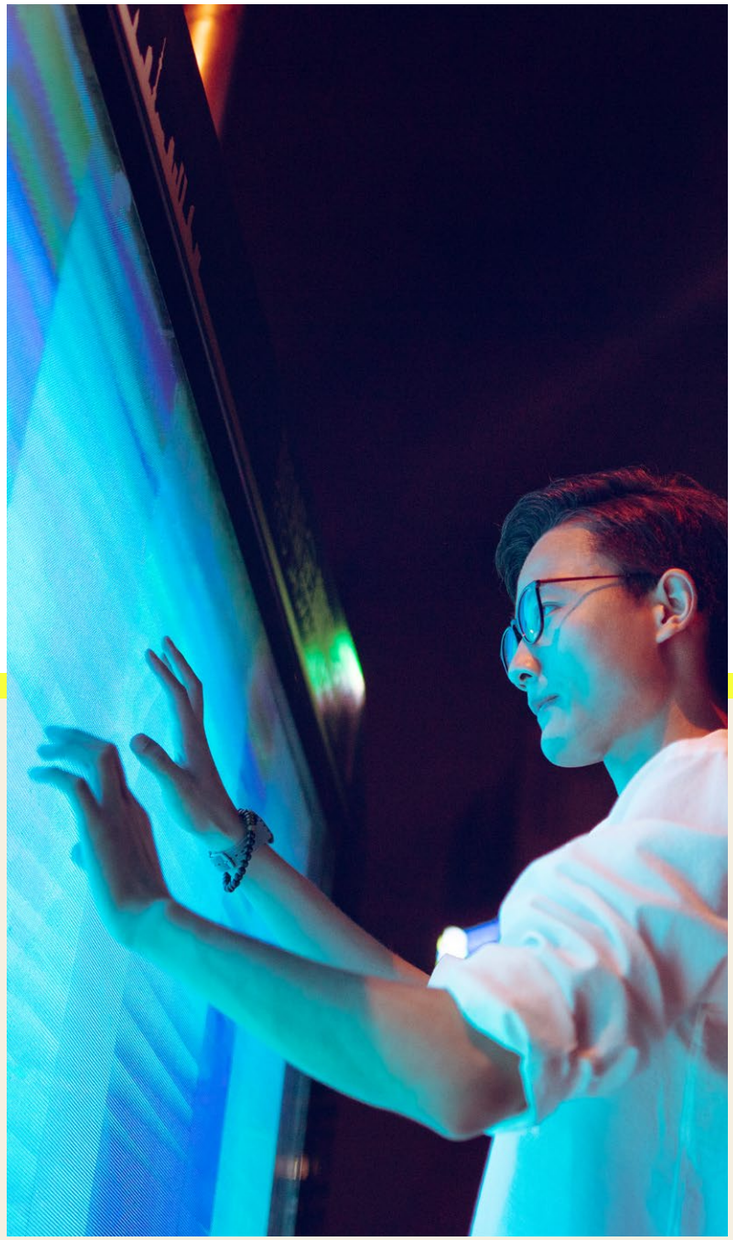
2025 IoT Market Insights Report

verizon business

Table of contents

Intelligent connectivity: Powering the next wave of IoT transformation

Cellular connectivity is enabling more reliable and timely data collection across business operations, yielding actionable insights and cost-saving decision-making. The Internet of Things (IoT)—the interconnected network of things that collect key data from sensor-enabled devices and other sources—has moved beyond hype to become a critical business technology that delivers measurable value through improved efficiency, innovation and customer engagement. With IoT, organizations are not just optimizing operations—they're reimagining business models, enabling new customer experiences and realizing tangible business value.



Verizon's 2025 IoT Market Insight Report offers a compelling perspective on IoT's business impacts.

500+

U.S. based companies with more than 100 employees, actively implementing or planning cellular IoT solutions were surveyed.

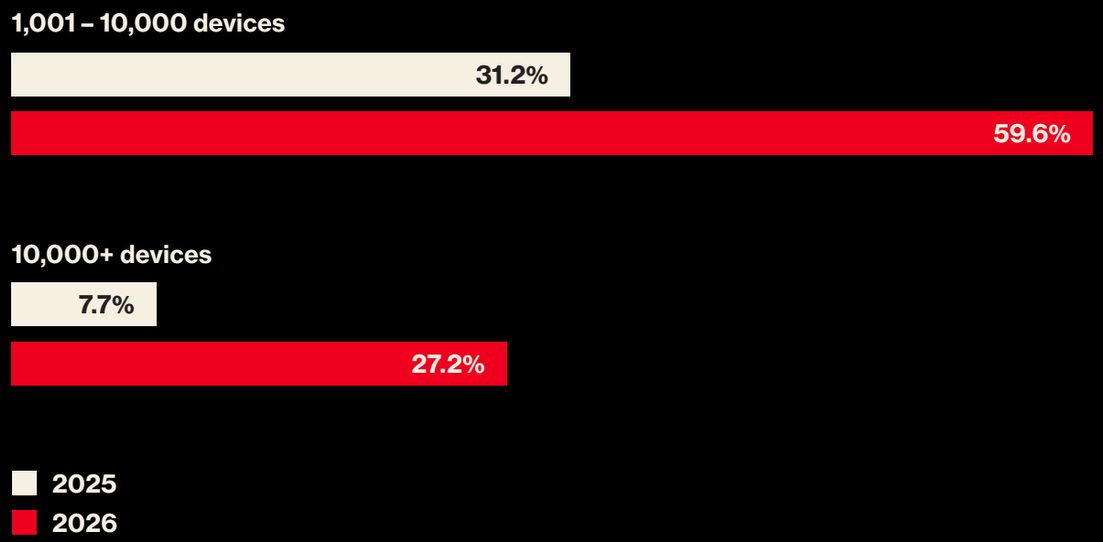
This comprehensive analysis provides powerful insight into decision-makers' strategic priorities, implementation challenges, high-value use cases, investment patterns and technology preferences.

Discover how these transformative trends are reshaping the IoT landscape and how organizations like yours can leverage connected technologies to drive innovation and competitive advantage.

1

Understanding today's IoT landscape: Connectivity, growth and related expectations

How many devices are connected in your cellular IoT deployment in 2025 and how many do you expect in 2026?



50%

More than 50% of organizations surveyed—particularly companies in manufacturing and warehousing—selected efficiency and productivity gains as the driving forces behind initial and subsequent IoT investment.

IoT is scaling to massive size

Businesses across all sectors that were surveyed during this research are aggressively expanding their IoT initiatives. A majority of surveyed companies have moved beyond the investigative and trial phases of their IoT deployments and have full deployments. This adoption reflects a fundamental shift in how organizations view IoT—no longer as experimental technology but as infrastructure that can deliver measurable operational efficiencies and competitive advantages.

66%

of organizations surveyed are currently using a fully deployed and operational cellular IoT system.

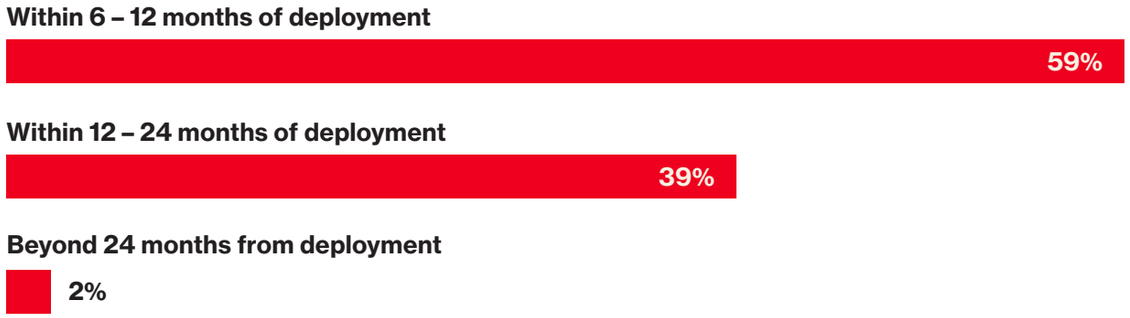
The IoT customer landscape demonstrates remarkable energy with both new deployments and significant scaling of existing implementations. A striking transformation is underway in deployment size of those surveyed. While in 2025, only 8% of cellular IoT deployments were expected to exceed 10,000 devices, survey respondents project this figure will more than triple to 27% in 2026, signaling the ongoing scaling of IoT deployments. Trends observed in the Verizon ThingSpace—the IoT connectivity management platform—also confirm strong cellular IoT growth. The platform recorded double-digit year-over-year (YoY) growth for devices utilizing narrow-band IoT (NB-IoT), 4G LTE and 5G technologies.

