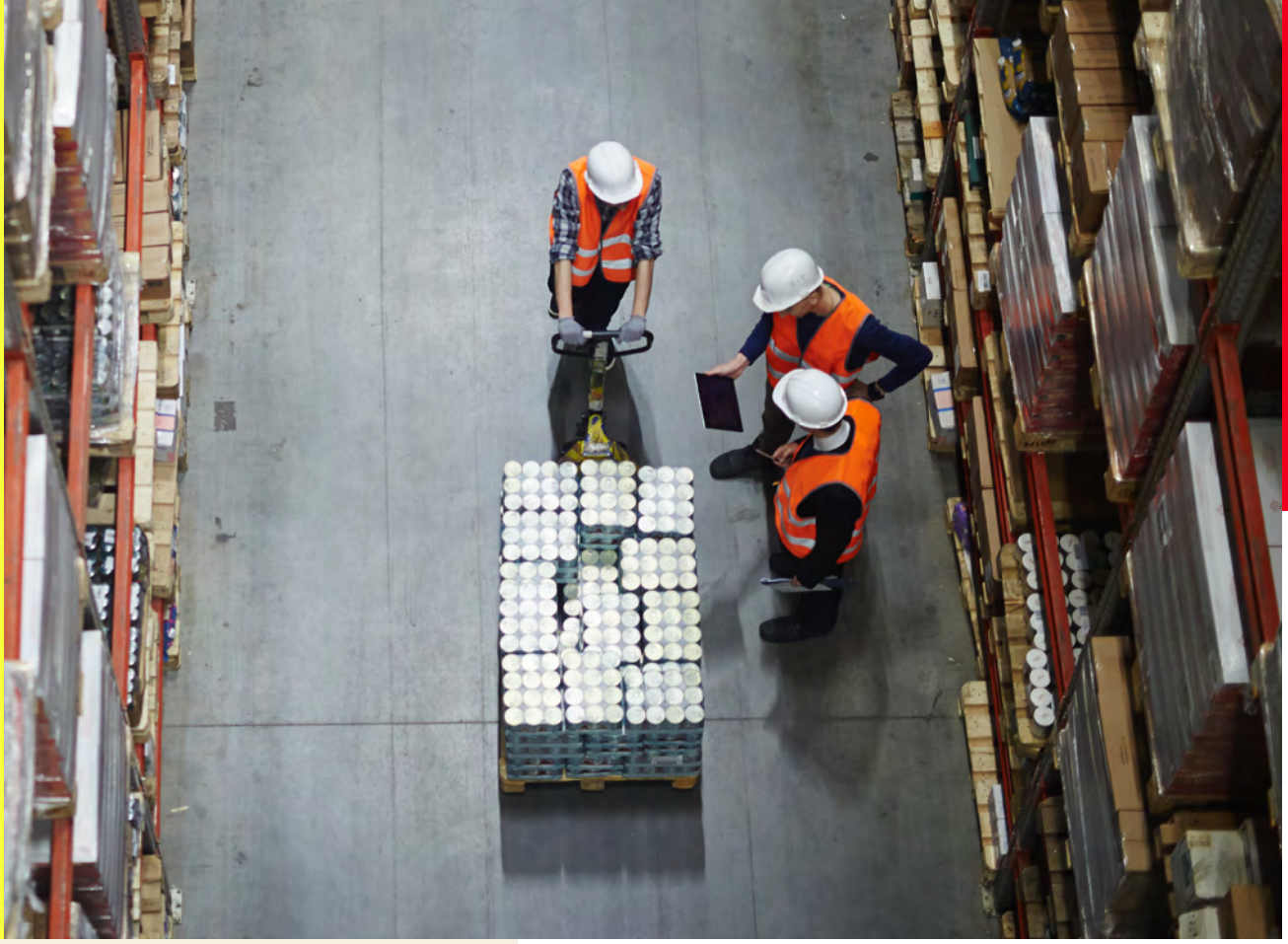
Article

Delivering the immense potential of IoT for distribution

verizon business



Essential connectivity driving today's distribution

In the fast-paced world of distribution, digital innovation with Internet of Things (IoT) isn't just smart—it's essential for tackling complex supply chains and soaring customer expectations. To make the IoT revolution a reality, distributors need networks capable of handling immense data, delivering the reliable and secure connectivity that helps fuel data collection and drive operational insights.

