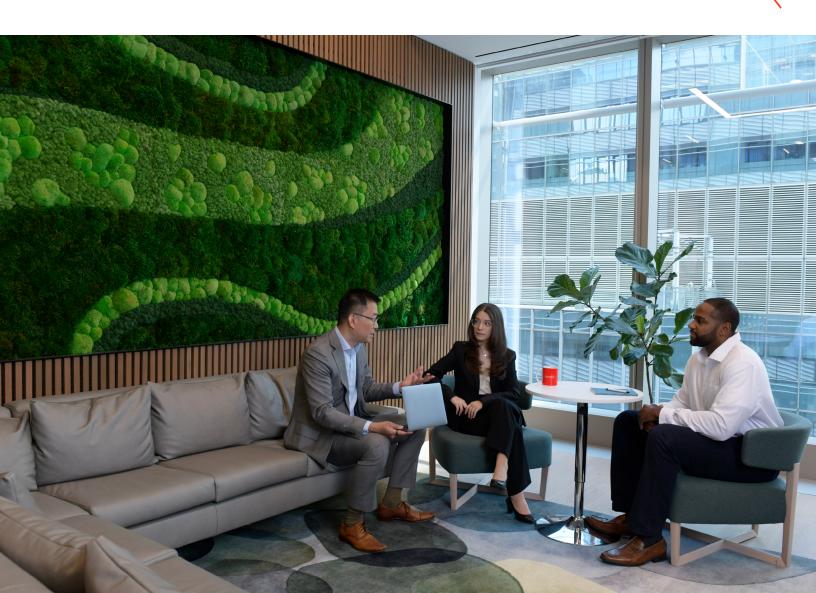
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# **2024 Predictions**

Insights by Kyndryl Experts Chapter III



# **Executive Summary**

Digital transformation has become synonymous with business evolution. Organizations around the world are recalibrating their strategies to embrace rapid technological change, while navigating a challenging macroeconomic environment.

As enterprises continue to modernize their mission-critical operations, deciding how and where to allocate investment will gravitate toward several secular IT trends. Those include:

- Preparing organizational data for the deployment of Al-powered technologies.
- Striking a balance between on-prem and cloud-based workload processing as enterprises reassess cloud expenses and the long-term resilience and value proposition of the mainframe.
- Modernizing complex IT estates to increase visibility over mission-critical operations, proactively addressing challenges before they impact the business, and delivering solutions to optimize IT and create a better user experience.
- Addressing a global tech skills shortage that requires focusing beyond experts well versed in emerging technologies, including talent that can fill in-demand skills in growing areas of security and core computing.

Because Kyndryl operates at the heart of these secular trends, each year, we survey our senior business leaders and experts to extract insights in how mission-critical IT infrastructure will evolve in the coming year. This year, we present findings across three reports.

In this report, we explore insights focused on an evolving talent landscape. As enterprises take action to become more resilient in the face of external pressures, they will need the right skillsets to achieve their goals. Comprehensive expertise in missioncritical environments, as well as more specialized skills in areas such as sustainability will be essential as enterprises prepare to drive future growth.

Previous reports explored predictions focused on specific industries and insights provided by our global practice leaders, covering areas that include: Security & Resiliency, Network & Edge, Cloud, Mainframe (z&i), Digital Workplace, and Applications, Data & AI.



Skills

### Interdisciplinary expertise will bridge the talent gap

In the coming year, technology professionals with wide-ranging technical skillsets and an acute understanding of business strategy will be in high demand.

Specializing in one narrow function or capability is no longer enough to manage hybrid environments. With explosive demands placed on developing high-quality data and growing investments in technologies, including artificial intelligence, enterprises need agile experts who can enable digital transformation across complex IT estates, bridging old and new systems.

Innovation increasingly happens at the intersection of multiple domains, requiring professionals to develop both deep and broad expertise. Deep expertise may provide an entry point to the industry, but durable skills that can keep pace with rapid change will prove more valuable in a competitive talent landscape. These proficiencies include logical problem solving and critical thinking, and the ability to see the bigger picture of how delivery connects to strategic priorities.

The call for interdisciplinary expertise comes as enterprises face staggering skills shortages in areas essential to their mission-critical operations, such as hybrid computing, cybersecurity and sustainability. Each area requires a diverse set of skills, and lacking a skilled IT workforce can slow modernization, increase security risks and leave enterprises vulnerable to a minefield of costly threats.

### 2024 Outlook

- Skills shortages often result from too great a focus on perishable skills — such as a reliance on ever-evolving coding languages. Enterprises will invest in developing durable skillsets rooted in critical thinking and logic to build the agile and curious workforce needed to propel innovation in a dynamic industry.
- The talent evolution will reach to the top of organizations. Rapid growth of the global AI market, for example, is behind the rise of the new corporate role of Chief AI Officer (CAIO). These executives must ensure enterprise data is properly managed and deployed toward advancing business objectives. Similarly, sustainability and security have too long been siloed within organizations and will increasingly become a boardroom priority.
- Emerging technologies such as generative AI have the potential to expand career pathways. By understanding various technologies and applications, from machine learning to large language modeling, data analytics and more, talent acquisition teams can better understand the complex attributes of prospective employees and expand their definitions of aptitude. Welcoming more professionals with diverse skillsets into the field can help enterprises drive innovation and advance modernization.

