



# EPC/RFID Update

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# EPCglobal Overview

## *Organizational Overview*

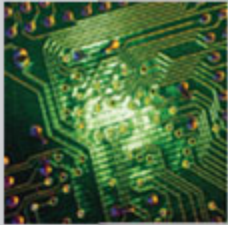
<b>Established</b>	Nov-2003 (Not-for-profit joint venture of the Uniform Code Council and EAN International)	
<b>Mandate</b>	Commercialization of RFID Technologies Reduce the risks and costs of implementation	
<b>Support Network</b>	103 global offices	
<b>Standards Process</b>	3,000+ global participants	
<b>Subscribers</b>	1000+ global firms with \$6 trillion in revenues from 51 market segments	
<b>Board Member Firms</b>	Cisco Gillette Johnson & Johnson Procter & Gamble Lockheed Martin Dow Chemicals	DHL Hewlett-Packard Metro Group Wal*Mart Sony US DOD



# Context for EPCglobal

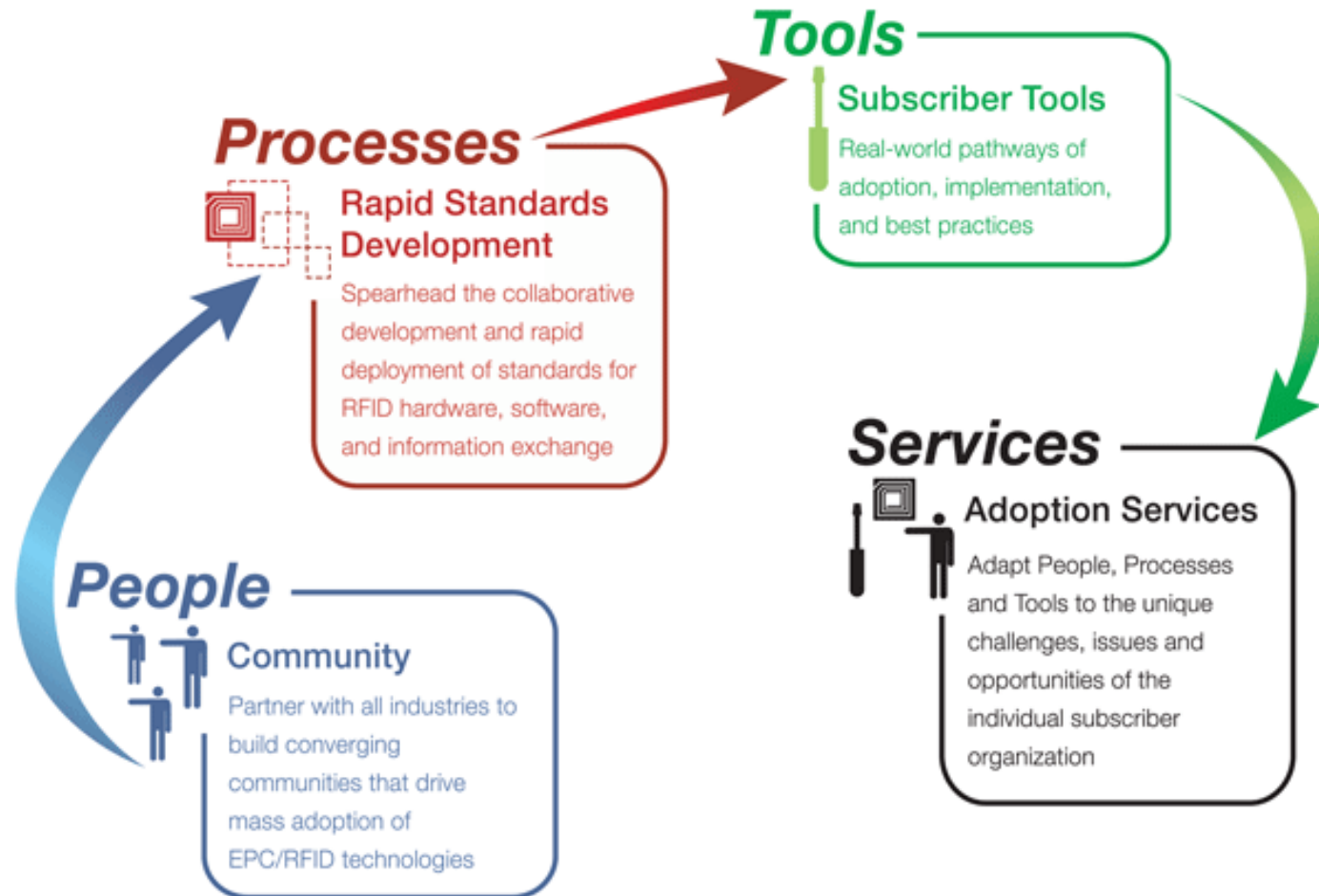
## *Supporting Industry Transformation*

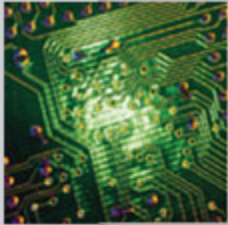
- Significant technology initiatives require neutral leadership
  - EDI, barcodes, data synchronization, etc
- Current expectations for the use of EPC indicate long-term commitment by global leaders
  - Wal\*Mart, Target, Best Buy, Albertson's, DOD, Boeing, Dow, etc.
- Current industry movements for the use of EPC demonstrate its applicability to solve critical regulatory issues
  - Healthcare & Life Science, Automotive, Chemicals, Aerospace & Defense
- Industry priorities and needs must be addressed to meet timelines and avoid excessive costs
  - “By industry, for industry” is crucial success factor
  - Must support “supply chain convergence”
- Successful path forward is a global approach
  - Leverage reach of committed companies and supply chains
  - Directly engage other industries, associations, standards bodies, and governments (i.e. ISO, China, etc.)



