Next Generation Supply Chain

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Today's Supply Chains require Collaboration

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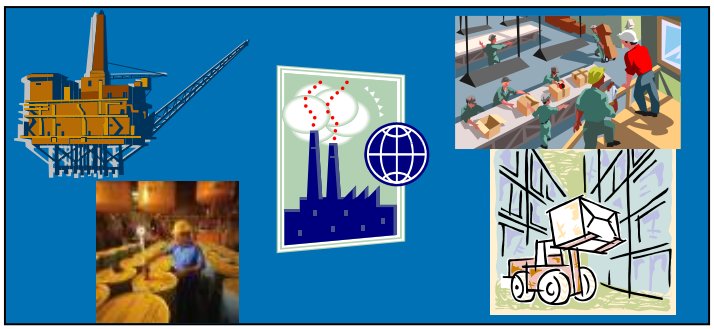
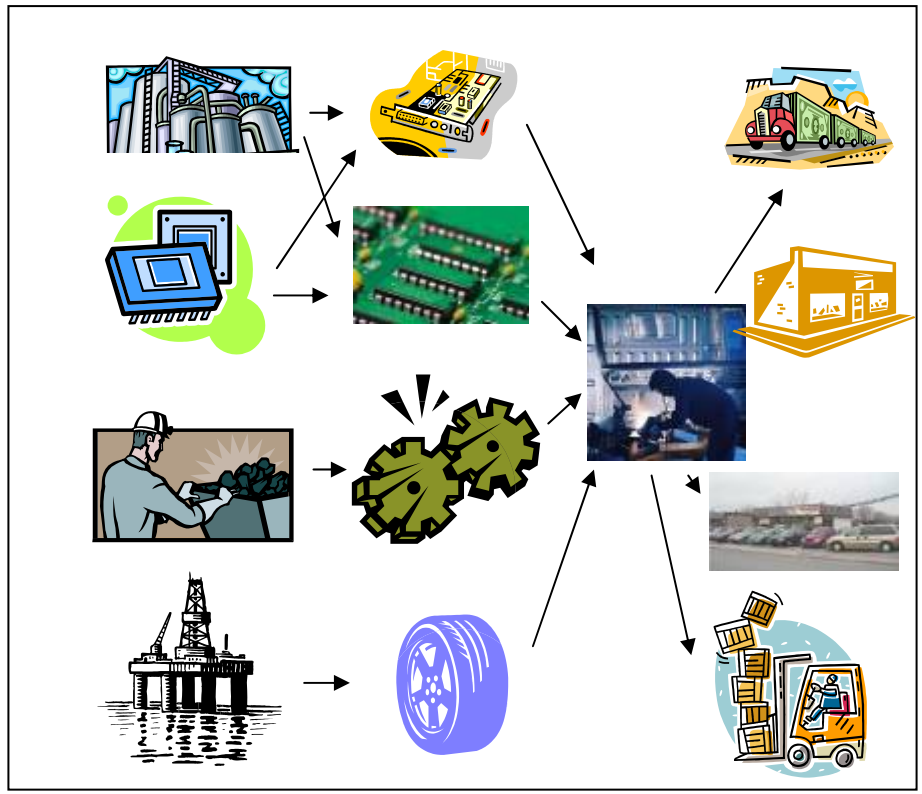
From Vertical Integration to Focus on Core Competencies

Reason: Cost Reduction
Globalization
From fixed to variable
Complexity of Technologies





Implications:

- Lack of Visibility increases cost
- Sub-optimized Supply Chain
- Less Responsive
- Lower Customer Satisfaction

Customer Expectations:

- Faster Delivery
- More Choice
- Reduced Price

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Trouble comes from the edges

- Small turbulences early in the supply chain:
  - Are typically notices very late
  - Disrupt the whole system, amplifying their effect as they travel through the supply chain
  - Are very costly
  - Generate a lot of dissatisfaction
- Potential risks go un-noticed due to reduced understanding of the edges of the supply chain

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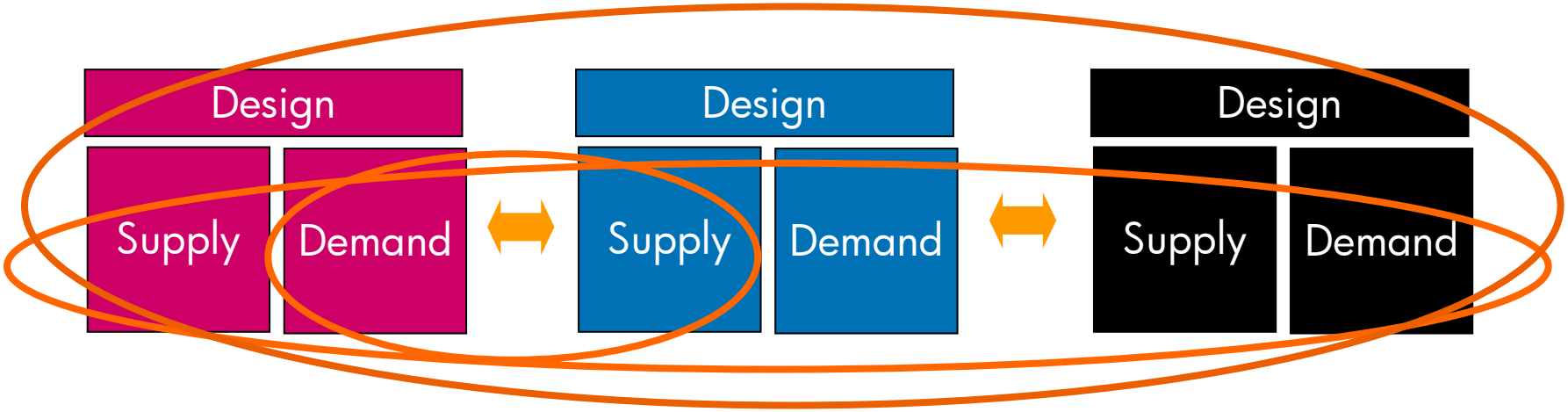
Coordination beyond traditional Supply Chain…



Companies focus has typically been on the optimization of their own supply chain, reducing costs of sourcing products from their suppliers.

To continue improve performance, companies need to turn their focus to the end-to-end supply chain, reviewing how to take costs out of that supply chain

And companies should review how the design of their products and packaging directly influences the cost of their supply chain

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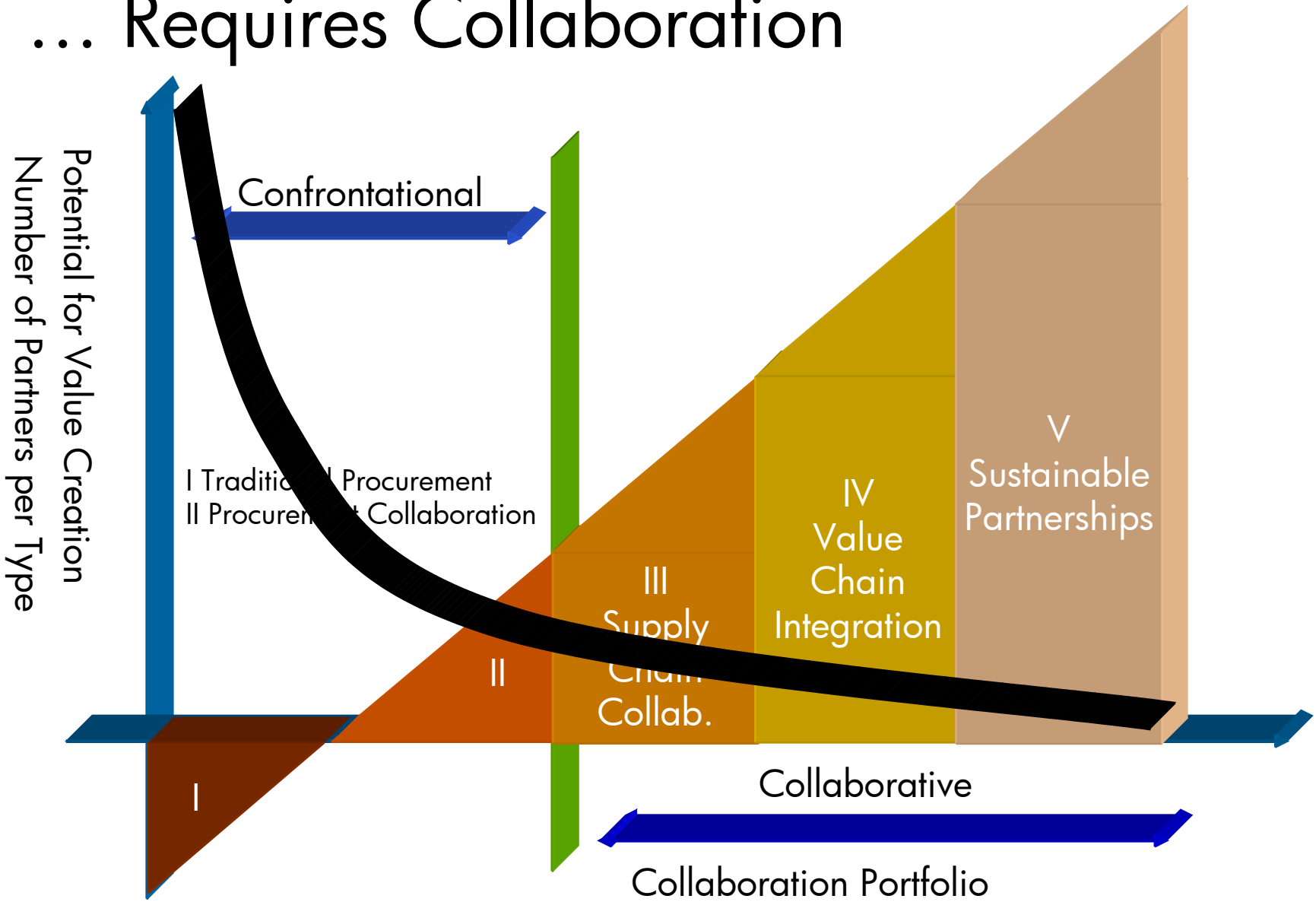
… Requires Collaboration



