Top 10 Opportunities for Technology Companies in 2024

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Overview

The EY Top 10 Opportunities for Technology Companies in 2024

#1 Inject GenAI into digital transformation strategies and establish a control tower

#2 Experiment with GenAI in targeted front-office and back-office use cases

#3 Invest in new forms of digital infrastructure in the burgeoning "edge economy"

#4 Establish additional supply lines in emerging markets

#5 Shape corporate investment strategy around the AI roadmap

#6 Harness platform business models to industrialize and scale advancing technologies

#7 Establish proactive and holistic responses to new and forthcoming tax burdens

#8 Prioritize energy efficiency of data centers in environmental efforts

#9 Invest in advanced risk tools and revisit trade-offs between costs, risks, resiliency and agility

#10 Deploy advanced technology to reduce current and future cyber risks

The rise of generative AI (GenAI) and renewed growth potential herald a brighter future

As the sector turns the spotlight onto artificial intelligence ...

Technology companies worldwide are embarking on 2024 following a year in which their sector managed to elevate its future trajectory. During 2023, the industry successfully navigated global economic headwinds and rising geopolitical tensions while also generating widespread optimism, excitement and expectation around the potential of emerging technology, especially artificial intelligence (AI). Although by no means offering a panacea for all ills, advances like GenAI, large language models (LLMs) and industry-specific co-pilots are rapidly rewriting the narrative.

Nasdaq index relative one-year performance

Source: Refinitiv, accessed November 2023

There's a renewed focus on growth despite increased risks.

The result is an outlook that's far brighter than 12 months before. Early in 2023, when valuations in the sector were under pressure from macroeconomic weaknesses [see chart], tech companies turned to cost savings and rightsizing to help shore up margins. As well as achieving their primary goal, these measures also freed up funds to invest in new technologies to fuel future growth. Companies saw AI as the most promising of these technologies, offering growth prospects across the entire sector, including hardware, software and services.

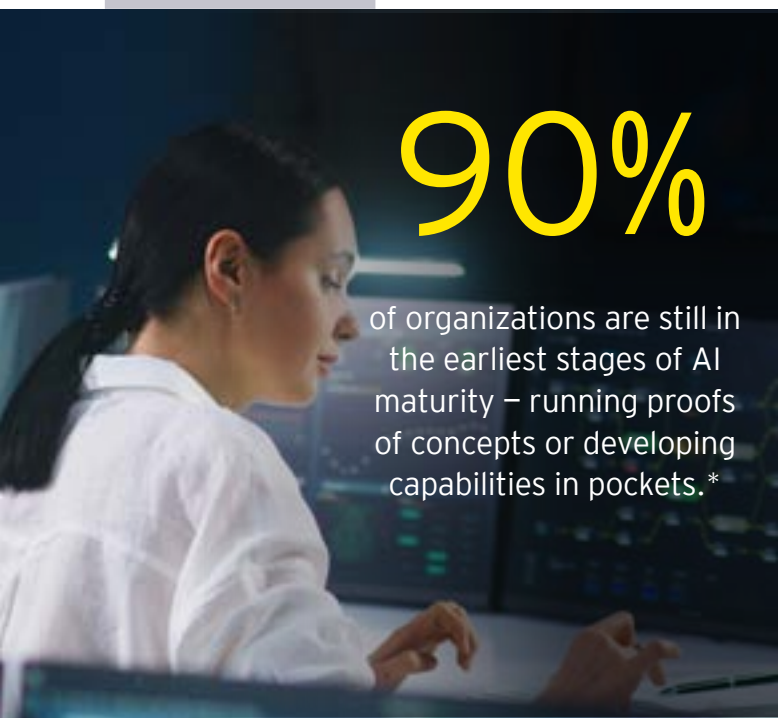
Tech companies' new AI-centered strategies triggered a rebound in investor confidence, despite a range of macro challenges that are continuing to affect the industry. Economic headwinds are weighing down on sales. The high number of geopolitical conflicts and trade disputes is threatening companies' access to various markets, technologies, raw materials and components. Changes to data protection rules will also alter how companies can monetize data, while digital taxation and antitrust regulations may change the competitive dynamics overnight.

Mapping out the opportunities for 2024

It's against this background that we've explored the opportunities for tech companies in 2024. Our overarching finding? AI tools can be applied to virtually every operational activity, including supply chain optimization, automation, risk management, customer alignment and new business development.

