IDC

Driving Business Success with a Modern and Efficient Hybrid Multicloud Infrastructure

An IDC InfoBrief, Sponsored by

NUTANIX

Executive summary

IT is becoming an end-to-end component of successful organizations.

The transition to a digital-first society is underway, with IT being pushed out of the back office and to the front line of modern, agile businesses.

Organizations have started adapting to this changing environment — and some are more prepared and capable of making the shift than others. Those doing so see markedly higher revenue growth and greater business innovation.

To be able to thrive, companies need to follow the example of digital leaders, which focus investments on the security, resilience, and automation of their IT infrastructure to deliver agility and ensure a competitive advantage.
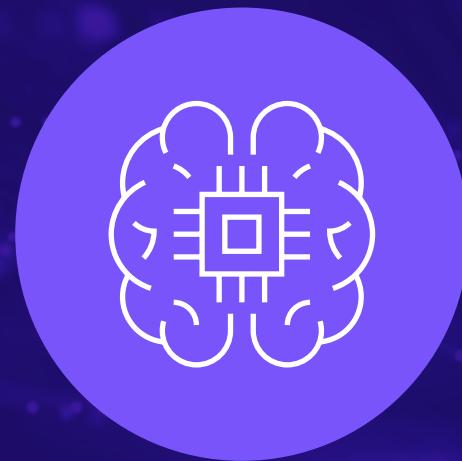
Intelligent automation is the key to an agile digital business engine.

Digital leaders have realized the benefits of investing in automation and AIOps to deliver an agile, scalable cloud-native digital platform that truly accelerates business innovation.

However, in many cases, what passes for private cloud is more a consolidated set of virtualized workloads with small siloes of automation and a great deal of manual management and processes.

To succeed, private IT infrastructure must be transformed to embrace the automation future. Hyperconverged infrastructure (HCI) has become a key platform to do just that.

An end-to-end turnkey solution has many benefits for building an agile hybrid multicloud infrastructure.
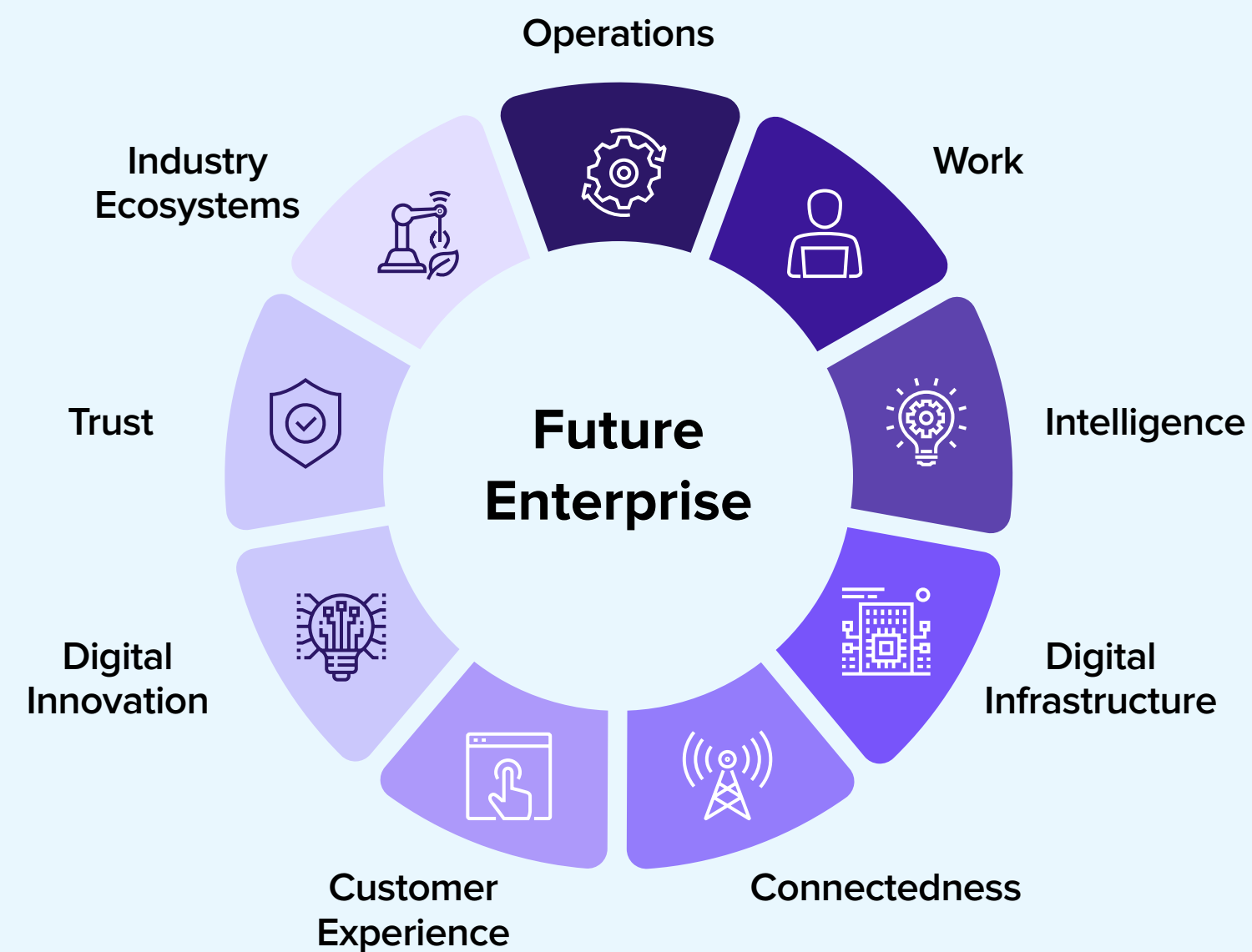
A hybrid multicloud infrastructure is essential for unlocking the associated business benefits. It needs to be modern, efficient, and designed and engineered from the ground up to enable an intelligently automated private cloud with full hybrid multicloud integration.

The benefits of intelligent infrastructure go beyond the top line. Sustainability and efficiency are now top of mind for many boards. Integrated automation and dynamic workload management can help ensure that apps and services run on the most efficient hardware wherever it lies, with seamless portability between private infrastructure and cloud so that power overheads are drastically reduced.

The move to digital first is transforming all aspects of the economy — and society along with it

By 2024, **80%** of the world's population will be online. They will spend $10.5 trillion that year, an increase of **$1.2 trillion** from **2022**.

By 2027, **41%** of an enterprise's revenue will come from **digital products and services**.

Future Enterprise
- Operations
- Work
- Intelligence
- Digital Infrastructure
- Connectedness
- Customer Experience
- Digital Innovation
- Trust
- Industry Ecosystems

Future Society
- Workforce
- Governance
- Economy
- Currencies
- Smart Cities
- Health

Future Customer
- Wellbeing
- Entertainment
- Housing
- Travel and Dining
- Personal Mobility
- Money
- Shopping
- Lifelong Learning

