

Using Inbound Supply Chain Management in the High-Tech Race

There is little question that high-tech manufacturing enterprises are now among the most competitive in the world. Increasingly fine-tuned global machines, these companies are engaged in a marketplace where technological change and new product development drive change at an unprecedented level.

More than in any other market, time to volume has emerged as a critical

business driver. High-tech companies now must not only design and introduce new products to market faster than ever, but they must be able to manufacture and distribute them in volume at the time of introduction.

Inbound Supply Chain Management Fuels Profits

High-tech manufacturers have begun to use a new best practice—Inbound

Supply Chain Management. Effective management of inbound supply is helping high-tech manufacturers win the time-to-volume race, while at the same time reduce the cost of production parts.

In fact, according to Gartner Group, "Inbound Supply Chain Management systems typically yield 5-15% savings in cost of goods sold and 15-30% increase in design re-use. It's the only

application that incorporates product design into the supply chain. Its impact on the downstream supply chain is profound, the return on investment is very fast, and the benefits are easy to measure.”

“Inbound Supply Chain Management systems typically yield 5-15% savings in cost of goods sold and 15-30% increase in design re-use.”

Gartner Group

Linking Product Development, Procurement, and Suppliers

Reaping large margins at the outset of a new product introduction is key to high-tech success. According to Gartner Group, as much as 80% of the operating margins are realized in the first two months of a product's life cycle.

To win this race, companies can no longer afford to have Product Development teams and Procurement

Recognizing an Inbound Supply Chain That's Out of Control

The symptoms of poor inbound supply chain management are easy to recognize:

- Difficulties in design collaboration
- Parts and supplier proliferation
- Difficulty in assessing and leveraging enterprise spend
- Little or no design reuse
- Low inventory turns; high scrap; component obsolescence or unavailability in the product life cycle
- Excessive engineering change notices
- Manual processes for quantification and qualification of supply chain

operate independently. And companies must leverage their suppliers' expertise collaboratively.

Similarly, companies need to delight customers with their new products—and deliver them in quantity to fulfill demand. Linking Product Development with Procurement and suppliers in a collaborative loop of communication makes that goal possible. Yet there are entrenched obstacles to that collaboration.

Design Anywhere/Build Anywhere: The Untold Costs

Achieving faster time-to-volume is more difficult in high tech because both design and manufacturing centers are typically dispersed around the globe.

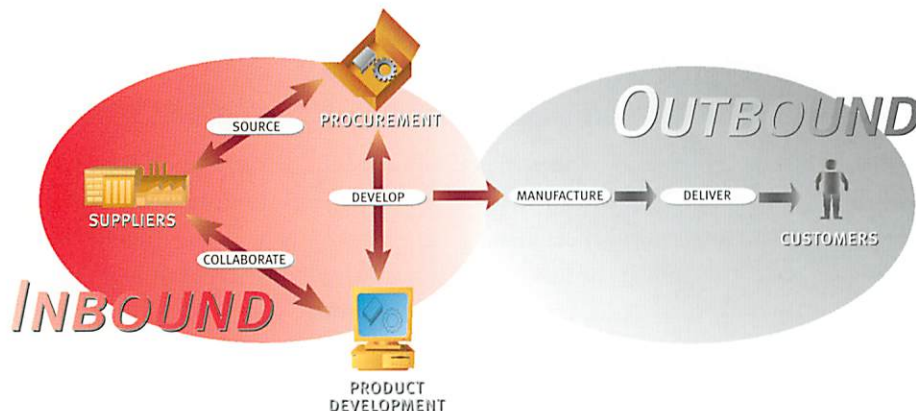
Product development is carried out across operational teams, typically sourcing independently of one another. Sharing information is difficult because of multiple design, manufacturing, and information technology systems.

Setting up decision-support systems to enable these disparate groups to effectively share information is key.

The New Paradigm: Inbound Supply Chain Management

Aspect Inbound Supply solutions for high tech link disparate Product Development and Procurement organizations and enable supplier collaboration.

Aspect *eDesign*TM speeds time to market by as much as 70% by enabling the use of preferred standard parts and encouraging design re-use. It gives Product Development the information they need early in the product development process—both in-depth technical information as well as critical business factors such as lead time and availability—to make the right selection of component parts in a new design. With information at their fingertips to make optimal decisions, engineers avoid “reinvention,” and minimize costly engineering change notices.



Inbound Supply solutions bridge an information gap between Procurement, Product Development, and suppliers. With Inbound Supply Chain Management, Procurement has visibility into enterprise-wide spend, and can communicate preferred status of parts and suppliers to Product Development; Engineering can easily re-use proven parts and designs.

Leveraging Global Spend

Procurement plays a critical role in this Inbound Supply Chain process. Aspect eSource™ is a powerful optimization solution that enables Procurement to consolidate parts and materials being used enterprise-wide and use this information to leverage global spend by selecting preferred suppliers and parts. This preferred part and supplier information is then published to design teams via eDesign.

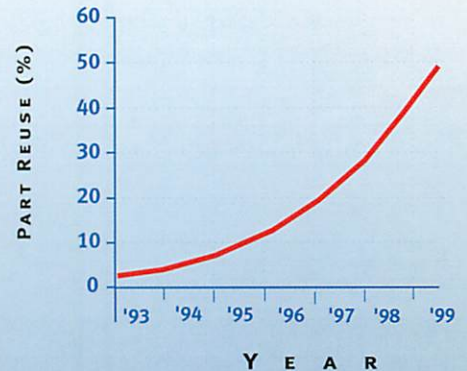
The final element of the solution is Aspect's data services and eContent.™ The largest electronic catalog in the world, Aspect eContent contains up-to-date information on more than 10 million

product items, from electronic components to office supplies. Aspect uses this information as an eProcurement reference database as well as the basis for creating preferred catalogs.