Source: Collaborative Sourcing, Philippart, Verstraete, Wynen, PUL 2005

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HP's Supply Chain

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HP's current Ecosystem

Broadest portfolio of IT products/ services in the world

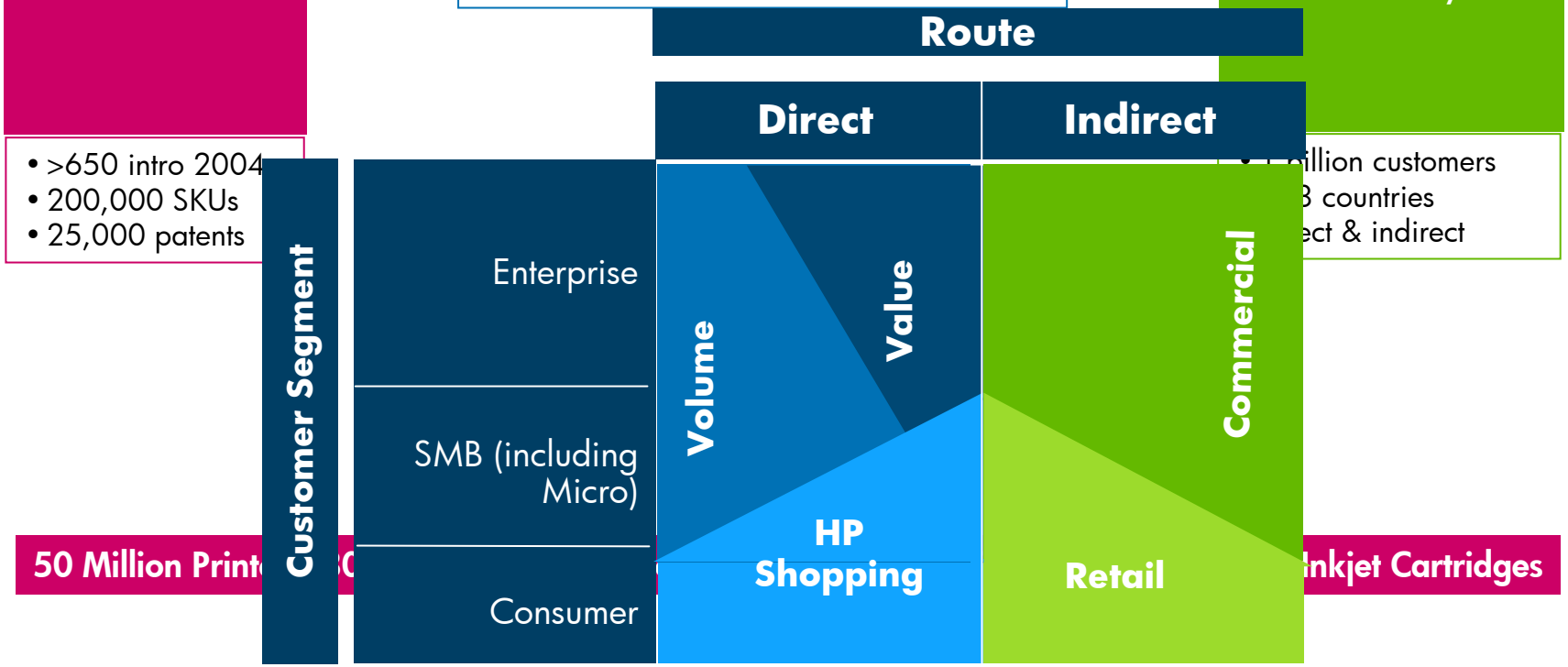
- >650 intro 2004
- 200,000 SKUs
- 25,000 patents

World's Largest IT Supply Chain ($51B)

- 32 manufacturing plants
- 88 distribution hubs
- 700 suppliers
- 119 logistic partners

Broadest customer base in the technology industry

- illion customers
- countries
- ect & indirect



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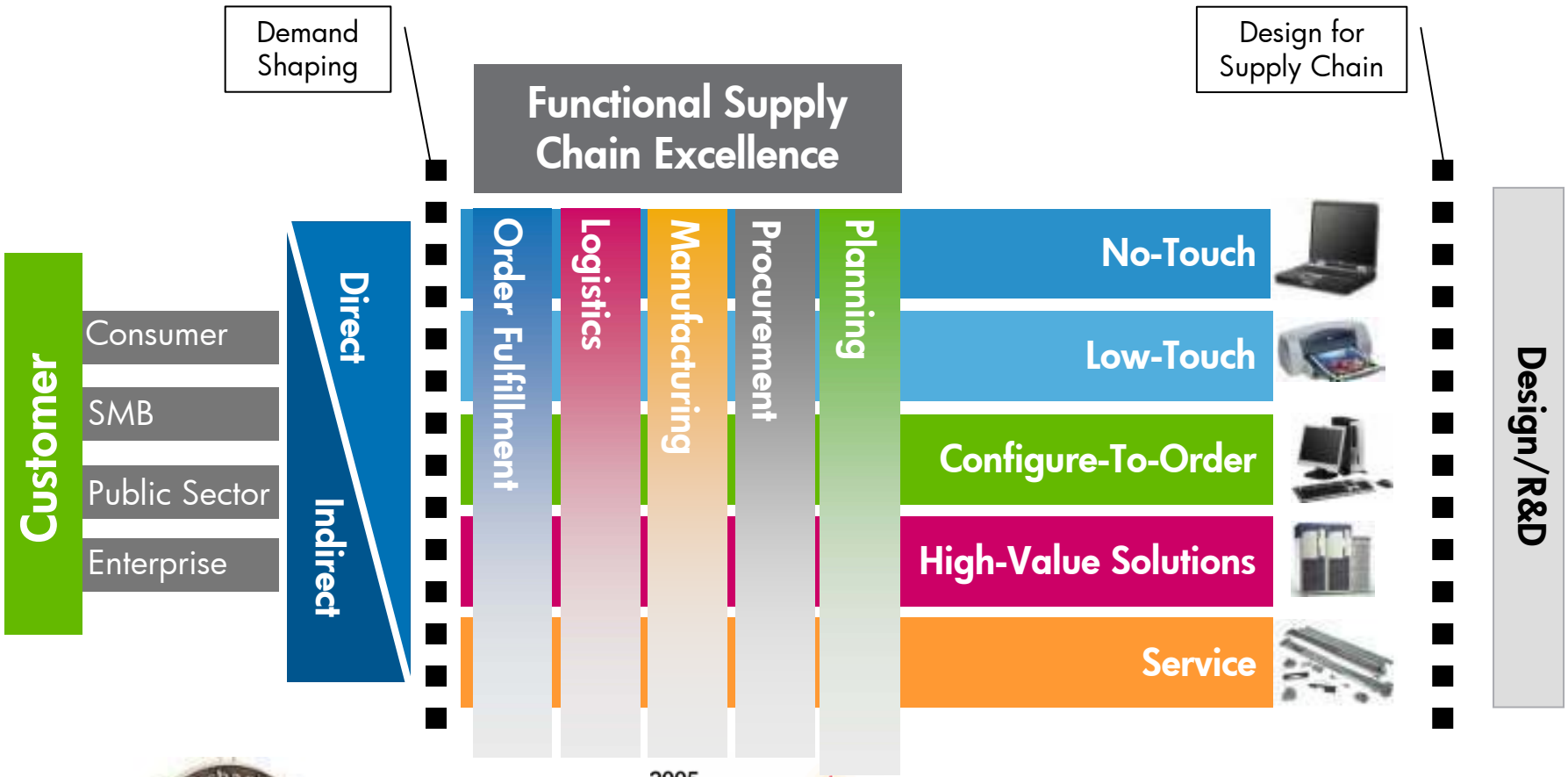
Supply Chain Strategy Overview



Purchasing Magazine — Medal of Professional Excellence

2005 MA — Managing Automation's Progressive Manufacturing Awards — WINNER — Supply Chain Mastery

AMR Research — 2004 Top Supply Chains

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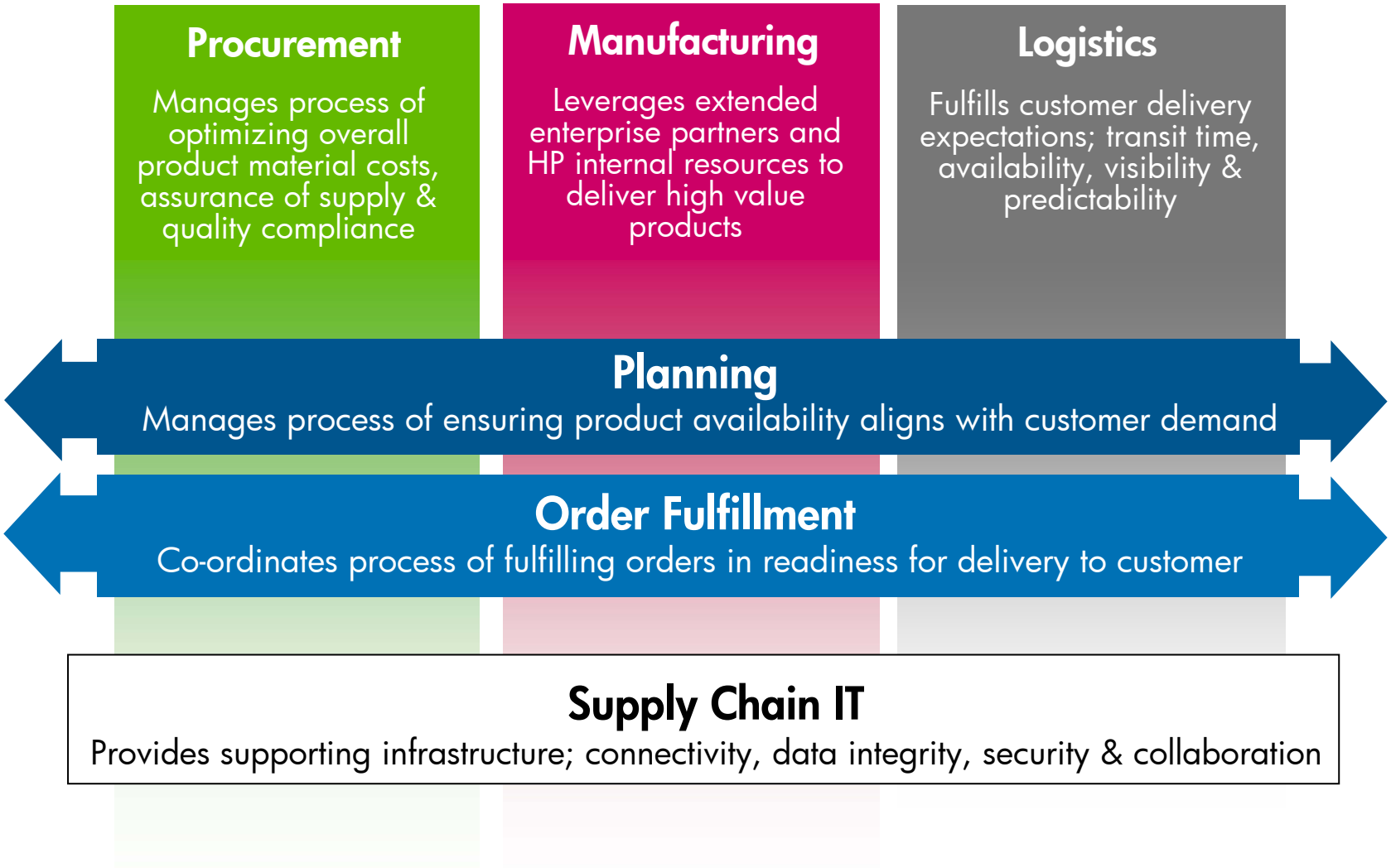
Supply Chain Capabilities Overview



