Managing Design-to-Deliver Processes in the High-Tech Value Chain
The Changing Face of High-Tech Manufacturing

For years, high-tech companies have relied on manual, linear, design-to-deliver processes when selecting, managing, and collaborating with suppliers of components and raw materials. But the digital marketplace has transformed the nature of how business gets done. Digital networks are disrupting business and changing the nature of direct spend management – and just in time to deliver new efficiencies and cost savings needed to compete in today’s complex marketplace.

For high-tech organizations still relying on the old ways of managing direct materials such as electronic data interchange (EDI), homegrown portals, e-mails, and phone calls, it’s time to face facts. These methods have reached their limitations in today’s digital economy – especially in the high-tech industry, which is being transformed by three major industry trends:

• Need for rapid innovation
• Increased competition
• Emergence of global, nonlinear, external supply chains

INNOVATION IS MOVING AT BREAKNECK SPEED
Rapidly shifting consumer demand and constantly evolving technology make fast innovation essential to success for high-tech companies. Today’s consumers want products with the latest innovations customized to their needs, and they want them now. These trends are leading to greater customization and even “orders of one,” whereby companies manufacture customized products for individual customers. At the same time, the incredible pace of technological innovations in mobile, the Internet of Things, and so on, combined with major advancements in areas such as chip size and storage efficiency, mean that companies can’t afford to let up on the gas on new product development.

These trends lead to short product lifecycles and the need for speed – both in innovation and when bringing new products to volume production. The challenge lies in realizing this speed across your extended supply chain.

Forty percent of today’s Fortune 500 companies on the S&P 500 will no longer exist in 10 years.¹

COMPETITION IS EVOLVING AND GROWING

We’re also seeing fundamental shifts in market landscapes, together with technology convergence, that are giving rise to new classes of competitors. For example, years ago, Microsoft was primarily an enterprise software provider. Now it is a leading manufacturer of popular consumer devices such as Surface Pro. Likewise, Google got its start primarily as an Internet search engine provider – and today, it’s a key manufacturer of consumer devices. In these cases, established companies evolved into serious new competitors in existing markets; in other cases, innovative upstarts emerge and shift entire markets.

Regardless of how new competitors arise, your business must respond with aggressive management of product costs throughout the design-to-deliver process. This is vital to ensuring products remain competitive, as well as maximizing profitability to enhance shareholder value.

SUCCESS DEPENDS ON GLOBAL, NONLINEAR SUPPLY CHAINS

And finally, we’re seeing changes in the structure and strategic role of supply chains. Companies in the high-tech industry, perhaps earlier than others, recognized the importance of shedding noncritical aspects of their businesses. The very definition of original equipment manufacturer (OEM) has evolved significantly as computer manufacturers shed semiconductor, storage, peripherals, and other divisions and manufacturing operations.

Today, this “shedding” of noncritical divisions has made working with suppliers and other trading partners a critical success factor. Market leaders excel at partnering with these organizations globally. Sophisticated management of distributed supply chains is a must, as is a collective understanding among participants in a network that they are competing as a network. In other words, they understand that they all rise and fall together.
The Vision: Digitalizing the Complete Design-to-Deliver Process

To transform from disconnected to digital, you need to connect your design-to-deliver processes and evolve to a supply chain that senses and responds to demand changes, availability of supply, and other events. What does this mean? Let’s take a closer look.