"There's not a shortage of talent; there is an evolving demand for new skills. The explosive growth in data availability, analytic and coding tool sets, and the democratization of Al will remain key factors in this search for sought-after talent."

– Antoine Shagoury, Chief Technology Officer

"Deep expertise is your ticket to the industry. But to grow and advance, that requires a broad and interdisciplinary approach to learning."

 Mark Cousino, Senior Vice President, Talent Management

### Three key opportunities:

Hybrid Computing Skills

### The Rise of Hybrid Computing Will Encourage Skill Diversification

# The future of modernization depends on integrating the classics with the cutting edge.

As today's enterprises approach modernization through the lens of placing "the right workload on the right platform," most are moving some workloads to the cloud. But the mainframe has proven resilient. This can be credited to the complexity and risk of migration, as well as the mainframe's tremendous business value: the mainframe continues to enable enterprises around the world to securely and reliably process a massive volume of transactions.

To this end, mainframe skills are top of mind for today's enterprise technology leaders, who increasingly operate in hybrid environments. But the persisting need for programmers with mainframe expertise comes as a younger generation has largely ignored legacy coding languages and as many IT professionals trained on mainframe retire, leaving a widening gap in experience.

There's no substitute for a deep understanding of the foundational technology that makes up the backbone of today's global economy. Recognizing this truth, enterprises around the world will choose technology partners who have the skills to modernize their IT estates from on-prem to hybrid cloud environments. The experts who can bridge the old with the new stand to be among the most coveted in the industry.

#### 2024 Outlook

- Mainframe skillsets will be critical to maintaining business continuity as enterprises ensure their newer technology works in tandem with older assets. Expertise in Cobol, coupled with AI, for example, will advance modernization and help enterprises avoid technology silos in their hybrid environments.
- The mainframe skills shortage will present an opportunity for ambitious technology professionals to flex into new roles. By expanding their proficiencies with cloud technologies, mainframe experts can better support customers as they build hybrid environments. On the opposite end, professionals well-versed in cloud who lack mainframe expertise can gain an edge by learning core enterprise technologies to navigate customers' long-term transformation journeys.
- Enterprises will also implement technology to close the skills gap. Generative AI can enable enterprises to translate older programming languages into newer ones that more data scientists know, boosting productivity and enabling enterprises to modernize applications that are decades overdue for an update.

"The beneficiaries of the rise in hybrid computing will be the experts who have mainframe skills and can ensure new tools and solutions work in harmony with this resilient technology."

 Petra Goude, Global Practice Leader, Core Enterprise & zCloud



Percentage of organizations concerned that most people entering the workforce lack mainframe skills<sup>1</sup>.



Percentage of organizations that believe adopting new development languages and methods will attract more early professional hires<sup>2</sup>.



Percentage of organizations that say they have a shortage of in-house IT skills<sup>3</sup>.

### Talent Gaps Must Be Filled to Strengthen Resilience

#### The cybersecurity workforce is growing – but not nearly fast enough to outpace the rapid increase in cyberattacks.

As generative Al fast-tracks malware development and geopolitical turmoil threatens to compromise global supply chains, the cybersecurity talent gap is leaving enterprises vulnerable to breaches that have the potential to upend their mission-critical operations and yield costly damage.

Solving the cybersecurity skills shortage will be critical to avoiding these detrimental outcomes. This is because security professionals are essential to cyber resilience: the ability for enterprises to anticipate, protect against, withstand and recover from adverse conditions, stresses and attacks.

Cybersecurity experts can help enterprises navigate risk and prioritize actions to strengthen their resiliency — if they're not overwhelmed and overworked. In the coming year, to shrink the talent gap, enterprise technology leaders must embrace a renewed focus on simplification — from technology investment to career entry points — to boost productivity, thwart burnout and better support security's first responders.

#### 2024 Outlook

- Simplifying IT environments will be a key step to solving the cybersecurity skills shortage. As large enterprises advanced their digital transformations during the pandemic, many did so by investing on top of ageing infrastructure and increasing technology silos. These complex environments require more professionals with specific skillsets for management, which can lead to increased costs, demanding workloads for understaffed teams and greater risk of burnout.
- The industry will also reconsider entry points to the cybersecurity field. Prioritizing professionals with certifications and a strong aptitude for managing risk alongside those with college degrees can broaden applicant pools. For professionals already in the industry, flexible and inclusive workplaces can encourage the continuation of cyber careers and ensure a diverse workforce.
- Enterprises will need strong data foundations to leverage technologies including cloud and AI. They will subsequently direct their attention to data, and the security professionals skilled in data privacy and governance.
- Generative AI presents security challenges, but it will also offer opportunities to address skills shortages. The technology can spare security professionals from mundane tasks, freeing up time for higher-level work to manage risk and increasing productivity.