Enterprises are creating digital-first business models so they can engage consumers effectively and generate revenue from digital-centric goods and services.
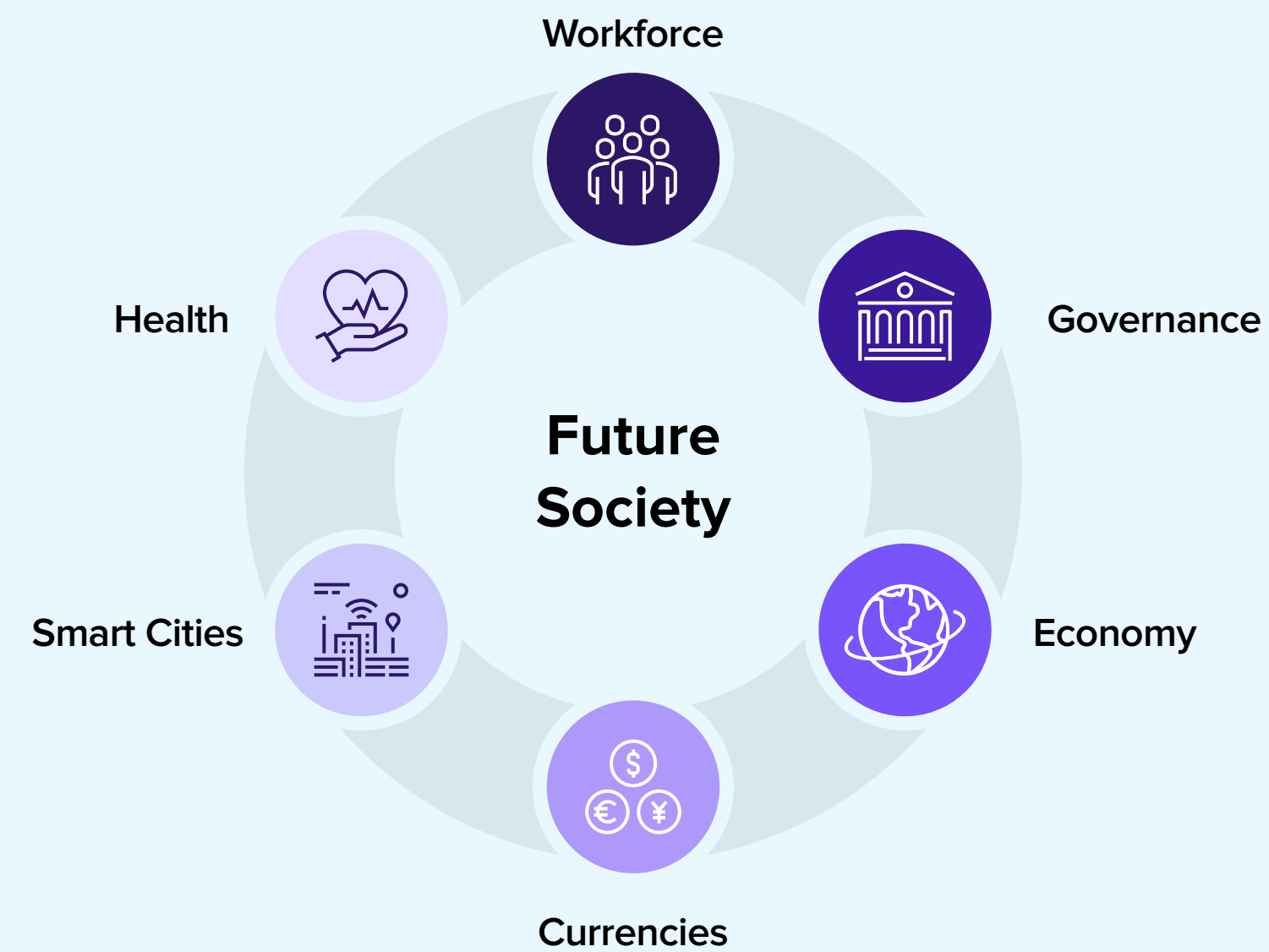
Governments are looking not only to improve their delivery of services, as citizens are spending more of their time and money online, but also to reshape their economies.
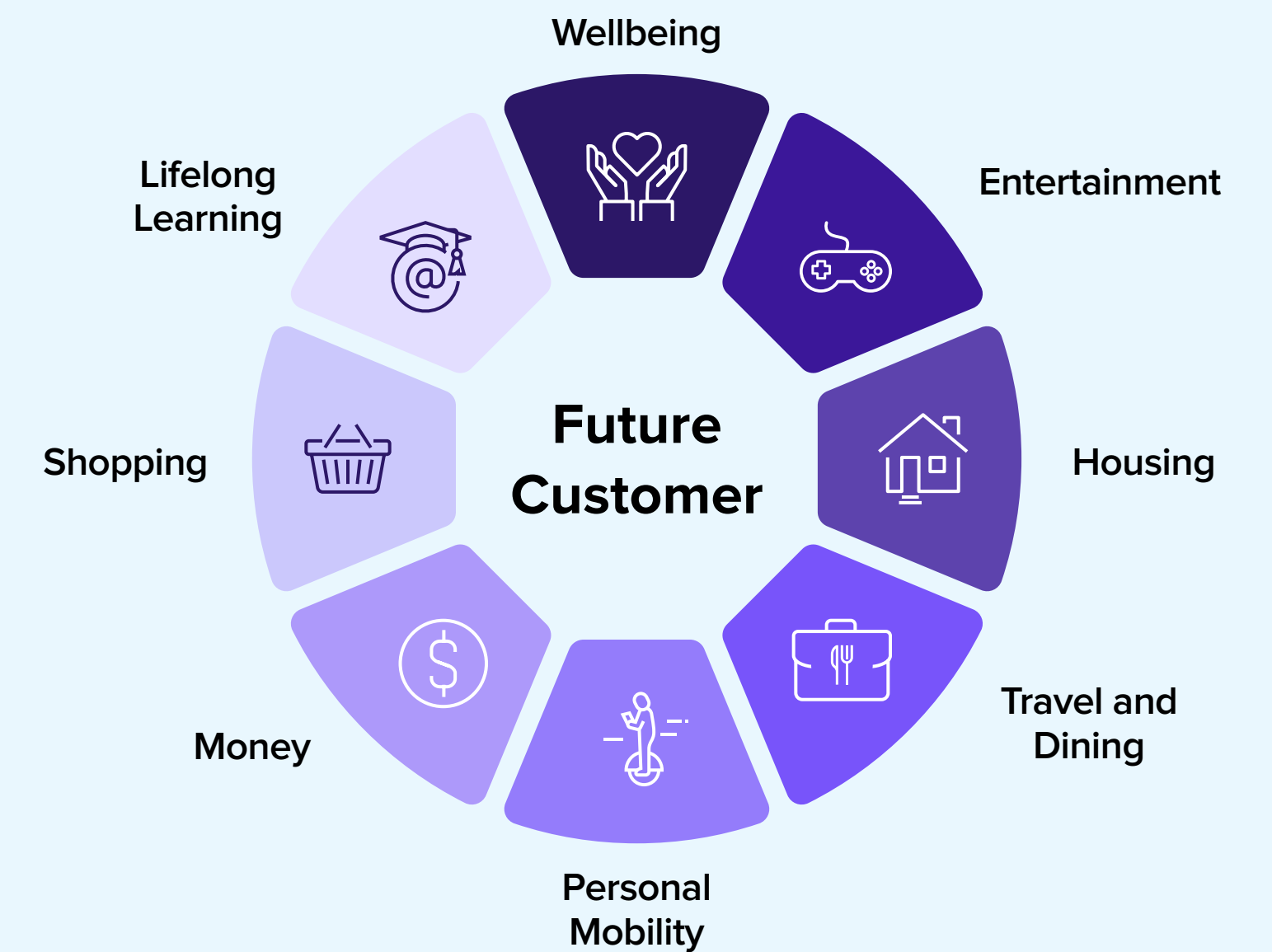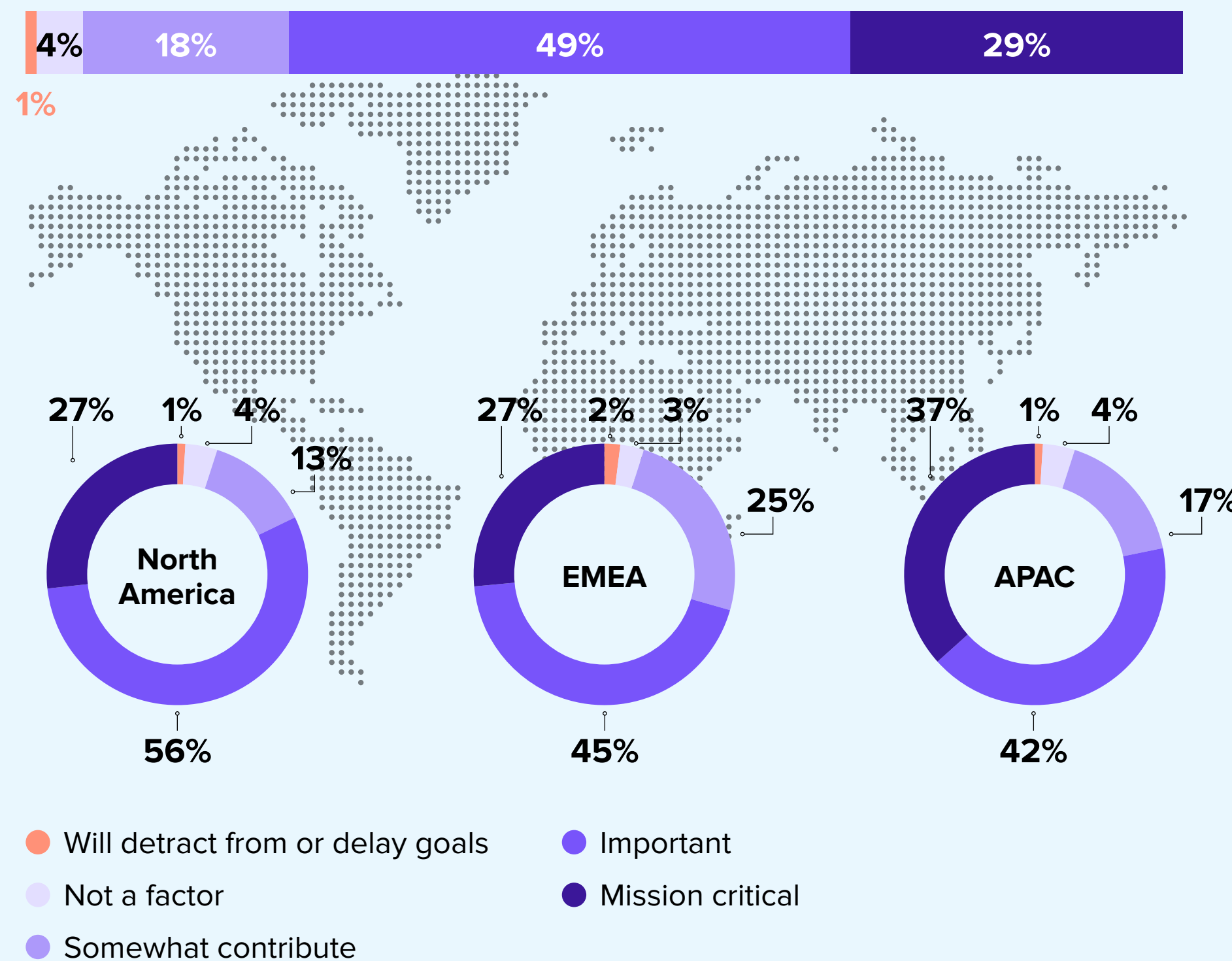
Consumers' digital-first habits and lifestyles will fuel digital investments.