# The EPCglobal Subscriber Portfolio

*Eliminating Implementation Roadblocks and Bottlenecks*





# Early Market Adopters

## Retail

WAL\*MART

CVS

Albertsons

TARGET

BEST BUY

## Consumer Goods

P&G Gillette

Kimberly-Clark

Sara Lee

THE MAYTAG HOME

Elizabeth Arden

## Food & Beverage

GENERAL MILLS

Kellogg's

Coca-Cola

Dole

ANHEUSER-BUSCH Companies

## Healthcare & Life Sciences

Johnson & Johnson

Abbott Laboratories

Pfizer

Baxter

Wyeth

## Electronics & High Tech

Gateway

IBM

hp invent

Motorola

Microsoft

## Logistics & Transport

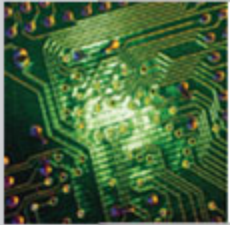
FedEx

UPS

UNITED STATES POSTAL SERVICE

DHL

MAERSK LINE



# Emerging New Industries

## Aerospace & Defense



**Honeywell**



## Chemical



**ExxonMobil**



## Industrial

**3M**

**KOMATSU**



## Footwear & Apparel

PERRY ELLIS

**JOCKEY™**

Levi Strauss & Co



## Automotive

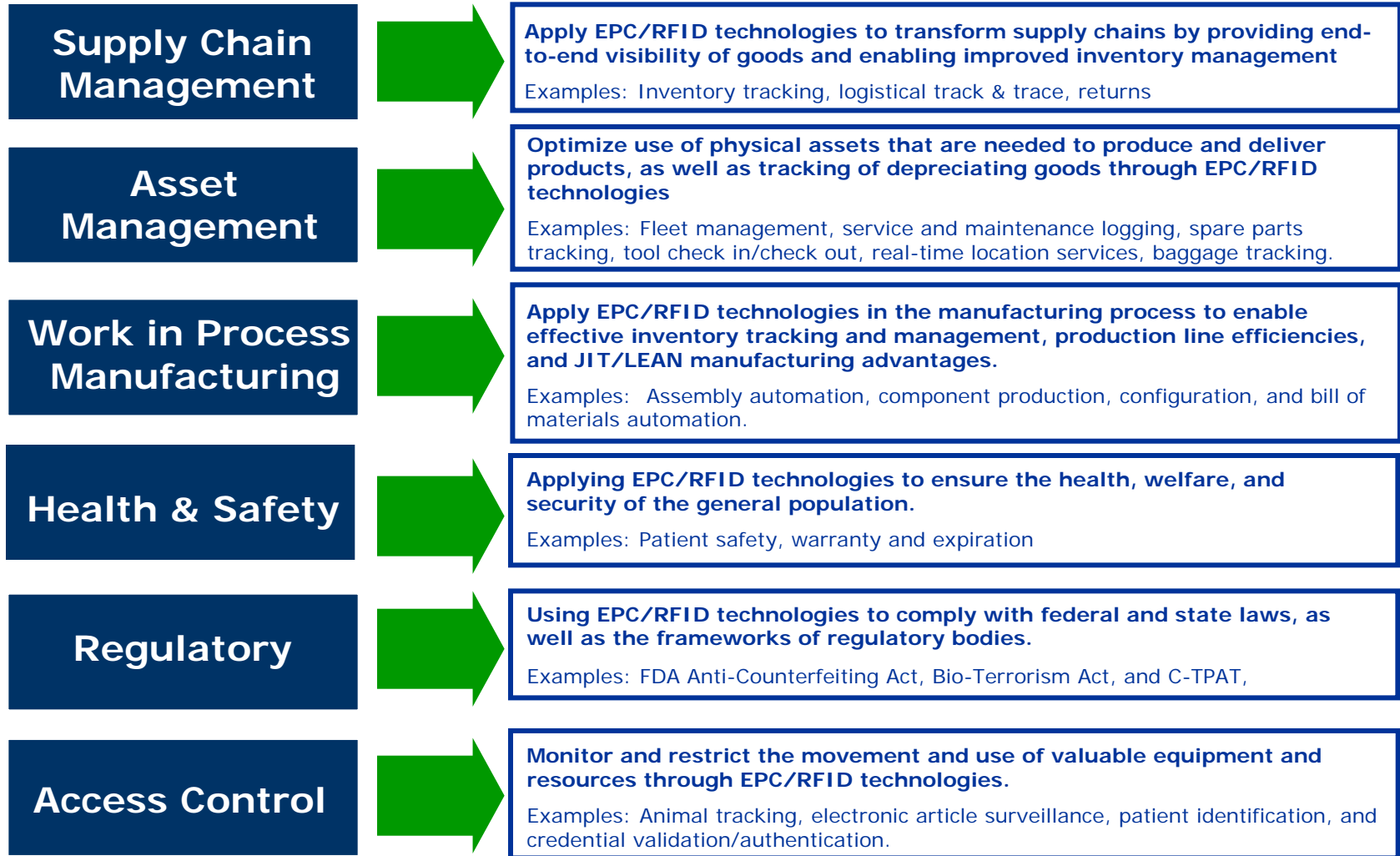


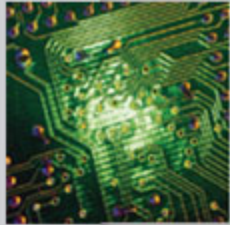
**PACCAR Inc**





# High-Impact Areas of Implementation





# RFID is Foundational to Exceeding Corporate Objectives

## Increasing Revenue and Market Share

- 29% increase in promotional execution  
→ resulting in 20% - 60% increase in sales
- 63% quicker elimination of out-of-stocks  
→ 30% reduction in stock-outs
- Increase Revenue
- Sell Higher Margin Products
- Decrease Time-to-Market
- Attack New Markets