In compiling our list of the top 10 opportunities, we've looked to provide a balanced view of the potential actions for tech companies across various operational processes and different subsectors. By moving decisively to seize these opportunities, tech companies will enable themselves to focus on what they do best: innovating, developing breakthrough technologies and bringing new service offerings to market.

1 Inject GenAI into digital transformation strategies and establish a control tower



GenAI is ushering in a new era of digital transformation. For tech companies, the effect is double-edged. Many are already far along in their digital transformation journeys, and the leaders will need to reassess and pivot their ongoing digital strategies to ensure that AI takes a central role. Transformation efforts that were designed and implemented before GenAI's emergence are rapidly becoming outdated, and the early leaders could lose ground to competitors who prioritize new capabilities.

By contrast, tech companies that fell behind in earlier stages of digital transformation have a clear opportunity: by putting AI at the center of their strategies, they could leapfrog competitors who were previously well ahead. AI will enable them to not only speed up their transformation journeys, but also to reposition their operations to capitalize on rapidly emerging technologies and business models.

Faced with this balance of risks and opportunities, tech companies that are looking to retain or achieve industry leadership in digital transformation should establish an AI control tower – a dedicated steering group comprising a mix of business unit heads and other key executives such as chief digital or data officers. This group can formulate an overarching vision for the business's GenAI-infused digital transformation, identify and strategize for key opportunities, optimize talent strategies and ensure that AI is deployed in a responsible manner.

Crucially, an AI control tower will ensure that humans remain at the center of digital transformation. It will also position leaders to support safe, trusted and ethical AI deployments by driving appropriate policies and procedures, governance and accountability strategies, and training and awareness campaigns.

GenAI is not the only emerging technology driving new innovation for tech companies. Edge, cloud and quantum computing, among others, can also play key roles in digital transformation. Rather than treating GenAI as an isolated technology, companies that integrate GenAI into a broader technology transformation will be better placed to create sustained value.

* EY, Innovation Realized Executive Pulse Survey, 2023

2 Experiment with GenAI in targeted front-office and back-office use cases

Over the past year, the explosive emergence of GenAI has captured the public's attention and imagination, and the technology's groundbreaking capabilities have inspired tech companies to explore opportunities to inject it into a slew of front- and back-office functions. The exciting early wins from these efforts are demonstrating how — when applied effectively — GenAI can help companies to both improve their products and services and run their businesses more efficiently.

However, GenAI tools do bring some challenges, including that they can be cost- and resource-intensive. While it might be tempting to leverage GenAI for all potential use cases, companies are likely to be better served by specifically targeting high-impact, high-value use cases and transformation opportunities, and by carefully considering where to channel their early investments, staffing and resources. A good way to start can be to develop a portfolio of potential opportunities to leverage GenAI or incorporate it into current efforts. Possible use cases can then be assessed and prioritized based on metrics, such as alignment with existing business imperatives and scalability.

65%

of tech CEOs recognize that their organization must act now on GenAI to avoid giving their competitors a strategic advantage.*

Tech companies looking to initiate or ramp up their GenAI investments may target a select handful of front-office use cases that can support profitable growth without disrupting capital allocation strategies. Examples might include leveraging GenAI in software coding and using human-machine interfaces to accelerate the generation of content with a direct line to profitability.

Back-office GenAI use cases can also help to boost productivity and cut costs. In tandem with front-office efforts, companies can use GenAI-powered content creation to generate value rapidly in areas like information retrieval and summarization, as well as conversational capabilities. Functions that are well-suited to this approach include legal, compliance, tax functionality and customer success. Further opportunities include optimizing recruitment by deploying AI tools to attract, onboard, retain and upskill talent.

* EY, CEO Outlook Pulse Survey, 2023

3 Invest in new forms of digital infrastructure in the burgeoning "edge economy"

Emerging technologies' transformative capabilities rely heavily on ultra-fast data collection and computation. In light of the rapid advance of AI, the proliferation of use cases requiring ultra-fast processing "at the edge" and continual shifts in regulation, it's imperative that tech companies optimize their investments in digital infrastructure to support reliable connectivity and rapid compute capabilities.

New types of digital infrastructure — especially ubiquitous, high-speed connectivity and low-latency computing — are foundational requirements for a wide range of new opportunities. While tech companies can benefit from harnessing these capabilities, they must be careful to avoid overspending on infrastructure that's not fit-for-purpose. As the "edge economy" gains pace and scale, companies that manage to balance the competing objectives of activating next-generation digital infrastructure and staying within increasingly tight capital constraints will stand to win out.