The digital transition is well underway, and those adapting best will be the most competitive
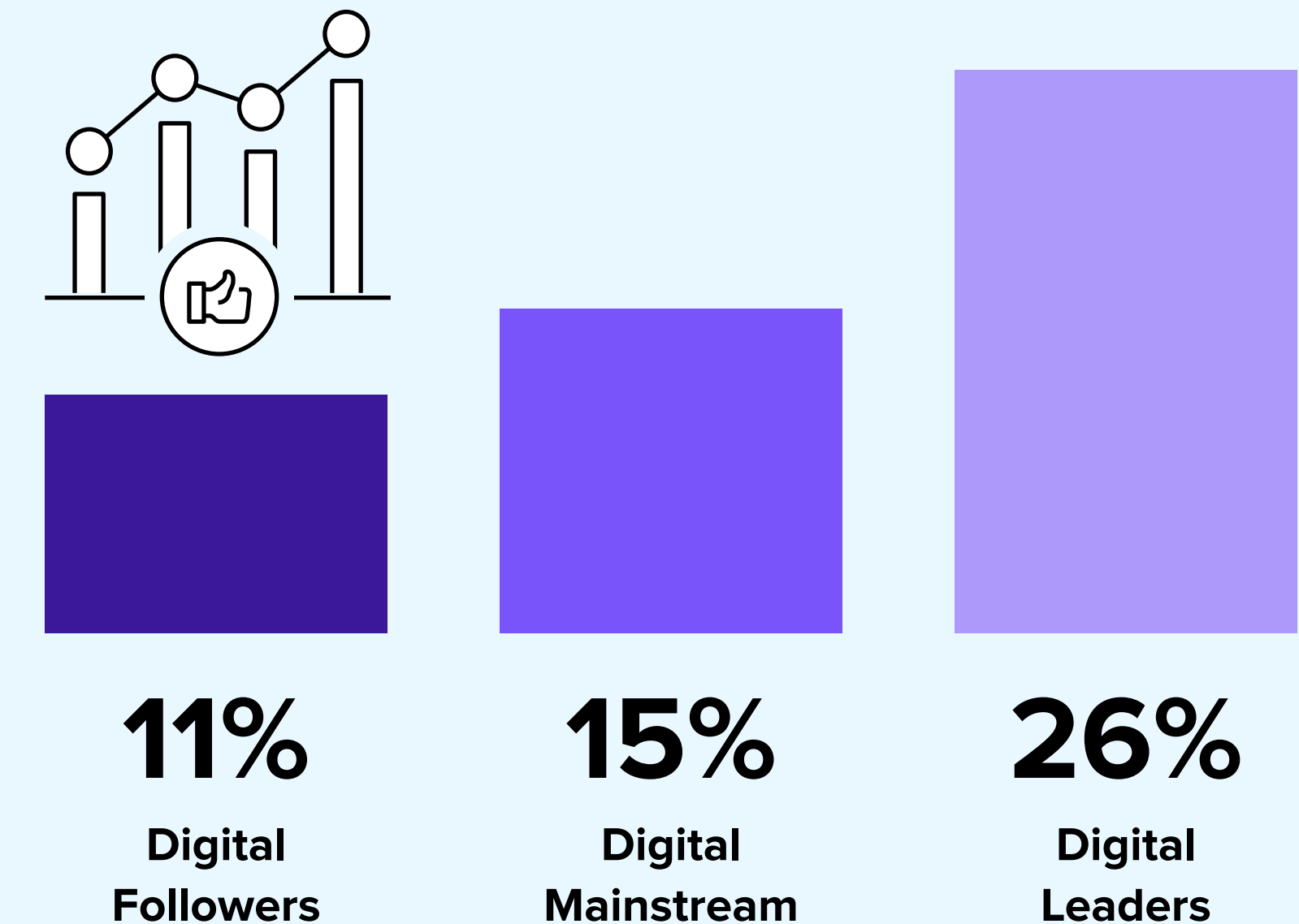
The global economy is increasingly shifting to digitally augmented or digital-native goods and services, and we are at the crossover point, where the digital economy is starting to overtake the traditional economy.

IT is shifting out of the back office — with a focus on enabling business efficiency — to underpin the entire business model, driving differentiation and revenue growth and ensuring a competitive advantage.

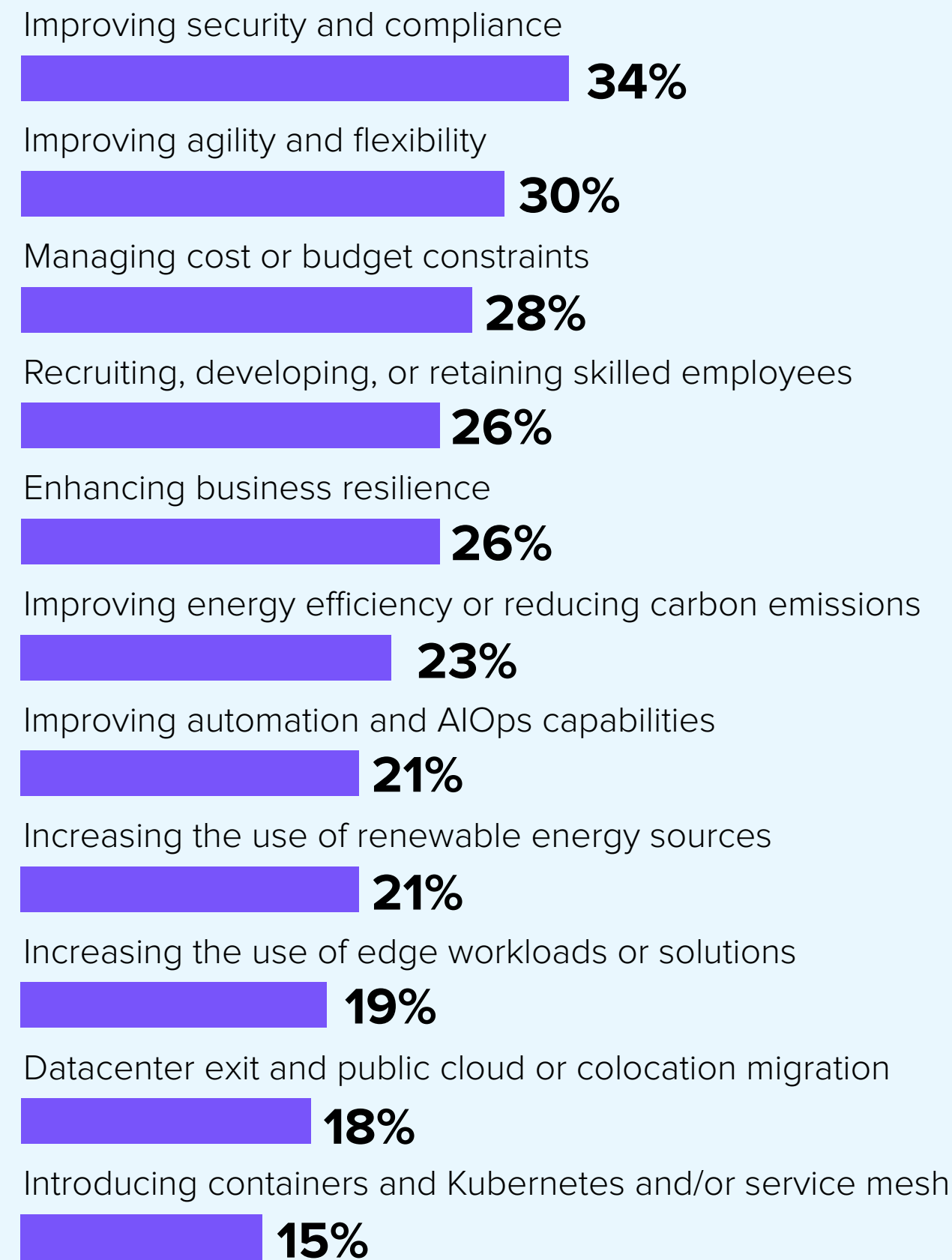## The Importance of Digital Infrastructure in Achieving Business Goals

| 1% | 4% | 18% | 49% | 29% |

North America
27% 1% 4%
13%
56%

EMEA
27% 2% 3%
25%
45%

APAC
37% 1% 4%
17%
42%

- ● Will detract from or delay goals
- ● Not a factor
- ● Somewhat contribute
- ● Important
- ● Mission critical