END-TO-END DIGITALIZATION OF THE SUPPLY CHAIN
To speed up time to market, your design-to-deliver processes must be integrated internally and externally. For example, you need:
• Integrated product lifecycle management and sourcing processes that ensure 100% of BOMs are sourced – even complex, multilevel BOMs with multiple subassemblies
• Collaboration with suppliers on a single, shared system for fast identification of potential issues

FINAL PRODUCT COST PREDICTION AND REDUCTION
Sourcing teams spend a great deal of effort negotiating the best terms, often with little visibility of planned production volumes. Connecting sourcing to execution processes ensures that your sourcing teams can negotiate the best terms and that negotiated terms are met during manufacturing. These connections must support:
• Importing terms from your sourcing processes into execution systems to avoid contract leakage
• Empowering your sourcing teams with better visibility of finished goods forecasts to lower materials costs
• Accurately tracking the history of product costs

COLLABORATION WITH SUPPLIERS ON PLAN-TO-DELIVER PROCESSES
To meet production deadlines and deliver goods on time, you need to know exactly where all inventory is in your supply chain, regardless of whether it is in production, in transit, or in a supplier-managed inventory hub. You also need supplier risk and qualification tools that protect against supply disruption (for example, from quality, risk, or noncompliance issues). This requires:
• Seamless collaboration with trading partners – including multiple tiers of trading partners across the supply network – that starts with complete supplier onboarding and support
• Network intelligence for proactive alerts regarding any issues across the supply chain
• Comprehensive supplier qualification and management to mitigate risk in supply – a capability that is especially key in the high-tech industry because environmental regulations can mean that a noncompliant part can result in significant negative revenue and brand impacts

“This global digital economy accounted for 22% of the world’s economy in 2015. And it’s rapidly growing, as we forecast those numbers to increase to 25% by 2020.”

## How SAP® Ariba® Solutions Can Help

SAP® Ariba® solutions for direct spend integrate with your product lifecycle management (PLM), enterprise resource planning (ERP), and supply chain optimization systems, connecting the people, partners, processes, and information needed to manage all design-to-deliver activities in a simple, smart, and open way. The table below overviews these processes.

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<th>Process</th>
<th>Description</th>
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<tr>
<td>Product lifecycle sourcing</td>
<td>Import bills of materials (BOMs) directly from your PLM system, and source multilevel BOMs. Advanced capabilities, such as product costing, alternative parts specification, and split allocations across multiple suppliers, enable sourcing teams to maximize product cost savings.</td>
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<td>Supplier categorization and segmentation</td>
<td>Use comprehensive tools to onboard, qualify, segment, and manage supplier performance. You can also use a unified vendor data model in the cloud, which suppliers can keep up to date to ensure accurate supplier records. Supplier lifecycle management is integrated with sourcing so you can control whom to invite to bid and drive spend to preferred suppliers.</td>
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<td>End-to-end process management</td>
<td>Integrate your sourcing and contracting processes with manufacturing execution through your ERP system to ensure that terms negotiated during the sourcing process are fully executed. This can be done in an automated, fast, and efficient way.</td>
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<td>Integration with ERP and advanced supply chain optimization tools</td>
<td>Our solutions provide integration with back-end systems so that forecasts flow from your ERP system or the supply chain optimization tools to SAP Ariba® solutions, and sourcing awards flow to your ERP system. Execution documents, such as orders, schedule agreements, and inventory pulls, also flow smoothly between systems. Choose from a portfolio of integration options and more than 100 preconfigured processes to accelerate digital supply chain transformation.</td>
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<td>Forecast collaboration</td>
<td>SAP Ariba solutions support planning collaboration that extends demand forecasts from your ERP or supply chain optimization systems to your suppliers, who respond with a commitment of what they can actually supply. This improves the quality of forecasts and your production plans.</td>
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<td>Order collaboration</td>
<td>Gain real-time status of order confirmations and supply availability while giving suppliers greater transparency of longer-term and near-term demand.</td>
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<td>Contract manufacturing collaboration</td>
<td>You can collaborate with contract manufacturers (CMs), use subcontracting purchase orders to tell a CM about the product ordered and the components needed to assemble it, and share component consumption data. Track the component inventory transferred to a contract manufacturer and receive information on inventory as it is used.</td>
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<td>Multitier supply chain collaboration</td>
<td>Manage the complexities of multitier supply chains by connecting and collaborating with all suppliers – including tier 2 and beyond. Tier 2+ suppliers can receive key demand signals and view, as needed, responses from a tier 1 supplier.</td>
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<td>Supplier-managed inventory</td>
<td>Support collaboration around the end-to-end, supplier-managed inventory process with push-based replenishment based on minimum and maximum inventory policies. Obtain minimum and maximum alerts and planned shipment calculations, helping optimize inventory levels while improving order fill rates and ensuring supplier compliance with inventory rules.</td>
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<td>Supplier onboarding</td>
<td>Use flexible, on-demand tools and technology to segment and onboard thousands of global suppliers and connect supplier systems and processes to yours. Onboarding experts are ready 24x7 to help you plan, prioritize, and execute, if needed. Self-service functionality automates enablement for any supplier, and open, standards-based electronic communication and support for 20 languages eases adoption.</td>
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<td>Intelligence and collaboration dashboards</td>
<td>Newly enhanced collaboration tools provide intelligence that wasn’t possible in the days of EDI. Get real-time status information, measure trading partner performance, and prevent potential supply chain disruptions using proactive exception alerts that flag potential issues.</td>
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The Benefits of Digitalizing Supply Chains for Direct Procurement

