

# ***Building a Smarter Planet:*** *Innovative supply chains for a new decade*

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*Supply Chain Visibility and Optimization Symposium*



# The world is changing and becoming more...



**Instrumented**



**Interconnected**



**Intelligent**

The explosion of new information, when integrated, analyzed, and acted upon using new types of intelligence, enables solutions that

**... help build a Smarter Planet**

## Smarter Planet Solutions create new opportunities



**Smarter Money**



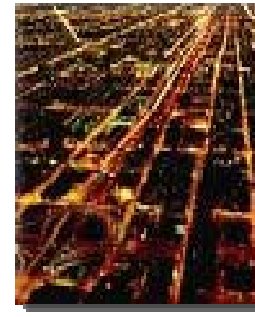
**Smarter Oil & Gas**



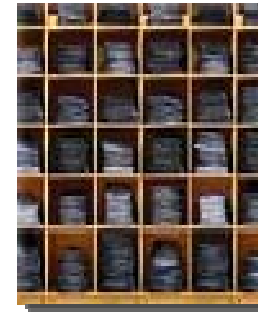
**Smarter Food**



**Smarter Healthcare**



**Smarter Grid**



**Smarter Retail**



**Smarter Telecom**



**Smarter Supply Chains**



**Smarter Public Safety**



**Smarter Government**



**Smarter Railroads**

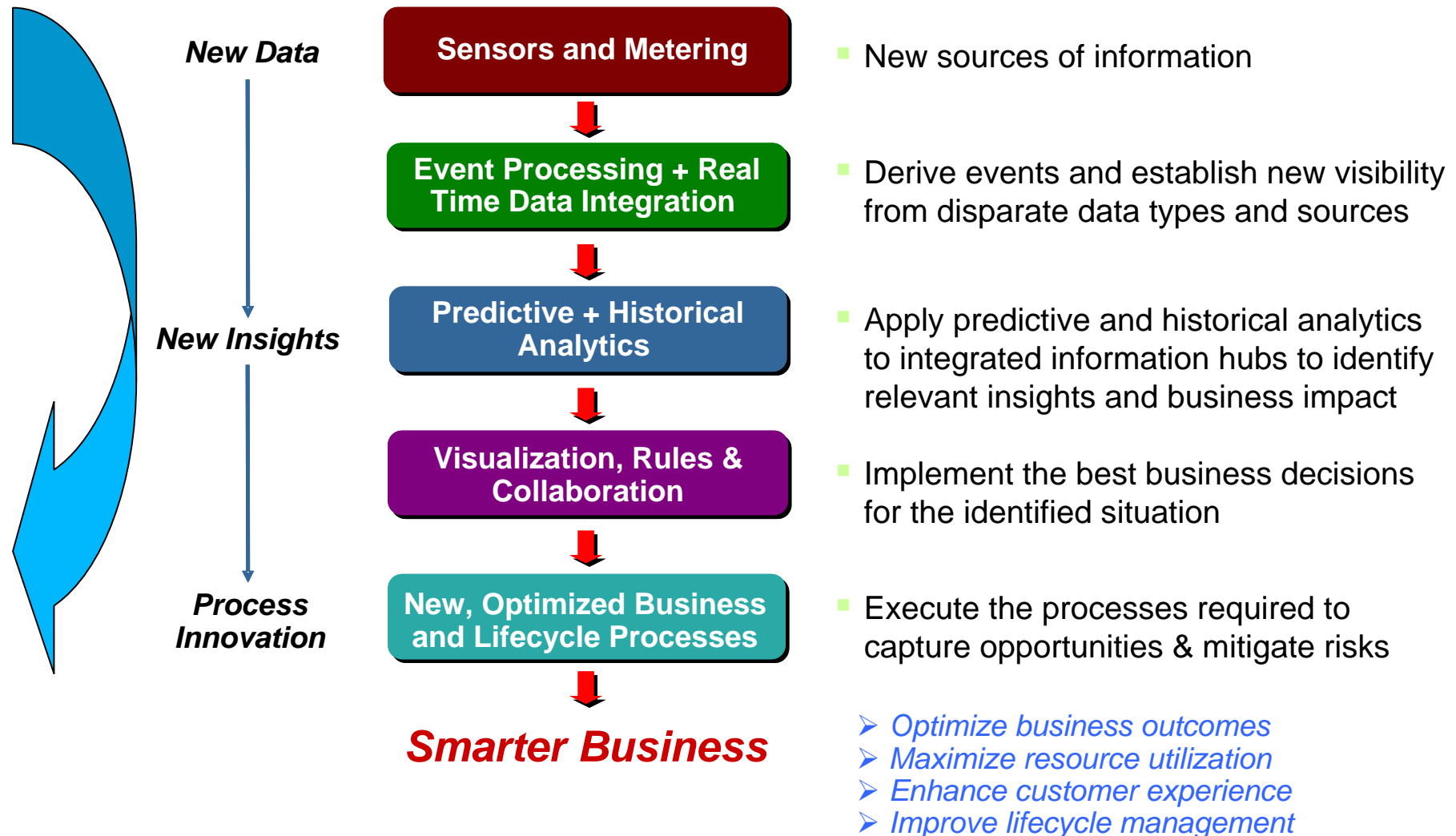