The Share of Companies that See IT as a Driver of Competitive Advantage or Differentiation

11%
Digital
Followers

15%
Digital
Mainstream

26%
Digital
Leaders

Sources: IDC's Future of Digital Infrastructure Worldwide Sentiment Survey, 2023 (June), n = 876; IDC's EMEA Edge to Cloud Infrastructure Survey, 2023, n = 1,626

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Digital leaders focus on infrastructure security and resilience

Key Datacenter Priorities for 2023

Improving security and compliance
34%

Improving agility and flexibility
30%

Managing cost or budget constraints
28%

Recruiting, developing, or retaining skilled employees
26%

Enhancing business resilience
26%

Improving energy efficiency or reducing carbon emissions
23%

Improving automation and AIOps capabilities
21%

Increasing the use of renewable energy sources
21%

Increasing the use of edge workloads or solutions
19%

Datacenter exit and public cloud or colocation migration
18%

Introducing containers and Kubernetes and/or service mesh
15%
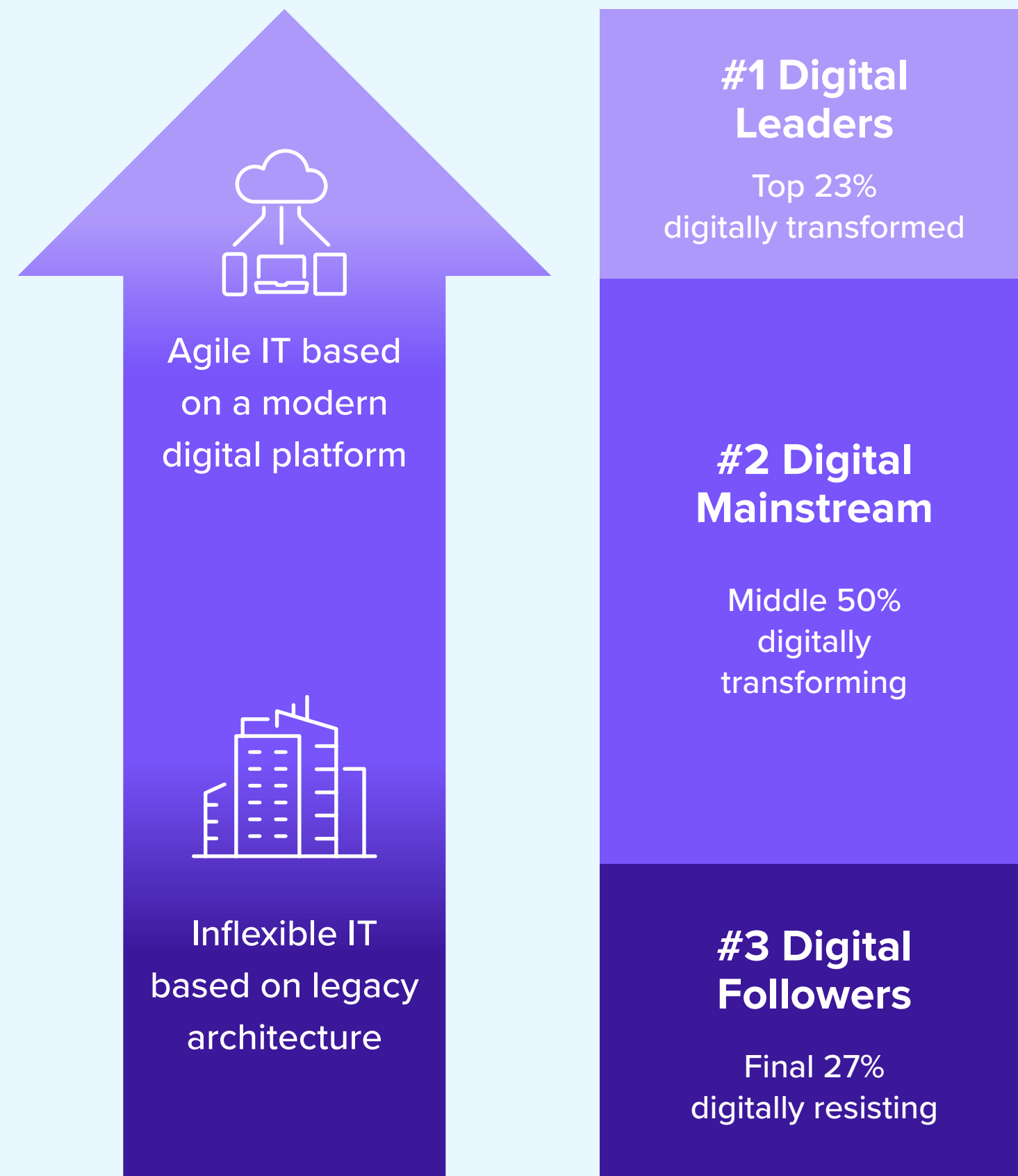
- Security is top of mind for all respondents, along with a focus on improving agility and flexibility.

- However, not enough attention is given to automation and AIOps capabilities. A focused strategic investment in this area can be a major enabler of a hybrid multicloud infrastructure.
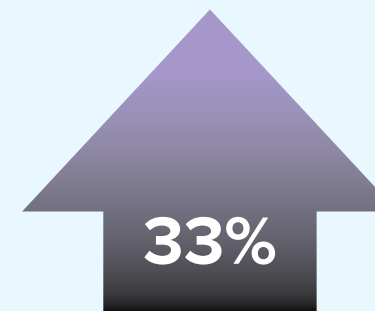
	Digital Leader		Digital Mainstream		Digital Follower	
1	Improving security and compliance		Improving security and compliance		Improving security and compliance	
2	Enhancing business resilience		Improving agility and flexibility		Improving agility and flexibility	
3	Improving agility and flexibility		Managing cost or budget constraints		Managing cost or budget constraints	

IT is shifting from enabling back-office efficiency to being a crucial aspect of a digital-first business model

Agile IT based on a modern digital platform

Inflexible IT based on legacy architecture

#1 Digital Leaders
Top 23% digitally transformed

#2 Digital Mainstream
Middle 50% digitally transforming

#3 Digital Followers
Final 27% digitally resisting

Compared with the overall market,

digital leaders are

33%

Growing revenues faster

Digital Leaders	75%
Digital Mainstream	56%
Digital Followers	41%
Overall market	56%

The percentage of respondents showing year-on-year revenue growth in 2022

40%
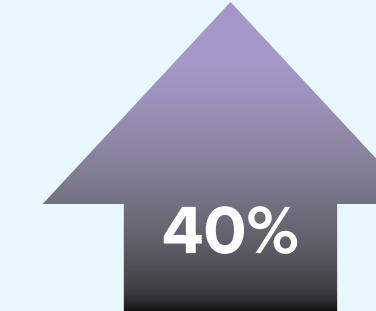
Investing more heavily in IT infrastructure

Digital Leaders	78%
Digital Mainstream	56%
Digital Followers	36% BDA
Overall market	56%
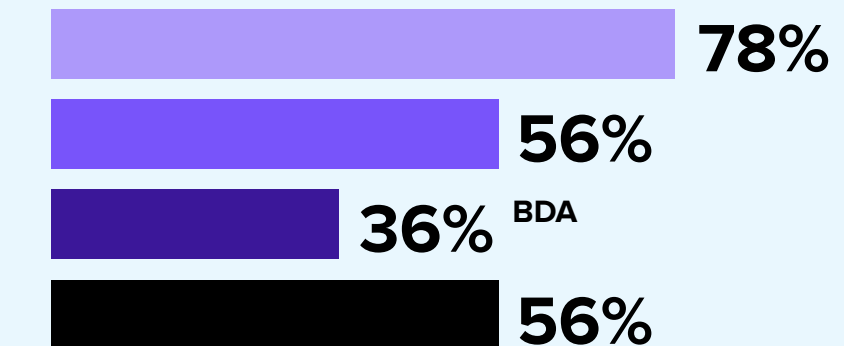
The percentage of respondents with increased IT infrastructure budgets in 2023 compared with 2022