IoT is a smart bet

The acceleration of IoT deployments stems directly from its ability to deliver measurable outcomes, positioning it as a mature but evolving technology framework with predictable returns. Survey results indicate that more than two-thirds of organizations see clear correlation between their IoT implementations and return on investment (ROI), reinforcing the connection between IoT budgets and expected real-world outcomes. Furthermore, 98% of businesses surveyed expect real benefits from their IoT deployments within two years, with most anticipating returns in less than 12 months.

LoCI Controls demonstrates how IoT deployments can translate into measurable business benefits.

When do you expect to realize the measurable benefits from an IoT deployment?



LoCI Controls: Turning landfill gas into an estimated $1.8B opportunity.

Specializing in landfill methane capture systems, LoCI Controls' WellWatcher® platform uses thousands of Cat-1 IoT devices located across landfills in the U.S. Previously, landfill operators relied on employees driving around with handheld devices to take intermittent, manual gas level readings. Now, with WellWatcher® delivering near-real-time accurate data, operators are empowered to make instant or automated adjustments throughout the day to maximize methane capture and better manage gas collection infrastructure. While capturing greenhouse gases is essential to curbing global warming, there are also clear financial motives: By helping operators recover and monetize methane gas, the landfill industry could generate an additional $1.8B in renewable energy sales annually.

Learn more ›

2

Evolving technology: IoT connectivity is advancing with 5G

The journey of IoT connectivity

The journey of IoT connectivity represents one of technology's more remarkable transformations—evolving from simple machine-to-machine (M2M) communications to today's sophisticated ecosystem of interconnected intelligent devices. Our survey indicates that the forefront of this evolution is the emergence of 5G, which is now viewed as a trusted connectivity solution whose versatility can address a diverse range of IoT applications.

81% **of organizations surveyed in the midst of an IoT deployment see value in 5G.**

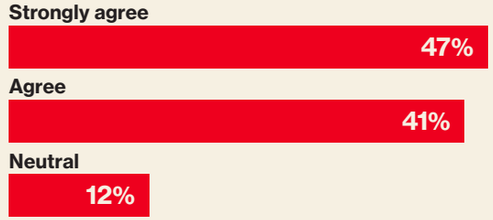
5G is not the only change occurring in the IoT connectivity landscape. Our survey indicates businesses are also embracing advanced capabilities such as embedded SIM (eSIM) technology, network slicing and even satellite integration to create new and more advanced IoT solutions. This convergence of technologies with 5G is creating an unprecedented opportunity to advance IoT solutions.

Businesses are all-in on 5G IoT

The survey indicates that 5G is a game-changer for IoT businesses. For example, 88% of respondents view 5G connectivity as essential to support their IoT devices' life cycles. Also, the data indicates strong confidence in 5G's potential to deliver benefits—from speed and bandwidth to scale. Additionally, most respondents expressed confidence in the 5G device ecosystem, as well as in the cost of these devices.

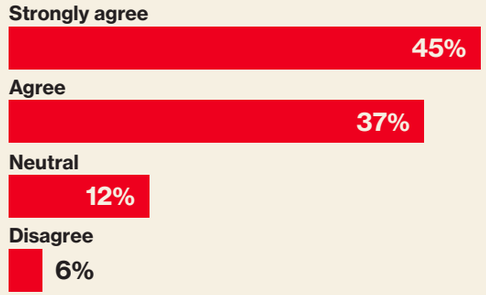
To what extent do you agree with the following statements?

5G connectivity is essential to support our device over the devices' lifecycles.

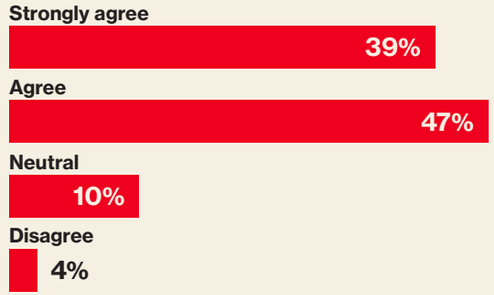


5G connectivity delivers the speed and bandwidth our IoT deployment requires.

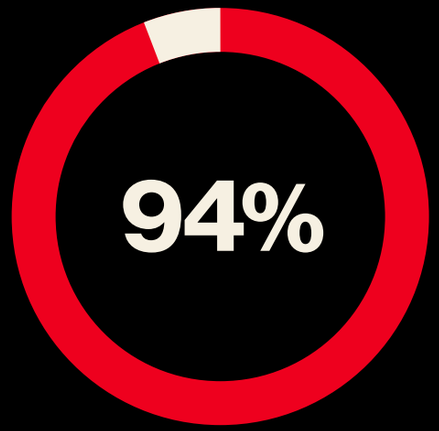
5G devices are sufficiently cost effective.



The 5G device ecosystem provides the variety of devices we need.



52% **of respondents state that their organizations intend to use private wireless networks for their IoT projects in the next 12 to 24 months.**



of automotive original equipment manufacturers (OEMs) agree that 5G delivers the speed and bandwidth they need to power their deployments.

Moving to full-scale implementation of IoT

The results indicate that the increased confidence and use of 5G is not limited to a single industry.

- The survey also indicates that the organization's embrace of 5G extends beyond traditional high-bandwidth applications. Even where bandwidth and speed are not often crucial, such as in the energy and utilities sector, 88% of respondents agreed or strongly agreed that 5G network coverage is the preferred mode of connectivity.
- 94% of automotive original equipment manufacturers (OEMs) agree that 5G delivers the speed and bandwidth they need to power their deployments. This is not surprising since automotive OEMs often support features such as in-vehicle infotainment, over-the-air updates and even industrial automation where these attributes matter.

While Vay is not an automotive OEM, its efforts demonstrate how new players are using connectivity to reshape transportation, specifically car rentals.

Excitement for 5G technology should not be interpreted as an immediate and massive shift away from 4G LTE technology. 4G LTE is a very versatile technology and the device ecosystem is robust. While NB-IoT was developed as part of LTE standards, many businesses are adopting the technology because it was designed to easily integrate with 5G. Businesses are unlikely to rapidly replace LTE devices in their deployments, but they are likely to upgrade to 5G when the time is right to replace devices or address new use cases.

5G takes the wheel with Vay

Travelers and locals in Las Vegas that need a rental car can use Vay, a door-to-door, driverless car rental service. They open an app, and a teledriver remotely steers a vehicle to their location.

This entire teledriven system leverages the low latency and high bandwidth features of 5G networks to help provide real-time control. This use case highlights how 5G technology can enable entirely new business models like a teledriven-based car rental company, which is perhaps why 81% of businesses see value in deploying 5G.

Learn more >

IoT road maps look to RedCap

Not all 5G networks are equal. Leading mobile network operators (MNOs) gain substantial competitive advantage through their 5G standalone (SA) networks—purpose-built infrastructures that unlock the full spectrum of advanced 5G features rather than merely augmenting existing 4G networks.

Among the next-generation technologies enabled by 5G SA networks are reduced capability (RedCap) and enhanced RedCap (eRedCap). These technologies provide compelling benefits for IoT devices including extended battery life, improved device longevity, substantially reduced module costs and performance characteristics that match or exceed LTE capabilities—all while maintaining 5G's core advantages.

74%

of businesses surveyed stated 5G RedCap or eRedCap is featured in their IoT deployment road maps.