**Smarter Cities**



**Smarter Products**

## Smarter Planet Solutions have a common pattern for value creation



Increased Visibility to the Physical World through the use of Sensors like RFID is enabling **“Supply Chain & Asset Optimization”** solution patterns

**RETURNABLE ASSET MGMT.**

Managing returnable containers - reusable assets in a company and across the supply chain



Enabling your production system

Asset Optimization

**SUPPLY CHAIN VISIBILITY**

Tracking parts, components and goods, both in-house and across a supply chain



Supply Chain

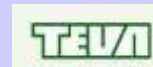
**REAL-TIME ASSET OPTIMIZATION**

Managing critical resources - people and equipment - through real-time visibility



**PRODUCT TRACEABILITY**

Track & trace products across the supply chain (e.g. drug, food)



# Returnable Asset Management Solution

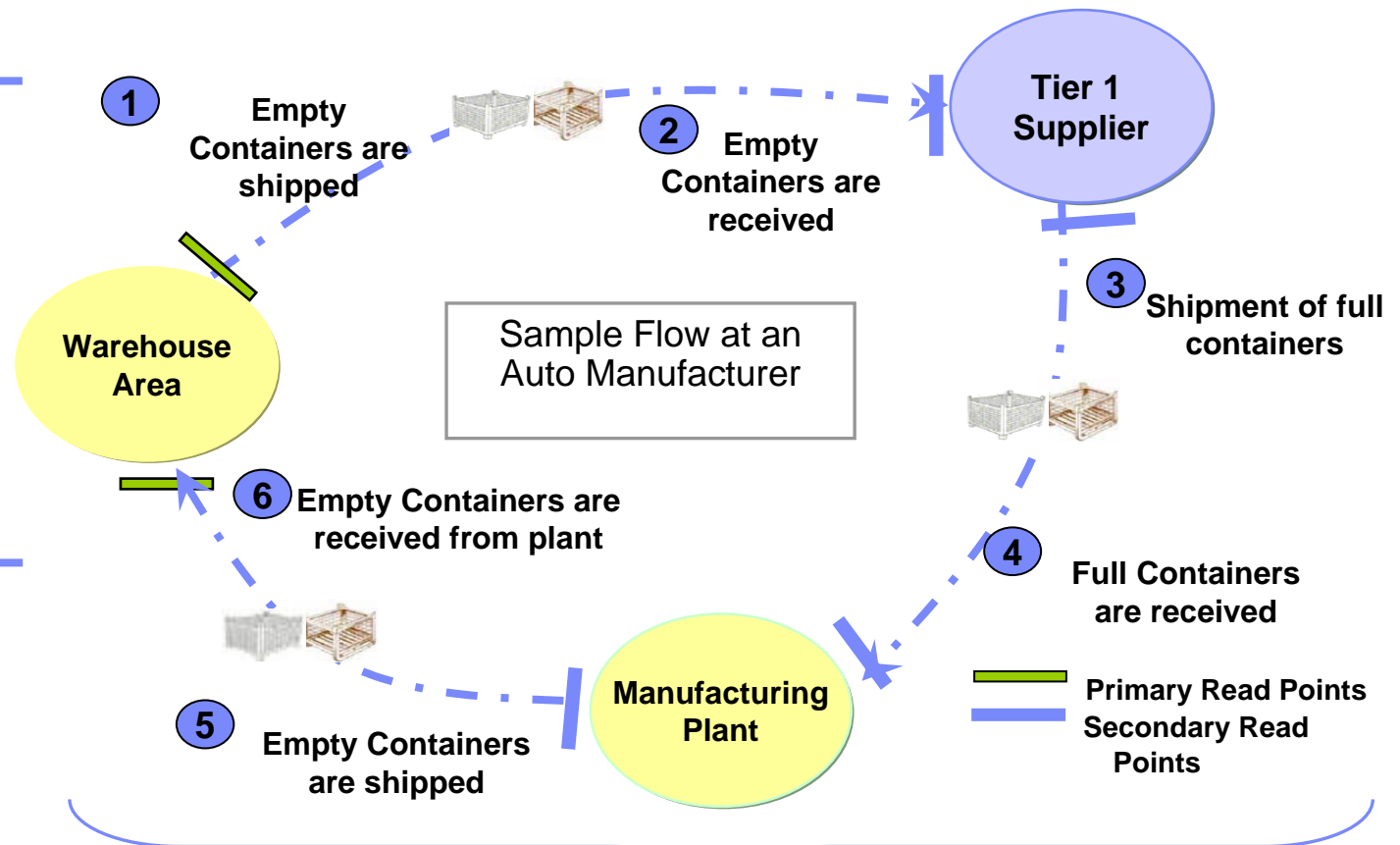
*Optimize utilization of returnable assets*

