

# RFID Journal Live! 2006

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Putting RFID to Work

May 2, 2006



# ROI from RFID - Expand the Possibilities

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- **Lessons Learned and Value Drivers**
- **Supply Chain ROI and Expanding to Asset Tracking**
- **Keys to Success**



# IBM Recognized The Value of RFID Early On *Committed to Supporting the Industry*

- Early Research in RFID technology and many patents
- Use of RFID in IBM
- 10 Centers of Excellence across the globe with an RFID focus
- End User Member of EPCglobal™
  - Member of Auto-ID Center Technology Board
- Facilitator of the “knowledge transfer” process
  - Global Commerce Initiative (GCI) “EPC Roadmap”
  - GMA study: EPC/RFID: Proposed Industry Adoption Framework
- Consulting partner for leading industry players
  - Over 50 client engagements for CPG/Retail
  - Over 150 total engagements
  - Business Case, Pilot planning, delivery and management



# Today's RFID Market

- **RFID has been around for decades (ex. LF, HF, Active tag)**
- **Mandates from governments and retailers has accelerated market adoption ...**
- **... and this has been supported by positive government regulation and standards evolution (ISO, EPC)**
- **Transitioning from “early-adopter” phase (UHF)**
- **Adoption rates vary across industries. Strongest in Retail, CPG, Transport/Logistics, Auto, Industrial, Healthcare, and Pharma**

# Lessons Learned

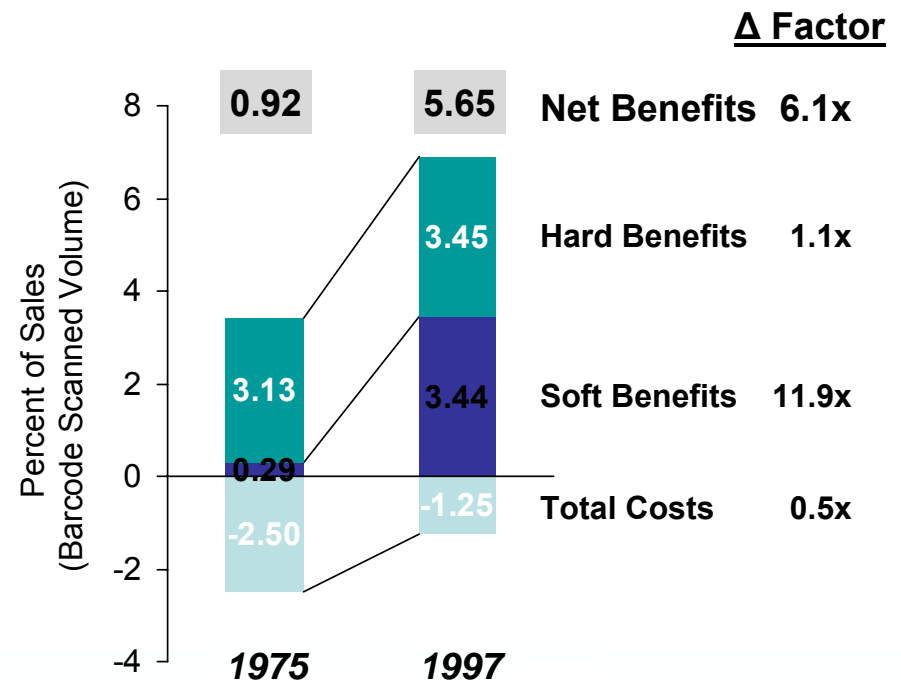
- **There is no substitute for hands-on learning**
- **Target RFID to more than just compliance – look to gain benefits today**
- **Focus on your processes – a key for long term success**
- **Build a foundation today that you can scale with future growth**
- **Manage expectations**
- **Success requires teaming from leaders in business and IT**

