



The Path to Digital Transformation:

Where IT Leaders Stand
in 2024



Method and objectives

Survey goals

We surveyed senior decision-makers at U.S. enterprise organizations to understand current and planned technology initiatives to support digital transformation.

In this research, we explore technology strategies and approaches and perceived progress with initiatives in the areas of AI/machine learning, cloud/multicloud, as-a-service models, cybersecurity, platform engineering and ESG.

Total respondents: 400

Collection method:

Online questionnaire

Geography: U.S.

Field dates:

March 28, 2024 – April 11, 2024

Number of questions: 27

(excluding profiling questions)

Average company size: 15,609 employees

Senior decision-makers:

To qualify for this survey, respondents were required to be IT decision-makers in a senior role (director and above) at an organization with 1,500 or more employees.

A large, semi-transparent pink pyramid graphic is positioned on the left side of the slide, partially overlapping a background image of a modern office interior. The office scene shows a person sitting at a desk with a computer monitor, and the lower legs and feet of several people standing on a tiled floor. The overall color scheme is dominated by shades of pink and purple.

Respondent Profile

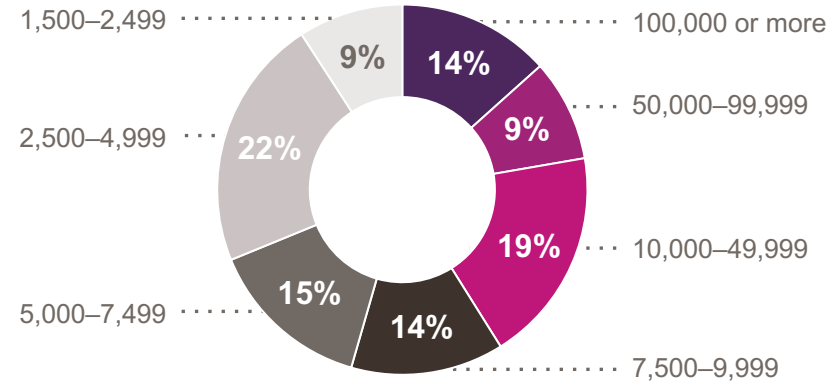
Respondent profile

Job title

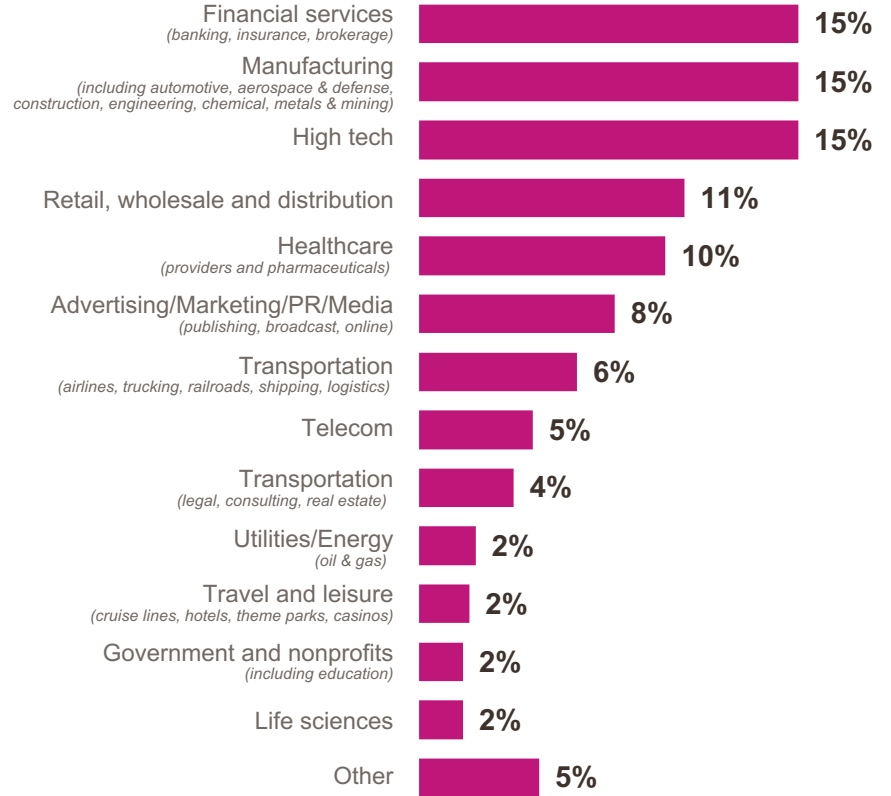
	65% VP and above
CIO, CTO	19%
CSO, CISO	5%
Chief data officer	6%
Chief digital officer	7%
Executive VP, Senior VP, General manager	18%
VP, IT-related function	10%
Director, IT-related function	37%

Number of employees

42% with 10,000+ employees



Primary industry



Executive Summary

Summary of findings

Digital transformation

- Decision-makers cite optimizing data and analytics capabilities (such as AI, ML and IoT) (47%) and accelerating cloud adoption (43%) as the top two objectives enabling digital transformation for the third year running.
- Skills gaps (44%), budget constraints (43%) and inadequate infrastructure to support modern technologies (42%) persist as the top roadblocks to transformation.

AI/machine learning

- Nearly all decision-makers (92%) report their enterprises are leveraging or testing AI/machine learning technology. Less than one-quarter (23%) indicate their organizations have optimized and automated AI using best practices, 29% have adopted an enterprise AI strategy, 25% are using AI on a departmental basis, and 16% are leveraging it for prototypes of proof of concepts. Just 8% report their organizations have not yet embraced AI.
- Nearly three-quarters (74%) are building custom AI tools either as a stand-alone approach or in conjunction with off-the-shelf tools.
- Threat analysis (77%), process automation (67%) and real-time information access (64%) have emerged as the highest priority AI use cases within the last 12 months.
- Nearly all enterprises (99%) plan to use generative AI to drive business value; organizations intend to use generative AI primarily for data augmentation (40%), intelligent search (39%) and personalization (35%) to drive business value.
- While less than one-third (29%) have built an AI Center of Excellence, 62% are planning to create one or are experimenting with the creation of one.
- To rationalize AI initiatives, organizations prioritize ensuring initiatives align with business goals (30%), followed by identifying how AI initiatives will enhance the value proposition for customers (21%); ROI assessment ranks last among rationalization methods.

Summary of findings (continued)

Cloud compute

- More than half of enterprise data (54% on average) resides in a public or hybrid cloud today.
- Of the workloads in a public cloud, decision-makers expect an average of 46% will be repatriated over the next 12 months.
 - Workloads with unique requirements or dependencies (48%) and those with special security or compliance requirements (38%) are the ones most commonly destined for repatriation.
 - Organizations repatriate public cloud workloads to improve security and compliance (42%), enhance disaster recovery/business continuity (42%) and boost application performance (42%).
- Despite concerns about cloud security (56%) and complexity (52%), nearly all decision-makers (98%) report use or planned use of a multicloud approach.
 - More than half (58%) are spreading workloads across multiple cloud providers, 46% are selecting cloud providers for specific applications, 32% are leveraging cloud providers in different regions to meet local requirements, and 27% are using multiple cloud providers for a single application to scale and accommodate demand fluctuations.
- Most enterprises (96%) are leveraging one or more as-a-service delivery models, including infrastructure as a service (81%), storage as a service (63%), security as a service (52%) and network as a service (48%).
 - Decision-makers cite improved reliability (43%) and improved risk management (37%) as the most attractive benefits of as-a-service delivery models.
 - Just over one-quarter (26%) are using Device as a Service (DaaS), and 55% plan to leverage DaaS.
 - The refresh cycle for laptops, desktops and non-mobile devices is 3.4 years, on average; it is 3.1 years, on average, for mobile devices, tablets and phones.
 - Improved operational IT efficiency (40%) is the primary objective of DaaS adoption.

Summary of findings (continued)

Cybersecurity

- Forty-three percent (43%) report being impacted by a cybersecurity breach at their organization over the past 12 months.
- More than 40% of those who have experienced a cybersecurity breach report it took one week or longer to recover from the most recent incident. The average recovery time is 11 days.
- Most decision-makers (89%) agree their organizations are updating security strategies in response to a perceived increase in risk. VP and above decision-makers are more likely to agree regarding the increased threat of ransomware (68% compared to 51% of those with director titles) and more likely to cite difficulty accurately reporting on security posture (56% compared to 39% of others).
- The top planned cybersecurity modernization initiatives include endpoint/IoT security (43%) and edge protection (43%).
- Top cybersecurity modernization initiatives overall (counting those planned and underway) include SecOps (94%), network security (93%), threat visibility (91%), endpoint security (91%) and protection against malware (91%).

Platform engineering

- Most decision-makers (86%) report their organizations have a team dedicated to platform engineering.
- Platform engineering is improving data protection (64%), automating cloud provisioning (52%) and empowering development teams (52%), among other benefits.

Environmental, Social and Governance (ESG)

- Eighty-seven percent (87%) indicate ESG concerns have a moderate (45%) to significant (42%) impact on IT investment decisions. Eleven percent (11%) report ESG impacts IT investments only somewhat, while just 3% indicate ESG does not have an impact at all.
- ESG primarily impacts investment decisions around technologies that enable remote/hybrid working (47%), energy-efficient IT infrastructure and devices (46%), and use of cloud to reduce energy consumption (41%).

Results

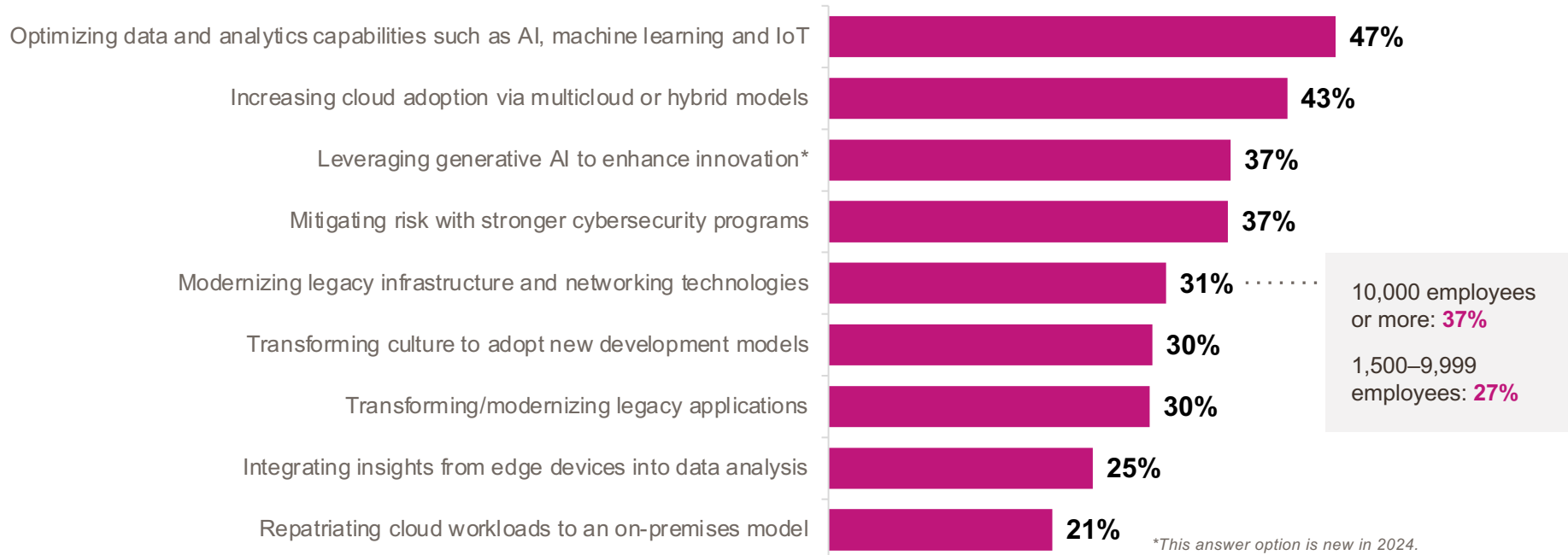
A photograph of a long cable-stayed bridge stretching across a body of water, viewed from a low angle looking down the length of the bridge. The image is overlaid with a semi-transparent purple gradient that covers the left and bottom portions of the slide.