75% of executives surveyed believe that their organization requires greater understanding of edge computing use cases and concepts.*

* EY, Reimagining Industry Futures, 2023

4 Establish additional supply lines in emerging markets

Geopolitical events and supply chain disruption are identified as two of the three most prominent risks on the agenda of company boards.*

The risk of supply chain decoupling is still very real for the more hardware-focused tech companies. As a result, a race is underway in subsectors such as semiconductors to realign supply chains in ways that avoid the impacts of geopolitical disruptions. An example is building advanced manufacturing capabilities in the US, which could mitigate some of the risks related to Taiwan. However, advanced manufacturing is only one step in an extended ecosystem of interrelated activities that are all essential in building a working chip. And while other countries are also building up their manufacturing capabilities, tensions could flare up around many other activities, ranging from key commodities, like gallium and germanium, to mission-critical manufacturing tools, design software, or packaging and testing services.

Against this backdrop, we're seeing a growing move by chip companies to create operations in emerging markets, including India and ASEAN countries, such as Singapore, Vietnam, Malaysia and the Philippines. This reflects a clear opportunity to diversify and expand their operations away from geographies exposed to trade conflicts, usually starting with activities like packaging and testing, with more advanced processes following later, including wafer fabs and advanced packaging. For companies that serve customers around the globe, in both Mainland China and the West, diversifying or establishing a secondary supply chain is a good way to reduce future risks of trade disruptions. And while investments in India and ASEAN countries are currently on the rise, other regions will also try to get in on the act by attracting tech companies' operations.

* EY Global Board Risk Survey, 2023

5 Shape corporate investment strategy around the AI roadmap

89%

of CEOs are planning some form of transaction over the next 12 months, but there has been a sharp contraction in intentions to actively pursue acquisitions with more focus now on joint ventures and strategic alliances.*

Usage of AI and LLMs is taking off rapidly, but joining this race may not be straightforward. Why? For one thing, demand for hardware is outpacing supply, leading to high prices and limited availability. For another, training LLMs is time-consuming and expensive, and requires very large data sets that may not be easily accessible. What's more, customizing and deploying these services require scarce skills and talent. All of these issues arise when a tech company faces a buy-or-build decision around new service development and speed to market.

Past experience shows that acquisitions and deals can help to speed up development. However, the regulatory hurdles for deals in AI are relatively high for two reasons. First, the general clampdown on anti-competitive behavior in the sector means that deals – especially large ones – will attract greater scrutiny. Second, geopolitical tensions and international trade disputes are creating barriers to dealmaking, notably in subsectors like semiconductors and AI. Cross-border AI deals that require review and approval from the Committee on Foreign Investment in the United States (CFIUS), the European Parliament Committee on International Trade (INTA) or similar bodies will be harder to bring to a close. That said, the potential for deals will still exist, given that the platform nature of modern tech businesses means that there will be many nimble, attractive companies with business models based on existing AI ecosystems.

Therefore, we believe that the optimal way to expand in AI is through a mix of small- to medium-sized acquisitions, corporate investments and partnerships. The acquisitions will help companies access intellectual property and the talent and skills needed to develop new propositions quickly. The corporate investments will help with "long shots" in new technologies, developing different roadmaps to future applications that may not seem feasible today, and the partnerships will deliver immediate access to data sets, services and markets needed to pursue new opportunities.

* EY, CEO Outlook Pulse Survey, 2023

6 Harness platform business models to industrialize and scale advancing technologies

Platform business models have become the standard operating procedure across the tech sector. By using platform strategies to engage with customers and sell their products and services, companies across all subsectors have found that they can increase scale, tap into external capacity and networks, and capitalize on emerging market opportunities. At the same time, the multiparty ecosystems at the core of platform strategies support more effective value creation and mutually beneficial collaboration between companies, even competitors.

Platform business models are also central to the GenAI revolution. Tech companies are both going to market with GenAI platforms and integrating externally developed GenAI capabilities into their internal operations. LLM developers are using platform models to support their offerings' widespread use and ongoing improvement. Hardware and semiconductor manufacturers are forming platform partnerships and ecosystems to build and deploy the infrastructure needed for widescale use of GenAI. And companies at the forefront of enterprises' use of GenAI, including internal intelligent assistants, are revamping their platform strategies to deliver these capabilities safely and effectively to their users.