## Solution Benefits

- Reduce capital investments by eliminating unnecessary safety stocks
- Identify and correct sources of loss and theft
- Reduce operating expenses related to one-way packaging and expedited shipping costs

## Solution Capability

- Automated asset tracking and tracing
- ERP and EAM integration for inventory management, procurement and repair
- New and replacement procurement
- Analytics increase visibility to inventory, utilization and exception metrics



Dwell Time History



Current Asset Inventory



Asset Inventory History



Aged Asset Inventory



# Supply Chain Shipment Verification Solution

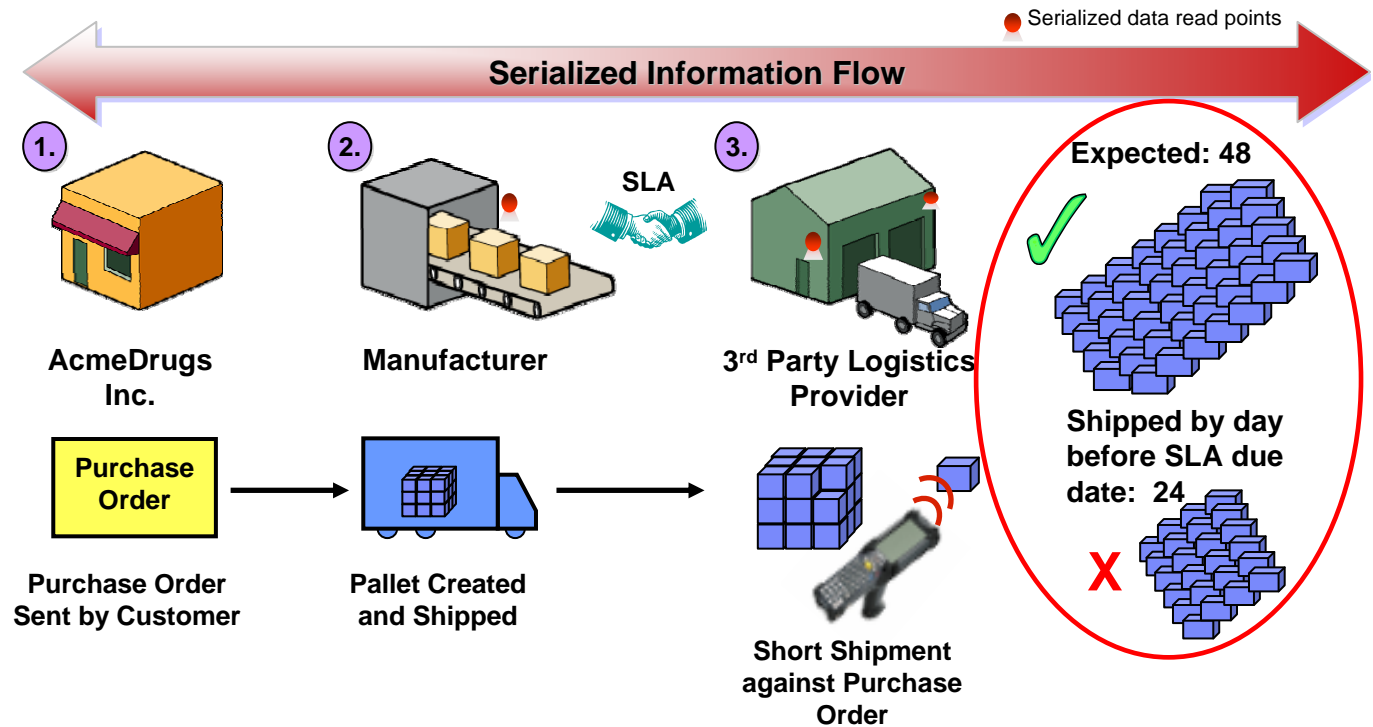
*Optimizing goods management between trading partners*

## Solution Benefits

- Anti-counterfeiting
- Targeted Recall
- Reduced Diversion
- Chargeback Accuracy
- Reduced Product Expiration
- Improved Inventory Management
- Supply Chain Performance

