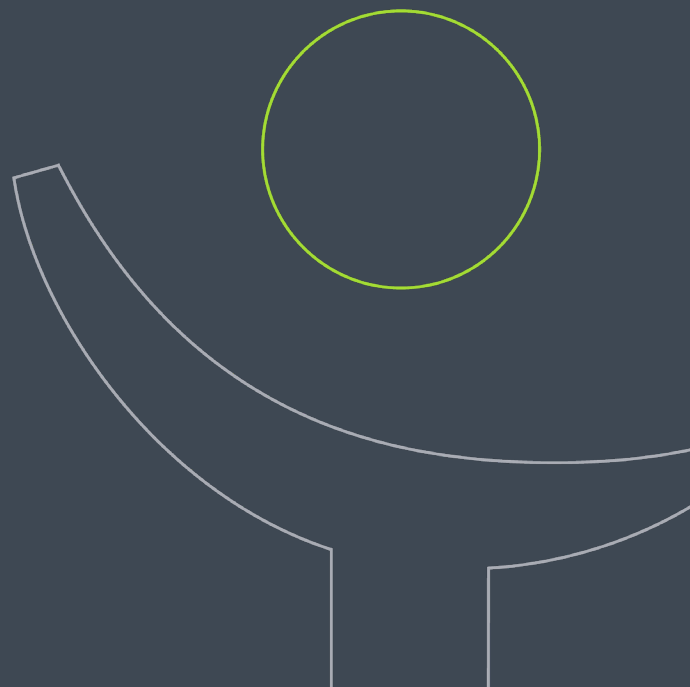




# 2024 Technology Trends

Shaping the Future with Security,  
Sustainability, and Innovation

 iventure



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# Introduction

When it comes to technology, evolution isn't just rapid; it's exponential. Over the last three decades, technological innovations have transformed every industry at a staggering rate. While this has affected the IT industry itself, it has also redefined how all organizations do business. Technology is now essential no matter the vertical, be it manufacturing, distribution, construction, or agriculture. IT is no longer a subset or division sitting outside other departments but rather is intricately woven into every aspect of commerce.

## CONSIDER THIS:

Nearly  
**60%**  
of the world's population uses the internet regularly, compared to 6.7% just 20 years ago ([source](#)).

**90%**  
of the world's data was generated within the past two years alone ([source](#)).

The first smartphones were invented less than two decades ago and more than  
**6 billion people**  
own one ([source](#)).

While these statistics aren't surprising, they do indicate the rapid shift to a technology-driven world, rather than a world driven by technology. Gone are the days of casually examining technology innovations; they're now coming fast and furious, leaving organizations feeling challenged to keep up.

It can be time-consuming to evaluate each one, let alone understand how to make them work for you. Yet creating ever more seamless integration and operation will be fundamental to how IT works in 2024, and understanding this will be key for businesses that want to succeed.

Whether B2B or B2C, the expectation is that technology touch points will be reduced, creating a seamless experience in every transaction and interaction.

To that end, we're exploring some of the emerging trends for 2024, shining a light on the tapestry of both existing technology and behaviors in the IT space that are set to be critical in the coming year, and new innovations gaining attention. Each has the potential to redefine the tech landscape, and we're gearing up for the wild ride to come.

With this in mind, our focus here at iVenture remains: distilling the intricacies of technology into understandable insights, demystifying the sometimes complex IT landscape, and delivering a practical roadmap for professionals and enterprises.

Navigating this changing landscape can feel daunting at times, but iVenture is here to help you make sense of it all. We're constantly exploring ways to enhance, invigorate, and leverage all this innovation, offering even more ways for businesses to optimize their IT.



# Generative AI is Here to Stay

AI has been THE word in the tech sector for a while. You've likely read a headline or two about how it is changing the world. Although the first notable AI, Theseus, was designed back in 1950, less than a decade ago there were no machines capable of recreating language or image recognition at a human level. Today however there are AI models that reliably [outperform humans](#) in tests in these areas.

