

Navigating the Great Enterprise Storage Squeeze

Simon Robinson | *Principal Analyst, Storage*

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Research objectives

Massive DRAM and NAND flash purchases by cloud hyperscalers building AI infrastructure are creating unprecedented storage media supply constraints through 2026 and beyond, causing substantial price increases and availability issues. Unlike previous shortages, the great storage squeeze of 2026 is not temporary or easily fixed. All storage media, including HDDs and SSDs, will face disruption into 2027, presenting significant procurement challenges during AI-induced data growth.

How aware are IT teams of storage and memory supply challenges and their potential impact? How are organizations responding to these challenges and adjusting storage and data infrastructure strategies accordingly?

To gain insights into the answers to these questions, Omdia surveyed 400 IT professionals in North America involved with or responsible for evaluating, purchasing, managing, and building enterprise and data center storage, cloud storage, data management technology, and related infrastructure at their organization.

This study sought to:

- Identify** the range of the supply squeeze on IT infrastructure overall and storage in particular.
- Determine** the impact of supply constraints and price increases on storage procurement plans.
- Assess** the extent of deeper challenges created by the shortage, such as understanding dark data.
- Monitor** how organizations are developing alternative strategies in response to supply chain issues.



Key findings



Organizations grapple with rapid data and location expansion

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The storage squeeze is already a significant issue across the infrastructure stack

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Storage constraints prompt a shift toward cloud and software-defined strategies

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Dark data is a growing challenge as supply limitations continue

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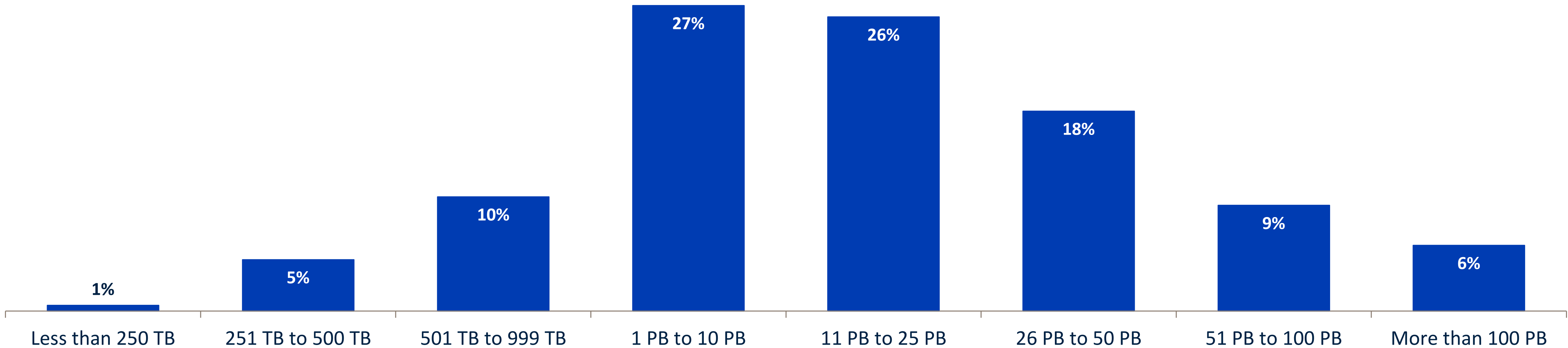
Organizations grapple with rapid data
and location expansion



One-third of organizations have more than 25PB of data on-premises

The need for organizations to effectively and efficiently store data at scale within their own environments has never been greater. Though total volumes vary widely, the number of organizations with large-scale needs is significant, with more than three-quarters now storing more than a petabyte on-premises. This signals a fundamental transformation in data generation, retention requirements, and business operations across the broader enterprise landscape. Organizations of varying sizes and industries have crossed into territory that demands sophisticated storage architectures, specialized management tools, and substantial capital investment.

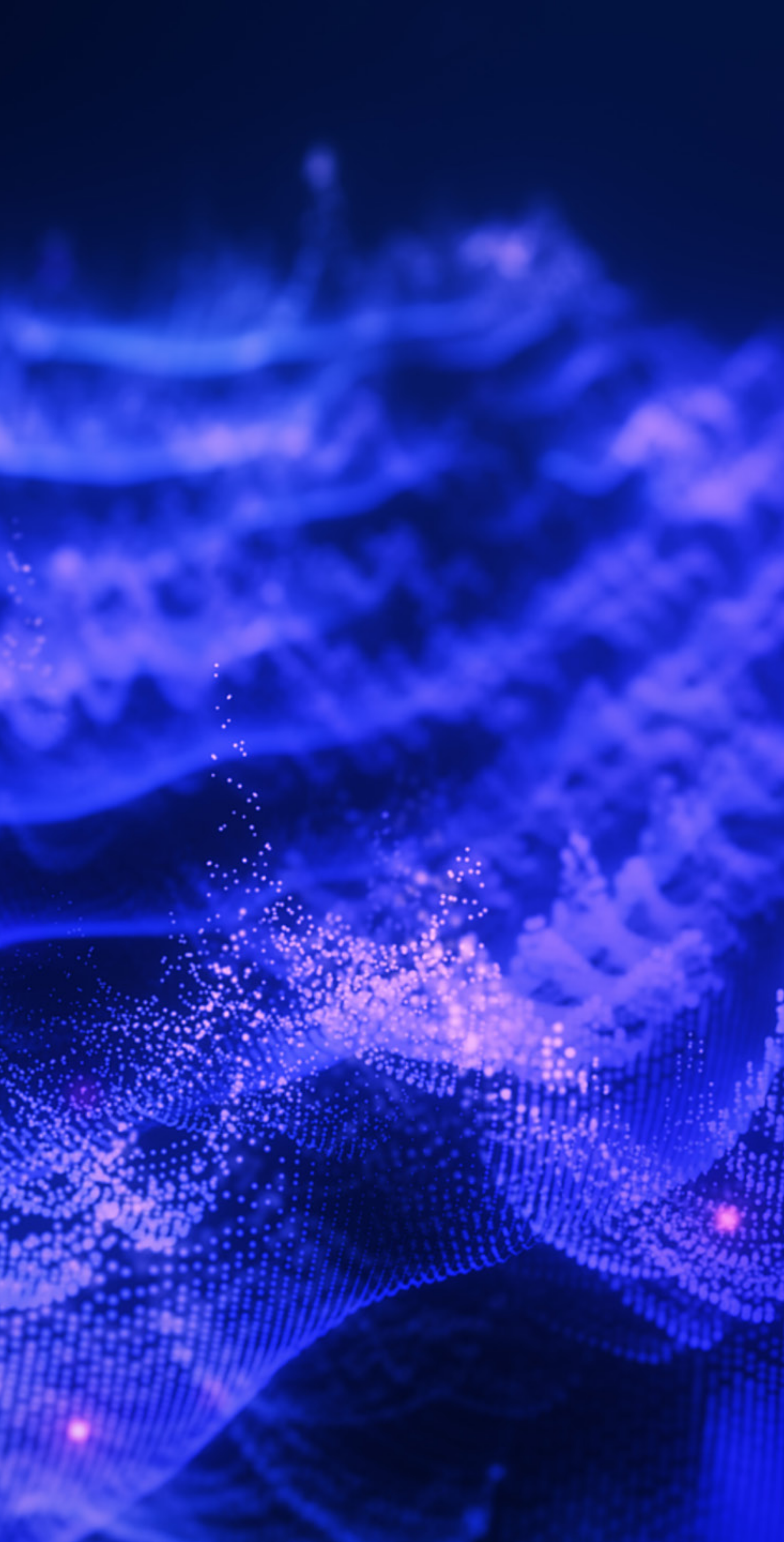
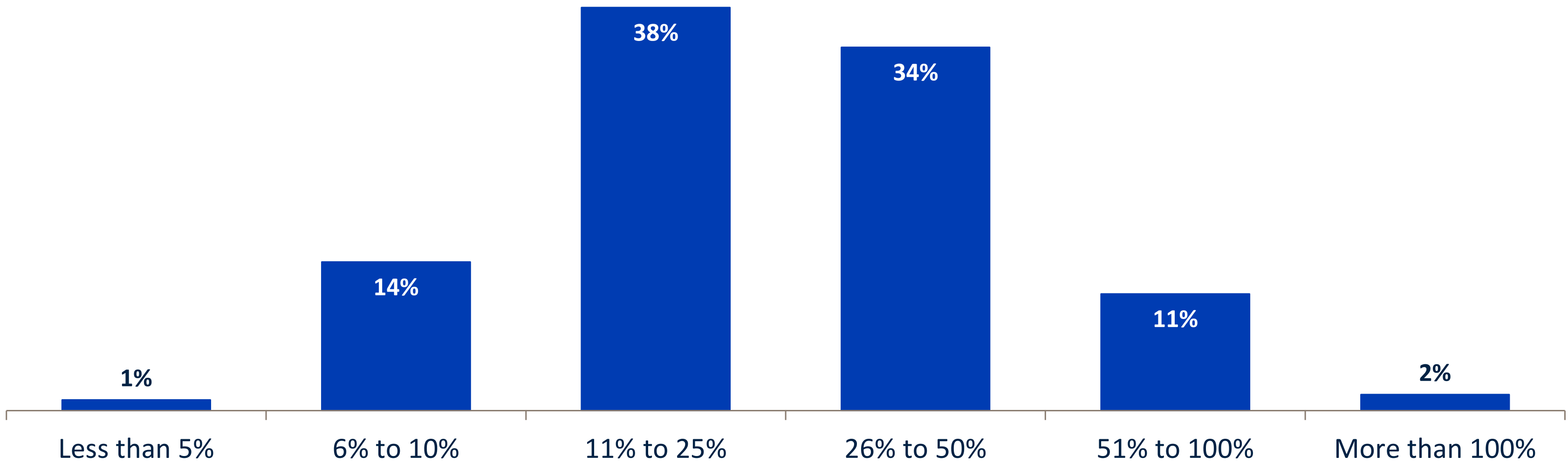
Amount of data stored across all on-premises locations.