Operational Effectiveness & Efficiency

Standardization & Simplification

- Relentless improvement of the Supply Chain cost structure
- Ensure leverage size & scale
- Optimize company working capital

Metrics:

- % of process commonality
- IT spend as % of revenue

Cost Efficiency

- Drive common processes
- Rationalize IT infrastructure

Metrics:

- Direct materials savings
- SC Cost as % of Revenue
- Cash Management (DPO & DOI)

Customer Value

- Improve product & service delivery
- Provide end-to-end visibility & availability information

Metrics

- Order delivery performance
- Sales order turn around time
- Product availability

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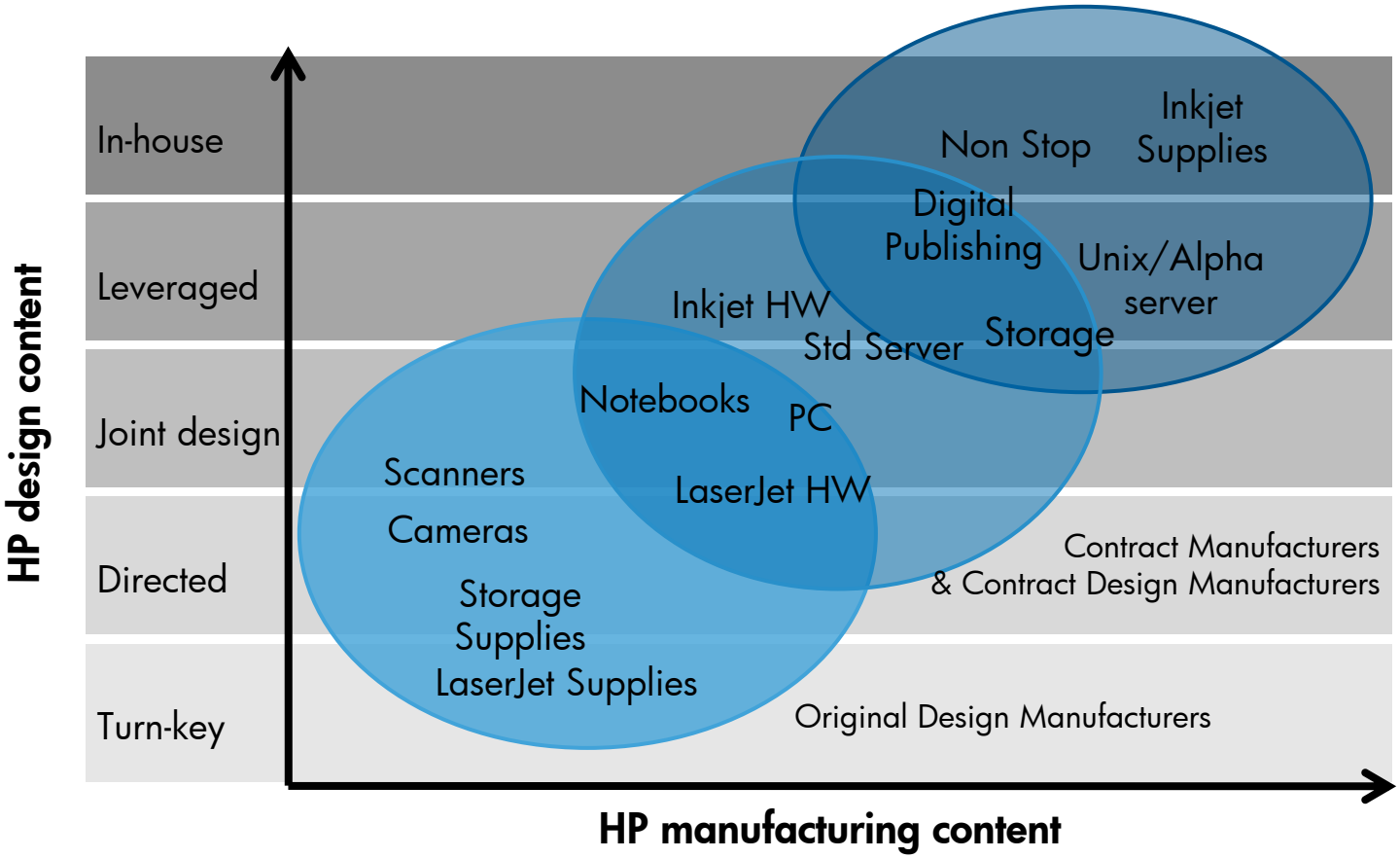
Manufacturing: Partnering for success



- Leverages global ecosystem of partners to create flexible & adaptable Supply Chain
- Enables access to world-class solutions as market dynamics dictate
- Delivers competitive cost structure and management system
- Enables use of best in class partner assets
- Allows internal resources to invent high value products

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Procurement Risk Management

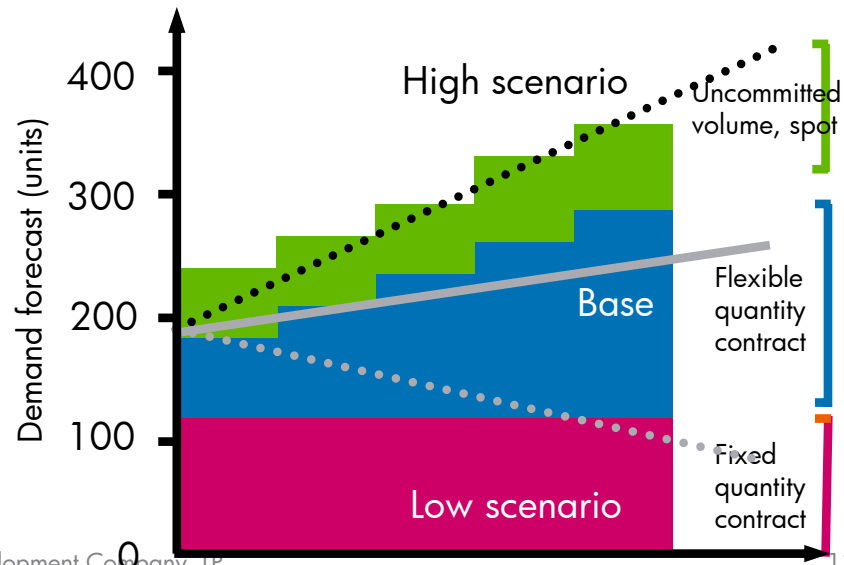
Solution for managing supply, demand & pricing volatility

Value

- Protects margin, earnings & supply from price & supply volatility
- Optimizes predictable, reliable, pricing
- Enables assurance of supply by minimizing inventory overstock

Capabilities

- Facilitates measurement & management of uncertainty
- Enables reallocation of risk between HP and its suppliers to maximize results
- Provides method to evaluate contract alternatives (e.g. fixed qty and/or price vs. spot)



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Buy/Sell

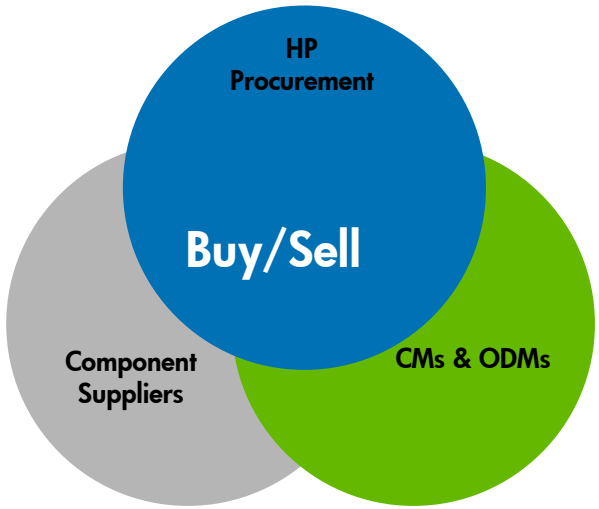
Solution that enables HP to maintain control of component purchasing in a fully outsourced supplier environment

Value

- Lowers material spend/cost
- Improves cash flow advantage for HP
- Reduces inventory via inventory pooling in 3rd party hubs; managed by HP

Capabilities

- Enables effective cost mgmt., to achieve sustained best material cost
  - Price masking for strategic commodities
  - Adherence to contractual agreements,
  - Manages price volatility
  - Enables proper procurement spend aggregation & visibility
- Enables best required assurance-of-supply
  - Supports PRM
  - Effective supply management



Design for Supply Chain

Process that systematically trades off; responsiveness, material, & supply chain costs to maximize profitability

Value

- Reduces supply chain costs
- Improves time to market
- Reduces design effort
- Creates shorter order cycle times & manufacturing ramp
- Reduces material cost

Capabilities

- Enables rationalization of product portfolios
- Provides packaging optimization
- Supports Supply chain cost modeling of alternative product designs
- Delivers analytic processes to determine optimum part commonality & reuse

Examples

- Design for…..
  - Variety Control
  - Logistics Enhancement
  - Commonality and Reuse
  - Postponement
  - Take Back Facilitation