Digital Transformation

Decision-makers continue to prioritize optimizing data and analytics capabilities and increasing cloud adoption as top transformation objectives

Top objectives to enable digital transformation

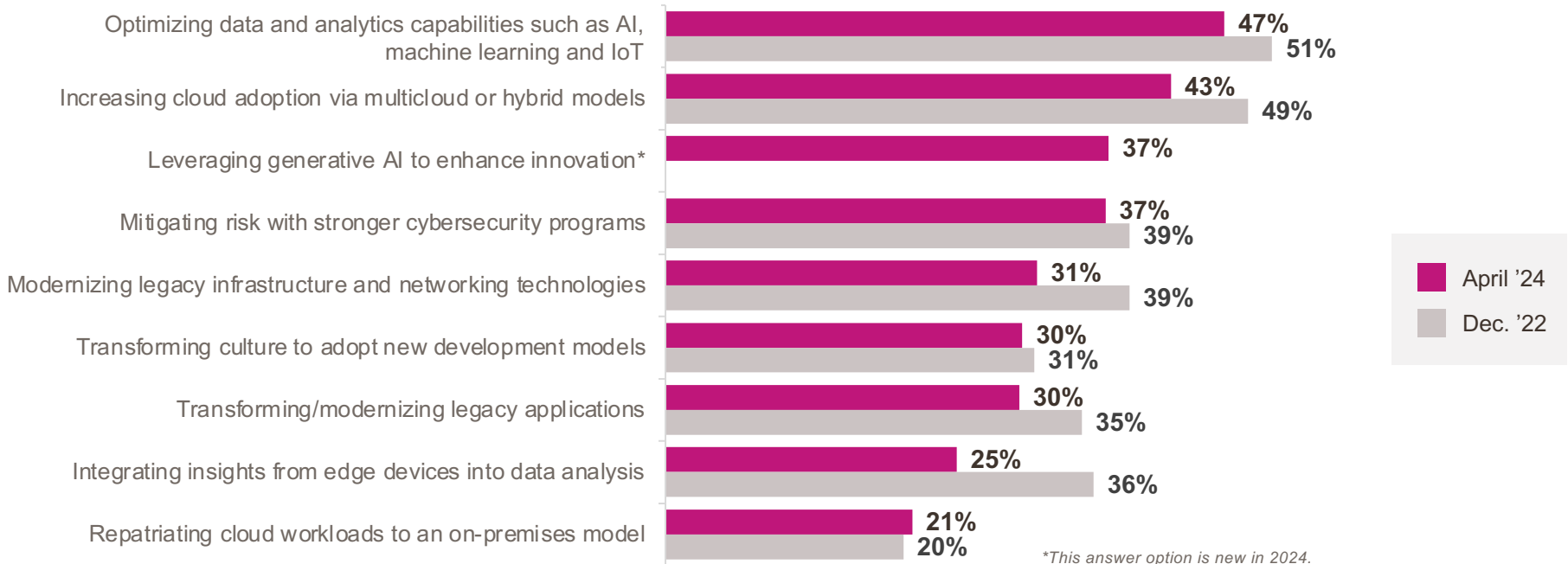
(select three)



Risk mitigation remains a top four priority, tied with generative AI — a new addition in the 2024 report

Top objectives to enable digital transformation

(select three)

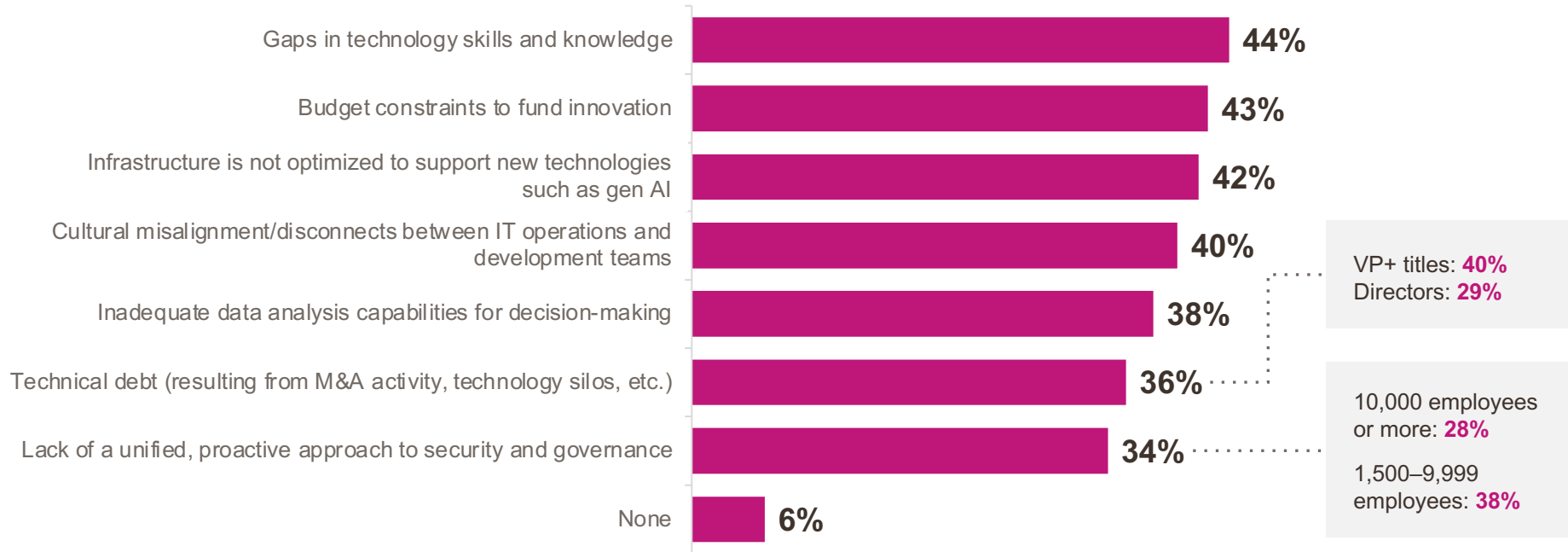


*This answer option is new in 2024.

Multiple challenges are inhibiting innovation, including skills gaps, budget constraints and inadequate infrastructure to support new technologies

Infrastructure and operational constraints inhibiting innovation

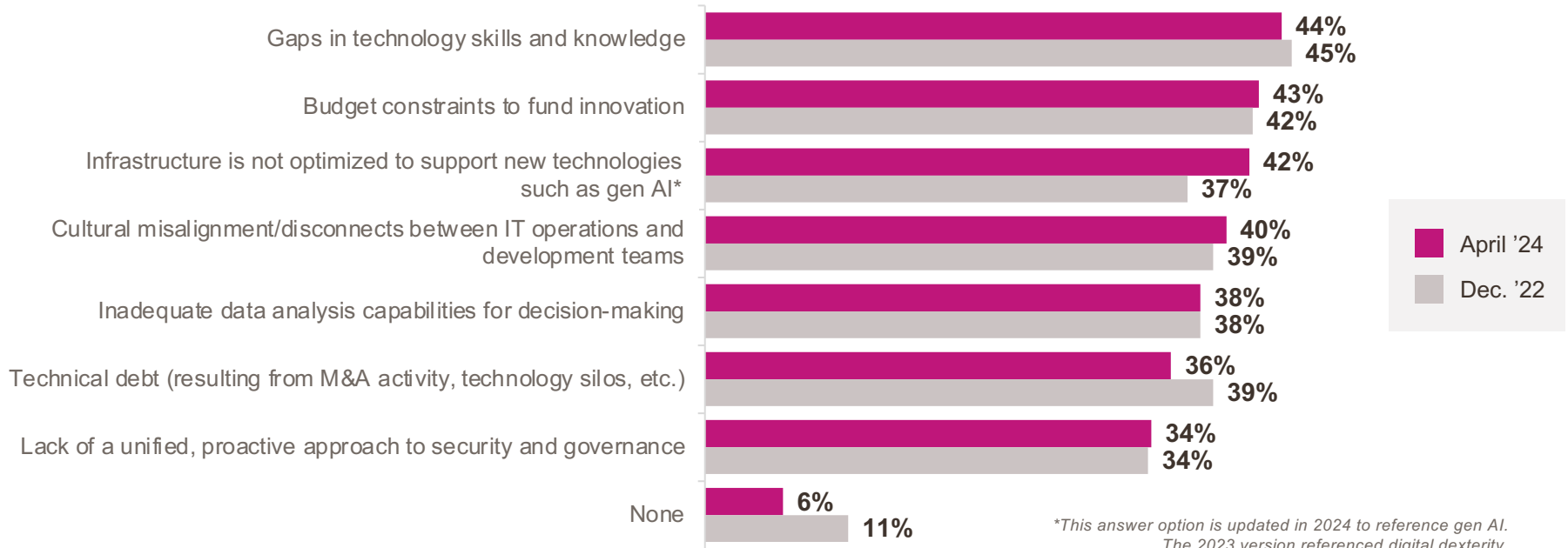
(select all that apply)



Innovation inhibitors have remained consistent compared to the prior survey, with a slight increase in those citing their infrastructure isn't ready to support gen AI

Infrastructure and operational constraints inhibiting innovation

(select all that apply)



*This answer option is updated in 2024 to reference gen AI. The 2023 version referenced digital dexterity.

A long-exposure photograph of a multi-lane highway at night, showing light trails from cars. The image is overlaid with a semi-transparent purple gradient that covers the left and bottom portions of the slide.

AI/Machine Learning



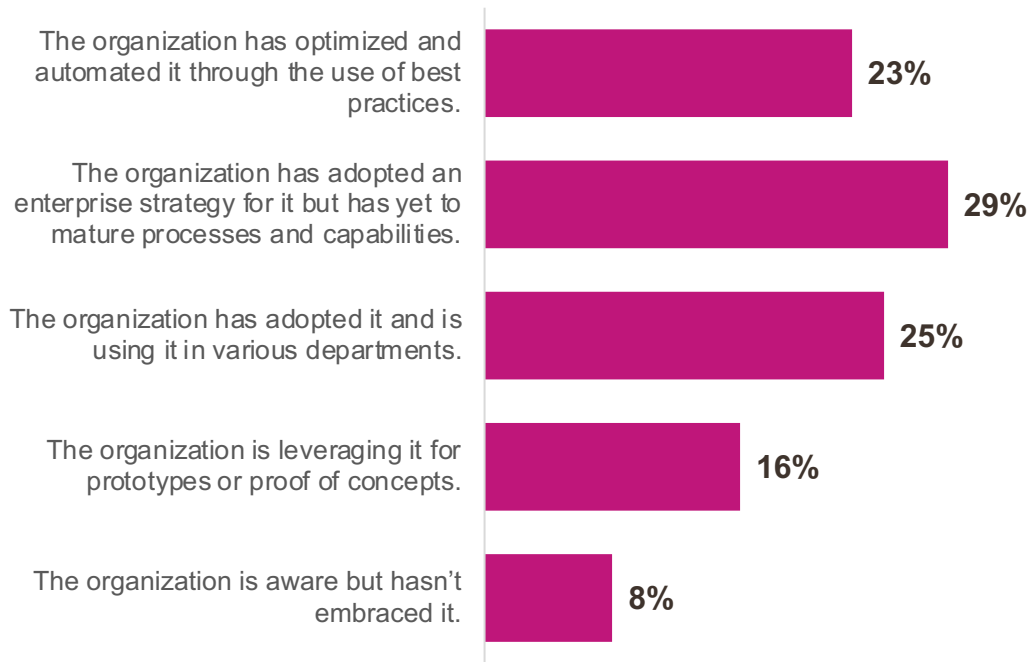
23%

Less than one-quarter of organizations have optimized AI/ML.

Artificial Intelligence (AI) refers to the simulation of human intelligence processes by computer systems. These processes include learning (the acquisition of information and rules for using the information), reasoning (using rules to reach approximate or definite conclusions) and self-correction.