The evolving landscape of distribution

The distribution industry faces escalating complexities due to unexpected shifts in global supply chains and persistent labor shortages. Additionally, rising customer expectations and intense competitive pressures make digital transformation and technological innovation essential for sustained success.

IoT is central to creating an automated and resilient supply chain. Within distribution, IoT connects devices and systems to gather and exchange near-real-time data, providing significant insights into operations. This capability helps transform reactive models into proactive strategies, enabling businesses to:

- Anticipate challenges
- Improve inventory accuracy
- Optimize workflows
- Reduce downtime

49%

of surveyed respondents have deployed RFID/IoT inventory tracking or plan to deploy in the next 24 months.[1]

Integrating IoT into your operations

IoT isn't just an upgrade. It's a fundamental shift. In the rapidly evolving distribution landscape, staying ahead requires leveraging technological advantage whenever possible. This section explores the many ways that IoT can support the distribution industry, offering opportunities for efficiency, optimization and a competitive edge.

Near-real-time asset tracking and visibility

Use GPS, radio-frequency identification (RFID) and sensor-based tracking for goods, vehicles and equipment. This can improve delivery accuracy, reduce theft/loss and enhance supply chain transparency.

Warehouse automation and optimization

Deploy smart shelves for inventory management and near-real-time stock levels alongside autonomous mobile robots (AMRs) and robotics for picking, packing and sorting. This can lead to increased efficiency, lower labor costs and reduced errors.

Predictive maintenance and anomaly detection

Utilize sensors on machinery and equipment to monitor health and predict failures, with artificial intelligence/machine learning (AI/ML) analysis of data to identify anomalies and trigger alerts. This can help reduce downtime, extend asset lifespans and create cost savings on repairs.

Demand forecasting and inventory planning

Integrate IoT data with AI/ML for more accurate demand predictions and near-real-time insights into inventory levels. This helps prevent stockouts and overstocking, which can lead to optimized inventory levels, reduced carrying costs and improved order fulfillment.

Enhanced customer experience

Provide near-real-time delivery updates and tracking, personalized delivery options, and proactive communication for customers. This also includes IoT-backed reverse logistics for streamlined returns and end-user experience benefits of the connected supply chain, such as proactive updates of stock-keeping unit (SKU) or inventory outages on shopping pages and shopping carts.

Employee safety and compliance

Use wearable sensors for monitoring employee location and vital signs in hazardous environments, environmental sensors for air quality and temperature, and AI-centric cameras for facility monitoring and analytics. This helps improve workplace safety, support compliance with regulations and reduce accidents.

The foundation for **future-ready distribution**

The proliferation of IoT in the distribution world has the potential to increase network demands. Embedding AI into workflows may also require a new approach to how data is transferred and processed. The sheer volume and velocity of data, coupled with the critical need for near-real-time processing and strong security, highlight a clear reality:

- Traditional network infrastructures may no longer be sufficient.
- Businesses must prioritize robust, scalable and resilient networks capable of supporting the spectrum of IoT capabilities.
- A need for low-bandwidth sensors to run mission-critical, low-latency operations.

Data deluge

IoT devices generate high volumes of data, presenting challenges with velocity, volume and variety. The drive for competitive and timely insights, as well as the lower price point of devices and sensors, is fueling this exponential growth in data. Traditional networks are likely to be insufficient when it comes to handling this flow, creating a critical need for advanced infrastructure.

Low latency and near-real-time processing

Many IoT applications, such as autonomous vehicles and near-real-time automation, demand immediate data processing and responses. This necessitates edge computing to process data closer to the source as well as a network capable of supporting a diverse range of IoT characteristics, from low frequency and low bandwidth to low latency and high bandwidth.

