THE RFID OPPORTUNITY:

A GUIDE FOR VALUE-ADDED RESELLERS

BlueStar
Your Solutions Distributor

ZEBRA

THE GOLDEN AGE OF RFID

Radio-frequency identification (RFID) is nothing new. The roots of RFID can be traced as far back as World War II with the development of the first identification-friend-or-foe (IFF) technology. Since then, advancements in RFID capabilities have made RFID an indispensable asset-tracking tool for organizations across a wide spectrum of industry sectors – and adoption is accelerating. In some sectors – retail, for example – the percentage of companies not considering RFID is in the single digits.

In recent years, RAIN RFID has emerged as the next frontier for RFID technology, ushering in what might be considered the golden age of RFID. Leveraging RFID and powerful cloud-based software, RAIN RFID promises to unlock the full potential of the Internet of Things (IoT) by connecting billions of everyday items to the internet. "Virtually all IoT applications require a data connection between the physical and digital worlds, and RAIN RFID is the ideal technology to bridge these realms by bringing low-cost, unique identification to everyday items," the RAIN RFID Alliance explains.

As you'll learn in this e-book, there are myriad industry-specific applications and benefits that will drive adoption of RFID systems for years to come. However, as the technology grows more sophisticated, deploying RFID (whether it's in one facility or across an entire organization) can be a complex undertaking. Without a trusted implementation partner, RFID deployments can be unreliable – making it difficult to harness the full potential of RFID on a consistent basis. As interest in RFID continues to grow, so does the opportunity for value-added resellers (VARs) that have the in-house expertise to connect customers with the ideal RFID solutions for their needs and budgets.

Surging demand for RFID systems will more than double the global RFID market from a total value of $14.5 billion in 2022 to $35.6 billion in 2030, according to one forecast by MarketsandMarkets. In North America, the RFID market is projected to grow at an annual rate of 11.3% from 2022 to 2029, according to Data Bridge Market Research.
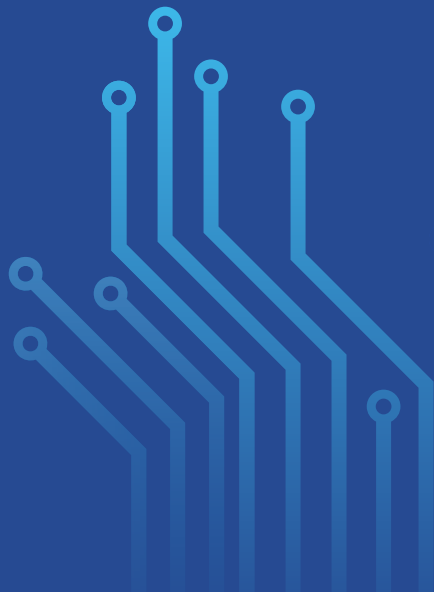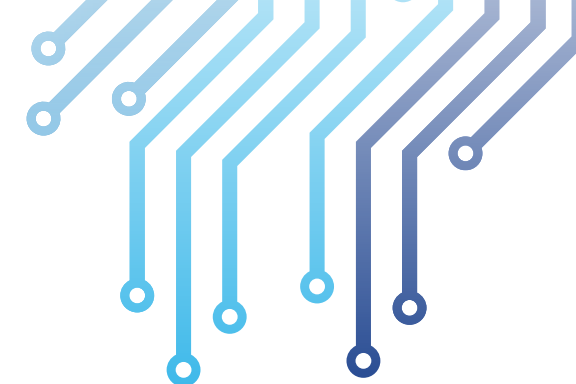
THE RFID ADVANTAGE

Like barcode scanning, RFID uses wireless technology to help organizations track their assets and record information about those assets. However, the similarities end there. Although it's not uncommon to find both systems deployed in a facility, a side-by-side comparison reveals why RFID is a superior technology for automating asset tracking, data collection, and inventory management – especially in settings with high-value assets.

These are some of the major advantages that are driving RFID adoption in transportation and logistics; retail and hospitality; manufacturing; and healthcare. As you'll learn in the pages ahead, RFID's advanced capabilities go beyond traditional inventory tracking to deliver the real-time visibility and data-driven insights needed to transform operations into connected ecosystems.

To excel at implementing RFID solutions, it's important to understand the real-world applications for RFID, and how RFID is providing intelligent-edge solutions to modern challenges in each of these sectors.