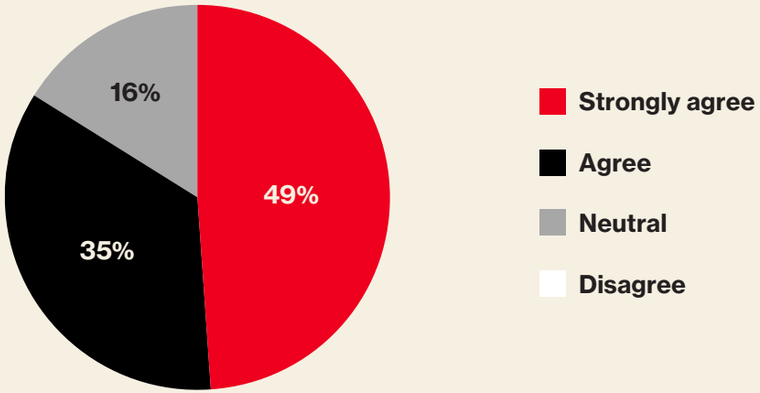
For some businesses that have been relying on LTE devices, RedCap and eRedCap will not only provide a migration path to 5G networks but also a balance between power efficiency and network performance. As businesses introduce new applications harnessing the power of wirelessly connected cameras or sensors and artificial intelligence (AI), RedCap will play a vital role. As eRedCap emerges, businesses will likely expand their deployments by introducing wearables and industrial sensors.

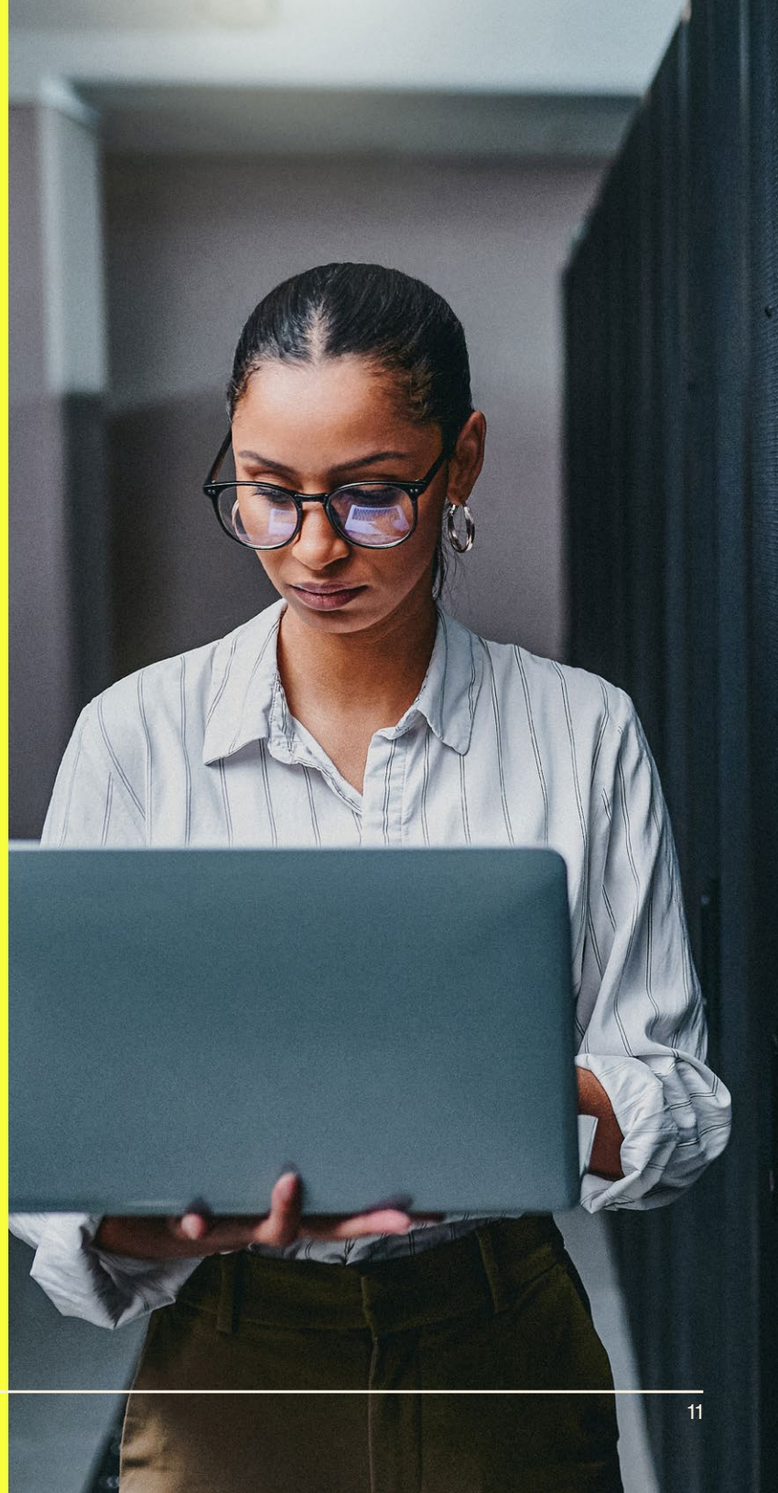
Network Slicing delivers a more tailored approach

IoT businesses view network slicing as a transformative 5G capability, with 78% of businesses surveyed including it in their road maps. Network slicing allows organizations to build dedicated virtual networks with guaranteed performance, and network slices can be configured with different parameters for speed, capacity, latency, reliability and quality of service.

Looking at the data by industry, the logistics and supply chain sector shows the most aggressive intent to use network slicing, with 88% of these businesses surveyed stating it is part of their road maps. This compares to 84% of all IoT businesses surveyed. Network slicing enables these organizations to create dedicated virtual networks with guaranteed performance metrics for critical tracking systems, autonomous vehicles and real-time inventory management. By implementing network slicing, logistics companies can ensure mission-critical applications receive priority bandwidth and ultralow latency connections, while simultaneously supporting less time-sensitive operations on separate network slices. This capability is particularly valuable for companies managing complex global supply chains where visibility, reliability and security across diverse operational environments are paramount to maintaining competitive advantage and operational resilience.

Is network slicing part of your deployment roadmap?



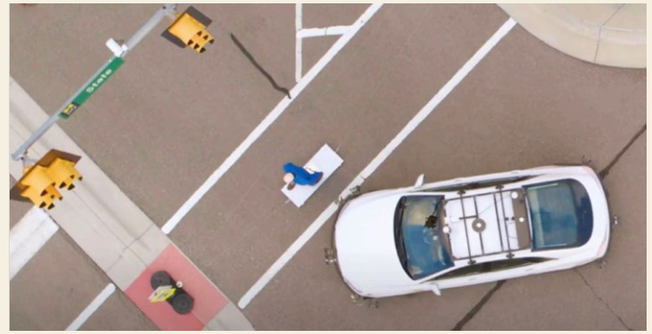


Global IoT is staying local

Since 40% of IoT businesses surveyed plan to pursue international expansion, securing a partner capable of providing local network profiles has become a strategic imperative—not merely for regulatory compliance but also to eliminate excessive roaming charges and maintain consistent service level agreements across borders. Our survey data shows that an overwhelming 94% of globally expanding companies prioritize North American coverage, while Western Europe (40%) and Latin America (36%) represent significant secondary markets in organization's growth strategies.

For these organizations, implementing comprehensive global connectivity orchestration with centralized profile and device provisioning can deliver transformative operational benefits. Beyond consolidating multiple management platforms, this approach can also greatly reduce the complexity of juggling numerous connectivity providers—streamlining operations, reducing administrative overhead and creating a unified visibility layer across the businesses' entire global IoT ecosystems.

Of those surveyed, automotive OEMs and transportation companies indicated the highest interest in global connectivity with local profiles, reflecting their inherently global operations and complex market requirements. Vehicles must be market ready with appropriate connectivity solutions before shipping to international destinations.



Innovating globally

A major company in the automotive sector is innovating in this space. The industry leader has developed a sophisticated testing environment using private networks to simulate region-specific conditions. This helps enable comprehensive validation locally while ensuring seamless performance across diverse global markets.

