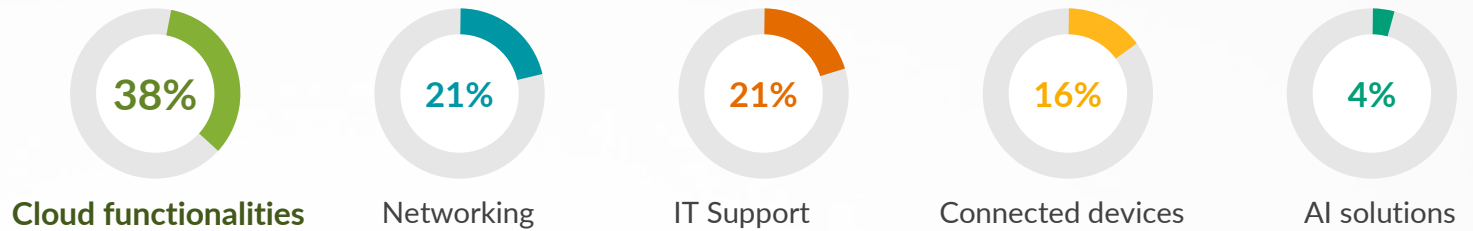
17%

**Yes** - But only for network/IT teams

And while less than half of respondents say their companies have incorporated AI into their networking infrastructure and capabilities, almost all who have (97%) stated that the network operations and end-user experience has improved since incorporating AI.

Adoption of AI in the networking space continues to accelerate, with a focus on enhancing user experience, predictive insights and augmentation of security duties.

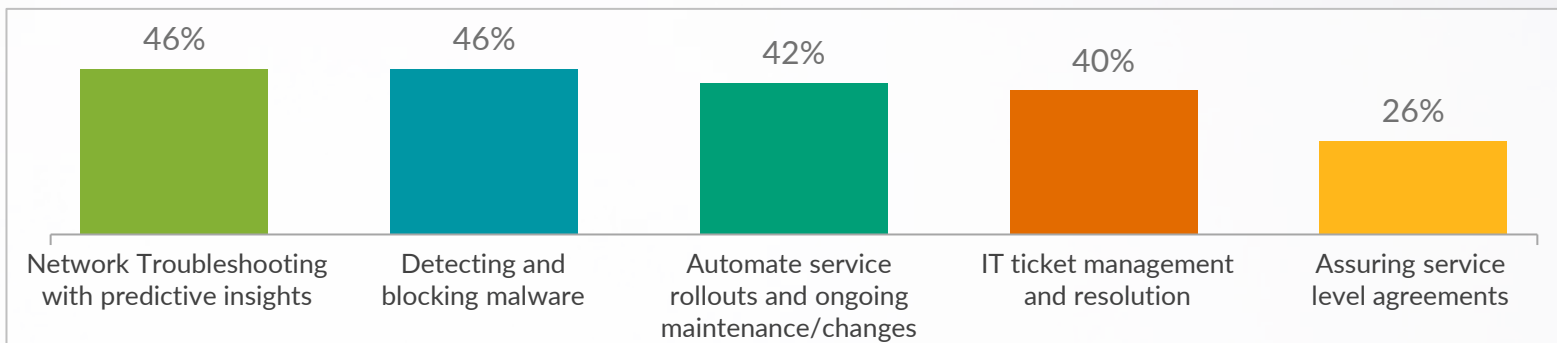
Respondents think that “**cloud functionality**” is the top component to enable businesses and people to continue their normal operations during the COVID-19 pandemic.



Executives report that “Network Troubleshooting with predictive insights” and “Detecting and blocking malware” are the top use cases where AI will provide the most benefit to their organization.

**86%** of respondents expect to have network solutions making autonomous decisions, such as troubleshooting network or device problems, responding to individual issue tickets or managing the network’s forward-looking capacity planning in the near future.