BARCODE SCANNING	RFID	ADVANTAGE
Barcodes must be scanned individually.	RFID readers can read multiple tags (even hundreds of tags) simultaneously.	RFID
Scanners need line-of-sight access to each barcode.	RFID readers only need to be within a range. No line of sight is needed.	RFID
Barcodes only store a limited amount of data.	RFID tags have more data capacity, and they can store more complex information.	RFID
Barcode data cannot be changed after being printed onto a label.	RFID tags have read/write capabilities – so they can be modified and reused.	RFID
Barcodes printed on paper labels are easily damaged or obstructed, making them unreadable.	RFID tags are more durable than barcode labels and can function in harsh environments.	RFID
Barcode scanning typically requires human operation.	Fixed RFID readers with antennas can track assets and personnel without	RFID

> **RFID generates massive amounts of data that fuels insights, it facilitates greater accuracy of inventory, and it is a key enabler of omnichannel capabilities. The increase in RFID adoption over the past two years has also overlapped with an increase in return on investment and expanded use cases for the technology."**
>
> *Accenture: "A New Era for RFID in Retail"*
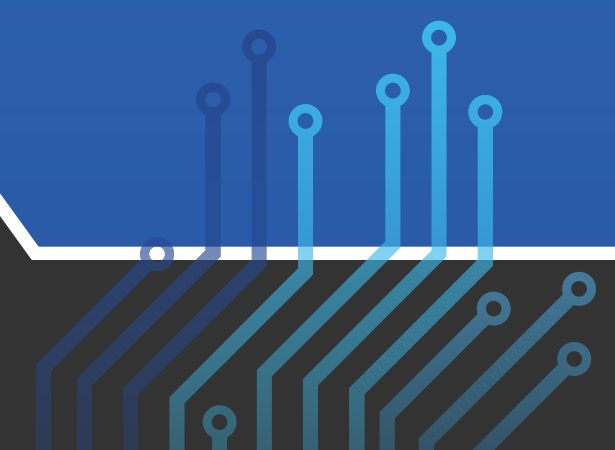
TRANSPORTATION & LOGISTICS

In today's world, the demands on transportation and logistics companies are higher than ever. Personnel are overextended, compliance is complex, and customers have come to expect "the Amazon experience." The pandemic has turbocharged e-commerce adoption, ratcheting up the pressure to provide free and fast delivery, free returns, and real-time order tracking.

For transportation and logistics providers, RFID plays a key role in automating, streamlining, and connecting operations – including the supply chain – to meet the elevated demands of today's customers. RFID can help companies achieve near-100% shipping and receiving accuracy. In the warehouse, for example, RFID provides irrefutable proof of carton contents at shipping, while RFID tags can confirm that the right shipments are on the right truck. In yards and terminals, RFID badges and scanning devices ensure that people are in the right place at the right time, safeguarding workers and visitors. Throughout transportation and logistics operations, RFID's superior data-capture capabilities provide the visibility needed to make smarter, more informed decisions and ensure flawless fulfillment.

92%
of companies surveyed say they plan to implement passive RFID in their warehouse operations by 2027.

Zebra Warehousing Vision Study

APPLICATIONS

- Inventory management
- Supply chain visibility
- Asset tracking
- Loss/theft prevention
- Fleet management/ mobile dispatch
- Workplace safety
- Yard/terminal management
- Sortation/handling/ service quality
- Below-the-wing services

ZEBRA SOLUTIONS FOR
TRANSPORTATION & LOGISTICS

FX9600 FIXED UHF RFID READER

Automate inventory management – from receiving and putaway to picking and shipping – without errors and without bottlenecks.

ZQ630 RFID MOBILE PRINTER

Print and encode RFID labels and tags on the spot with ease.

RETAIL & HOSPITALITY

As an inventory-management and asset-tracking tool, RFID always has been a natural fit for retailers. However, the pandemic has made it clear that we're living – and shopping – in a new era. The surging popularity of online shopping has introduced new challenges and opportunities, and retailers are utilizing RFID in new ways – such as self-service checkout terminals – to provide a seamless omnichannel experience for their customers.

"With RFID offering real-time accuracy of almost 100%, it's no surprise that the technology is being leveraged to improve customer experience for omnichannel services,"

Accenture explains in "A New Era for RFID in Retail," its biannual retail RFID study. "By knowing where their stock is at any given moment, retailers can guarantee availability across the channels and nodes within their networks, whether in store or online."

