Supply Chain Visibility & Optimization for a "Smarter Factory"

Brian Dalgetty, Director Solutions Development
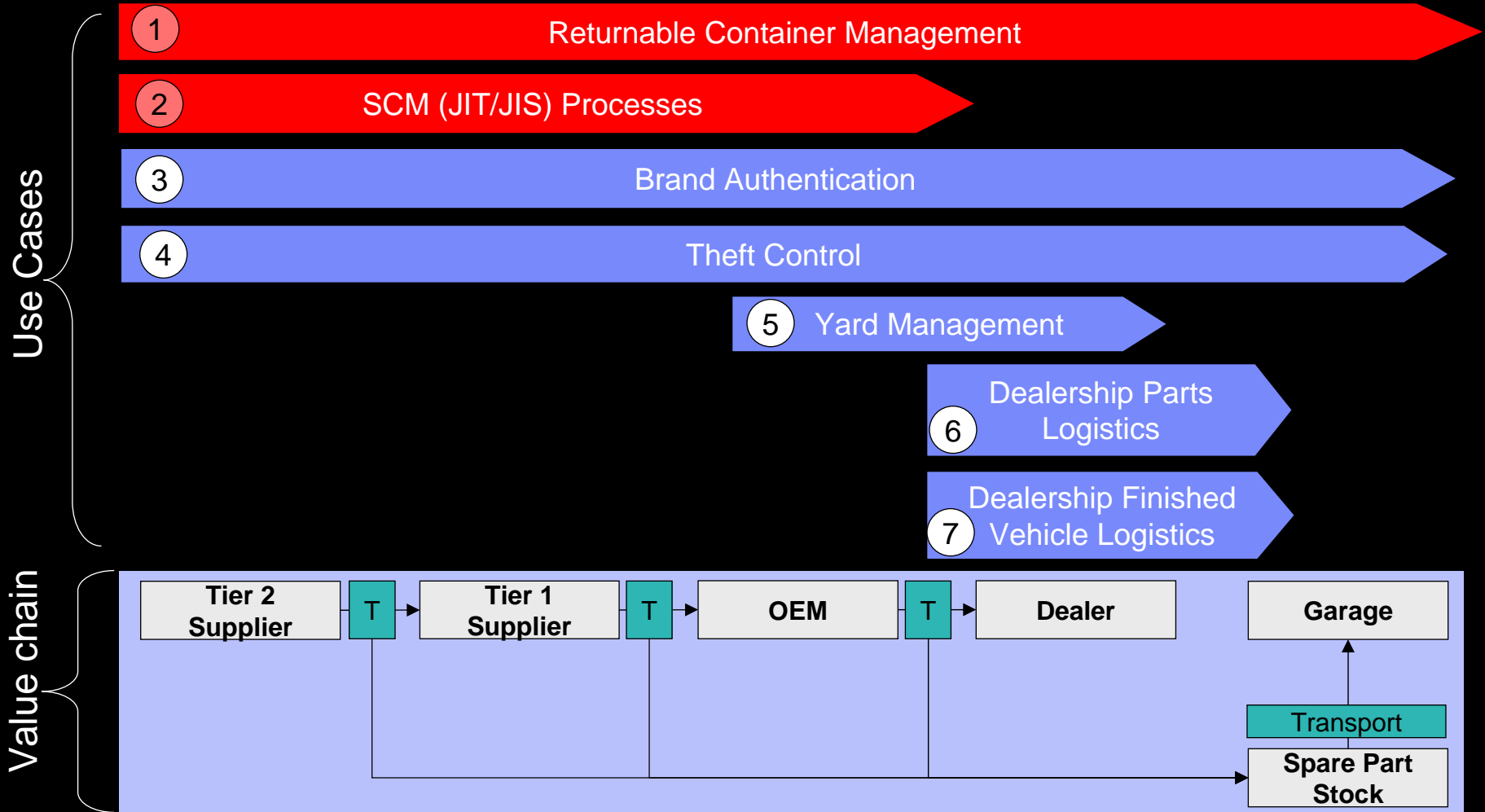
IBM Sensor Solutions