## Solution Capability

- Using item level serialization to track the movement of pallets, cases and individual units through the supply chain using RFID or 2D barcode technologies
- Capturing the business context (what, where, when, why) of each transaction
- Providing up and downstream inventory visibility through a distributed, standards based data repository



### Information Tracking



### Business Events Processing



### Performance Management



# Perishable Goods Supply Chain Solution

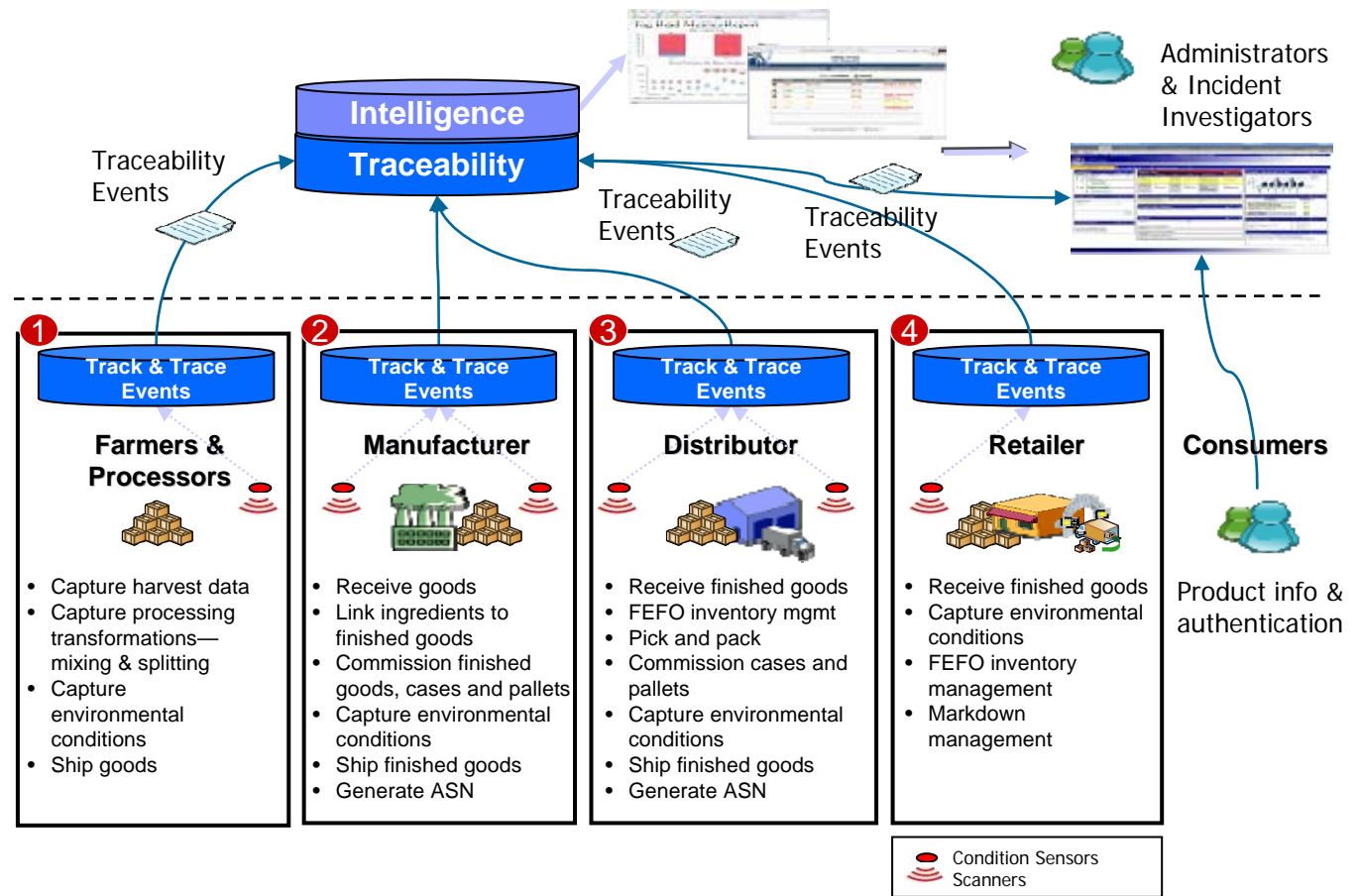
*Optimize freshness and safety*

## Solution Benefits

- Improve Food Safety and Recall Management
- Improve Freshness and Quality
- Improve Regulatory Compliance
- Brand empowerment and customer loyalty
- Improve efficiency and accuracy of product recalls
- Create supply chain transparency and meet consumer demand for information about the products they buy
- Meet requirements for access to export markets

