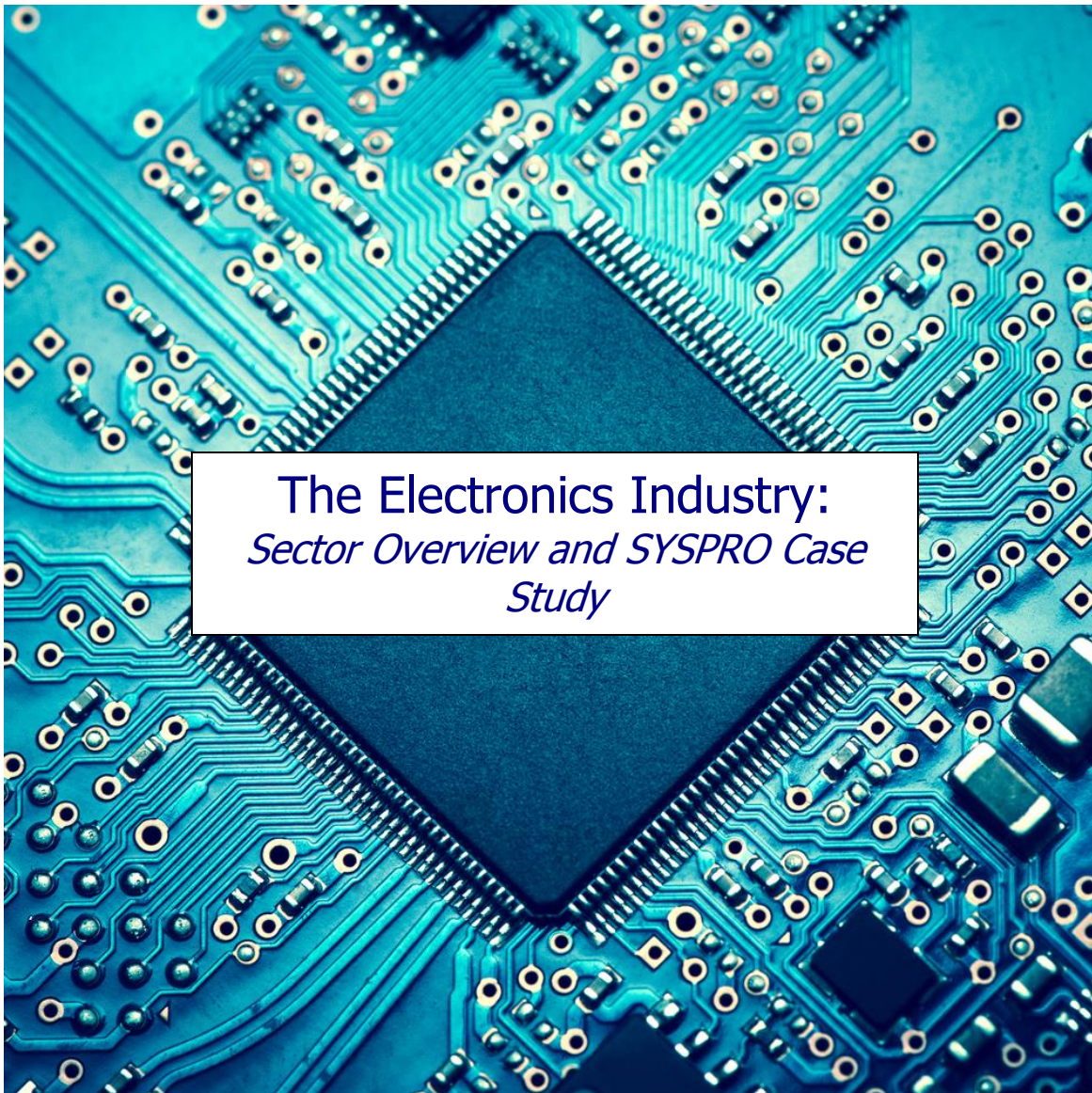


VITAL ANALYSIS

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A Special Report from Vital Analysis



The Electronics Industry:
Sector Overview and SYSPRO Case Study



The Electronics Industry

Great electronics firms do several things very well:

- Manage costs and margins to best-in-class levels
- Continually shorten lead and cycle times for product development
- Relentlessly focus on quality control
- Optimize complex supply chains
- Innovate rapidly and often
- Monitor and plan for currency fluctuations

The best electronics firms also *anticipate*. They know about the competitive and deflationary pressures ever-present in their industry so they make smart investments in technology, supply chain, manufacturing, sourcing and other areas to reduce their operating costs, improve internal performance and enhance their competitive advantage. One of those investments often includes a world-class ERP software suite.