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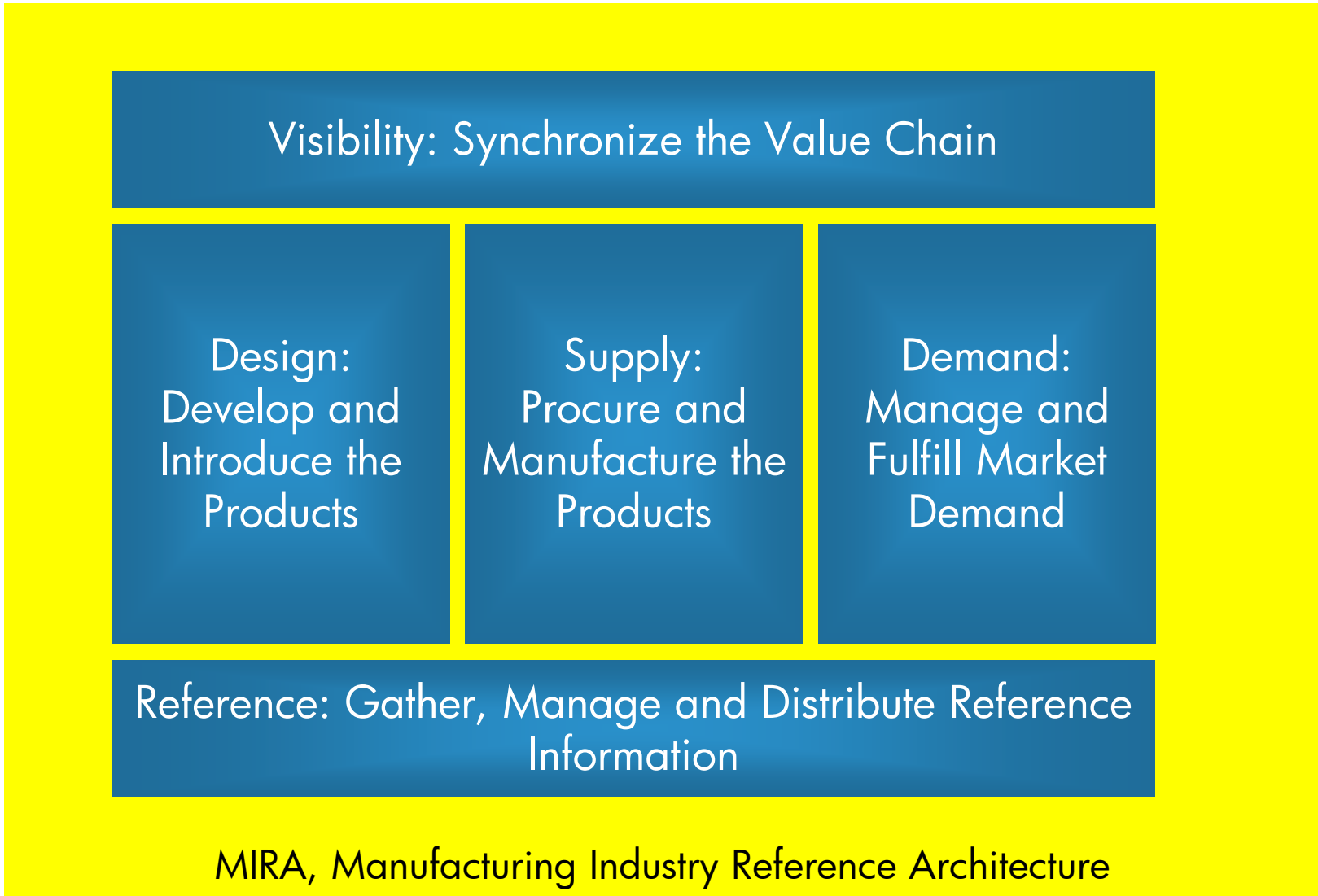
Our Experience is in
our Offering
hp

Next Generation Supply Chain

The environment



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Business challenges helped by Product Lifecycle Management

- Faster product introductions required to beat competition
- Disparate business processes
- Evolving demands due to outsourcing, externalization and acquisitions
- Proliferation of industry standards and compliance
- Definition of PLM is evolving quickly

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HP Product Lifecycle Management solutions

Proven results: World-class high tech manufacturing facilities

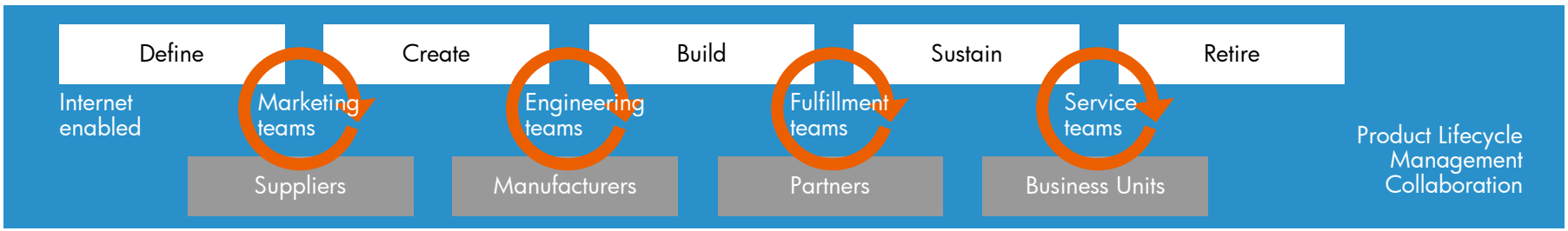
- Performance leadership: Global business practitioner of product lifecycle management strategies and solutions

Complete, integrated solutions: Comprehensive set of end-to end solutions, technology and services

- Address inusdtry-specific business issues
- Create rapid benefits from establishing common product information processes within an organization's distributed design and supply chains

Continual improvement for maximum ROI:

- Processes designed for re-use across the enterprise
- Reduced duplication of applications, data, and technology



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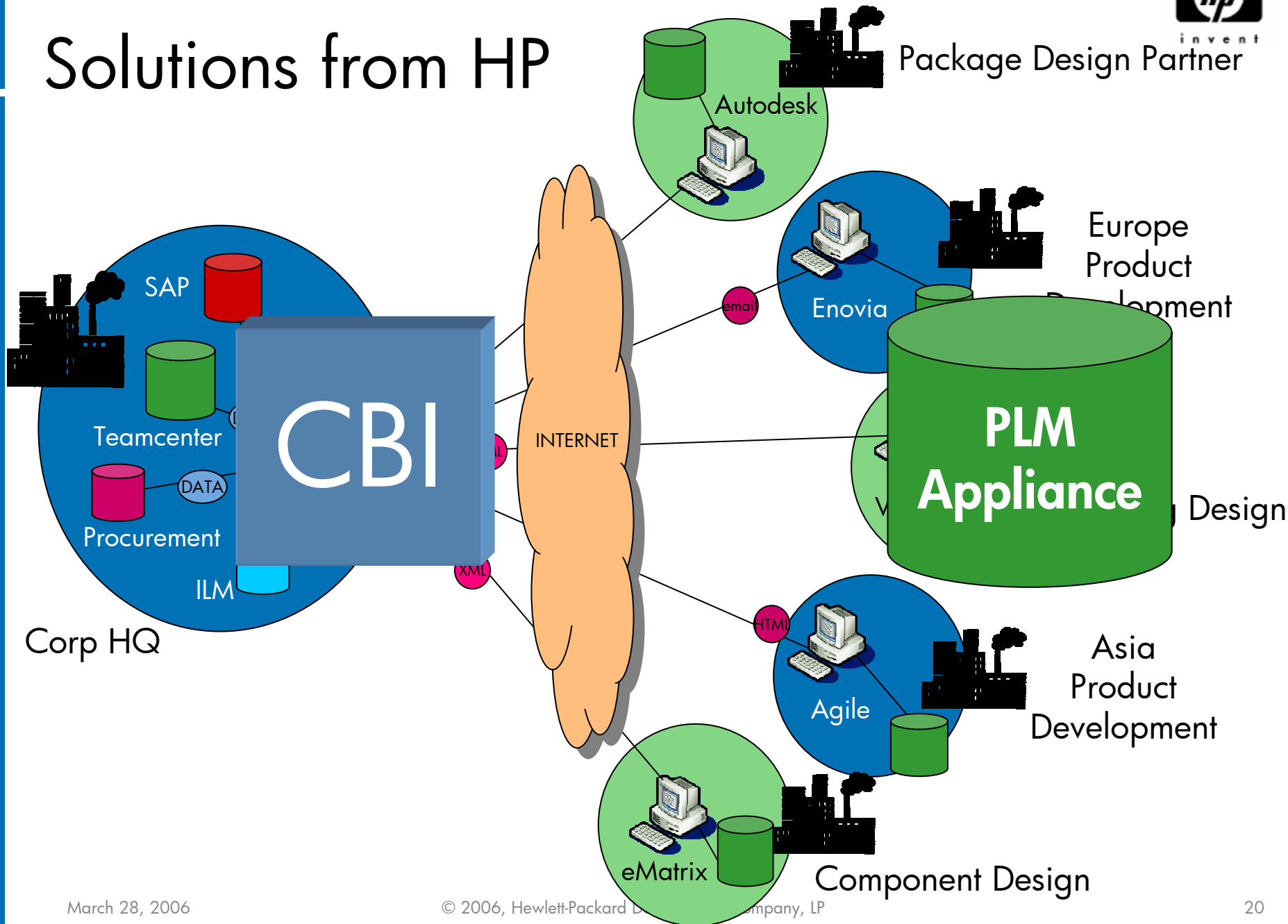
Solutions from HP



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Business challenges helped by Supply Chain Management

- Speed-up response to changing market demand to beat competition
- Disparate business processes
- Evolving demands due to outsourcing, externalization and acquisitions
- Proliferation of industry standards and compliance