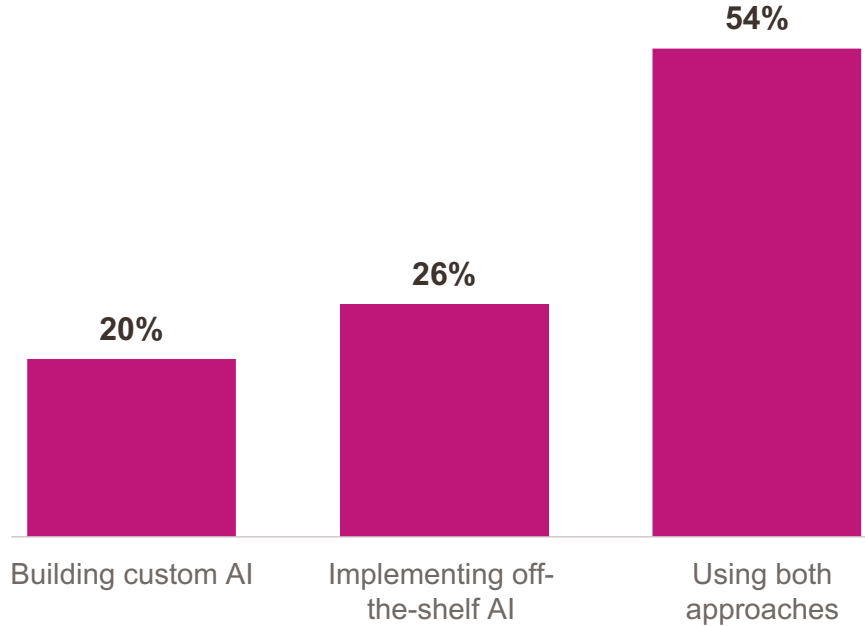
Machine Learning (ML) is a subset of AI that enables systems to automatically learn and improve from experience without being explicitly programmed. It focuses on the development of algorithms that can analyze data, learn from it, and make predictions or decisions based on that learning.

AI/ML adoption



Approach for executing on AI initiatives

(among those leveraging or testing AI technology)



74%

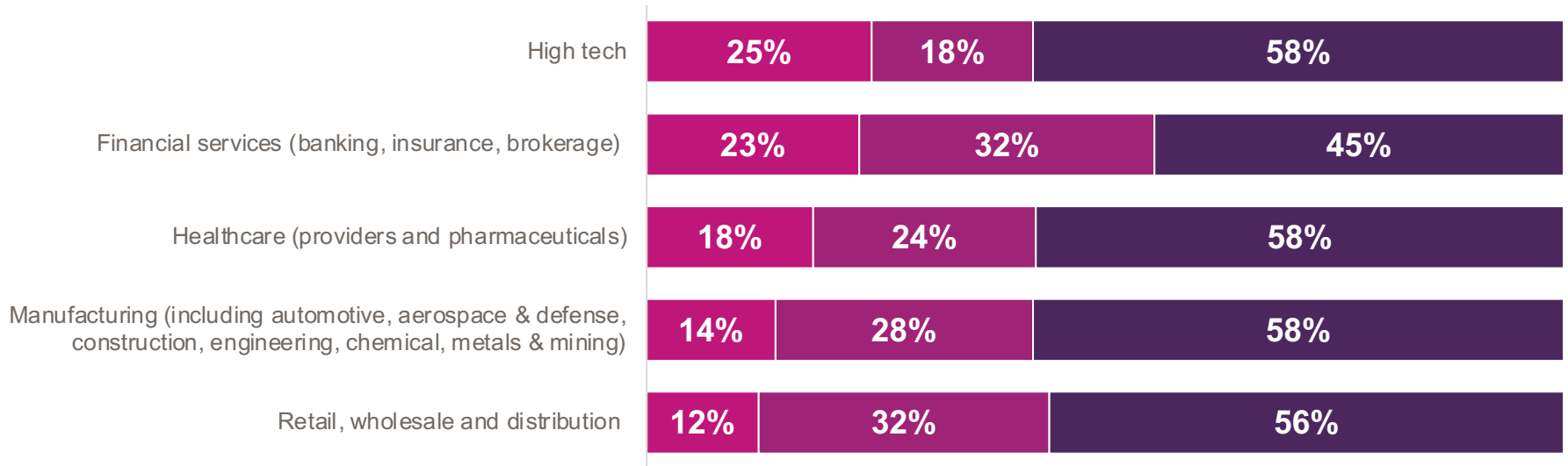
are building custom AI tools either as a stand-alone approach or in conjunction with off-the-shelf tools.

High-tech companies are likeliest to focus budget solely on custom-built AI; financial and banking organizations are likeliest to focus on off-the-shelf AI

Approach for executing on AI initiatives

(among those leveraging or testing AI technology)

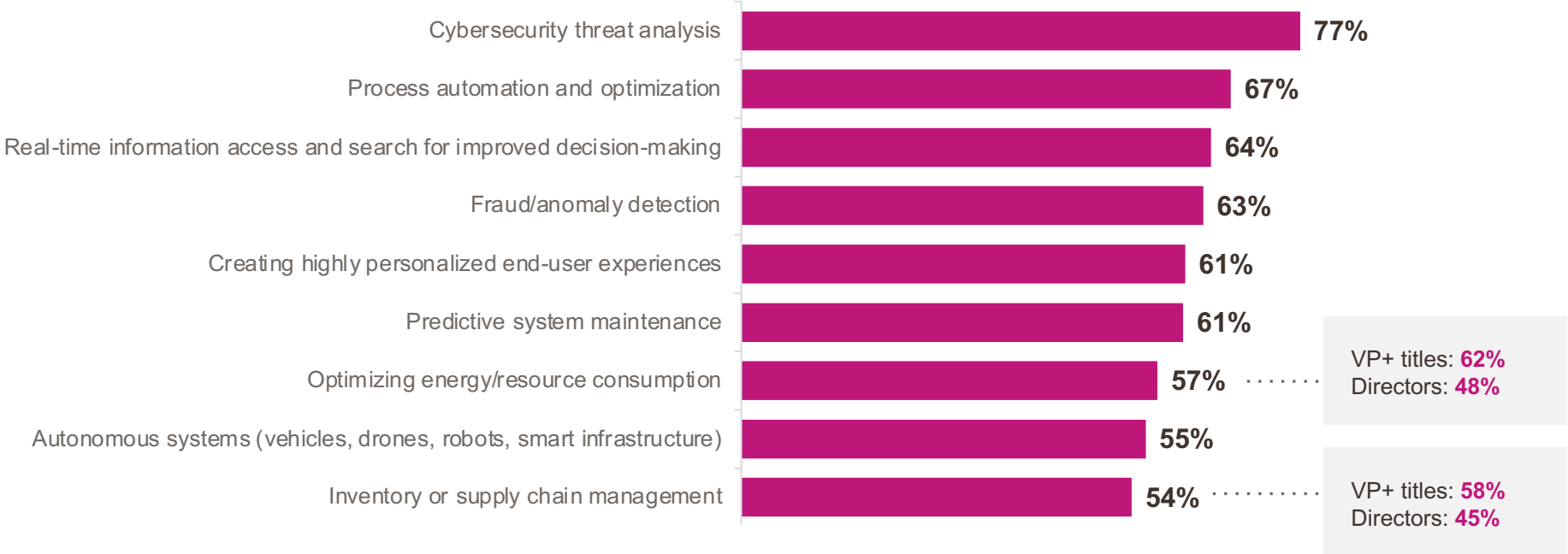
■ Building custom AI ■ Implementing off-the-shelf AI ■ Both options



Threat analysis, process automation and real-time information access have emerged as the highest-priority AI use cases within the last year

Importance of AI use cases: Top priority today

(among those leveraging or testing AI technology)



Organizations intend to use generative AI primarily for data augmentation (40%), intelligent search (39%) and personalization (35%) to drive business value

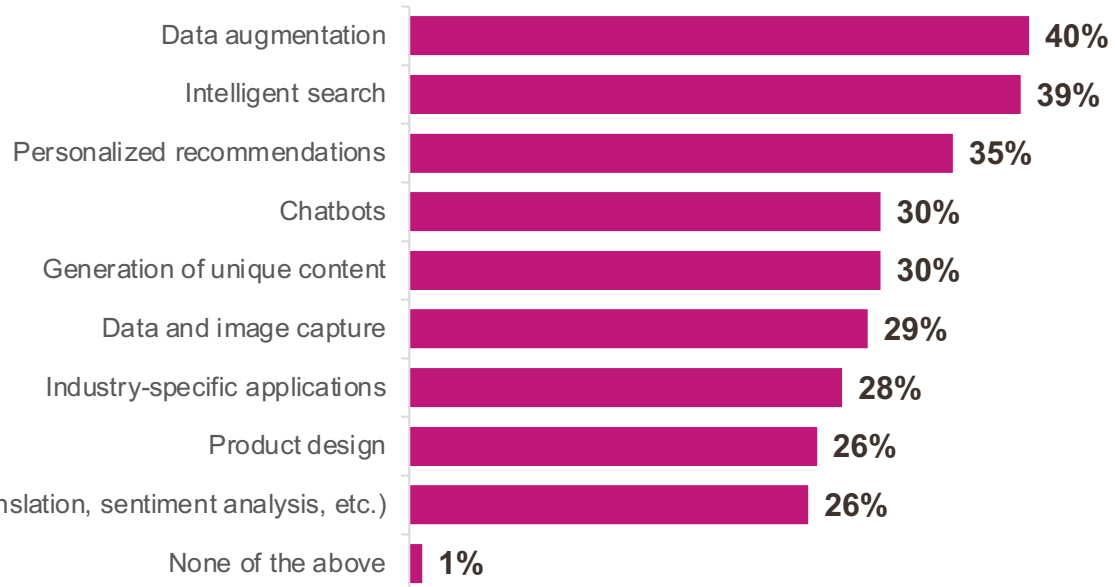
Top ways for gen AI to drive business value and innovation

(among those leveraging or testing AI technology) (select three)



Generative AI, or gen AI, can learn from existing artifacts to generate new, realistic artifacts (at scale) that reflect the characteristics of the training data but don't repeat it. It can produce a variety of novel content, such as images, videos, music, speech, text, software code and product designs.

Natural language processing (NLP) (translation, sentiment analysis, etc.)

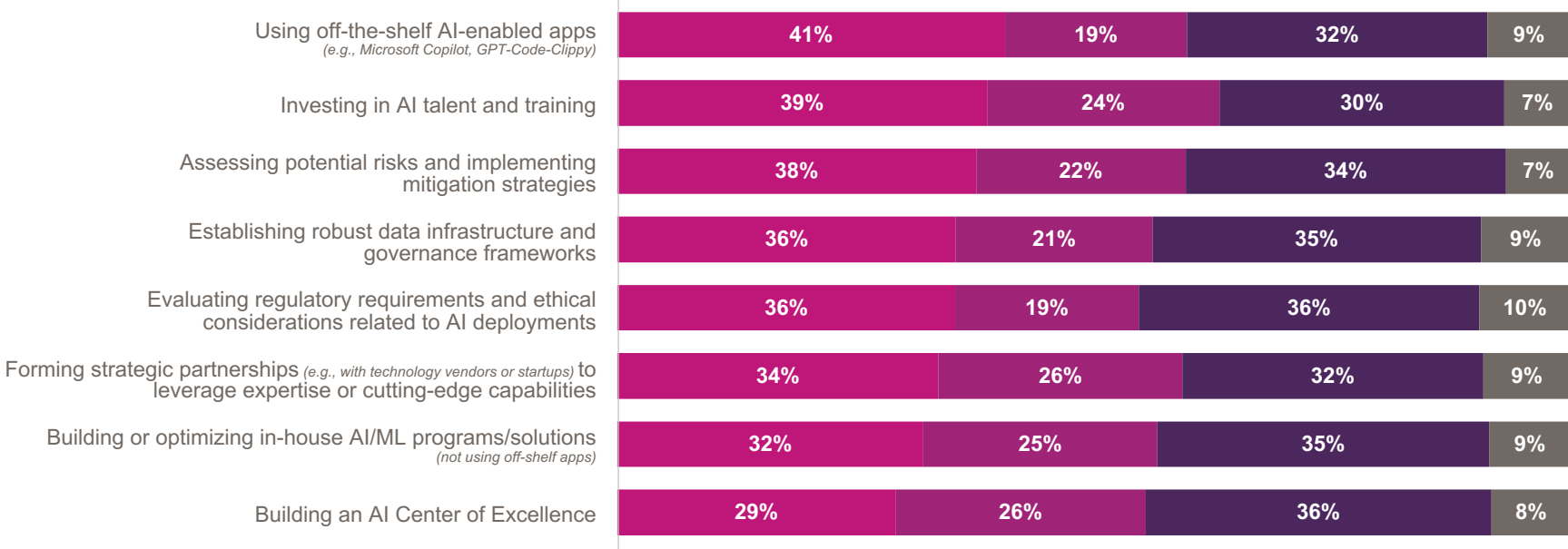


While less than one-third (29%) have built an AI Center of Excellence, 62% are planning to or experimenting with doing so

