



IBM RFID Guide: A Roadmap to RFID Solutions for Mid-sized Businesses

Helping you drive business innovation, increase profitability, and lower operational costs through expanded knowledge and education of RFID technology.



How to Use the IBM RFID Solutions Guide

The IBM RFID Solutions Guide for mid-sized businesses will help you understand how the use of RFID technology based solutions from IBM can help benefit your organization.

We can help you move from today's tactical compliance requirements all the way to strategic business transformation in the future. In this step-by-step process, RFID technology can help enable new business capabilities and revenue sources, transforming your operating and business models for future growth and competitiveness.

As a solutions enablement roadmap, this guide simplifies navigation through the wealth of RFID resources — many *hot-linked* for fast and easy reference — from IBM. Our goal is to help your organization define, build and implement RFID-enabled solutions that deliver transformational results.

AMR Ranked IBM the #1 RFID Solutions Provider

IBM recognized the value of RFID early on – and that experience is paying off today. “Where IBM pulls away from the pack is in its technology expertise, complexity of delivery, and in referenceability. Its ability to link RFID projects to cutting-edge Demand Drive Supply Chain initiatives also sets it apart.”

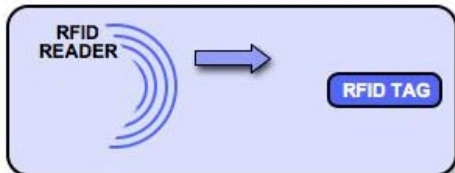
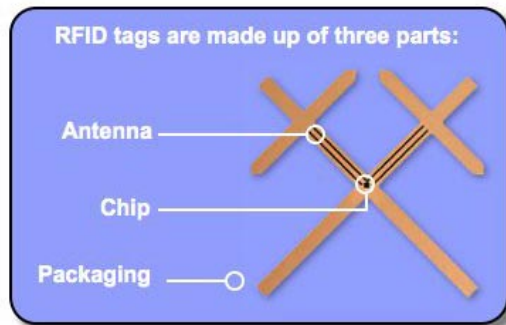
AMR Research 2004.



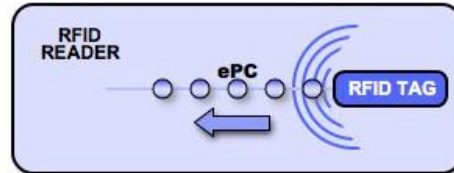
Start Roadmap Here

What is RFID?

Radio Frequency Identification (RFID) technology is a means of identifying a unique object using a radio frequency transmission. RFID tags can be programmed to receive, store and transmit information such as serial numbers, location and other object data.



The reader calls out with a radio wave that looks for a tag.



The tag sends back electronic product code (ePC) to uniquely identify the object.

How Can RFID Help You?

RFID technology provides automated collection of product, place, time and other transaction data quickly and easily without human intervention. This technology is helping to streamline the supply chain and transforming businesses — when coupled with improved business processes that unlock its true value.

The strategic business value of RFID is centered on five key areas:

- *Supply chain management*
- *Work and Process manufacturing*
- *Asset management*
- *Security and access control*
- *Consumer applications*

The Advantages of RFID

Over previous identification and tracking technologies, such as barcodes, include:

- No line-of-sight requirement
- Multiple tags can be read rapidly and simultaneously
- More timely information for decision making, as RFID can track critical assets and inventory from multiple people and equipment in real time
- Ability to read and write, providing greater flexibility
- Triggers events in real-time, such as email notifications and alerts to laptops, cell phones, and other mobile handheld devices.

What Are The Benefits of RFID?

In each area, RFID-enabled companies are realizing numerous strategic and economic benefits, including:

- *Collecting accurate information quickly*
- *Automating and speeding business processes*
- *Greatly increasing visibility through supply chain*
- *Reducing inventory loss and shrinkage*
- *Improving productivity*
- *Increasing data security and integrity*
- *Driving process and product innovation*

IBM's \$250 Million Bet on RFID: Bold and Right

"IBM's tiered architecture can be used for everything from a small pilot to a large deployment. That kind of scalability has been missing until now."