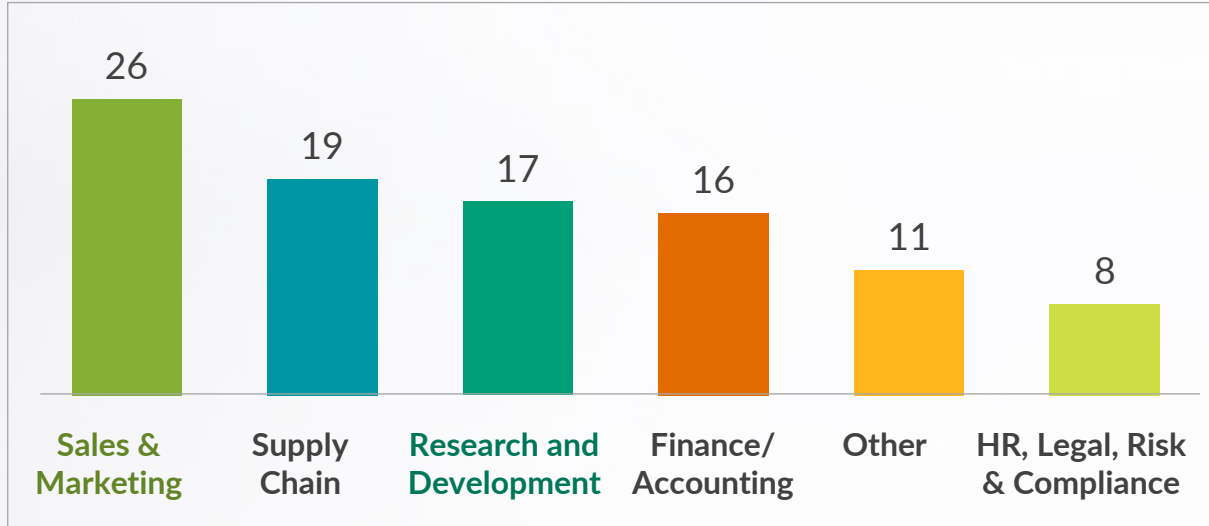
Leadership within organizations expect AI to supplement and enhance their networking and cyber security capabilities which continue to rise in demand with an increasingly digital world.



# Looking toward the future

In addition to IT and Operations, organizations are prioritizing functions such as **Sales & Marketing**, **Supply Chain** and **Research & Development** to drive revenue growth, reduce operating costs and improve customer experience.

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



By focusing on upskilling their workforce, building the appropriate technology stacks and implementing enterprise-wide AI governance, organizations are preparing for the working world of tomorrow.