Meanwhile, hospitality providers are leveraging the latest RFID technology to enhance the guest experience and operate more efficiently. At hotels and resorts, for example, guests can use their RFID room keys to access amenities, pay for all onsite purchases, and even check in via self-service kiosks.

80%
of retailers say the benefits of RFID cannot be replicated by another technology.

Accenture: "A New Era for RFID in Retail."

APPLICATIONS

RETAIL
- Asset tracking/ inventory visibility
- Store replenishment
- Omnichannel fulfillment
- Self-service checkout
- Supply chain visibility/analytics
- Blockchain collaboration
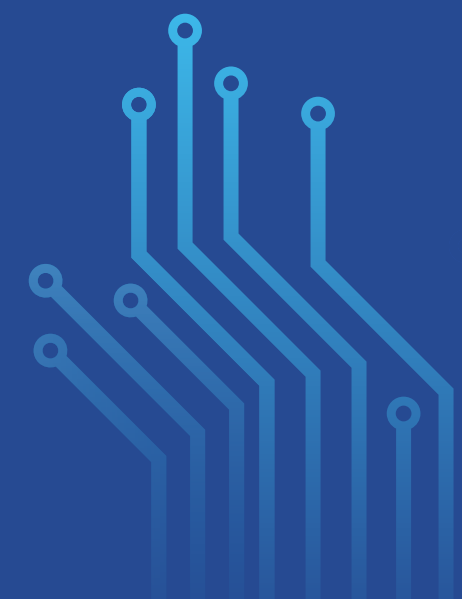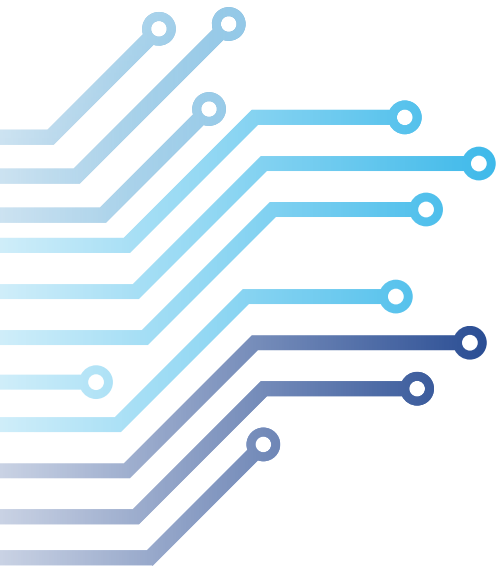- Loss prevention

HOSPITALITY
- Guestroom entry/ building access
- Inventory management
- Theft prevention
- Amenity access
- Self-service checkout
- Onsite payments

ZEBRA SOLUTIONS FOR
RETAIL & HOSPITALITY

DS9908R RFID SCANNER
Read RFID-tagged merchandise at the point of sale with this hybrid handheld/hands-free scanner.

RFD40 RFID SLED
Optimize cycle counting with 1,300+ tag reads per second.

RFID CARD
Zebra's UHF Gen 2 RFID card is one of the world's first passive RFID cards with a read range of up to 50 feet.

PDF

PDF

PDF

MANUFACTURING

It's been said that we're in the midst of the fourth industrial revolution – Industry 4.0, as some are calling it. Manufacturers are integrating technologies such as artificial intelligence, machine learning, robotics, cloud computing/ analytics, and the Industrial Internet of Things (IIoT) to transform their plants and processes into smart, connected, data-driven operations.

RFID is a core technology for Industry 4.0. RFID tags embedded in or attached to equipment, devices, tools, components, materials, and finished products enable quick, secure identification and tracking of assets anywhere in a facility. Rich data from RFID tags automatically syncs with ERP systems and other centralized software to provide the real-time operational visibility needed to make better, smarter, and faster decisions.

APPLICATIONS

- Item-level inventory visibility
- Production execution
- Materials management
- Predictive maintenance
- Quality control
- Work-in-process tracking

- Building access control/ security
- Equipment optimization
- Supply chain tracking/ management

45%
of manufacturing executives expect further increases in operational efficiency from investments in IIoT.