Progress with initiatives to accelerate AI adoption

(among those leveraging or testing AI technology)

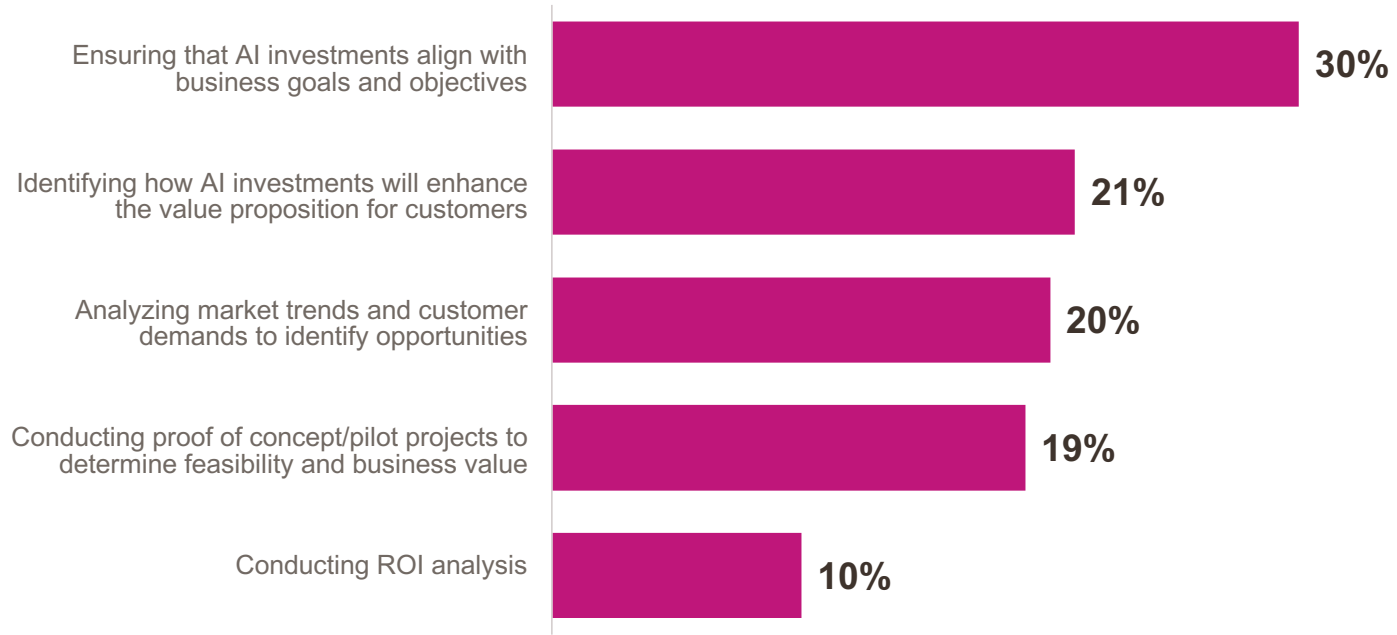
■ Implemented
 ■ Planning
 ■ Experimenting
 ■ Inactive/don't know



ROI analysis ranks as the least important method of AI initiative rationalization

How are AI initiatives rationalized at your organization?

(% ranking #1) (among those leveraging or testing AI technology)





Cloud Compute



54%

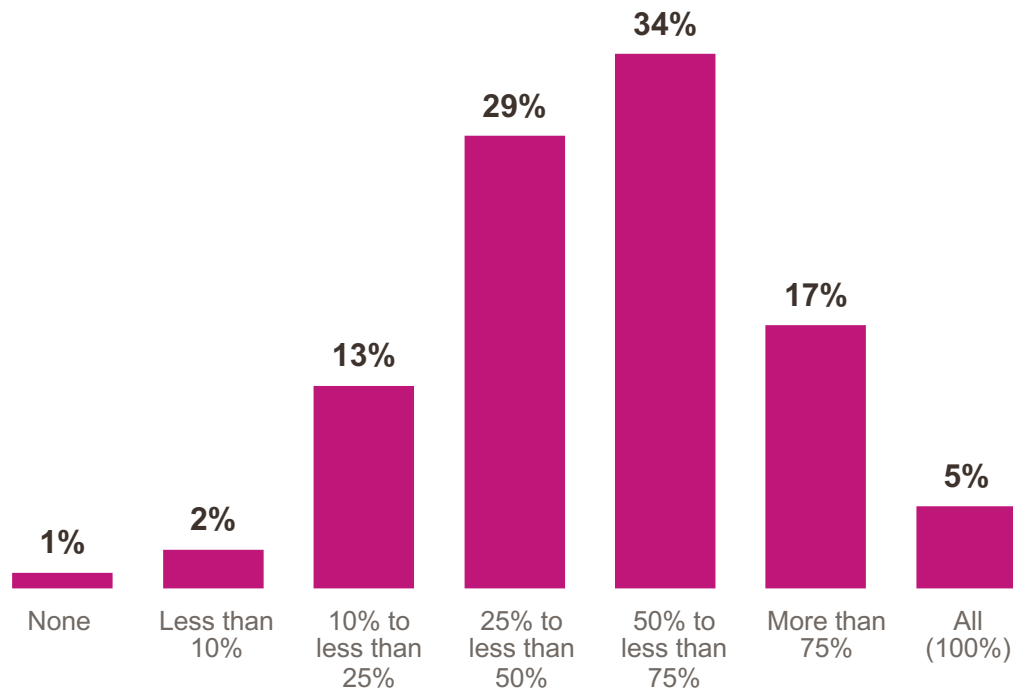
of enterprise data, on average,
resides in a public or hybrid
cloud today.*

10,000 or more employees: **58%**

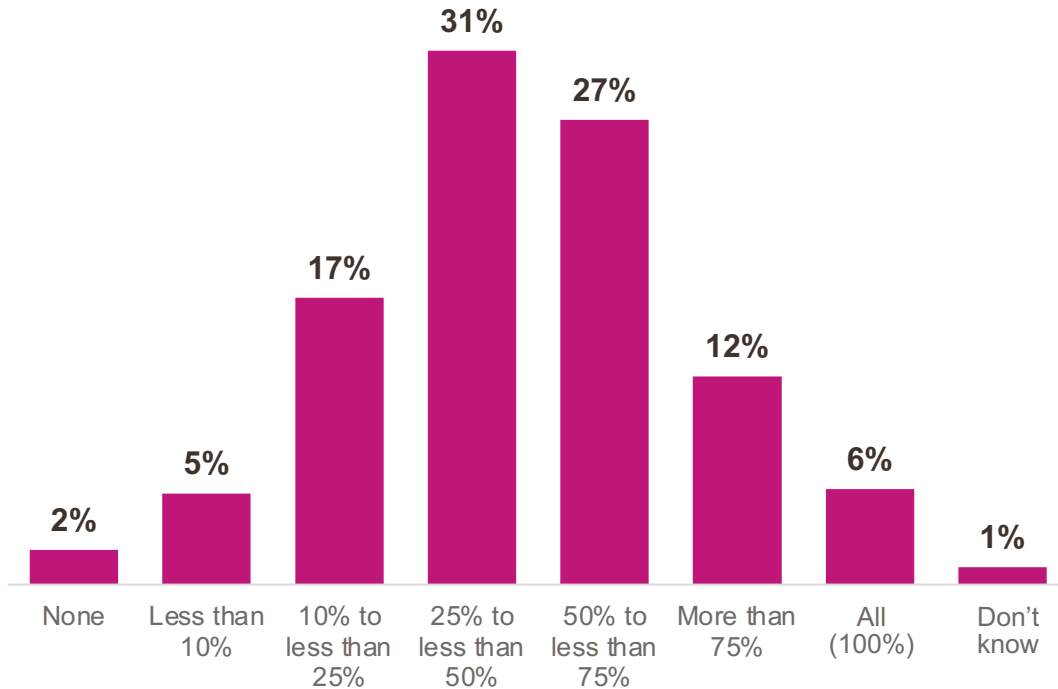
1,500–9,999 employees: **51%**

**Estimated mean calculated by multiplying the midpoint value of each range by the proportion of responses in that range, calculating the sum of these products, then dividing the sum by the total number of respondents.*

Percent of organization's data in a public or hybrid cloud



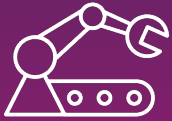
Percent of cloud estate being repatriated from a public cloud — next 12 months



46%

of cloud-based workloads will be repatriated **from a public cloud** over the next 12 months, on average.*

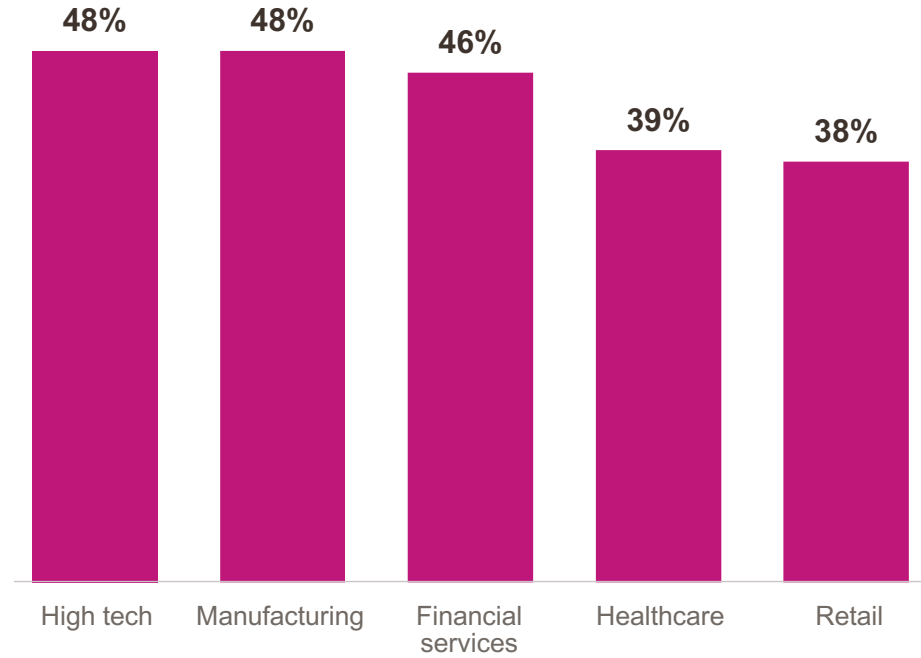
**Estimated mean calculated by multiplying the midpoint value of each range by the proportion of responses in that range, calculating the sum of these products, then dividing the sum by the total number of respondents.*



High-tech and manufacturing organizations are repatriating workloads at a higher rate than those in other industries.