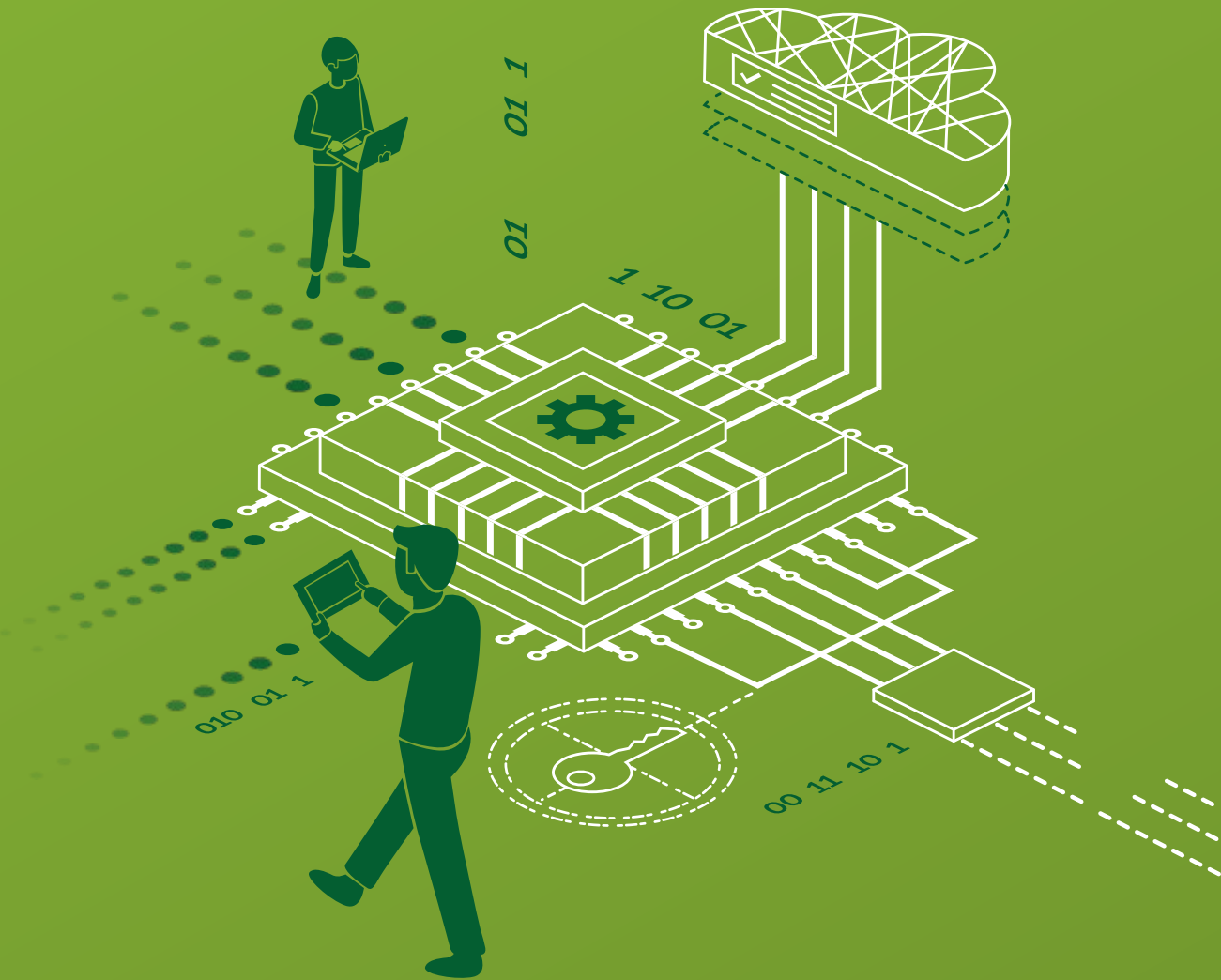


AI perception in the marketplace continues to improve as more users utilize AI in their personal lives and as organizations overcome the barriers to enterprise AI, which is slowly translating into confidence in AI capabilities.

AI capabilities continue to enhance user experience and drive actionable insights by bolstering their underlying computing power and IT infrastructure.