70%
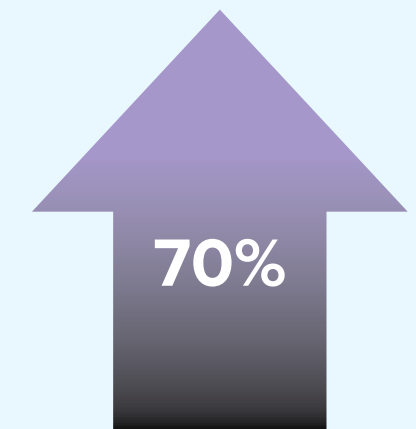
Finding new, flexible ways to pay for IT services

Digital Leaders	51%
Digital Mainstream	27%
Digital Followers	17%
Overall market	30%
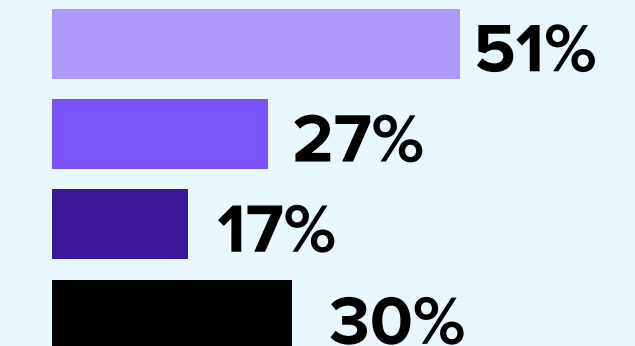
The percentage of respondents utilizing flexible consumption models for more than 30% of their IT infrastructure investment
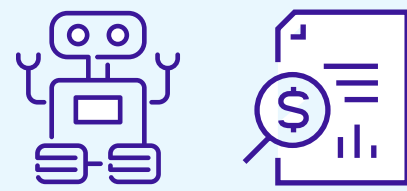
Private IT infrastructure must transform to give organizations the benefits of public cloud
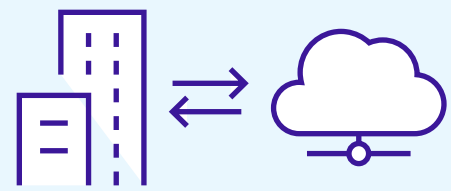
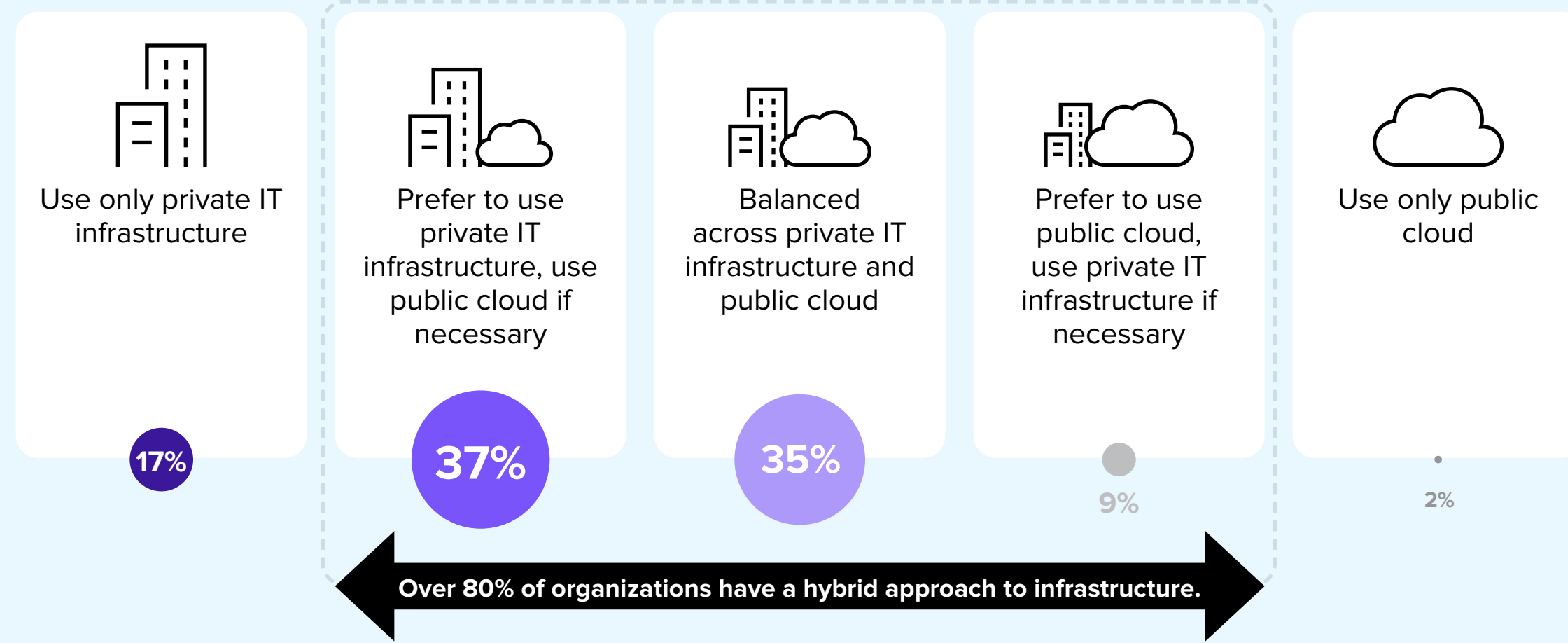The overwhelming majority of companies have moved to a hybrid multicloud infrastructure strategy.

They still strongly favor their private IT infrastructure, meaning public cloud augments rather than replaces private IT.

Private IT must have the same capabilities as public cloud in terms of automation, ease of deployment, and as-a-service billing.

Attitudes to Use of Public Cloud

Use only private IT infrastructure	Prefer to use private IT infrastructure, use public cloud if necessary	Balanced across private IT infrastructure and public cloud	Prefer to use public cloud, use private IT infrastructure if necessary	Use only public cloud
17%	37%	35%	9%	2%

Over 80% of organizations have a hybrid approach to infrastructure.

Key Reasons for Keeping Workloads in a Fully-Featured Private Cloud Rather Than Migrating to Public Cloud

Finance	• The built-in automation and orchestration capabilities of a public cloud provider • Transitioning part of our IT infrastructure to an as-a-service model • Data sovereignty requirements
Manufacturing	• Regulatory compliance requirements • Seamless deployment consistency across both private and public cloud environments • A fully featured end-to-end private cloud
Resources and construction	• Transitioning part of our IT infrastructure to an as-a-service model • Data sovereignty requirements • The built-in automation and orchestration capabilities of a public cloud provider
Telecom, media, and entertainment	• Regulatory compliance requirements • Transitioning part of our IT infrastructure to an as-a-service model • The built-in automation and orchestration capabilities of a public cloud provider
Professional services	• Regulatory compliance requirements • Data sovereignty requirements • A fully featured end-to-end private cloud
Transportation and logistics	• A fully featured end-to-end private cloud • Regulatory compliance requirements • The built-in automation and orchestration capabilities of a public cloud provider
Energy (utilities, oil, and gas)	• Regulatory compliance requirements • Transitioning part of our IT infrastructure to an as-a-service model • Ongoing public cloud cost concerns
Retail, hospitality, and wholesale	• Data sovereignty requirements • A fully featured end-to-end private cloud • The built-in automation and orchestration capabilities of a public cloud provider=
Government	• Regulatory compliance requirements • Data sovereignty requirements • The built-in automation and orchestration capabilities of a public cloud provider
Education	• Regulatory compliance requirements • Ongoing public cloud cost concerns • Data sovereignty requirements
Healthcare	• Data sovereignty requirements • The built-in automation and orchestration capabilities of a public cloud provider • A standard platform for edge use cases or solutions
Life sciences	• Data sovereignty requirements • Regulatory compliance requirements • A standard platform for edge use cases or solutions