As such examples underline, the tech sector is going through a period of transition and reinvention. During it, companies that take a purpose-driven approach to acceleratin g the implementation or evolution of their platform business model, including their data strategy, will be best positioned to capture value. Going forward, as AI triggers new upheavals and opportunities across the industry and companies race for market share and influence, the ability to deploy a robust and diversified platform will be a key attribute differentiating the winners.

More than half of tech companies believe that their platform model will help them increase proximity to, and engagement with, their customers and increase their revenue and profits according to the EY Platform Economy Transformation Study, 2023.*

* EY, Platform Economy Transformation Study, 2023

7 Establish proactive and holistic responses to new and forthcoming tax burdens

of tech company leaders expect the change resulting from enactment of BEPS 2.0 minimum tax to be "moderate to significant."*

The global tax system in place from 1 January 2023, will have significant layers of complexity — and the impacts for tech companies will extend far beyond their tax departments. Those players who think proactively and act thoroughly and holistically today to optimize their tax profiles will gain a headstart over their competitors who are slower to respond.

The incoming tax changes are significant because the OECD's BEPS 2.0 Pillar 2 will impact tech companies in multiple ways. These include, but are not limited to, an increased global cash tax burden, colocation of talent and functional assets in the supply chain, ESG strategies across the supply chain, and cost and resource commitments associated with global minimum tax compliance. Indeed, the introduction of the minimum global tax provisions represents arguably the largest and most disruptive shift in the regulatory environment for generations.

Tech companies with a global footprint, cross-jurisdiction platform strategy, distributed user base and complex supply chain stand to benefit particularly from thorough and thoughtful preparation for the changes. Being proactive in assessing and responding to the new requirements will be vital in weathering the storm and minimizing disruption to their business. The new global minimum income tax rate is 15%, beginning in 2024: Large technology companies have the opportunity to structure their global supply chains and support operations in such a way as to achieve 15% in the jurisdictions in which they operate and, as a result, free up working capital to invest in their business.

* EY, Tax and Finance Operations Survey, 2023

8 Prioritize energy efficiency of data centers in environmental efforts

In 2027, AI could need as much electricity as a small country, like the Netherlands.[1]

The road to net zero is long and winding, with different regions and sectors traveling it at different speeds. And completing this journey is especially vital for the tech sector, given, firstly, that it has a significant environmental footprint in its own right, and secondly, that the world is relying on it to provide tools for carbon reduction. Many tech companies have already committed to carbon targets. But with budgets constrained and margins under pressure, it's important to consider where companies should start — and what they should prioritize.

There are many potential areas on which to focus: reducing waste, recycling, replacing toxic chemicals, using sustainable energy and reducing water pollution can all deliver benefits. But without belittling these efforts, we believe that tech companies this year should focus particularly on improving data center energy efficiency. To date, the growth in the number and size of data centers has been driven by the ever-increasing amount of data created at a corporate and individual level, fueled by factors including digital transformations, cloud migrations, and rising usage of edge devices and social media. These data centers consume an increasing amount of electricity. However, an even bigger acceleration in data centers' energy usage is now imminent, triggered by the massive compute and storage power needed to train LLMs or run intelligent systems. By 2027, AI could be consuming as much electricity as a country the size of the Netherlands. And the demand just keeps growing.

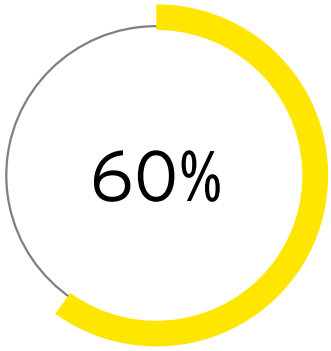
Now is the time for tech companies to invest in and collaborate with energy equipment providers to develop new and innovative ways to power their data centers. Making data centers more energy-efficient will reduce the impact of any future energy crises and reduce production costs for digital services in the short term. And the efforts will also pay off in the longer term, as, on the road to net zero, energy that isn't used doesn't have to be decarbonized.