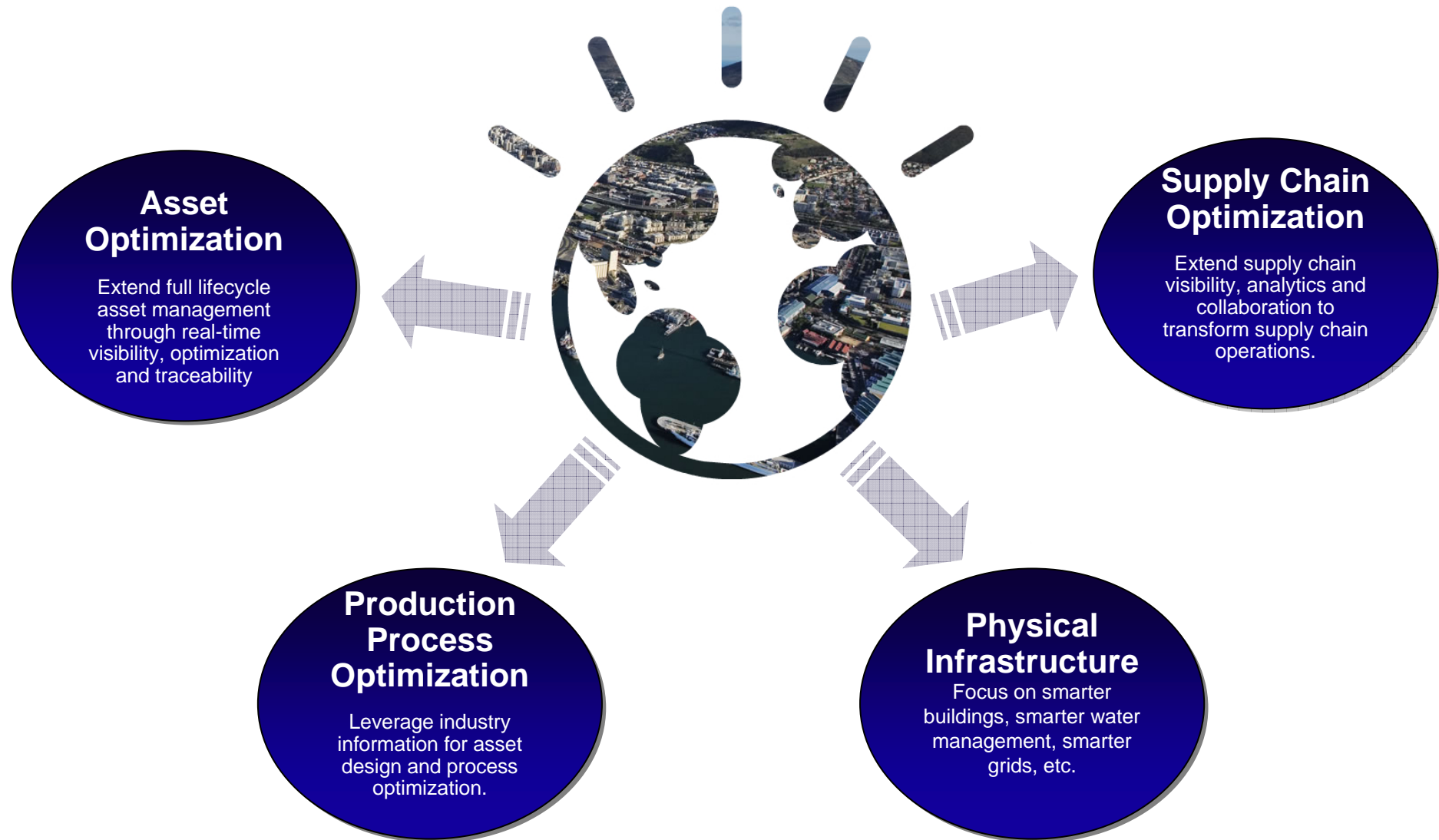
## Solution Capability

- Serialized supply chain traceability processes and reports
- Lot-based traceability processes for primary processors and secondary producers (manufacturers)
- Lot-based traceability reports
- Dashboards and analytics





**IBM Solutions:** Linking physical world assets, resources and infrastructure with the digital world of event processing, business analytics and optimization.