# Past experience can help us better understand the long-term context for RFID

## Lessons Learned from the Barcode Experience

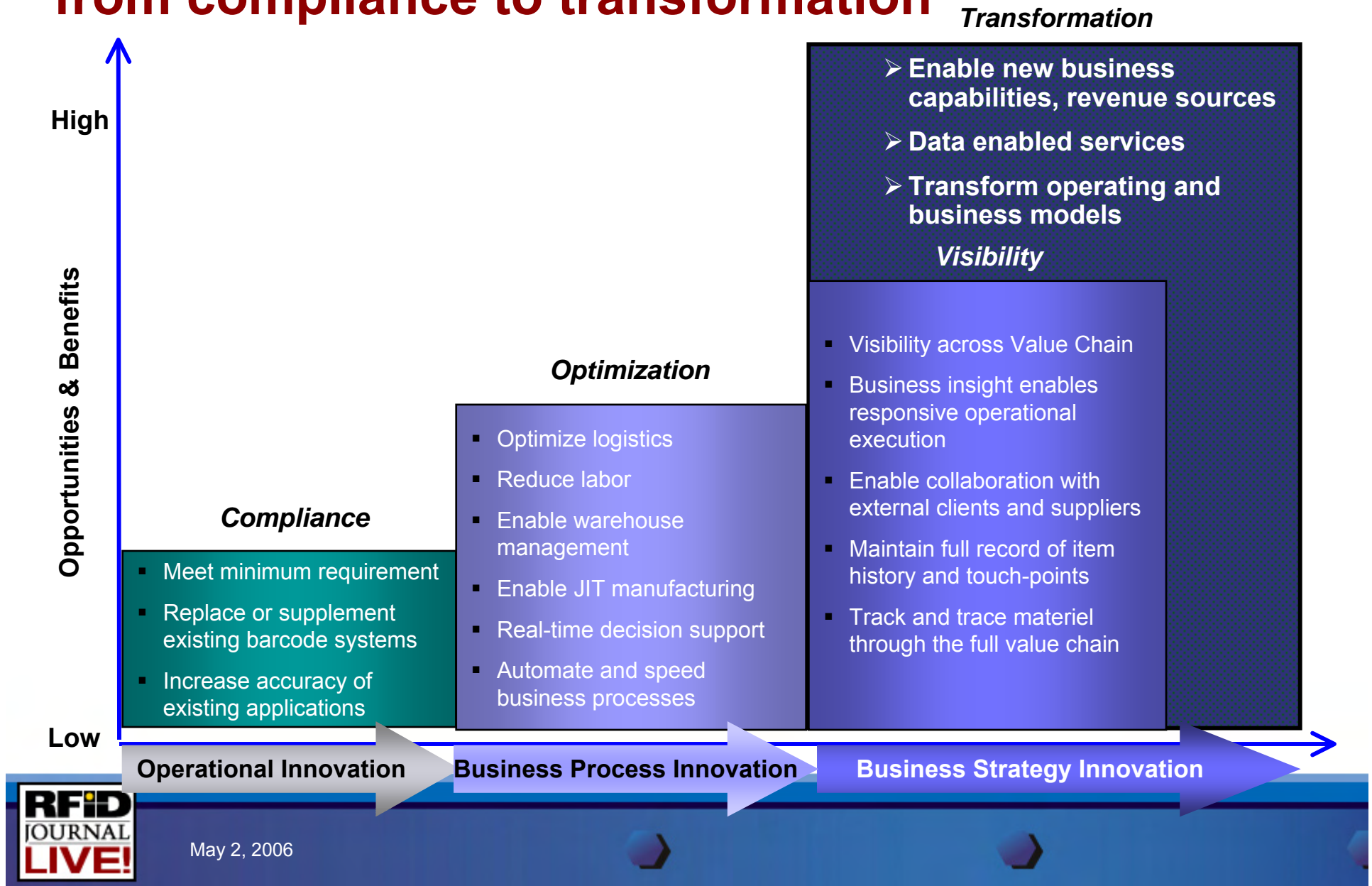
1. Standards are critical to drive widespread adoption
2. Collective industry action is key to achieve critical mass and speed realization of benefits
3. Full realization of benefits requires open information sharing and sustained change in business practices and processes
4. Forecasting benefits and costs is difficult