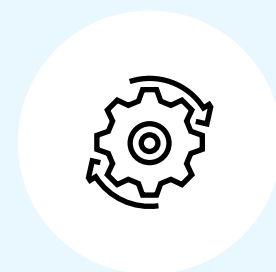# Agile and scalable cloud-native digital platforms must be built on automation and AIOps
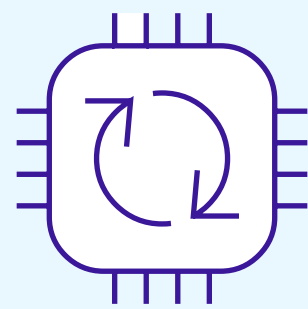
Automation and AIOps are the key to dynamic workload management for the most efficient use of IT infrastructure, but this approach has only been adopted extensively by the **top quarter** of the **most digitally advanced** organizations.
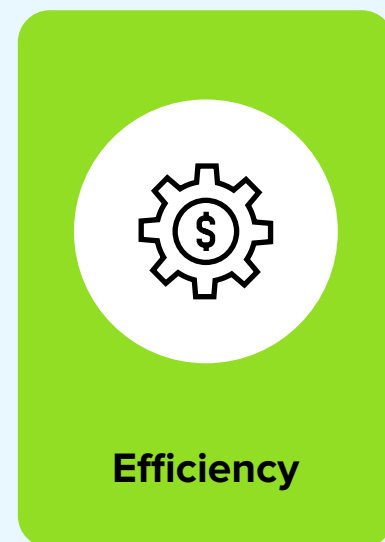
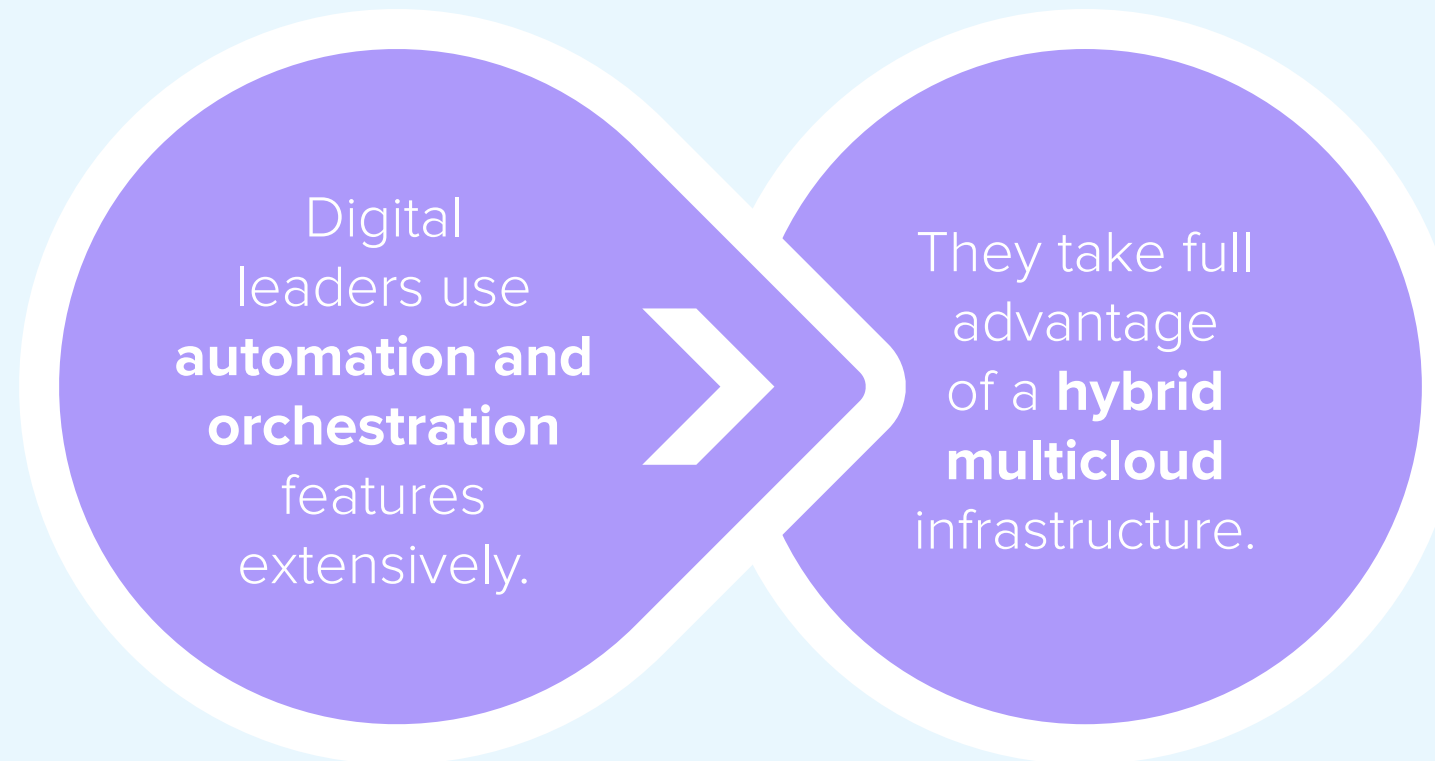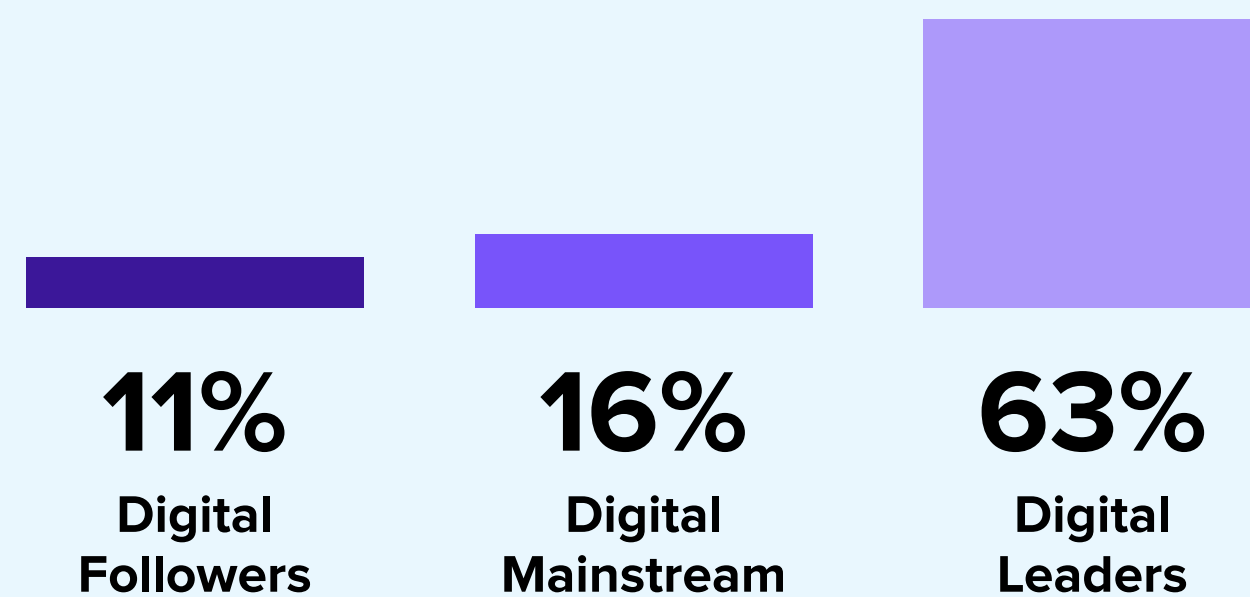Scalability | Speed | Predictability | Quality | Efficiency | Resilience

Investing in automation and AIOps holds many business benefits beyond increasing efficiency, such as improving the business value of the investment, agility and service quality, and workload mobility between environments.

Extensive Adoption	Automation		AIOps		Dynamic workload management	
Finance	70%	30%	74%	26%	69%	31%
Manufacturing	72%	28%	73%	27%	74%	26%
Resources and construction	72%	28%	79%	21%	72%	28%
Telecom, media, and entertainment	65%	35%	71%	29%	73%	27%
Professional services	70%	30%	72%	28%	67%	33%
Transportation and logistics	75%	25%	73%	27%	69%	31%
Energy (utilities, oil, and gas)	67%	33%	67%	33%	77%	23%
Retail, hospitality, and wholesale	71%	29%	73%	27%	73%	27%
Government	79%	21%	79%	21%	72%	28%
Education	74%	26%	77%	23%	76%	24%
Healthcare	81%	19%	80%	20%	75%	25%
Life sciences	76%	24%	76%	24%	68%	32%

