

INSIGHT
PARTNERS

STATE OF
ENTERPRISE
TECH

20

24

INNOVATION UNDER PRESSURE

Innovating under pressure: Insights, predictions & perspectives from 400+ enterprise leaders

Despite external challenges, enterprises continue to innovate — experimenting with new infrastructure, allocating significant spend to customizing AI models, and upgrading both the employee and customer experience.

We surveyed 421 senior tech leaders from companies representing trillions in revenue and spoke with hundreds of executives across our IGNITE enterprise network, whose perspectives on budget shifts, current investments, and key priorities we've distilled to create this report.

Where technology leaders place their bets within the enterprise impacts the future we build.

Whether you're looking for a benchmarking guide, or simply trying to better connect with senior tech buyers, this is an essential tool for evaluating the current and future state of enterprise technology.

[LEARN ABOUT THE IGNITE NETWORK](#)



NAVIGATING THE REPORT

Look out for these symbols to quickly find valuable information to share with your team.



Benchmarks



Enterprise Viewpoints



Investor POV

| An in-depth look at four foundational tech domains

From data-led decision-making to securing customer information, enterprise technology leaders are shaping the way companies empower their people, serve their customers, and drive value for shareholders. This report explores the four domains that are critical not only for building a strong foundation but for unlocking competitive advantage.



Data & AI

Where are enterprises strategically investing in their data stack to gain a competitive advantage with GenAI?



Infrastructure & Dev Ecosystem

How are emerging technologies reshaping enterprise infrastructure and the developer experience?



Digital Experience

How are enterprise leaders looking to capitalize on tech investments to improve the customer and employee experience?



Cybersecurity

Where are enterprises allocating cybersecurity budgets, and how do they intend to both leverage and protect the use of GenAI?

| Enterprise insights at scale

This year's State of Enterprise Tech report features in-depth data and insights from 421 enterprise technology leaders who are responsible for the strategies and budgets of their respective domains.

421 Survey respondents

175 Enterprise companies



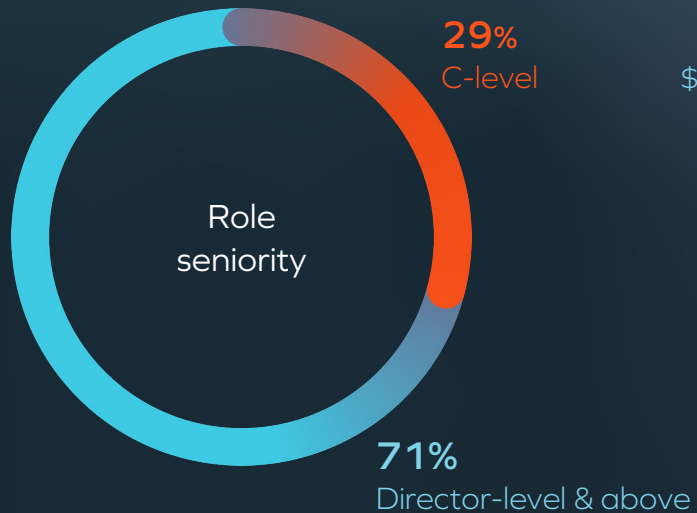
...and more

Benchmark against the best

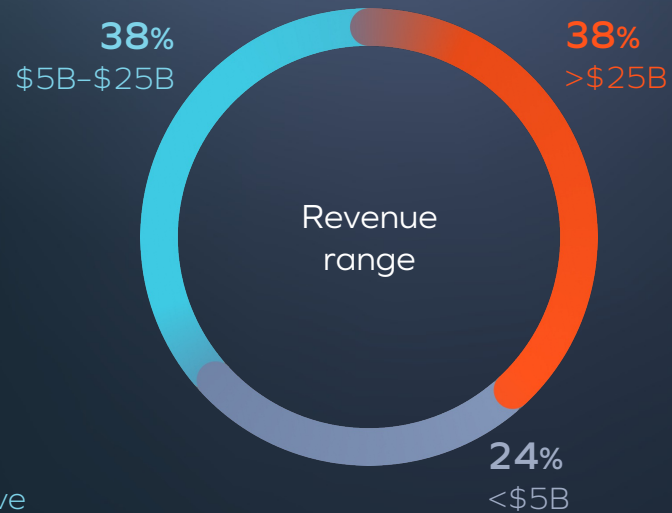
Overview of respondents

Senior tech leaders at some of the world's largest enterprise companies informed the insights and data in this report. We break down our data set by revenue and industry so you can see yourself in the data.

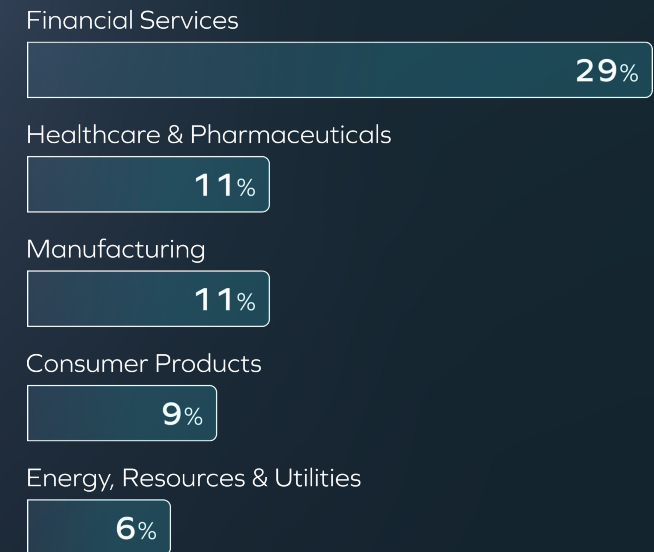
SENIORITY OF RESPONDENTS



REVENUE RANGES OF RESPONDENTS



INDUSTRY BREAKDOWN



| Capturing the voice of the enterprise

C-level leaders across domains and industries provided commentary on the data set and contributed strategic perspectives.



Chuck Adkins

Chief Information Officer, New York Stock Exchange (NYSE)



James Beeson

Advisor & Former Global Chief Information Security Officer, The Cigna Group



Jason Birnbaum

Chief Information Officer, United Airlines



Filippo Catalano

Chief Information & Digitisation Officer, Reckitt



Ericson Chan

Group Chief Information & Digital Officer, Zurich Insurance



Mahmoud ElAssir

Chief Technology Officer, UnitedHealth Group



Elizabeth Hackenson

Chief Information Officer, Schneider Electric



Kathy Kay

Executive Vice President & Chief Information Officer, Principal Financial Group



Pragati Mathur

Chief Digital & Information Officer, ConocoPhillips



Bijoy Sagar

Chief Information Technology & Digital Transformation Officer, Bayer



Mihir Shah

Former Chief Information Officer / Head of Data, Fidelity Investments



Bernardo Tavares

Chief Technology & Data Officer, Kenvue



Thank you to this amazing group of leaders who took the time to make this report an invaluable peer-led resource.



Data & AI

Where are enterprises strategically investing in their data stack to gain a competitive advantage with GenAI?



Benchmarks



Enterprise Viewpoints



Investor POV

Data & AI

| The stakes are high, but so is the reward

With AI moving from experimentation to execution, executives are under pressure to tie projects to a clear ROI. Enterprises are also racing to adopt the Modern Data Stack as they build strong foundations to operationalize AI.



27%

of organizations are in the 'monetizing phase' of AI adoption

Data & AI

INSIGHTS DISTILLED

1

Enterprises are allocating notable spend towards customizing AI models.

48% of data leaders are fine-tuning and customizing open-source or out-of-the-box foundational models.

2

Data leaders are making the foundational data layer their top priority.

#1 Data Warehousing & Lakes

#2 AI Model Development

#3 BI / Analytics & Visualization

#4 AI GRC

#5 Data Preparation

3

OpenAI's models are the most adopted, closely followed by open-source LLMs that can be customized for specific domains.

#1 GPT-4 (43%)

#2 GPT-3.5 (36%)

#3 Llama (14%)

#4 Gemini (9%)

#5 Claude (8%)

#6 Mistral (5%)

4

Enterprise-wide buy-in is critical for GenAI adoption.

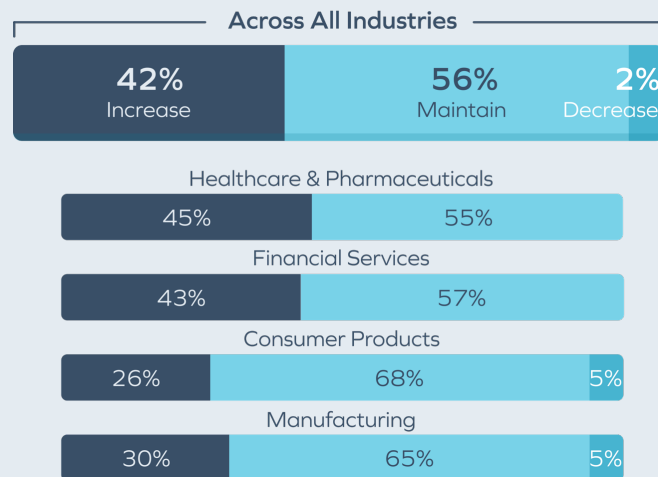
56% of data leaders have established or are planning to establish a hybrid AI Center of Excellence (CoE) to align internal business units with centralized strategy.

99% of data leaders indicate increasing or maintaining data & AI budgets

2024 MODERN DATA STACK AND BI TOOLS BUDGET

17% average budget increase

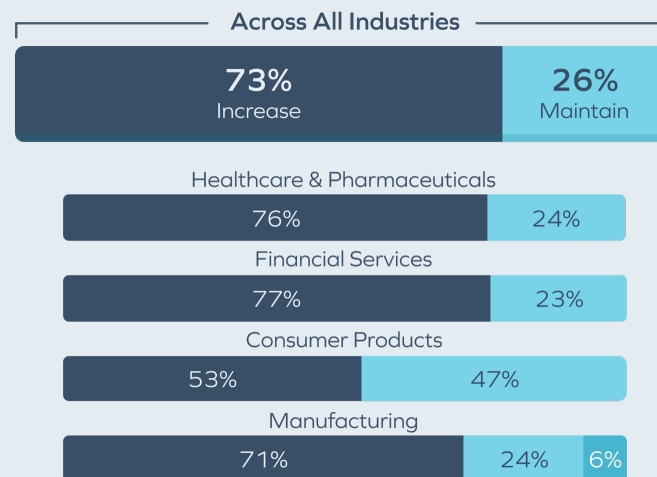
42% of leaders indicated raising budgets for Modern Data Stack and BI Tools by an average of 17%.



2024 MLOPS AND GENAI BUDGET

36% average budget increase

73% of leaders indicated boosting budgets for MLOps and GenAI by an average of 36%.



CPG and Manufacturing aren't investing as heavily into the Modern Data Stack possibly due to high inflation, interest rates and budgetary pressure. But, across sectors, organizations are rapidly spending more on AI.

“ INVESTING IN DATA & AI ACROSS THE ENTERPRISE

"Our data, analytics, and AI investments are focused on evolving data foundations and capabilities that can be leveraged across the enterprise, integrating traditional and GenAI to improve efficiency, and developing core technologies that enable our teams to enhance our customer experience."



Kathy Kay
Executive Vice President & Chief Information Officer, Principal Financial Group

Data & AI

PRIORITIES

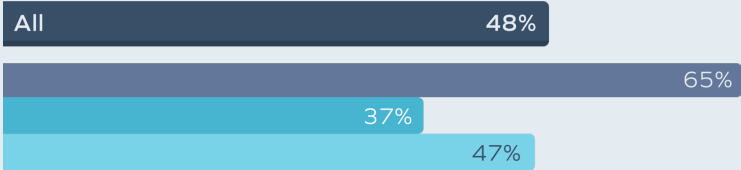
Strengthening data foundations

Across the board, enterprises are investing more in AI model development. We're seeing leaders at companies, large and small, prioritizing their foundational layer, including Data Warehousing, Data Preparation, and BI & Analytics.

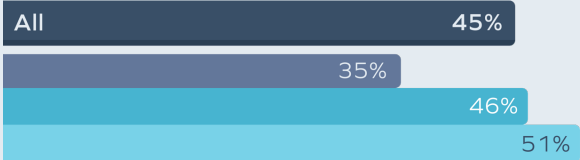
TOP PRIORITIES BY REVENUE

- All
- <\$5B
- \$5B - \$25B
- >\$25B

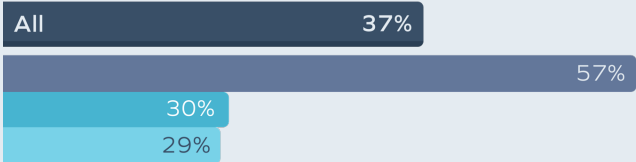
1. Data Warehousing & Data Lakes



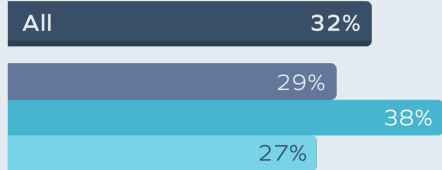
2. AI Model Development



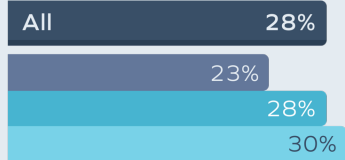
3. BI Analytics & Visualization



4. AI Governance Risk & Compliance



5. Data Preparation (Labelling, Wrangling, Cleansing)



*Other priorities ranked in order of importance: Operation Databases, AI Model Monitoring, Real-time Data Processing & Streamlining, Data Ingestion, Data Transformation (ETL, ELT, Reverse ETL), LLM Development, Other.

Smaller organizations are rushing to adopt the Data Lake & enhance BI capabilities.

For companies <\$5B revenue, 65% are focused on Data Warehousing and 57% are focused on BI & Analytics. This indicates that establishing their data foundation is key this year before focusing more heavily on AI model development.

CIO / CDO TOP PRIORITIES BY REVENUE

	<\$5B	\$5B - \$25B	>\$25B
#1	Data Warehousing & Data Lakes	AI Model Development	AI Model Development
#2	BI Analytics & Visualization	AI Governance, Risk & Compliance	Data Warehousing & Data Lakes
#3	Data Transformation	LLM Development	BI Analytics & Visualization

“ CURATED DATA SETS ARE INSTRUMENTAL

“One key challenge is having high-quality internal data sets. Without them, proof of concepts may not scale or show real value and competitive advantage. Curated data sets are crucial for making your GenAI solutions stand out and deliver sustainable benefits.”



Filippo Catalano
Chief Information & Digitisation Officer, Reckitt

Executives are most concerned about securing proprietary data & regulatory compliance for GenAI

Digital integrity is increasingly under scrutiny, with companies focused on protecting their corporate reputation and retaining customer trust. There's also a need to develop a proactive feedback loop with regulators to guide policy development.

RISE IN INVESTMENT IN AI GOVERNANCE

As enterprises establish and scale their initial production use cases of AI, more investment is directed into AI Governance, Risk, and Compliance (GRC) to mitigate downstream risks. AI GRC products play a crucial role in ensuring models comply with regional and international regulations. They help manage risks related to data privacy, model drift, and other potential issues. As a result, 32% of respondents shared that investment in AI GRC is a top priority in 2024.

