

A White Paper for Executives in Manufacturing

Managing Supplier Quality with Global SPC
While Delivering a 900% Return-on-investment

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Managing Supplier Quality with Global SPC While Delivering a 900% Return-on-investment

Managing supplier quality has become one of today's most critical business challenges. Manufacturers with diverse operations must focus on broadening the scope of quality by implementing more standardized, flexible and responsive tools to measure and manage the business. Today, corporate profitability is a result of centralized quality management through collaborating, interconnected and integrated processes.

Information technology to support such a vast cooperative global infrastructure is no longer a vision. Zontec's Synergy 3000™ Statistical Process Control (SPC) Software for Windows® and the Web allows manufacturers to exercise total control over supplier quality. The system enables manufacturers to rapidly implement uniform data collection procedures within their supplier community while overseeing their production activities 24/7.

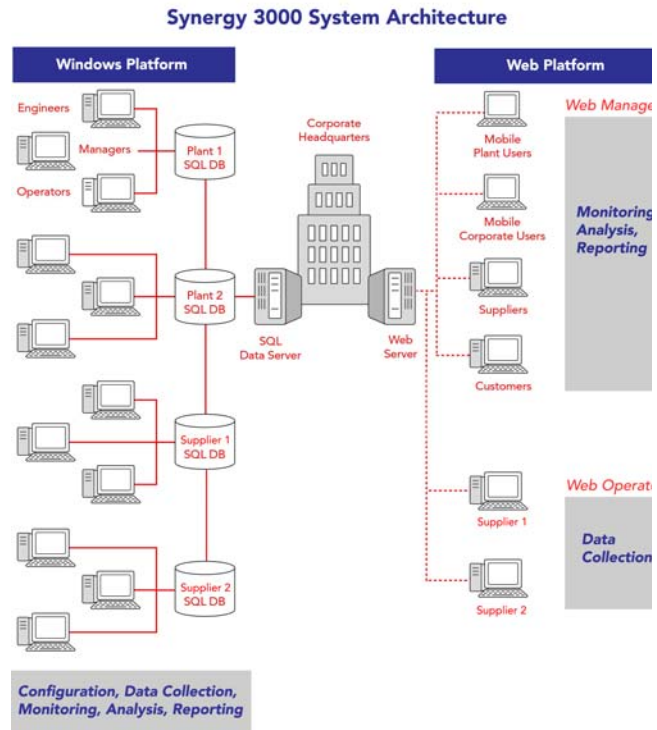
Synergy 3000 is an on-going supplier performance assessment tool designed around a powerful SQL database system that permits any process participant anywhere in the world to exchange information with others, manage the process, make sound business decisions and contribute to the quality function.

A cost-effective global solution for inaccurate or incomplete supplier data

Maintaining a successful supplier quality initiative has evolved into a massive information management task. Inaccurate or incomplete supplier data is often identified as one of the top internal customer problems impacting supply chain relationships. The document-intensive nature of programs such as PPAP (production part approval process) in the automotive industry and PAT (process analytical technology) in the pharmaceutical industry, for example, presents countless quality record-keeping and change management challenges. Synergy 3000 SPC software has been designed to give customers total control over management of supplier data, significantly reducing the opportunity for supplier non-conformance and minimizing the need for waivers, exemptions or deviation from process protocol. Quite simply, Zontec can simplify the cumbersome paperwork activities and streamline the communication channels between customers and suppliers by making

production data on-line and in real-time. Authorized system users can literally help themselves to information whenever the need arises.

A highly scalable solution, Synergy 3000 provides customers the most appropriate combination of Windows and Web users to address process verification and adherence to requirements. Central configuration and on-going data management is carried out at the customer's own data center, minimizing IT involvement at each supplier facility and freeing suppliers of inconsistencies in data collection, reporting and security. Because the centralized data warehouse serves as host to individual SQL databases for each supplier or specific process, the customer assumes complete responsibility for maintaining and securing supplier data, implementing proper control plans and achieving lot traceability genealogy as defined by design records, contract terms and conditions. It delivers the consistent, global view of quality for real-time operational excellence and support for ISO 9001 and TS 16949 international quality standards.



Using the Synergy 3000 Web Operator application, the system provides a direct means for customers to convey requirements to their suppliers, implement uniform data collection procedures across multiple locations, and help them to spot trends and quickly identify quality issues well before non-conforming products are ever manufactured. Notes documenting

The screenshot shows the "SYNERGY 3000 Web Operator" interface. The main window displays a data table for "Part No. 246_Length". The table has columns for Lot No., ID2, ID3, Ovl1, Ovl2, Ovl3, NOTES, Average, Range, Date, Time, and Status. The data rows show various lot numbers and their corresponding quality metrics.