The most digitally advanced organizations are building their next-generation hybrid multicloud infrastructure on hyperconverged infrastructure
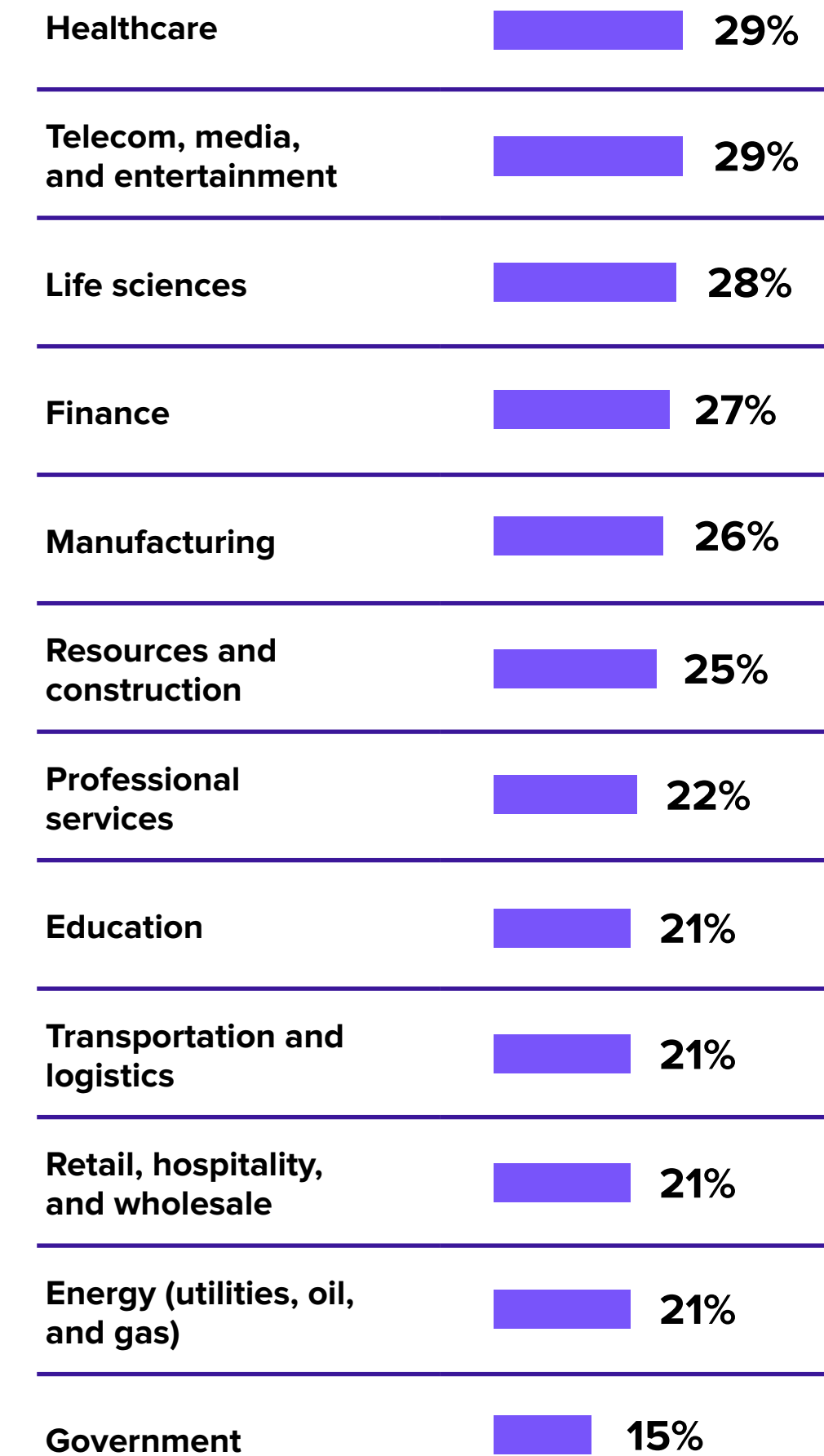
Extensive Use of HCI

11%
Digital Followers

16%
Digital Mainstream

63%
Digital Leaders

Digital leaders use **automation and orchestration** features extensively.

> They take full advantage of a **hybrid multicloud** infrastructure.

Hyperconverged infrastructure combines multiple infrastructure hardware elements into a single solution using easily scalable standardized building blocks.

Servers   Storage   Networking   Automation   Monitoring

Extensive Use of HCI by Industry

Industry	%
Healthcare	29%
Telecom, media, and entertainment	29%
Life sciences	28%
Finance	27%
Manufacturing	26%
Resources and construction	25%
Professional services	22%
Education	21%
Transportation and logistics	21%
Retail, hospitality, and wholesale	21%
Energy (utilities, oil, and gas)	21%
Government	15%

HCI has become a key platform for running business-critical applications

## Top 5 Key Drivers of HCI Adoption for Digital Leaders

#1: A platform for distributed software-defined storage
A distributed software-defined storage solution addresses infrastructure resiliency (with redundant, self-healing mechanisms) and security (with capabilities like snapshot policies).

#2: The ability to run business-critical apps
Thanks to the ability to run critical apps, HCI solutions lower costs by using x86 standard servers and reducing the training required for staff to operate the system.
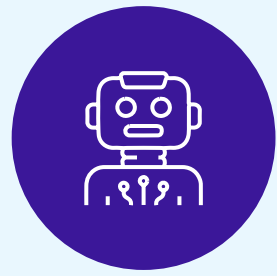
#3: Integrated automation and orchestration
Automation and orchestration integration reduces training costs and facilitates agility and flexibility.

#4: Easily scalable infrastructure based on standard building blocks
Using standard building blocks enables companies to control costs and improve agility and flexibility.

#5: Private cloud that is as compatible as possible with public cloud
An almost seamless experience when moving workloads to and from cloud improves agility and flexibility and can help manage budgets more effectively.
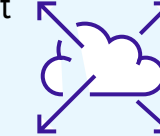
Top 3 Drivers of HCI by Company Size

|			
SMB	#1: The ability to run business-critical apps	#2: Private cloud that is as compatible as possible with public cloud services	#3: A platform for distributed software-defined storage
Midmarket	#1: The ability to run business-critical apps	#2: A platform for distributed software-defined storage	#3: Private cloud that is as compatible as possible with public cloud services
Enterprise	#1: The ability to run business-critical apps	#2: Easily scalable infrastructure based on standard building blocks	#3: Private cloud that is as compatible as possible with public cloud services

Key Business-Critical Apps
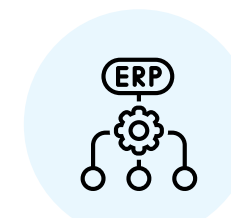
Databases · ERP · SCM · BDA · AI inferencing · Identity and authentication · eCommerce engines · Billing systems

HCI is highly **fault-tolerant and scalable**, allowing the running of business-critical apps (including the most demanding database-driven workloads).

HCI can incorporate **GPU accelerators** for scalable, efficient AI inferencing.

HCI is a turnkey platform for distributed **software-defined storag**e based on standard building blocks.

It enables **hybrid multicloud infrastructure** by using native automation and orchestration and ensuring compatibility between private and public services.

As environmental, social and corporate governance (ESG) considerations become increasingly important, modernized infrastructure can help accelerate sustainable IT transformation

#1: Modern and efficient infrastructure
- Highest performance per watt
- Built for automation and consolidation
- Designed for sustainability/recyclability
- Use of environmentally friendly materials

**#2: Automation and AIOps for efficient utilization**
- Dynamic workload management
- High utilization of most efficient servers
- Reduced overprovisioning
- Integrated carbon accounting

3: Datacenter cooling architecture and operations
- Direct liquid cooling
- Free air cooling and high-temperature operations
- Evaporative/Waterless cooling
- Heat capture and reuse

#4: Datacenter renewable or low-carbon energy supplies
- Solar, wind, and nuclear
- Hydrogen fuel cells
- Increasing use of self-generated power
- Enhanced energy storage capabilities