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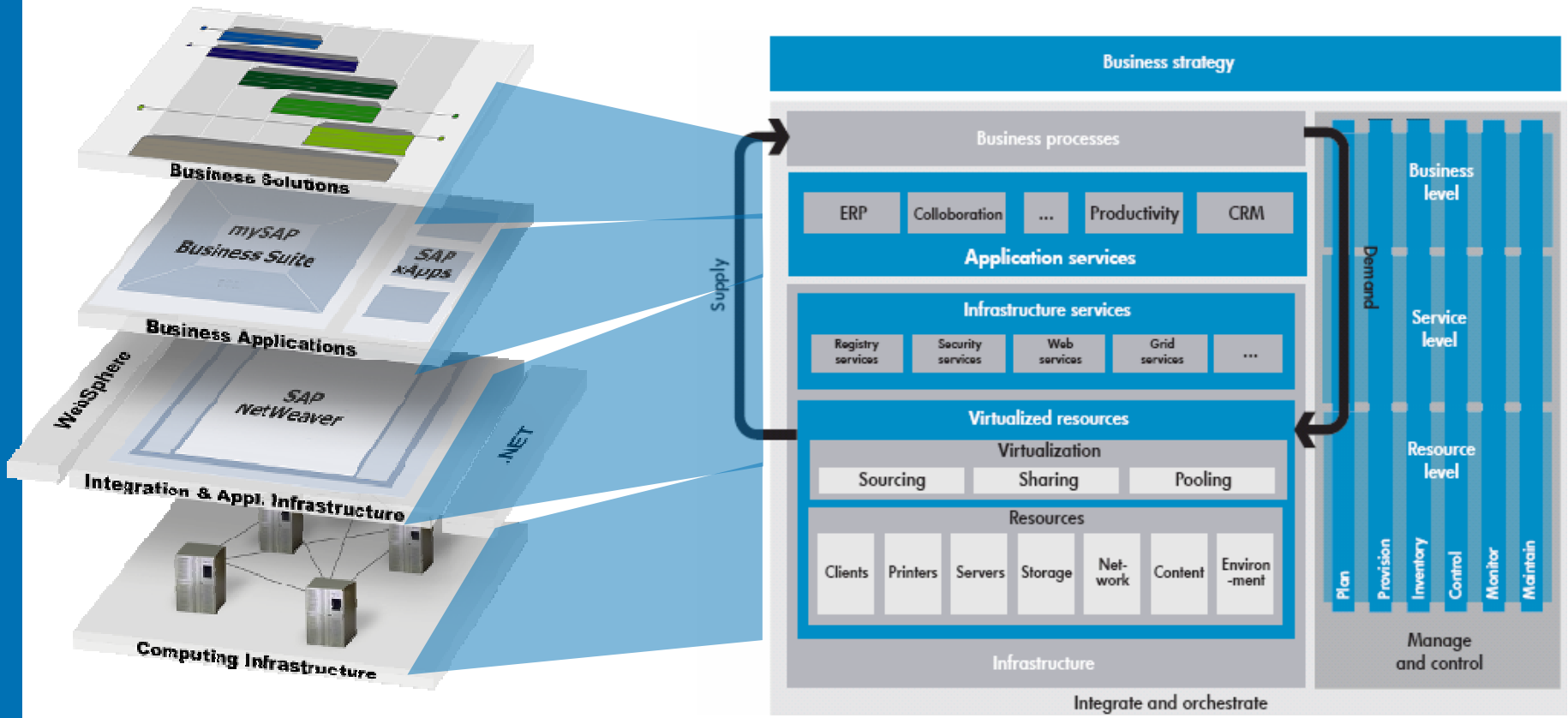
Build on a common Architecture
Integrated SAP & HP's reference architectures

SAP Enterprise Services Architecture (ESA)

HP Reference Architecture for the Adaptive Enterprise



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SAP solutions

HP, your SAP Partner

- Implement
- Integrate
- Optimize
- Consolidate
- Migrate/Upgrade
- Manage
- Outsource
- Train
- Support

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Business challenges helped by Demand Management

- Balance Supply and Demand
- Manage disparate distribution channels
- Spot trends and issues early
- Initiate Engineering Changes quickly to avoid unnecessary costs
- Disparate business processes

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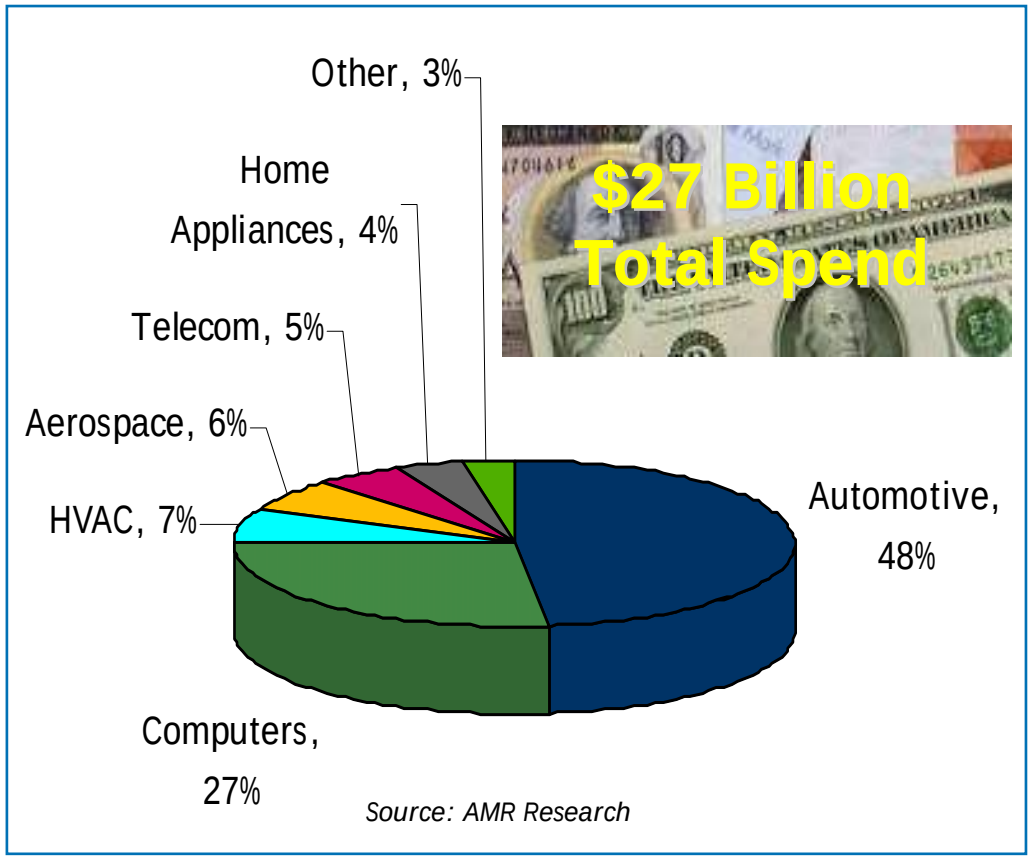
Warranty Management

A cost burden for many companies

- As per the industry reports, the warranty costs are increasing year over year. This spend is primarily accounted in the form of Warranty reserve and cost recovery.
- In addition to direct cost, manufacturers suffer from attrition in brand loyalty, market share and customer satisfaction.
- OEMs are recognizing the need for quick and efficient discovery and ability to react to quality issues and customer concerns.



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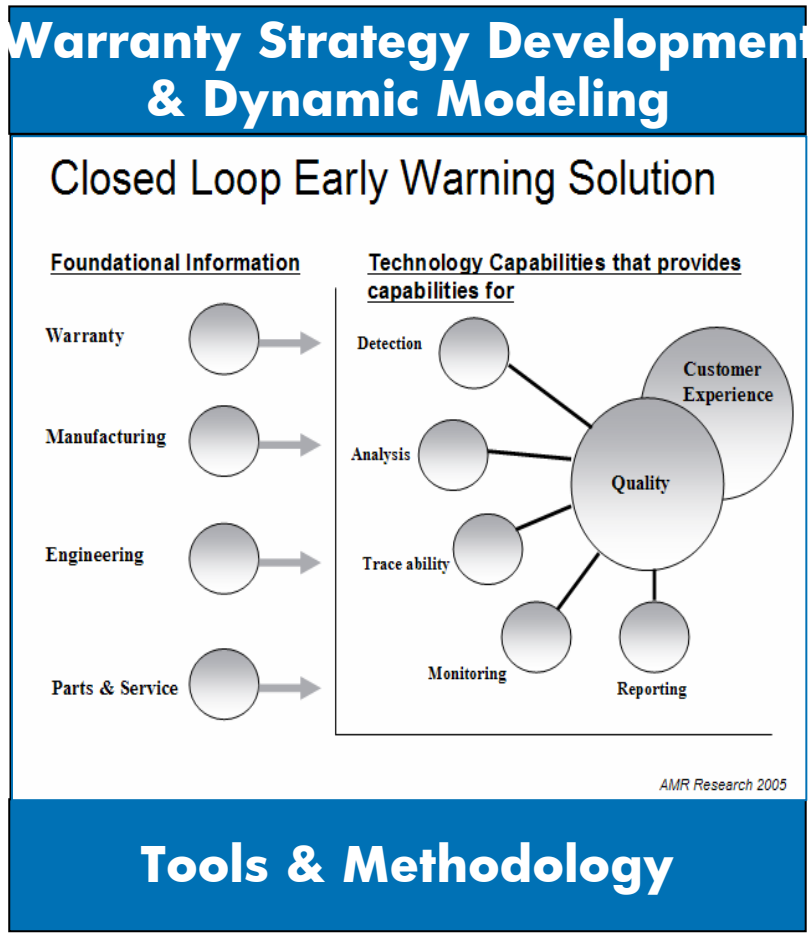
Objective

Implement Closed Loop Early Warning Solution

- Automates the process of discovering new opportunities or identifying previously unknown issues. Combined with root cause analysis and improved process, customers will be able to address key quality issues for faster resolution and reduce reaction time.
- Gathers foundational information from various sources and providing visibility to Manufacturing Data, Quality Trends, Field Spills, Correction Cycles etc.
- Provides Tool and methodology to deliver reporting and workflow requirements.



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Reference Data

Manage structured & unstructured reference data

Regulatory Management

- Corporate and government regulations require retention policies (eg. RoHS, WEEE, SoX)
- Companies placed under subpoena to produce email and documents in legal actions taken against the company

Data Management

- Information growth continues at an accelerated rate
- Need to significantly reduce management costs while maintaining service-levels
- Increase performance on file servers
- Reduce back up time

Reference Information Management

- Reference information (static content) is underutilized and the ability to tap into it has potential business value
- When you need it, reference information is of great value

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Visibility, the Foundation

Managing the Supply Chain requires:
Business Visibility

Provide the information needed to run the supply chain as an integrated business, fixing problems in "real-time" and improving the performance of the end-to-end supply chain.

Make the enterprise:

- More Resilient
- More Agile
- More Responsive
- A better company to do business with

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What is required to do achieve Visibility?