## Decreasing COGS & Operating Costs

- Accounts payable reduced from 30-45 days→ minutes
- ≈100% data verification
- 10% reduction in manual orders
- 20% efficiency increase for Ballantine Produce→ savings of 25%
- Reduce Inventory
- Reduce Logistics Expense
- Reduce Direct Materials Expense
- Reduce Indirect Materials Expense

## Increasing Asset Utilization

- Pallet build reduced from 90 seconds→ 11 seconds
- 7.5% reduction in warehouse costs
- Increase Asset Utilization
- Reduce Procurement Expense
- Reduce Selling Expense
- Reduce R&D Expense

1-February 18, 2006: *RFID Update - Recap of the RFID ROI Summit*

2-ibid

3-January 2006: *rfdwatch - transmissions from the RFID front lines*

4-January 31, 2006: *RFID Update: Gillette RFID Mastermind Shares*

Secrets

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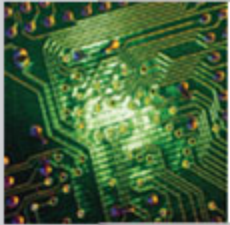
5-March 17, 2006, *Baird Research*

6- June 13, 2005: *RFID & Wireless News: Ballantine Produce's RFID Vision*

7-August 2005: *World Trade Magazine - RFID: Taking Stock of the Wal-Mart Pilot*

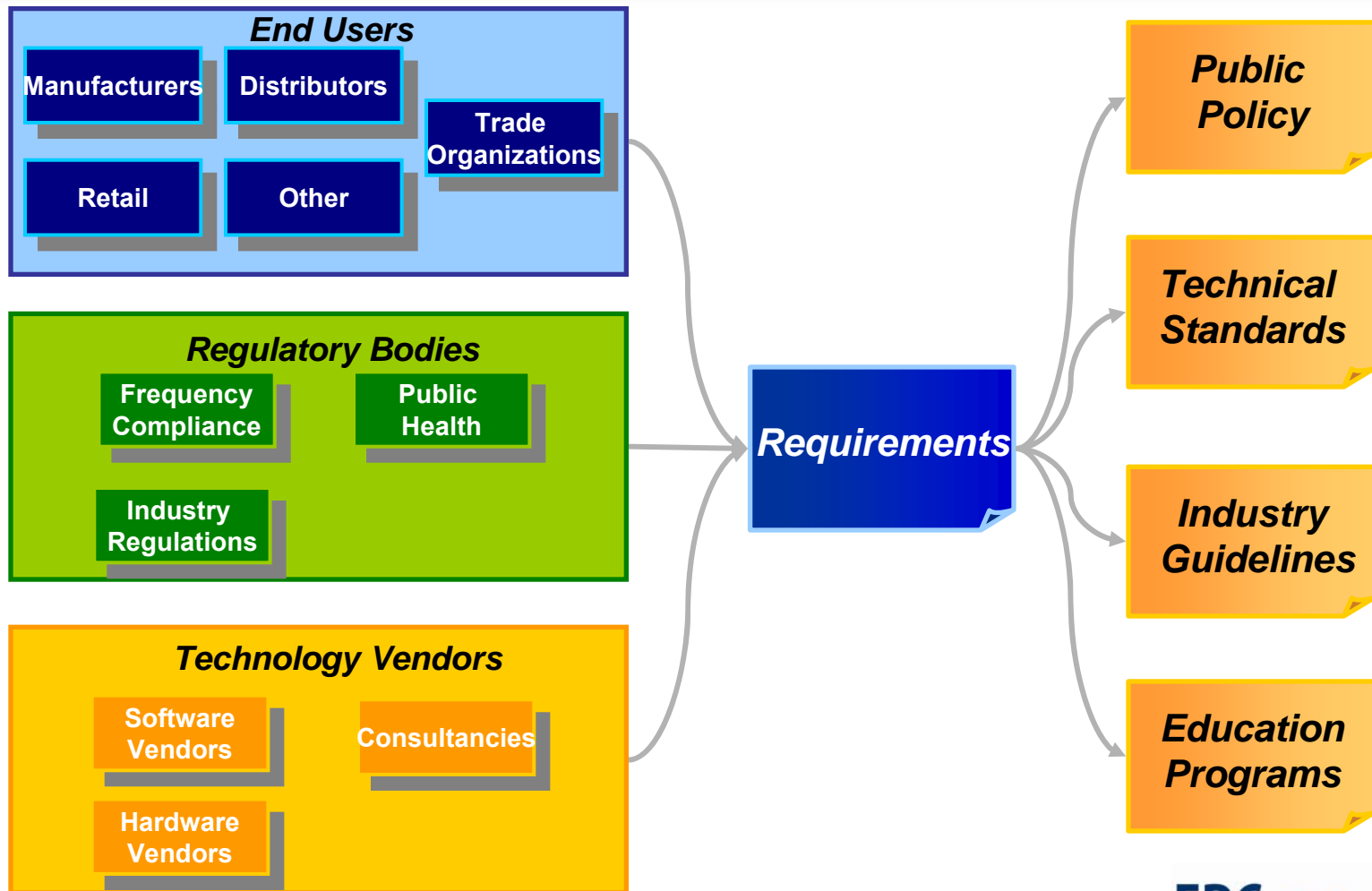
8-2005: *Proceedings of the 2005 Southern Association for Information Systems Conference*

**EPCglobal**   
POWERED BY GS1  U.S.



# The EPCglobal Community

*Pulling diverse organizations together*





# Global Standards & Competitive Advantage

## *The Case Study of Motorola vs Nokia*



**Time Division  
Multiplex Access  
Personal  
Communication  
Systems**

**Code Division Multiplex  
Access**

- Three competing standards in U.S.
- Motorola must focus valuable engineering resources on supporting multiple standards
- Motorola loses its early dominance in cell phone market