Smarter Factory Solutions: IBM Teaming with Honda Italia
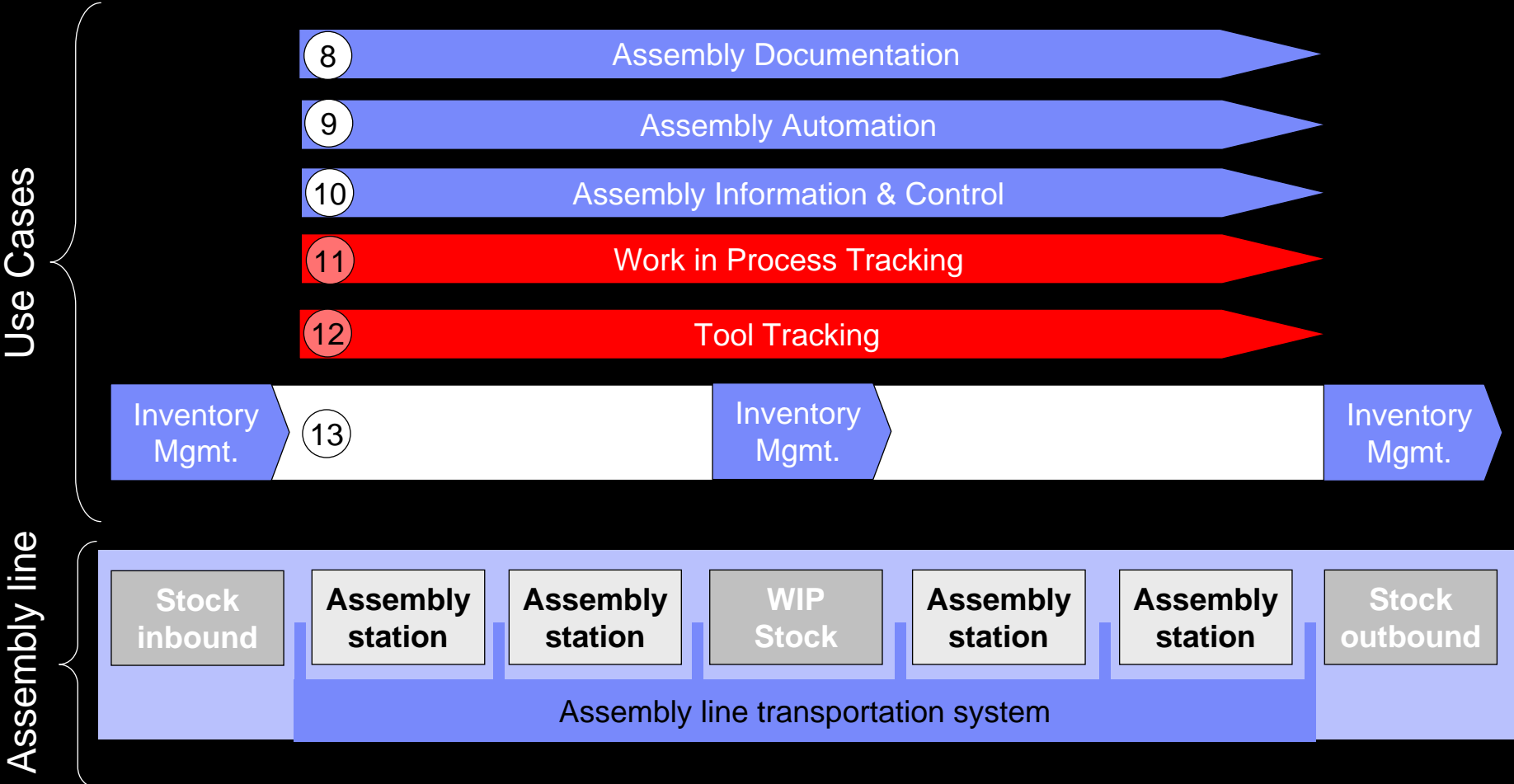- Important to have support from both "IT and LOB"

Automotive/Industrial Supply Chain use cases:
- Delivering business value from increased visibility

Use Cases

1. Returnable Container Management
2. SCM (JIT/JIS) Processes
3. Brand Authentication
4. Theft Control
5. Yard Management
6. Dealership Parts Logistics
7. Dealership Finished Vehicle Logistics

Value chain

| Tier 2 Supplier | T | Tier 1 Supplier | T | OEM | T | Dealer | | Garage |

Transport

Spare Part Stock

Automotive/Industrial Manufacturing use cases:
- Delivering business value from increased visibility

Use Cases

8 — Assembly Documentation

9 — Assembly Automation

10 — Assembly Information & Control

11 — Work in Process Tracking

12 — Tool Tracking

Inventory Mgmt. — 13 — Inventory Mgmt. — Inventory Mgmt.

Assembly line

| Stock inbound | Assembly station | Assembly station | WIP Stock | Assembly station | Assembly station | Stock outbound |

Assembly line transportation system

Business Value from increased visibility example:
- IBM Returnable Container Management solution

	Automotive OEM	Supplier	Transportation Provider
Improved returnable container turnaround time	20% (of total)		
Reduced losses and shrinkage	5 – 15% (of total)		
Reduced returnable container inventory	10% (of total)		
Savings in inventory carrying cost	30% (of total)		
Reduction in reconciliatory processes	75% (cost reduction)	75% (cost reduction)	75% (cost reduction)
Better control over transportation	5% (cost reduction)		15% (efficiency gain)
Reduction of one-time packaging	80% (of total)		
Inventory visibility and cycle counts	65% (cost reduction)	65% (cost reduction)	