Deloitte 2022 Manufacturing Industry Outlook
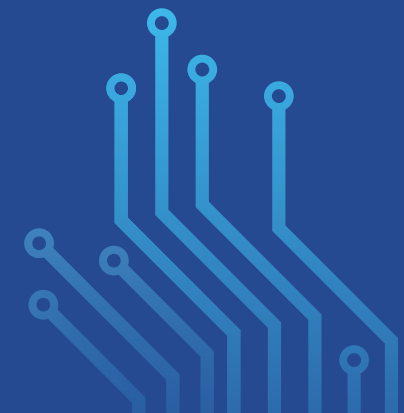
ZEBRA SOLUTIONS FOR
MANUFACTURING

ST5500 TRANSITION RFID READER
Track inventory location and direction – in virtually any area of the facility.

MC3330XR UHF RFID READER
Ensure accurate, lightning-fast capture of even the most challenging RFID tags.

ZT600 RFID INDUSTRIAL PRINTER
Print and encode tags for advanced item-level tracking applications

HEALTHCARE

RFID utilization is growing steadily in the healthcare sector, as hospitals, clinics, and other healthcare providers discover powerful new use cases for the technology. According to Research and Markets, the global market for RFID in healthcare is projected to grow from $5.3 billion in 2022 to $9.1 billion by 2026, at a compound annual growth rate of 13.8%.

Grappling with staffing shortages, rising costs, and complex regulatory requirements, healthcare organizations are leveraging RFID to improve patient safety and quality of care while making their operations more efficient. Real-time tracking of drugs, supplies, and other sensitive assets helps to minimize losses, theft, and hoarding – ensuring that vital supplies are available when needed for patient care. RFID wristbands effectively monitor patients' movements throughout a facility – preventing older patients with Alzheimer's or dementia from wandering offsite – while RFID ankle tags protect newborns from misidentification and abduction. RFID tools also can be used to measure temperatures, screen for counterfeit pharmaceuticals, and even encourage hand-hygiene compliance for infection control.

> **RFID has the potential to save [healthcare] organizations time and money by providing real-time traceability, identification, communication, temperature, and location data for people and resources."**
>
> *"The Benefits and Barriers to RFID Technology in Healthcare" – Online Journal of Nursing Informatics*
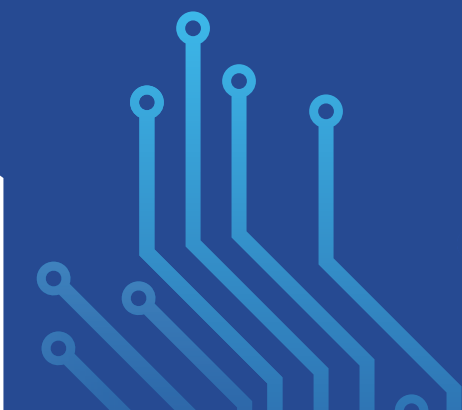
APPLICATIONS

- Equipment/asset tracking
- Patient monitoring/safety
- Stock-level inventory visibility
- Supply chain management
- Procedure scheduling

- Document/record management
- Staff utilization/compliance
- Workflow optimization
- Medication tracking/administration

- Specimen tracking
- Waste management
- Preventing pharmaceutical counterfeiting

ZEBRA SOLUTIONS FOR
HEALTHCARE

RFD8500 BLUETOOTH RFID SLED
Turn any mobile computer into an RFID reader.

ZD621R DESKTOP PRINTER
Print and encode wristbands, tags, and labels – efficiently and securely.

Z-BAND RFID WRISTBANDS
Improve patient-ID accuracy with wristbands that can withstand a wide range of hand sanitizers.

SMITH, JAMES
May 3rd — 5th   32   M   CPU
GPC 2018   M0001003   04/30/2018

WHY RFID NOW?

The time is right for RFID. In this age of digitalization, organizations are seeking out new technologies that can connect their processes, assets, and people – and provide rich operational data that can be harvested to drive cost-saving efficiencies. RFID can do that.

In the past, RFID deployments consisted of piecemeal solutions requiring components from multiple third-party vendors. Today, the full promise of RFID is not only possible – it's also practical.

TODAY'S RFID IS:

- More comprehensive – with optimized interoperability to connect assets, operations, people, and supply chains.
- More granular – to deliver actionable data that drives efficiencies, productivity, and cost savings.
- Easier to customize for use cases that future-proof operations.

Why Zebra RFID?

RFID deployments can be complex. Part of that complexity stems from the challenge of determining when RFID is the right solution for the application, and when barcode scanning, RFID, or a mix of technologies makes the most sense. That's why you need a partner with the experience and resources to ensure that each RFID implementation is a successful one for your customers.