**Global Standards  
Management**

- GSM 90% of world outside of North America
- Single standard allows Nokia to focus engineering on value-added functionality
- Nokia takes dominant position in today's mobility market

***Standards allow technology providers to focus on innovation,  
not translation and intermediation***



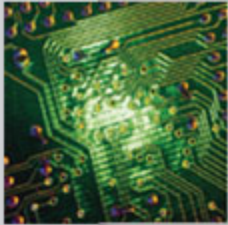
# Global Standards & Supply Chain Convergence

## *The Case Study of the Tire Industry*

- Manufacturers sell common goods in multiple markets
- Case in point: Tires are sold to Wal-Mart, the US DoD, aerospace AND automobile manufacturers

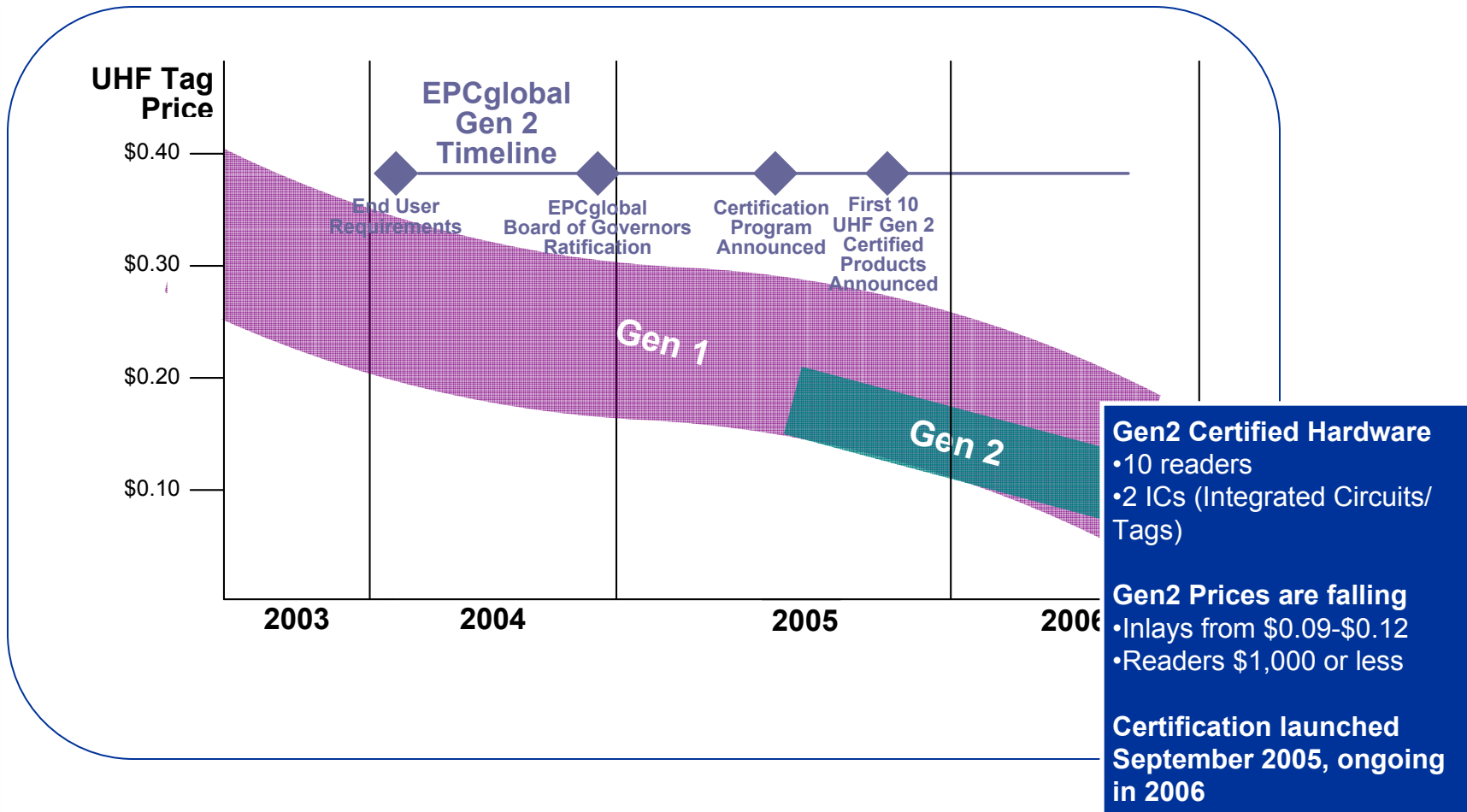


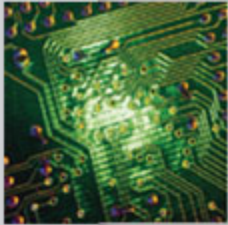
- How can tires be identified in one common way to meet multiple market needs without segregating inventories?
- Solution: EPCglobal Tag Data Standard