Growth of on-premises data continues at pace

Organizations across the board continue to experience strong levels of data growth. While this has been a constant in IT, continued data growth at a time of severely restricted supply is creating new challenges for IT leaders, who can no longer assume that storage is plentiful and pricing is normal. Further, it is unlikely that these restrictions will ease at any time soon, prompting many to reconsider whether their current assumptions and strategy are fit for purpose.

Approximate annual growth rate of all data stored across on-premises locations.

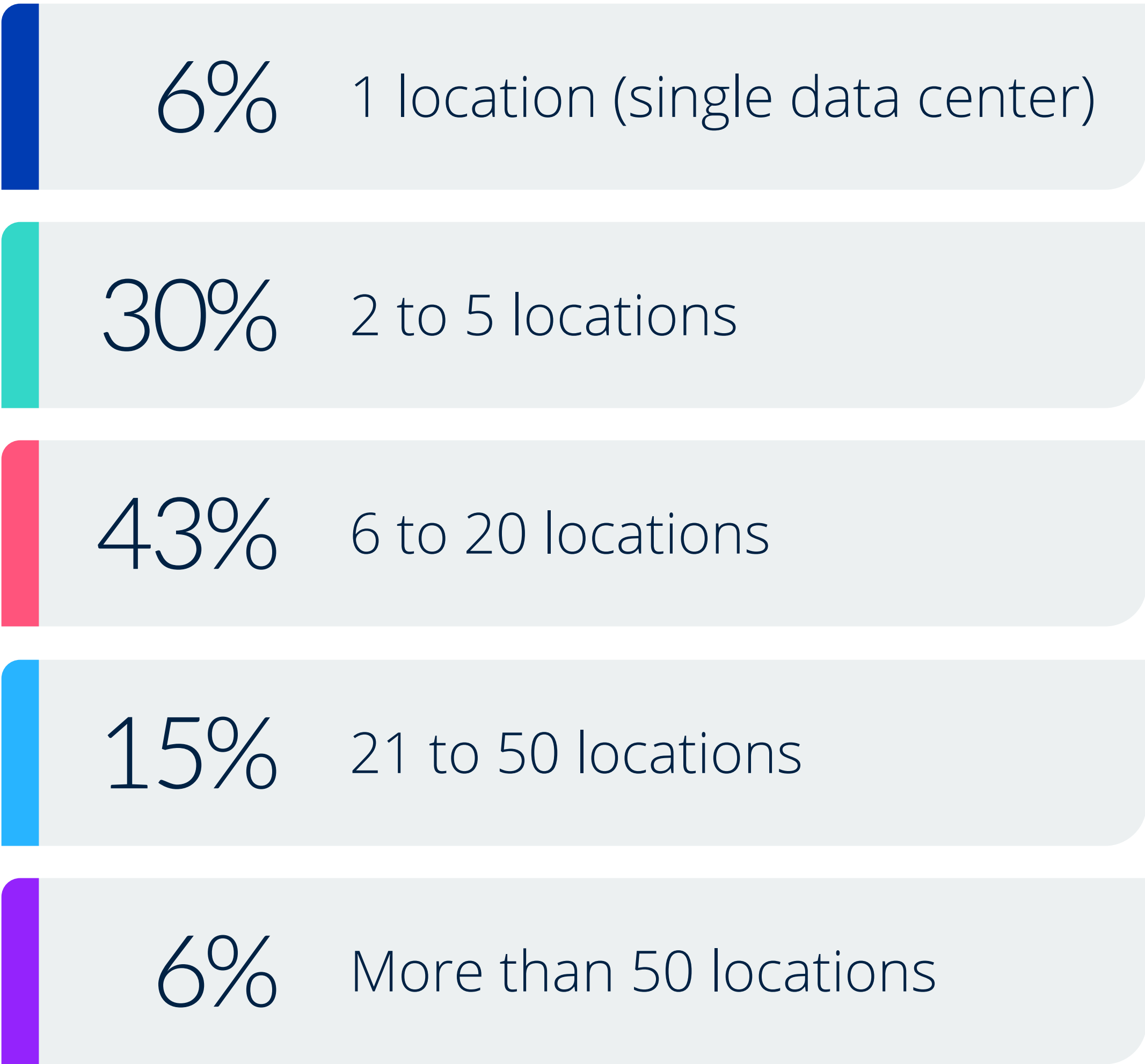




Almost all IT environments span multiple locations

Most IT infrastructure leaders are managing multiple locations. The era of centralized data centers serving all enterprise needs has given way to a distributed infrastructure model where IT leaders must orchestrate technology deployments, manage capacity, ensure security, and maintain performance across geographically dispersed locations, each with unique requirements, constraints, and local conditions. This distribution multiplies the complexity of every infrastructure decision and transforms challenges that might be manageable in a single location into coordination nightmares across dozens of sites.

Number of physical locations (e.g., data centers, remote offices, edge sites, etc.) across which IT infrastructure is managed.



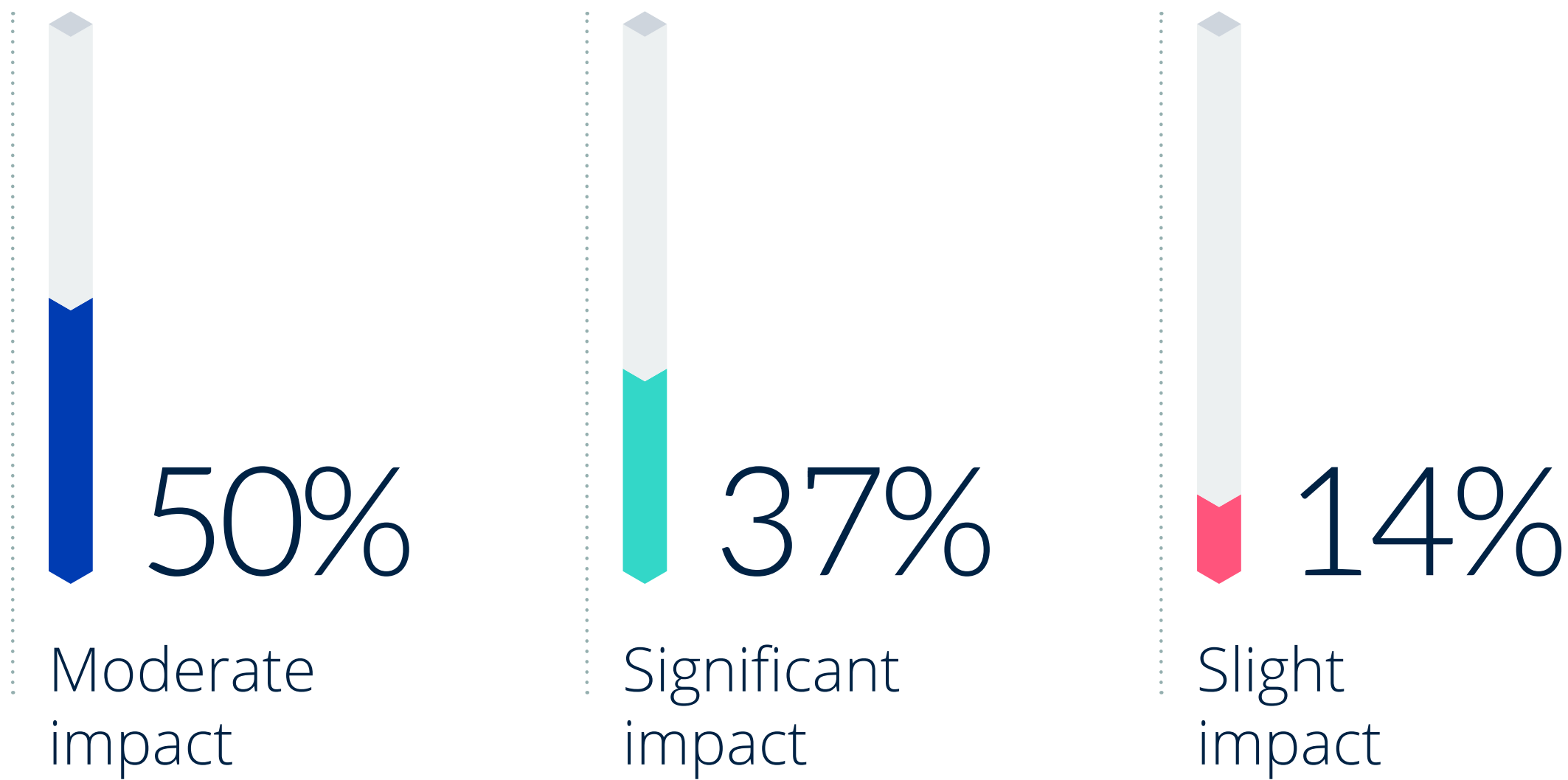
A man and a woman are seated at a desk in a dimly lit office, working on laptops. The man is in the foreground, looking intently at his screen. The woman is slightly behind him, also focused on her work. The entire image is overlaid with a semi-transparent blue filter.