"Radical simplification of IT environments can be a smart technology decision — and essential to navigating the cybersecurity skills gap."

 Kris Lovejoy, Global Practice Leader, Security & Resiliency



Percentage of organizations that say a lack of skilled staff is a top challenge in managing the impact of adverse events<sup>4</sup>.



Percentage of organizations that say they have experienced a cybersecurity event<sup>5</sup>.



The average delay in completing digital projects as a result of skills shortages<sup>6</sup>.

### Achieving Sustainability Goals Depends on Prioritization and Resources

## Reducing greenhouse gas emissions on a global scale is an urgent endeavor.

The impacts of climate change are testing the resilience of communities around the world as enterprises face greater regulatory demands and customers, employees and investors call for transparency around net zero progress. Today, enterprises increasingly recognize that investing in sustainability is imperative to managing risk, strengthening resiliency and fueling long-term growth. Business leaders are using technologies — including cloud, Al and automation, machine learning and IoT sensors — to obtain and analyze emissions data and understand their environmental footprints. But many enterprises still struggle to overcome data limitations and unlock their full technological potential.

The primary sustainability challenges that global enterprises encounter remain consistent, and these include a persistent shortage of skills needed to achieve long-term goals.

As the year unfolds, enterprises will advance their efforts by transforming sustainability into a strategic priority. Resource allocation and data acquisition will prove to be vital. And enterprises will seek to both measure their supply chain emissions and harness AI for predictive capabilities – efforts that require sustainability skillsets that many enterprises currently lack.

Sustainability success hinges on both focused and multidisciplinary skillsets that span climate science, business operations, supply chain management, technology and more. Finding the right mix of proficiencies can be a hard-won challenge. This truth emphasizes the need for enterprises to invest in green skills and develop a sustainability workforce that is well positioned to combat the climate challenges ahead.

### 2024 Outlook

- Sustainability teams will develop stronger bonds with technology and finance teams to ensure they have the skillsets necessary to advance sustainability initiatives in line with their business strategies. Underpinning this collaboration will be the prioritization of sustainability at the highest level, as more enterprises back their sustainability efforts with C-suite leadership.
- Enterprises will work to ensure they have the right mix of green skills across their organizations. This includes building cross-functional teams of professionals who have a deep scientific understanding of net zero goals, as well as the ability to implement the processes and technology needed to achieve them. As they identify skills gaps, enterprises will place greater emphasis on educational opportunities that increase sustainability skills and empower employees to make more sustainable decisions at home and at work.
- More organizations will explore the use of AI to not only measure current energy consumption, but predict future usage. This will lead more enterprises to collaborate with external partners who can serve as sustainability advisors, helping enterprises develop their sustainability roadmaps and make full use of these emerging technological capabilities.
- Skills shortages will also be apparent as enterprises look to measure and control their scope 3 emissions, which are produced throughout the value chain and difficult to quantify. Enterprises will advance their efforts by adopting sustainability data platforms that offer greater visibility across their IT estates and business operations, and can inform targeted emissions reductions.

"Advanced technologies are available today to accelerate sustainability goals. But enterprises need sustainability expertise to solve data challenges and prioritize action. Investing in green skills can help close the sustainability skills gap — and enable the collaboration that will be required to address a global issue."

 Faith Taylor, Global Sustainability and ESG Officer

1/2 85%

Percentage of organizations that place a high strategic level of importance on achieving their sustainability goals<sup>7</sup>.



Percentage of organizations that feel their sustainability efforts are fully leveraging technology<sup>8</sup>.



Percentage of organizations that lack dedicated resources or have limited internal expertise to successfully adopt sustainability measures<sup>9</sup>.

### Kyndryl's Experts



### Antoine Shagoury

Chief Technology Officer



Petra Goude Global Practice Leader, Core Enterprise & zCloud



Mark Cousino Senior Vice President, Talent Management



Kris Lovejoy Global Practice Leader, Security & Resiliency



Faith Taylor Global Sustainability and ESG Officer



## About Kyndryl

Kyndryl (NYSE: KD) is the world's largest IT infrastructure services provider, serving thousands of enterprise customers in more than 60 countries. The company designs, builds, manages, and modernizes the complex, mission-critical information systems that the world depends on every day.



#### Years of experience



Patent portfolio



### **Global Practices**

- Applications, Data & Al
- Cloud
- Core Enterprise & zCloud
- Digital Workplace
- Network & Edge
- Security & Resiliency



Countries Headquartered in New York City



### Data centers globally



Training hours completed by Kyndryls in Fiscal Year 2023



Average training hours per employee in Fiscal Year 2023

# kyndryl.

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The performance data and client examples cited are presented for illustrative purposes only. Actual performance results may vary depending on specific configurations and operating conditions. Kyndryl products and services are warranted according to the terms and conditions of the agreements under which they are provided.

Sources

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