In addition to a wide range of RFID readers, printers, and antennas, Zebra also offers end-to-end services that can facilitate and complement RFID deployments.

AI-powered Zebra Prescriptive Analytics translates operational data into concrete insights and actions – providing cost-saving guidance and immediate problem resolution. This future-focused software can help companies maximize efficiency, improve profits, and reduce operational shrink.

The Zebra Savanna platform aggregates and analyzes RFID data, and provides APIs and developer tools to help build secure digital services easily. Zebra's Location Technologies automate visibility to asset location to help improve management of critical assets, streamline operations, and create more efficient workflows. RFID supplies and tags also are important to the success of an RFID implementation. However, when it comes to tagging a wide variety of inventory and assets, there's no one-size-fits-all solution. Zebra offers a large supply of RFID inlays, labels, and tags that can fit any application. And for those situations where RFID tags and labels need to be printed remotely, Zebra is the only manufacturer to offer mobile RFID printers.

For more information on Zebra supplies, visit BlueStar's Zebra Technologies Microsite.

5 STEPS FOR A SUCCESSFUL DEPLOYMENT

These five steps can help ensure that an RFID deployment is successful.

1.

Take the time to fully understand the client's goals, objectives and budget. What are the key performance indicators (KPIs) that will be used to measure success? Identify the pain points to be addressed and benchmarks to measure improvement.

2.

Assess the client's visibility needs. Which assets need to be tracked? What data needs to be collected, and where? How often does that data need to be reported? Who needs access to the data? Ensuring that all authorized personnel are getting the right information at the right time can help accelerate the ROI of an RFID investment.

3.

Secure buy-in from the key stakeholders. RFID will require cross-functional buy-in from managers, IT, procurement, supply chain, and other departments, depending on the application. Make sure they're involved in solution selection and design, and that you're communicating and collaborating with the relevant stakeholders throughout the process.

4.

Define the RFID tracking solutions. Determine the types of tags, readers, software, and other supplies and infrastructure that will be needed. This will vary by application, department, and operational environment.

5.

Implement and monitor the RFID system. Provide the necessary training for employees who will need to use the solution. Monitor KPIs to measure improvements.

ZEBRA CAN HELP

As more companies and organizations embrace digital technologies to automate and streamline their operations, there's a massive opportunity for VARs to grow their business by implementing RFID solutions. With more than 25 years of RFID innovation and 579 technology patents (and counting), Zebra Technologies has the industry-leading resources and experience to help you capitalize on the RFID opportunity.

More than 200 Zebra engineers are focused full-time on RFID, whether they're developing new products or designing facility-level solutions. Zebra has installed more successful fixed, handheld, and portal RFID systems than

any other RFID provider. And Zebra's expertise encompasses passive ultra-high, high-frequency, low-frequency, and active RFID, as well as ultra-wideband, ISO 24730-2, Bluetooth, and more.

With the broadest RFID product portfolio, no matter what your customers need to implement their RFID solution, Zebra has it – from handheld, sled, and fixed readers to RFID printers, antennas, passive and active tags, hubs and exciters, and more. **Zebra's RFID Portfolio brochure provides an in-depth look at the industry's deepest, field-proven portfolio and how these solutions can optimize operations across a range of industries.**

CLICK HERE TO DOWNLOAD

ZEBRA

About Zebra Technologies

With the unparalleled visibility Zebra provides, enterprises become as smart and connected as the world we live in. Real-time information – gleaned from visionary solutions including hardware, software, and services – gives organizations the competitive edge they need to simplify operations, know more about their businesses and customers, and empower their mobile workers to succeed in today's data-centric world. For more information, visit www.zebra.com.

BlueStar
Your Solutions Distributor

About BlueStar

BlueStar is the leading global distributor of solutions-based ADC, mobility, point-of-sale, RFID, digital signage, and security technology. BlueStar works exclusively with value-added resellers, providing them with complete solutions, business development, and marketing support. The company brings unequaled expertise to the market, offers award-winning technical support, and is an authorized service center for a growing number of manufacturers. BlueStar is the exclusive distributor for the In-a-Box Solutions Series, delivering hardware, software, and critical accessories in one bundle with technology solutions across all verticals. For more information, please contact the BlueStar Zebra BDM Team at zebra@bluestarinc.com or visit the microsite at www.bluestarinc.com/us-en/zebra.html.