WHAT IS THE BIGGEST BARRIER FOR DEPLOYING GENAI APPLICATIONS?



*Not displayed: Latency (1%).



CENTRALIZING AI TALENT

"By centralizing AI talent, we can better manage data and leverage AI organization-wide. With a robust governance framework, user education, and secure environments, we ensure responsible and beneficial AI adoption."



Bernardo Tavares
Chief Technology & Data Officer,
Kenvue



RISKS OF EXPOSING SENSITIVE DATA

"Deploying GenAI poses unique challenges, including the risk of exposing sensitive data. The risk is heightened by the ability of AI-driven systems to process large volumes of data quickly, with unintended consequences possibly happening fast and at scale before discovered."

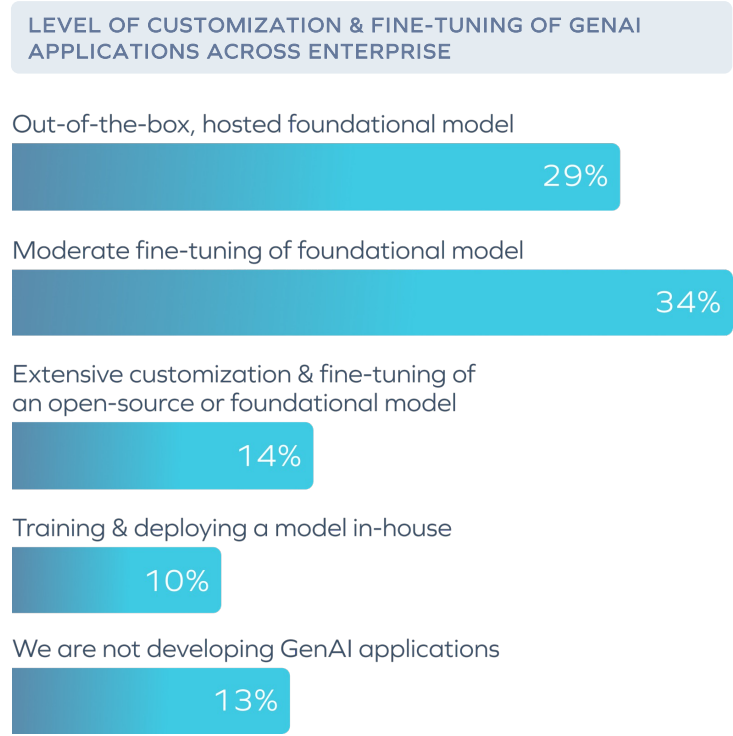


Filippo Catalano
Chief Information & Digitisation
Officer, Reckitt

Enterprises are allocating notable spend towards customizing AI models

Executives are facing board, customer, and employee pressure to deploy GenAI in specific use cases, so they're investing in model development. Almost half of enterprise leaders are fine-tuning and customizing out-of-the-box foundational models.

- 73%** of leaders intend to increase their MLOps/GenAI budget by an average of 36%.
- 45%** of leaders have indicated AI model development as their top budget priority.
- 48%** of leaders are fine-tuning and customizing open-source or out-of-the-box foundational models.



“ PURPOSE-DRIVEN COPILOTS

“When evaluating your strategy for fine-tuning, differentiate between specific domains and general productivity. For general tasks, adopt copilot functions without proprietary training, and ideally coming as a feature of a product or suite. For fine-tuning and advanced uses, build a strong data foundation.”



Filippo Catalano
Chief Information & Digitisation Officer, Reckitt

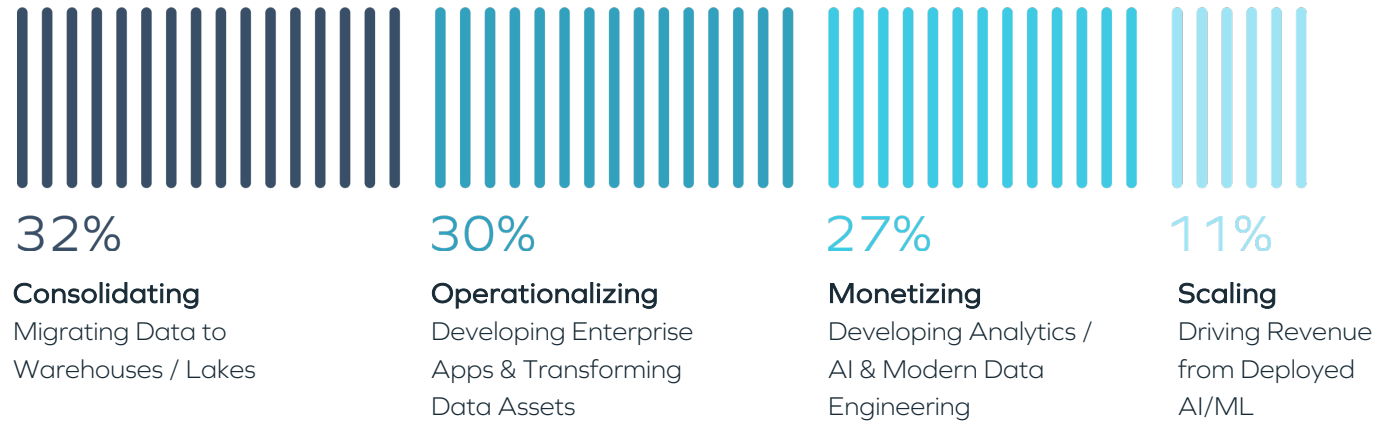
Replacing legacy technology can't wait

38% of companies are developing advanced analytics or AI products, scaling efforts to drive new revenue streams and enhance business capabilities. Meanwhile, 62% are transitioning from legacy data warehouses to cloud Data Lakehouses, focusing on a unified data taxonomy and robust data layer consolidation.

The Modern Data Stack, including Data Lakehouses, supports diverse workloads and large-scale data transactions essential for scaling advanced AI applications. This infrastructure is vital for implementing vector databases, retrieval-augmented generation, and other architectures crucial for fine-tuning or customizing LLMs with proprietary data.

Executives are starting to monetize their investment in the Modern Data Stack and AI.

WHERE ARE ENTERPRISE LEADERS ON THEIR AI JOURNEY?



LEVERS

Cloud technology will be critical to successfully scaling GenAI

Adopting modern cloud architectures is crucial for GenAI, allowing organizations to provide high-quality data to AI and LLM models in real time. Without proper data standardization, accessibility, and centralization, it becomes challenging to harness proprietary data effectively.

AI MODELS

Enterprises are leaning into open-source LLMs

OpenAI's GPT-4 is the primary AI model in production. However, we also see many enterprises deploying open-source LLMs, with the most popular being Meta's Llama and then Mistral. Open-source LLMs can offer more control than their proprietary alternatives, allowing enterprises to host models in private environments, fine-tune them for domain-specific needs, and avoid token-based costs.

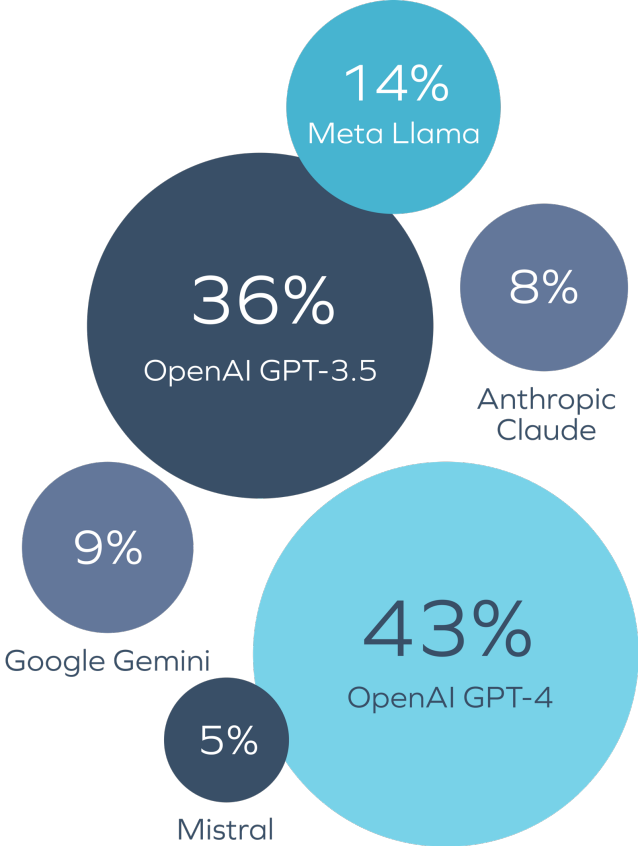
“ PRIVATELY HOSTED LLMs OFFER KEY ADVANTAGES

"We want our models in our data center, or in our own VPC to maintain complete control. This is crucial not only for regulatory and privacy concerns but also for cost containment. Open-source innovation will be key here."



Chuck Adkins
Chief Information Officer, New York Stock Exchange (NYSE)

WHAT LLMs HAVE ENTERPRISES DEPLOYED IN PRODUCTION?



SETTING THE TONE

Aligning AI strategy is an all-hands-on-deck task

Change management is a significant challenge, particularly when aligning internal business units with the overarching strategy set by the board and executive team.

AI literacy is a second major hurdle, and the technology won't be effectively adopted without clear buy-in from business units.

“ BUILDING ENTERPRISE-WIDE AI LITERACY

"To build AI literacy in our CoE, we brought in domain experts to identify the right models for each use case. We established a universal language, bridging departmental gaps, fostering trust and credibility."

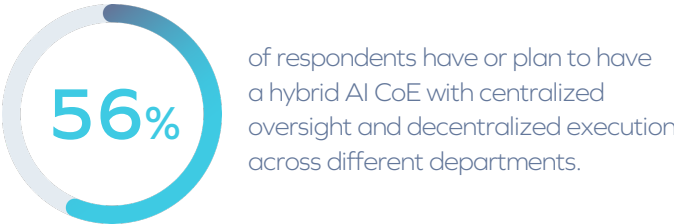


Bernardo Tavares
Chief Technology & Data Officer,
Kenvue

INTERNAL ALIGNMENT

Enter the AI Center of Excellence

AI CoEs have become vital due to their ability to align business units with strategy, prioritize use cases, and ensure regulatory compliance, which 22% of leaders believe is the biggest risk to deploying GenAI.



“ EMBEDDING AI EXPERTISE IN EVERY PROCESS & WORKFLOW

"If you have a centralized team of engineers, data scientists, and compliance experts, use them to decentralize knowledge across the organization. AI will be used in every process, workflow, and department, so it's crucial that all managers understand its possibilities."



Mihir Shah
Former Chief Information Officer /
Head of Data, Fidelity Investments

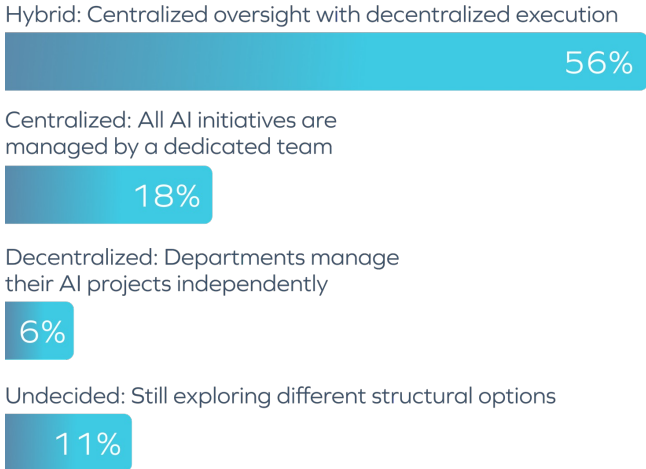
SETTING IT UP

Autonomy & oversight

Given that they combine centralized oversight and decentralized execution, hybrid AI CoEs are the go-to choice for enterprise technology leaders.

When establishing an AI CoE, companies often involve stakeholders from various business units, which supports organizational buy-in and adoption.

WHERE ARE LEADERS ON THEIR AI JOURNEY?*



*Other options not displayed include Community of Practice (4%), External Partnerships (4%), No Plans to establish AI CoE (2%).

| Three considerations when evaluating AI use cases

Demonstrate ROI with quantifiable metrics with a consideration for productivity

“

"Developing and sticking to a value framework to measure ROI is key. Think about using task and process mining to baseline, then choose specific steps that AI can help automate. Somebody needs to pay for AI in the company, so keeping line of sight of value realization in the P&L is of paramount importance to allow enterprise scale."



Filippo Catalano
Chief Information &
Digitisation Officer, Reckitt

Manage risks by keeping humans in the loop

“

"Managing AI risks means balancing automation with human oversight. By using closed-source models and partnering with experts, we combined human-in-the-loop systems to automate HR and Marketing processes, reducing biases and maintaining control."



Bernardo Tavares
Chief Technology & Data
Officer, Kenvue

Consider the cost of training, inference, and compute

“

"As AI and data processing demand grows, so does data center energy consumption. We're proactively investing in energy-efficient technologies to meet emerging regulations, investor expectations, and public accountability standards."



Elizabeth Hackenson
Chief Information Officer,
Schneider Electric

As AI matures, executives will face new security threats, but also new opportunities—especially when it comes to producing value



EXPERIMENTATION TO PRODUCTIZATION

“Enterprises are taking a crawl, walk, run approach to rolling out GenAI-based apps. Apps require significant ‘scaffolding’, such as tools to access data, specific functions, and policies to inform overall execution. The AI journey starts with a clean data platform to enable enterprise data to train and ground the LLMs. Builders are discovering that creating a deterministic runtime for AI apps is essential to overcoming the probabilistic nature of LLMs and delivering consistent outcomes.”



Praveen Akkiraju
Managing Director,
Insight Partners



COMPELLING VALUE EMERGING ACROSS SECTORS

“We’ve come out of a significant period of building AI systems, including the components needed to embed GenAI into enterprise products and GTM. In 2024, these builds are coming online and providing compelling value, particularly in how we use systems of creation. The most exciting shift is the significant productivity advances across software and non-software sectors.”



George Mathew
Managing Director,
Insight Partners



VIGILANCE IN THE FACE OF CYBERSECURITY THREATS

“As AI systems process increasingly sensitive data, the risk of data breaches grows. Enterprises must ensure robust Data Security measures are in place, which can be complex and resource-intensive. This issue will become more challenging if language models are used by adversaries to ‘upgrade’ cyberattacks.”



Lonne Jaffe
Managing Director,
Insight Partners



ESTABLISHING DATA MOATS

“Vertical-specific data moats are more than defensive barriers; they are crucial for companies striving to lead with GenAI. In key sectors like Healthcare, Manufacturing, Finance, and Retail, leveraging extensive operational data sets along with new ambient feedback and experience data, can result in tailored models that drive market innovation and redefine industry standards beyond conventional boundaries.”



Ganesh Bell
Managing Director,
Insight Partners



Data & AI

Insight Partners has invested over \$4B in AI and data companies. View the 40+ we believe are some of the most promising players in the field.