Collaborative Business Infrastructure

Provides a secure integration capability with back-end systems, partners and public data sources. Takes care of the data transformation aspects and the collaborative business processes

Event Management

Operational Data Store

Structures and maintain the "real-time" data used for event management, alarming and real-time reporting

Analysis & Reporting

Business Warehouse

Aggregates, structures and maintain the "historical" data allowing time based reporting and trend analysis

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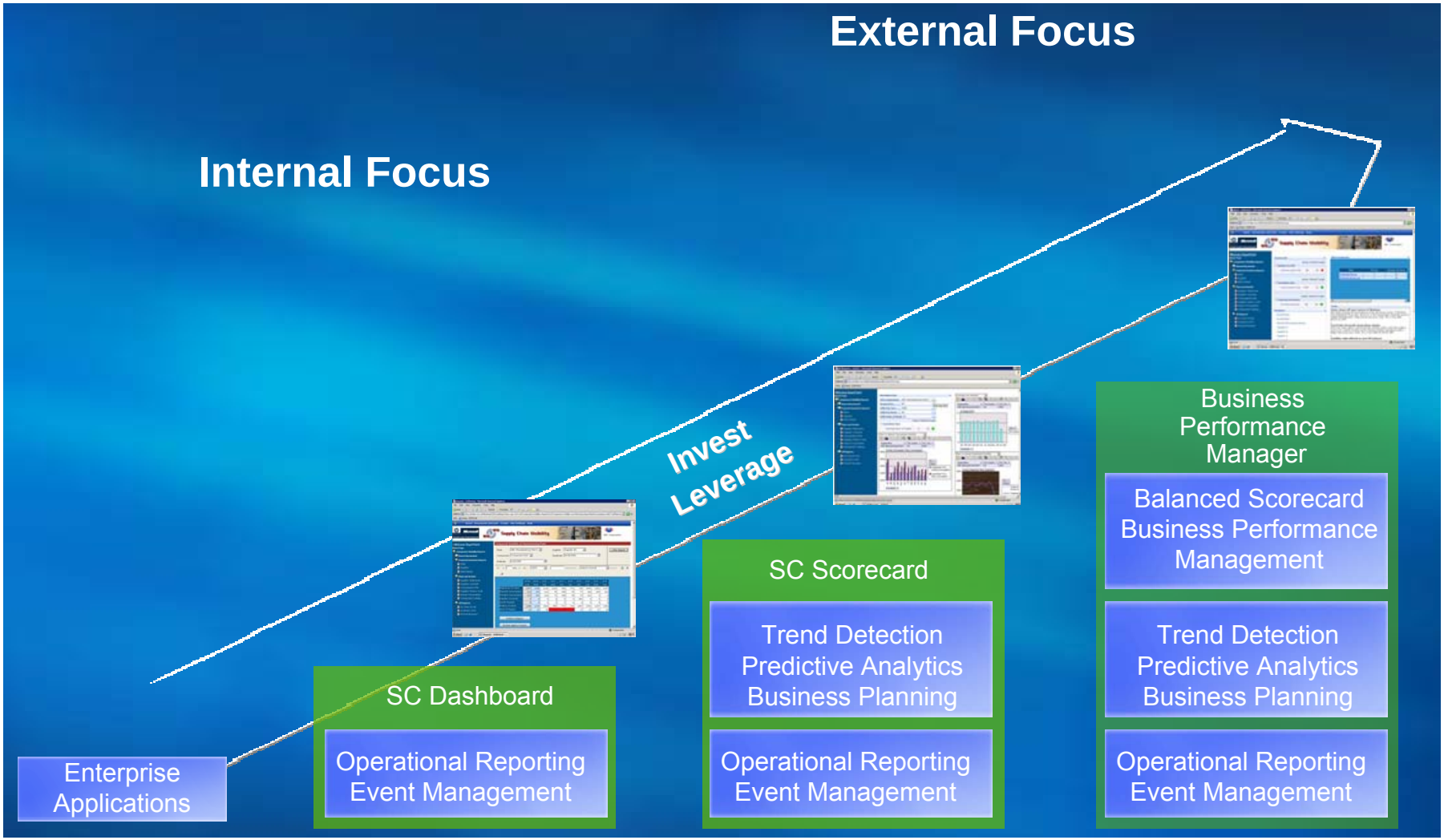
Supply Chain – Maturity Model



Source: AMR Research

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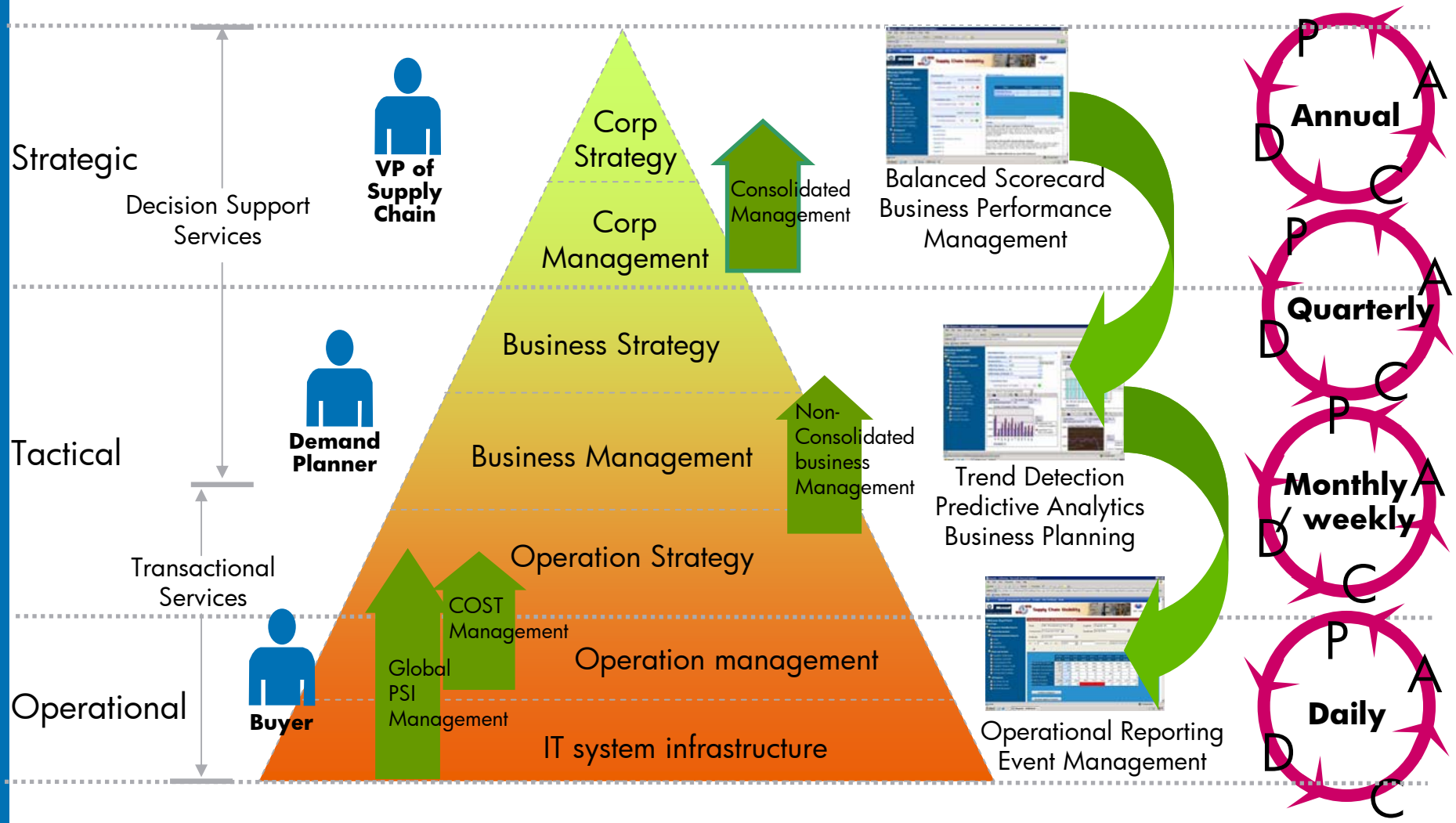
Business Visibility – Dashboard



Production, Sales and Inventory (PSI)
Plan-Do-Check-Act (PDCA)

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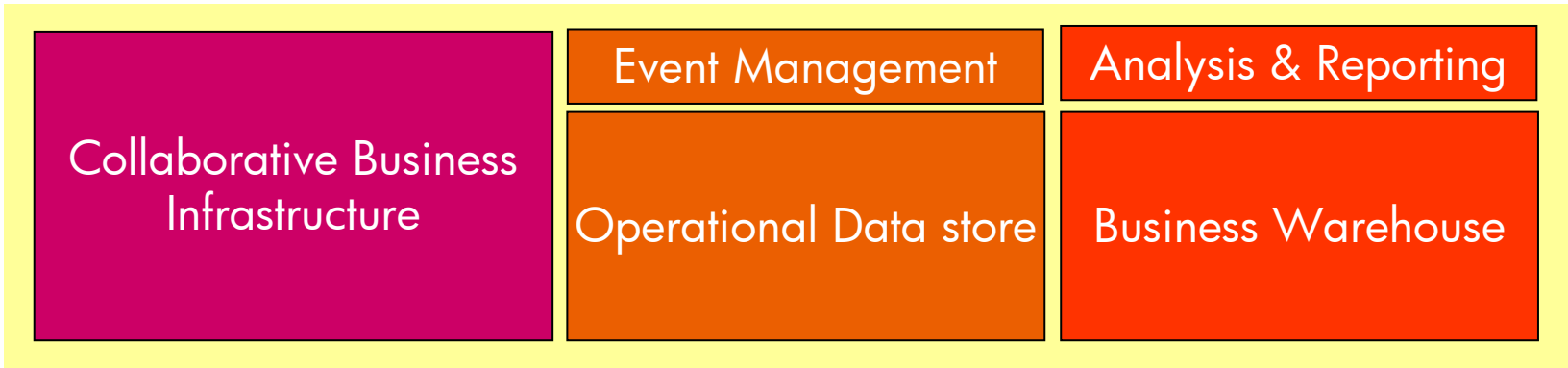
Where do you start?