When you adopt SAP Ariba solutions for direct spend, you unlock a whole new world of benefits for your business. For example, you can:

- **Achieve faster time to market and time to volume:** Adopting these direct spend solutions helps you innovate rapidly by tying R&D and product-design processes to sourcing and procurement processes. This integration speeds up time to market.
- **Source all materials and services for multilevel BOMs on a single comprehensive platform:** By centralizing all sourcing activities on one platform, you can source what’s needed quickly and more accurately – and avoid hiccups as you move toward volume production. Collaborating effectively with suppliers also drives up assurance of supply, ensuring you identify and address any potential shortages in supply before they happen.
- **Aggressively manage product costs:** SAP Ariba solutions for direct spend help you minimize contract leakage and ensure negotiated savings are realized, as they link your sourcing and execution processes together on a single platform. This ensures that terms agreed upon during strategic sourcing processes are enforced through your execution systems. All your orders can now reflect the contracts and agreements that have been made with suppliers. These solutions also tie your supplier qualification and sourcing processes together, helping you to avoid supply chain disruption and noncompliance by ensuring that you select qualified suppliers.
- **Manage your nonlinear and external supply chains by collaborating with multiple tiers of suppliers to gain complete visibility of supply:** This enables you to reduce inventory levels, increase fill rates, and minimize supply chain risks. And with SAP Ariba solutions for direct spend, all of this can happen with minimal manual data entry and rekeying.

12%

Enterprises can realize a 12% reduction of days in inventory with dynamic, frequently updated forecasts.³

³ SAP Performance Benchmarking.
Proving the Value: Customer Successes

Many companies in the high-tech industry are already adopting SAP Ariba solutions for direct spend and realizing impressive results. Consider the following real-world customer examples.

**A global consumer electronics company** produces and ships hundreds of millions of products per year and manages hundreds of suppliers, including contract manufacturing organizations and multilayered suppliers. It adopted the SAP Integrated Business Planning solution and SAP Ariba solutions for direct spend as a comprehensive solution that ties its sourcing, planning, and execution processes together to drive up assurance of supply. In doing so, it gained complete visibility of the supply chain, enabling this OEM to see whether its suppliers received orders from its contract manufacturer, and what quantity the supplier has confirmed in those orders. SAP Ariba solutions are helping the company evolve from an allocation-driven to a responsive, demand-driven supply chain, as well as benefit from reduced supplier onboarding time from months to weeks), and eliminating working capital requirements by hundreds of millions of dollars.

**NEXT STEPS**
To learn more about SAP Ariba solutions for direct spend, please visit [www.ariba.com](http://www.ariba.com)/solutions/solutions-overview/supply-chain.

One SAP Ariba solution customer in the high-tech industry eliminated **US$300 million** in working capital by dynamically matching demand and supply.