[OPEN THE MARKET MAP](#)



For a complete list of Insight portfolio companies, please visit www.insightpartners.com/portfolio



Infrastructure & Dev Ecosystem

How are emerging technologies reshaping enterprise infrastructure and the developer experience?



Benchmarks



Enterprise Viewpoints



Investor POV

Infrastructure & Dev Ecosystem

Modern development platforms are flourishing

With regulated industries adopting the cloud, companies are embracing a mature DevOps culture. Many are now experimenting with Infrastructure as Code (IaC), serverless computing, copilots, and AI agents.

68%

have implemented and are actively using CI/CD pipelines

62%

have deployed serverless technology

Infrastructure & Dev Ecosystem

INSIGHTS DISTILLED

1

Rapid adoption of cloud technologies is underway, with enterprises taking advantage of the scalability and cost efficiencies of hybrid and multi-cloud environments.

91% of tech leaders indicate increasing or maintaining their budget for hybrid cloud, compute or container technologies.

2

Leaders are reimagining architecture to improve scalability, with a focus on CI/CD, IaC, and serverless technology.

68% of tech leaders have implemented and are actively using CI/CD pipelines and **62%** have deployed serverless technology.

3

Enterprises are focused on enhancing infrastructure resilience and flexibility. We're seeing leaders increase investments in API orchestration, security and AI integrations.

#1 Data Orchestration

#2 API Security & Governance

#3 AI/ML Integrations

4

Leaders are increasingly using AI copilots and agents in software development, looking to reduce coding time and improve code workflow and quality.

72% aim to reduce coding time

60% aim to streamline dev processes

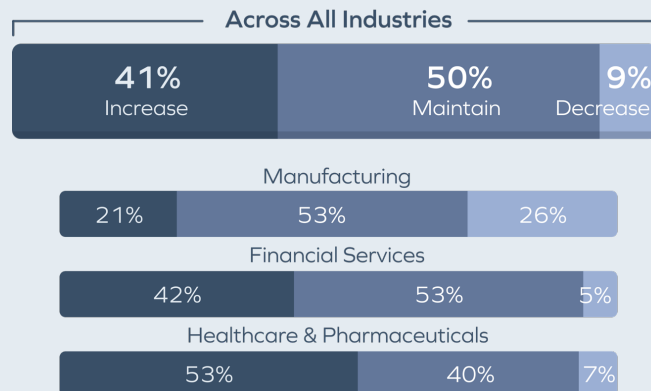
60% aim to increase code quality

41% of respondents indicated increasing their budget for hybrid cloud, compute or container technologies

Leaders are shifting towards hybrid cloud for the flexibility, security, and performance benefits it offers, while allowing them to leverage existing on-premise infrastructure and optimize costs. Companies are also investing in unlocking developer potential to achieve faster, more flexible software development.

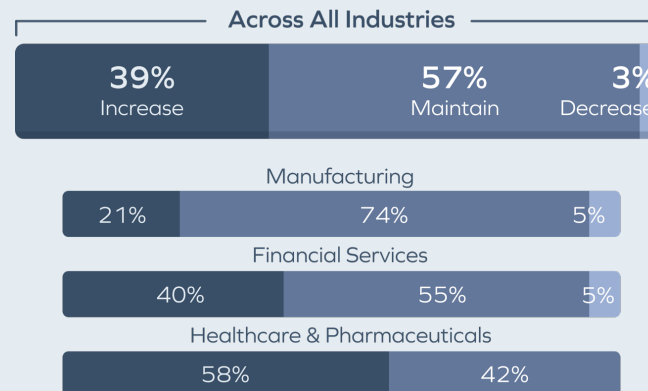
INFRASTRUCTURE BUDGET

Regulated industries like FS and Healthcare & Pharma have been slower to adopt the cloud, with many organizations still relying on on-premise or hybrid solutions. As a result, we're seeing 95% of FS and 94% of Healthcare & Pharma leaders maintaining or increasing budgets for hybrid cloud, compute, and container technologies.



DEVELOPER ECOSYSTEM BUDGET

Healthcare & Pharma and FS are significantly increasing their budgets by a respective 58% and 40% for APIs, DevOps, and observability, signalling a strategic shift towards enhancing efficiency, automation, and compliance. Only 3% of leaders indicated they would decrease investments.



“ WHY CLOUD? ”

"There are three key reasons to move your applications to the cloud. First, it allows you to innovate faster on behalf of your customers. Second, it can provide greater security, resiliency and flexibility. Finally, cloud done right can be highly cost-effective."



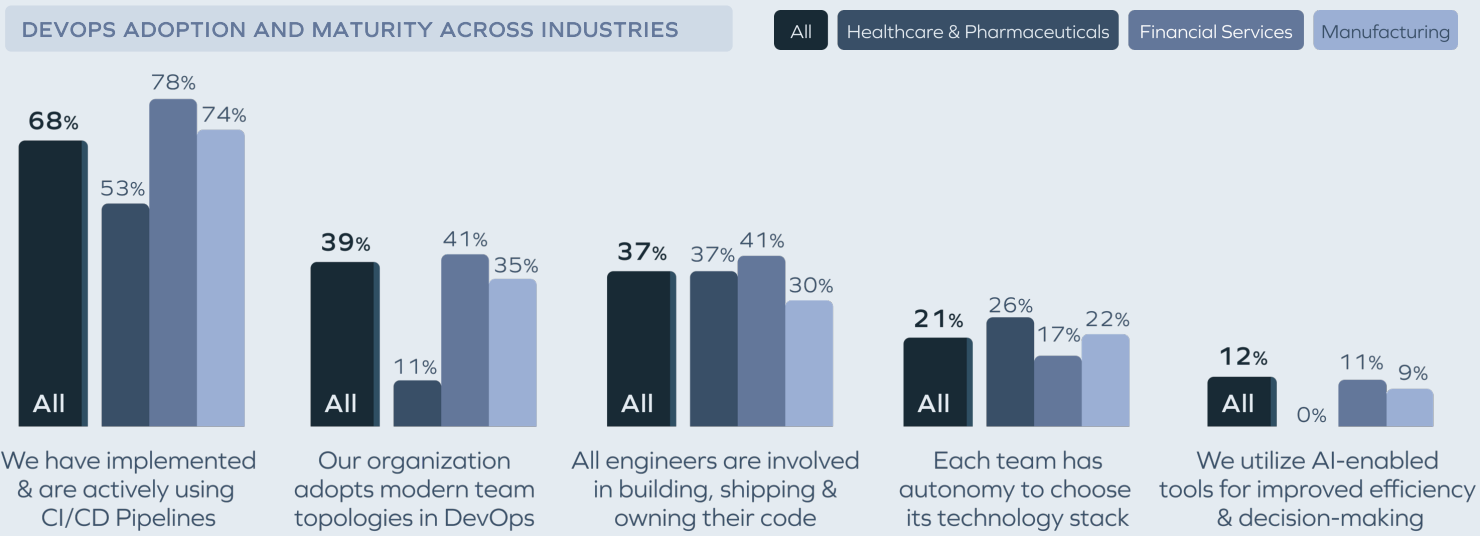
Mahmoud ElAssir
Chief Technology Officer,
UnitedHealth Group

Building a culture of autonomy and resilience in development teams

Respondents reveal significant progress in DevOps adoption across industries. Over 60% of leaders are using CI/CD pipelines, allowing more engineers to actively participate in the development process by building, shipping, and owning their code. This trend suggests a move towards modern team structures like platform engineering, deeper investment in DevOps tools, and an even more collaborative DevOps culture.

FS LEADS IN DEVOPS MATURITY

Over 70% of organizations in FS and Manufacturing have implemented and actively use CI/CD pipelines. Additionally, 41% of engineers in FS are involved in building, shipping, and owning their code, indicating a strong commitment to strengthening DevOps practices in these industries.



STANDARDIZING INFRASTRUCTURE PROVISIONING THROUGH CODE

"Our teams are managing the entire lifecycle for applications and extending it to IaC. We're standardizing IaC templates and incorporating compliance checks to deploy secure, resilient infrastructure at scale."



Mahmoud ElAssir
Chief Technology Officer,
UnitedHealth Group

Future-proofing with serverless architectures

Modern cloud infrastructure like serverless computing and containers allow companies to adjust resources as needed and only pay for what they use. This cuts costs and helps leaders efficiently manage fluctuating workloads.

“ BENEFITS OF SERVERLESS COMPUTING AND CI/CD AUTOMATION

“We’re utilizing serverless computing and pipelines throughout our processes to elevate the role of engineering. This not only enhances our nimbleness, but allows us to expose reusable capabilities in a headless manner.”



Bernardo Tavares
Chief Technology & Data Officer, Kenvue

THE STATE OF SERVERLESS

Serverless computing adoption varies by industry and company size. Large enterprises, especially those with revenues over \$25B, have embraced it, with 70% partially or extensively implementing serverless computing. In contrast, smaller companies with limited resources are further behind in adoption.

Healthcare & Pharma enterprises are also behind in adoption but for different reasons. They operate in a highly regulated industry and face challenges with modernization. As a result, 53% have not yet implemented any form of serverless computing, and no companies had extensively used it across multiple projects.

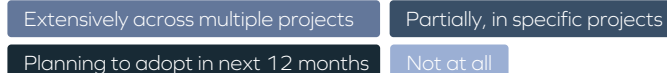
“ ATTRACTING NEW TALENT THROUGH MODERN DEVELOPMENT PLATFORMS

“Containers and serverless technology have empowered our developers to leverage the benefits of modern cloud Infrastructure, which allows the NYSE to attract new talent while also enhancing the skills of our current team.”

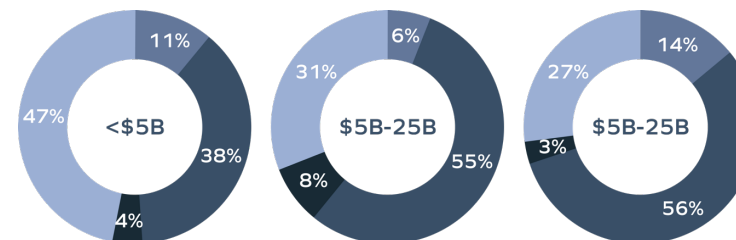


Chuck Adkins
Chief Information Officer, New York Stock Exchange (NYSE)

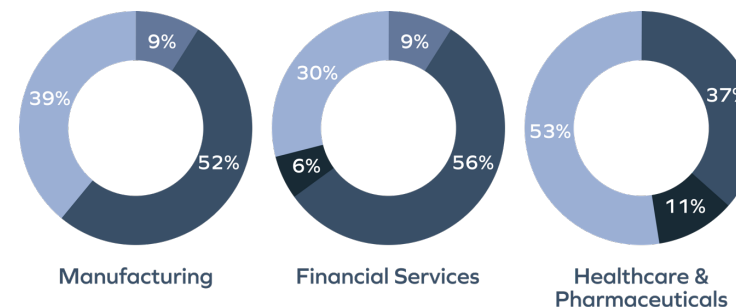
HOW FAR ALONG IS THE IMPLEMENTATION OF SERVERLESS COMPUTING, FUNCTION AS A SERVICE, EVENT-DRIVEN ARCHITECTURES, OR WEB ASSEMBLY?



VIEW BY REVENUE



VIEW BY INDUSTRY



85% of leaders have partially or extensively implemented Kubernetes & Container Orchestration solutions to speed up product innovation

Container-based architectures help enterprises rapidly iterate while reducing costs. With 37% of companies extensively implementing Kubernetes and Container Orchestration solutions across multiple projects, containerization has become more broadly adopted, driving resiliency and scalability.

“ AVOIDING VENDOR LOCK-IN

"For CIOs who want to avoid vendor lock-in, containers ensure cloud service provides independence and interoperability."

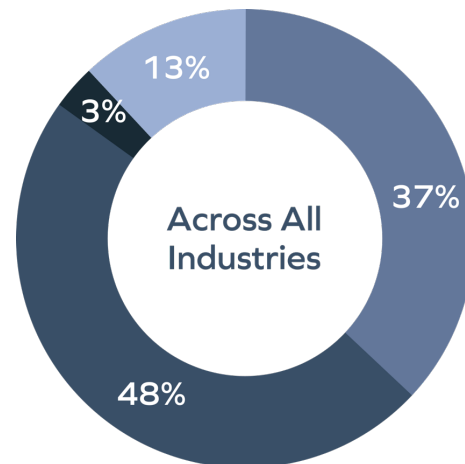


Mihir Shah
Former Chief Information Officer /
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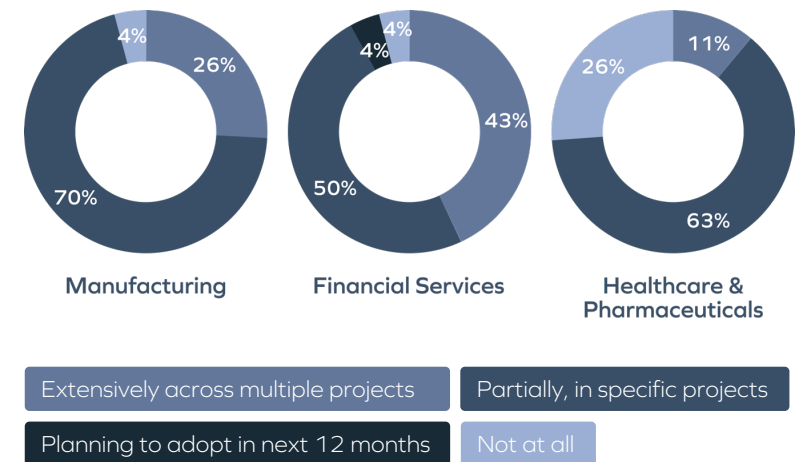
KUBERNETES DEPLOYMENT BY INDUSTRY

Manufacturing and FS lead the way in implementations, with 93% of FS leaders partially or extensively deploying Kubernetes and Container Orchestration solutions. In Healthcare & Pharma, adoption is just starting to take root, with 63% of leaders reporting partial deployments in specific projects. This slower shift to containerization is likely due to longer cloud transition periods within these industries. However, as Healthcare & Pharma modernize their infrastructure, Kubernetes adoption is expected to increase and further enhance DevOps maturity and productivity.