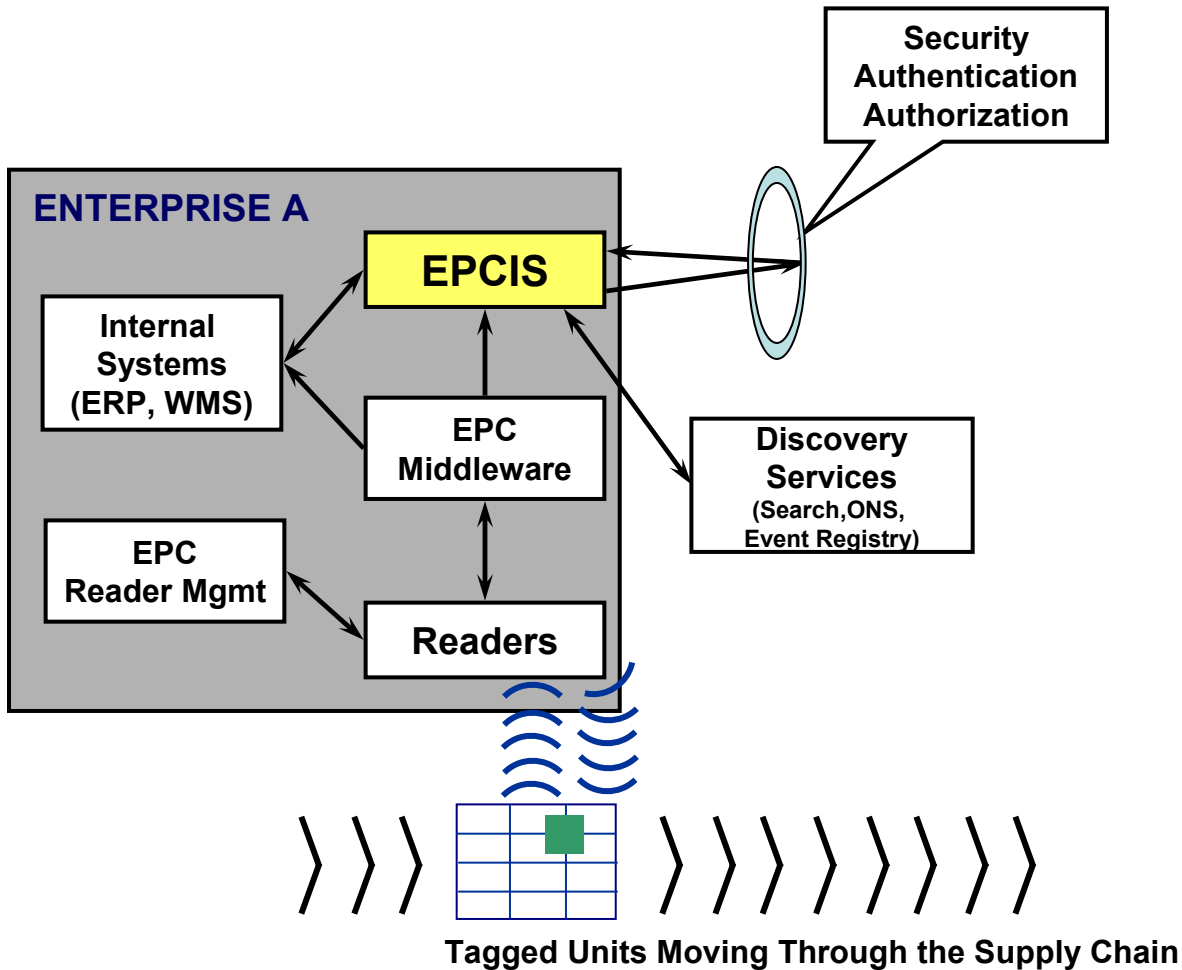
# Standards In Action

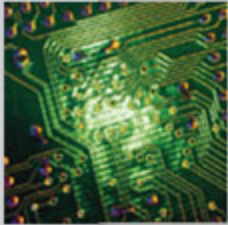
## The Case Study of Gen2 Air Interface Protocol