In their [Technology Vision 2023 report](#), Accenture predicts that something like generative AI, currently being used to automate digital processes, write content, and produce digital artwork, will have far wider and more practical applications. Artificial intelligence is *"poised to shape the future of science, enterprise data, how we design and manufacture products, and so much more."*

Gartner's Top Strategic Technology Trends 2024 [report](#) backs this up, stating that *"By 2026, more than 80% of enterprises will have used generative AI APIs, models and/or deployed generative AI-enabled applications in production environments, an increase from fewer than 5% today."*

## The generative AI revolution

Not only does generative AI represent a paradigm shift for businesses, but generative AI is rewriting the rules of IT. Its predictive power allows AI models to solve problems that previously would have required more overhead, decision friction, and a team of people.

But while most businesses are still just beginning to engage with the capabilities of generative AI, there is a world of potential uses that remains untapped.

## Applications in software development, network management, and data analysis

From software development to network management and data analysis, AI's ability to accurately predict behavior and automate responses will dramatically reshape traditional practices. Whether that means using algorithms to streamline coding processes in software development, optimizing network configurations in network management, or solving customer problems using chatbots, generative AI has applications at every level of a business.

However, the use of generative AI brings with it a crucial consideration: the balance between automation and human input or oversight. AI is undoubtedly efficient and offers remarkable possibilities for scale when it comes to automation. But human intervention remains and will continue to remain pivotal when it comes to decision-making, both in terms of oversight and from an ethical standpoint.

## The balance between AI and human oversight

Finding the balance between AI potential and human capabilities may be one of the defining aspects of 2024, and the most successful users will be those who can develop a truly symbiotic relationship between AI-driven automation and human intellect. Understanding that delicate balance will require strategic vision, and a key understanding of operations, outputs, equipment, and goals. It's possible and within reach: together we can discover how best to make AI work with and for, you.



# It's Time to Become Cyber Resilient

Every set of IT predictions since the internet was founded has included a section on cyber security. Protecting your business online is a fundamental part of technological innovation, and will always be of the utmost importance.

However, like everything in the sector, traditional cyber security evolves, and in 2024 there will be a shift from detecting and preventing threats to making organizations more resilient in general. This means proactively ensuring that your organization is protected, with strategies woven into the very fabric of your operations, from equipment to technology to sales to your team.

**“I think the biggest bang for your buck when it comes to security defenses is end-user training and security awareness training. The more you invest in your employees and their knowledge of being able to identify things, the better off your organization is.”**

— Aaron Ward, Chief Information Security Officer at iVenture



## Strategies for creating resilient IT systems

Cyber resilience is a subtle but vital shift. It takes a broader view, emphasizing an organization's ability to withstand, adapt, and recover. It recognizes the vital part people can play in eluding an attack or compromised system, with education and training being key. It also is designed to make businesses better able to protect themselves against ever-evolving threats. It encourages a greater understanding of who has access to data, where it is stored, and what security measures are in place to protect it.

## Insights from industry leaders

By adding redundancy measures and response planning, the entire organization becomes more resilient, and successful cyber-attacks are harder to carry out. Ensuring adequate protection can not only dilute the likelihood of an attack but also reduce business downtime if it does.

By embracing resilience from top to bottom, adopting robust frameworks, leveraging cutting-edge technologies to bolster all areas of a business, and providing security awareness training to all team members, organizations will be able to ensure they are at the forefront of cyber threat management in 2024.

**“A response and recovery approach is critical to avoid and/or mitigate a cyber crisis which often comes down to how an organization properly manages a cyber incident before, during, and after the occurrence.”**

— Gavin Wilson, Principal Consultant at Synechron

**“IT disaster recovery planning is part of prudent business continuity planning. It's figuring out, ‘How do I keep my business running?’ and ‘What are all the possibilities that go wrong?’”**

— David Gardner, Principal Consultant at iVenture



# Zero-Trust: Building Architecture That's Tough

The term 'Zero-Trust Architecture' has been gaining attention as a fundamental tenet of cybersecurity in security circles over the past year. It represents a reimagining of some of the core principles of cyber security and is set to be transformational in 2024.

## The principles behind zero-trust architecture

The basic premise of Zero-Trust is 'trust no one, verify everything'. This offers a more holistic approach than traditional security models that secure the perimeter only. Zero Trust is the assumption that threats can exist anywhere, and therefore every access request must be verified.