94%

of globally expanding companies prioritize North American coverage.

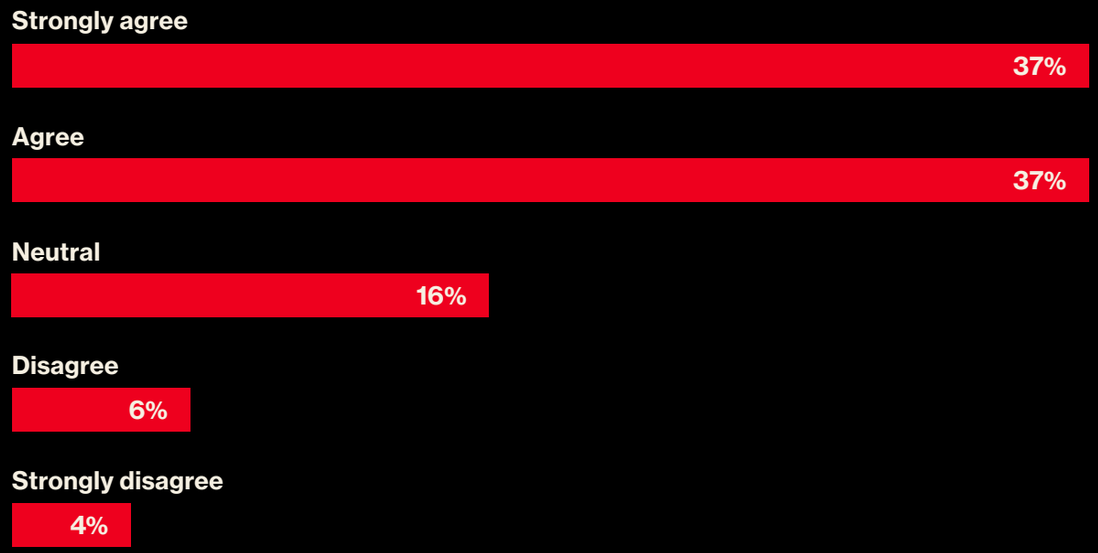
40%

represent significant secondary markets in their growth strategies in Western Europe.

36%

represent significant secondary markets in their growth strategies in Latin America.

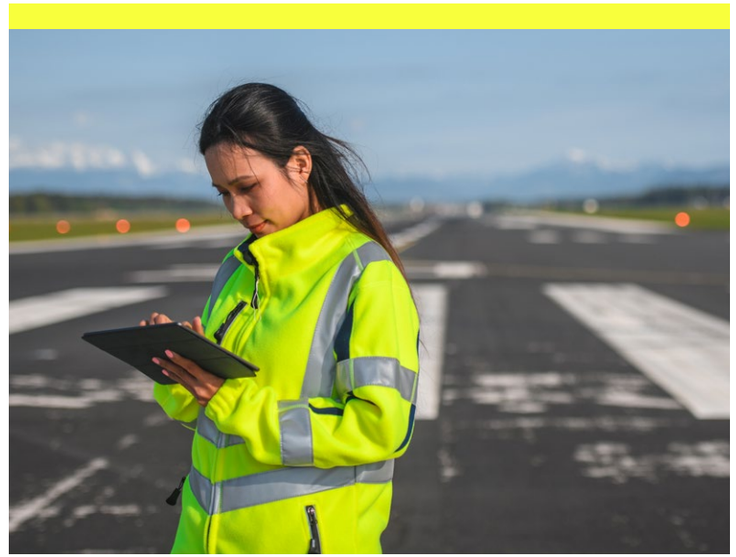
Will satellite connectivity be a part of your IoT deployment?



IoT is heading to the sky

Satellite communication is experiencing a renaissance. Technological advancements, standardization efforts and decreasing costs are spurring new interest in satellite connectivity or nonterrestrial networks (NTN), especially as businesses are afforded hybrid terrestrial and NTN options. This resurgence in satellite technology capabilities is reaching and enhancing all device types and use cases, and IoT is among them.

As seen to the left, 74% of companies surveyed believe NTN will be a part of their IoT deployments, indicating its strategic importance in addition to cellular connectivity. NTN can connect devices in remote places, such as maritime devices, distant oil well monitors or difficult to access environmental monitors. For other businesses, network resiliency is key—NTN connectivity provides backup should terrestrial networks fail.



eSIM unleashes flexible and secure IoT growth

Refinement of eSIM technology—a digital SIM card that is permanently built into or embedded into a device's hardware—is emerging as a critical tool for IoT deployments. The benefits of eSIM include its compact size, flexibility and expanded network coverage capabilities. The technology also enhances security because eSIMs reduce the threat of SIM swap attacks. The survey indicates use of eSIM is particularly high in personal mobility as well as in the energy and utilities and logistics sectors.

91%

of surveyed organizations with active IoT deployments are considering or strongly considering eSIM adoption.

Enthusiasm for eSIM is underscored by Verizon's own ThingSpace platform that recorded a 240% YoY growth in month average eSIM connectivity.

Realizing the full value of eSIM requires sophisticated profile management and device orchestration, which previously was a major challenge for businesses. Integration and management platforms address these challenges by offering comprehensive device and connectivity management as well as network profile management.

Partnership is key to IoT success

Despite surveyed companies successfully building business cases and securing executive support for IoT initiatives, they indicated significant challenges persist. Technology considerations and deployments vary widely based on company size and industry, often requiring diverse connectivity options, hardware, sensors and deployment tools.

87% **of companies surveyed say, support for systems integration from a mobile network operator is important or critical for a successful IoT deployment**

Beyond security and privacy concerns, survey respondents indicated integration with business processes and legacy IT systems represents the most significant hurdle. IoT implementations are not static. They're evolving projects that require integration with other software applications, previous IoT device groupings or legacy IT systems. Businesses seek unified visibility across projects rather than managing disconnected deployments independently. As connectivity evolves, businesses require visibility and management of devices in international markets or using NTN.

This reality illustrates the need for a long-term partner with expertise in all of the above. Not only do devices need to be provisioned and managed on other networks, but the platform must be able to seamlessly and securely ingest data from the devices and networks. To translate data into actionable insights, businesses need a platform can enable data aggregation across deployments while offering customized views based on business units or regional parameters—creating a comprehensive solution to integration challenges.

What are the biggest challenges to IoT adoption in your organization?

43% Ensuring data, network and device security

37% Complexity of integrating with business processes or operational technology

34% Concerns about integration with legacy IT and networks

32% Ensuring data privacy or governance

31% Concern over service reliability or network coverage

25% Lack of maturity and standardization in IoT technologies and solutions

24% Ability to derive business value from IoT data

23% Demonstrating or building ROI or business case

21% Lack of internal IoT expertise

15% Lack of investment budget

15% Insufficient support from senior management

3

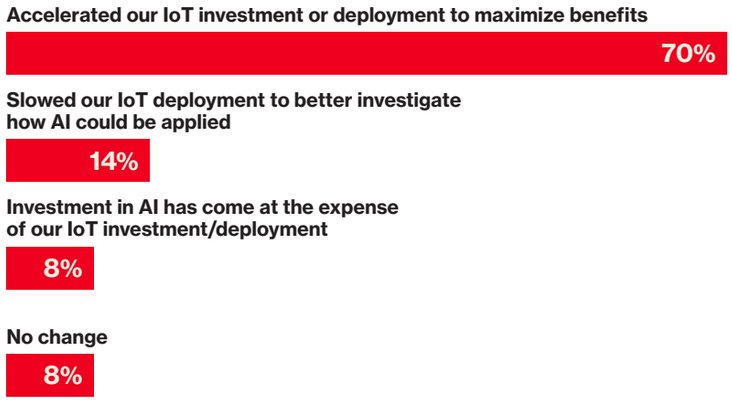
Unlocking value: AI and operational intelligence from data collection

AI is more than just an IoT enabler—it's an accelerator

AI fundamentally transforms the IoT landscape by elevating connected applications from passive data collectors to proactive decision engines capable of autonomous operation. This can dramatically compress time-to-value for IoT investments and enable a new range of use cases.