#4: Datacenter renewable or low-carbon energy supplies

#3: Datacenter cooling architecture and operations

#2: Automation and AIOps for efficient utilization

#1: Modern and efficient infrastructure
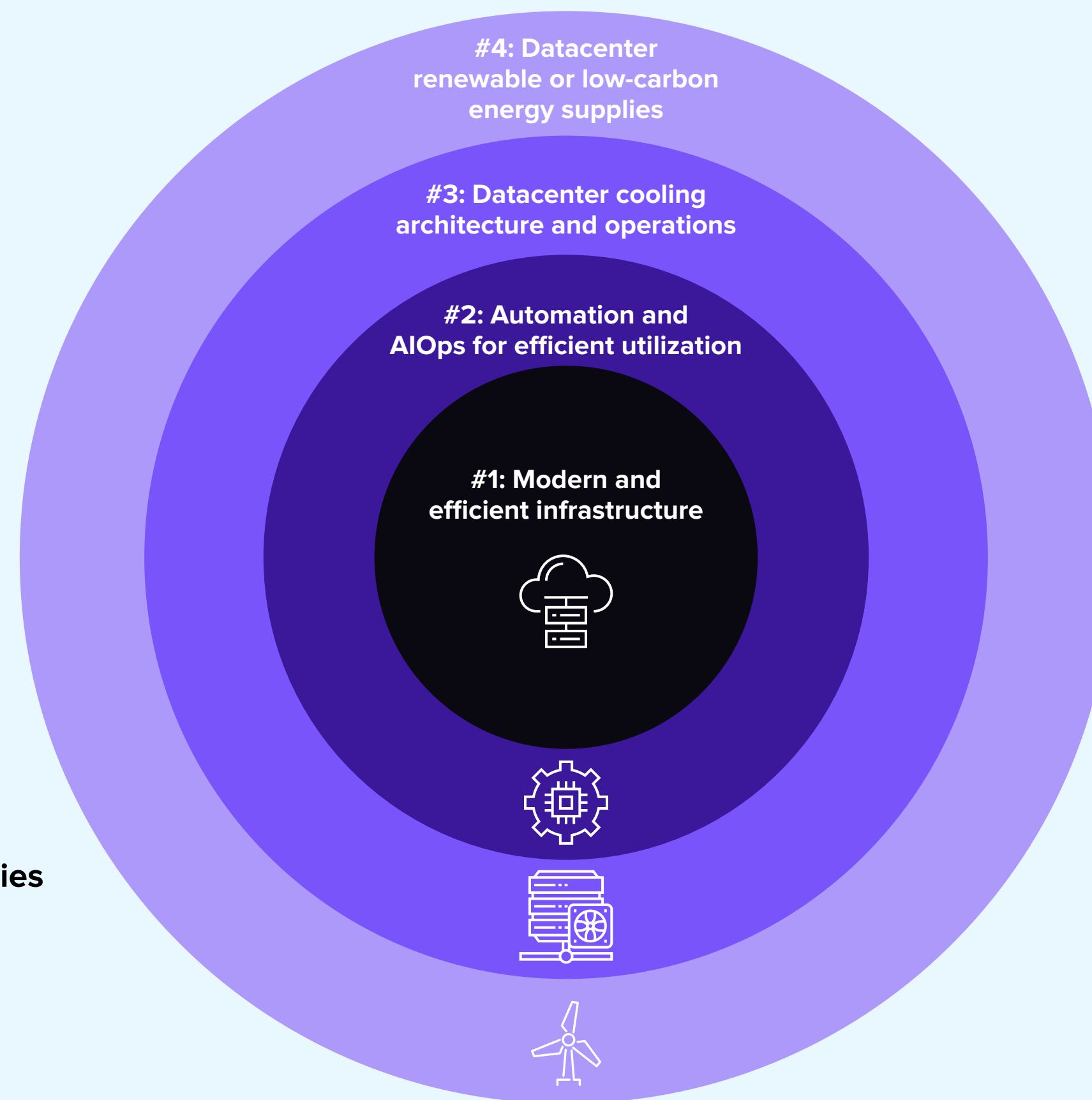
Importance of ESG Criteria for IT Infrastructure RFPs by Industry

Industry			
Retail, hospitality, and wholesale	17%	31%	52%
Healthcare	17%	32%	51%
Energy (utilities, oil, and gas)	21%	29%	50%
Professional services	13%	37%	50%
Finance	18%	34%	49%
Manufacturing	13%	39%	48%
Telecom, media and entertainment	13%	40%	46%
Resources and construction	22%	32%	46%
Government	16%	38%	46%
Transportation and logistics	8%	48%	44%
Education	23%	35%	42%
Life sciences	20%	40%	40%

Aging hardware and inefficient workload management contribute to significant additional power consumption and greenhouse gas emissions. However, many companies still consider their private IT infrastructure to be the most efficient environment for running workloads.

Age of installed base of infrastructure

Less than 1 year old	25%	1–3 years old	27%	3–5 years old	26%	More than 5 years old	22%
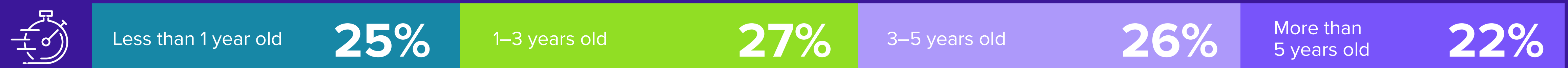
Typical amount of energy input required for the same output as infrastructure ages

	1		1–1.5		1.5–2		>2

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Considering Nutanix for Your IT Infrastructure Modernization

Nutanix Cloud Platform is a secure, resilient, self-healing platform for building hybrid multicloud infrastructure.
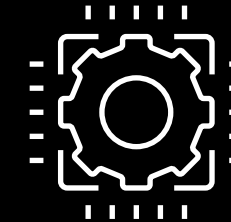
It supports all kinds of workload and use case across public and private clouds, multiple hypervisors, and containers — with varied compute, storage, and network requirements.

Nutanix Cloud Infrastructure

Standardize on powerful and secure hyperconverged infrastructure to deliver all applications and data at any scale, on any cloud.

https://www.nutanix.com/products/nutanix-cloud-infrastructure

Nutanix Database Service

Hybrid multicloud DBaaS for Microsoft SQL Server, Oracle, PostgreSQL, MongoDB, and MySQL. Efficiently and securely manage hundreds to thousands of databases.

https://www.nutanix.com/products/database-service

Nutanix Unified Storage

Nutanix Unified Storage is a software-defined data services platform that simplifies enterprise data storage operations while offering the speed and flexibility needed to build modern applications and services, no matter where they are deployed — core, cloud, or edge.

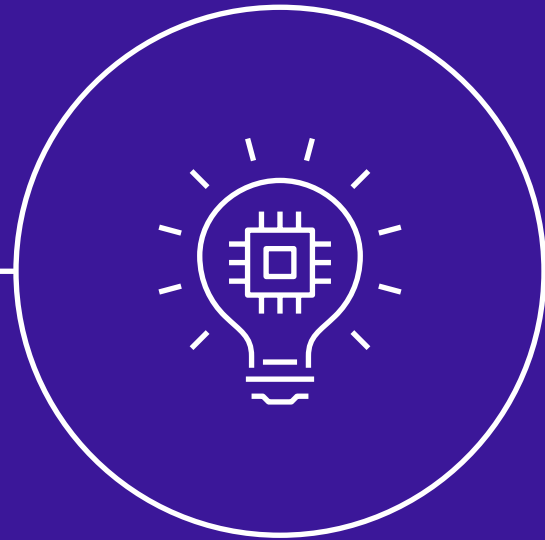**https://www.nutanix.com/solutions/unified-storage**

Nutanix Cloud Manager

A unified solution for providing intelligent operations, self-service and orchestration, security compliance and visibility, and control of cloud costs.

https://www.nutanix.com/products/cloud-manager

# Your Checklist for Digital Infrastructure Success

Enabling a successful transition to a digital-first business should be a top priority:

As IT becomes the business model, we need to change how we think about, build, operate, and pay for our IT infrastructure in a hybrid multicloud world.

Benefiting from enhanced investment in infrastructure (but not paying for it in the old way):

Organizations that invest more heavily in IT modernization and transformation show demonstrably higher revenue growth. These companies also say that switching to a cloud-like payment method for IT and having it delivered as a service gives them the benefits of transformation upfront while allowing them to spread the cost over multiple years.
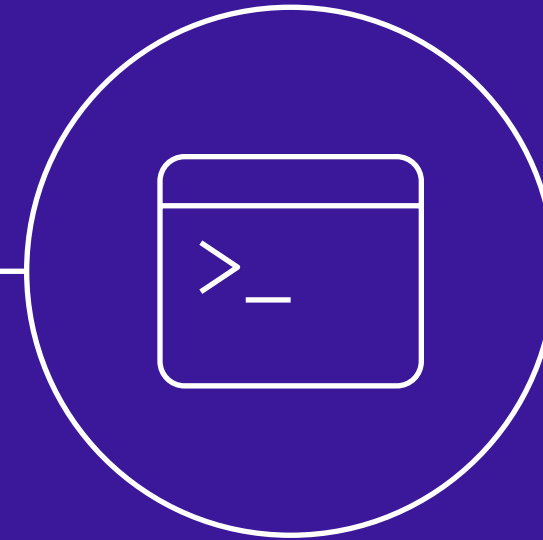
Ensuring a software-defined infrastructure for a software-defined business:

HCI's core concept is that it is software-defined, with integrated automation. Therefore, it has become digital leaders' preferred way to build agile, scalable hybrid multicloud infrastructure capable of running even the most demanding business applications, enabling easy portability between environments.

Making sustainability more than just a buzzword:

The raft of recent and upcoming regulations makes it critical to improve the efficiency, sustainability, and observability of infrastructure. A key aspect of meeting customers' and shareholders' expectations, as well as your legal obligations, will be working with partners who have invested in platforms with a comprehensive range of metrics that can be collected, analyzed, actioned, and reported on.

Message from the Sponsor

Nutanix transforms the way organizations do business. We offer a single platform to run all your apps and data across on-premises, public cloud, and hybrid environments, as well as at the edge, while simplifying operations and reducing complexity.

Our hybrid multicloud platform unifies management with one-click, applies intelligent AI-driven automation, and helps ensure always-on availability. Building on our legacy as a pioneer of hyperconverged infrastructure, we've earned a reputation for customer satisfaction, powering hybrid multicloud environments consistently and cost effectively.

This enables companies to remain focused on achieving successful business outcomes and new innovations.

To find out more, visit www.nutanix.com.

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