How to Choose
a Global Supply Chain SPC System
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Nearly every product that reaches the consumer represents the collaborative effort of many interconnected business relationships. The development of complex supply chains consisting of the customer, their procurement, contract manufacturers, material vendors, joint venture partners, distribution channels, etc., truly exemplify what some describe as the “virtual corporation” or the “extended enterprise.”

Ever since economic globalization and outsourcing of products and services began occurring in the early 1990s, manufacturing technology has been moving toward unprecedented levels of connectivity and intersystem integration to improve the customer’s ability to work cooperatively with supply chain partners. Yet inaccurate or incomplete supplier data still ranks as one of the most insurmountable problems contributing to poor quality. Sound like a perfect opportunity to launch into a Six Sigma initiative? Not necessarily.

Tried-and-true Statistical Process Control (SPC) has the tools, techniques and data-driven approach supply chain participants need to address quality, cost reduction, continuous improvement and consumer satisfaction without the rigid hierarchy, radical culture change and massive investment dictated by Six Sigma.

Zontec’s Synergy 3000™ has emerged as the breakthrough Supply Chain SPC System to give customers top-down coordination and centralized control they need to prevent production problems from getting passed on to the next link in the supply chain. This is the most appropriate way to ensure that suppliers are all on the same page.

Evaluating and choosing Supply Chain SPC Software alternatives requires careful consideration. Here are some helpful guidelines to keep in mind during the selection process to ensure that the system is designed for global success:

**Software design.** Traditional networked quality applications are connectivity challenged and not well architected for data exchange among supply chain participants. To be highly successful in managing supply chain quality, customers must adopt an entirely new computing model that embraces both Windows® and Web-based users. The dual Windows/Web design affords the virtual corporation a great deal of flexibility regarding the method they choose to deploy the system for internal processes, supplier processes and users who need monitoring and reporting capabilities via mobile devices.

To date, most statistical process control software providers have been reluctant to abandon their base architectures to take advantage of these next-generation development tools and connectivity-enabled computing platforms. To do so involves a complete rewrite of their programs, and a majority of software vendors are usually far too constrained to take on such a large commitment. Applications
based on Microsoft .NET™ development tools are the future of enterprise software applications, and unless .NET was utilized in the development cycle, then a system cannot deliver the benefits of a genuine "Web application" for the globally connected enterprise. Zontec accepted the challenge and designed Synergy 3000 from the ground up based on the Microsoft .NET framework.

Ownership and security of data. These days, much attention is being focused on “cloud computing.” Cloud computing is a general term for the delivery of hosted computing and Software as a Service (SaaS) applications over the Internet through a third-party provider. However, there are many unresolved issues associated with security, performance and control for the very large data sets involved for mission-critical and real-time applications such as Supply Chain SPC. When IT is at the mercy of the hosting provider for system availability, outages, poor response times, privacy, unauthorized access and compatibility with unique production equipment, the cloud computing strategy becomes a far less attractive option.

A lower risk alternative places control for the entire system within the customer’s own Corporate Data Center. This on-premises model in Synergy 3000 is currently the only way to guarantee security, acceptable performance, backup, integrity and centralized coordination for global Supply Chain SPC. Here, internal IT staff allocate SQL Data Servers under the Windows platform to the customer’s production facilities. Servers under the Web platform are reserved for suppliers and mobile users who need remote connections to the system. Each plant and supplier has its own database for SPC hosted in the Corporate Data Center.

There are distinct advantages to customers assuming total ownership of their suppliers’ data: first, it relieves suppliers of IT responsibility for maintaining and securing the data. Second, customers can help themselves to supplier data 24/7 without requesting supplier reports. Finally, if the two parties
should sever their relationship, arrangements won’t be necessary to transfer the supplier’s data archives back to the customer.

**Knowledge transfer and supplier accountability.** Customers should take the lead in sharing knowledge and techniques with suppliers. If quality methods, compliance standards and boundaries for acceptability aren’t clearly communicated, it is no wonder that products fail to meet engineering requirements, profit targets and consumer quality expectations.

Suppliers often need access to customer work procedures, engineering drawings and contract specifications during their production runs. Synergy 3000 provides ready reference to visual aids directly within the application. Because this information is stored and maintained in the respective SQL database, supplier-users all work from the same set of policies, eliminating paper records and version conflicts. In the end, the customer benefits by seeing a reduction in travel to supplier facilities for training and supervision.

For knowledge transfer and communicating requirements, Synergy 3000 ensures that suppliers are following the proper sampling plans, data collection procedures and contract provisions to a tee.