Estimated Barcode Scanning Benefits, 1975 vs. 1997  
U.S. Grocery Industry

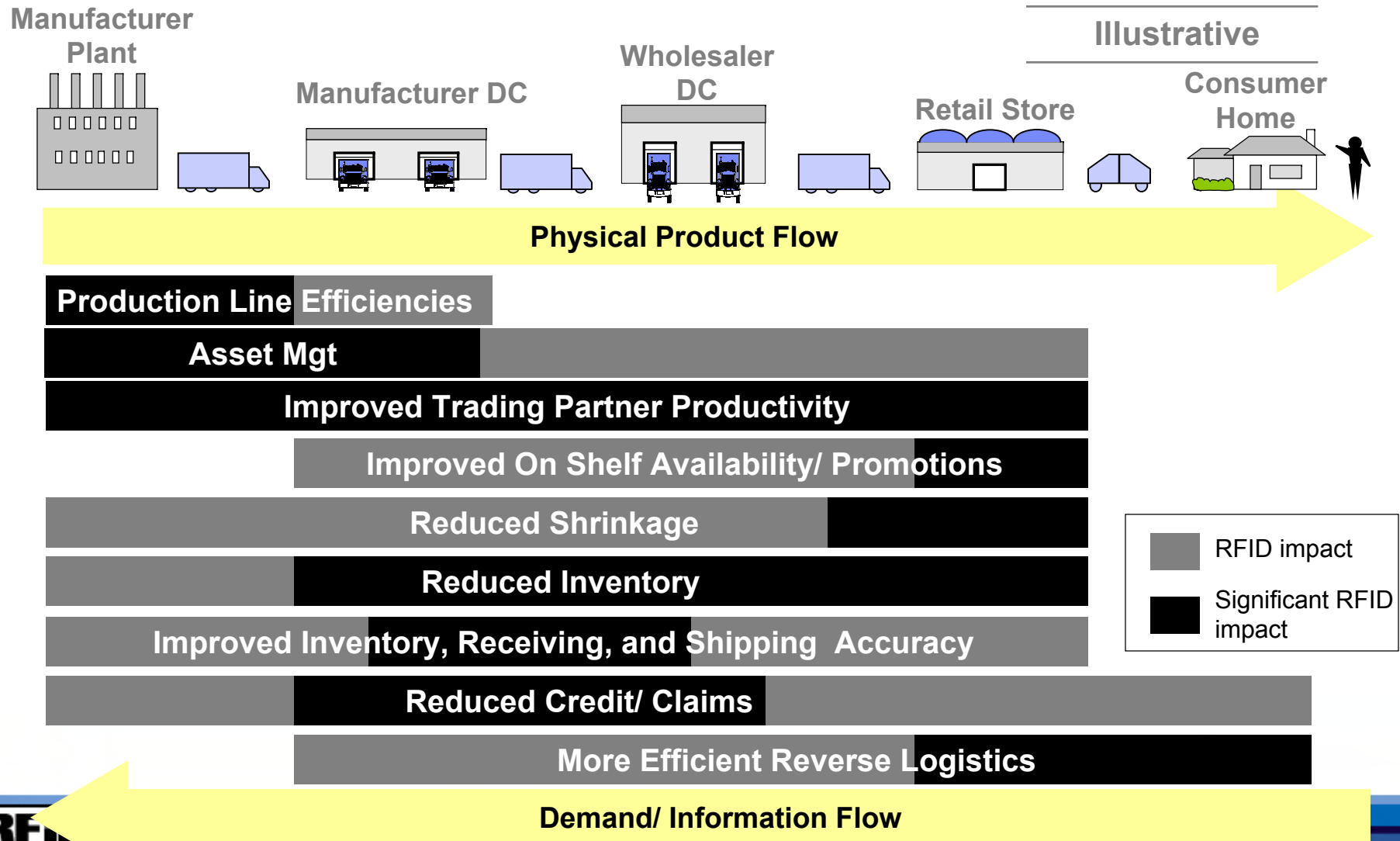


Source: "17 Billion Reasons to Say Thanks: The 25<sup>th</sup> Anniversary of the U.P.C. and Its Impact on the Grocery Industry", PricewaterhouseCoopers, 1999; IBM Institute for Business Value analysis