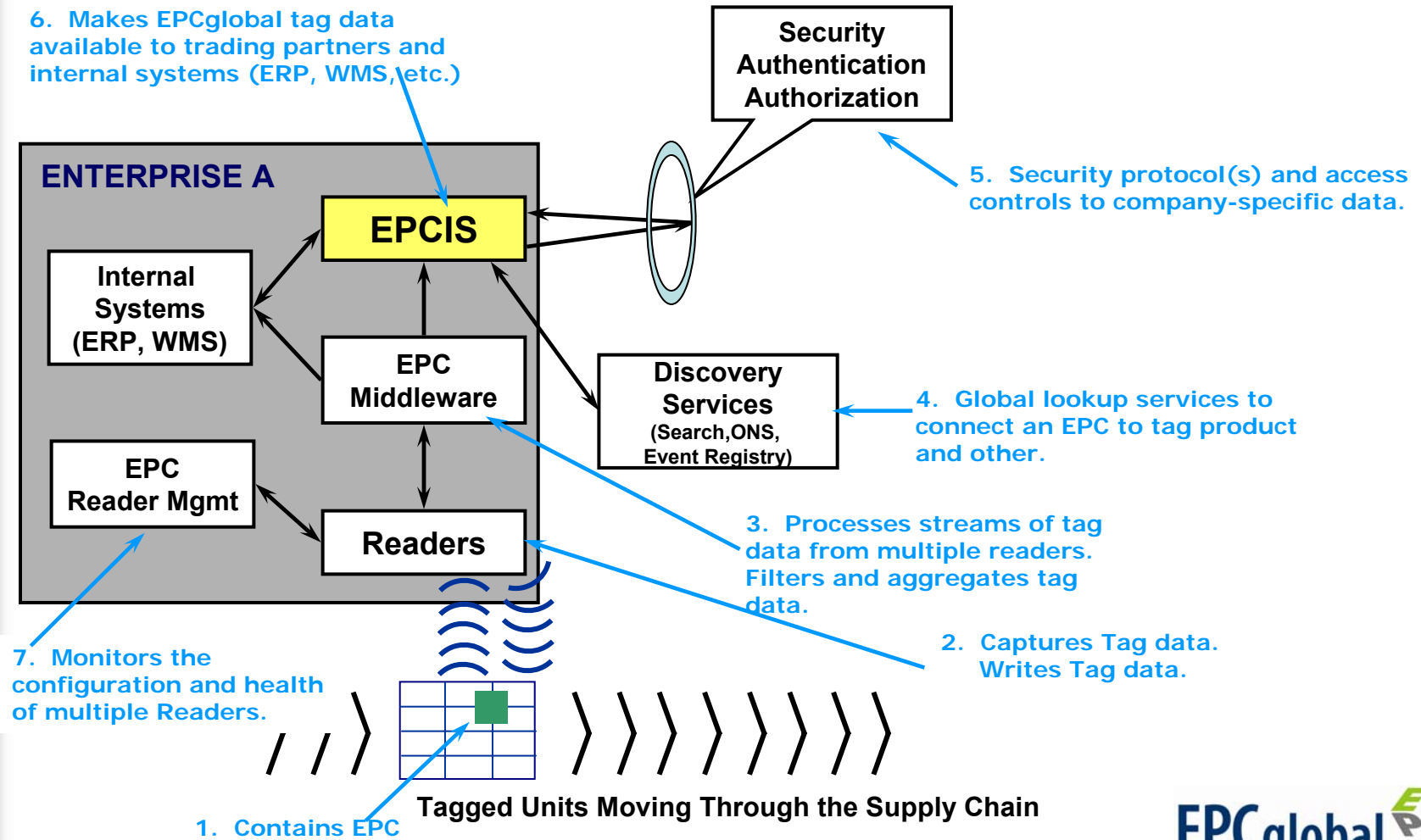


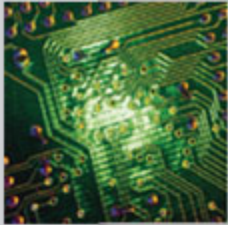
# The EPCglobal Network Architecture



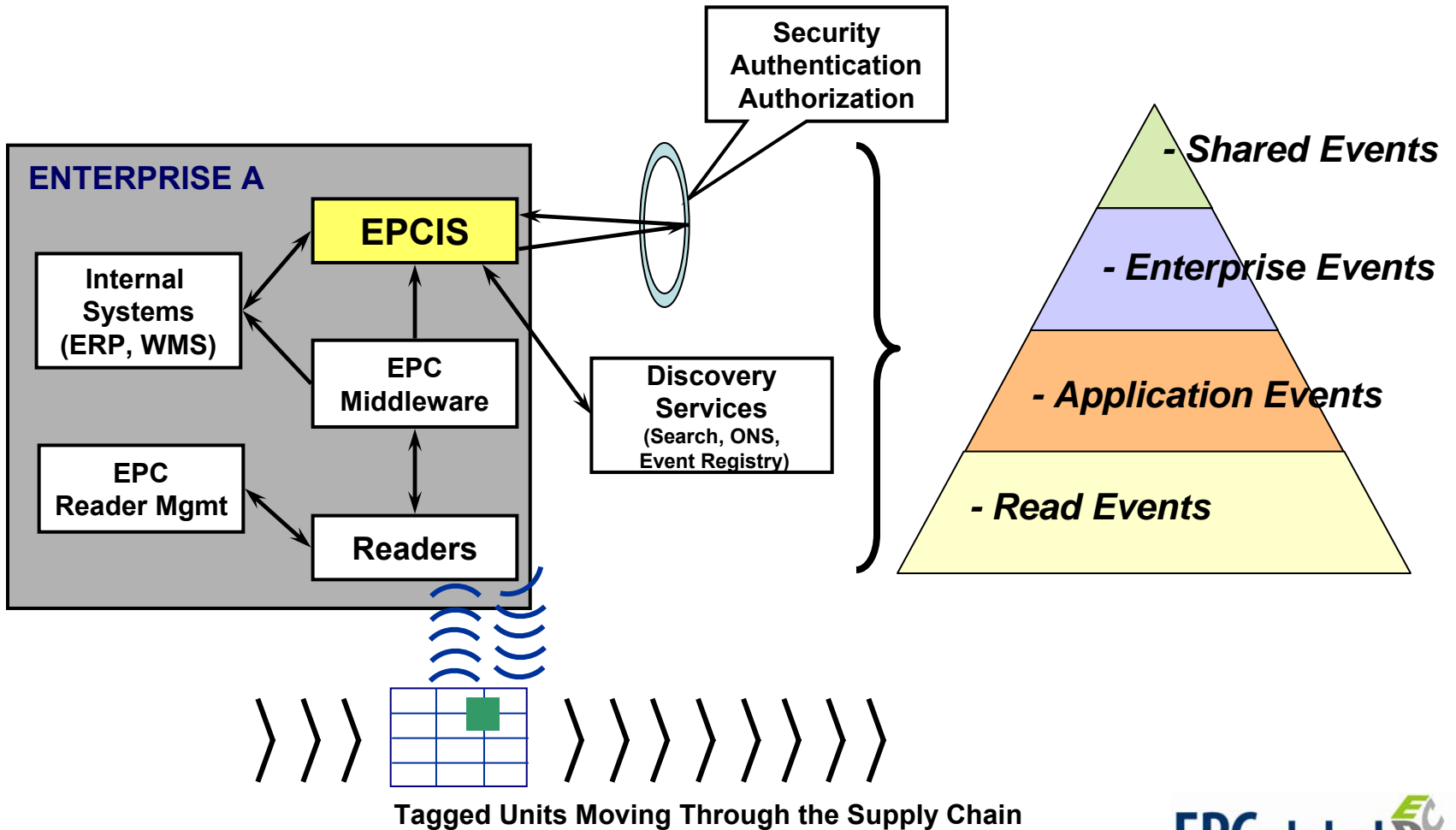