It is also a highly fragmented vertical with four large sub-verticals: consumer electronics, semiconductors, RFID/sensors and automotive technologies. There are many other sub-sectors within the electronics space, too, including: flat-panel display manufacturers, integrated circuits, nanotechnologies, power supplies, security equipment and connectors to name a few. *Despite the diversity present in this sector, all of the firms within it have common business needs.*

The best electronics firms today must possess a set of outstanding capabilities to thrive and survive. These capabilities include:

- Operational excellence.
- A culture for continuous change and disruptive innovation.
- The ability to adapt to continually changing buyers, governments and markets.
- True global operations.

Prerequisites for Operational Excellence

To become operationally excellent, electronics firms, large and small, must possess strong, integrated processes and systems that are functionally rich and tightly integrated. Top-notch systems can support best-in-class processes. But what must these systems support from a business perspective?

We believe the key requirements are:

- Rapid product development (to improve competitiveness and reduce time-to-market).
- Quality control.
- Collaborative capabilities.
- Performance measurements & analytics.
- Product lifecycle management for engineer-to-order and repetitive products.
- Timely, accurate cost management.

Short product lifecycles dictate that electronics firms possess superb supply chains and meticulous product lifecycle management systems. These organizations must have a tight

change control discipline that flows up and down the entirety of the supply chain. Every aspect of the process must be accounted for and optimized. Supplier quotes and real-time status updates from suppliers and retailers are needed to complete the lifecycle and permit accurate production forecasts. If done well, electronics firms will avoid product shortfalls/overages and supply chain disruptions while maximizing sales and margins.

Short product development cycles are the lifeblood of successful electronics firms because the faster a firm can bring new products to market, the better their market share and margins. The key to success here is to be innovative *and* fast.

Shorter product development cycles are also triggering a greater need for collaboration between integrated circuit producers and consumer electronics manufacturers. There just isn't any time left for these parties to operate in a serial process world. Products need to be jointly designed with production of key components occurring in a parallel process.

Quality control is another major area requiring sophisticated systems. Suppliers need to test components at every step of production. It isn't enough to just track quality, firms need root cause failure analysis processes to develop corrective actions quickly and avoid damaging public relations, recalls, etc.

Performance measurements and analytics are essential solutions if electronics firms are to accurately monitor product and component pricing as well as the timing of future price and cost reductions. Deflation is so common in the electronics industry that target costing and target pricing are built into the business plans of many new products. Analytics help firms determine whether their current costs and pricing strategies are producing needed margins and helping to recover sunk R&D costs. Smart electronics firms learn from the pricing and costing trends exposed from previous products and from competitors.

Strong financial and capital management tools are also needed. Given the significant amounts of capital required to develop new production facilities and products, capital expenditures must be watched quite closely. Electronics firms spend almost twice what other industries do on R&D (see Figure 1).