ENTERPRISE IMPLEMENTATION OF KUBERNETES & CONTAINER ORCHESTRATION SOLUTIONS

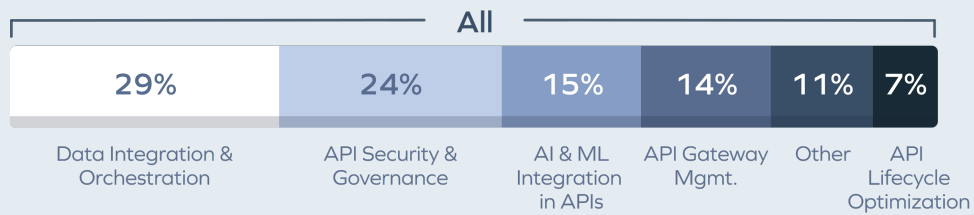


VIEW BY INDUSTRY



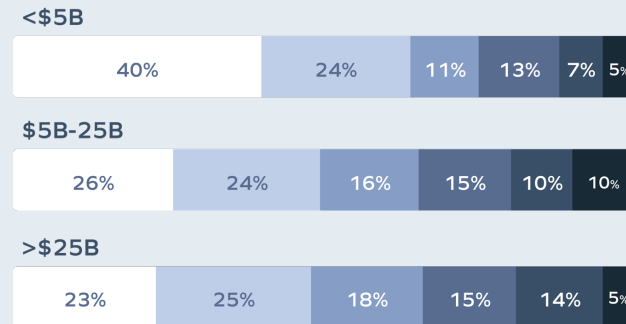
APIs: The backbone for AI and the developer ecosystem

As the API ecosystem evolves, enterprises are focusing on Data Integration, Orchestration, Governance, and AI Integration into APIs. Manufacturing prioritizes API Security and Gateway Management to ensure secure, accessible data in production. FS emphasizes API Security and Data Integration to safeguard financial data and implement AI/ML for better risk management and service enhancement. The Healthcare & Pharma industry focuses on Data Integration to improve patient care by seamlessly connecting data sources, while maintaining strong governance.



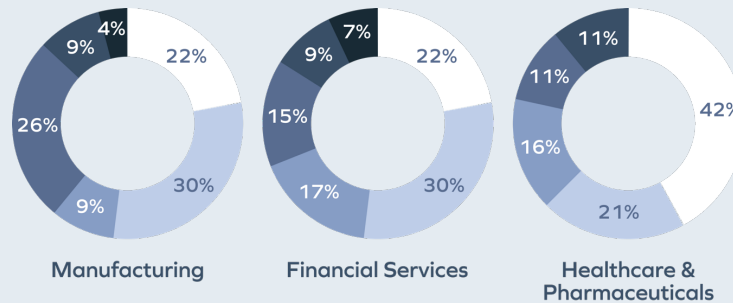
API PRIORITY - VIEW BY REVENUE

40% of respondents from companies with <\$5B in revenue prioritize Data Integration & Orchestration via APIs.



API PRIORITY - VIEW BY INDUSTRY

30% of FS and Manufacturing executives are prioritizing API Security & Governance.



BENEFITS OF CONTINUOUS DEVELOPMENT

"API-enabled, pipeline-driven approaches move us away from traditional change control, enabling continuous deployment, driving automation and efficiency. This shift has attracted new talent with relevant skills, making our team leaner and more capable."



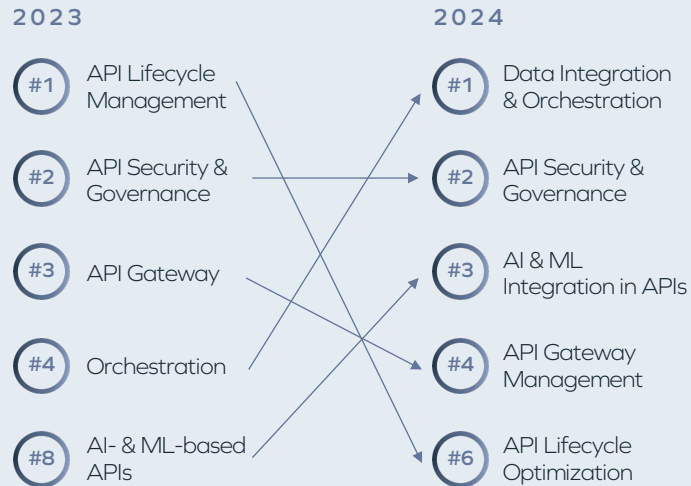
Bernardo Tavares
Chief Technology & Data Officer, Kenvue

Maturing API Lifecycle priorities in 2024

API gateways are essential in modern cloud environments for offering a centralized point to monitor, secure, and optimize API traffic, which is crucial for maintaining system integrity and performance.

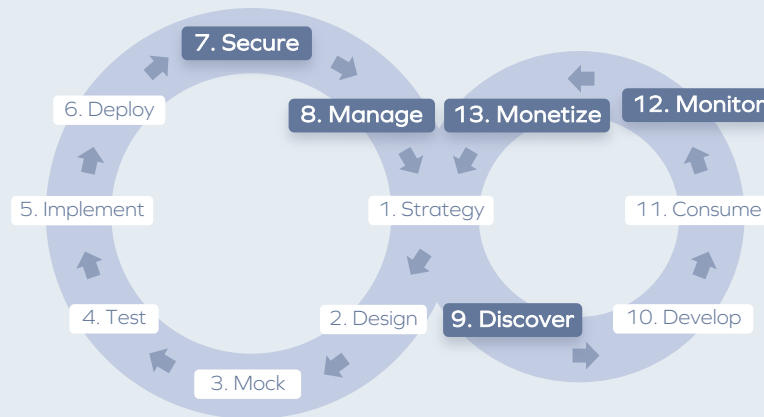
SHIFT IN YOY API PRIORITIES

Data Integration & Orchestration is rising to the top of the priority list, underscoring the critical need for seamless data flow and improved visibility. AI Integration is also on the rise, as companies look to embed AI capabilities within their APIs. Enterprises are placing less emphasis on API Lifecycle Management as microservices adoption matures.



2024 PRIORITIES MAPPED AGAINST API LIFECYCLE

The concentration of top priorities in the API Lifecycle highlights their central role in establishing a cohesive and secure API strategy. Focusing on Data Integration, API Security, AI Integration, Gateways, and Lifecycle Management ensures a robust infrastructure that supports the entire API Lifecycle from development to deployment.



*Key executive priorities **Highlighted** include Data Integration & Orchestration, API Security and Governance, AI integration into APIs, Gateways and Lifecycle Management

API SECURITY & GOVERNANCE

“SEAMLESS COMMUNICATIONS COME WITH NEW SECURITY CHALLENGES”

"Switching to microservices enhances componentization and scalability, and drives efficiencies, while providing stronger security compared to on-premises environments."



Mahmoud ElAssir
Chief Technology Officer,
UnitedHealth Group

API LIFECYCLE

“MAINTAINING VISIBILITY INTO API QUALITY, SECURITY & AND EFFICIENCY”

"We are leveraging APIs to deliver real-time data sets, enhance data accessibility and improve the experience of professional and citizen developers. Our proactive approach is aimed at establishing an API-centric integration landscape that is robust, flexible, and future-ready."



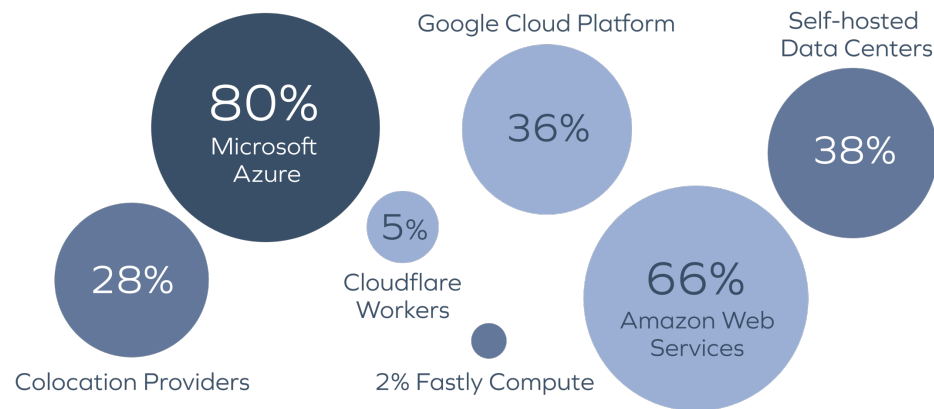
Pragati Mathur
Chief Digital & Information
Officer, ConocoPhillips

Major cloud providers lead Edge Computing adoption, while specialized solutions gain traction

ENTERPRISE ADOPTION OF EDGE COMPUTING

Edge Computing is changing the way enterprises operate through faster data processing and reduced latency. While established cloud providers like Microsoft Azure and AWS remain dominant due to their vast infrastructure and reliability, the rise of niche players indicates a growing demand for specialized edge solutions that address low-latency, real-time processing, and industry-specific needs.

EDGE COMPUTING SERVICES ADOPTION BY PROVIDER*



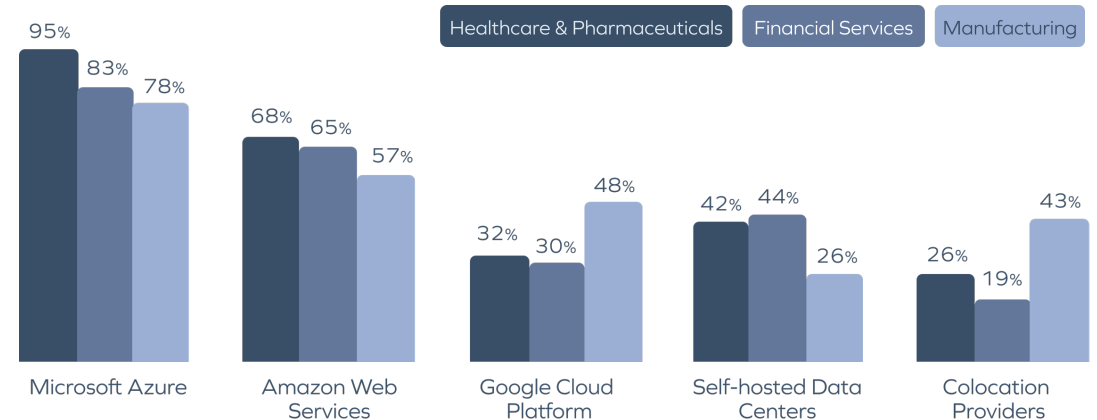
* Options not listed include 'Other Edge Computing Providers' (3%).

ADOPTION VARIED BY INDUSTRY

Enterprise cloud choices vary across industries. Established players like Azure and AWS are widely adopted due to their vast infrastructure and reliability. Others, like Google Cloud Platform, shine in data analytics and ML and achieve broader traction in Manufacturing.

Healthcare & Pharma and FS respondents indicate a preference for self-hosted data centers, but Manufacturing companies rely more heavily on colocation providers and are more open to partnering with niche Edge Computing providers like Fastly.

EDGE COMPUTING SERVICES ADOPTION BY INDUSTRY**



**Options not listed include Cloudflare Workers: Manufacturing (0%), FS (9%), Healthcare & Pharmaceuticals (5%), Other Edge Computing Providers: Manufacturing (9%), FS (2%), Healthcare & Pharmaceuticals (0%), Fastly Compute: Manufacturing (9%), FS (0%), Healthcare & Pharma (5%).

A new paradigm for developer productivity

Adoption of AI copilots across the Software Development Lifecycle (SDLC) is driven by their ability to improve productivity, code quality, and development efficiency. FS leads in using these tools to accelerate developer onboarding and improve code review processes, ensuring new developers are productive quickly while also streamlining peer review and debugging processes. This targeted use of copilots highlights the sector's emphasis on maintaining high standards of code quality and resiliency. 46% of FS firms are using copilots to accelerate developer onboarding and training, compared to only 16% in Healthcare & Pharma and 9% in Manufacturing.

WHAT ARE LEADERS LOOKING TO ACHIEVE WITH AI COPILOTS ACROSS THE SDLC?

AI CODE-DRIVEN ASSISTANCE

- All
- Healthcare & Pharmaceuticals
- Financial Services
- Manufacturing

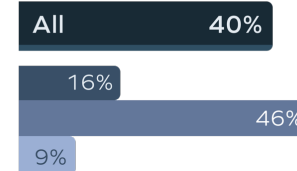
Reducing time spent on routine coding tasks



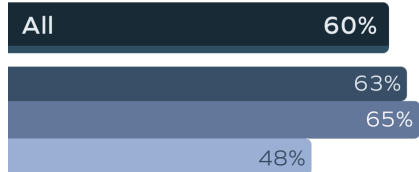
Streamlining code development process



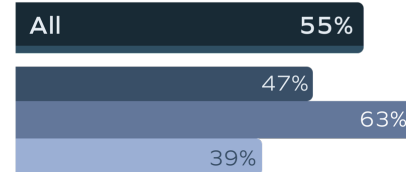
Accelerating onboarding & training of new developers



Enhancing code quality & consistency



Augmenting code review & debugging



“ COPILOTS BRIDGING THE TALENT GAP FOR DEVSECOPS

"Whether it's automated testing, DevSecOps, or other areas, we see a big opportunity with GenAI to bridge the talent gap and need for full-stack developers."



Pragati Mathur
Chief Digital & Information Officer,
ConocoPhillips

“ COPILOTS OF BUSINESS INTELLIGENCE & ANALYTICS

"Copilots boost productivity by making it easy for end users to directly access and analyze data from databases without needing technical skills or engineers to create reports."



Mihir Shah
Former Chief Information Officer /
Head of Data, Fidelity Investments

Rethinking developer workflows with AI agents and modern development platforms

“ ENTERING THE ERA OF COPILOTS

“We’re seeing incumbent software platforms launch ‘copilots’ to accelerate time-to-value for their apps. For simpler tasks, users are building custom GPTs—simplified code wrappers around LLMs constructed on LLM platforms. Enterprises are experimenting with incorporating LLMs in reimagined application architecture by using domain-specific AI agents trained on specific tasks as part of a ‘Mixture of Experts’ architecture. Overall, we’re still early in the journey as enterprises and users measure ROI and productivity gains for initial deployments.”



Praveen Akkiraju
Managing Director, Insight Partners

“ SERVERLESS COMPUTING WILL POWER AI DEVELOPMENT

“Cost cutting and efficient use of compute is an afterthought as AI use cases are in infancy. But as more applications make it to production, we’ll see the locus of focus shift to efficient inference and portability of application workloads to reside closer to data and users. This is where serverless and edge computing will shine.”



Michael Yamnitsky
Managing Director, Insight Partners

“ AI AGENTS WILL TRANSFORM THE SDLC

“AI agents have the potential to enhance every aspect of the SDLC, including requirements gathering, code generation, testing, deployment, and maintenance. The era of agentic automation will usher in a new paradigm of collaboration, innovation and creativity within software development.”