# Benefit potential increases as companies move from compliance to transformation



# RFID business case benefits cut across value chain and functional boundaries



# IBM Point of View - It is not just about tags and readers

- Tags + readers  $\neq$  Transformation
- Tags + readers = More efficient data collection & New Visibility
  - + Business Process Change
  - + Proactive Decision Making
  - + Integration to enterprise systems and infrastructure

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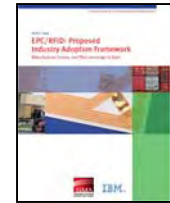
= Transformation

*To achieve transformational results, RFID should be viewed as one enabler among many in an overall business strategy.*

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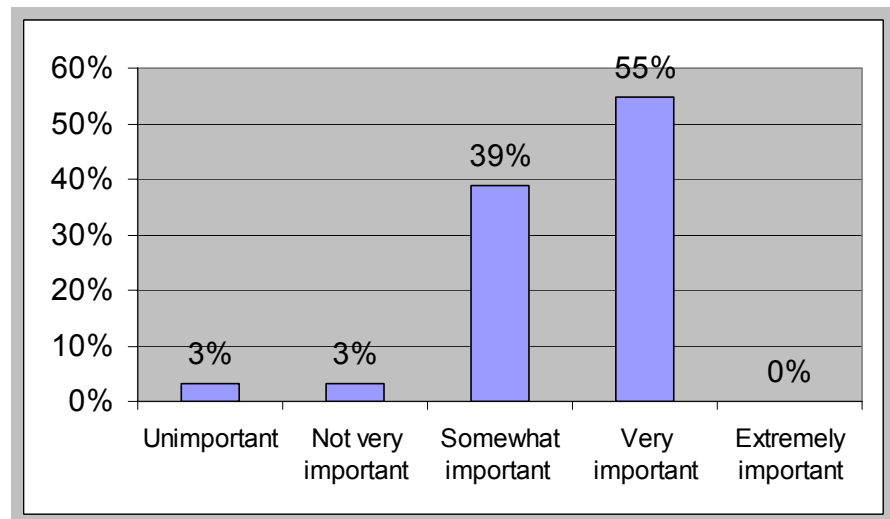
- **Lessons Learned and Value Drivers**
- ➡ • **Supply Chain ROI and Expanding to Asset Tracking**
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# Manufacturers believe in EPC/RFID's long-term potential...



- 97% of manufacturers believe EPC/RFID has long-term value potential for the industry
- 94% believe EPC/RFID will be “somewhat” or “very” important to the future of the CPG industry

## Importance of EPC/RFID to the Future of the CPG Industry



*“This technology is the first and only technology I’ve seen that can help enable automation of what is today a very manual process – retail backrooms and the last mile of the supply chain.”*

# ...but many still struggle with near-term value



- 48% indicate they see little or no short-term value in the technology
- Data quality issues and lack of business process changes were cited as the main reasons for the lack of realized benefits

*“EPC will be widespread at some point, but we are not yet convinced that it makes financial sense for all of our [products] – specifically, we cannot financially justify tagging many of our low margin, high-volume products at this point, or in the near future.”*

*“We see no value proposition for this technology until the data quality improves significantly, and retailers change their business processes to act on the new data.”*

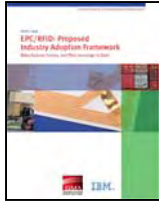


# Pilot results to date are mixed in terms of generating tangible business benefits

- 73% of manufacturers have not seen tangible business benefits from pilot activities
- Data quality issues and lack of business process changes were cited as the main reasons
- Some manufacturers are encouraged, however, by potential benefits related to:
  - Promotions compliance
  - Proof of delivery
  - Out of stock improvements