**There are no significant differences by industry.*

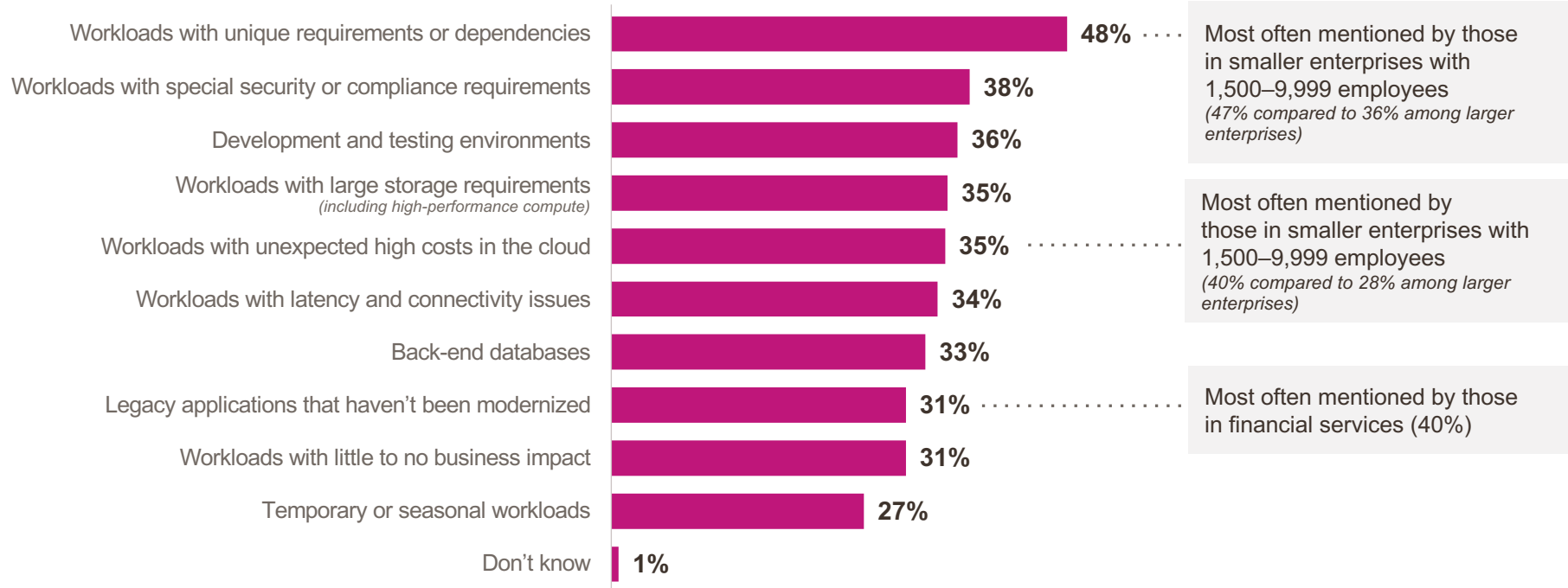
Percent of cloud estate being repatriated from a public cloud — next 12 months (average)



Workloads with unique requirements or dependencies are the most common candidates for repatriation

Workloads organizations plan to repatriate from a public cloud

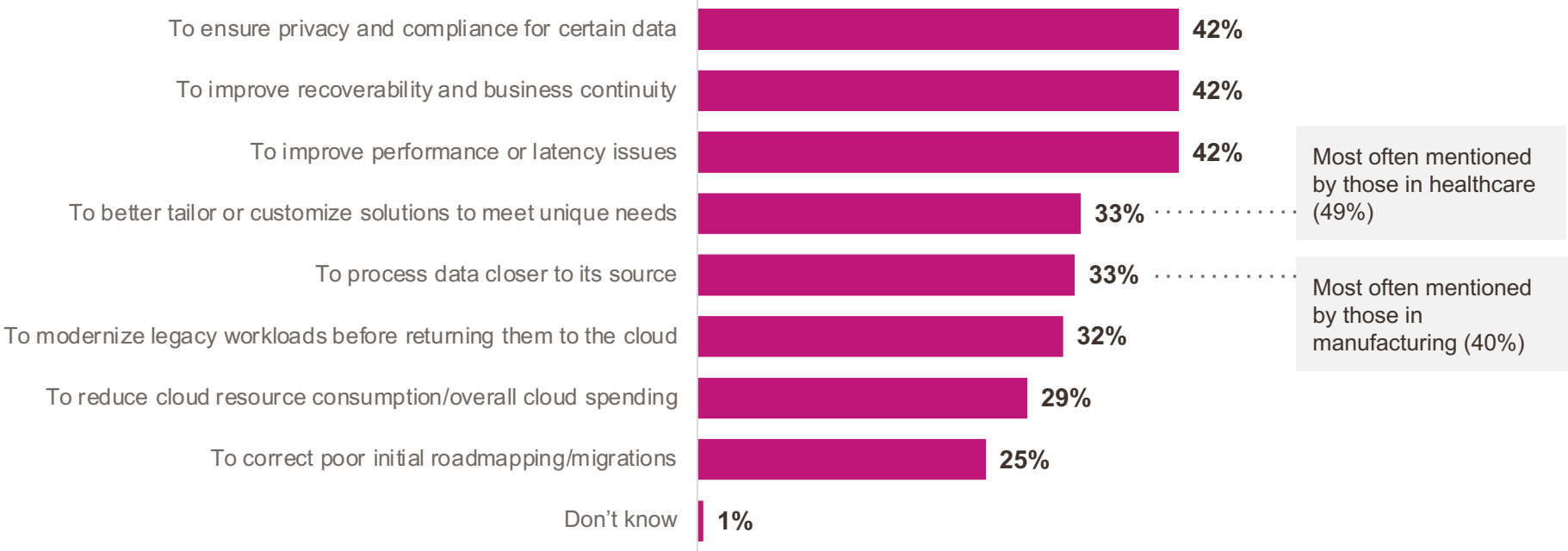
(select all that apply)



Top reasons for repatriation include privacy and compliance, business continuity and workload performance

Reasons for repatriating public cloud workloads

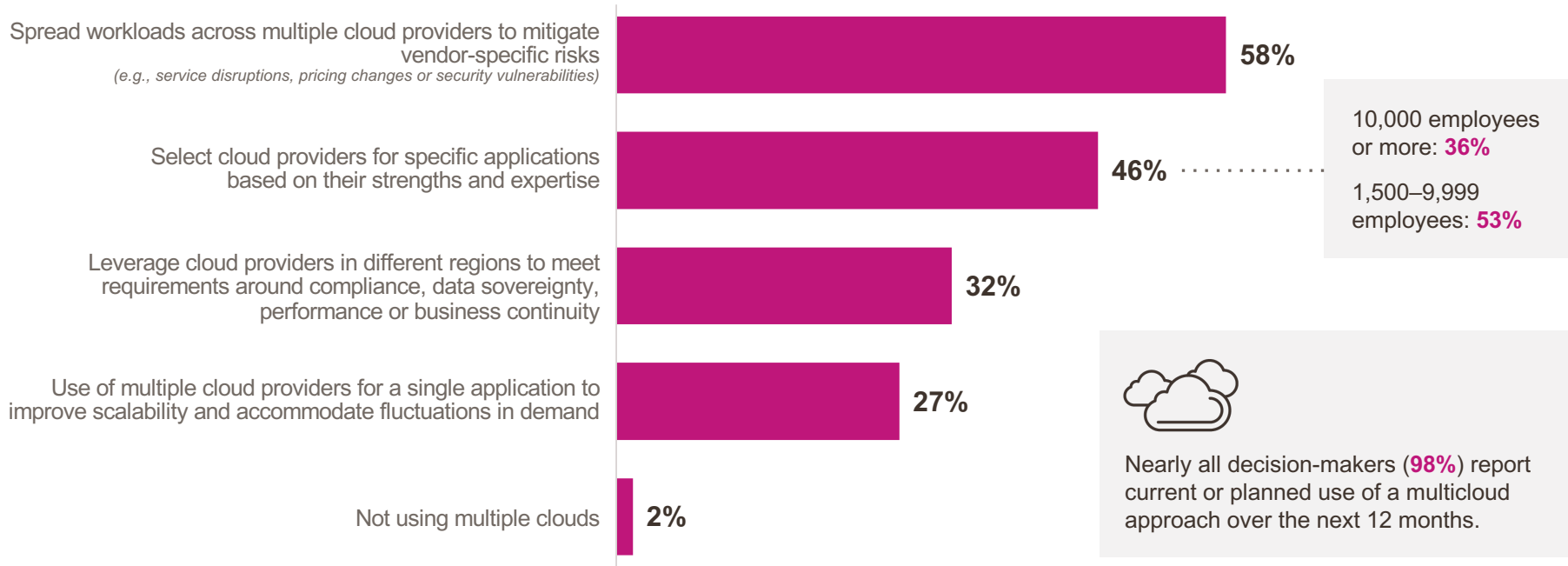
(select three)



More than half of multicloud users (58%) spread workloads across multiple cloud providers to mitigate risk

Approaches to multicloud over the next 12 months

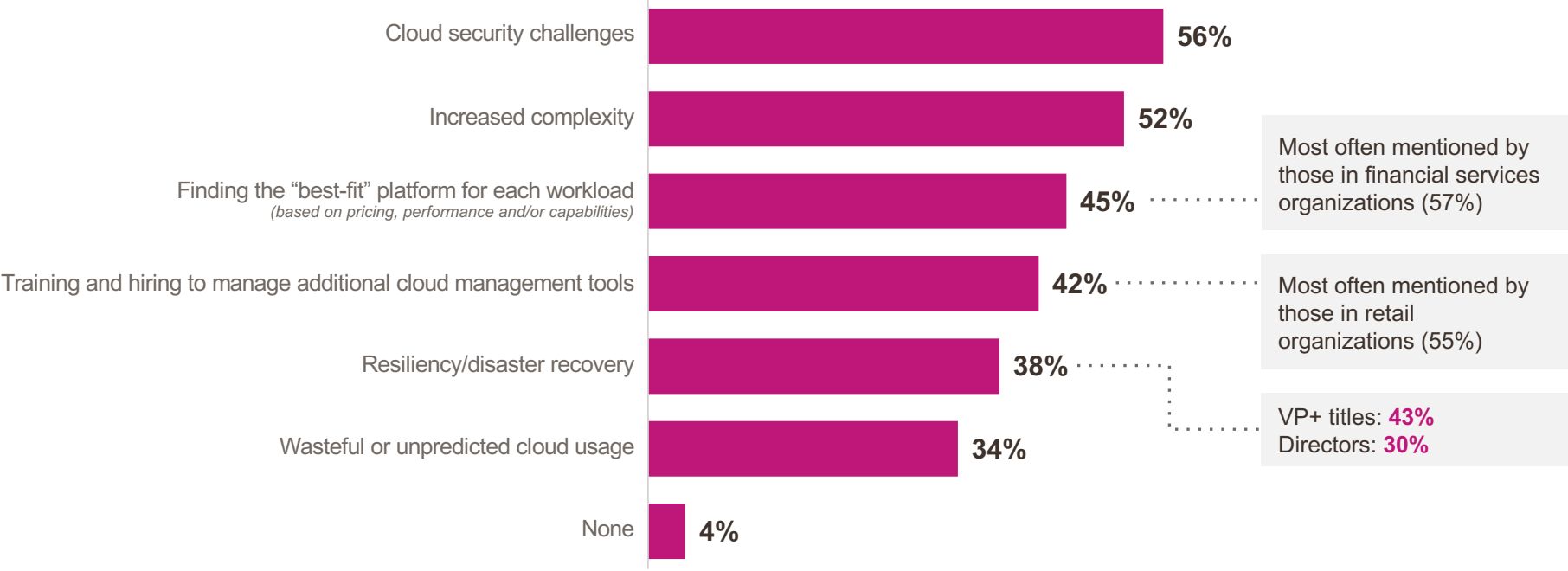
(select all that apply)



Security remains the #1 concern with respect to multicloud strategy, followed by complexity

Concerns with multicloud strategy

(select all that apply)



Most enterprises (96%) leverage one or more as-a-service delivery models; infrastructure as a service is the most widely used as-a-service offering



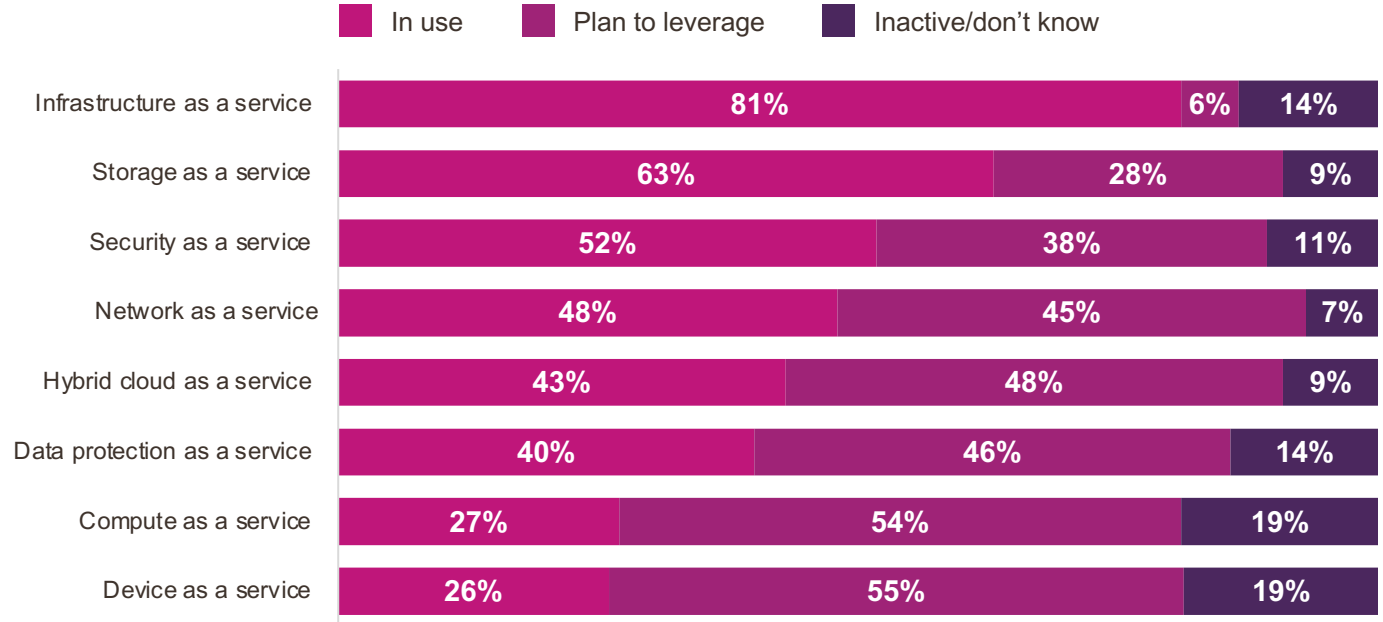
81%
are using 3 or more
as-a-service models.