The storage squeeze is already a significant issue across the infrastructure stack

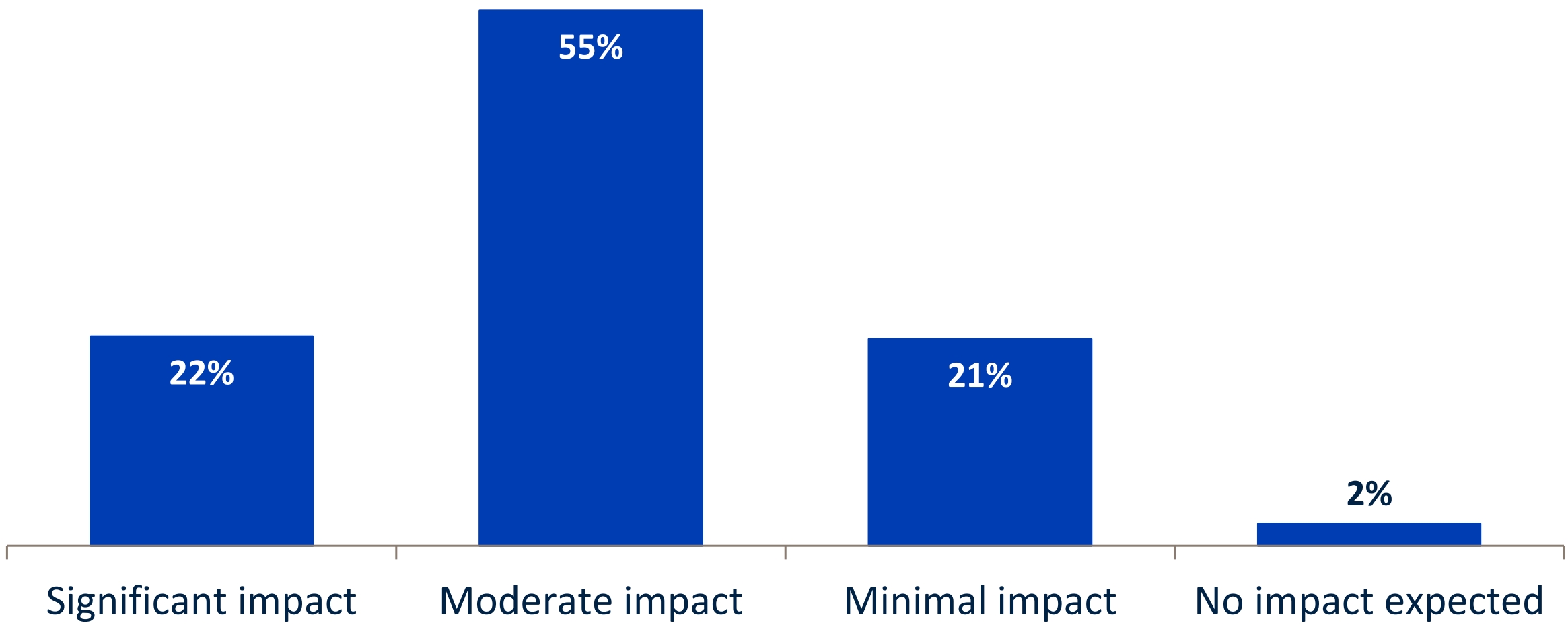
Storage shortages and price increases are impacting most organizations and all IT budgets

The fallout from the storage supply squeeze has created a moderate to significant impact on current IT budgets in most organizations, and no organizations are completely avoiding impacts. Nearly all study respondents expect at least some impact to their organization over the next 12 to 18 months from NAND flash and memory shortages, with almost a quarter indicating the impact will be significant. It is clear that most organizations do not anticipate a quick resolution.

Impact of price increases for storage and memory on current IT budgets.



Impact of NAND flash and memory shortages on organizations over the next 12 to 18 months.

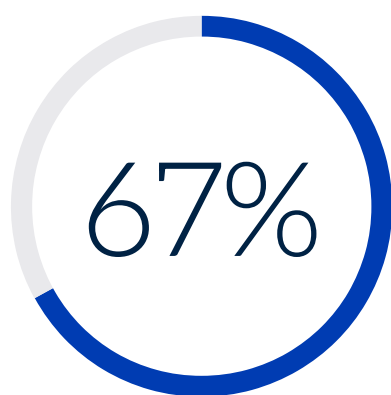


Shortages are leading to multiple challenges

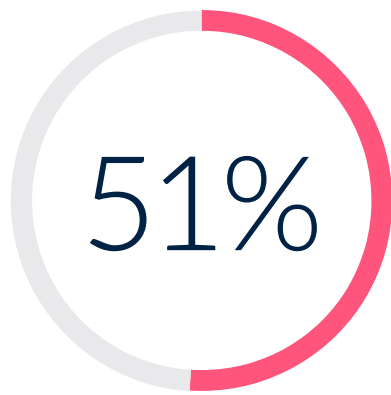
It is no surprise that the shortage is pushing up storage costs for a majority of respondents, and this is forcing IT leaders to make some difficult choices. As a result of higher costs, over half are delaying hardware deployments, and many are anticipating business-critical impacts caused by lack of hardware and delays in critical initiatives.

Additionally, more than half of respondents note that squeezed budgets are leading to reduced spending elsewhere in IT. This is not just an operational inconvenience, but rather a situation that directly threatens business performance and competitive positioning. Teams are not merely postponing nice-to-have upgrades; they are experiencing a fundamental breakdown in the IT supply chain’s ability to support business velocity.

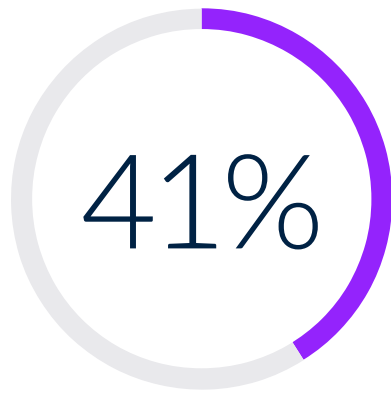
Challenges faced or expected as a result of the storage and memory component shortage.



Increased costs for memory and storage components



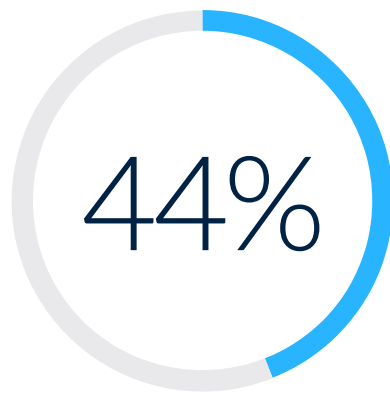
Delays in IT hardware deployments



Delays in rolling out business-critical IT initiatives



Budget constraints or reduced spending in other areas of IT



Reduced availability of critical IT hardware

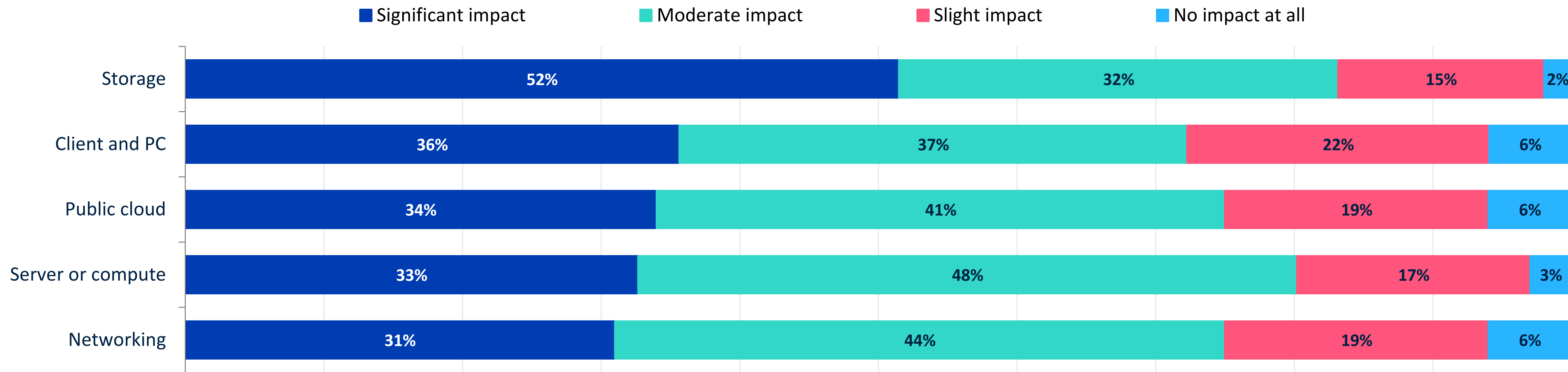


Difficulty meeting business performance requirements and SLAs

Storage infrastructure feels the brunt, but impacts extend across IT

It is no surprise that storage system price increases are having the most impact, but storage and memory are vital components in almost all IT hardware. This means that IT organizations are facing substantial shortages and price spikes across all infrastructure types, from PCs and servers to public cloud. While storage systems represent the most visible manifestation of the supply crisis, the underlying component shortages create a cascading effect that touches every layer of enterprise IT infrastructure.

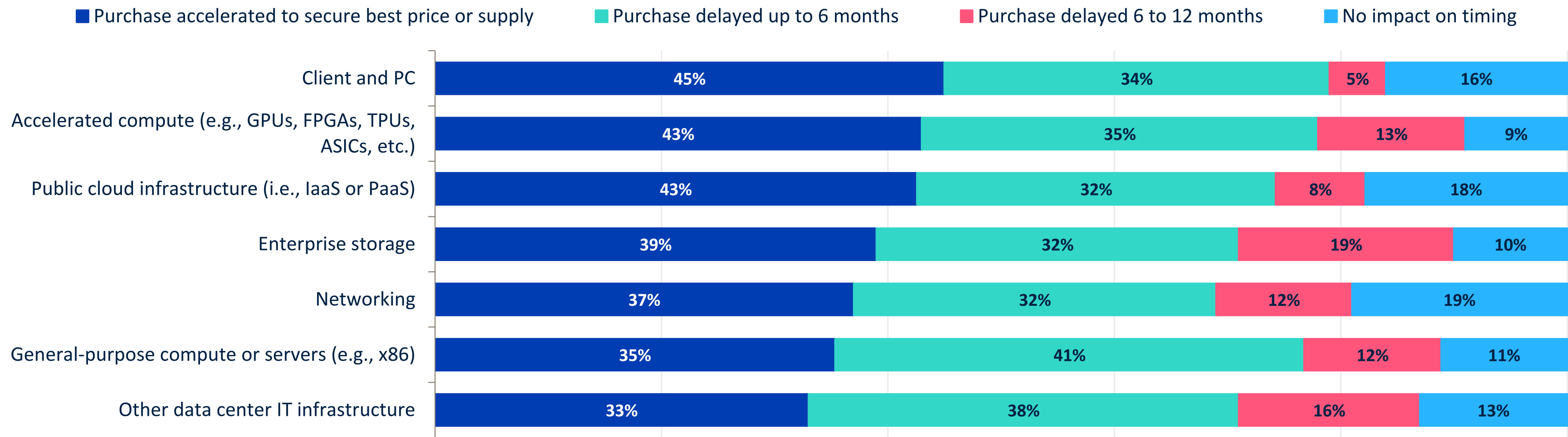
Extent to which the storage and memory component shortages and associated price increases have impacted, or will impact, infrastructure areas.