The eProcurement Miracle

Suppliers are becoming partners in the high-tech race as manufacturers have streamlined operations around their core competencies and outsourced design and manufacture.

Aspect solutions facilitate collaboration with suppliers by allowing manufacturers to communicate with suppliers through an electronic portal to share design specifications with subcontractors. This same por-



Re-use of parts went from a low of 2% to 50% at IBM today, and continues to climb, through Aspect eDesign.

THE NEW BLUE: \$250 Million in Savings through Strategic Product Development

Five years ago IBM benchmarked itself against the best manufacturers to determine how it could become even more competitive. The results showed IBM was taking too long to get many of its products out the door. The root causes were an absence of a common product development process, the proliferation of components and suppliers, excessive reinvention instead of re-use of the best designs, and irregular communications between Design and Procurement.

THE ANSWER: ASPECT CSM FOR INTEGRATED PRODUCT DEVELOPMENT

IBM moved quickly to address the challenge by implementing a world-class Integrated Product Development (IPD) process. IBM created a common enterprise-wide IPD repository of information about purchased and custom components and existing designs and suppliers. Business and technical rules governing the use of this information were determined by commodity and design councils representing all of IBM's hundreds of product lines. The IPD process and repository would enable best practices in Product Development and Procurement, including preferred component management, design re-use, and supplier and material rationalization. The information and data would be linked to IBM's computer-aided design, product data management, and enterprise resource planning systems. IBM selected Aspect's eDesign solution as the enabling technology for its enterprise-wide IPD process.

Aspect was selected because of the breadth and depth of its technology, its powerful open architecture and comprehensive family of solutions, its ability to provide an information bridge between Design and Procurement, and its domain expertise and process know-how.

THE RESULTS: \$250 MILLION SAVED IN THREE YEARS

Aspect eDesign is now deployed worldwide at IBM design, manufacturing and procurement sites. For thousands of IBM users, Aspect eDesign is their window to parts information required in IBM's IPD process. The results are impressive.

"Through Aspect eDesign, 3000 users scattered across more than 30 sites around the world have complete, up-to-date information on parts and designs. This has helped us increase design reuse by an average of 18 percent and reduce our design cycle time in some instances as much as 70 percent," says Johnny Barnes, IBM director of Hardware Common Tools. "We've been able to reduce parts in use by more than half, significantly cutting product cost, reducing inventories and streamlining manufacturing."

Other changes included an increase in inventory turns by 40 percent and a 75 percent reduction in suppliers. The result is a savings to IBM of \$250 million over three years. Aspect is excited, pleased and proud that it has played an important role in helping IBM create and implement its new IPD process.



NORTH AMERICA
United States

Aspect Development
1395 Charleston Road
Mountain View, CA 94043
Tel: 800-734-7279
www.aspectdv.com

EUROPE
United Kingdom

Aspect Development Europe Ltd.
Chineham Business Park
Basingstoke
Hampshire RG24 8QY
+44 1256-705500
email: info@aspect.co.uk

ASIA
Japan
Shinjuku NS Bldg. 6F
4-1, 2-chome, Nishi-Shinjuku
Shinjuku-ku, Tokyo 163-0806
+81-3-5326-8525

Korea
#701, Seokwang Bldg.
1361-9, Seocho-Dong
Seocho-Gu
Seoul 137-130 Korea
+82-2-585-4055

India
Janardhan Towers
2 Residency Road
Bangalore, 560025
+91 80-2217990

Global Leader in Inbound Supply Chain Management

tal enables suppliers to publish design and component recommendations of their own. Bringing this shared knowledge into the early design process improves the manufacturer's ability to genuinely optimize design and leverage supplier efficiencies.

Using Inbound Supply Chain Management to Leverage M&A's

The need to increase technological capability has resulted in a frenzy of mergers and acquisitions among high-tech companies. In industries such as telecommunications, computers, and networking, companies are paying significant premiums to acquire others. They justify these premiums by the synergies of the combined market development, revenue growth, and cost reductions. Yet a recent study by Mercer Management Consulting indicated that the single most important factor to realizing the cost savings from a merger was effective post-merger management.

But that post-merger integration is typically more difficult to achieve than first thought. For example, leveraging purchasing power is usually stymied by a seemingly innocuous problem—multiple part and commodity coding systems. Even if the merged company is lucky enough to be using an ERP system from the same vendor, the system cannot reconcile the multiple part number systems, and hence Procurement does not have visibility into spending.

Aspect eSource untangles the multiple part and commodity coding systems through advanced cross-referencing capability. Both demand-planning information and historical purchases are contained in the eSource datamart so that spending patterns according to each

business unit, commodity, material, and supplier can be analyzed. Through eSource, Procurement can allocate the spend across a much smaller number of strategic suppliers.

Once terms are negotiated with suppliers, Procurement can then proactively publish part and supplier "preferredness" to Product Development, which designers then access through eDesign.

Procurement can sustain and optimize on-going procurement by monitoring contracts through eSource's Contract Management, a single repository of all contracts and purchasing agreements at all levels of the enterprise. This repository provides visibility for the essential information on agreements, and is readily accessible to appropriate parties in the enterprise.

Greatest Opportunity for Financial Leverage

The inbound supply chain—the product realization cycle that focuses on sourcing and product development—is strategic because it is where the vast majority of costs are incurred and where the greatest potential for cost savings lies. No high-tech manufacturer can afford to ignore the inbound supply chain and expect to survive in today's competition.

Aspect Development has partnered with high-tech manufacturers for the past eight years, bringing enormous return on investment. For more information, contact Aspect at 1-800-734-7279, or visit www.aspectdv.com.