Scalability and flexibility

Networks must be able to accommodate a rapidly growing number of devices and data streams. This requires adaptable hybrid network architectures, integrating wired and wireless networks as well as public and private solutions.

Network security and data privacy

The highly interconnected IoT ecosystem introduces new cybersecurity vulnerabilities, making end-to-end encryption, secure gateways, robust authentication, and advanced threat detection and intrusion prevention systems paramount. Additionally, strict compliance with data privacy regulations such as the General Data Protection Regulation (GDPR) and the California Consumer Privacy Act (CCPA) is essential.

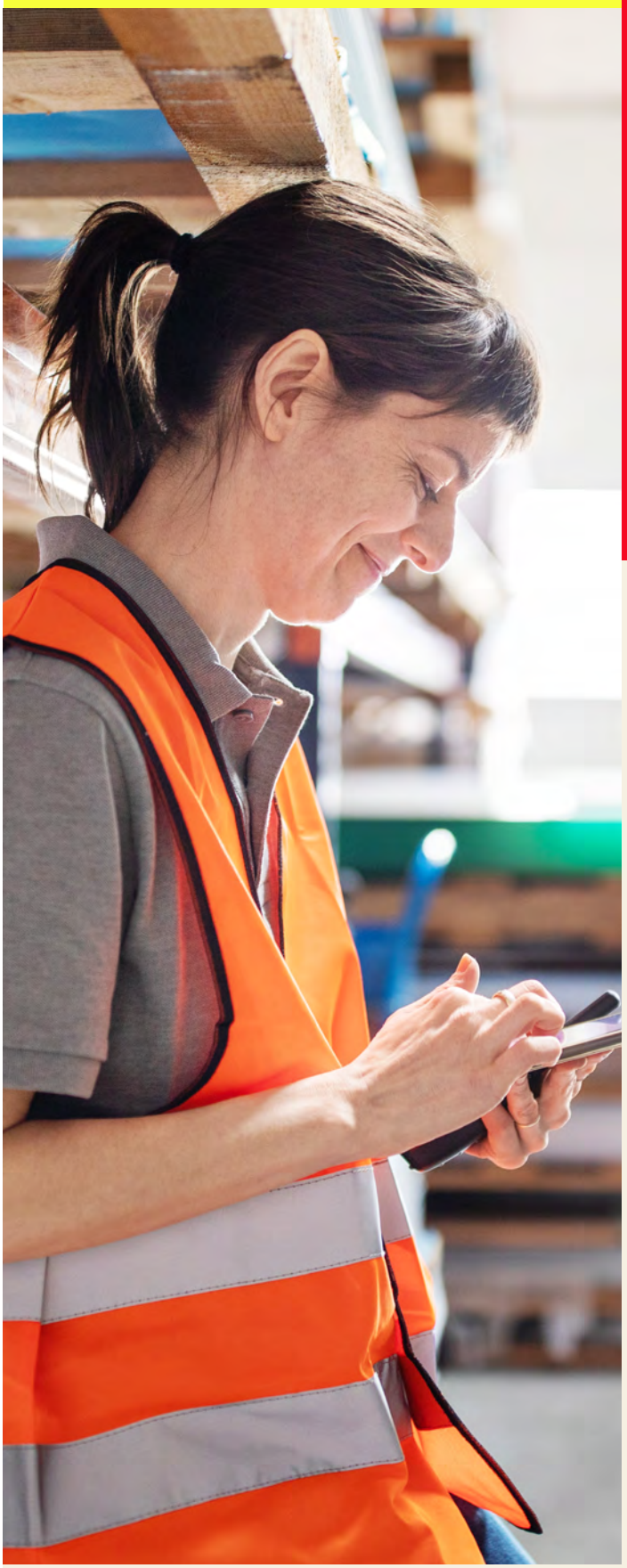
Network resiliency

Terrestrial and nonterrestrial (satellite) technologies combine to deliver robust network resiliency. This is crucial for industries and use cases that demand always-on and mission-critical data on a timely basis.