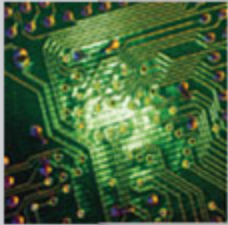
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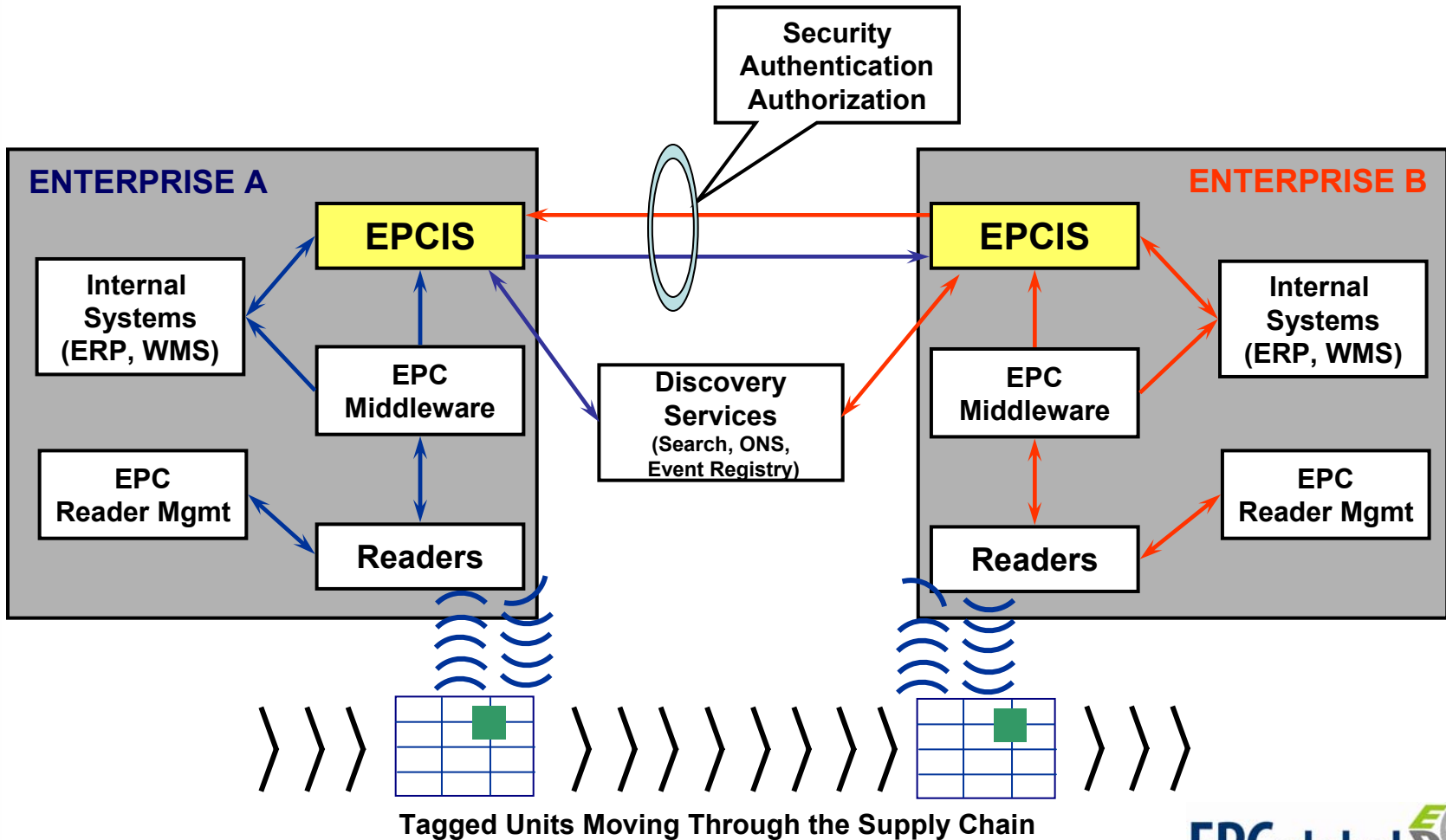