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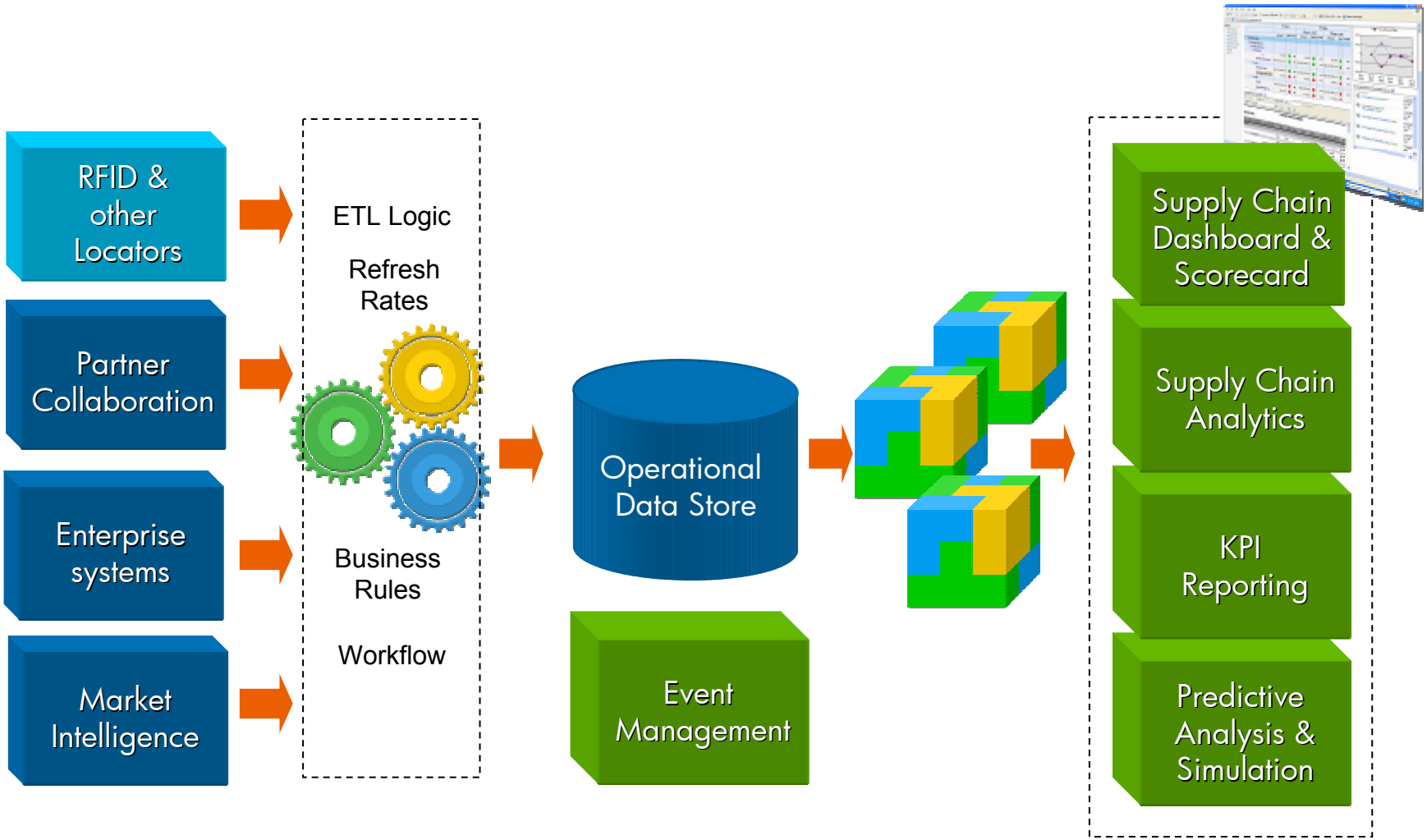
Functional Architecture



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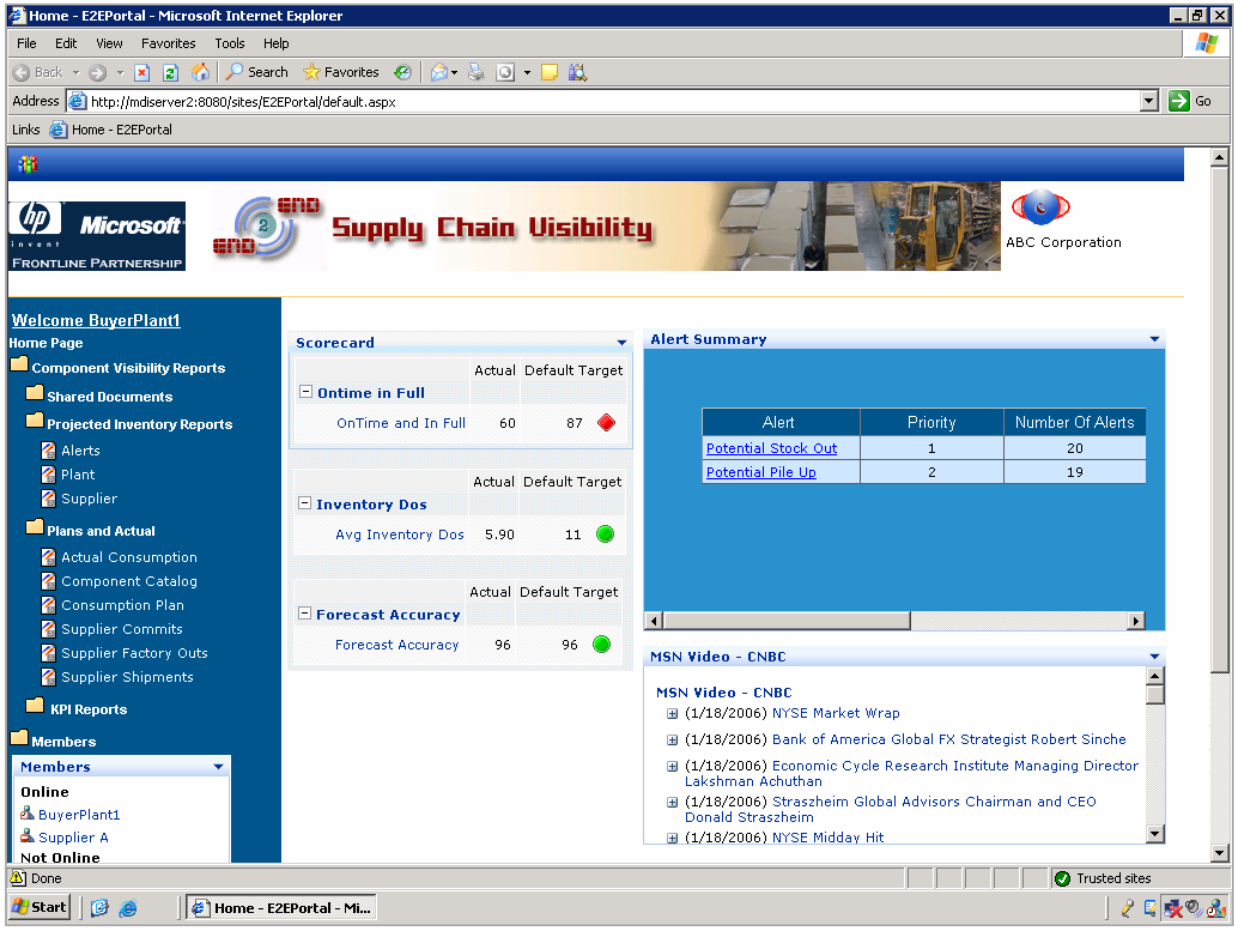
How could it work?

Supply Chain Visibility – Dashboards



Supply Chain Dashboard provides single window to view and access operational information and performance data based on roles and security

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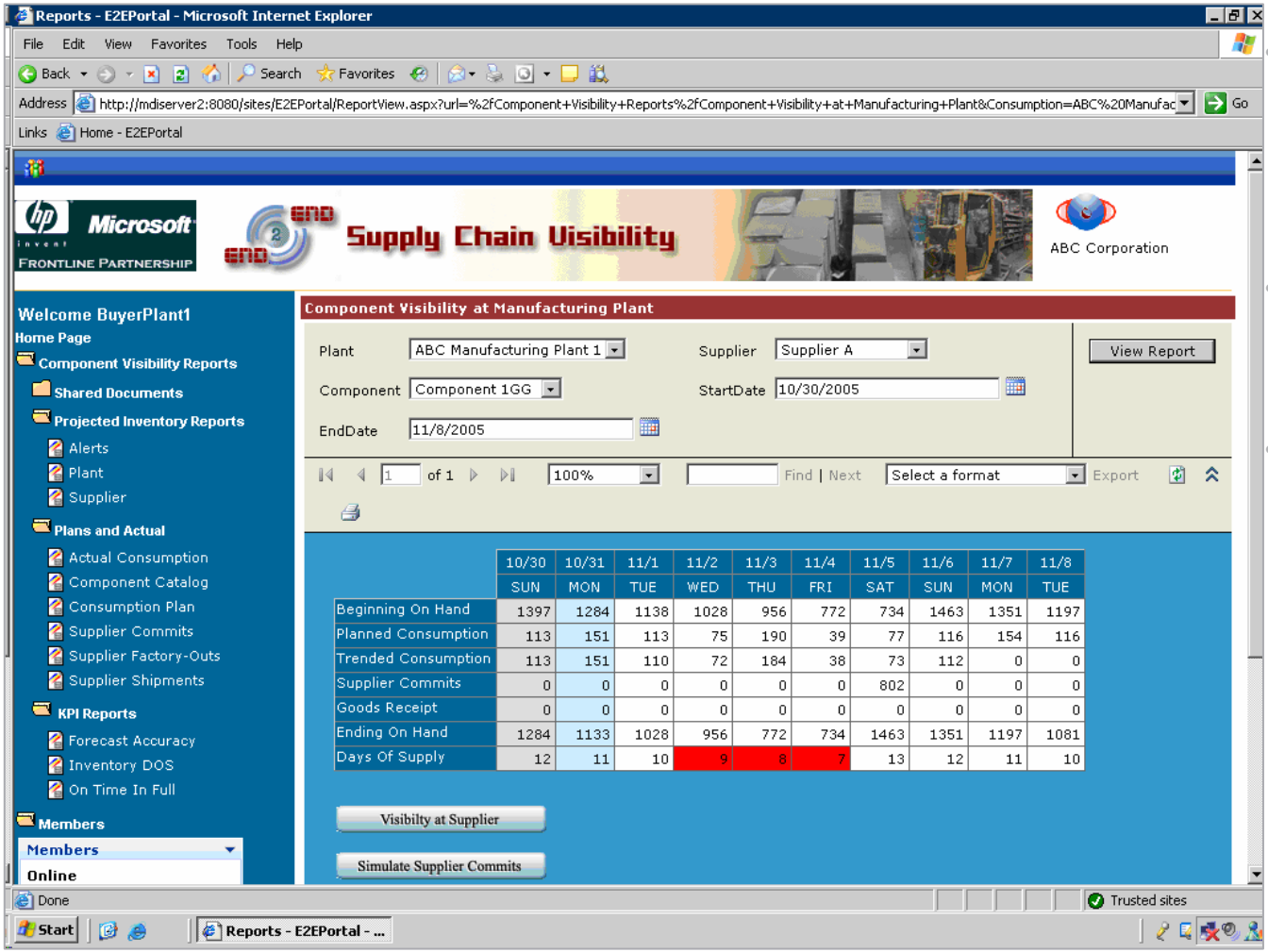
Supply Chain Visibility – Projected Inventory Visibility