**Comprehensive SPC functionality from the Web.** Over the past ten years, the concept of browser-based SPC has come to mean many things to many people. The supply chain needs the SPC application to provide greater functionality than a basic display of data via static web pages. Synergy 3000 provides a rich set of features and snappy performance as if the application were running locally on the PC’s
Windows operating system. Foremost, it offers data collection and gage interfacing through the browser in addition to charting, process monitoring, real-time feedback and reporting. A system that provides anything less does not take advantage of the latest advances in computing technology.

**Global monitoring and notification of adverse events.** Obviously, the Supply Chain can’t succeed under an independent, site-driven policy. One only has to look back at the frequency of product recalls that have occurred over the past 10 years due to reliability, inferior quality and safety issues to realize that quality must be a centralized function.

Synergy 3000 empowers the customer with global monitoring capabilities using customizable management dashboards that show at a glance the current status of every process participant. More than just an enterprise overview, the dashboard provides drill-down features for SPC charts and individual Data Tables that can be used for instantaneous decision support and troubleshooting. In addition to global dashboard views, Synergy 3000 is enhanced with real-time e-mail and cell phone text messages that notify the appropriate parties when out-of-control and out-of-specification conditions occur. These global monitoring and alarming quickly transform an “inspect and reject” pattern of behavior into a much more proactive “predict and prevent” business mindset.

**Traceability and reporting.** Customers should consider their Supply Chain SPC system as their insurance policy that suppliers understand and are able to meet all quality requirements within their manufacturing contract. Synergy 3000 enables suppliers to spot unacceptable trends and address quality issues before non-conforming products are ever manufactured, minimizing the need
for waivers, exemptions and deviation from process protocol. It encourages customers to review supplier conformance before authorizing shipment and prevent the need to quarantine non-conforming products that were inadvertently shipped.

Synergy 3000 includes a complete set of tools for traceability, defect tracking, performing in-depth data queries, root cause analysis, OEE (overall equipment effectiveness) and RTY (rolled throughput yield). Zontec has built robust reporting capabilities into the system so that third-party reporting tools are usually unnecessary. Compatibility with Business Objects’ Crystal Reports® satisfies unique reporting requirements if the situation should ever arise.

Look in the Synergy 3000 report menu for summary, reject, capability, Cp/Cpk reports as well as a detailed Certificate of Analysis to provide a high level of confidence that a product shipment falls within the acceptable range. Using these reporting tools, the customer can reduce or often eliminate incoming inspections entirely.

**Mobile access.** Laptops, netbooks, smartphones, ultramobile PCs and innovative new products such as the Apple iPad® are rapidly changing the computing landscape for businesses. Supply Chain SPC must encompass this movement which will certainly accelerate as the spectrum of client devices becomes more powerful and mobile applications become more interactive. Already, Synergy 3000 is able to accept data entry from these devices through an Internet connection as well as displays charts, data spreadsheets and process alarms in real time. Mobile employees, telecommuters and remote users will find this an indispensable method for staying in touch with quality conditions when they don’t have access to a network connection.

**Interoperability with external systems.** Quality data may originate just about anywhere within the virtual corporation—not necessary at the point of production: for example in external databases, ERP, LIMS and SCADA systems, OPC servers, instrumentation and legacy applications. Integrating this isolated information into the Supply Chain SPC system should be a simple procedure that requires no additional programming or software customization. Zontec offers a full array of integration tools that bring this data into the SPC environment for charting, analysis and reporting to provide the customer with a single system view of quality.

**Rapid implementation and ROI.** Contrary to current software buyers’ perceptions, Supply Chain SPC is unlike major ERP systems that involve extremely lengthy implementation timetables and involve a multi-million dollar pricetag. Instead, Synergy 3000 is reasonably priced and can be rolled out within a matter of days. The installation and training plan is simple and straightforward, and on-
site software vendor support requirements are minimal to prevent excessive startup and implementation service costs. Conservatively speaking, net savings using the system may result in a multi-million dollar contribution to the organization’s bottom line. Zontec’s experience shows the implementation can result in a return-on-investment as high as 900% and a payback in a short a time as one month!

**Summing it all up.** Statistical Process Control in the Supply Chain is not an activity that should be left to the discretion of individual plants or suppliers. There are far too many adverse production events that may occur and require controlled accountability. SPC therefore becomes a collaborative effort requiring a global software architecture to give the customer deep visibility into its supply base in a secure computing environment. The customer’s choice of Supply Chain SPC software provider stands to impact them on a strategic scale for many years in the future. The World Wide Web is the critical enabling technology that unites the quality function and business processes into a cohesive and high-performing Supply Chain model. Discriminating buyers of Supply Chain SPC software must be diligent in seeking out systems that prepare the customer for the next wave of computing and communication. Otherwise, they sacrifice strong and profitable supplier relationships, agile systems management, low cost of ownership and most important of all: their hard-fought reputation for quality. Zontec’s Synergy 3000 software delivers all these capabilities today!