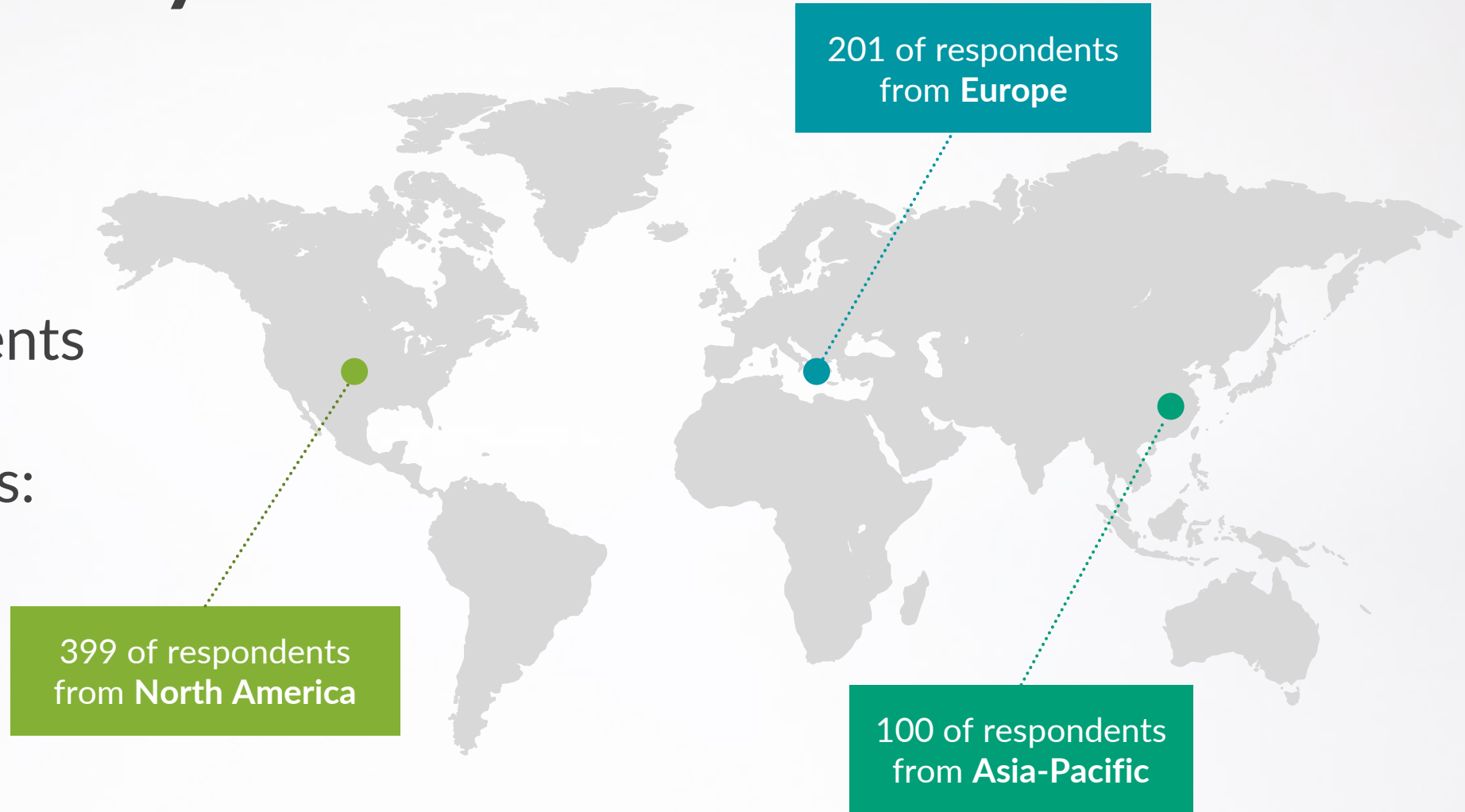
# APPENDIX

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# Regions Surveyed

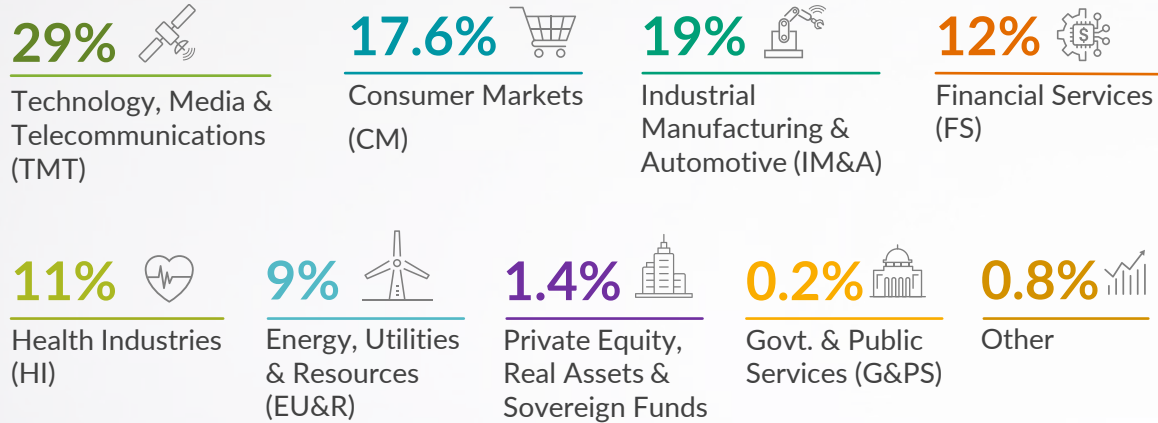
**700** total survey respondents were from the following regions:



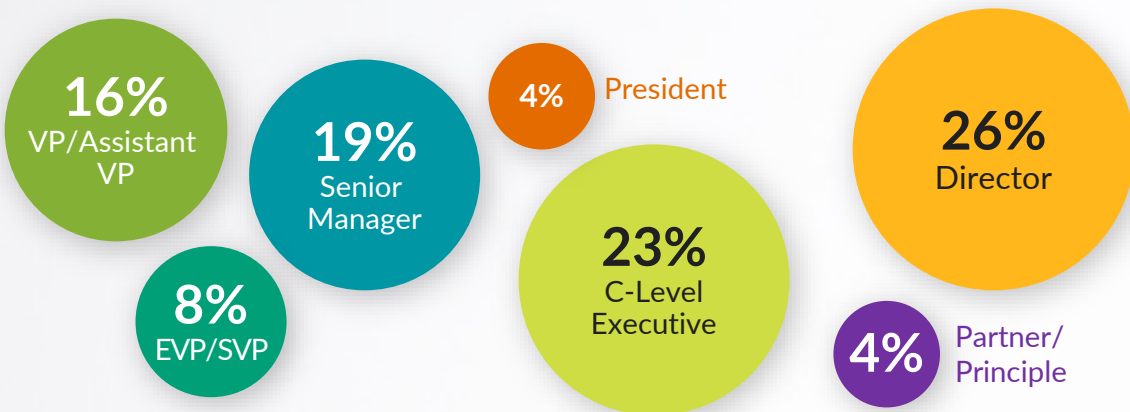


# Survey Demographics

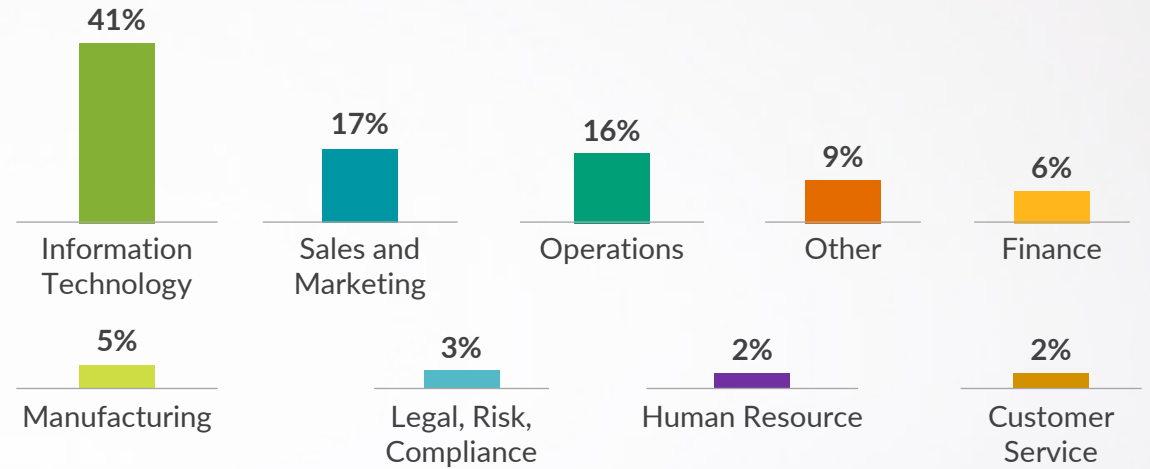
## Breakdown of respondent's primary industry classification