IT leaders are looking to pull in infrastructure purchases to secure supply

The vast majority are looking at ways to deal with higher pricing and longer lead times, with many seeking to accelerate infrastructure purchases to secure supply or the best price. This is especially true for PCs, accelerated compute, and public cloud infrastructure. This may not be an option for all, however, and many are delaying a planned purchase, with temporary pauses of around six months at this stage being by far the preferred approach.

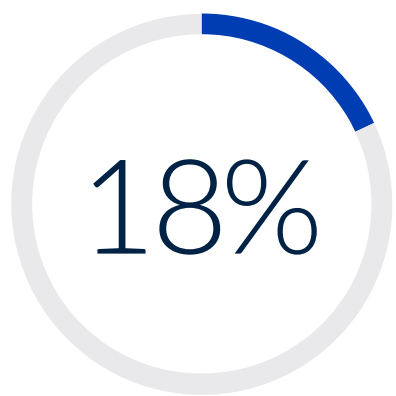
Impact of shortages of hardware and components (particularly storage and memory) on the timing of planned infrastructure purchases.



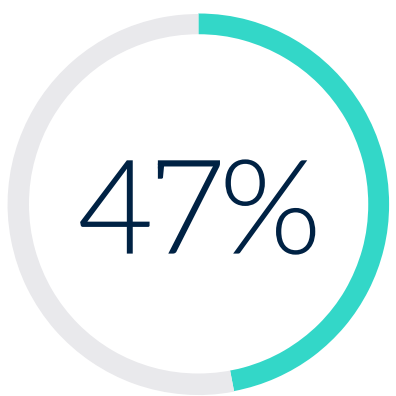
Infrastructure consolidation is a popular consideration to manage the squeeze

With component supply now a key constraint, almost all organizations (98%) are either considering consolidating their infrastructure overall into fewer platforms or are already in the process of doing so. Such approaches offer the potential for lower overall component usage through improved efficiency. This suggests consolidation has moved from optional optimization to existential necessity; organizations are not debating whether to consolidate, but rather how quickly they can execute. This urgency reflects a fundamental recalculation, where the sprawling, heterogeneous storage environments that evolved organically over decades have become unsustainable liabilities in a supply-constrained world.

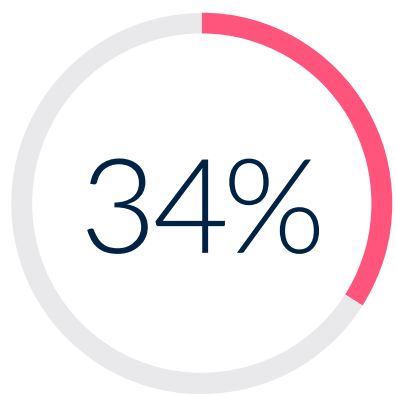
Extent to which organizations are consolidating infrastructure layers as a strategy for managing storage and memory cost pressures.



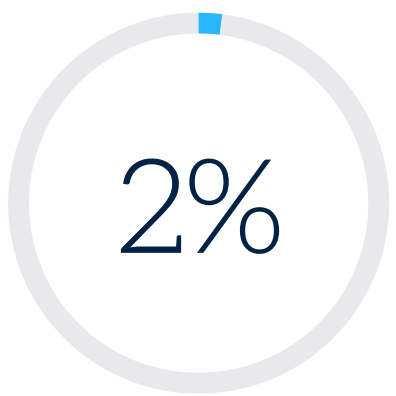
Already consolidated significant areas of infrastructure stack



Actively consolidating some infrastructure layers



Exploring consolidation options



Not considering consolidation

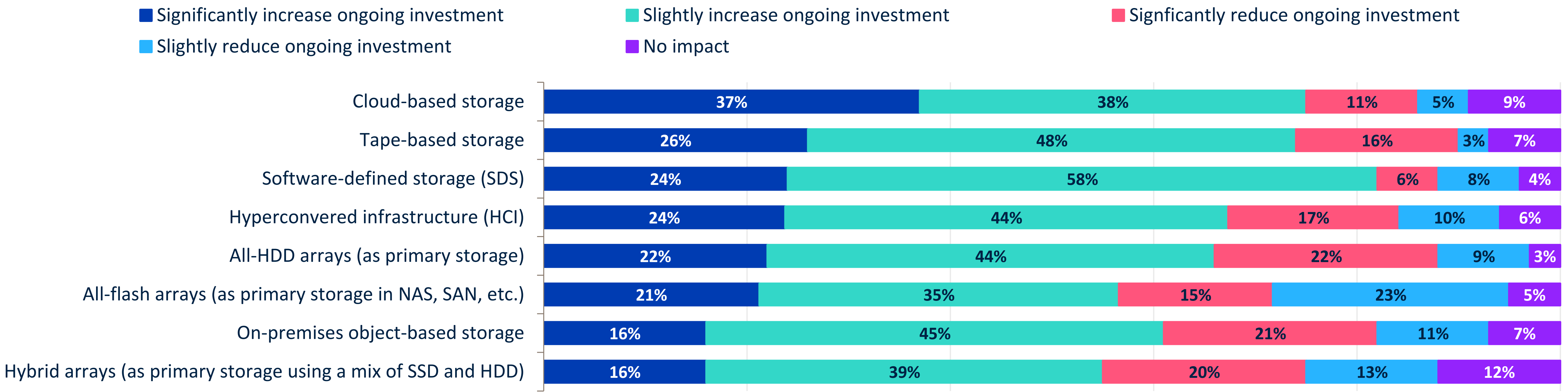


Storage constraints prompt a shift toward
cloud and software-defined strategies

Organizations turn to cloud-based storage during the supply chain squeeze

Three-quarters of respondents already using cloud storage plan to increase their usage of cloud-based storage as a direct response to the supply squeeze; a similar proportion of tape users plan to do the same, though to a lesser degree. Meanwhile, 82% of software-defined storage users plan to increase their spending in response. These divergent response patterns reveal how organizations are leveraging their existing technology investments and architectural philosophies to navigate supply constraints, with each approach reflecting distinct strategic calculations about risk, cost, and capability trade-offs.

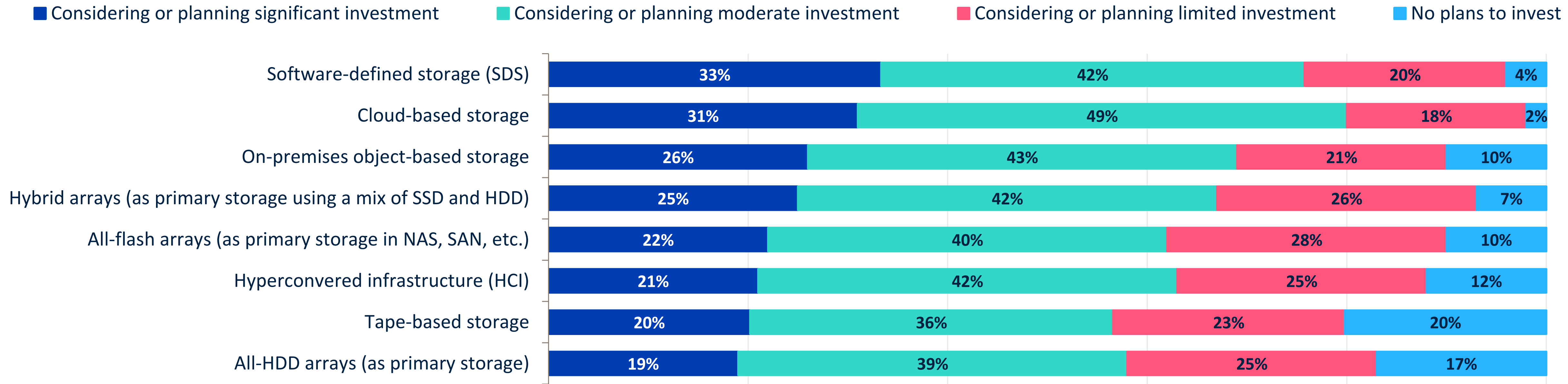
Impact of the storage and memory shortage on deployment plans for storage types over the next 12 months.



Software-defined storage is an attractive storage type among non-users

Overall, organizations are planning to invest across a range of storage technologies as a response to the squeeze, including technologies that they do not currently have deployed. Software-defined storage tops the list in terms of most significant investments, likely since it offers independence from the underlying hardware; however, it is superseded by cloud-based storage in terms of overall spending plans.

Plans to purchase and deploy storage types not currently deployed as a response to the storage and memory shortage.