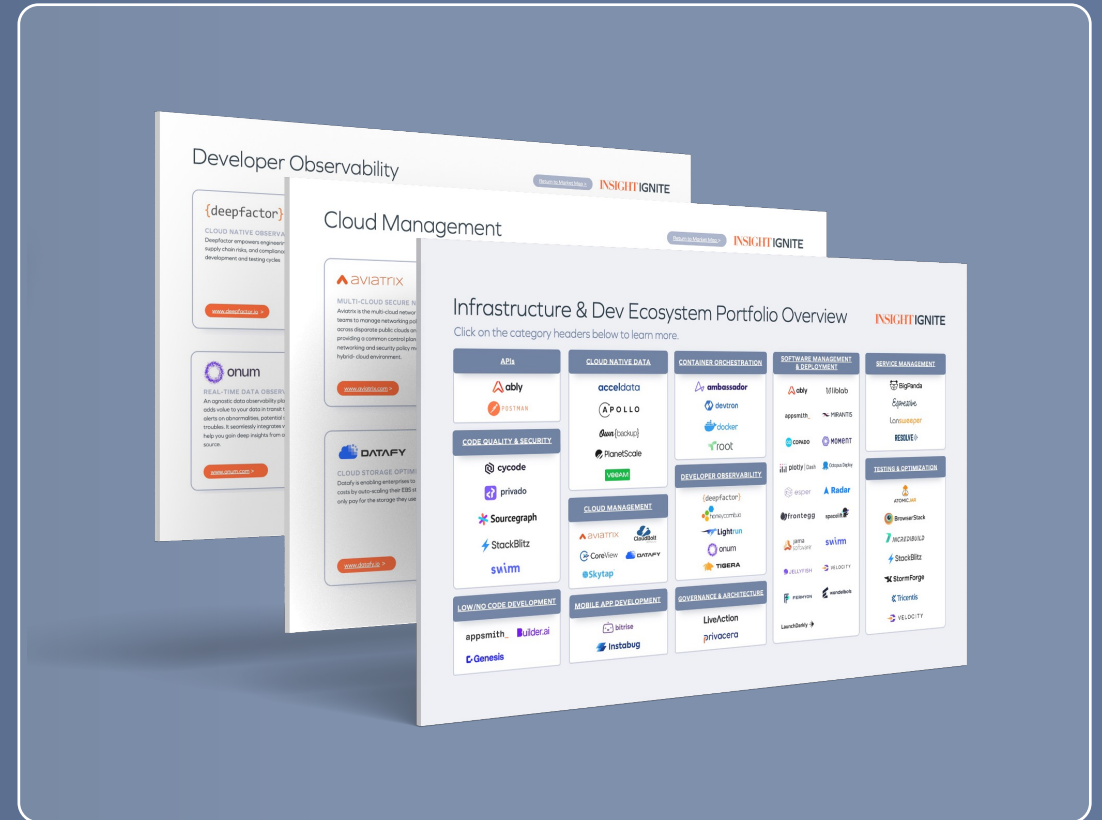
Ash Tutika
Director, Insight Partners



Infra & Dev Ecosystem

With our deep industry experience, we've selected 60+ companies that we believe are solving today's toughest challenges.

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Digital Experience

How are enterprise leaders looking to capitalize on tech investments to improve customer and employee experience?



Benchmarks



Enterprise Viewpoints



Investor POV

Digital Experience

| Shifting to a holistic digital tech strategy

After several years of increased investment, executives are re-evaluating how the digital experience fits into their overall strategy. As companies continue to innovate in data analytics, automation, and AI, leaders are laying the groundwork for a more positive employee experience (EX), which ultimately translates to an enhanced customer experience (CX).

“ CONVERGENCE OF CX & EX

"We want to fully integrate DEX, so that employee and customer interactions are all built around the same design principles. We put as much effort into improving our EX as we do in creating an exceptional CX."



Jason Birnbaum
Chief Information Officer, United Airlines



Digital Experience

INSIGHTS DISTILLED

1

Enterprises are focused on improving customer satisfaction and engagement through advanced Data Analytics & Automation.

#1 Customer Data Management

#2 Customer Analytics

#3 Digital Comms & Virtual Agents

#3 Customer Service Automation

2

There's a stronger push this year to improve Learning & Development (L&D) and better define and support Employee Performance & Productivity.

In 2024, **51%** of leaders selected L&D as a top priority VS. **29%** in 2023.

In 2024, **65%** of leaders selected Employee Performance & Productivity as a top priority VS. **36%** in 2023.

3

Only half of digital leaders feel they are getting value out of their automation investments, listing top inhibitors as scalability, implementation challenges, and cost.

56% Scalability

46% Implementation

34% Cost

30% Complexity & Brittleness

4

Copilots are seeing broader adoption across the enterprise, with 95% of leaders indicating they have a clear use case for the technology.

TOP THREE USE CASES

1. General Purpose
2. Employee Service
3. Developer-focused

Investment in CX and EX remains high & steady

Most respondents have been directing budgets towards technology that enhances CX and steadily increasing investment in internal technology as their modernization initiatives progress. It comes as no surprise that budgets for these areas remain intact or are up from 2023 as new solutions emerge to solve enterprise-level challenges.

2024 CX BUDGET

Across All Industries



Manufacturing



Consumer Products



Financial Services

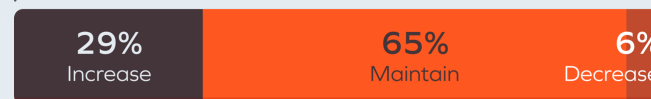


Healthcare & Pharmaceuticals



2024 EX BUDGET

Across All Industries



Manufacturing



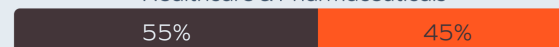
Consumer Products



Financial Services



Healthcare & Pharmaceuticals



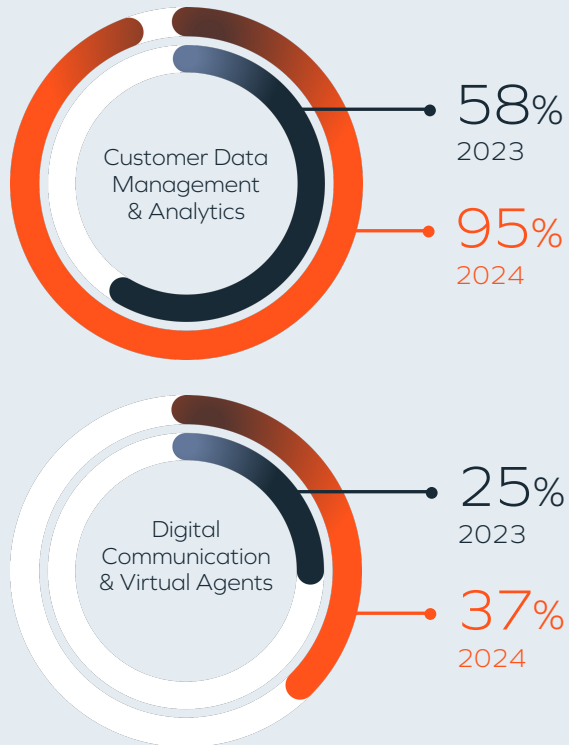
FS and Healthcare & Pharma companies are mostly maintaining budgets for CX technology this year. As both these industries went through drastic digital transformation during the pandemic, budgets remain consistent from 2023.

55% of Healthcare & Pharma companies are increasing EX budgets, the highest percentage across all industries. Given the recent shift towards customer-facing services like telehealth and self-service capabilities, it's possible that EX is on the rise because it helps employees deliver a high-quality customer experience.

In contrast, 73% of Manufacturing leaders are maintaining EX budgets for emerging tech to power internal use cases. Manufacturing leaders are now also increasing budgets to elevate the customer experience and are experimenting with AI and IoT.

Customer data is powering next-gen CX

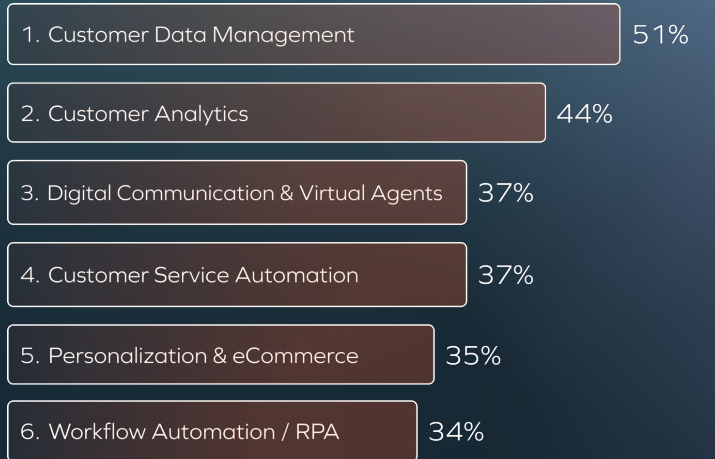
TOP CX PRIORITIES YOY



First-party data, the impending deprecation of cookies, and increased demand for personalization are shaping CX priorities. At the top of the list is data management and analytics. In 2024, we've seen a 64% increase in the proportion of leaders reporting it as a top three CX priority.

Digital communication and virtual agents, which also ranks as a top priority, rose 48% year over year. While still significant and a real opportunity for organizations, leaders remain cautious of the reputational and regulatory risks associated with exposing PII.

TOP 6 CX PRIORITIES*



* Options not listed include Other (19%), Customer Support Analytics (15%), Knowledge Management (14%), AR/VR Solutions to improve CX (10%), RevOps (4%).

“ FOCUS ON THE FULL JOURNEY

“We're continuing to shift our focus from individual business line use cases to the entire customer journey across all product lines. This comprehensive, enterprise-wide transformation is key to serving our customers and requires substantial investment in core technologies and a strong foundation for enterprise data.”

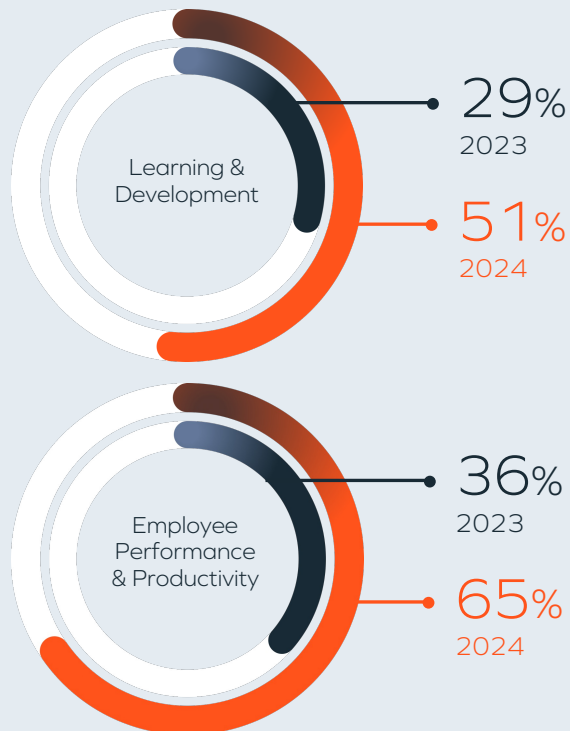


Kathy Kay

Executive Vice President & Chief Information Officer, Principal Financial Group

Empowering employees through education and next-gen technology

TOP EX PRIORITIES YOY



Enterprise attitudes towards enhancing EX highlight two key themes for 2024: education and upskilling. Companies are focused on ensuring that current and new employees are equipped to get the most value out of investments in emerging technologies like RPA and are aligned on best practices. In 2024, we've seen a 76% increase in the proportion of leaders reporting L&D as a top three priority, and an 81% increase for employee performance and productivity.

TOP 6 EX PRIORITIES*



* Options not listed include Other (22%), Compensation Benefits & Payroll (15%), AR/VR Solutions to Improve EX (8%).



CONOCOPHILIPS —DIGITAL TWINS

“Digital Twins, integrated with engineering and maintenance data and mobile platforms, are revolutionizing operational efficiency and safety.”

“

“Our integration of 3D engineering design models and well-managed processes has directly led to increased job satisfaction by reducing administrative tasks and maximizing 'tool time' for our operations team.

By enabling mobile access to maintenance data and functionalities, we have streamlined the workflow for field workers, resulting in

increased work preparation and documentation efficiency.

Utilizing Digital Twins for virtual training exercises not only enhances safety but also significantly lowers the risk of operational errors.”



Pragati Mathur
Chief Digital & Information
Officer, ConocoPhillips



Value from automation investments

As automation needs matured, limitations of traditional BPM tools became apparent for enterprises, resulting in cost and scalability challenges. The introduction of Intelligent Process Automation (IPA) and Robotic Process Automation (RPA) has allowed for more sophisticated use cases, but still requires significant developer effort.

Despite advances, enterprises struggled with scaling IPA. Today, the trend is shifting towards AI agents that can manage end-to-end workflows with less development effort.

Enterprises deploying RPA at scale are running into standardization issues; anecdotally, tech leaders are looking to integrate public cloud solutions to eliminate disparate RPAs and maintain uniformity across the board.

ARE ENTERPRISE LEADERS GETTING SUFFICIENT VALUE FROM AUTOMATION INVESTMENTS?

No: 44%

Yes: 56%

C-level leaders are optimistic about automation investments, but RPA practitioners have reservations, given the significant level of development challenges and rigid processes.

Early RPA bots are limited by their rule-based nature and struggle with unstructured data. Integration challenges with legacy systems and the need for extensive process redesign complicate adoption, and cognitive RPA requires specialized skills, making automation more demanding than anticipated.

The future of RPA/IPA shows promise as AI and ML advancements address limitations, delivering even greater value.

ARE ENTERPRISE LEADERS GETTING SUFFICIENT VALUE FROM AUTOMATION INVESTMENTS?

CXO

No: 37%

Yes: 63%

Non C-level

No: 49%

Yes: 51%

“ THE STATE OF AUTOMATION

"Automation and standardization, especially in onboarding processes, are crucial for scaling data foundations without disrupting existing systems. Meanwhile, AI will require a human level of interaction, as trust is the flip side of the coin for value creation."



Bernardo Tavares

Chief Technology & Data Officer, Kenvue

What's holding back automation investments?

Despite ongoing automation investments, enterprises face challenges in maximizing their value. Scalability and implementation are top hurdles, but surprisingly, cost is not. Respondents named cost the third largest inhibitor, which may be because of increased pressure on leaders to demonstrate short-term ROI on their investments.

WHAT ARE THE KEY INHIBITORS TO ROI ON AUTOMATION INVESTMENTS?

- Scalability of the solution within your organization
56%
- Implementation of the solution
46%
- Cost
34%
- Complexity and brittleness of the solution
30%

CX OPPORTUNITIES FOR INVESTMENT IN GENAI

GenAI has the potential to significantly impact personalization and omnichannel strategies, a key component of which are virtual assistants and agents.

TOP 3 RANK CUSTOMER EXPERIENCE

- #1 Customer Service Automation 65%
- #2 Digital Communications & Virtual Agents 52%
- #3 Customer Data Management 46%

“ HORIZON 2 OUTLOOK

"We are marching toward a fully digitally-enabled CX that you would expect everywhere (e.g.; every interaction between the customer and front-line provider should be personalized, intuitive and informed, so that their entire history and needs, whether it's pharmacy details, insurance claims, you name it, are delivered quickly and seamlessly)."



Mahmoud ElAssir
Chief Technology Officer, UnitedHealth Group

EX OPPORTUNITIES FOR INVESTMENT IN GENAI

The two main areas of GenAI investment are in Productivity and L&D. Many enterprises are going through their first major rollouts of copilots and building use cases that support existing automation workflows.

TOP 3 RANK EMPLOYEE EXPERIENCE

- #1 Employee Performance & Productivity 64%
- #2 Learning & Development 57%
- #3 Workflow Automation / RPA 55%

“ HUMAN IN THE LOOP

"One of our GenAI use cases supports contact center team members by giving them access to better, more efficient data, as well as tools that streamline customer interactions. Across each of our GenAI use cases, we always have a human-in-the-loop."