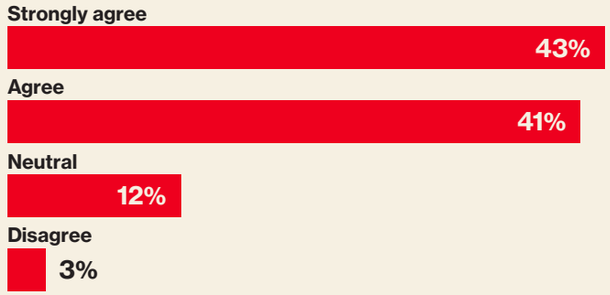
The integration of AI and IoT can create a virtuous cycle, where each technology amplifies the other's capabilities. As AI models continuously refine themselves through exposure to expanding IoT datasets, they simultaneously optimize the very application generating that data. This results in a self-reinforcing ecosystem that continually accelerates innovation. The value of the integration of the two technologies was clear, with a vast majority of survey respondents indicating that AI is leading to acceleration in IoT investments and deployments.

Which best characterizes how AI has altered your IoT investment or deployment?

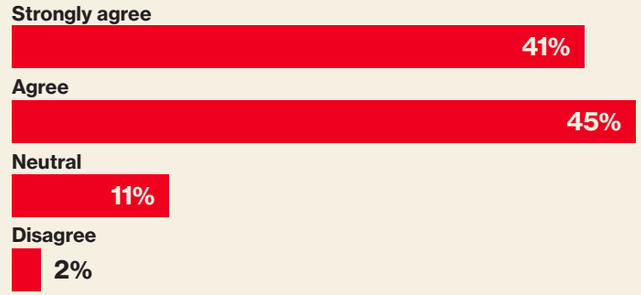


To what extent do you agree with the following statements?

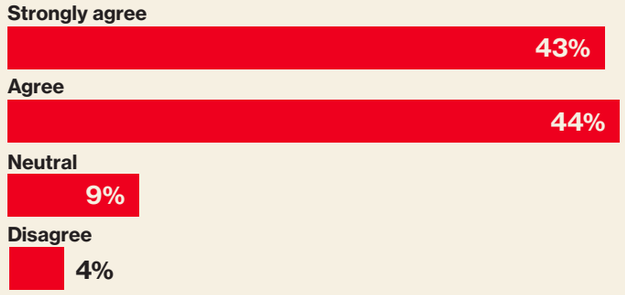
Our organization has identified AI as a key technology for our IoT deployments.



We expect AI will turn the data being collected into actionable data.



AI is currently being used in our IoT deployment or will be used within the next year.



The importance of AI to our deployment will grow as the number of devices we deploy grow.

The results indicate that rather than cannibalizing IoT budgets, AI investments are accelerating enterprise IoT initiatives across sectors. This dynamic is confirmed by survey respondents, with 84% identifying AI as a fundamental enabling technology for their IoT projects—not merely an adjacent capability. Even more compelling, 86% of companies report either current AI integration within their IoT deployments or concrete implementation plans within the next 12 months.

AI is a key productivity enabler for Verizon to enhance the customer experience on many fronts, including network capacity planning, development projects, customer service and IoT integration support. Verizon ThingSpace use of AI-enabled features like IoT customer query support and applications programming interface (API) developer assistance showed a six-fold increase since the beginning of 2025.

AI and video are a powerful combination for automation

82%

This efficient partnership between human oversight and AI-driven video analysis exemplifies why 82% of companies surveyed recognize that combining AI with camera and video data provides valuable insights for timely decision-making.

83%

of businesses surveyed indicated AI will unlock value in high-bandwidth deployments such as video or camera data, the growth of 5G and AI appears in lockstep.

According to the survey, 82% of companies recognized that combining AI with camera and video data provides valuable insights for timely decision-making. This integration represents a shift from simple data collection to process automation. AI-powered object detection reduces the need for constant human monitoring, instead alerting workers only when issues arise—a first step in automation.

With 83% of businesses surveyed indicating AI will unlock value in high-bandwidth deployments such as video or camera data, the growth of 5G and AI appears in lockstep. However, AI integration presents significant challenges that intensify as deployments scale.

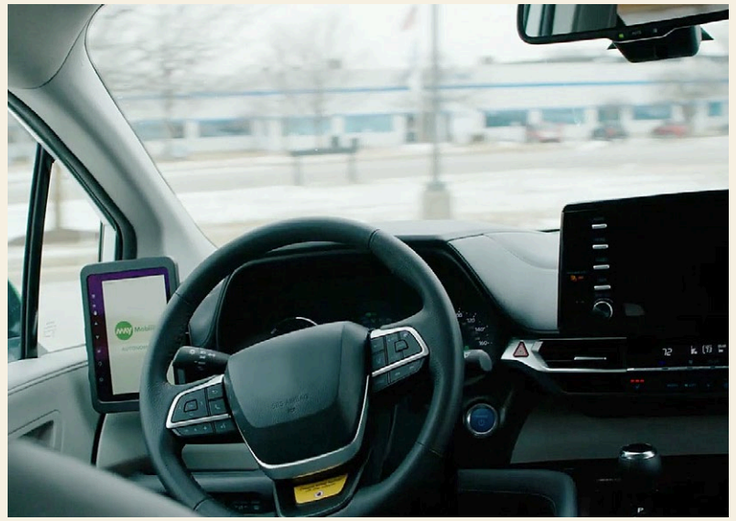
Many businesses rely on systems integrators or AI vendors to reduce deployment friction. This approach incurs substantial costs. Others believe they can implement AI independently. However, this could be a hazardous wager as projects scale.

For many organizations, partnering with an MNO that incorporates and practices AI capabilities into its own network, products and platform, could provide the most comprehensive expertise and support. With 64% of businesses surveyed expecting to see AI transform data analytics and 60% surveyed expecting to see it transform data management, combining AI with a multiclient platform approach can help a business scale more effectively.

May Mobility: Using 5G to provide guidance in milliseconds

May Mobility's tele-assist operators depend on cellular connectivity infrastructure to monitor vehicles in real time and, if necessary, advise the AI on maneuvers it can take. When a vehicle encounters a complex scenario such as a double-parked truck blocking a lane, it can instantly connect with a remote operator who assesses the situation through the vehicle's cameras and sensors, providing guidance within milliseconds. .

Learn more >



4

Security as a foundation: Closing vulnerabilities

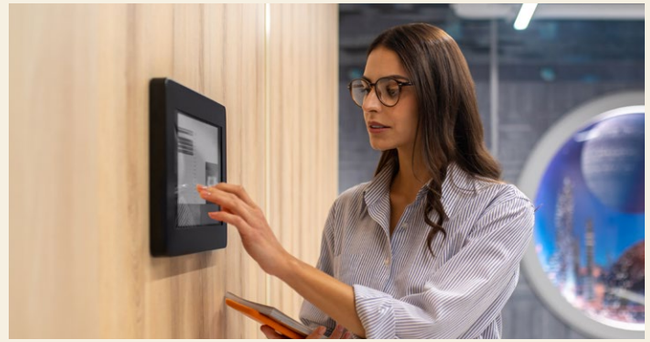
Data, network and device security are paramount for success

Cybersecurity is non-negotiable for IoT and presents a formidable challenge for businesses with IoT deployments. Of companies surveyed, 43% see cybersecurity as their biggest challenge. While AI is a powerful tool for automating processes, it—like any other inadequately secured technology—runs the risk of compromise by bad actors. As deployments scale to thousands or more endpoints across distributed environments, attack vectors increase, and traditional security approaches can be insufficient.

IoT security requires a specialized and nuanced approach. Data is susceptible to attack, and businesses must also ensure that they are complying with local regulations regarding data sovereignty. Combined with potential attacks on vulnerable networks and over-the-air updates, businesses face a perfect storm of security challenges.

Runwise is one company that eschewed Wi-Fi and other customer networks, to create a more secure deployment using cellular technology along with mobile private networks.