Data process and efficiency improvements are top priorities

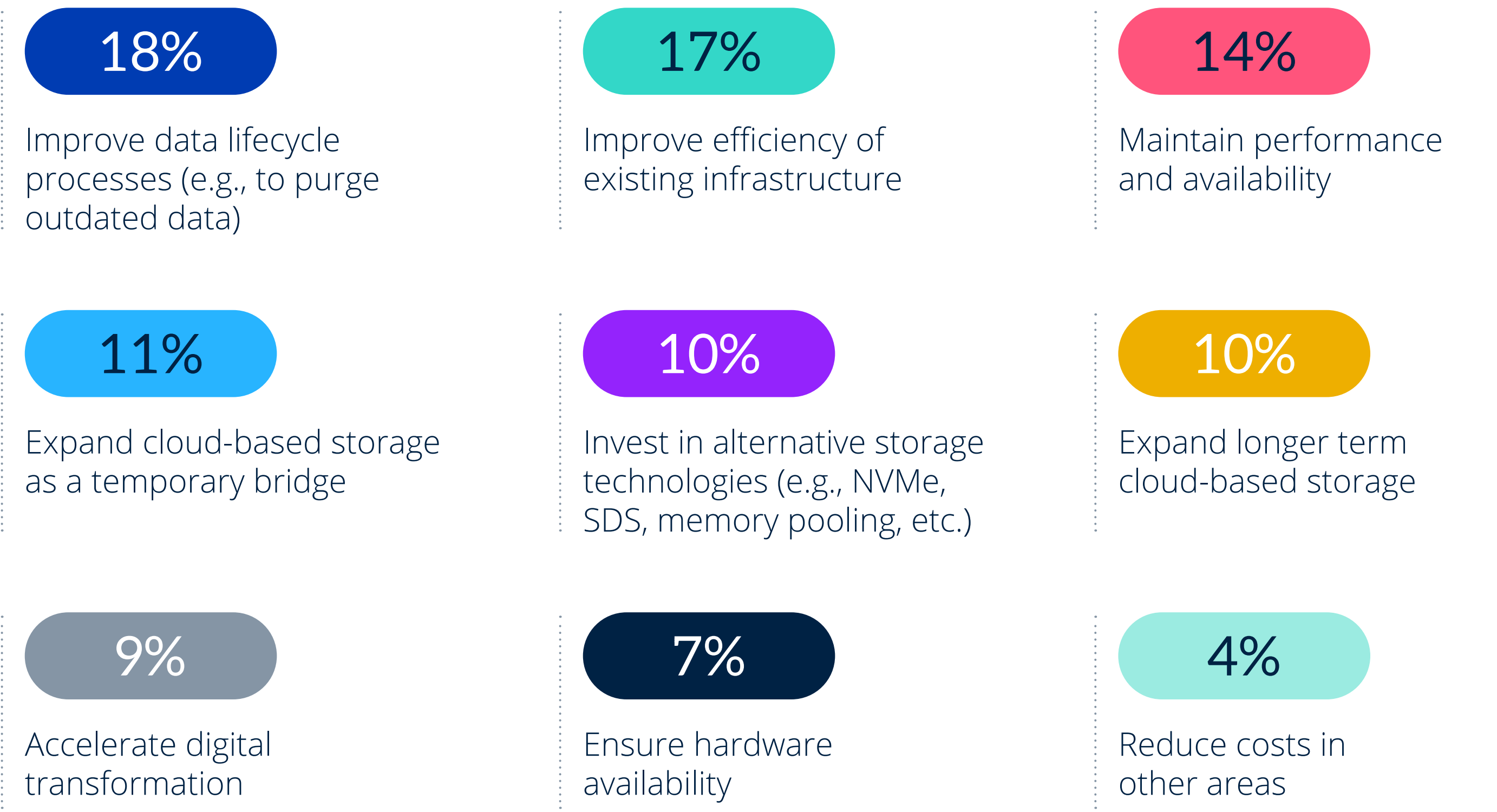
Faced with higher costs and constrained supply, IT decision makers are turning to a range of measures to cope.

Overall, they are looking to improve the efficiency of their environment, both in general and by improving data lifecycle management processes.

A key concern for many is interrupting existing infrastructure performance overall and hardware availability specifically, while tapping into public cloud-based storage as a temporary bridge is a top priority for more than one in ten.

All this highlights that the supply squeeze requires IT leaders to find a tricky balance of managing cost without harming service levels and availability.

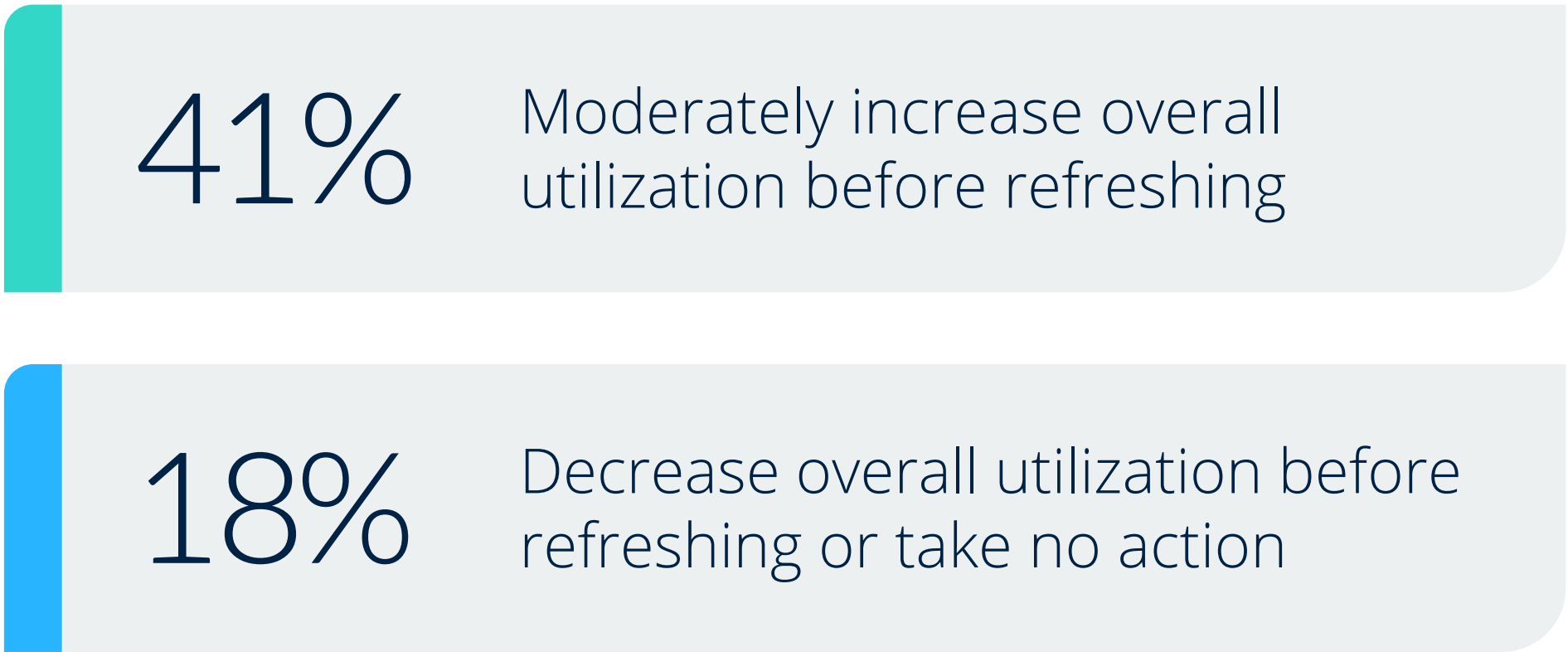
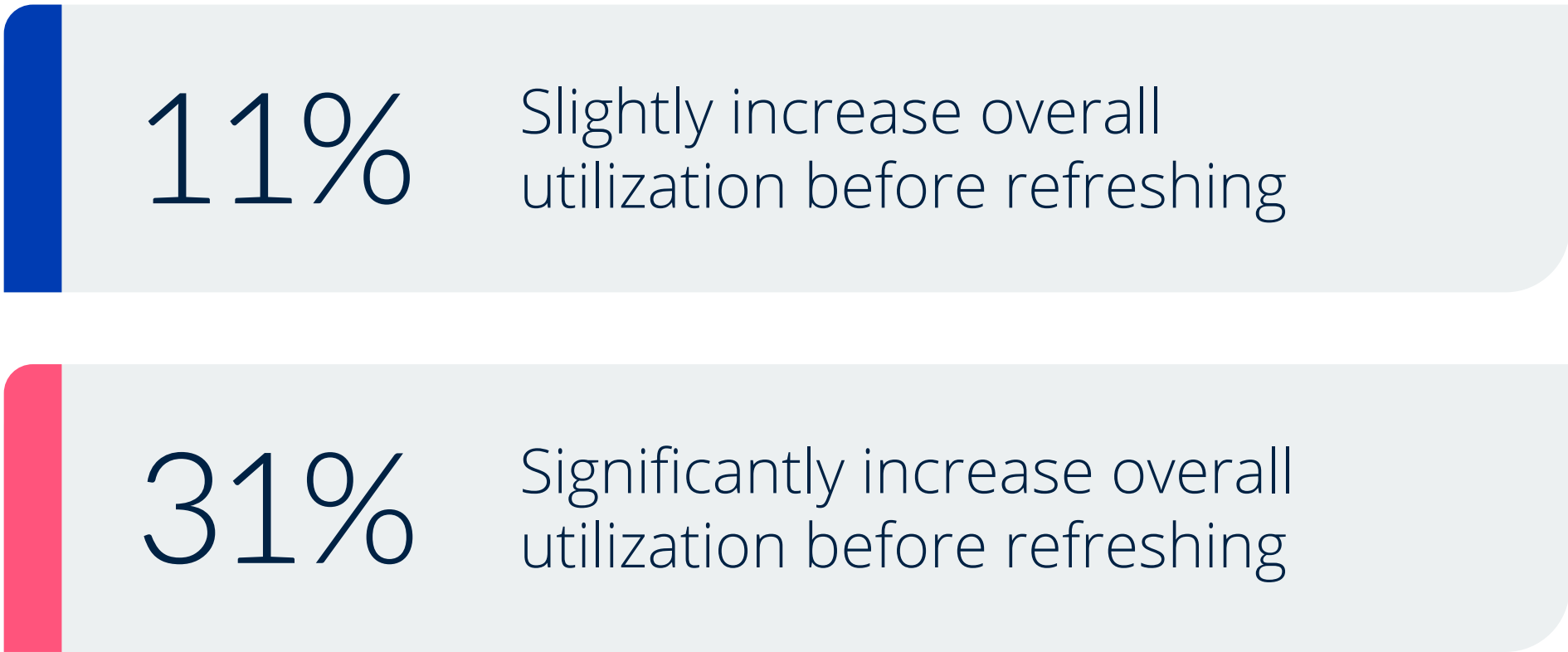
Top priority in managing the impact of the storage and memory component shortage.