66%
are using 4 or more.

35%
are using 5 or more.

10%
are using 6 or more.

Use of as-a-service delivery models

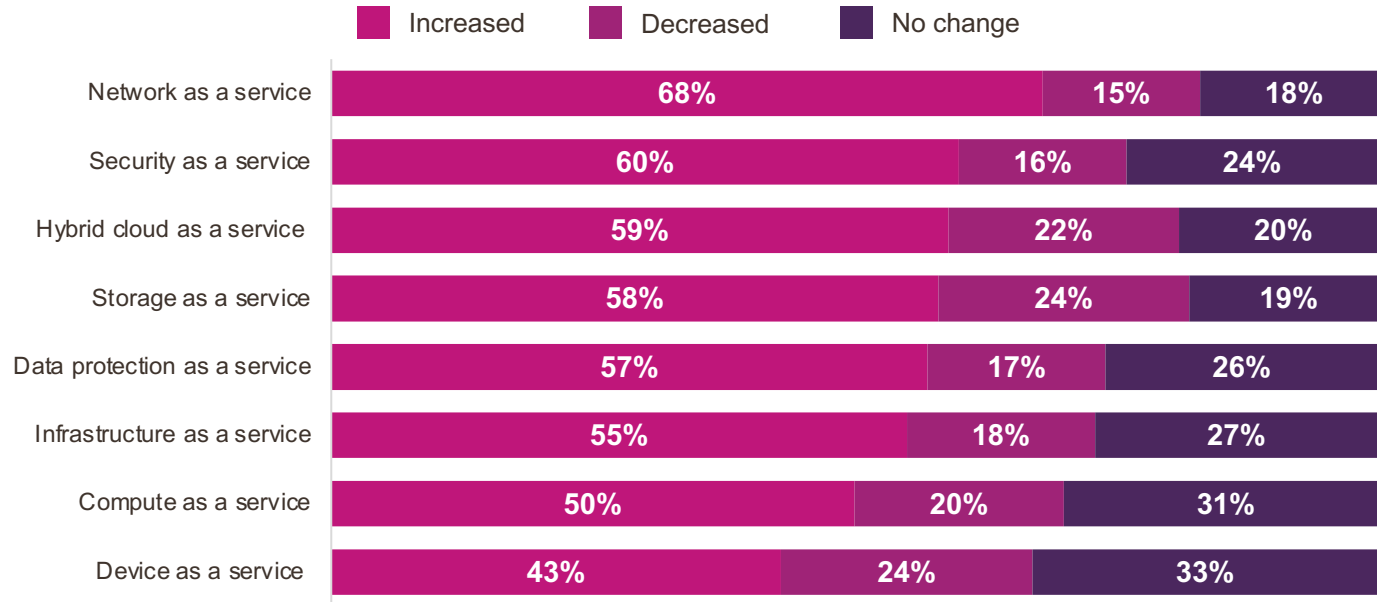


As-a-service adoption increased 50% or more in the past two years in nearly every category



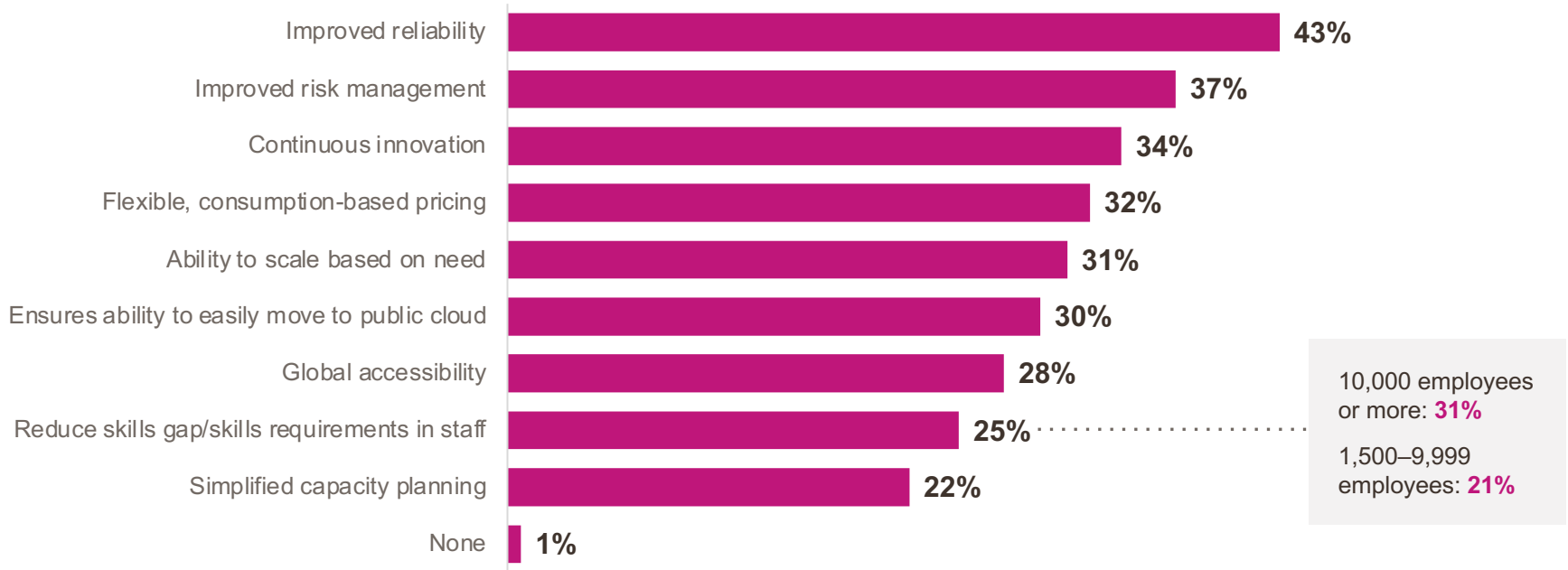
More than two-thirds (68%) report use of network as a service has increased over the past two years.

How has your organization's use of the following as-a-service models changed compared to two years ago?



Reliability and risk management are cited as the top perceived benefits of as-a-service models

Most attractive benefits of as-a-service delivery models (select three)



Organizations primarily adopt device as a service to improve operational efficiency

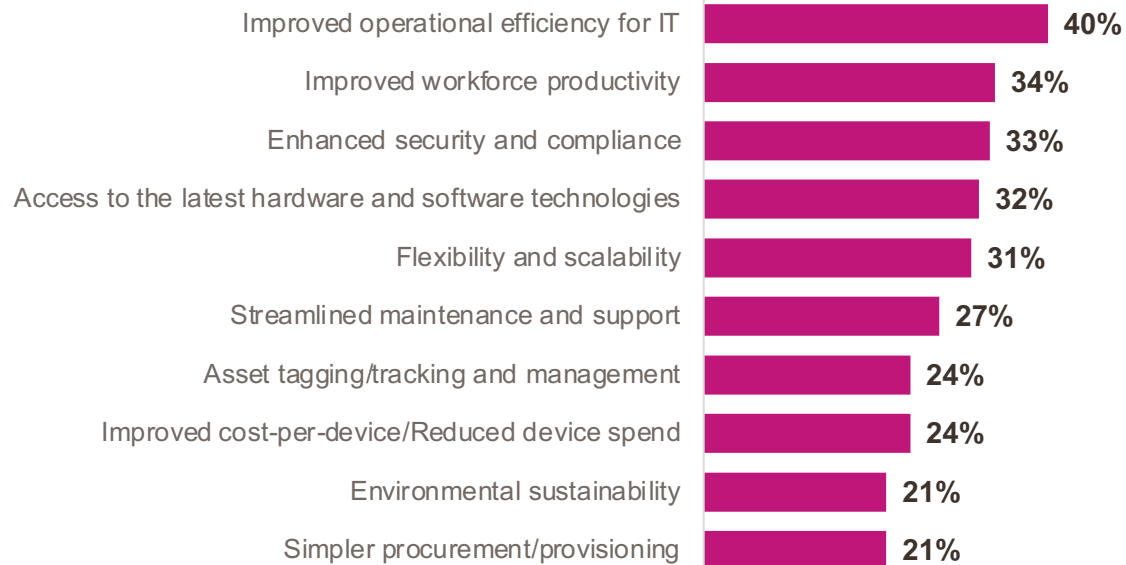


Device as a Service

(DaaS) is a subscription-based model that provides organizations with hardware devices (such as computers, laptops, tablets, smartphones or IoT devices) along with associated services, including deployment, management, maintenance and support, for a predictable monthly fee.

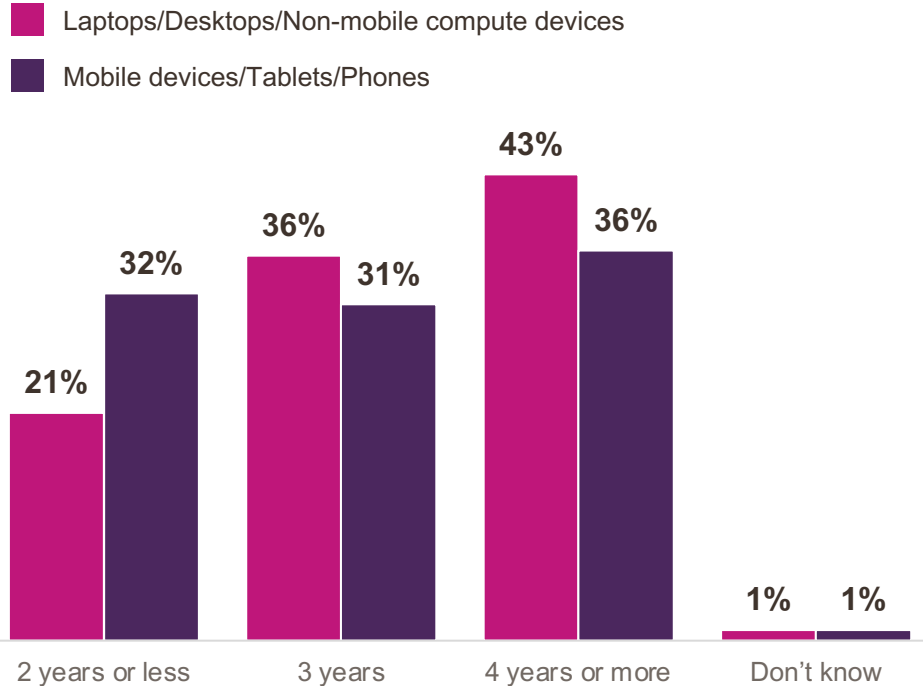
Primary objectives with respect to DaaS adoption

(among those using or planning to use DaaS, select three)



The average reported device lifecycle is roughly three years

Average duration of device refresh cycle



3.4 years

The average refresh cycle for laptops/desktops/non-mobile devices



3.1 years

The average refresh cycle for mobile devices/tablets/phones

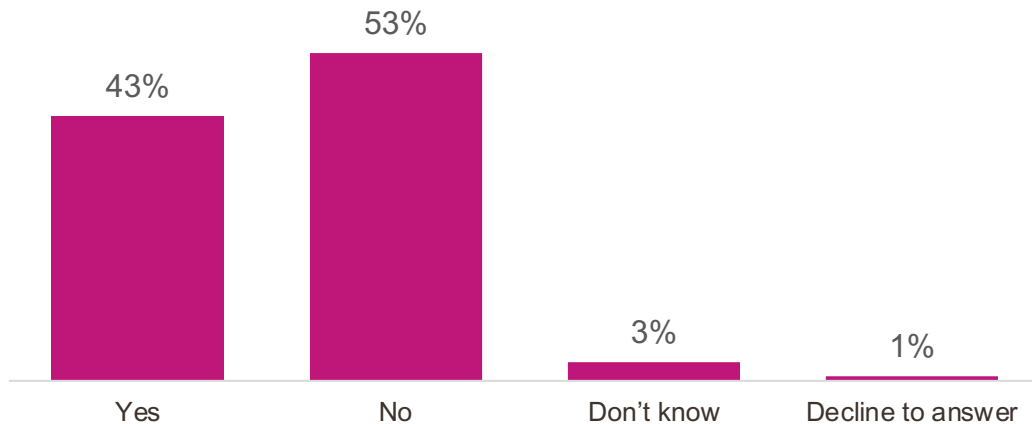
Cybersecurity



43%

report being impacted by a cybersecurity breach at their organization over the past 12 months.