Kathy Kay
Executive Vice President & Chief Information Officer, Principal Financial Group

“ ELEVATING THE WORKFORCE

"We are very cautious to use GenAI output to interact with customers directly today. We use GenAI to assist everyone in the company, like enhancing our call center agents to service and engage better and become top performers. This is digitization without becoming a human-less company."



Ericson Chan
Group Chief Information & Digital Officer, Zurich Insurance

Enterprises are moving forward with implementing GenAI, but in a challenging environment

Implementing GenAI comes with significant challenges across regulatory, security, and privacy dimensions. Additional pressures such as lawsuits, data leaks, and security vulnerabilities have made it incredibly demanding, and if the transition isn't handled properly, employees may perceive GenAI as a threat to job security. Even though more than 70% of employees who regularly use

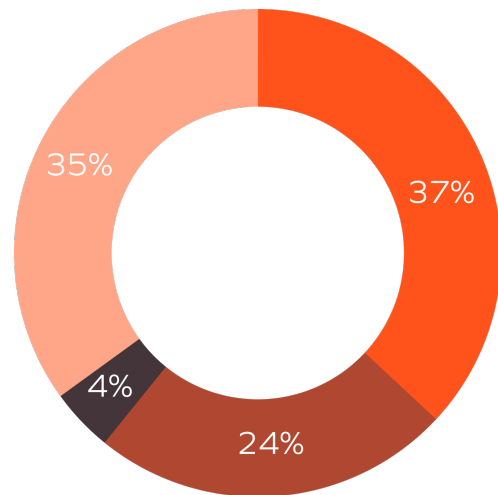
GenAI recognize its productivity gains, 60% were somewhat concerned about it replacing their function.*

Successful GenAI implementation starts with enterprise leaders emphasizing collaborative AI, rolling out company-wide upskilling programs, and selecting key managers to champion and accelerate adoption.

Despite the buzz, it's still early

Enterprises are in the early stages of copilot rollouts. While some plan to use GenAI functionality provided by existing vendors, a quarter are considering new, AI-first entrants. Overwhelmingly, tech leaders are excited about copilot use cases ranging from external customer service to developer productivity. However, one-third still don't know how GenAI will affect their strategy for automating their workflow.

How is GenAI impacting workflow automations investments?



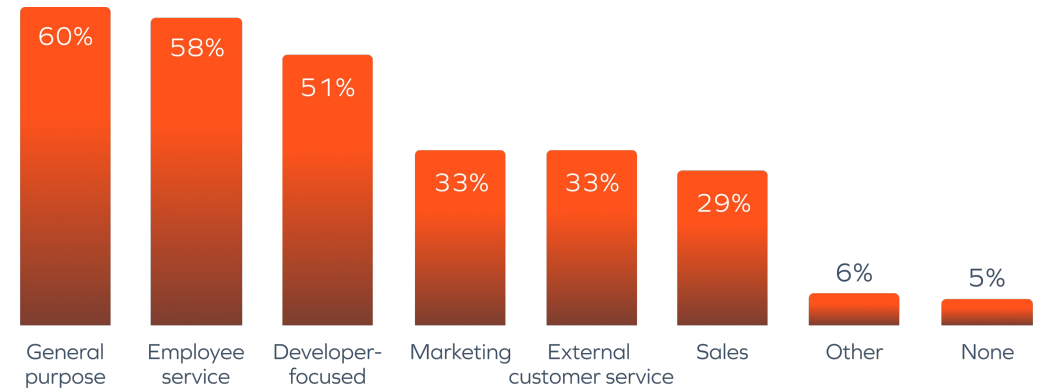
I plan to work with my existing vendors who are incorporating GenAI

I am considering new GenAI-first vendors

GenAI does not influence my workflow automation strategy

I don't know what impact GenAI will have on my workflow automation strategy

What copilots are being considered for deployment?



“ EVALUATING GENAI

"Figuring out which copilots to use, how they interact, and how to best leverage super agents and agents is still up in the air. We don't yet know which ones we can rely on and how to confirm if the model works. It's definitely going to get messier before it gets clean."



Bijoy Sagar
Chief Information Technology & Digital Transformation Officer, Bayer

“ COPILOTS AS A GENAI ADOPTION TOOL

"GenAI is more than just identifying use cases and distributing licenses—it's an opportunity to upskill our organization, foster new habits, and promote innovation and productivity. We started with Microsoft Copilot to familiarize the organization with AI; now we're experimenting with GenAI use cases in cybersecurity, market analysis, finance, HR, safety and sentiment analysis to name a few. We're convinced that a learning workforce that's benefited from using AI is one that's more ready to embrace its transformative impacts."



Pragati Mathur
Chief Digital & Information Officer, ConocoPhillips

The future of DEX rests on investment in a strong foundation of next-gen technology & upskilling the workforce



EDUCATION FUELS INNOVATION

"With GenAI further democratizing the way we learn, startups are leading the charge on upskilling and enabling employees to experiment with emerging technology, hastening cycles of self-learning. The challenge for enterprises will be to find the right balance between encouraging independent experimentation and providing top-down education on embracing new technologies in a compliant and standardized manner."



Rebecca Liu-Doyle
Managing Director, Insight Partners



UNTAPPED POTENTIAL OF GENAI

"The potential for GenAI in Marketing is massive and still largely untapped. Beyond generating content, GenAI can do a large portion of research, ideation, and summarization, which are less creative tasks done manually today. While Marketing workflows are often the first frontier for GenAI, they should serve as an example to other functions across organizations that are ripe for disruption."



Whit Bouck
Managing Director, Insight Partners



COPILOTS WILL LEVEL SET TALENT

"In the near term, copilots will make the most impact by evening the playing field for developers. As enterprises embark on their copilot journeys, they will look to clarify some of the more abstract aspects of developer productivity metrics and efficiency benchmarks."



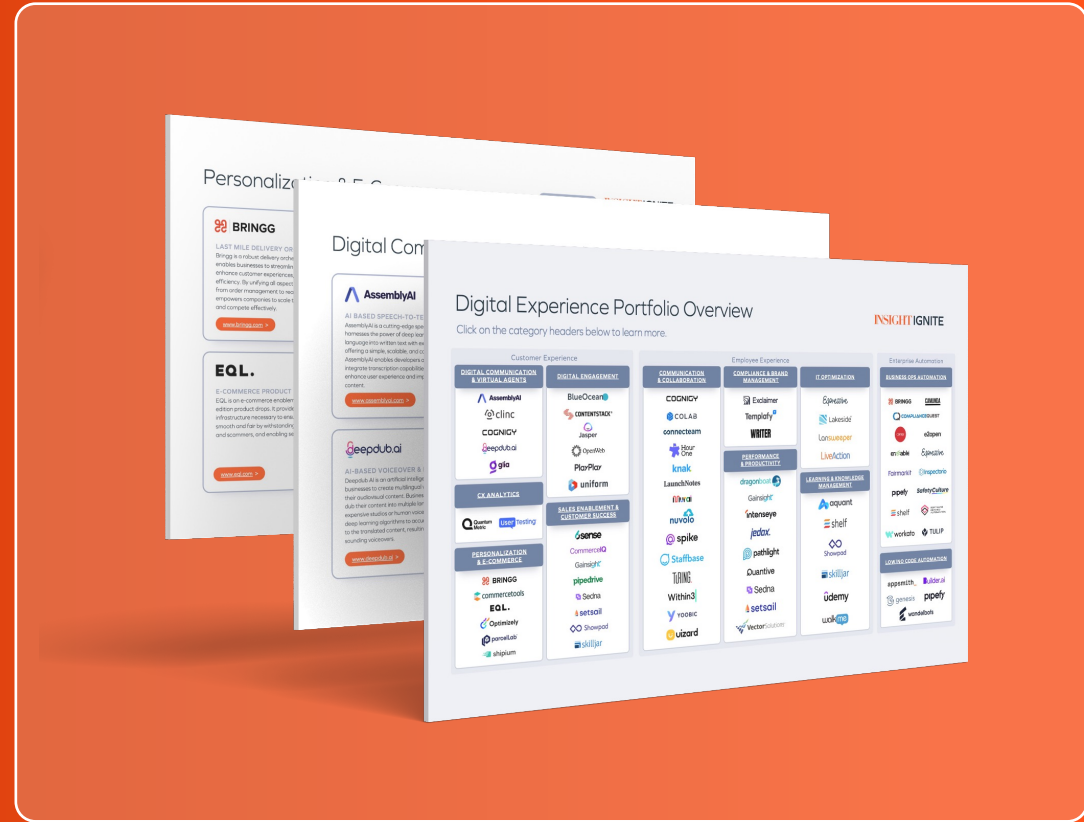
Vidya Nallasivan
Director, Insight Partners



Digital Experience

Insight Partners has invested in 80+ companies that we believe are delivering frictionless experiences for customers and employees.

[OPEN THE MARKET MAP](#) 



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Cybersecurity

Where are enterprises allocating cybersecurity budgets, and how do they intend to both leverage and protect the use of GenAI?



Benchmarks



Enterprise Viewpoints



Investor POV

Cybersecurity

| Cybersecurity remains a top priority

Cybersecurity leaders remain focused on foundational controls to support the cloud transition and new digital initiatives, while at the same time keeping an eye on business adoption of AI.



"Cybersecurity remains the number one priority. Without good governance, compliance and operational resilience, an attacker doesn't need to be particularly successful to have a lot of destructive power."



Chuck Adkins
Chief Information Officer, New York Stock Exchange (NYSE)

49%

of cybersecurity leaders
identified Cloud
Platform Security as a
top 3 budget priority for
2024

Cybersecurity

INSIGHTS DISTILLED

1

There's continued appetite for cybersecurity innovation despite slowing YoY budget growth.

41% of cybersecurity leaders will increase budgets in 2024, compared to **51%** in 2023.

64% of cybersecurity leaders are increasing their budgets for change and innovation.

2

Cloud Security dominates, with 49% of cybersecurity leaders selecting it as a top three priority for budget spend.

#1 Cloud Platform Security

#2 SecOps & Threat Mgmt.

#3 IAM

3

Cybersecurity leaders see Security Operations as having the greatest opportunity to utilize GenAI.

#1 SecOps & Threat Mgmt.

#2 AppSec

#3 Cloud

4

Data Security is the number one concern with adopting AI, followed by ensuring controlled access.

#1 Securing Data used in AI Systems

#2 AI System Access Controls

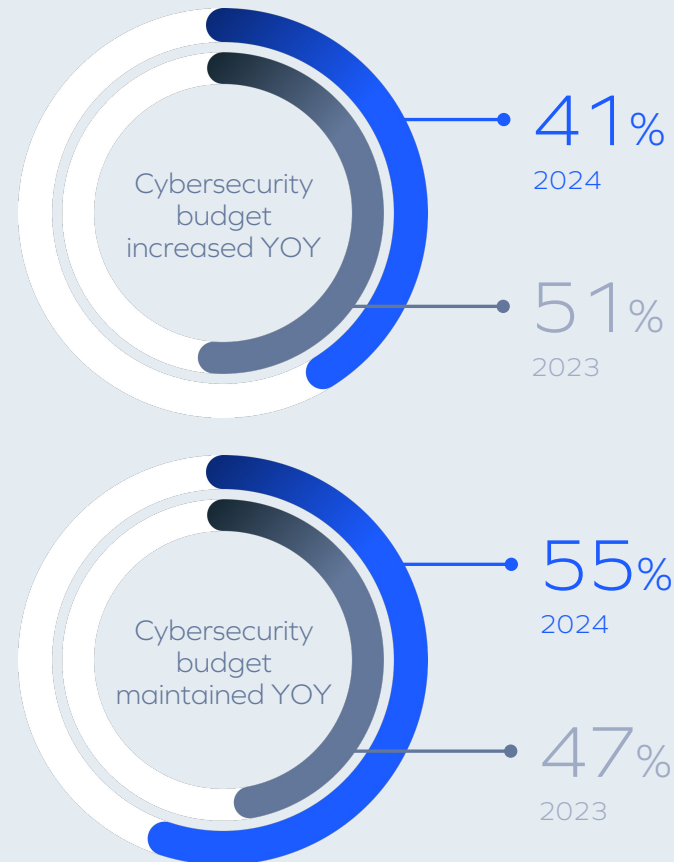
#3 Adversarial Attacks

YOY budgets show signs of stabilization

Cybersecurity budgets remain resilient, despite a notable YoY drop in the number of enterprises indicating an increase in budgets.

Cybersecurity is still a top enterprise priority, and so where possible, cybersecurity leaders have protected their budgets, with the majority maintaining budget allocation into 2024.

Budgets for cybersecurity haven't been immune to challenging macro conditions, and rising base costs mean that CISOs are actively considering consolidation and automation.



↑ +12%

On average, cybersecurity leaders who indicated a budget increase plan to boost their spending by 12%.

“ CONTINUED INVESTMENT

“Companies will need to continue to invest in cybersecurity. The level of sophistication of threat actors is increasing, and as an airline industry, we need to fully resource our response to that ever-growing threat.”



Jason Birnbaum
Chief Information Officer, United Airlines

Innovation is central to effective cybersecurity

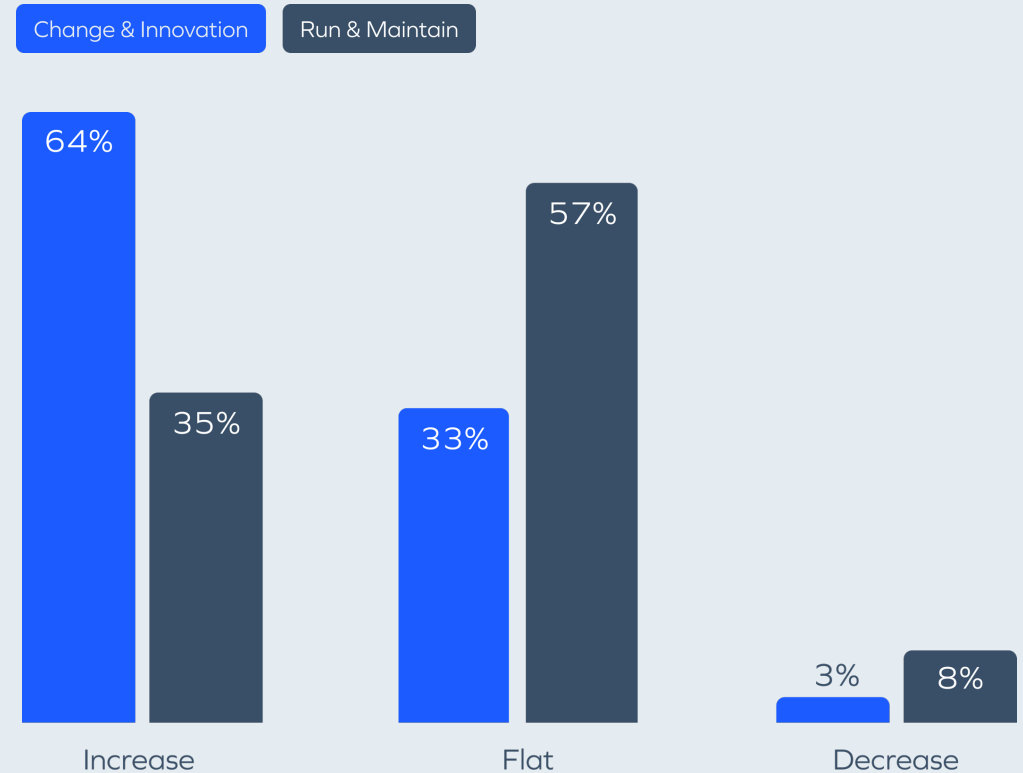
Enterprises need to innovate in cybersecurity, both as a mechanism for legacy replacement and out of necessity to address new threats — most recently those enhanced by GenAI.