Though this can feel like a challenging prospect as it requires constant, rigorous identity verification and far greater network visibility, it is vital, particularly as organizations move to cloud services and adopt remote working processes. Shifting paradigms and longstanding processes is never easy, but with the right experts in your corner, the heavy lift will prove worth it.

**“Zero-trust architecture aims to protect the back door from supply chain attacks by requiring verification from anyone trying to connect to your systems.”**

— Tristan Morgan, BT

In fact, according to IBM, Zero-Trust reduces the cost of a data breach by about \$1 million. As the [average cost](#) of a data breach rose from \$4.24 million in 2021 to 4.35 million in 2022, now is the time to act.

**\$4.24M → \$4.35M**

## A shift from perimeter-based security to a zero-trust approach

Businesses who want to make the transition to Zero-Trust need to first explore the complexity of their IT infrastructures and train their team on cyber security and password best practices, before finding a software solution that suits their existing infrastructure.

Given the ever-evolving nature of cyber attacks, adopting a more comprehensive approach to verification and cyber security by bringing Zero-Trust into the mainstream is set to be crucial for 2024. Working with a professional who understands the challenges and potential of Zero-Trust can be immensely helpful when it comes to making and implementing an effective Zero-Trust plan.



# Hybrid Cloud Infrastructures: Can IT Get More Nebulous?

Cloud computing has been the direction of travel for several years, with less dependence on local infrastructure becoming more common. The latest iteration of this blends on-premise and cloud-based resources for unparalleled balance in scalability, flexibility, and security — also known as hybrid cloud.

## The optimal balance in scalability, flexibility, and security

This move towards hybrid cloud models fits with the overarching concepts of resilience and adaptability in the technology landscape. By fusing public and private cloud or on-premise infrastructure, businesses are able to get the best of both worlds. The power, flexibility, and scalability of cloud computing, combined with the tighter control and security that an on-premise network offers. Does this sound too good to be true? We can assure you, it's not.

Part of this shift towards more dynamic, flexible infrastructure comes from the need to stay relevant and continue to be able to meet new and growing demands, utilizing the technological innovation in the market today.

Whether that means edge infrastructure for data-intensive use cases or non-x86 architectures for specialized workloads, new application architectures demand new kinds of infrastructures.

**“Challenging periods are times to innovate and find new solutions to meet business demands.”**

— Paul Delory, Gartner

## Addressing inefficiencies intensified by COVID-19

The shift toward hybrid models demonstrates a strategic move toward adaptability and agility at an organizational level and an understanding of how fundamental IT is to, well, everything. For many, the COVID-19 pandemic was the catalyst for this, intensifying the need for a combination of resilience and flexibility in IT infrastructure, while for others, this has been the direction of travel for some time.

## A shift from traditional IT infrastructures to hybrid models

Businesses that want to benefit from hybrid cloud infrastructures must put IT at the heart of their strategic planning and ensure that their cloud strategy aligns with their business objectives. The additional challenges that come with working across both cloud and on-premise infrastructure also mean that constant, comprehensive monitoring up and down the stack is required. Luckily there are experienced service providers in the market (ahem, us) who can seamlessly help you garner the best of both these worlds, in an efficient manner that puts both protection and ease at the forefront.



# Personalized Technology: The New Normal

Customization of technology is emerging as a pivotal shift away from a mass-produced, one-size-fits-all approach. Organizations have access to more data about their customers and clients than ever before, and this can make the user experience a uniquely personal one.

According to Forbes,

**80%** of consumers are more likely to purchase from a brand that provides personalized experiences, and

**63%**

of consumers will stop buying from brands that use poor personalization tactics.

customized technology makes a difference. From AI to cybersecurity, advancements in technology are giving consumers more convenient ways to engage via this “frictionless interaction” model, which creates a more seamless experience for the end user by reducing touchpoints and enhancing efficiency and ease.

Intelligent software that leverages the power of generative AI will transform the way that customers, users, product owners, and even developers and architects interact with technology.