## Optimization is the future of Supply Chain

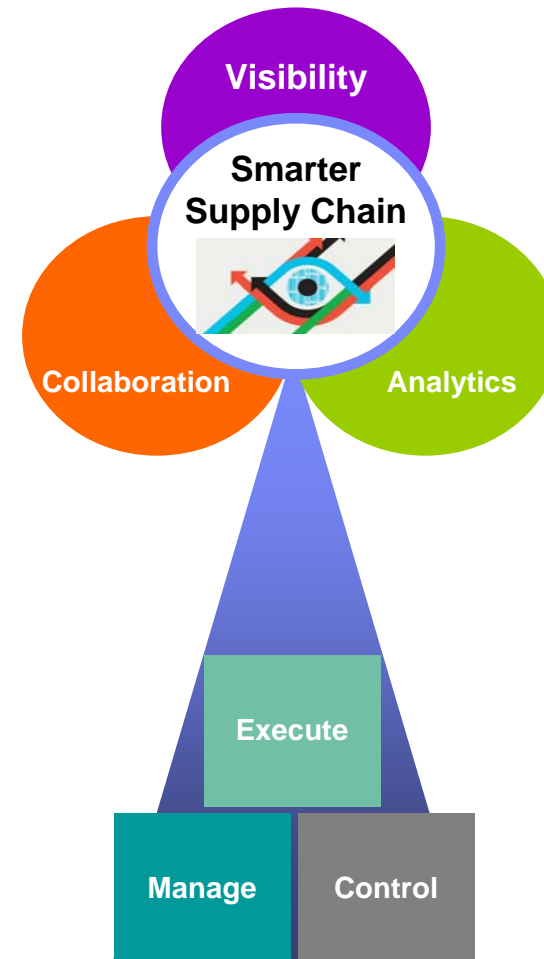
Smarter Supply Chains move beyond traditional, transactional Supply Chain Management

### Smarter Supply Chain

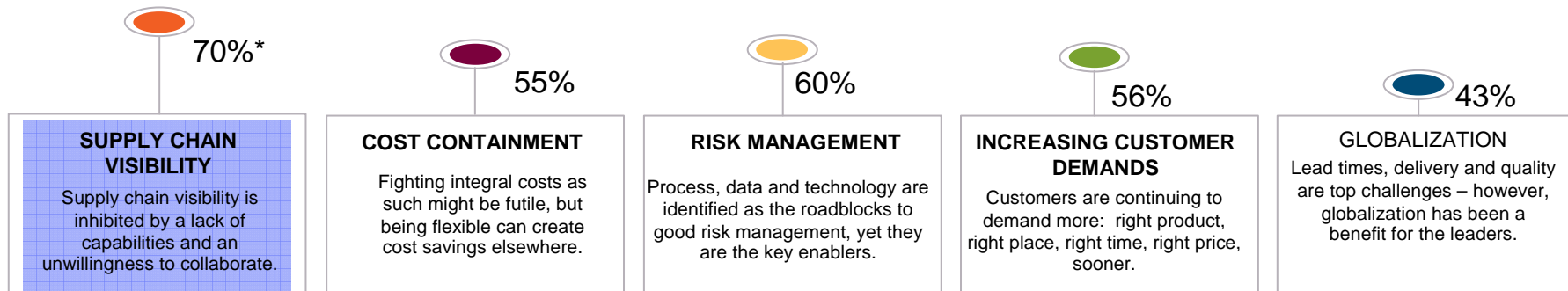
Smarter supply chains optimize operations, from raw materials suppliers to end customers, using visibility, collaboration and analytics in a dynamically changing and chaotic environment.

### Traditional, Transactional Supply Chain Management

Traditional supply chain management software includes tools or modules used to execute supply chain transactions, manage supplier relationships and control associated business processes



# Visibility is the keystone of a Smarter Supply Chain, driving **Analytics** and **Collaboration** and enabling the resolution of the major challenges facing today's supply chains



\* Percentage of Supply Chain Leaders who report this challenge impacts their supply chains to a significant or very significant extent.

Source: IBM Chief Supply Chain Officer Study; 400 executives, 25 countries, 29 industries

## Visibility

- Expose supply chain information from multiple disparate systems
- Identify and respond to the events that impact your operations or your trading partners

## Analytics

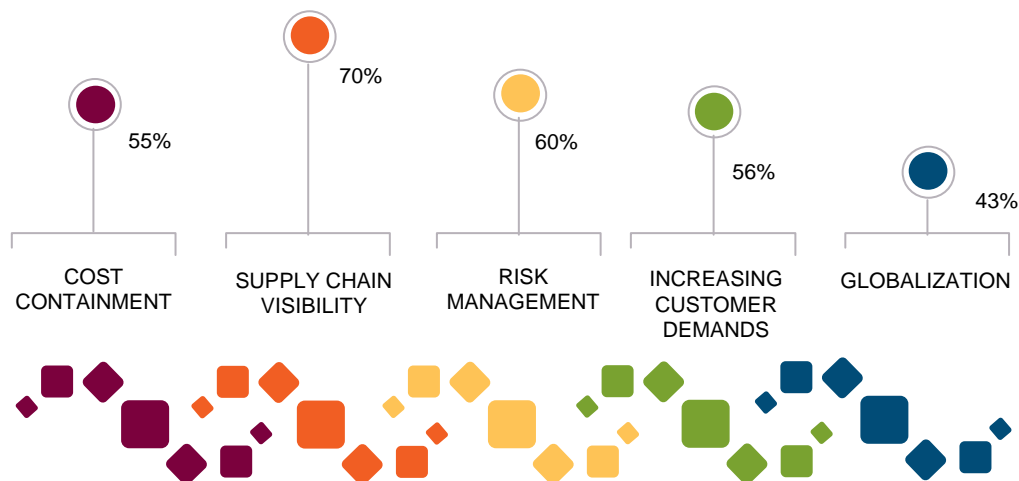
- Analyze and predict the trends and risks that impact your supply chain
- Determine the optimal response to changing conditions