As far as you are aware, has your organization been impacted by a cybersecurity breach in the last 12 months?



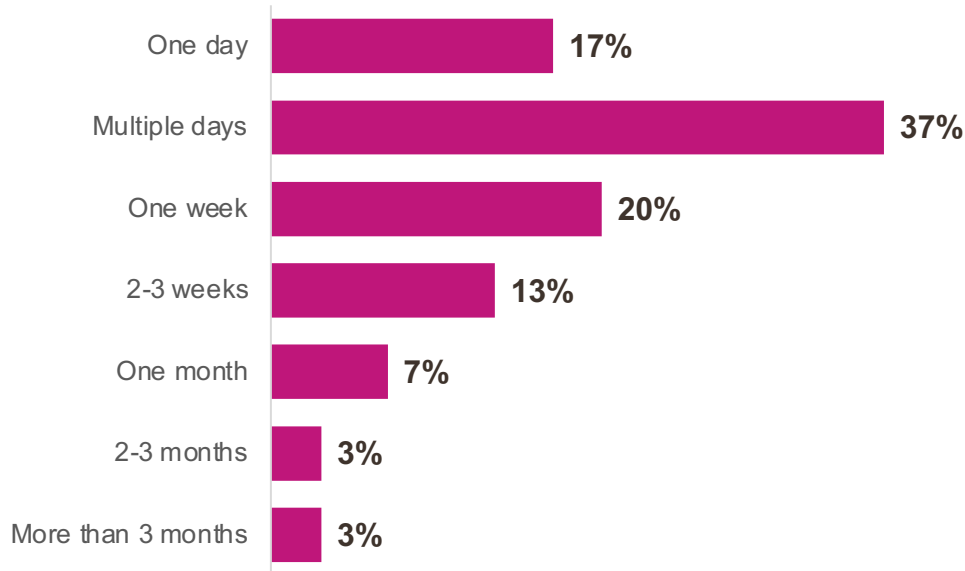
Aware of a cybersecurity breach

Financial services	55%
Manufacturing	55%
Healthcare	38%
Technology	37%
Retail	19%

11 days is the average length of time organizations took to recover from their most recent cybersecurity breach

Length of time to recover from most recent cybersecurity breach

(among those who have experienced a breach)



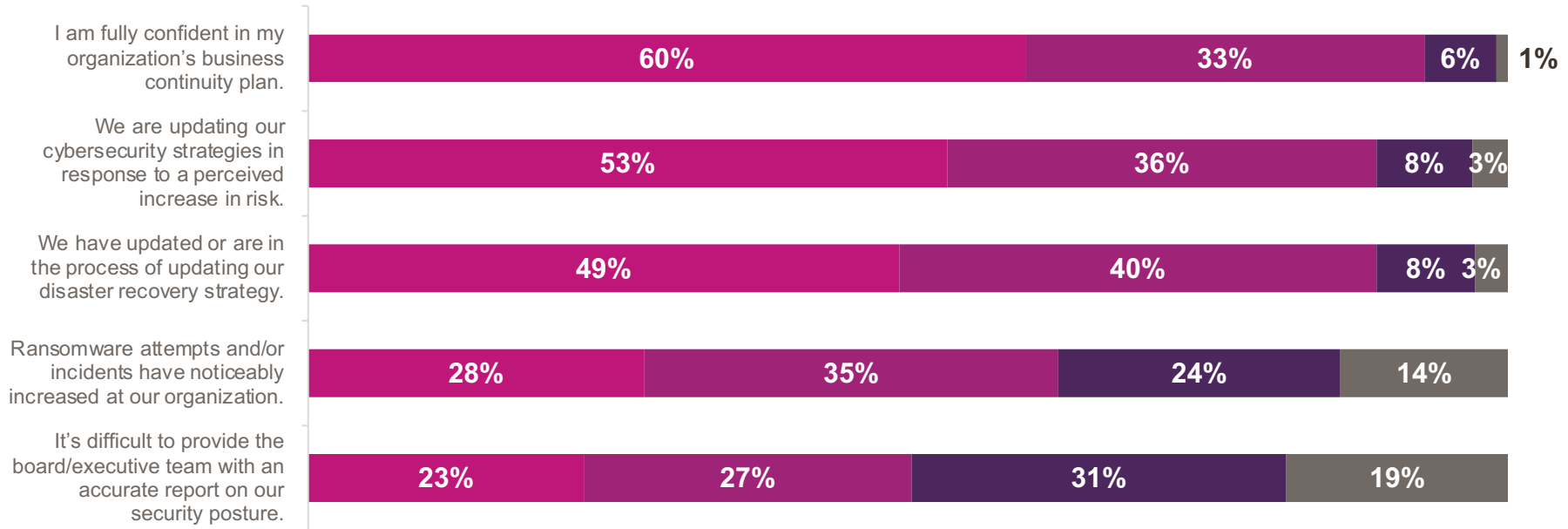
More than 40%

of those who have experienced a cybersecurity breach report that it took one week or longer to recover from the most recent incident.

Most decision-makers (89%) agree their organizations are updating security strategies in response to a perceived increase in risk

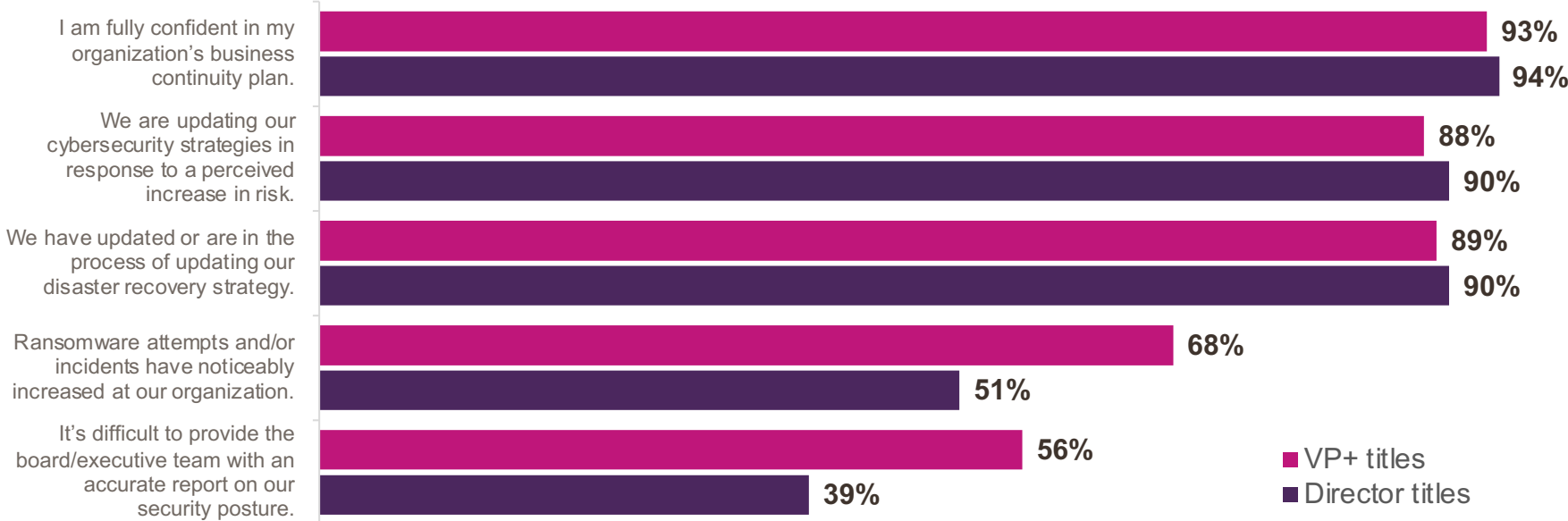
Agreement with statements regarding cybersecurity

■ Strongly agree ■ Somewhat agree ■ Somewhat disagree ■ Strongly disagree



VP and above decision-makers are more likely to agree regarding the increased threat of ransomware, and more likely to cite difficulty accurately reporting on security posture

Agreement with statements regarding cybersecurity (% strongly/somewhat agree)

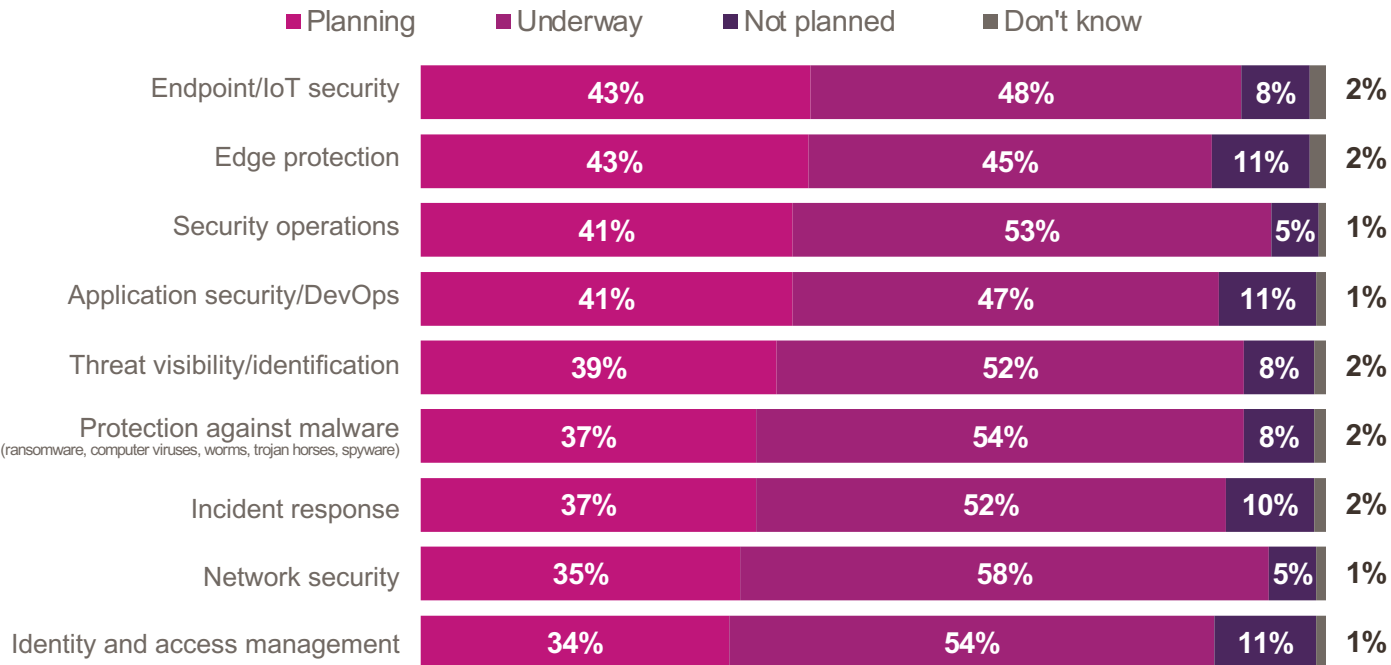


Endpoint security and edge protection are the top planned cybersecurity initiatives