## Customization in software and hardware for enhanced user experiences

Whether it is personalized support pop-ups to drive conversion rates for e-commerce stores or dynamic messaging and loyalty programs that improve the customer journey, it is clear that

**“By 2026, 30% of new apps will use AI to drive personalized adaptive user interfaces, up from under 5% today.”**

— Gartner

With better, faster predictions that come from more accurate insights and better, more plentiful data, organizations will be able to customize the user experience to create

heightened user satisfaction, as well as optimize performance to align more completely with specific operational needs.

## Leveraging data analytics

So how can business leaders harness data analytics to work smarter and provide a better experience for their customers? The first step will be investing in the fundamentals of customer data and analytics. Personalization is, at its heart, a synergy between marketing and IT, and it requires centralized platforms and cross-team collaboration to be a true success.

Remember, personalized technology has the potential to be a strategic maneuver across the organization, not just an enhancement for customer-facing teams. Using this strategic framework will help inform better productivity and team-driven innovation and result in happier customers. Now this is what we call making IT work for you!



# Greater Than the Sum of Their Parts

It is, of course, worth considering how these trends intersect with one another, as nothing in tech exists in a vacuum. Some of the most exciting applications of new innovations come from intersections between transformative trends to find solutions to complex challenges.

One concept that many in the industry predict will come to the forefront in 2024 is a closer synergy between technology and the physical world; a manifestation of the intangible becoming tangible.

**Accenture describes how “the next wave of business transformation will shift from creating isolated digital capabilities to creating the foundations of a new reality — a shared reality that seamlessly converges the physical lives we’ve been leading with the digital ones we’ve been rapidly expanding.”**

The construction and overlap of digital and physical realities using augmented reality (AR) and virtual reality (VR) is a great example of this.

## Innovative solutions to address complex IT challenges

For 2024, the fusion of VR and artificial intelligence offers a wealth of potential. Augmenting the immersive experiences offered by VR using intelligent algorithms offers incredible potential applications, not just for entertainment and training but also in the healthcare sector for advanced simulations and diagnosis. There are truly cutting-edge technologies that are being utilized in ways never seen before, helping us to live better lives in thriving environments.

There are also interesting potential opportunities in using a move to a Zero-Trust environment to drive sustainable tech solutions. Implementing Zero-Trust architecture will, in

most cases, require significant remodeling of infrastructure, so it represents an opportunity to develop more eco-friendly IT practices. The core principles of Zero-Trust architecture — resilience, robustness, efficiency — are in complete alignment with sustainable technology practices, which makes this intersection ripe for innovation.

This convergence of technological trends unlocks unprecedented potential. It offers solutions to multifaceted challenges, from cybersecurity threats to operational inefficiencies, and catalyzes the creation of comprehensive, forward-thinking solutions that go beyond individual trends, offering businesses the chance to future-proof their operations.





# Piecing IT All Together

2024 represents a pivotal era of evolution and innovation for the technology industry. From AI to cybersecurity, the trends that will define the coming year are about resilience, flexibility, and synergy.

## The future

The future of IT hinges on proactivity—embracing change, anticipating trends, and leveraging them to propel businesses to new heights. Organizations ready to embark on this journey to incorporate these transformative trends into their DNA will emerge as trailblazers in the rapidly evolving IT landscape.

Embracing these trends isn't merely an option; it is an imperative. Putting IT at the heart of everything you do as an organization and making it a fundamental part of a culture of continuous innovation and adaptation is critical for ongoing success and growth.

## How these trends will evolve and impact the IT industry beyond 2024

For IT professionals, this means embracing new skill sets, fostering a learning mindset, and championing the integration of cutting-edge technologies into organizational frameworks.

For businesses, it means being ready to seize opportunities that present themselves and continue looking for ways to use technology to drive operational efficiency and become more flexible. Strategic training on best practices, security, and cyber resilience should become the norm for all team members, uniting the entire organization as one unit advancing innovation and technology.

Here at iVenture, we make it our business to know yours. We conduct an organizational assessment and audit, then explore how customized IT solutions can elevate and drive forward your objectives. Together, we're building connections and securing your vision. [Contact us today](#) to get started.

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