57% of enterprises are keeping Run & Maintain budgets flat, putting increased pressure on CISOs to capitalize on innovation to reduce costs.

As enterprises adopt AI, CISOs aren't only looking to benefit from efficiency gains. Many are also racing to secure sensitive data and protect business value. While most controls for AI remain foundational, some of the enterprise innovation budget is being allocated towards novel AI Security solution pilots.

ALLOCATION OF CYBERSECURITY BUDGET

64% of leaders are increasing their budgets for change and innovation, showing a continued commitment to invest in novel technology to optimize and defend against new cybersecurity threats.



The top technology priorities remain unchanged YoY

CLOUD & SECOPS DOMINATE ENTERPRISE BUDGETS

The top three YoY priorities for the enterprise haven't changed. Cloud Security maintains the number one position as enterprises continue their journey to cloud infrastructure.

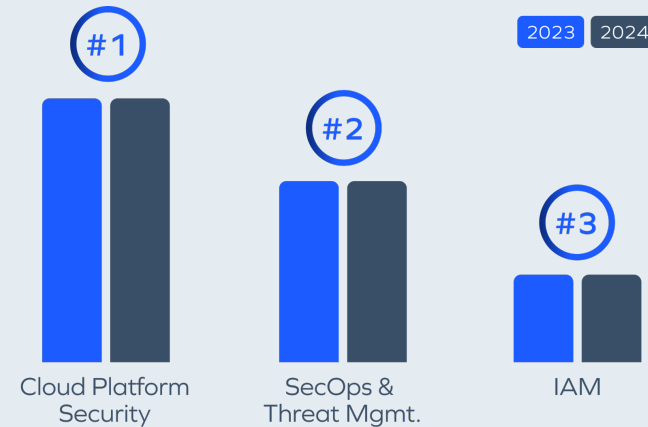
SecOps still requires significant investment from the enterprise — particularly as data ingestion volumes increase with more complex and hybrid environments. The use of AI in this domain will provide some relief.

Notably, there's been a shift to re-prioritize Application Security. Over the past year, we've seen high-profile breaches related to vulnerabilities in applications, especially those linked with the software supply chain and secrets management — sparking a renewed interest in this space.

TOP RANKED CYBERSECURITY PRIORITY



TOP RANKED CYBERSECURITY PRIORITIES IN 2023 VS. 2024*



*In 2023, Cloud and Infrastructure were combined—they were split out for deeper insights in 2024. In 2023, Cloud Platform Security was the top technology priority, with ZTNA ranked third.

WHAT ARE YOUR TOP CYBERSECURITY PRIORITIES?

ENTERPRISE

- 1 Cloud - 49%
- 2 SecOps - 46%
- 3 IAM - 32%
- 4 AppSec - 30%
- 5 Networks - 28%

CISO

- 1 Cloud - 55%
- 2 IAM - 55%
- 3 AppSec - 50%
- 4 SecOps - 45%
- 5 GRC - 27%

Cybersecurity budget doesn't always sit with the CISO, although we see alignment between the top priorities for CISOs and their enterprise peers responsible for cybersecurity spend.

IAM transitions to the CISO

CISOs rank both IAM and AppSec significantly above their enterprise peers—indicating a potential shift in responsibility as CISOs become more involved in both the operational side of IAM and take on cloud-native AppSec responsibilities.

Early stages of AI Security

Security of AI is slowly starting to increase as a priority for the enterprise. However, we've yet to see significant investment from the enterprise in dedicated AI Security solutions. This may be due to limited business appetite for AI to run business critical processes or to be used for analyzing highly sensitive data.

Industry priorities align with their operational risk

It's not surprising that services-oriented companies such as Professional Services and FS consider the cloud a higher priority, whereas more engineering-heavy companies prioritize SecOps. Service-oriented companies tend to be more digitally-native, so their top priority is securing client and customer data in the cloud. Engineering-heavy companies, in contrast, emphasize resilience and the ability to recover critical operations.

	#1	#2	#3		#1	#2	#3
Agriculture & Forestry	Cloud	IAM	IoT	Logistics & Transportation	GRC	Network	Cloud
Automotive	IAM	Cloud	Network	Manufacturing	SecOps	Cloud	Network
Construction & Real Estate	SecOps	Network	Cloud	Media	AppSec	Data Sec	SaaS
Consumer Products	Cloud	SecOps	IAM	Professional Services	Cloud	SecOps	AppSec
Defense & Aerospace	IAM	Network	SecOps	Retail & Wholesale	IAM	SecOps	Cloud
Energy, Resources & Utilities	IoT	Network	SecOps	Travel & Leisure	IAM	Cloud	SecOps
Financial Services	Cloud	AppSec	SecOps	Telecoms	Network	SecOps	IAM
Healthcare & Pharmaceuticals	SecOps	Cloud	Network	Other	Cloud	Other	SecOps

A focus on IoT & OT

Despite being low on the scale across aggregated industries, IoT & OT Security is consistently a top five priority for industries with a heavy presence of non-traditional IT.

HOW DO DIFFERENT INDUSTRIES RANK IOT/OT SECURITY?

- #1** Ranked number one for Energy & Utilities
- #3** Ranked number three for Manufacturing
- #5** Ranked number five for Healthcare & Pharma

Enterprises prioritize cloud visibility and compliance

Cloud Platform Security is the number one enterprise cybersecurity priority to secure digital transformation initiatives. Overall, cloud migration is a complex and multi-year journey, and we'll likely see this trend continue into 2024 and beyond.

“ MOVE TO THE CLOUD

"We will try to take as much as possible to the cloud; to drive scale, speed and to take advantage of the evolving PaaS."



Ericson Chan
Group Chief Information & Digital Officer, Zurich Insurance

“ SECURING THE ENTERPRISE

"Most organizations like ours have multiple cloud providers, which makes Cloud Security much more complex. Our external enterprise presence has grown exponentially, and all of that needs to be secure."



Elizabeth Hackenson
Chief Information Officer, Schneider Electric

SUB-CATEGORY PRIORITIZATION

Enterprises and CISOs continue to prioritize Cloud Security Posture Management (CSPM) solutions above other Cloud Platform Security technologies, indicating that visibility and compliance is still the primary goal for security in multi-cloud environments.

Cloud Detection & Response (CDR) is a more recent solution category, although enterprises are already heavily looking to embrace this technology to ensure they can quickly respond to cybersecurity attacks targeting cloud services.



ALIGNMENT BETWEEN CISO & ENTERPRISE

Both CISOs and their enterprise peers rank Cloud Platform Security as the top budget priority for 2024, aligning on the importance of securing migration to the cloud.



* Cloud and IAM joint top for CISO

Identity Governance is foundational to managing risk in the enterprise

The ability to effectively manage identities and access is at the core of limiting the frequency and impact of breaches. 93% of organizations had two or more identity-related breaches in the past year, according to a recent report by CyberArk¹, and attackers using credentials are still the number one cause of data breaches². In addition, as the identity landscape grows with the acceleration in non-human identities, attackers are often finding it easier to log in than to hack in.

GROWING IAM CHALLENGES

"The first layer of identity management is recognizing someone as an employee or legitimate contractor. Then, there's who gets access to each application. The number of digital platforms is growing and there's not a lot of great tools to help enterprises manage that access effectively."



Elizabeth Hackenson
Chief Information Officer, Schneider Electric

SUB-CATEGORY PRIORITIZATION

Identity Governance continues to be the number one priority YoY within IAM. Enterprises are looking for solutions to manage fine-grain access control and privilege management for all identities, human and non-human, which continues to be a huge overhead for the enterprise and a massive source of risk.

Non-human identities have grown significantly in recent years as organizations increasingly adopt and deploy cloud services, APIs, IoT and RPA. These identities require a slightly different approach to human identity management and the way in which privileged access is controlled.



DISCREPANCY BETWEEN CISO & ENTERPRISE

Historically, CISOs have had limited control of the operational side of IAM, focusing more on policy and governance. We continue to see more of the operational responsibilities shifting to the CISO, skewing their prioritization to tackle these complex, often inherited environments.



¹ <https://www.cyberark.com/press/report-93-of-organizations-had-two-or-more-identity-related-breaches-in-the-past-year/>

² Verizon 2024 Data Breach Investigations Report

* Cloud and IAM joint top for CISO

Shift-left goes beyond a focus on the right tooling

AppSec maintains its YoY position in terms of CISO prioritization. It's still a challenge, given the cultural shift required to achieve true 'shift-left,' web application vulnerabilities being a major source of data breaches¹, and recent high-profile attacks through software supply chain. Given the rate of identity-focused attacks and enterprise focus on cloud, it's also unlikely to become the top budget priority — except for in highly digital-native industries like Media.

“ CULTURE OF SECURITY WITH GENAI

"It's been the same problem for 20 years. We've yet to really figure out a good way to drive developers to put secure code out the door. I think this is an area where GenAI may be able to help—not just for code testing, but also to build a culture of secure development."



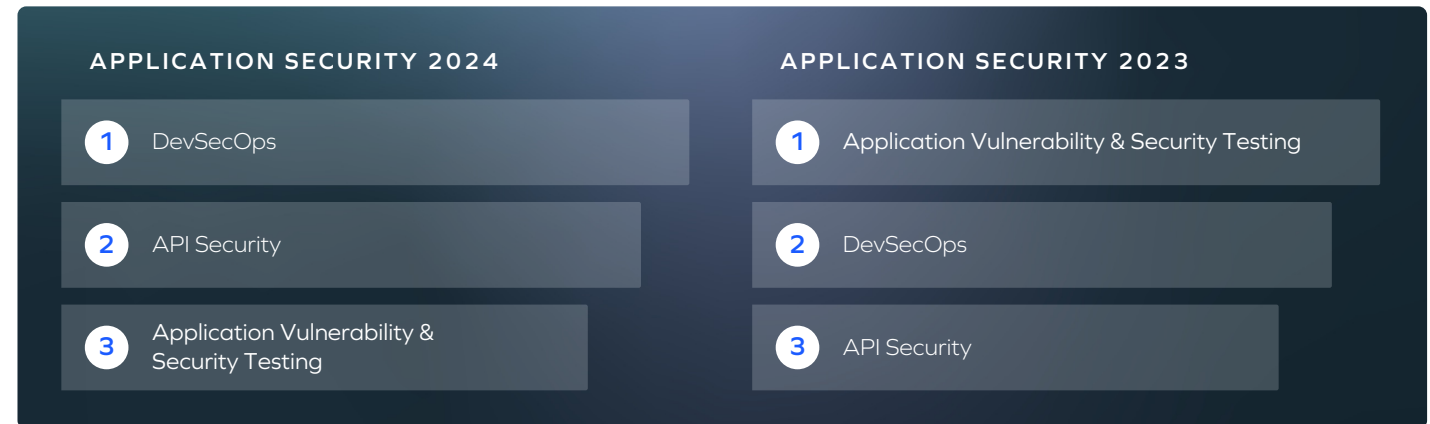
James Beeson
Advisor & Former Global Chief Information Security Officer, The Cigna Group

¹ Verizon 2024 Data Breach Investigations Report

SUB-CATEGORY PRIORITIZATION & YOY CHANGE

The top three sub-categories from 2023 to 2024 remain the same. Enterprises are moving beyond deploying application testing tools to focus on embedding a DevSecOps mindset and are looking for new solutions to support this focus. We're consistently hearing that shift-left still isn't solved, and we expect DevSecOps to continue to be a top enterprise focus through 2024 and into 2025.

API Security has also increased in prioritization, a focus that is mirrored in the technology environment with recent activity in strategic acquisition. We expect to see more enterprises deploying comprehensive API Security solutions.



DISCREPANCY BETWEEN CISO & ENTERPRISE

CISOs may rank AppSec slightly higher than their enterprise peers. Strong AppSec requires a major cultural shift as much as solid tooling, and CISOs are looking for new ways to drive this focus within the enterprise.



Enterprises are prioritizing improvements in D&R capabilities

YoY, enterprises continue to prioritize SecOps. Outside the CISO organization, much of this focus is led by a desire for CIOs and their peers to reduce vulnerabilities across their IT estate. Vulnerability Management is ranked as the top priority in SecOps for CIOs.

Anecdotally, we've heard CISOs mention the need for actionable remediation — it's no longer sufficient for solutions to simply surface vulnerabilities; they need to drive automated remediation to truly show value.



REDUCING THE RISK OF HUMAN ERROR

"The cybersecurity landscape is undergoing significant changes. Applying AI at scale to enhance threat hunting and other security measures is crucial. Ideally, these processes should be fully automated, minimizing the need for human intervention and reducing the risk of human error."



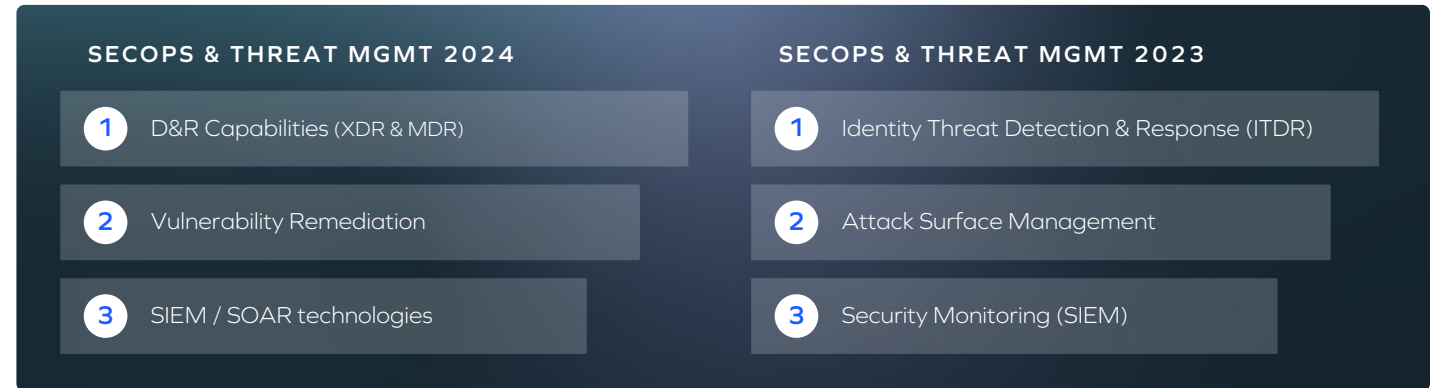
Bijoy Sagar

Chief Information Technology & Digital Transformation Officer, Bayer

SUB-CATEGORY PRIORITIZATION & YOY CHANGE

The focus on D&R capabilities in 2024 is interesting and indicates that a lot of enterprises may be reconsidering tooling and deployment models — such as using more managed services or expanding coverage of existing XDR capabilities. Internally, enterprises are starting to see incremental value from integrating new AI capabilities, both directly through experimentation with LLMs and through AI capabilities embedded within tooling.