Top security modernization priorities (as denoted by objectives planned and underway combined) include:

- 94%**
Security operations
- 93%**
Network security
- 91%**
Threat visibility
- 91%**
Endpoint/IoT security
- 91%**
Protection against malware

Status of cybersecurity modernization objectives



Platform Engineering

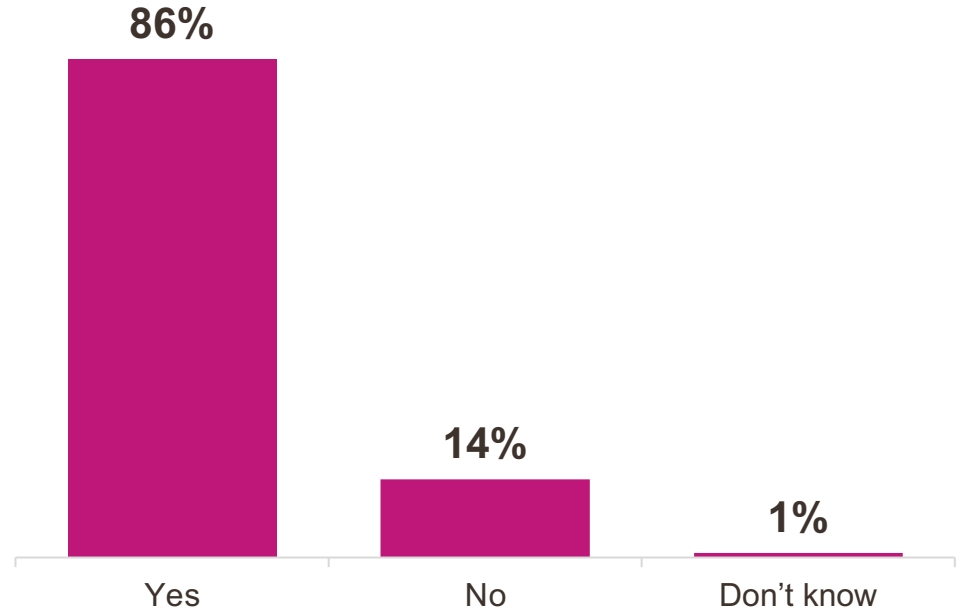


86%

report their organizations have a team dedicated to platform engineering.

Platform engineering (also known as Internal Development Platforms (IDP) or Developer Experience (DevEx)) is a discipline intended to accelerate the developer's journey. It involves designing, building and managing the foundational infrastructure and tools that enable the development, deployment and operation of software applications and services. Examples include cloud and on-premises compute environments, developer-centric portals, modern CI/CD pipelines, container orchestration systems and application frameworks.

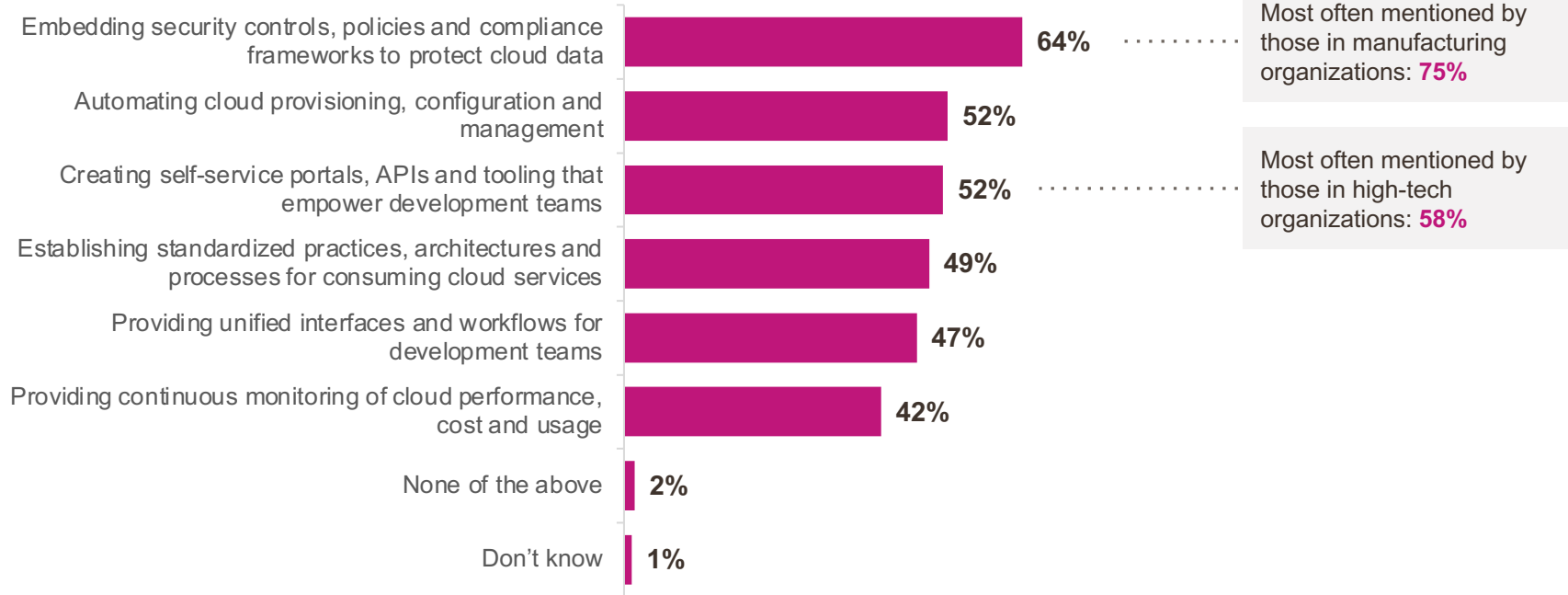
Does your organization have a team dedicated to platform engineering?



Platform engineering is improving data protection, automating cloud provisioning and empowering development teams

How is platform engineering accelerating your organization?

(select all that apply)



A long-exposure photograph of a city street at night, showing light trails from cars and buildings in the background. The image is overlaid with a dark purple gradient.

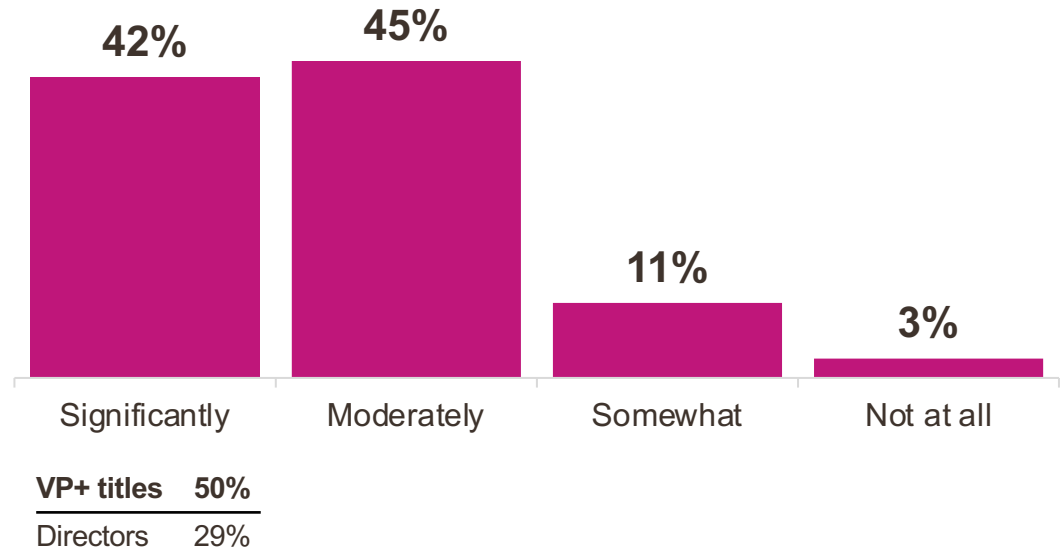
Environmental, Social and Governance (ESG)



87%

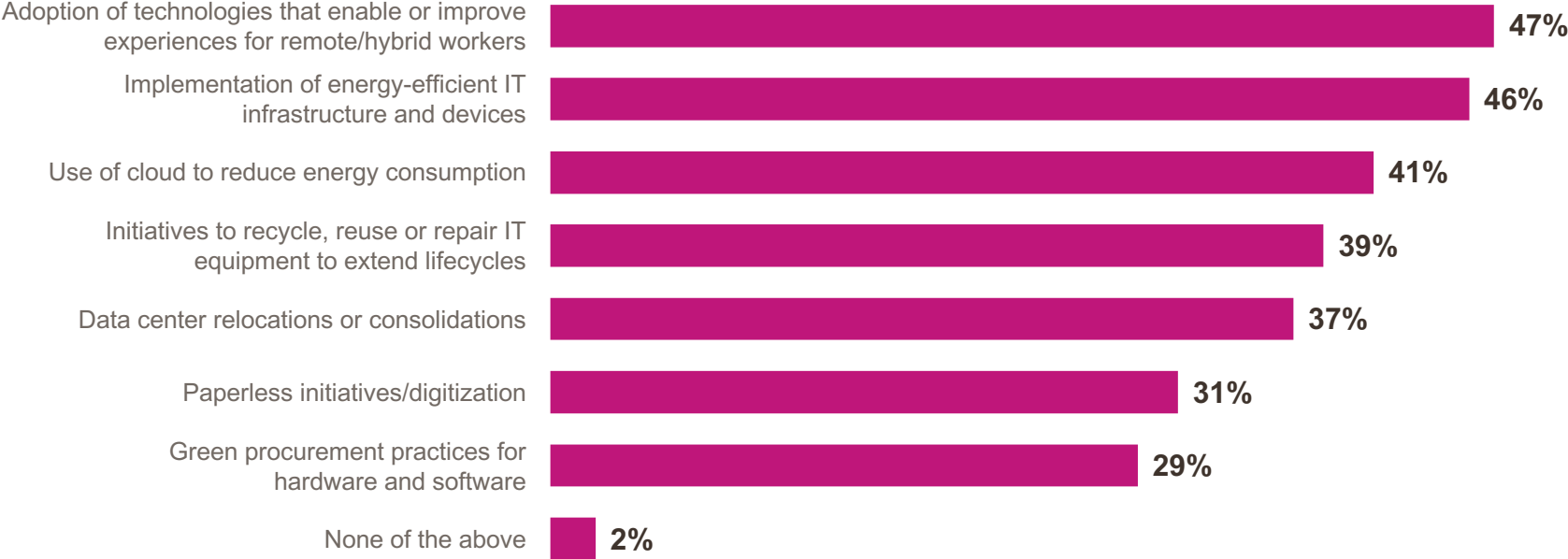
indicate ESG concerns have a moderate to significant impact on IT investment decisions.

To what extent are ESG concerns influencing your organization's IT investment decisions?



ESG concerns primarily impact decisions around workforce IT and energy-efficient infrastructure

IT investment decisions primarily impacted by ESG concerns (select three)



Appendix

As-a-service definitions

Network as a Service (NaaS) is a cloud-based networking solution that provides organizations with on-demand access to network resources and services, including virtualized network infrastructure, connectivity and management, typically offered on a subscription basis.

Storage as a Service (STaaS) is a cloud-based storage solution that enables organizations to store, manage and access data over the internet, eliminating the need for on-premises storage infrastructure.

Infrastructure as a Service (IaaS) is a cloud compute model that provides virtualized compute resources, including servers, storage, networking and infrastructure components, as scalable and on-demand services.

Compute as a Service (CaaS) is a cloud-based compute solution that delivers virtualized compute resources, such as processing power, memory and operating systems, as on-demand services.

Security as a Service (SECaaS) is a cloud-based security solution that delivers security services, such as threat detection, prevention, monitoring and incident response, as managed services.

Data Protection as a Service (DPaaS) is a cloud-based data protection solution that provides backup, recovery and disaster recovery services for data stored in the cloud or on-premises.

Hybrid Cloud as a Service (HCaaS) providers offer seamless integration, management and orchestration of resources across public and private cloud environments, enabling organizations to leverage the benefits of both cloud models.

Device as a Service (DaaS) is a subscription-based model that provides organizations with hardware devices (such as computers, laptops, tablets, smartphones or IoT devices) along with associated services, including deployment, management, maintenance and support, for a predictable monthly fee.

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