> “Having our own mobile private network means we don’t have to touch the infrastructure or tech systems of our clients. We go in, install Runwise, connect it to the cellular network, and we’re online the same day.
>
> **Jeff Carleton,** Runwise Co-founder and CEO



Secure and scalable system retrofit for buildings

Runwise has revolutionized energy management for buildings by implementing smart technology that works with existing infrastructure rather than replacing it. Its solution addresses the common problem of inefficient heating, ventilation and air conditioning (HVAC) systems that drive up energy costs and create uncomfortable living conditions. Unlike newer systems that require a complete overhaul, Runwise’s breakthrough is its ability to overlay its controls and software onto existing heating, cooling, and water systems, making sophisticated energy optimization accessible without costly construction. Each control unit has a SIM card for rapid connection to a cellular network, ensuring reliable operation even in basements where signals are weak. In addition, using a mobile private network that separates cellular data from public traffic, further protects building data and avoids touching client IT systems.

New security strategies help protect complex IoT ecosystems

Attacks on IoT deployments do not just interrupt operations but can compromise key industries such as transportation and critical infrastructure like energy grids, threatening the wider economy and even the safety of individuals and communities. Businesses must adopt new strategies including zero trust architectures, continuous monitoring systems and AI-powered threat detection to help protect increasingly complex IoT ecosystems from sophisticated bad actors.

Best practices require building deployments from the ground up. Reconsidering the role of the MNO beyond just providing connectivity and instead considering it as an integral partner for deployment design is highly useful. MNOs can help businesses secure their devices, data and network connections. In fact, security services are among the most important capabilities an MNO can offer businesses.

Frazil also skipped Wi-Fi entirely, deploying with cellular technology for a more secure and simpler connection.

Frazil safer and more secure with cellular

For Frazil, ensuring a constant flow of tasty frozen beverages required a smarter slush machine. It faced the common cybersecurity challenge—the same one that 43% of companies struggle with—of connecting devices without compromising data. Rather than using public in-store Wi-Fi, Frazil built a dedicated, secure cellular solution. This proactive step didn't just solve a technical problem; it transformed a major cybersecurity concern into a success story, proving that prioritizing data, network and device security can help drive business growth.

Learn more >

91%

of businesses surveyed see the MNO as crucial or important to security services (network, device, data)

88%

of businesses see the MNO as crucial or important to regulatory compliance

5

Unleashing industries: Industry transformation in action

IoT is important to operations and infrastructure

In the survey, companies representing several industries weighed in on the importance of IoT to their operations and infrastructure, with a wide range of use cases. Broadly, companies are moving in two directions that are not mutually exclusive.

- The IoT deployment landscape across industries surveyed showed an evolution from basic monitoring or tracking applications toward more sophisticated predictive, AI-driven or even automated solutions.
- The IoT deployment landscape is evolving toward industry specific use cases, such as retailers using IoT to improve customer experience.

While every industry vertical has unique needs and capabilities, survey respondents indicated the broad categories of static asset monitoring, predictive analytics and maintenance, and mobile asset tracking will remain the core IoT use cases both now and in the next two years. These use cases will continue to supply the essential data for sophisticated AI-driven automation. The real interest then lies in the incremental industry-specific use cases that have transformative potential.

For this reason, it is important to dive deeper into the responses of the companies that are modernizing operations through IoT.

Top IoT use cases by vertical: Now versus next 2 years

Automotive OEMs

Now: Static asset monitoring 37%

Next 2 years: Robotics 24%

Connected vehicles

Now: Mobile asset tracking 30%

Next 2 years: AR/VR for passenger experience 26%

Personal mobility

Now: Static asset monitoring 36%

Next 2 years: Semiautonomous vehicles 34%

Healthcare

Now: Remote patient monitoring 56%

Next 2 years: Predictive analytics 42%

Hospitality

Now: Automated check-in and out 51%

Next 2 years: Predictive maintenance 40%

Retail

Now: Personalized customer experiences 59%

Next 2 years: Store layout or traffic analysis 49%

Energy

Now: Smart meters 60%

Next 2 years: Renewable energy management 40%

Manufacturing

Now: Predictive maintenance 53%

Next 2 years: Production process monitoring 41%

Logistics

Now: Real-time shipment tracking 58%

Next 2 years: Warehouse automation 44%

Automotive OEMs

For automotive OEMs, connectivity presents both a great opportunity and challenge. They aim to move beyond standard, low-bandwidth features such as crash notification and basic telemetry, to develop advanced connected services that differentiate their vehicles in an increasingly competitive market. However, this technological evolution must be carefully balanced against the paramount responsibility of ensuring driver, passenger and pedestrian safety. Connectivity is not just a feature enhancement but a fundamental reimagining of how mobility systems operate and interact with their environments.

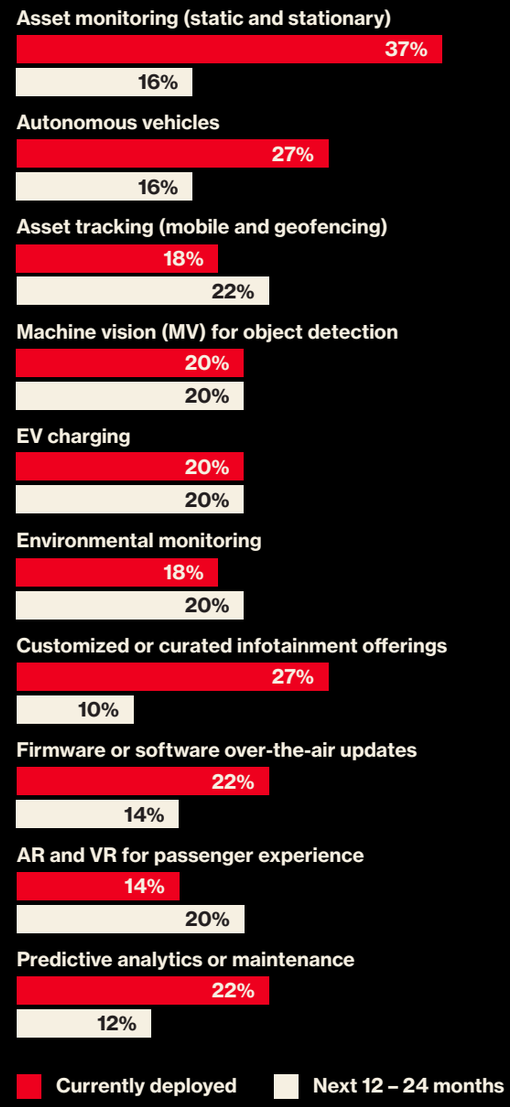
For the automotive OEMs surveyed, asset monitoring of stationary devices and tracking nonstationary devices are top use cases. Their needs are likely twofold. During production, it is essential to monitor equipment and its status to ensure that machinery is being properly utilized. While automation is the goal of most OEMs, it remains crucial that machinery is being monitored. Tracking moving assets, including vehicles, helps ensure that OEMs understand where their inventory is across massive production plants and lots. Arguably, these two applications are currently more valuable than autonomous vehicles (ranked second) in shaping the OEMs bottom line.