## Collaboration

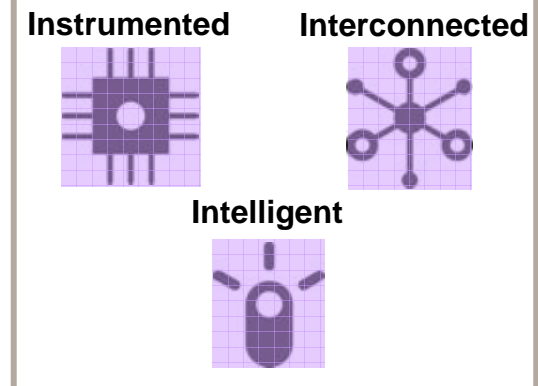
- Execute seamlessly across internal supply chain processes
- Share information to optimize joint responses to changing conditions

# We Must be Smarter...

## New rules for a new decade...



### *The Smarter Supply Chain*



### **Instrumented, Interconnected, & Intelligent**

The smarter supply chain has three new characteristics. Firms across the globe are beginning to see the benefits of building a new vision of supply chain excellence.

## Three attributes: Instrumented, Interconnected & Intelligent

### Instrumented

#### Automated Transactions & Smart Devices

- Use of sensors, actuators, RFID, & smart devices to **automate transactions**: inventory location, shelf-level replenishment detection, transportation locations & bottlenecks
- Supports **real-time data collection & transparency** from POS to manufacturing to raw material
- **Sense-and-respond** demand/supply signals allow “predict and act”

### Interconnected

#### Optimized Flows

- **System integration** across the network. Standardized data and processes.
- **Collaborative decision making** through decision support and business intelligence – starting with the customer
- **C-Suite risk management programs** for integrated financial controls with operational performance – monitored and measured

### Intelligent

#### Networked Planning, Execution & Decision Analysis

- **Simulation models to evaluate trade-offs** of cost, time, quality, service and carbon and other criteria
- Probability-based risk assessment & **predictive analysis**
- Networked planning/execution with **optimized** forecasts & decision support

## IBM Supply Chain Solutions

### - creating new solutions for end-to-end smarter supply chains -

#### ▪ IBM Software Group products & frameworks

- ILOG
- Cognos
  - Blueprints
  - Procurement, Inventory and Sales Analytics Applications
- WebSphere Sensor Events
- InfoSphere Traceability Server
- Maximo
- WebSphere Business Partner Gateway
- Industry Frameworks
  - Retail, Government, Industrial, Healthcare

#### ▪ IBM Global Business Services

- Supply Chain Strategy
- Supply Chain Planning
- Sourcing and Procurement
- Enterprise Applications
- Product Lifecycle Mgmt / R&D
- Asset Management
- Supply Chain Operations
- Fulfillment & Logistics

#### ▪ Global Technology Services

- Business Tone
- Procurement/Continuous Replenishment (VMI)