*“We estimated out of stocks was the biggest expected benefit for us. What we have learned in the pilots is that we understated that benefit [which was a surprise].”*

*“Our business case estimate didn’t show a positive return. It did predict that there were some benefits around eliminating out of stocks...but what we are seeing in the data isn’t showing us a real advantage yet”*



# EPC/RFID Is Not a “One Size Fits All Technology”

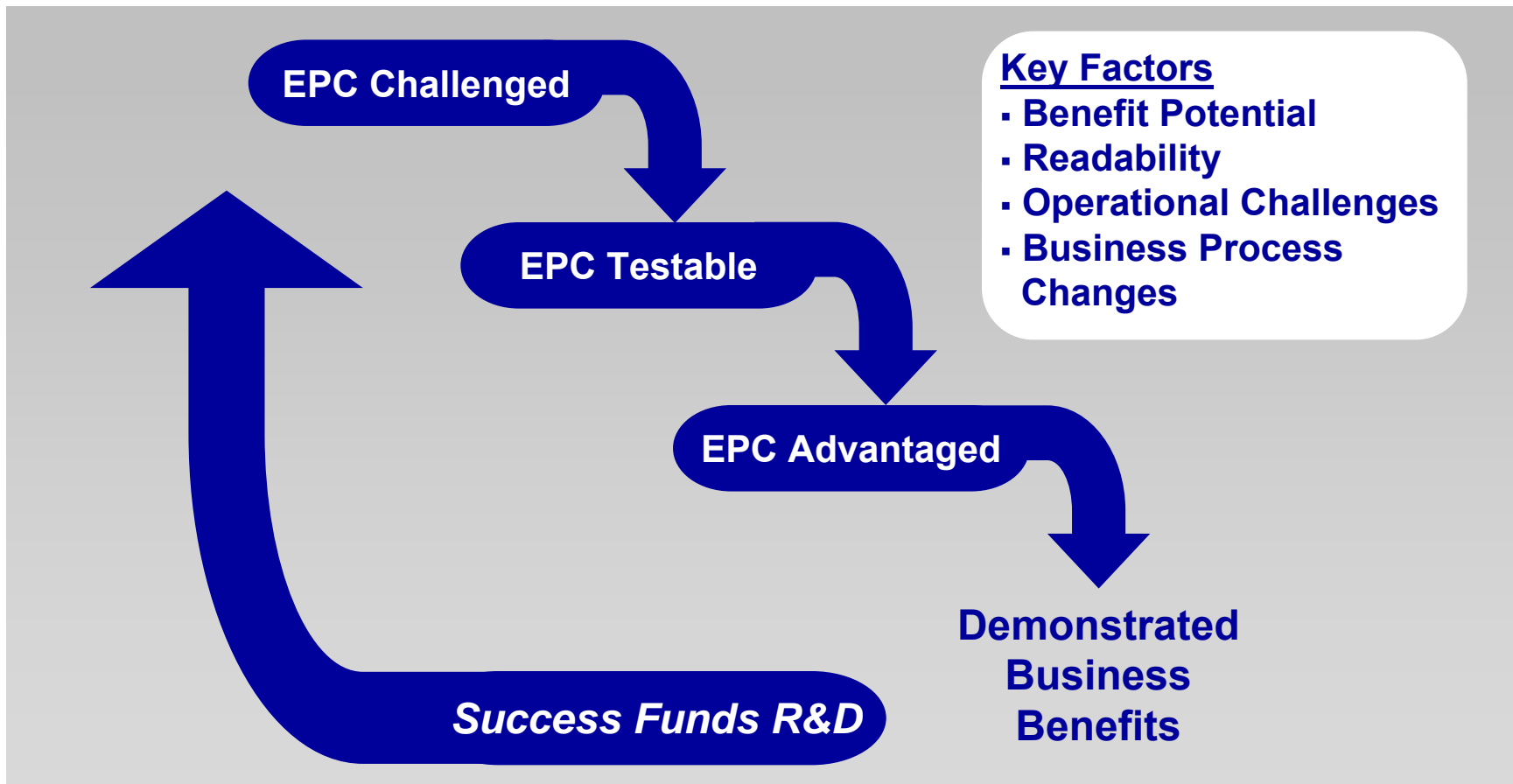
- 93% of manufacturers believe EPC/RFID challenges and benefits vary by products or categories
- Manufacturers recognize 9 distinct drivers of EPC/RFID attractiveness
  - ➔ • **Benefit potential**
  - ➔ • **Readability**
    - Product margin
    - Operational considerations
    - Strategic considerations
    - Shipment and handling configuration
    - Primary distribution channel
    - Route to market
    - Learning opportunities
- Manufacturers believe that focusing on high benefit potential areas may accelerate progress and drive value