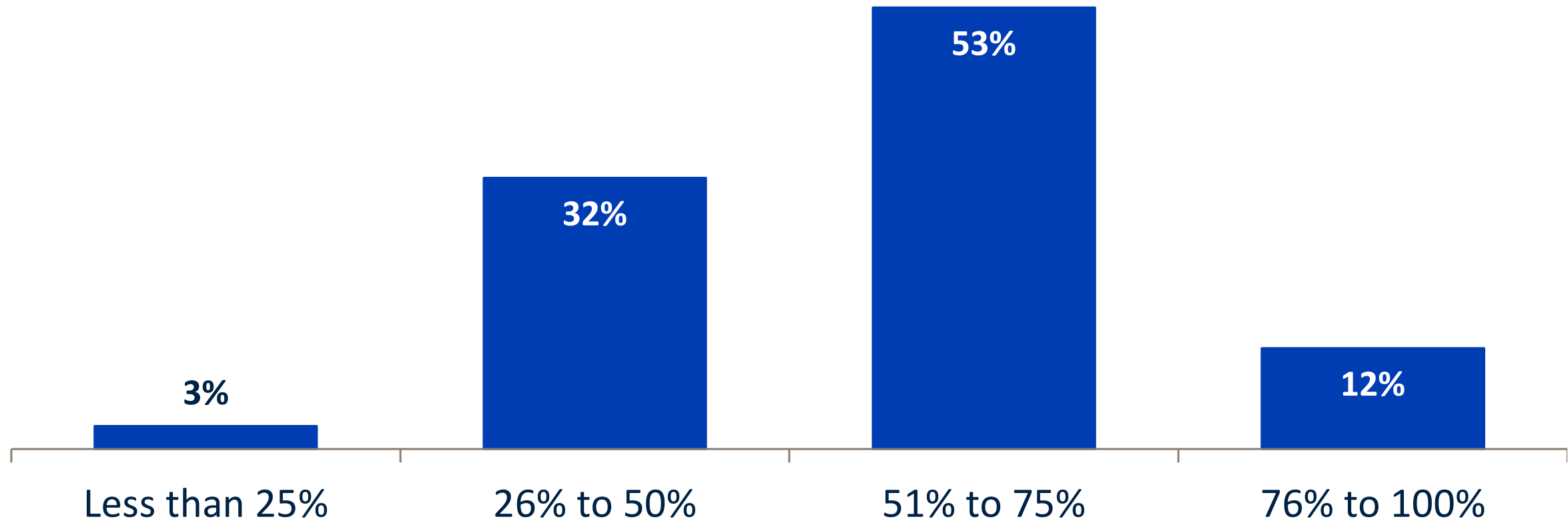
A clear majority plans to increase utilization to mitigate the shortage

Despite varying storage utilization rates, the majority of IT leaders plan to further sweat their storage assets to mitigate supply challenges. This widespread strategy represents a fundamental shift in storage management philosophy driven by necessity rather than best practice. Historically, IT organizations maintained storage utilization buffers to ensure performance headroom, accommodate unexpected growth, and provide flexibility for data migration during refresh cycles. The fact that so many organizations are now willing to push beyond these traditional thresholds signals the severity of the supply constraint and the limited alternatives available in the current market environment.

Plans to modify overall storage utilization from historical levels as a response to the storage and memory shortage.



Approximate utilization ratio of primary storage arrays.



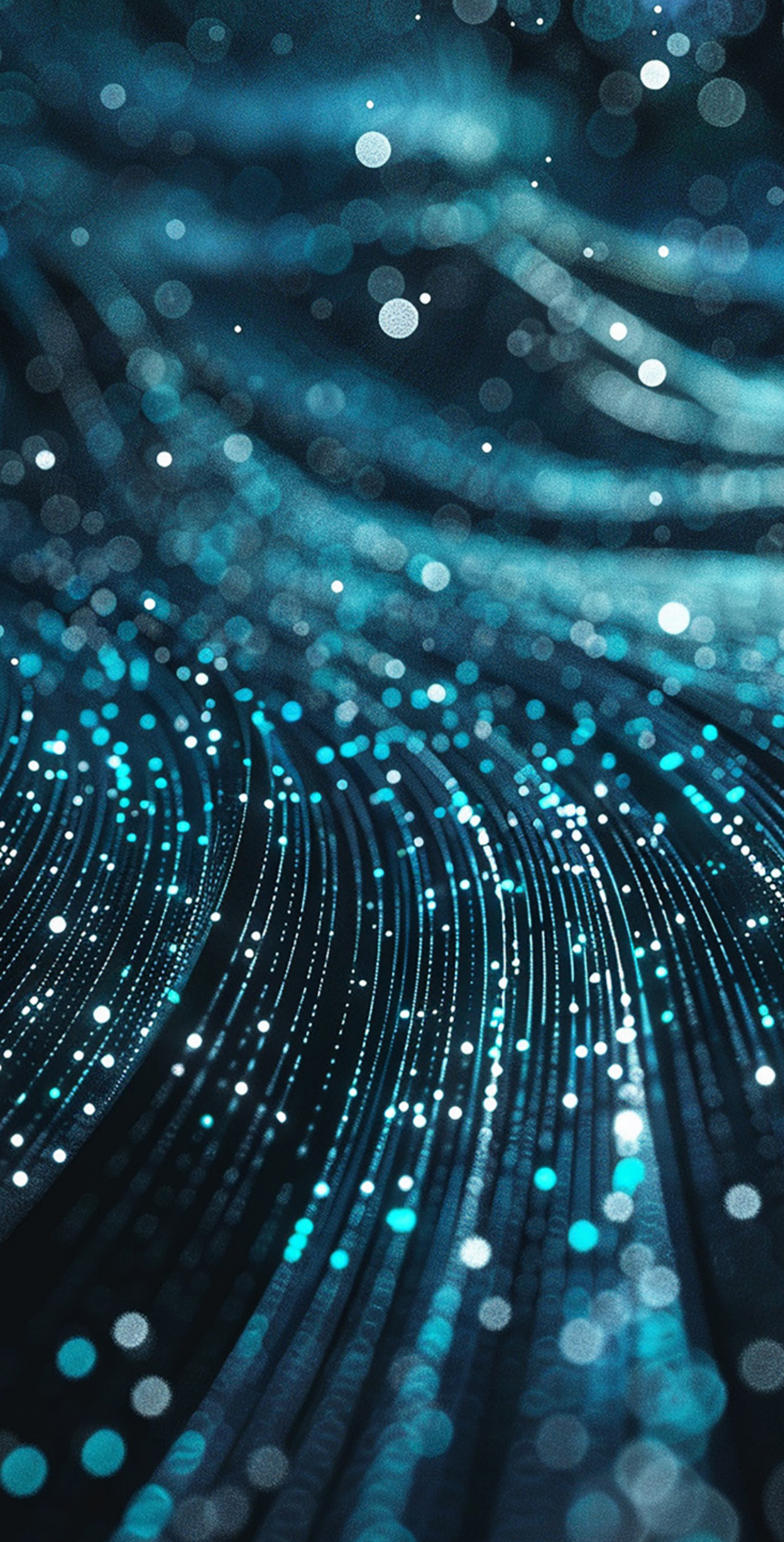
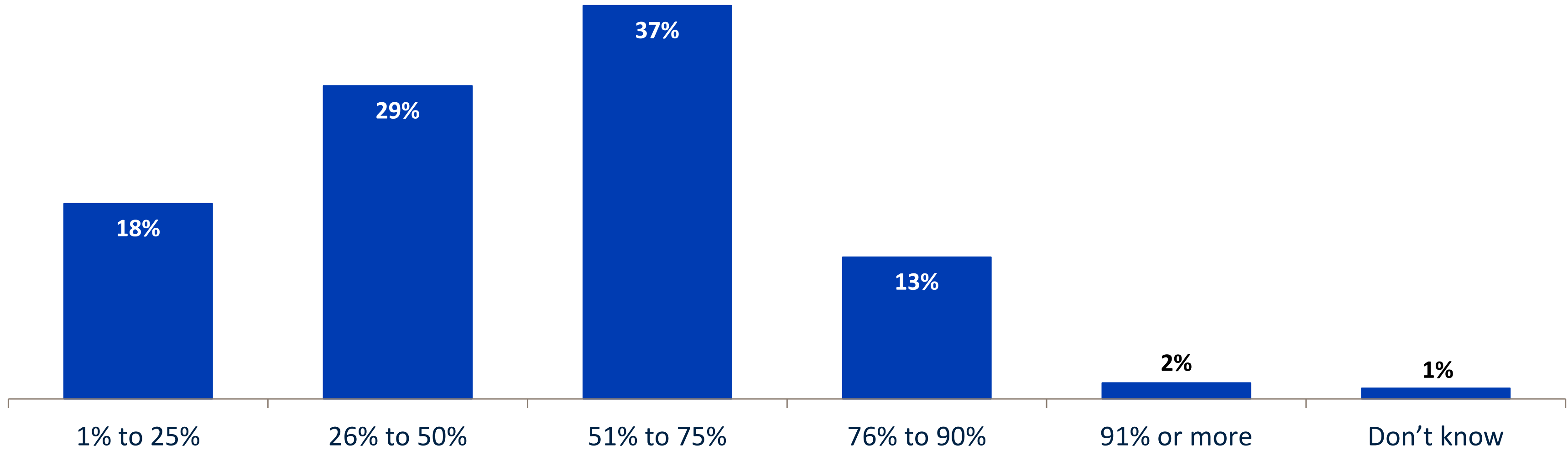
The background is a dark blue gradient. Overlaid on this are several layers of geometric patterns. In the foreground, there's a faint, light blue grid. Behind that, there are more complex, darker blue wireframe structures that resemble jagged mountains or a complex data visualization. The overall effect is a sense of depth and digital complexity.