Forrester, September, 2004

IBM Brings RFID Benefits to a Broad Range of Industries

The adoption of RFID continues in diverse industries, due to its ability to drive down operating costs and make processes more transparent. IBM provides comprehensive end-to-end services and solutions to a multitude of industries:

Consumer Products manufacturers use RFID solutions to keep on top of inventory management and maintain appropriate stock levels, while reducing labor costs by eliminating physical scans and inventory counts

Retailers benefit as improved visibility will help them react faster to market demands and reduce out of stocks, boosting both sales and customer satisfaction

Pharmaceutical companies use RFID tags to monitor the manufacturing process in compliance with regulatory mandates, and to validate product authenticity to help protect against counterfeiting

Industrial manufacturers benefit from use of RFID for automated forecasting for inventory diversion, measurable labor cost savings, tighter controls through the manufacturing and distribution supply chain

Public and private enterprises gain real-time views to supply chain operations, supply partner networks, and production assets in use. RFID also provides self-identifying capabilities to components, finished goods, transportation containers and fleets.



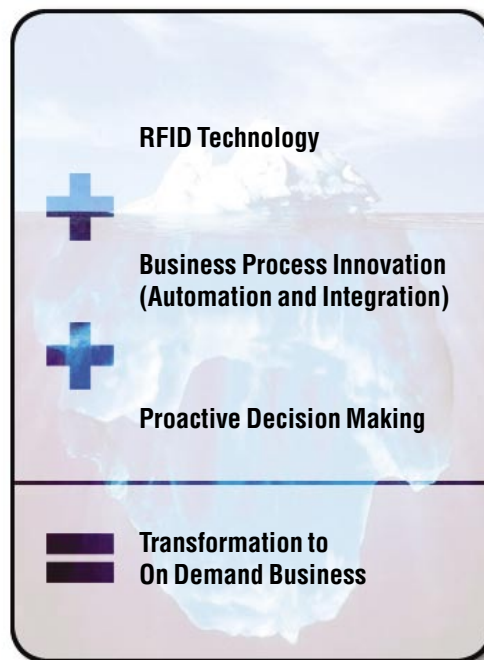
Transformation through Innovation

RFID technology is a gateway to transformation to an On Demand Business ... more responsive, open, flexible and resilient. Once enabled with this innovative technology, your organization can be:

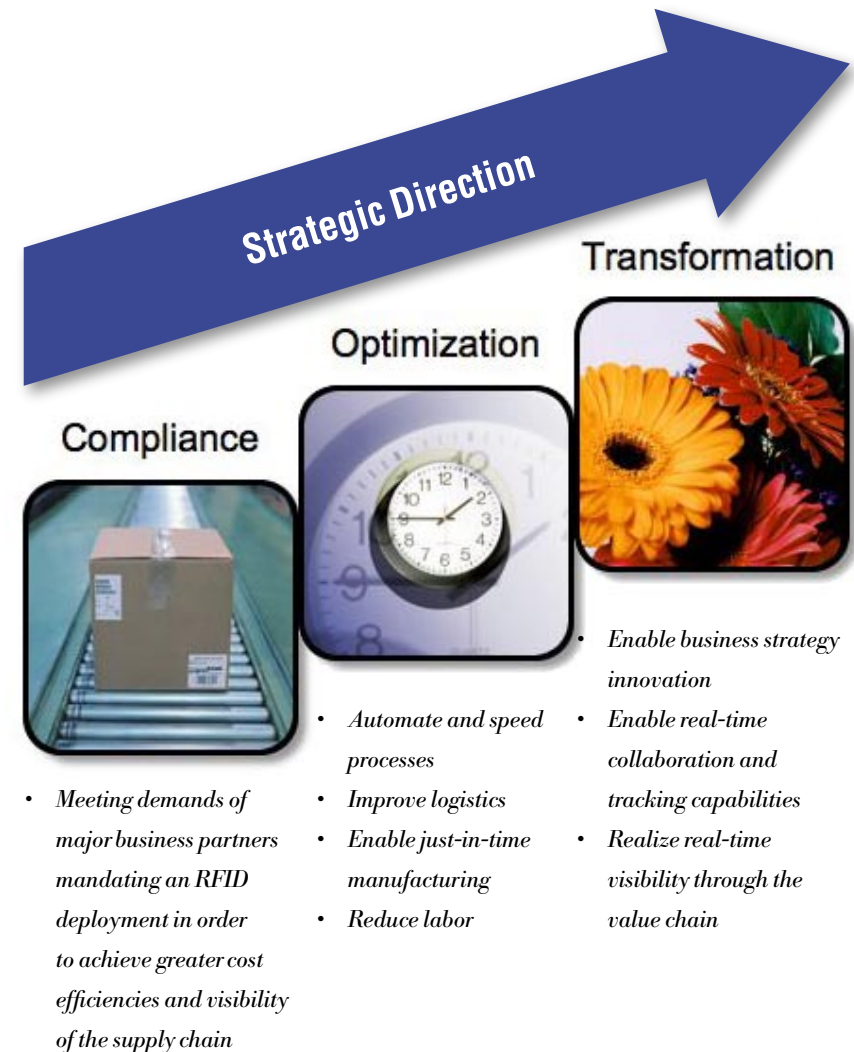
- **Responsive** to customer demands
- **Open** for growth
- **Flexible** to adapt quickly to change
- **Resilient** in the face of unexpected threats or market pressures.