	10/30 SUN	10/31 MON	11/1 TUE	11/2 WED	11/3 THU	11/4 FRI	11/5 SAT	11/6 SUN	11/7 MON	11/8 TUE
Beginning On Hand	1397	1284	1138	1028	956	772	734	1463	1351	1197
Planned Consumption	113	151	113	75	190	39	77	116	154	116
Trended Consumption	113	151	110	72	184	38	73	112	0	0
Supplier Commits	0	0	0	0	0	0	802	0	0	0
Goods Receipt	0	0	0	0	0	0	0	0	0	0
Ending On Hand	1284	1133	1028	956	772	734	1463	1351	1197	1081
Days Of Supply	12	11	10	9	8	7	13	12	11	10

- Provides visibility to the inventory status for all the suppliers associated to the components and consuming location.
- Displays potential stock out or pileup of inventory position
- Allows for simulation of supplier commits and enables appropriate allocations

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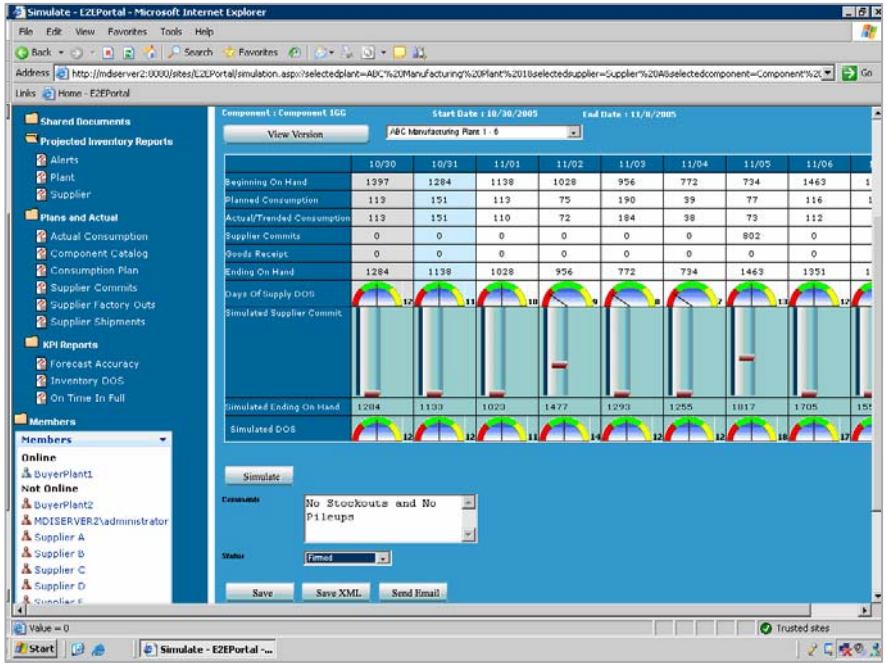
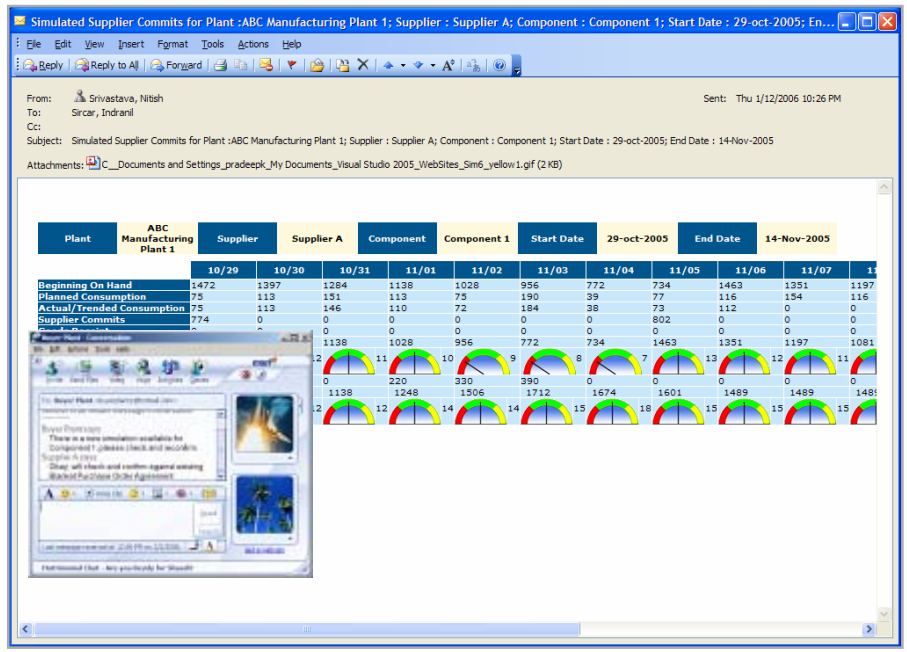
Supply Chain Visibility – Sample screen shots of simulation



Supplier commit simulation



Supplier communication

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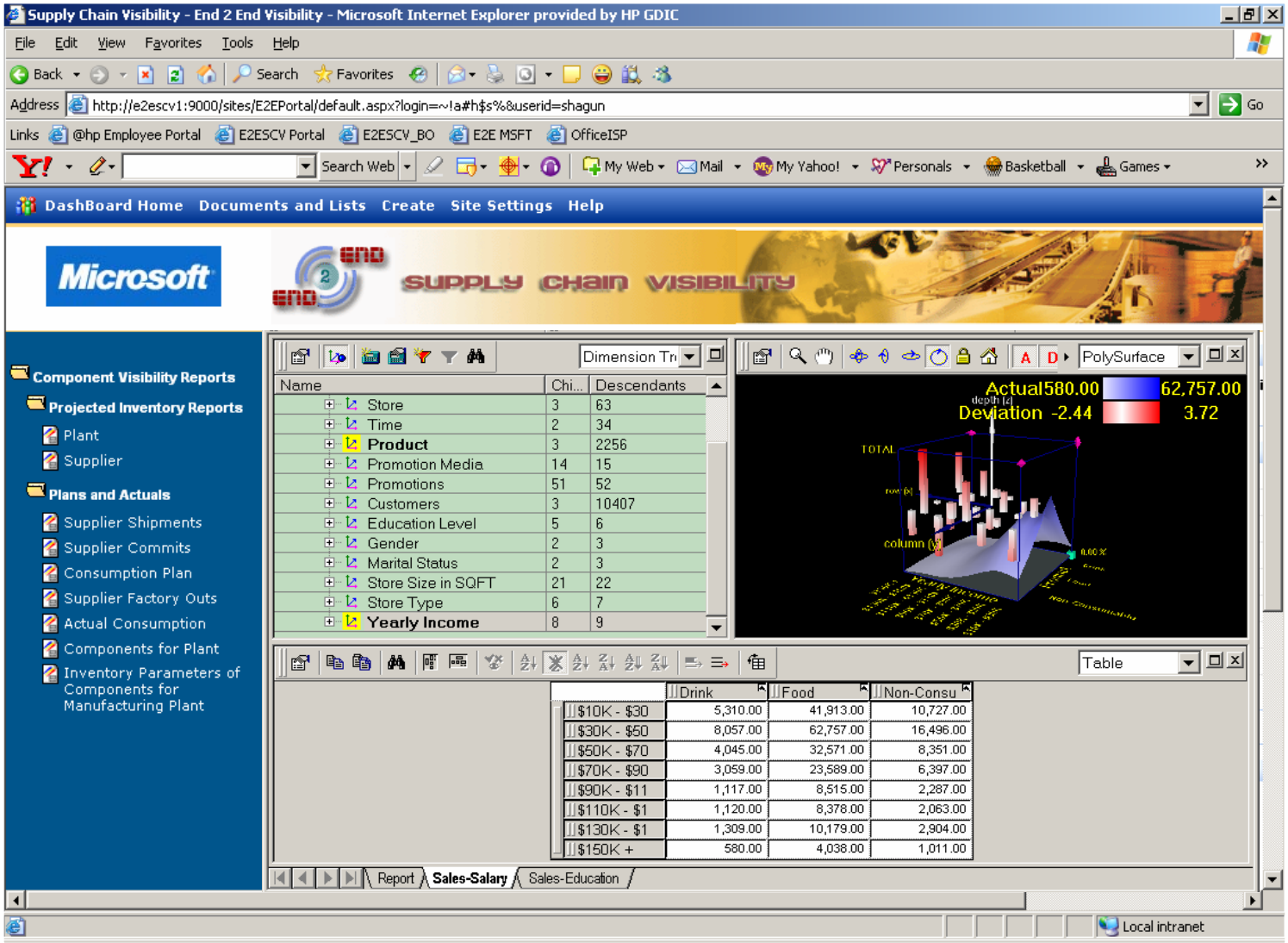
Warranty Management - Analysis



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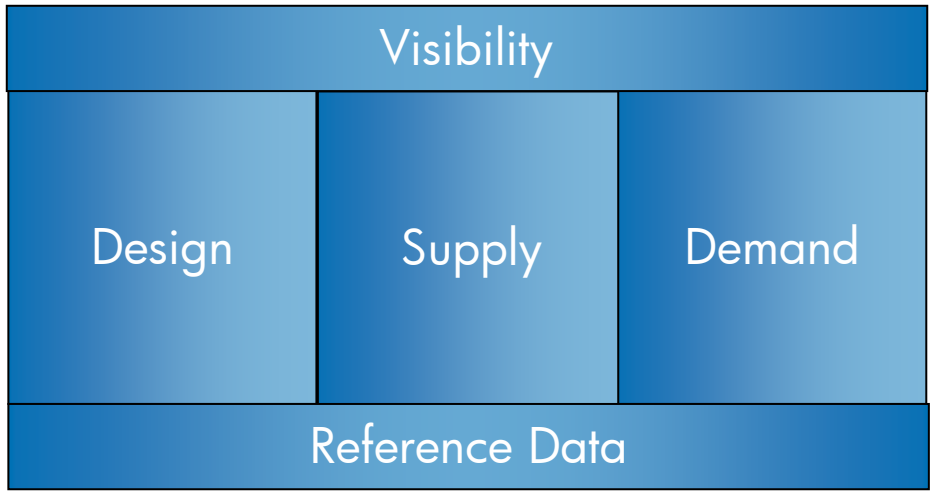
Conclusion

50 Million Printers, 30 Million PC's, 2 Million Industry Standard Servers, 300+ Million Inkjet Cartridges

700 Suppliers, 32 plants, 88 distribution centers, 119 logistics providers, 1 Billion Customers, 168 countries



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