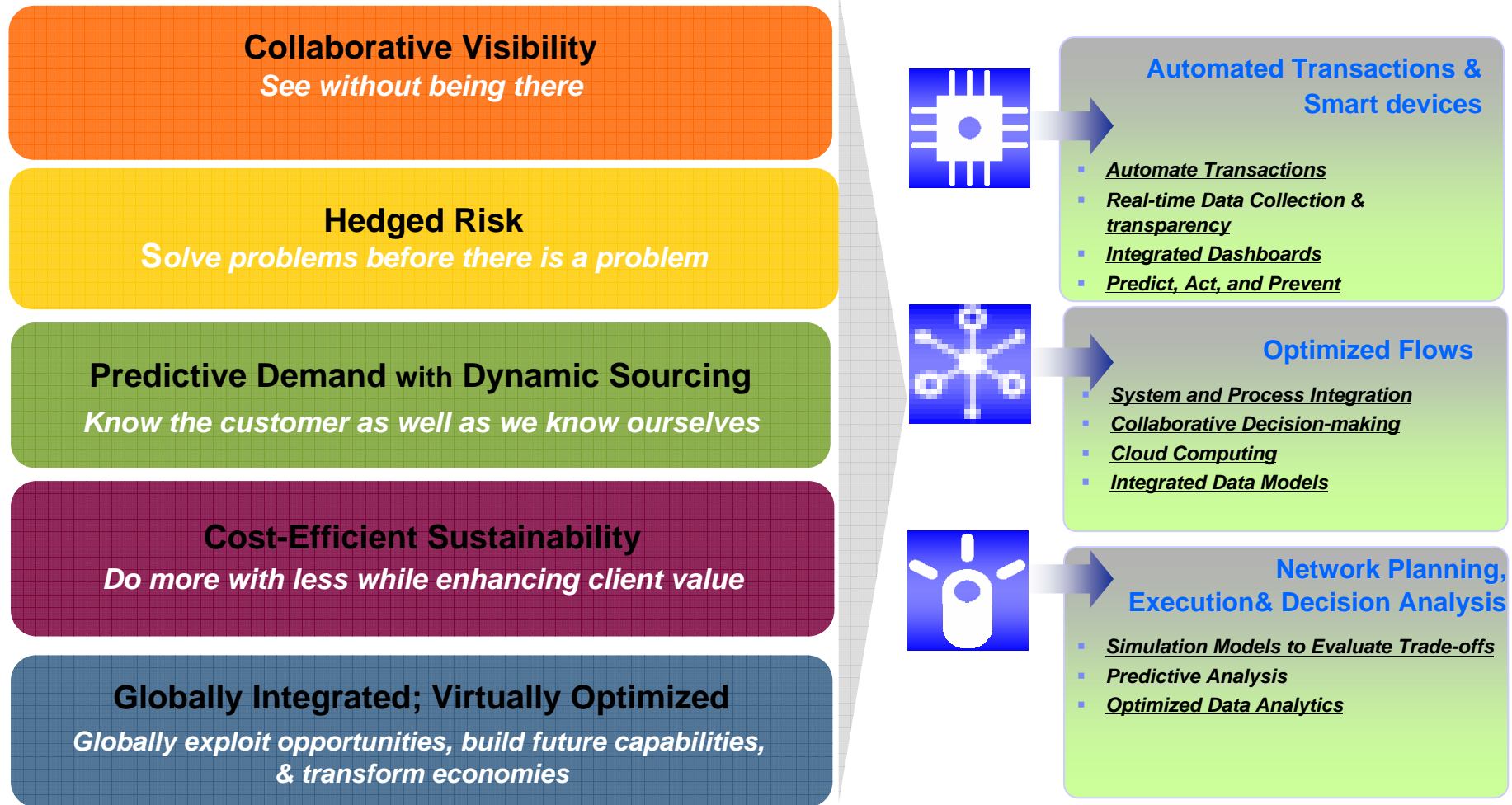
#### ▪ IBM Industry solutions

- Retail
  - Merchandising and Supply Chain
- Aerospace & Defense
  - Supply Chain & Aftermarket
- Automotive
  - Manufacturing Productivity & Supply Chain
- Chemicals & Petroleum
  - Supply Chain Optimization
- Electronics
  - Supply, Demand & Global Integration
- Consumer Products
  - Food Traceability
  - CRP – Demand Driven Replenishment
- Healthcare & Life Sciences
  - Pharma Track & Trace

- **New Solutions - Industry based; visibility, analytics and optimization for end-to-end supply chain management: a smarter supply chain**

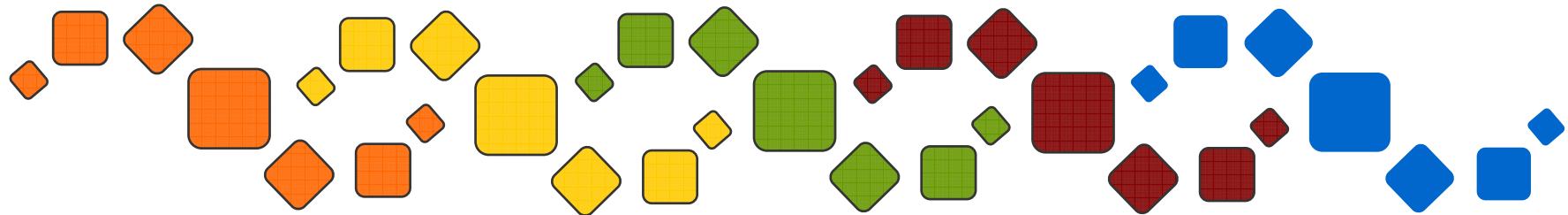
**New Acquisitions and Partnerships - e.g. Sterling Commerce**

## The “Smartmap” to the Smarter Supply Chain of the Future



**TALENT – Lead with unmatched skills and experiences**

# *The New Decade for Smarter Supply Chain Management*



***Let's Build it Together***