# Using the EPCglobal Network





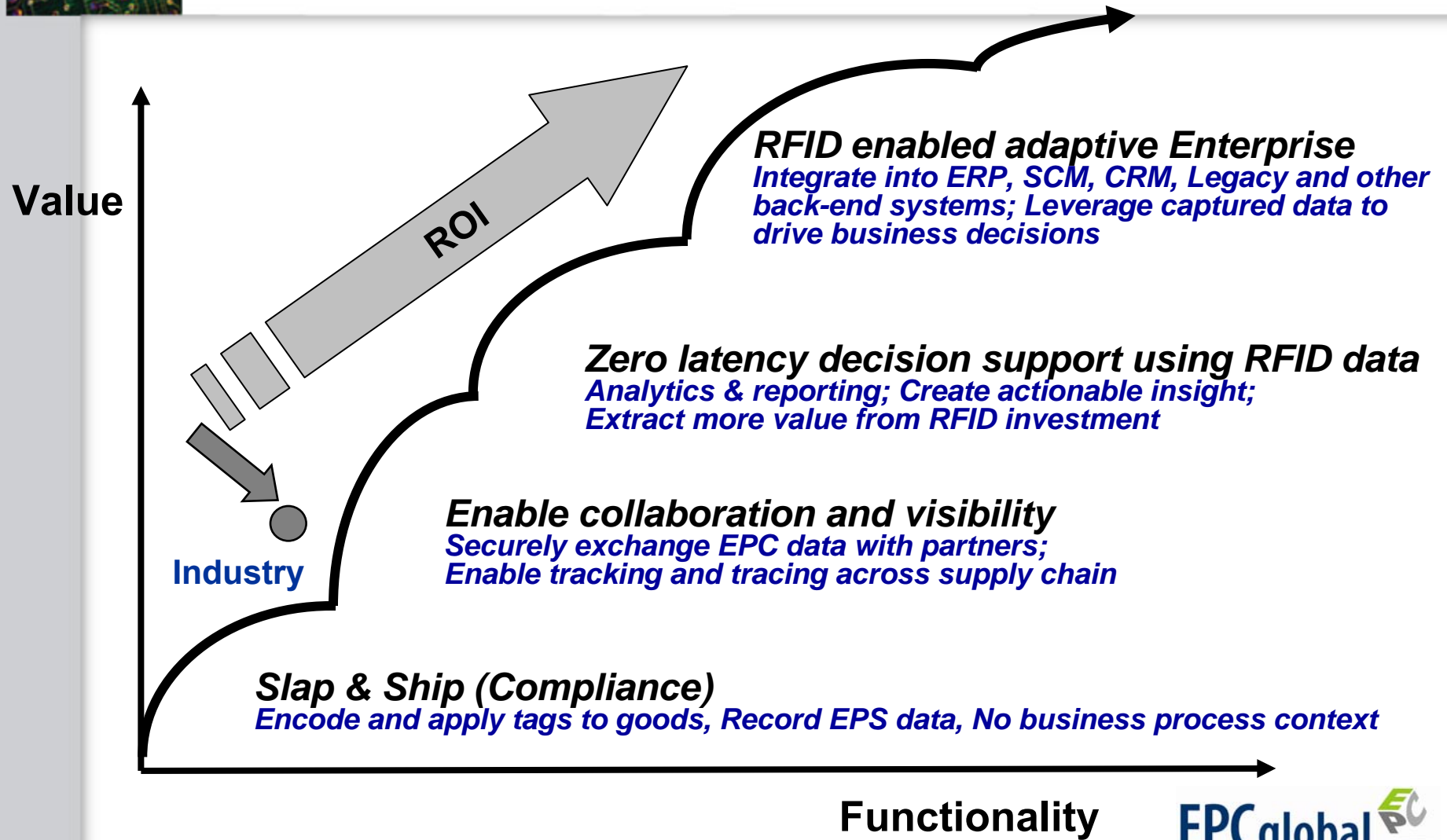
# Using the EPCglobal Network





# Implementation Roadmap

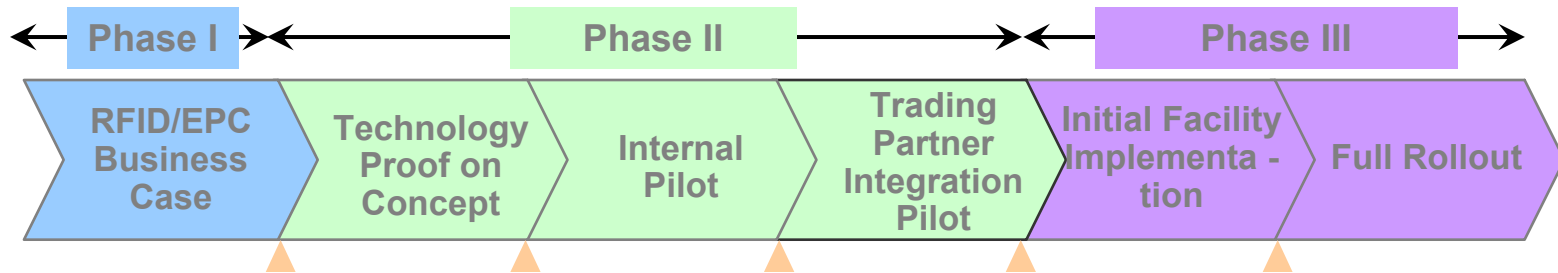
## Pathway to Adoption





# Recommended Implementation Strategy

## 3 Phased Approach



### Phase 1: Develop Value Assessment

- Mobilize project
- Define strategic alternatives
- Develop business model
- Drive stakeholder validation
- Develop a high level approach

### Phase 2: Launch RFID/EPC Pilot

- Validate pilot plan, vendor selection
- Select pilot business partners)
- Develop pilot success criteria
- Launch pilot
- Track evaluation metrics
- Design scalable implementation program

### Phase 3: Roll-out Implementation

- Validate full scale roll-out plan
- Develop success metrics
- Deploy solution
- Implementation process changes
- Evaluate performance metrics
- Realize benefits

*Determines magnitude of benefit and adoption strategy*

*Pilots validates business case and technology*

*Roll-out structured to achieve maximum ROI*



# Developing an RFID strategy

## *Considerations for Success*

### Strategic

- How can RFID enable our overall strategic vision?
- Should we be a leader or a “fast follower”?
- Which trading partners should I pilot with and when?
- How will we operate in a world of dual processes? And for how long?

### Organizational

- What are the change management implications?
- What are the risks involved in an RFID implementation?

### Financial

- What is the expected return on our RFID investment?
- What specific RFID applications can drive value for us?
- What is a realistic adoption pattern/rate of RFID and how will that impact my business case?

### Technological

- What are our technology requirements for an RFID implementation?
- What is the architecture that best delivers on my strategic technology plan?
- How will an RFID implementation impact our current applications?



# Moving Forward

## *Implementation Checklist*

- ✓ Identify executive sponsors within your organization
- ✓ Understand what issues you want to address
- ✓ Be clear on what benefits you want out of compliance
- ✓ Conduct a business case to optimize and transform your business (not just comply!)
- ✓ Understand your trading partners intentions
- ✓ Do your research
  - ✓ Events, executive briefings, demonstration, visit testing labs
- ✓ Hold workshops
  - ✓ Feasibility Study
  - ✓ Business Case Assessment
  - ✓ Execution Roadmap & Program Charter
  - ✓ Internal and External Readiness
  - ✓ Pilot and Implementation
- ✓ Learn by doing
- ✓ Focus on your own execution roadmap



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