*“EPC/RFID is here to stay, but the original vision of EPC/RFID tagging at the case and pallet level on all products from the get-go is not cost effective...one of our key learnings over the past 12-18 months is that EPC/RFID has turned into a product category and business application specific story.”*

# Getting More ROI

- 1. For existing implementations focus in on key benefit areas**
  - Promotion Execution
  - Proof of Delivery
  - Out of Stock Improvements
  - Select Item Level Management
- 2. Leverage into areas that have stronger ROI – Asset Tracking**
- 3. Focus on your processes**

# Harvesting Pilot Success to Fund Ongoing Adoption



*Success with EPC Advantaged SKUs funds R&D, technology, and process enhancements to migrate EPC Testable and EPC Challenged SKUs over time*

# RFID for Asset Tracking

*Asset tracking and management faces several challenges that could be addressed by RFID*

## Challenge/Pain Point

### Asset Tracking/Mgt

- ❑ Lack of visibility
- ❑ High labor expense
- ❑ Error-prone manual process
- ❑ Asset Loss
- ❑ Asset Audit Requirements

## Applicability

### Business Attributes

- ✓ Traceability/Trackability
- ✓ Automated process
- ✓ Asset diversity
- ✓ Distributed

### Process Characteristics

- ✓ Accuracy
- ✓ Timeliness
- ✓ Distributed

## Sample RFID Enabled Solutions

- Asset registering
- Locating & tracking
- Automatic asset data collection
- Monitoring / Anti-theft alarm
- Inventory management
- Asset Utilization

# Assets Inventory, Tracking and Location

- **Inventory is the taking of an instant picture of the assets in a given area at a given time**
- **Tracking is the capability to follow assets moves/activities**
  - It assumes that the asset has been initially located
  - The cost of the solution depends on the tracking level
- **Location is the capability to identify the physical position of an asset**
  - For example, in a Data Center, the accuracy is typically the rack, and occasionally the high in the rack