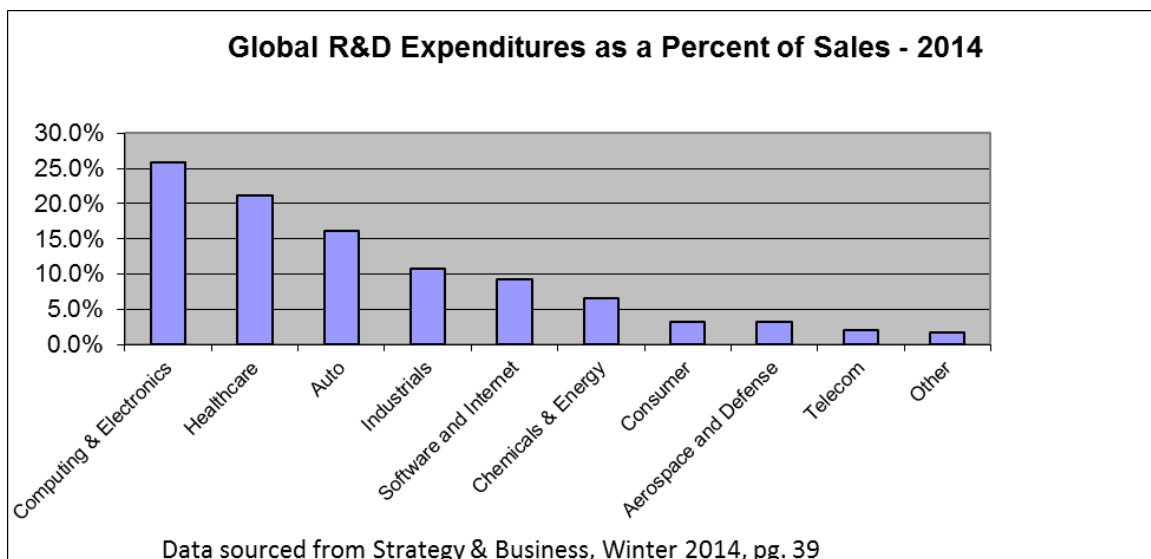


Figure 1

The Needed ERP Solutions

There are several very important enterprise solution components that electronics firms should demand. Some of these requirements are functional and others are architectural or technical. Overall, all sizes of electronics firms will work best when served by a full-suite, integrated ERP (enterprise resource planning) solution. An integrated solution will provide a significant degree of controls, back-office and front-office functionality as well as the all-important shop floor, manufacturing, supply chain management, production scheduling, etc. modules that manufacturers need.

At a minimum, any short-listed software vendor must provide the following to be seriously considered for an electronics firm:

- **Financial, Governance and Regulatory Support** – to protect shareholder wealth and avoid governmental sanctions.
- **Electronic Data Interchange** – to communicate effortlessly with a bewildering array of suppliers.
- **Manufacturing Shop Floor Support** – to successfully and quickly get new products made and made well.
- **Supply Chain Management** – to successfully orchestrate the movement of thousands of parts to appropriate final assembly and retailing locations.
- **Trade Promotions Management** – to manage financial results as well as retailers, advertisers, trading partners and others.
- **Lot Traceability** – to monitor the performance of suppliers and to facilitate recalls, engineering changes and more.
- **Quality Control** – to minimize reverse logistics, warranty and other costs.
- **Single, Global System** – to handle multiple currencies, languages and other requirements to support a global supply chain.
- **Compliance** – to support industry and environmental standards (e.g., RoHS – restriction of hazardous substances directive)

The global support item is a key one as the typical electronics product today may contain parts sourced from numerous countries. The business systems that an electronics firm uses must support cross-border

Key SYSPRO Modules

Manufacturing

- Engineering Change Control
- Work in Progress
- Lot Traceability
- Quotation/Estimating
- Factory Scheduling
- Bill of Materials
- Requirements Planning

Financials

- General Ledger
- Accounts Payable
- Fixed Assets
- Accounts Receivable
- Cash Book
- Activity-Based Costing
- Electronic Funds Transfer

Distribution

- Inventory Control
- Sales Orders
- Purchase Orders
- Sales Analysis
- Landed Cost Tracking
- Forecasting & Inventory Optimization
- Product Configurator
- Blankets Sales Orders & Releases
- Return Merchandise Authorization
- Return to Vendor
- Trade Promotions

Analytics

Customer Relationship Mgmt.

Electronic Data Interchange

Quality

Executive Dashboards

Reporting Services

collaboration, bill paying, supply chain management, etc. If the software cannot handle multiple languages (including double byte characters) and currencies, it will be inadequate to the tasks asked of it.

In the solution architecture area, we believe that electronics firms should choose ERP products with a SOA (services oriented architecture) platform as the underpinnings of the product line. This is a must-have requirement as electronics firms must be able to connect their systems to others within their supply chain.

But the SOA platform takes on additional importance in the electronics industry as the number of partners can be extraordinary given the number of components found in an electronic product and the total number of products an electronics firm will produce. Moreover, the rate of product introductions and retirements within an electronics firm is so great that a firm must have a technical architecture that permits easy, fast connections to thousands of partners. Finally, the frequent, rapid changes in technology mean that new suppliers in new or lower-cost countries must be continuously added to the system. Without a flexible architecture, the cost and time required to make these frequent connections will be excessive.

The bottom line is that SOA enables collaborative supply chains, inter-country collaboration, and CPFR (collaborative planning, forecasting and replenishment).

SYSPRO Alignment in Electronics

We have been briefed on SYSPRO's vertical solution for electronics manufacturers and distributors. SYSPRO possesses a very robust and complete ERP product line that is directed at most discrete manufacturers. Moreover, it appears to be quite relevant for Electronics manufacturers (see sidebar on previous page).

We believe SYSPRO's software supports a significant number of operational and regulatory requirements for the electronics industry. One area of SYSPRO functionality involves Return Merchandise Authorization and Return to Vendor processing support. According to research from the consulting firm Accenture, *"manufacturers spend about 5 percent to 6 percent of revenues to manage all aspects of a customer return"*.¹ Electronics firms also report that return rates are actually growing, too. Functionality to support and bring insight to returns handling must be a strategic ERP requirement.