Safer together: Adoption of cellular vehicle-to-everything

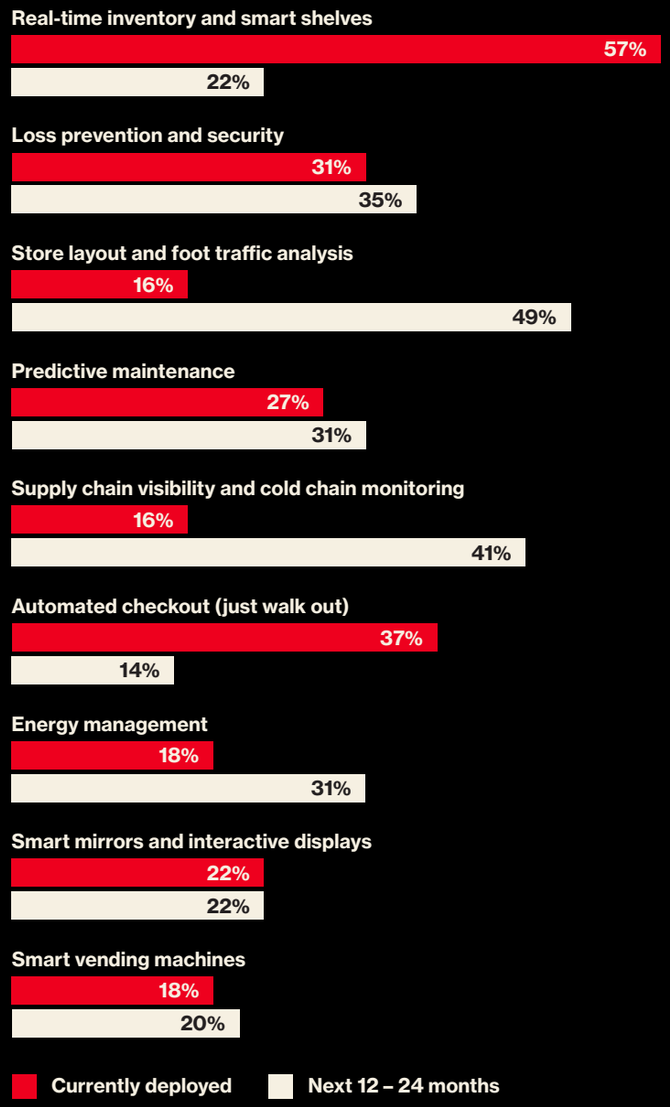
For some OEMs, advanced connectivity is an imperative for safety. Cellular vehicle-to-everything (C-V2X) is a wireless communication technology that enables vehicles to directly communicate with other vehicles, infrastructure, and pedestrians. To some, C-V2X is an important step in achieving vision-zero, or a future of zero road fatalities. One major automotive company has taken this one step further by developing a data exchange that can be adopted by other OEMs and aggregates data across them.

Learn more >

Top ten current and future use cases for automotive OEMs



Top ten current and future use cases for retail



Retail

The retail industry has undergone fundamental transformation driven by e-commerce growth, cashless payment adoption, COVID-19 disruptions and rising labor costs, creating unprecedented opportunities for technology-driven differentiation rather than industry decline. Retailers must, therefore, balance the imperative for agility in responding to rapidly shifting market trends and customer wants—which requires intensive collection and processing of customer data—with unique and significant connectivity challenges. These challenges include indoor coverage gaps that often plague large retail spaces (like big-box stores and malls, whose construction materials can block cellular signals) and stringent customer data security requirements necessary to protect the sensitive personal and payment information they handle. This necessitates a blended approach that leverages both established LTE networks and emerging 5G capabilities.

The retailers demonstrate that the industry is continuing to evolve. Technology and connectivity are allowing retailers to further change the industry through real-time inventory and smart shelves, a top application for 79% of those surveyed. The dynamic of combining real-time inventory with store layout and foot traffic analysis (a top application for 65% of retailers surveyed) could drastically shift how stores direct shoppers to products and promotions.

LTE remains optimal for many retail IoT applications, with companies like Cantaloupe finding it provides the ideal balance of speed, bandwidth and cost-effectiveness for unattended retail environments.

A major player in unattended commerce is making retail frictionless

This company manages one of the largest IoT deployments globally. Processing over 1 billion credit and debit transactions annually, their platform enables secure, self-service purchases for various unattended points of sale, including vending machines, car washes, electric vehicle (EV) charging stations, and more. Built on 4G LTE connectivity, this platform provides retailers with a secure payment infrastructure. This technology allows businesses to both automate and differentiate their services while ensuring industry-leading theft and fraud prevention.

Manufacturing and warehousing

Industry 4.0 has fundamentally transformed manufacturing, replacing manual assembly lines with automated robotics and rigid factory layouts with agile, dynamic spaces that can be rapidly reconfigured as processes evolve. This transformation is enabled by wireless connectivity, particularly 5G and private networks, which are replacing traditional wired infrastructure to support flexible operations. The shift to automation, smart machinery and flexible production spaces requires a massive deployment of interconnected sensors and devices. These devices continually monitor every aspect of the process, generating enormous volumes of data that must be analyzed immediately to optimize production in real time. While manufacturers cannot predict exactly how their industry will evolve, they recognize 5G as essential for collecting massive data volumes, delivering real-time analytics, operating precision machinery with ultralow latency, supporting dense sensor networks and even powering predictive maintenance capabilities. Advanced technology like real-time kinematic (RTK) applications can provide centimeter-level location accuracy for precise device positioning.

For manufacturers, controlling processes is essential. Unsurprisingly, 80% of manufacturing and warehousing businesses believe quality control is a crucial application with over 50% currently using these applications. As automation increases, the use and need for predictive maintenance of machinery that detects product defects is likely another component of maintaining quality control.

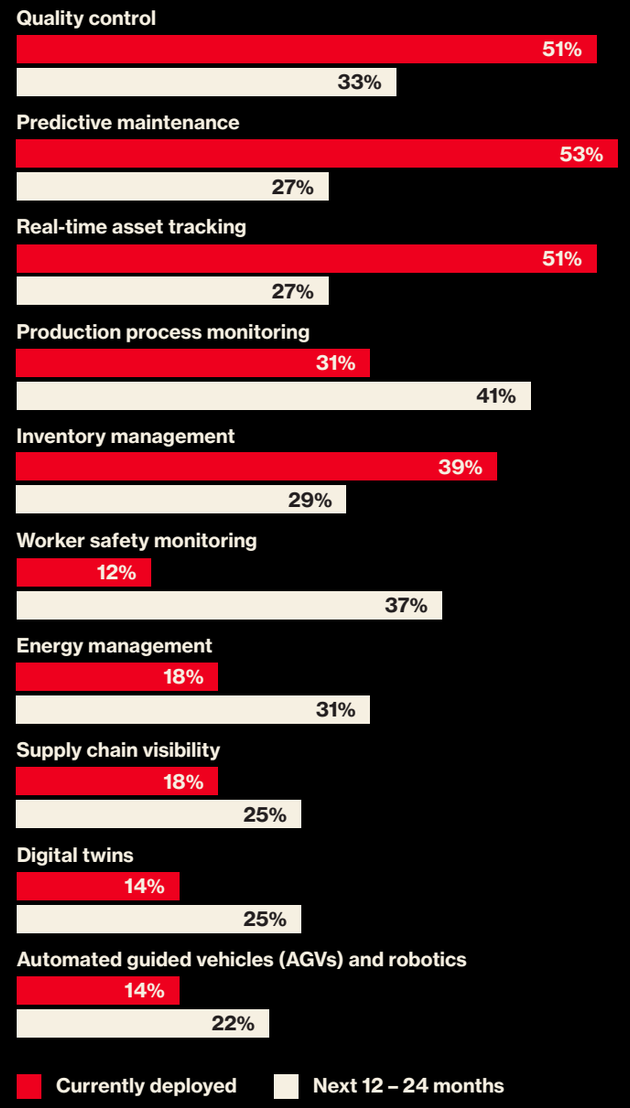
Becklar is empowering manufacturers to better ensure the safety of lone workers.

When safety comes first, Becklar answers the call

Becklar is a wholesale technology provider that offers a complete end-to-end IoT enabled solution for enterprises seeking to enhance personal and workplace safety. Becklar's unique safety ecosystem combines its mobile personal emergency response systems (mPERS) devices, intuitive apps, an AI-supported platform, and integrated critical event monitoring to provide comprehensive protection. Data and other invaluable information to enhance safety and security including location, falls, non-response, check-ins and live video analysis are gathered through IoT devices and applications. These solutions are also used proactively (through the press of a button) or reactively (based on data and interactions) to improve safety for a variety of use cases from lone workers to seniors living independently. The AI-supported monitoring platform helps to ensure that all incoming signals are handled appropriately and quickly, ensuring emergency signals are answered first. Becklar's SMART Critical Event Monitoring solutions offer a critical safety net, increasing protections for lone workers, improving the health and safety of individuals, and helping clients prevent crime before it happens through advanced video analytics.