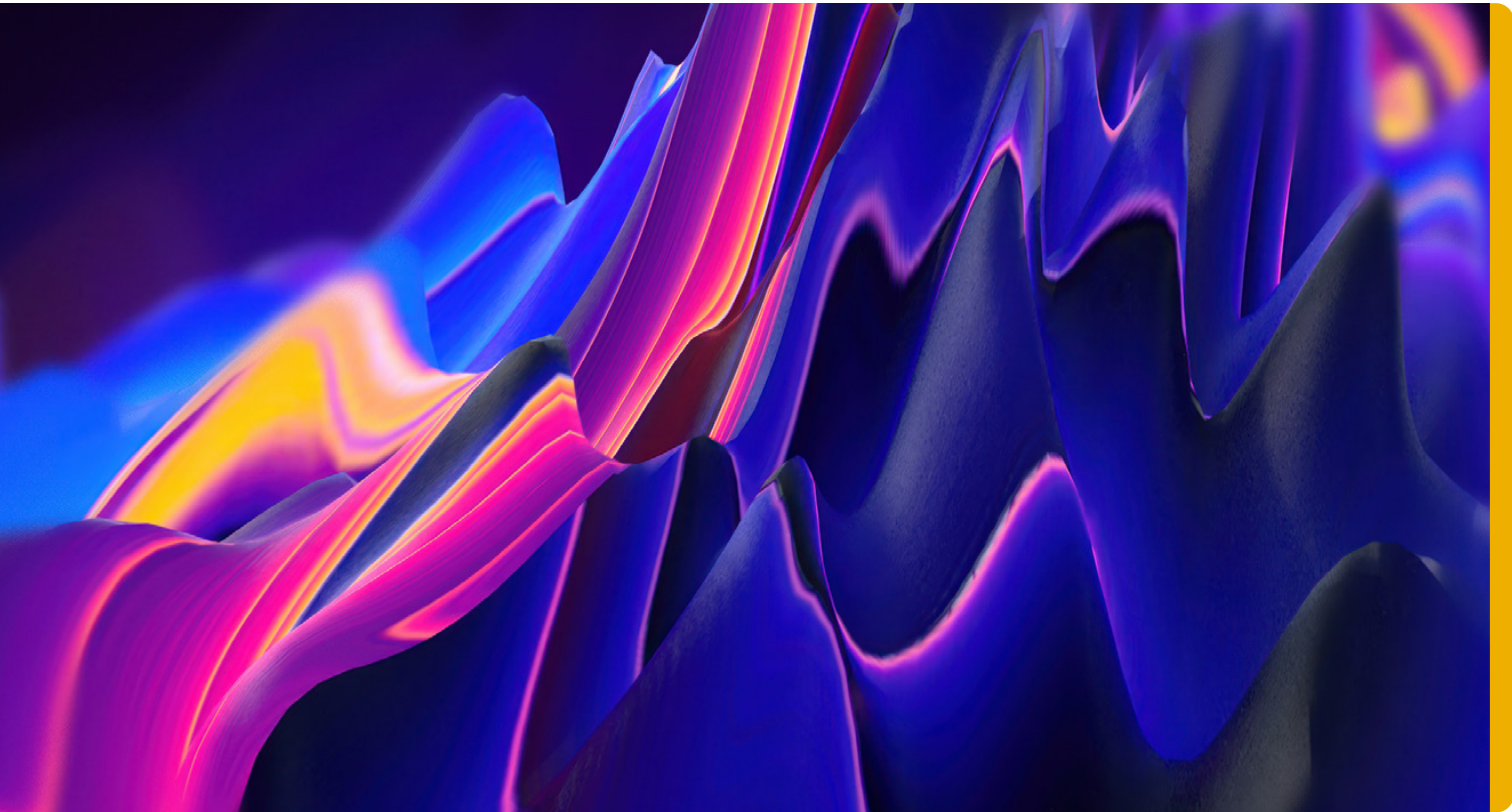
Dark data is a growing challenge as
supply limitations continue

More than half of all data is dark

Organizations have a data problem in that they have little insight into or understanding of at least half of their total stored data on average. For some, this proportion is higher, and it tends to be larger organizations that have more dark data. This represents not only a significant cost inefficiency at a time of unprecedented price increases, but also a potentially substantial business risk. Organizations are simultaneously starving for storage capacity to support AI and analytics initiatives while squandering massive amounts of expensive storage on data they do not understand, cannot classify, and derive no value from.

Approximately percentage of dark data stored as a proportion of total data.





Storage and memory shortages have a ripple effect

The data reveals a critical infrastructure bottleneck: Over three-quarters of organizations identify storage and memory shortages as a top IT challenge, with AI and machine learning initiatives intensifying this pressure on capacity, budgets, and resources. While most are attempting to improve existing infrastructure efficiency to manage costs, this reactive approach may prove insufficient. Most concerning is that nearly three-quarters report these shortages are directly slowing on-premises AI infrastructure deployments, creating a tangible competitive disadvantage as enterprises race to operationalize AI. This convergence of capacity constraints, cost pressures, and AI deployment delays signals an urgent need for strategic infrastructure modernization.



of organizations say that the storage and memory shortage is a top challenge across their IT ecosystem.



of organizations say they are improving the efficiency of their existing infrastructure to manage rising storage and memory costs.



of organizations agree that AI and machine learning initiatives are placing additional pressure on their storage capacity, budget, and associated resources.



of organizations agree that the storage and memory shortage is slowing their ability to deploy AI infrastructure on-premises.

Dealing with the dark data challenge remains a significant obstacle

The supply squeeze is forcing many organizations to confront the dark data problem, but exactly how they should proceed remains unclear. Although dark data remains a significant cost and business risk, IT organizations also view it as a potentially valuable mine of insight. While deleting or purging this data may free up valuable storage capacity, it may reduce organizations' ability to extract insight as well. The emergence of AI and machine learning capabilities intensifies this paradox. Dark data that was previously considered worthless may now represent training datasets, pattern recognition opportunities, or competitive intelligence, but only if organizations can afford to store it long enough to analyze it.



79%

of organizations say that IT infrastructure complexity is increasing at their organization.

75%

of organizations agree that the memory and storage shortage is prompting them to reevaluate the overall efficiency of their infrastructure architecture.

76%

of organizations say that dark data represents a significant business risk, and they are making efforts to better understand and manage that risk.

72%

of organizations agree that dark data represents a significant storage cost, and they are looking to reduce or eliminate those costs.



About

VergeIO develops VergeOS, the private cloud operating system that runs virtualization, storage, networking, and tenancy as functions of a single operating system, built from a single codebase. Customers deploy VergeOS to replace legacy virtualization stacks, eliminate compounding licensing layers, and reduce the operational footprint of private infrastructure. The company is headquartered in Ann Arbor, Michigan and serves enterprise, government, and service-provider customers worldwide. For more information, visit verge.io