1. de Vries, The growing energy footprint of artificial intelligence, Joule, 2023: https://www.cell.com/joule/fulltext/S2542-4351(23)00365-3

9 Invest in advanced risk tools and revisit trade-offs between costs, risks, resiliency and agility

* EY Global Board Risk Survey, 2023

How highly would you value the ability to anticipate the next black swan event? What will it be, when will it strike, and how will it impact your business? These questions may sound hypothetical. But the COVID-19 pandemic showed us that disruptive events trigger further events, that they create both risks and opportunities, and that some tech companies were much better placed to cope than others. Being well prepared and responding adequately can make the difference between a company struggling quarter after quarter to stay afloat or expanding rapidly as new markets open up.



of boards agree that emerging risks are insufficiently addressed in risk management frameworks.*

With this in mind, tech companies are eager to improve their ability to address emerging risks —a task given greater urgency by the lengthening roll call of emerging risks facing the sector. Trade disputes, geopolitical conflicts, taxation and legislative changes, government interventions, cybercrime and data protection regulations all present risks that are especially relevant to the sector, on top of more general risks, such as climate events, financial risks, the next pandemic and keeping pace with innovation by competitors. Also, the global, integrated nature of tech supply chains means that a single disruption can have knock-on effects across the entire value chain.

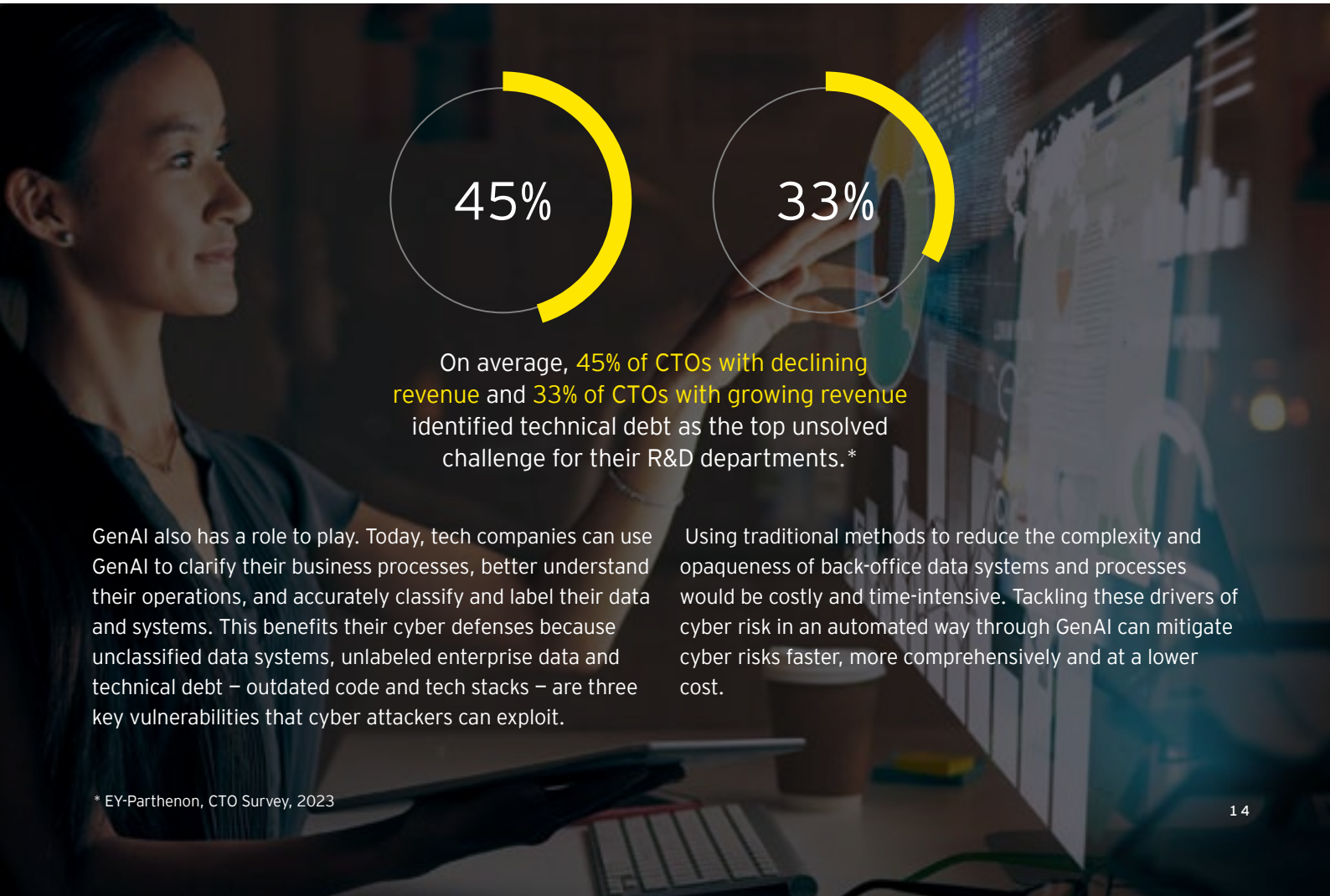
Individually, these risks can be monitored and managed through data collection and analysis — and even more effectively when enhanced with AI. However, a number of risks could strike simultaneously or influence each other. This possibility means that advanced risk assessment and scenario planning are vital in determining a tech company's exposure to combinations of, say, trade sanctions, climate events, regional instability, increased regulation and supply chain shortages. Equipped with insights across these risk categories, companies should review their risk appetite and revisit how they manage the complex trade-offs between costs, risks, resiliency and agility. When the next black swan hits, companies that invest today in advanced risk tools will be glad they did.