# The Life Cycle of an (IT) asset

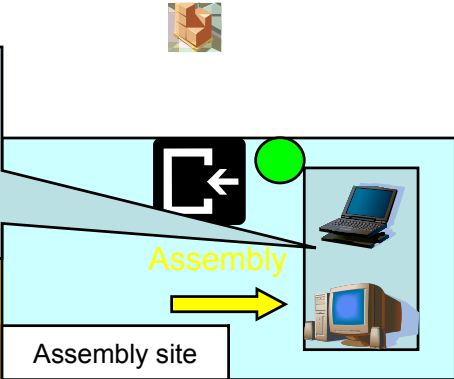
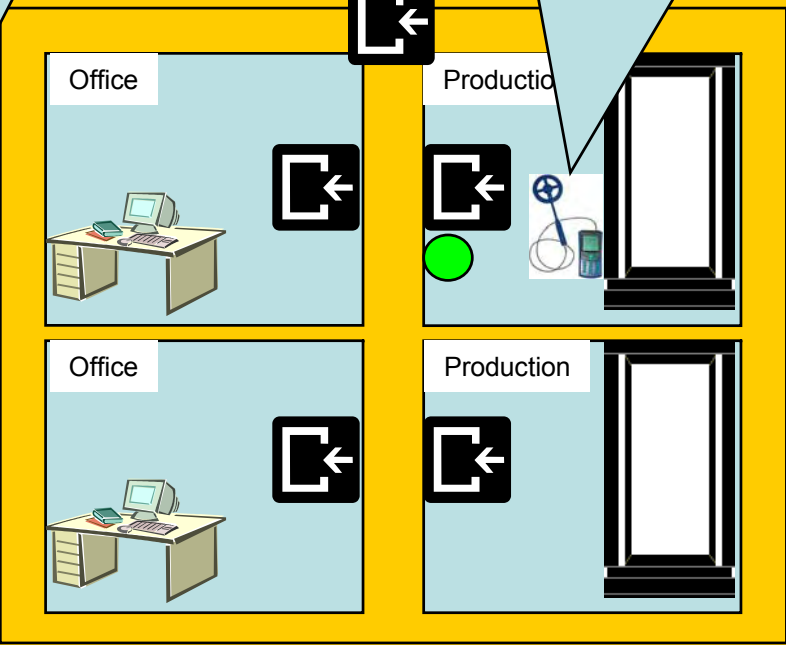


**STEP 4 – DISASSEMBLY**  
RFID tags must NOT be destroyed neither removed



**STEP 1 – ASSEMBLY**  
Parts Bar-coded and/or EPC coded  
A unique Company RFID tag is added (if needed)  
The asset is entered in the INVENTORY DB including that company RFID

**STEP 3 – In production**  
Allocation to a Dept  
YEARLY Wall2Wall INVENTORY



The Company premises

# When selecting an RFID Asset Tracking Solution

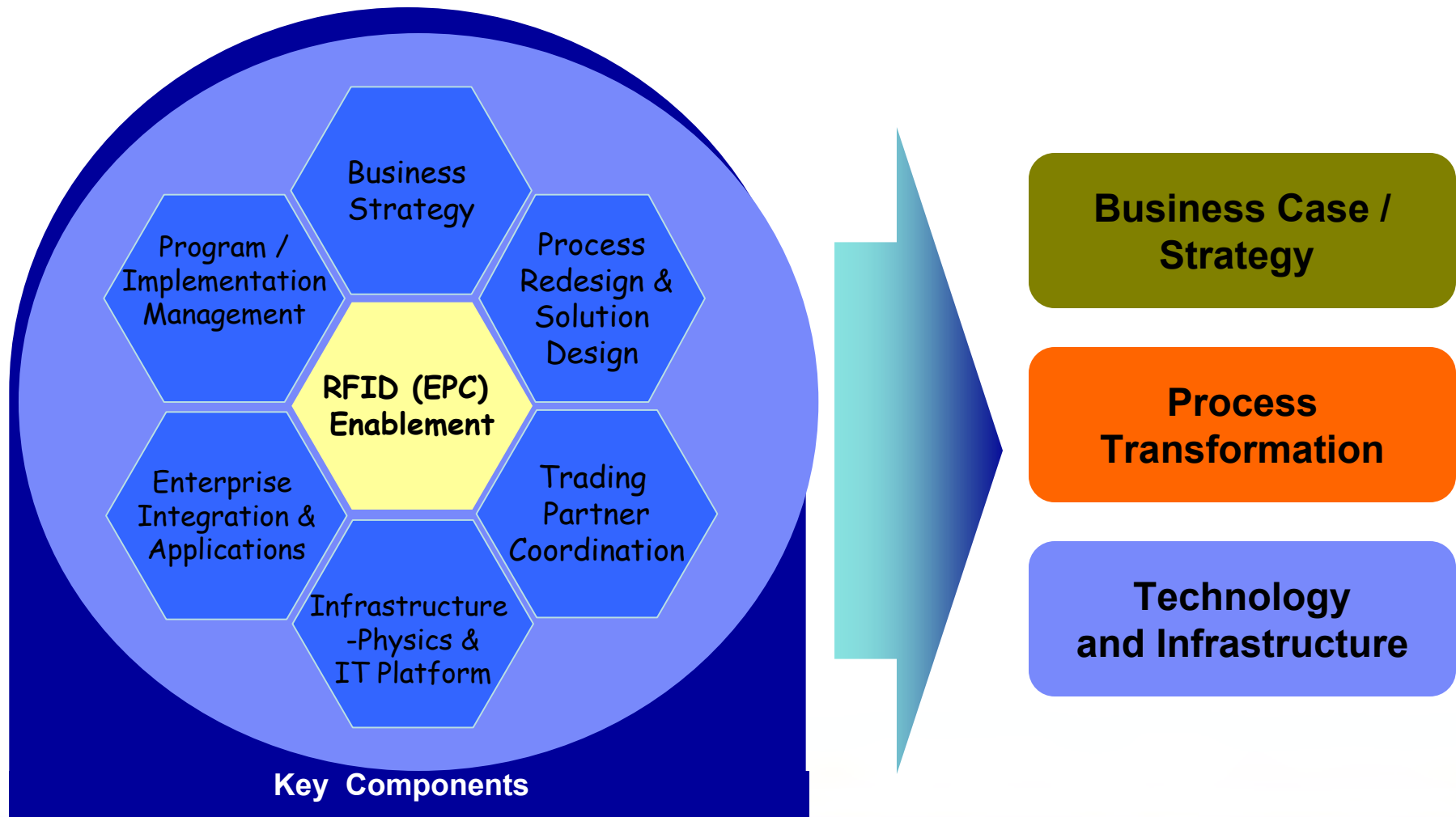
- Define your business problem
- Define your needs: Inventory, Tracking, Localization?
- Select the RFID technology based on your business problem and needs – one size does not fit all
- Understand the process implications
- Rely on your backend inventory system to store information on assets rather than relying on tags to store it
- Test your solution design before full roll-out