However...RFID Technology is Only the Tip of the Iceberg

A true business transformation requires innovation and investment at multiple levels. It requires innovation in business models and processes, as well as staunch commitment and required investment to make it happen. With many years of experience, IBM can be a facilitator in helping you transform your business to an On Demand Business.



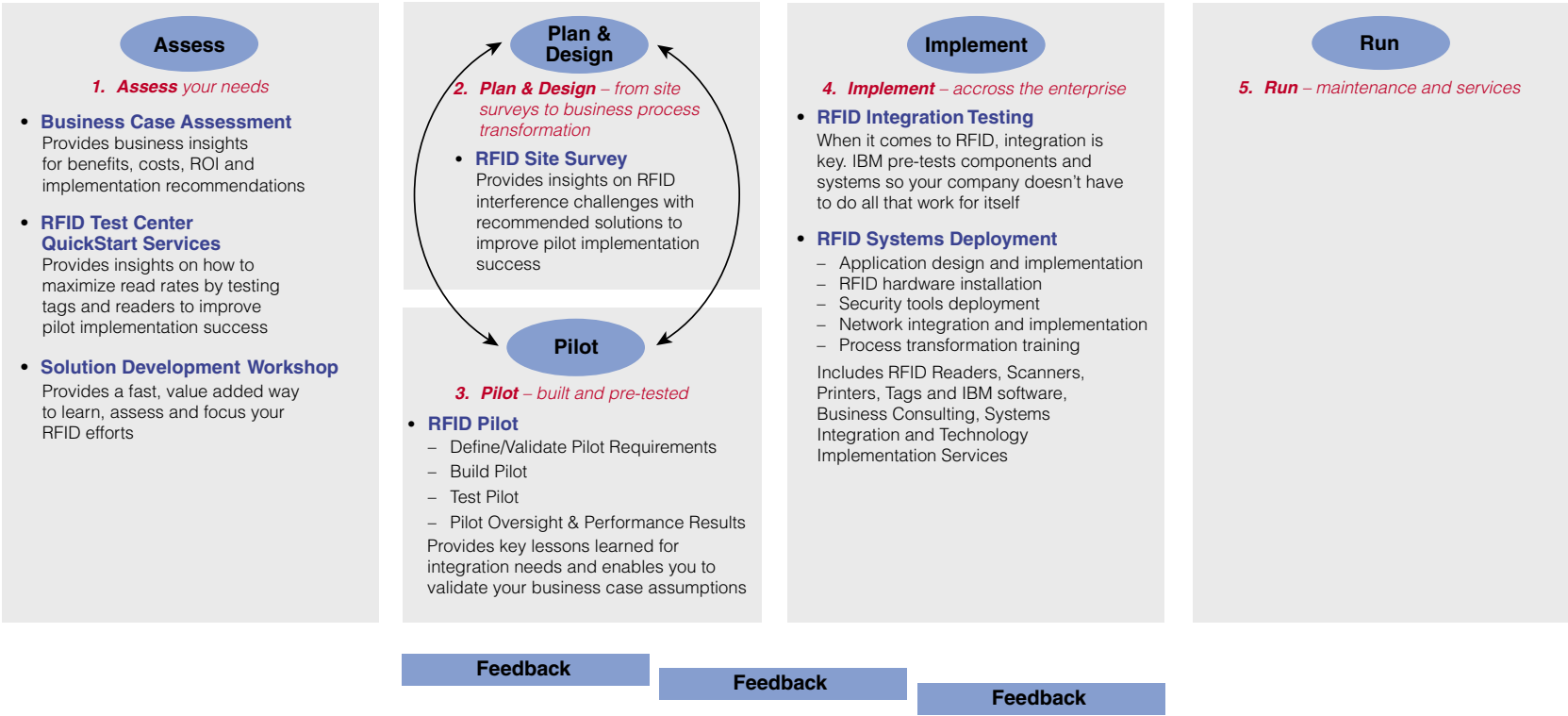
Strategic Reasons For RFID Technologies



How Do You Go from Where You Are Now to Becoming An On Demand Business Utilizing RFID?