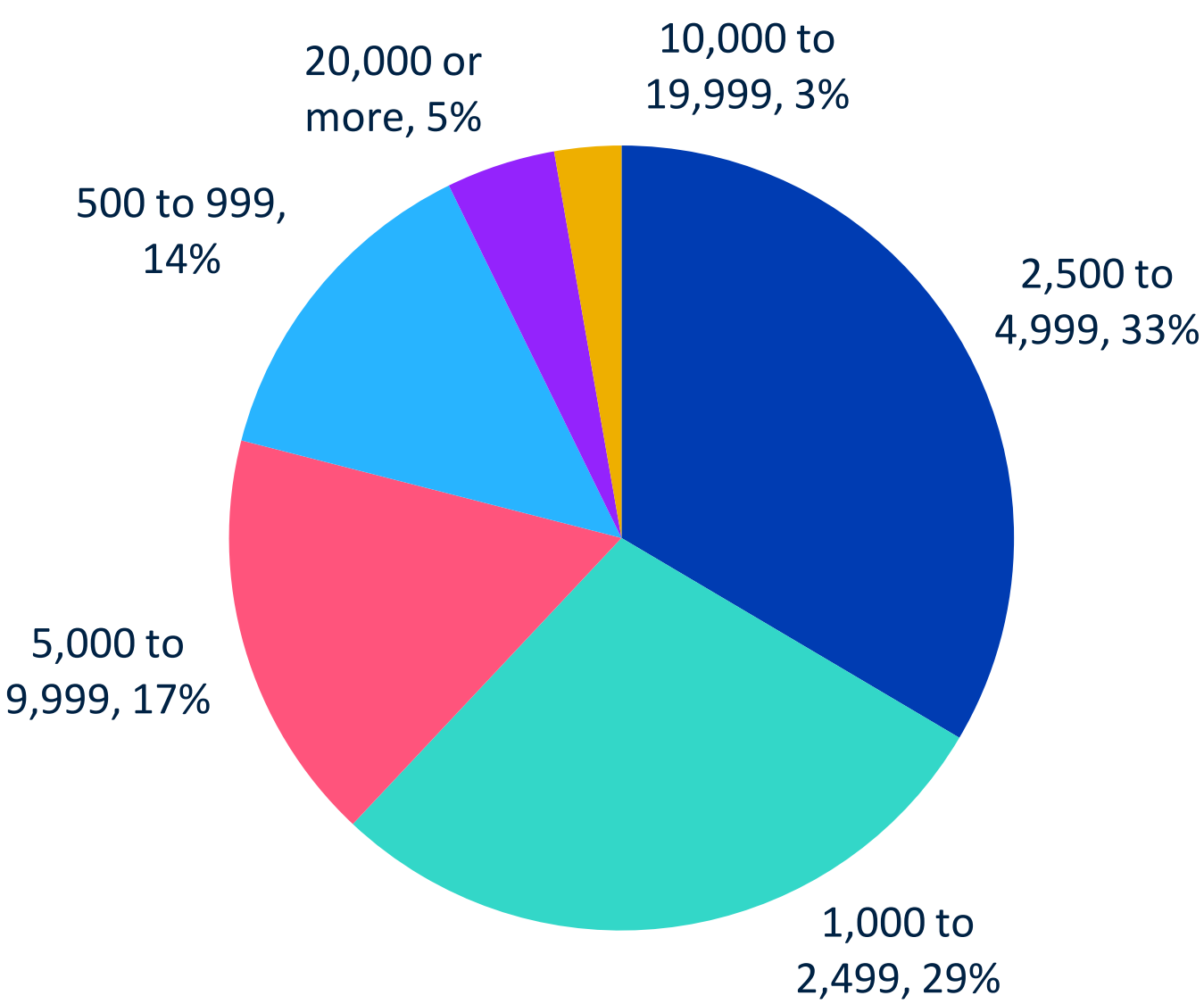
Learn more

Research methodology and demographics

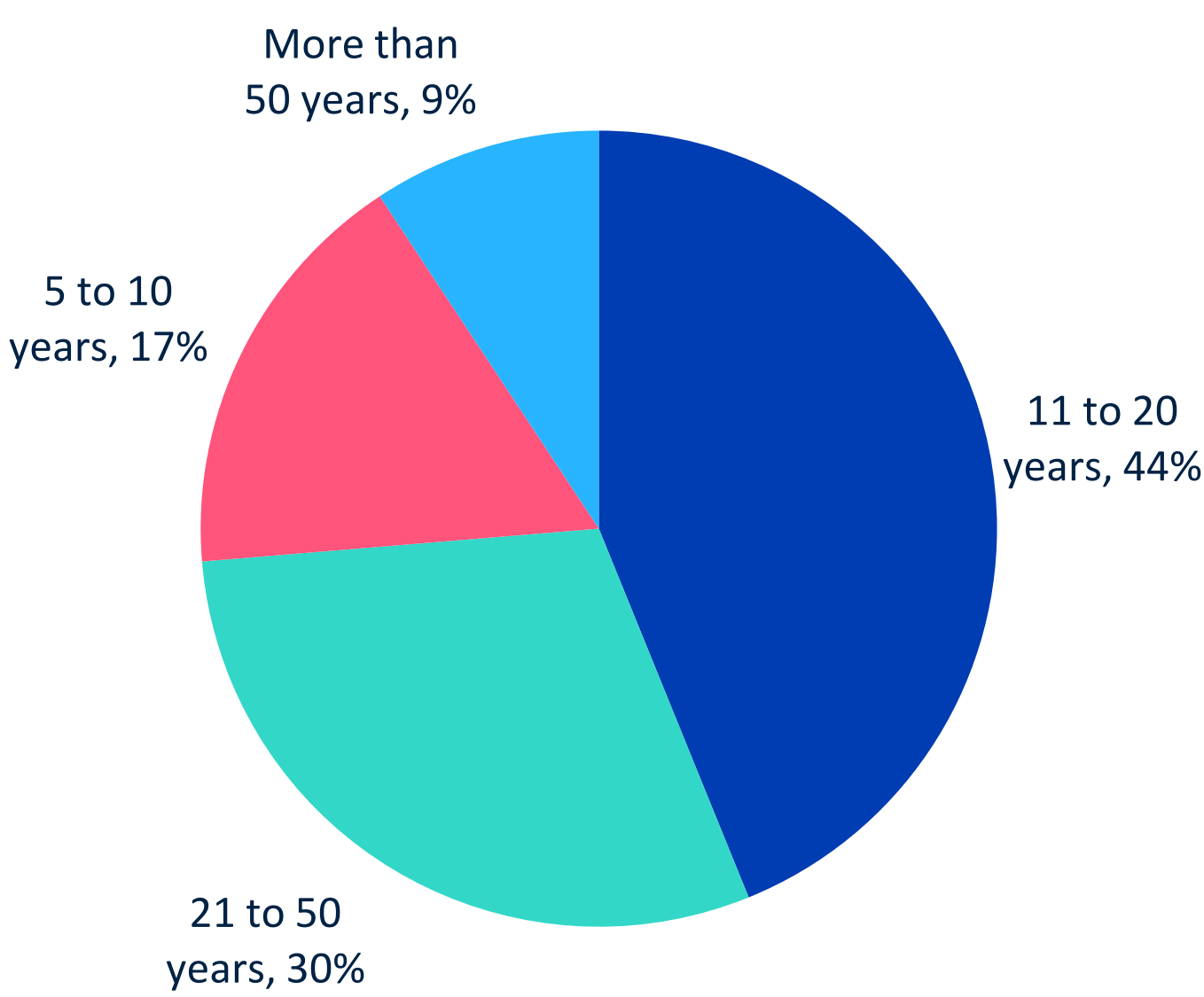
To gather data for this report, Omdia conducted a comprehensive online survey of IT professionals from private- and public-sector organizations in North America between May 6, 2026 and May 26, 2026. To qualify for this survey, IT professionals had to be involved with or responsible for evaluating, purchasing, managing, and building enterprise and data center storage, cloud storage, data management technology, and related infrastructure at their organization. All respondents were provided an incentive to complete the survey in the form of cash awards and/or cash equivalents.

After filtering out unqualified respondents, removing duplicate responses, and screening the remaining completed responses (on several criteria) for data integrity, we were left with a final total sample of 400 IT professionals.

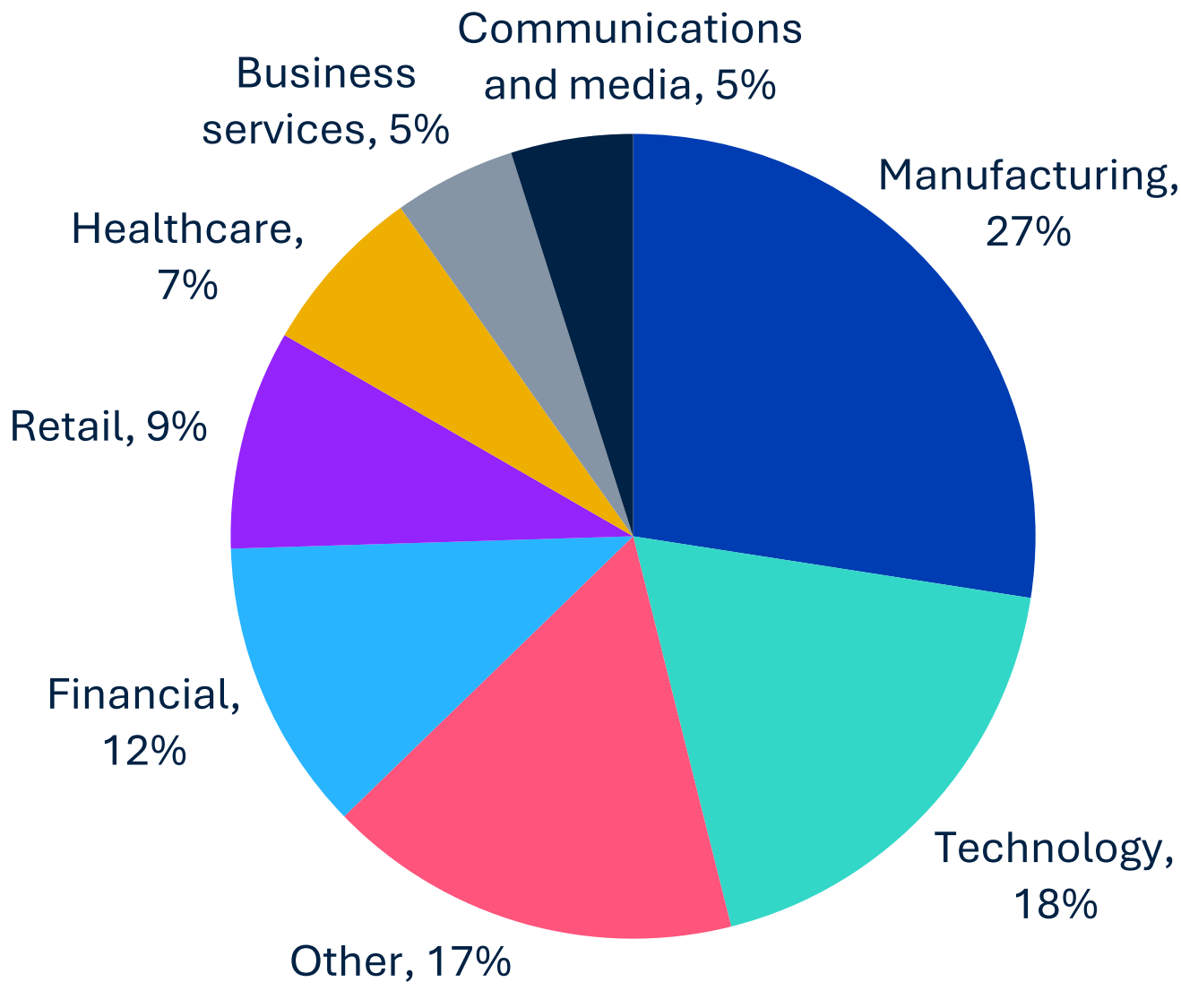
Respondents' organizations by number of employees.



Respondents' organizations by years in operation.



Respondents' organizations by industry.



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