10 Deploy advanced technology to reduce current and future cyber risks

While emerging technologies, like GenAI and quantum computing, offer many benefits to enterprises, they're also radically changing the nature of cyber threats and amplifying the risks that they pose. The fact that tech companies tend to be data-rich and maintain a substantial and complex collection of technical systems makes them especially exposed to both traditional and emergent cyber threats.

For years, tech companies that invested in advanced threat detection and response capabilities have been better able to ride out cyber attacks. Just as malicious actors using quantum will be able to penetrate outdated security systems quickly and easily, so companies using quantum to defend themselves will be better able to fend off attacks.

By investing in post-quantum cryptography — and talent capable of developing and deploying these technologies — companies can prepare for a near future in which traditional encryption is no longer enough.



On average, 45% of CTOs with declining revenue and 33% of CTOs with growing revenue identified technical debt as the top unsolved challenge for their R&D departments.*

GenAI also has a role to play. Today, tech companies can use GenAI to clarify their business processes, better understand their operations, and accurately classify and label their data and systems. This benefits their cyber defenses because unclassified data systems, unlabeled enterprise data and technical debt — outdated code and tech stacks — are three key vulnerabilities that cyber attackers can exploit.

Using traditional methods to reduce the complexity and opaqueness of back-office data systems and processes would be costly and time-intensive. Tackling these drivers of cyber risk in an automated way through GenAI can mitigate cyber risks faster, more comprehensively and at a lower cost.

* EY-Parthenon, CTO Survey, 2023

Conclusion

It's clear that technology companies enter 2024 faced with a series of significant challenges. Macroeconomic headwinds, capital allocation constraints, geopolitical uncertainty, tax and regulatory complexity, cybersecurity risks and in-demand talent shortages will all need to be addressed.

Yet, the coming year is brimming with opportunities. Tech companies that take a purposeful rather than a rushed or over-ambitious approach to their investments in new business models, transformation strategies, and emerging technologies across the front- and back-office stand to reap significant rewards and outpace their competition. When the story of 2024 is written, we expect the companies with a focused and intentional strategy for leveraging new capabilities to optimize key components of their value chain will go down as the winners.

Methodology

In order to gain deeper insights and create this year's list of opportunities, we supplemented our initial research with additional insights and recommendations from our global EY client-serving teams based on their interactions with their clients across the tech sector.

The top 10 ranking is designed to cover a wide array of areas of opportunity and a broad range of tech industry subsectors. This means that not every opportunity is applicable to every tech company, with the degree of relevance potentially depending on whether a company is consumer-facing, B2B, or hardware versus software or services.

These are challenging times. But with every challenge comes opportunity — and for every disruption there is a disruptor. In ranking the 10 opportunities that we believe that tech companies should take advantage of in 2024, we hope we have provided you with valuable perspectives and practical insights for succeeding in the year ahead.

How EY teams can help

Technology companies are the catalyst for dramatic change across all industries and sectors. Their ground-breaking innovations are altering businesses and business models, connecting people with services and requiring entire industries to reimagine their futures.

However, they must tap into new markets while improving operational efficiency and managing risk while still meeting customer expectations. They must continually foster creativity and innovation, and both quickly and efficiently flex to changing markets, geopolitical tensions, and global economic changes in today's rapid and unpredictable landscape.

EY teams use their experience as trusted advisors working with technology leaders around the global and leverage a global network of subject matter specialists, alliance, and ecosystem partners. They help companies develop the right strategies to create long-term value to thrive in the now, next and beyond enabling them to manage risks and take advantage of the opportunities in 2024.

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