MDR providers can also benefit greatly from economies of scale with AI, using it to automate a large amount of their processes across multiple customers and delivering speed and efficiency improvements to their customer base.



DISCREPANCY BETWEEN CISO & ENTERPRISE

CISOs rank SecOps slightly lower than their peers. This discrepancy may not be surprising, as a core part of the cybersecurity focus in the broader enterprise will be on supporting D&R implementations and reducing vulnerabilities. As a result, enterprise leaders tend to over-index this capability relative to their CISOs, who typically have a broader domain focus.



Privacy Compliance is still the top GRC concern, receiving a renewed focus with AI

GRC is an essential part of any enterprise leader's approach to cybersecurity. Regulations continue to develop and evolve, and a complete understanding of how they apply across the enterprise is as important as monitoring the controls in place. A large portion of GRC is process-based, and tooling costs scale less directly with enterprise complexity. As a result, budgets are expected to be lower than in other domains.

REGULATORY SCRUTINY

"One of the biggest risks with AI adoption is the unknown regulatory risk. If you're purely investing in AI to drive organizational efficiency then that's going to be lower risk, but if you're using AI, for example in the Healthcare space, on the clinical side with patient data—that's where we'll likely see regulatory scrutiny."



James Beeson

Advisor & Former Global Chief Information Security Officer, The Cigna Group

SUB-CATEGORY PRIORITIZATION & YOY CHANGE

Exploring new solutions to support Data Privacy Compliance continues to be the top priority for the enterprise and will likely remain the primary focus, especially as we see increasing regulations in response to the adoption of AI.

Enterprises indicate the need to better manage Third-Party & Supply Chain risk, as they increasingly rely on third parties to deliver core services. While most have deployed some form of tooling, the problem remains and often requires a significant investment in manual processes. Enterprise leaders must continually innovate to stay ahead of the curve.



DISCREPANCY BETWEEN CISO & ENTERPRISE

While there's broad alignment, CISOs show greater interest in risk management capabilities such as Cyber Risk Quantification (CRQ) than their enterprise peers, who are more concerned with compliance and managing third-party risk.



Shifting from data visibility towards enforcement

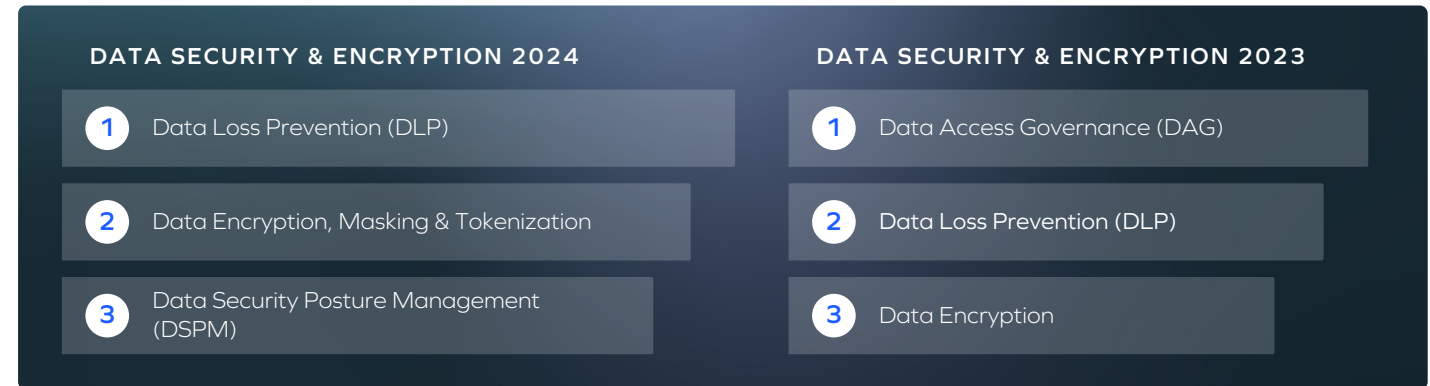
Data Security remains a lower priority YoY, in part due to the way controls are deployed. Controls are currently more focused on infrastructure and applications as opposed to data.

But in response to a greater need to protect sensitive data leaving the organization and to meet privacy regulations, companies are increasingly prioritizing data protection solutions such as DLP and Data Encryption and Masking & Tokenization.

SUB-CATEGORY PRIORITIZATION & YOY CHANGE

Enterprises are shifting focus away from governance and visibility towards enforcement in 2024. Most enterprises have deployed some form of DSPM, and now the goal is to make full use of that tooling and then implement the protection and enforcement controls.

DLP is an ongoing challenge for the enterprise, one that requires innovative solutions. Most enterprises have multiple DLP solutions spread across their environment, but they struggle to coordinate enforcement across disparate systems. Part of the challenge in this space is accounting for human error while retaining critical context, such as understanding how data has flowed or how it has been modified and manipulated.



DISCREPANCY BETWEEN CISO & ENTERPRISE

Enterprise leaders and CISOs are closely aligned on how budget within Data Security is allocated, although only CISOs selected Post-Quantum Cryptography (PQC) as a top focus. Many CISOs are starting to plan for PQC to ensure they'll be ready to switch to quantum-safe solutions once the threat becomes a reality at scale.



Foundational security is core to securing near-term enterprise use of AI

13% of enterprise respondents selected security of AI systems as one of their top budget priorities, compared to only 5% of CISOs.

CISOs typically have technical or policy guardrails in place but are waiting for the business to fully commit to GenAI use cases before deploying AI Security tooling. Many have opted to use foundational security controls instead.

AN INFLECTION POINT FOR GENAI SECURITY

As the business value of AI increases, so does business risk. As organizations surpass their threshold for risk, they trigger the need for new controls to manage the risk under tolerance.

This creates a race condition, in which we see incumbents seeking to deploy security features in their products. If enterprise adoption outpaces incumbent research and development, incumbents may lose the technology race.

AI SYSTEM SECURITY FOCUS

48%

Securing data used in AI Systems

21%

AI system access controls

10%

Data poisoning protection

10%

Other*

11%

Protection against adversarial attacks

* Other options included N/A, All of the Above, and Securing Third-Party AI Services Embedded in Enterprise Product.

48% of respondents ranked securing data used in AI systems and 21% ranked AI system access controls as the top areas where they're looking for new capabilities.

There's still work to be done around cleaning up data and permissions. This is currently the focus to manage the risks resulting from enterprise adoption of AI.

As we see more models deployed for external consumption, concerns around AI model-specific threats will inevitably increase, prompting the desire for new solutions.



PREPARING FOR GENAI ADOPTION

1. Plan: Develop AI policies and guardrails for users and update your Risk Management Framework and processes, using external guidance and frameworks.

2. Experiment: Pilot GenAI solutions to understand risk exposure, implement controls, and then expand.

3. Engage: Partner closely with AI CoE, CDaO and Legal to ensure secure, compliant facilitation of the enterprise.

4. Collaborate: Support onboarding of sanctioned, enterprise-grade AI applications, managed through SSO.

5. Discover: Assess innovative AI Security solutions to build awareness and understanding of novel AI threats.

“ MANAGING AI ADOPTION

"I worry that enterprises will expose data they shouldn't because of the temptation to make new services available through AI models."



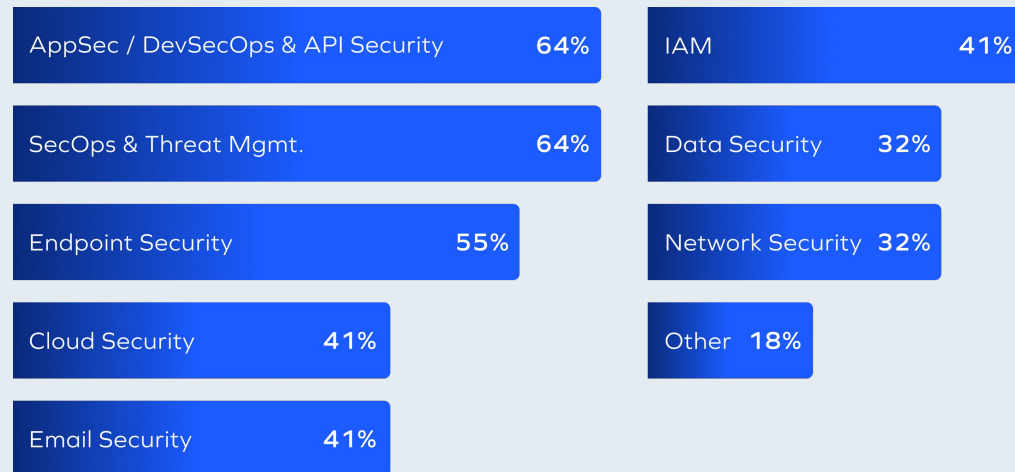
Elizabeth Hackenson

Chief Information Officer,
Schneider Electric

CISOs see a clear opportunity for GenAI to enhance SecOps & Threat Management and AppSec over the next 12 months

This mirrors what we're hearing from the enterprise more broadly, and where we're seeing innovation in the startup ecosystem. Because LLMs process large volumes of information and generate context, enterprise leaders colloquially refer to these models as the 'lightbulb moment for the autonomous SOC.'

WHERE ARE CISOs LOOKING TO IMPLEMENT GENAI?



SECOPS & THREAT MANAGEMENT

SecOps teams work with high volumes of data, whether that be information received through threat intelligence feeds or parsing through alerts. We're already seeing great progress in technologies integrating GenAI to automate the SOC and to provide detailed and tailored context for vulnerability remediation.

APPLICATION SECURITY

AppSec vendors have been quick to incorporate GenAI enhancements into their products to provide context around vulnerability data and support developers with secure code suggestions.

The opportunity in the enterprise goes beyond this to deliver secure, AI-generated code into the pipeline. This shifts the enterprise focus to code quality and compliance and assuring the security around the delivery of secure code.

AI-LED PRIORITIZATION

"We're so overloaded with information at this point. GenAI can be leveraged to understand the context of your environment and help to prioritize, so that we're focused on fixing things that contextually really ought to be at the top of the list."



James Beeson

Advisor & Former Global Chief Information Security Officer, The Cigna Group

GENAI FOR CODING PROCESS

"We're looking across the whole developer lifecycle at what it means to write code and build applications using GenAI. As we embed the technology further into the coding process, it can help to ensure we haven't written poor quality code or introduced vulnerabilities."



Jason Birnbaum

Chief Information Officer, United Airlines

GenAI has huge potential to reshape the way cybersecurity outcomes are achieved

This in part will come through innovations in new technology and in part through enterprises building AI into their own processes for greater automation. We've seen both sides responding well to drive enhancements through GenAI.

While the immediate use cases will drive staff augmentation, the inevitability of automation will change the way cybersecurity is managed in the enterprise.

“ AI BRINGS OPTIMISM

"There's still a massive shortage of talent in the cybersecurity space—the hope is that we can help bridge some of that gap using the AI capabilities that are out there."



James Beeson

Advisor & Former Global Chief Information Security Officer, The Cigna Group

THE APPLICATION OF GENAI

We see enterprises experimenting with and deploying a range of use cases for GenAI.

DEPLOYED USE CASES

- 1. Firewall Policy Management:** Updating and tuning Firewall & WAF rulesets
- 2. SOC Automation:** TI summarization and SOC report generation
- 3. Vulnerability Management:** Automating remediation tasks through recommendations
- 4. Code Generation:** Application development, IaC & PaC generation with known good code

EXPERIMENTATION

- 1. IAM Automation:** Including privilege management and recertification processes
- 2. AppSec:** Code reviews and security recommendations
- 3. Fraud:** Deepfake detection for fraud use cases
- 4. Insider Threat:** Contextual analysis of user activity

GENAI TECHNOLOGY INTEGRATION

There are many examples of innovative technology leaders building GenAI into their products.

1. Security Copilots & Conversational Agents
2. Context for Vulnerability and Code Remediation
3. Threat Intelligence Summarization & Reporting
4. Automating Code Generation for Security Integrations
5. Defense against AI-Accelerated Phishing Attacks & BEC-driven Fraud
6. AppSec Test Generation
7. SOC Automation Guided by Playbooks

Cybersecurity continues to benefit from advancements in AI, but this also drives new threats



A TRANSITION YEAR

"In 2024, you're going to see security try to fix AI risks with existing cybersecurity solutions. It will be a painful year to try to do that. But, as we get toward 2025, we will see a dawn of new cybersecurity companies that are foundational AI companies that just happen to do security, and they are going to be very disruptive."



Steve Ward
Senior Advisor, Insight Partners



COPILOT TO AUTOPILOT

"In areas like SecOps, we're going to quickly move beyond copilots to fully autonomous defence; 'human speed' will simply not be fast enough to respond to AI-driven attacks, and we've already seen some incredible innovation here. Speed will become the new defence in depth and the quality of security data will become a key differentiator that determines the effectiveness of response capabilities."



William Blackwell
Director, Insight Partners



LLM ADOPTION DRIVES INCREASED SOFTWARE RISK

"Attackers will benefit from an increase in weak or insecure software code due to the adoption of LLMs by inexperienced software developers, combined with decreases in experienced software engineering oversight capacity due to layoffs."



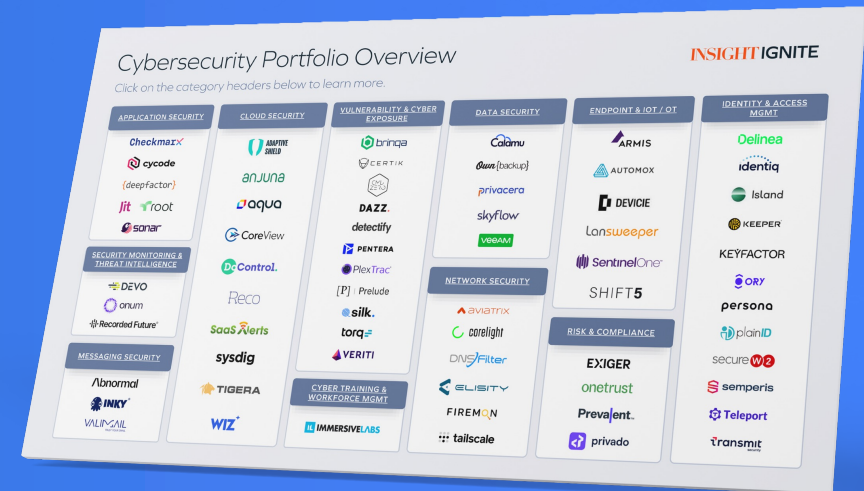
Thomas Krane
Managing Director, Insight Partners



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