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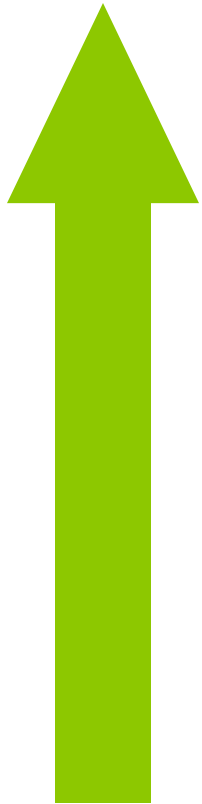
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# Successful RFID implementations require many capabilities and 3 critical focus areas



# For Example, a Project with Three Phases For Implementing RFID



- **Phase 3: Roll-out RFID Implementation**
  - *Structured Roll-out to achieve maximum ROI*
- **Phase 2: Launch RFID Trial/Pilot**
  - *Validates value proposition and technology*
- **Phase 1: Develop RFID Value Assessment & Implementation Plan**
  - *Determine ROI potential and prepare implementation plan accordingly*

# For successful RFID Implementations...

- **Link business and IT**
- **Manage expectations**
- **Explore end-to-end process opportunities to extend benefits**
- **Plan for emerging technology challenges**
- **Architect for scale**
  - Databases and applications
  - Message Broker / Integration Architecture
- **Never move data unless you have to**
- **Consider extending beyond your 4 walls**
- **User authentication**
  - around the globe
  - across trading partners
- **Devices must be**
  - Authenticated
  - Remotely manageable and upgradeable

# Three key things to take away...

- Gain experience and move forward
- Focus on processes that are meaningful and that have opportunities to improve via RFID
- Integrate RFID into your business strategy

# Questions ?

- For additional information go to:

[www.ibm.com/solutions/rfid](http://www.ibm.com/solutions/rfid)