Lot traceability is also another critical piece of functionality in this industry. As many electronic fabrication plants utilize expensive raw materials and contain very precise and expensive equipment, lot traceability helps track the performance of people, machinery, materials and suppliers. The best electronics firms use near real-time performance and traceability data to optimize production, reduce defects, minimize warranty claims and police their supply base. It would be hard to imagine a successful electronics firm without this capability.

¹ "A 'Returning Problem' Reducing the Quantity and Cost of Product Returns in Consumer Electronics", Accenture, 2011, David Douthit, Michael Flach and Vivek Agarwa

SYSPRO Case Study: Universal Power Group

Universal Power Group (UPG) relies heavily on contract manufacturing partners throughout Asia and other parts of the world to make the thousands of electrical power solutions it sells. Ramen Salehi, Senior Vice-President of Operations, indicated that his firm receives between 1,500-2,000 cargo containers annually via the Port of Long Beach. To manage all of this, the company uses a number of SYSPRO applications including those for inventory management, returns authorization, credit card payments and more. The software drives the company's operations at four U.S. locations.

UPG needs systems that help it manage several critical tasks. For example, key product components must be tracked so that the firm does not use components (e.g., tin) from conflict countries. Extensive quality control data is needed to track the material sources and production standards of its contract manufacturers. Issues have to be detected early in the process as some products have 90-120 day production lead times.

A number of UPG products are sealed batteries that have a defined useful life. As a result, the company wants to minimize inventory on hand and have a high number of inventory turns per SKU (stock keeping unit) per year. These techniques help ensure customers get products with a long life. Great inventory management systems are needed for this. Lot/serial tracking functionality is used specifically for this.

UPG is operating SYSPRO on-premises. Installed SYSPRO modules include: inventory, accounts receivable, purchase order, bill of materials, return merchandise authorization and more. The firm utilizes SYSPRO's .Net architecture to integrate the software with other applications and the systems of its largest customers. These customer integrations utilize a combination of XML and .Net objects.

When we spoke with an electronics industry SYSPRO user, this individual indicated that his firm benefits significantly from the tight manufacturing and back-office integration within the suite. This customer indicated that the company is using about 80-90% of the core applications offered by SYSPRO. This customer specifically called out the Finance, Manufacturing, Lot Traceability and RMA modules as being of particular value to his niche electronics firm. This customer also confirmed the importance of pre-supplied integration within the product suite.

Recent enhancements to the SYSPRO product line look compelling, too. We were particularly pleased with the new mobile versions of the software as well as a powerful container tracking module that is new to the suite. These major product developments indicate continued investment in the solutions – a key concern for any software buyer.

Finally, we remain impressed with the customer focus the company has. Management is particularly focused on customer satisfaction and customer experience for its users. While we hear other vendors talk about these concepts a lot, our exposure to SYSPRO management and its channel partners indicates a fairly intense and long-standing commitment to this. If this matters to your firm (and we believe it should matter a lot to smaller firms), then make this a selection priority.

Who is SYSPRO?

SYSPRO is an internationally-recognized, leading provider of enterprise business solutions for on-premises and cloud-based utilization. Formed in 1978, SYSPRO was one of the first software vendors to develop an Enterprise Resource Planning (ERP) solution. Today, SYSPRO is a global business solutions vendor, represented on six continents and by more than 1600 channel and support partners. Over 15,000 licensed companies across a broad spectrum of industries in more than 60 countries trust SYSPRO as the platform on which to manage their business processes.



Customer focus is a core component of SYSPRO's corporate culture and is one of the key reasons why SYSPRO maintains a strong leadership position in the enterprise application market. By focusing on people and building lasting relationships with customers and partners, SYSPRO consistently excels at guiding customers through all aspects of their implementation and ongoing utilization. SYSPRO's mission is to deliver world-class software that gives customers the control, insight and agility they need for a competitive advantage in a global economy. As such, SYSPRO provides a unique combination of robust, scalable technologies that ensure minimal risk and a high return on investment.

About Vital Analysis



Vital Analysis is a very different kind of technology research organization. We are the intersection set where exceptional technology market knowledge meets the executive suite. Where other 'analysts' replay vendor press releases, we give you the:

- impact new technologies will or won't have on your business
- reasons why you should or shouldn't care about specific emerging solutions
- business justifications why you may or may not want specific solutions

Vital Analysis was carved out of TechVentive, Inc. in 2007 as a new, but complementary business. As designed, Vital Analysis is the publishing, research and analytical arm of that company.

Our reach, like our blog readership, is truly global. We've consulted with top technology executives in Australia, Brazil, Canada, United Kingdom and the United States. We've been briefed by technology providers from virtually every corner of the planet.

About the Author

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