Warehouse, 8%   Investment, 8%
Planning, 18%
Handling, 44%
Freight, 22%
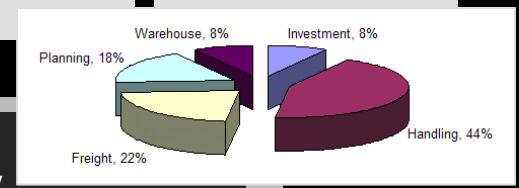
Additional Benefits:

- Enhanced data reliability
- Better requirements planning
- Ability to locate individual containers
- More efficient refurbishment process
- Higher control over full containers
- Ability to locate containers in manufacturing

- Ability to utilize RFID in assembly
- Ability to recall containers
- Ability to direct container flows
- Optimized supplier processes
- Application of RFID to supplier manufacturing
- Automation of supplier payments
- Better organizational management

Steps to Achieve Business Value from Visibility

INSTRUMENTED

1. What is really going on?
Collect and interpret <u>new data</u> from sensor systems to determine <u>events</u>

2. When to act?
Analyze <u>events</u> to identify insights that determine when to <u>act</u>

INTERCONNECTED

3. What is happening?
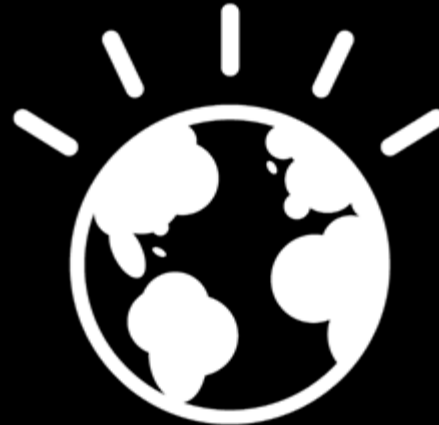Visualization of <u>events</u> in business context

4. What to do?
Determine the best course of <u>action</u> to respond to identified business situations

INTELLIGENT

5. How to do it?
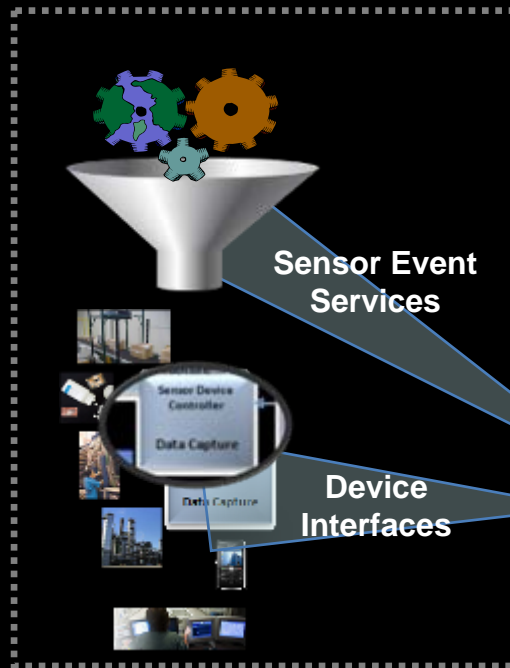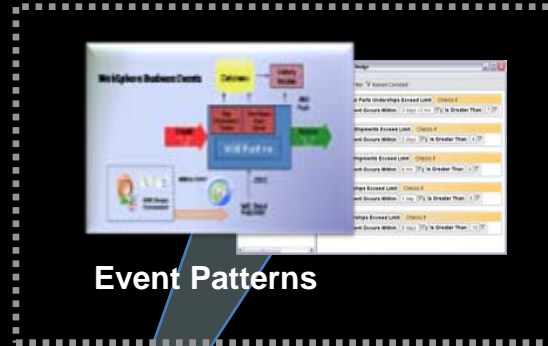Manage and choreograph the <u>processes</u> that perform the <u>action</u>

Smarter Supply Chain Solutions
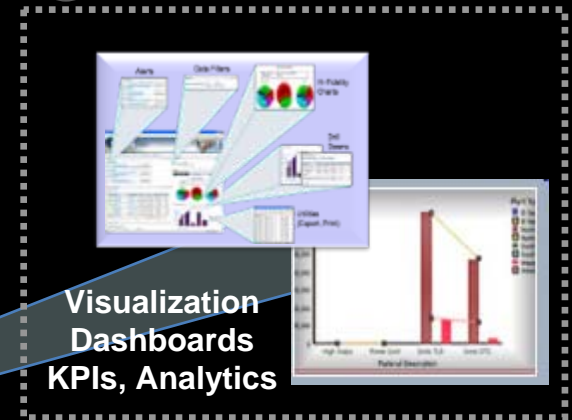## Use case implementation created with a palette of IBM capabilities

2. **When to act?**

1. **What is really going on?**

3. **What is happening?**

Event Patterns

Sensor Event Services

Device Interfaces

Visualization Dashboards KPIs, Analytics

4. **What to do?**

Performance Management with Master Data

5. **How to do it?**

Asset Management Tools

Process Models, Runtime & Adapters

Communication & Collaboration

Business Rules & Optimization Tools

ESB