65%

of companies say their current network cannot support their needs of the next 24 months.[2]

A future-ready solution: **Private wireless networks**



As distribution leaders have navigated the opportunities of the IoT era, a need for resilient, dedicated network infrastructure has emerged. Public networks, while essential for broad connectivity, may not always deliver the tailored performance, security and control required for mission-critical IoT applications. Furthermore, hard-wired networks may lack the flexibility IoT demands and are often costly to install.

This is where private wireless networks emerge as a comprehensive, future-ready solution. They offer the precision, reliability and seamless transitional capabilities necessary to unlock the potential of the IoT in distribution, from the warehouse floor to the far-flung reaches of the supply chain.

Private 5G Network

In distribution, the right network isn't just an advantage. It's the foundation of modern operations. Verizon Private 5G Network, for example, helps empower you with the insight and adaptability you need to help revolutionize your processes and unleash the potential of the IoT across your distribution ecosystem.

Ultrafast, low-latency wireless connectivity
Experience near-real-time communication between your IoT devices and applications vital to your day-to-day production and logistics.

Pervasive coverage
Private 5G Network helps transform difficult environments by enabling ubiquitous access to services and applications throughout a distribution center.

Secure operations
Help keep your sensitive processes, applications and data protected by reducing exposure to external threats.

Personnel and device management
The Private 5G Network online portal makes user and device authentication easy. The portal also offers performance monitoring and reporting capabilities to fine-tune your distribution.

Stable public to private network transition
Help enable smooth operations and data flow, even when devices move between public and private networks. With multiprofile eSIM technology, assets such as connected trucks can transition to your private facility network for continual tracking and data offloading.

Distribution's next generation— **Private 5G Network**

In an increasingly connected world, strategic investment in IoT solutions, supported by a private wireless network, is essential. With Private 5G Network, distributors aren't just adapting; they're actively building sustained competitiveness, operational excellence and long-term growth.

Unlocking these benefits isn't as simple as just adopting IoT devices, however. It requires an advanced private wireless network, like Verizon's Private 5G Network, capable of handling high data volumes, delivering ultralow latency and providing advanced security. Without those foundational capabilities, the promise of IoT will remain just that – a promise.

Why Verizon

To support the future of distribution, Verizon has the experience and expertise to take the promise of groundbreaking IoT technology and put it to work for you. We are a global leader in building critical infrastructure and solutions for enterprises.

- 30+ years managing complex networks worldwide
- Recognized as a Leader in the first-ever Gartner® Magic Quadrant™ for 4G and 5G Private Mobile Network Services[3]
- Recognized as a Leader in the 2025 Gartner® Magic Quadrant™ for Managed IoT Connectivity Services, Worldwide[4]
- America's most reliable 5G network[5]

Learn more

For more information on how Private 5G Network can help improve your distribution, contact your Verizon Account Representative or visit verizon.com/distribution.

1. "2024 State of Smart Distribution Study: The Age of Efficiency and Resilience," Incisiv in partnership with Verizon Business and Ericsson, Jul 2024. https://www.verizon.com/business/resources/T95b/whitepapers/2024-state-of-smart-distribution-study.pdf
2. Ibid.
3. "Magic Quadrant for 4G and 5G Private Mobile Network Services," Gartner, Jan 6, 2025. https://www.gartner.com/doc/reprints?id=1-2J9ZQDL4&ct=241105&st=sb
4. "Magic Quadrant for Managed IoT Connectivity Services, Worldwide," Gartner, Mar 11, 2025. https://www.gartner.com/doc/reprints?id=1-2KJCEEZ2&ct=250314&st=sb
5. **Based on RootMetrics® United States RootScore® Report: 1H 2025. Tested with best commercially available smartphones on three national mobile networks across all available network types. Your experiences may vary. RootMetrics rankings are not an endorsement of Verizon.**

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