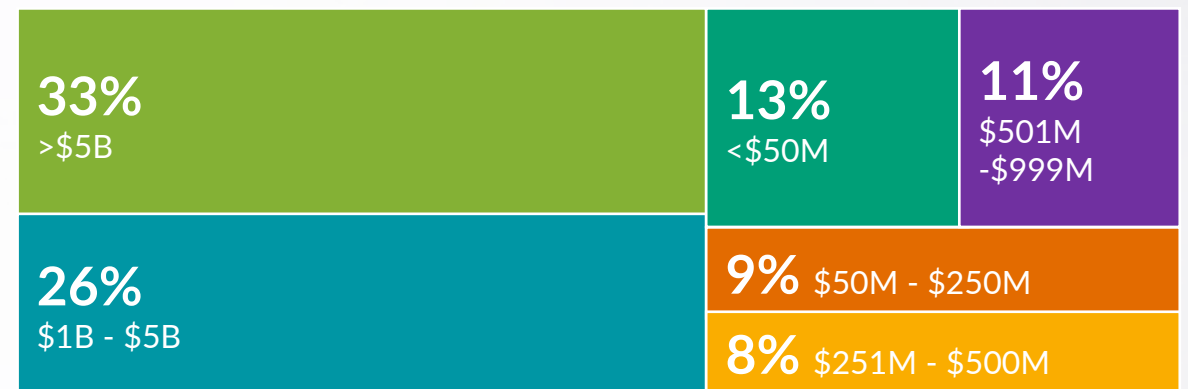
## Breakdown of respondent's title



## Breakdown of respondent's business functions



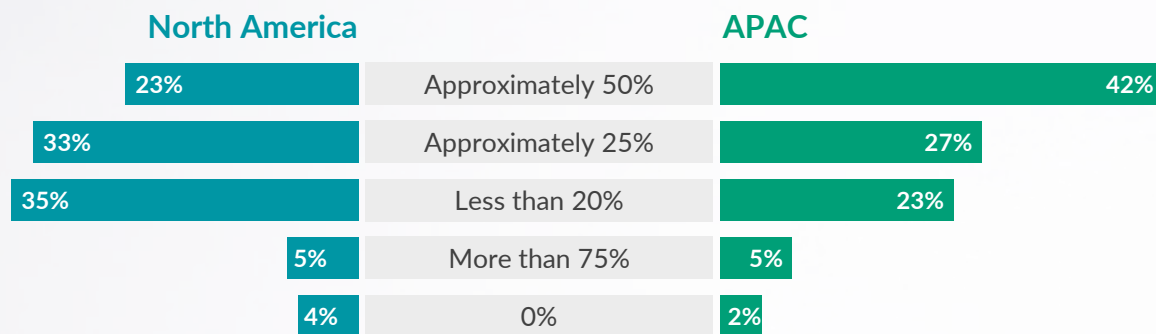
## Breakdown of respondent's organization revenue the past fiscal year



# AI use in Asia Pacific is on the move

Respondents' organizations within Asia-Pacific across the board trust and expect AI to be incorporated into their lives more than either North America or Europe. The use of AI is rapidly accelerating in the Asia-Pacific region, leading to broader acceptance, trust and need for employees who are skilled in AI development and adoption, compared to organizations in North America who are still figuring out AI capabilities and establishing teams to expand solutions.

**Question:** In your opinion, to what degree are your operational decisions currently assisted by AI or will be in the near future?



# 71%

of respondents in the Asia-Pacific region strongly agreed that digital technology is changing the way we operate every day and will become the new co-worker of the future, compared with **only 54%** of respondents in North America.

# 42%

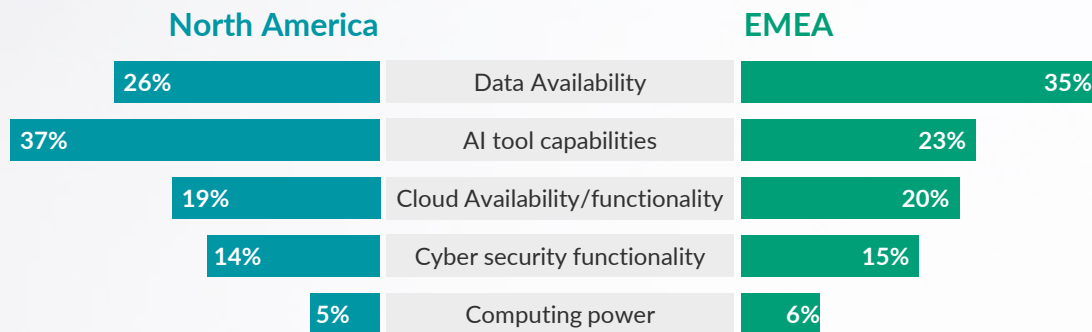
of respondents in the Asia-Pacific region reported that 50% or more of their operational decisions are currently assisted by AI decisioning or will be in the near future, compared with **only 23%** of respondents in North America.

Organizations located in Asia-Pacific reported **Customer Service** as the most common business area currently utilizing AI compared to North America which reported **Information Technology** as most common AI enabled business area.

# Europe is focused on AI trust and governance, starting with data

While many organizations are developing AI solutions across the globe, Europe is at the forefront of ensuring governance is embedded into their AI solutions. In doing so, European organizations have elevated the level of trust, security and operational efficiency for AI capabilities across their industry.

**Question:** Which of the following is most critical in order to enable AI adoption across your industry?



# 35%

of respondents in Europe reported Data Availability as the most critical component to enable AI adoption across their industry, compared with North America respondents who ranked AI Tool Capabilities as the most critical component.

**Organizations in Europe** are ahead of the curve by already expanding their AI talent pipeline with internships and partnerships with universities at a higher rate than both North America and Asia-Pacific as a way to upskill and expand talent.

**Executives in Europe** demonstrate their deep understanding of what builds a robust and effective AI solution by ranking data availability as the most critical component to enabling AI adoption. As a result, they have developed comprehensive AI and data governance policies to protect against financial and reputation loss.

**European organizational leadership** reported at 68% that they think humans are in control of AI but more needs to be done to effectively govern AI as it continues to grow. This illustrates Europe's push to properly govern and secure AI.

**European governments** have in recent years stepped in to regulate the collection, storage and usage of data spurring organizations to take a more proactive approach to internal AI governance to stay ahead of legislation and allow their AI solutions to expand safely.



# Thank you

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