59% **of respondents in this sector cite cost savings as the key driver for IoT deployments.**

Top ten current and future use cases for manufacturing



Other industries

Connected vehicles

Among the 18 different connected vehicle industries surveyed in this category such as trucking, commercial construction equipment, delivery robots, and drones, asset tracking (moving or geo-fenced) is the leading deployed application (30%). Many of these businesses indicated they will look to differentiate their products and services by deploying augmented or virtual reality in the passenger experience (26%), showing an interest to go beyond popular IoT applications that measure and monitor.

Personal mobility

In the arena of personal mobility, such as rideshare services and robotaxis, the application most currently adopted is stationary asset monitoring (36%). This is primarily because it is crucial for these companies to continuously locate assets such as electric bikes (e-bikes) and scooters. Semiautonomous vehicle (34%) and customized or curated infotainment offerings (28%) are top future applications, demonstrating that they are looking to move beyond just providing inexpensive transportation options.

Transportation

Transportation businesses surveyed are currently deploying applications for fleet management (72%). In the future, these businesses indicated they are looking to address a specific pain point for their fleets: last mile delivery (36%).

Energy and utility

Energy and utility companies surveyed indicated they are creating a foundation for connected devices and applications. Smart meters (60%) and smart grids (48%) are the most common energy use cases today, with renewable energy management (40%) and energy storage optimization (38%) cited as use cases that respondents intend to explore in the next 12 to 24 months. This suggests that data from IoT devices will feed into and inform these applications.

Healthcare

Healthcare businesses surveyed are currently using IoT for remote patient monitoring (56%) and continuous glucose monitoring (CGM) (44%). In the future, these companies said they will also adopt applications that include predictive analytics for health (42%) and smart medication management (36%). Again, these healthcare businesses have a road map to use the data collected to make more informed decisions and automate processes.

Hospitality

Hospitality businesses indicated they are deploying applications to enable keyless entry and smart locks (47%). Survey respondent data also showed that within the next two years, hospitality businesses would like to implement applications to help personalize guest experiences (40%) and assist with predictive maintenance (40%).

Logistics and supply chain

Logistics and supply chain businesses surveyed showed they are currently deploying real-time shipment tracking (58%) and planning to deploy applications such as warehouse automation (44%) and predictive maintenance (44%). Warehouse automation could be particularly powerful as labor shortages and costs have been a struggle in the industry.

6

Looking ahead: Building your intelligent connectivity strategy

IoT deployments are as different as the organizations that deploy them.

Thankfully, there are many technologies available to businesses. Beyond just providing higher bandwidth and lower latency, 5G provides a toolset including network slicing, RTK and even new and exciting devices based on 5G RedCap and eRedCap specifications. At a components level, eSIM technology, NTN connectivity support and dual-network profiles are making it easier for businesses to plan their IoT deployments with flexibility and resiliency.

For some businesses, finding a supplier that can offer end-to-end IoT solutions will be the answer.

5G is also bringing to the foreground the synergistic relationship between AI and IoT. AI is a key driver of IoT deployments, and it is being applied across a wide variety of applications and use cases. Just as IoT is fueling more operational data collection and analysis toward AI applications, AI is also a key accelerator for IoT deployments. They both propel each other toward more efficient business operations. While there will surely be missteps in applying AI to IoT, the potential of AI to further increase the demonstrable ROI of IoT deployments is highly compelling.

Top 3 recommendations for IoT businesses

1 Rethink the value chain.

The majority of businesses must start rethinking the IoT value chain. When deploying IoT, assembling a series of technology suppliers in an a la carte fashion comes with greater integration costs, blurred responsibilities and unwieldy complexity. This approach is often short-sighted, especially as deployments scale and as businesses look to incorporate new technologies. Instead, businesses would be wise to develop an ecosystem of trusted partners that will not just sell their technology but also help deploy solutions.

2 Secure your design and deployment.

Because IoT transmits vast quantities of data and information deployments must be designed with security from the outset. An IoT deployment that is not secure is bound to fail, and the results could be catastrophic. Unsecured connectivity and data about a business, its customers or its partners could be a source of vulnerability if that information gets into the hands of bad actors. Consequently, businesses must heavily vet IoT providers to ensure their security controls are effective and reliable. Secure connectivity cannot be an afterthought. Instead, businesses must consider an MNO's ability to authenticate devices, maintain network hygiene, protect against outages and protect data while it's in transport. Also important, businesses should ensure that an MNO will be a proactive partner in maintaining the security of deployment.

3 Move from CapEX to OpEX models.

Establishing a set of premier partners is imperative for businesses charting their course for IoT deployments. Because most businesses are seeing significant returns on their IoT deployments, it seems likely that deployments will remain operable for a significant amount of time.

As AI is introduced to IoT deployments, it might take businesses longer to fine-tune their deployments. Businesses should consider a vendor's longevity and ability to support operations, update device software, ensure security and even support migration to future technologies. The costs of this ongoing support must also be considered. In this respect, many businesses should shift from a capital expenditure (CapEx) model to an operating expense (OpEx) model, with an eye on evaluating total cost of ownership rather than upfront costs.

Learn more

Find more resources from the Verizon 2025 IoT Market Insights Report.
verizon.com/iotmarketinsights

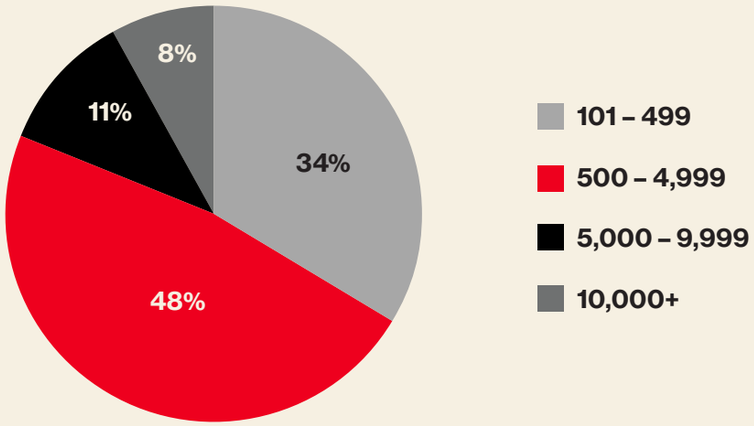
Learn about Verizon's global IoT connectivity and end-to-end IoT solutions.
verizon.com/iot

Contact a Verizon Business expert to assist with your IoT deployments.
Request a sales consultation

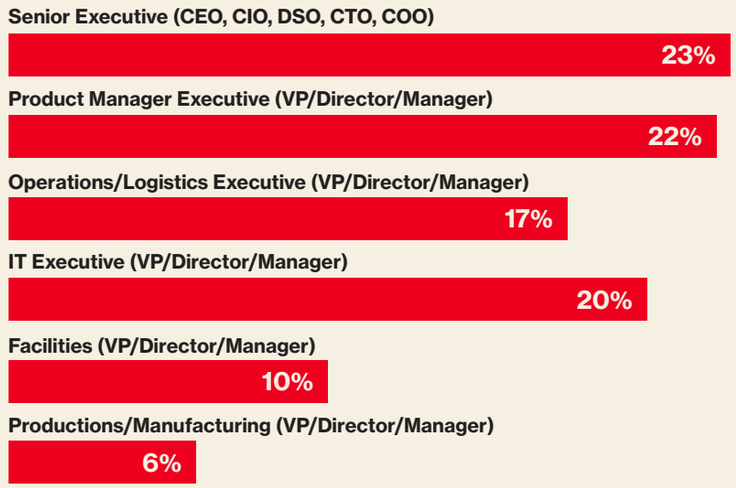
About our survey

Verizon's 2025 IoT Market Insights Report offers a compelling perspective on IoT's current and future business impacts, drawing from a survey of over 500 U.S. based businesses actively implementing or planning cellular IoT solutions, conducted in Q3 2025. This comprehensive analysis provides invaluable insight into decision-makers' strategic priorities, implementation challenges, high-value use cases, investment patterns and technology preferences shaping the connected businesses landscape.

How many employees does your company employ?



Which best describes your role within your organization?



verizon business