You're Up and Running in Five Stages

The IBM team works with you to understand your needs and tailor a solution from a set of the offerings and capabilities that we can provide. Using a step-by-step approach, we can help your business take advantage of RFID technology benefits:



IBM RFID Service Offerings – from End-to-End

IBM is executing an end-to-end [RFID solution strategy](#), designed to deliver rapid return on investment, while providing a roadmap for the future. Our strategic alliances with leading vendors help ensure we leverage the best tags and readers, middleware and supply chain management applications from across the industry.

IBM Express RFID Services – Express RFID slap and ship managed services enables mid-market businesses to respond rapidly to the RFID mandates.

IBM RFID Testing and Solution Centers

IBM's real-life prototype and testing centers can help ensure that your organization will reap the benefits from RFID quickly and at low risk. Our three global centers – in France, the United States and Japan – combine business and technical capabilities in a true end-to-end RFID solution, including the middleware needed to integrate the technology to back-end systems.

By utilizing our testing centers, your organization can see real examples and demonstrations to guide your decisions. IBM has even built specific scenarios for a number of industries. Once you've decided on the best way to use RFID and that scenario is pre-tested, IBM will work with your organization to deploy the technology on location.



In the Real World: Customer Success Stories

Heinz

IBM Business Case Study Shapes RFID Strategy

Heinz wanted to gain a clearer understanding of why, where and how to implement RFID technology. It also wanted to know which vendors to use and what direction RFID development will take over the next 10 years. Thanks to a business case study and product scenario testing done by IBM Business Consulting Services, Heinz got the answers it needed. The study will help the company move beyond a "slap and ship" RFID strategy to incorporating the technology along its entire supply and manufacturing line for maximum benefits and ROI. It also provides the company with a clearer understanding and projections about an increasing market trend as well as helps position Heinz to develop an effective business strategy and meet technology challenges.

Phillips Semiconductor

RFID Tracking Transforms Supply Chain

Phillips needed to improve inventory management for high-volume integrated circuits in order to respond quickly to customer demands, minimize waste and reduce errors. The introduction of an IBM RFID solution enabled Phillips to track inventory along its entire supply chain to optimize order and warehouse management, implement an increased security and fraud protection process, and avoid out-of-stock situations to reduce costs. It reduced receiving and palletization cycles by 50 percent and reduced sorting and tracking turnaround times by 60 percent. The solution also improved delivery reliability and inventory turnover while shortening billing cycles.

IBM Fishkill fabrication plant

Process Automation Leads to Savings

IBM completely automated the production process at our chip fabrication plant in Fishkill, NY, by building a semiconductor manufacturing system that leverages real-time information to automatically control the fabrication process. The RFID solution has resulted in enhanced employee productivity, continuous operations, and reduction in product errors and delays. A sampling of benefits: The solution resulted in a one-time savings of US\$230,000 in operating costs. It also produced more responsive customer service, due to the ability to provide real-time product status updates and meet fluctuating demands.

Why IBM?

IBM is uniquely positioned to assist companies on the RFID transformation journey—from business case to pilot testing to full scale roll out.

You can benefit from:

- *IBM's RFID experience dates back more than 10 years*
- *Knowledge in RFID spans a wide range of industries, including Construction, Field Service, Government, Health Care/Pharmaceutical, Industrial, Retail/CPG, and Transportation and Logistics*
- *Dedicated RFID professionals and strong ecosystem of Business Partners – including research and development, consulting, software and hardware*
- *A comprehensive, flexible solution framework is easily adaptable to any size production environment*

Together with Business Partners, IBM provides customized RFID based solutions that include hardware, software, and services. By leveraging RFID-based services and products, IBM can help you build a customized industry based solution for ongoing business innovation.

IBM Expands Efforts to Promote Radio Tags to Track Goods

“Many giants of the computing world, like Microsoft, Oracle, SAP and Sun Microsystems, have been vying to gain recognition as technology leaders in the drive to use radio tags to identify consumer goods. None have been more aggressive than IBM...”

New York Times, June 14, 2005

How to Get Started

To learn more about how IBM RFID based solutions can help benefit your business, contact your local IBM Representative or Business Partner.

Visit:

ibm.com/solutions/rfid

ibm.com/businesscenter/smb/us/en/solutionsrfid



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