Lot No.	ID2	ID3	Ovl1	Ovl2	Ovl3	NOTES	Average	Range	Date	Time	Status
64	lot11		2.7	2.6	2.5		2.6	0.2	03/19/2008	15:17:13	
65			2.778	2.778	2.778		2.778	0	03/19/2008	15:18:06	
66			2.813	2.777	2.845		2.812	0.408	03/19/2008	15:20:01	
67	Lot112		2.814	2.821	2.82		2.818	0.007	03/20/2008	13:20:45	
68	Lot 234		2.899	2.831	2.841		2.827	0.032	03/21/2008	16:14:46	
69	Lot 234		2.799	2.815	2.824		2.813	0.028	03/21/2008	16:15:20	
70	Lot 234		2.789	2.814	2.816		2.843	0.095	03/21/2008	16:16:04	
71			1.976	2.015	2.006		1.999	0.039	03/21/2008	16:16:57	
72			2.194	2.214	2.175		2.181	0.06	03/21/2008	16:18:38	
73			2.123	2.168	2.48		2.187	0.157	03/21/2008	16:19:53	
74	Lot 234		2.136	2.215	2.85		2.407	0.494	04/01/2008	14:22:23	
75			2.193	2.016	2.174		2.114	0.158	04/01/2008	14:23:39	
76			2.198	2.015	2.007		2.06	0.151	04/01/2008	14:24:11	
77	Lot 354		2.194	2.222	2.145		2.24	0.191	04/01/2008	15:56:19	
78			2.195	2.214	2.188		2.179	0.059	04/02/2008	09:39:56	
79			2.115	2.145	2.354		2.205	0.239	04/02/2008	09:42:10	
80			2.116	2.14	2.254		2.17	0.138	04/02/2008	10:22:36	
81	Lot 345	MI02	JCL	2.145	2.184	2.156	2.155	0.019	04/03/2008	16:57:03	
82	Lot 345	MI02	JCL	2.154	2.144	2.154	2.151	0.01	04/03/2008	16:59:10	
83	Lot 345	MI02	JCL	2.211	2.189	2.145	2.188	0.066	04/03/2008	17:00:10	
84											

Web Operator Data Collection Screen

causes and corrective actions are incorporated into the data collection process to ensure full accountability during production.

Operators frequently need access to standard operating procedures, engineering drawings, instructional guides, flow diagrams and visual aids during production runs. The Zontec global quality management system facilitates ready reference to documents directly within the application, eliminating paper records and version conflicts since the documents have been stored electronically within the customer's supplier database and are centrally controlled.

The Web Operator application serves an important dual purpose, benefiting suppliers and customers alike; it provides suppliers with the tool for long-term continuous improvement while allowing customers to manage remote processes as efficiently as they would for their own on-site production.



Web Operator Control Chart Screen



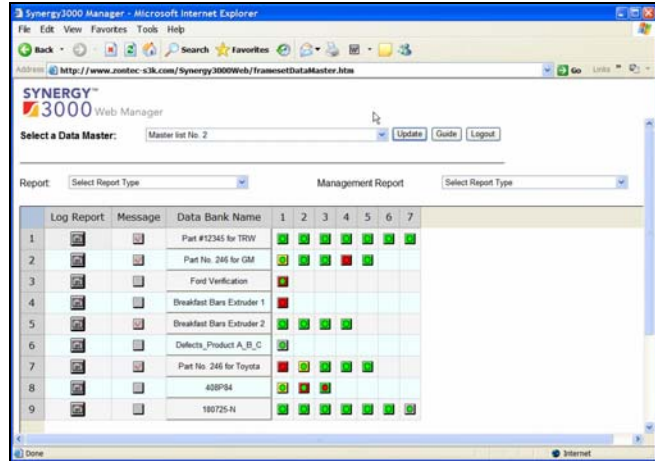
Web Operator Document Access

A worldwide troubleshooting resource for Managers

A second, complementary browser application, the Synergy 3000 Web Manager, has been designed for remote users, mobile employees and telecommuters who need to verify process status using only their Internet connection. The Web Manager delivers a "command central" dashboard view of every process condition anywhere in the world. If more detailed information is desired, Web Managers can access the actual data spreadsheets for individual suppliers to examine specific SPC observations, traceability tags or Operator adjustments made during production. A fully array of

SPC charts and executive reports can be generated in real time.

Furthermore, the system can be configured to automatically trigger e-mail alerts and cell phone text messages to designated customer and supplier representatives when out-of-control conditions occur, enhancing the system as a worldwide troubleshooting resource.



Web Manager Monitoring Dashboard

By taking advantage of a much more proactive approach, Web Manager users can review supplier conformance to requirements before authorizing shipment, prevent the need to quarantine non-conforming products that were inadvertently shipped, or potentially stave off a future product recall due to reliability or safety issues. In many cases, incoming inspections can be reduced or eliminated at the customer site through the many built-in preventive measures in Synergy 3000.

Industry-leading ROI

Unlike complex enterprise business systems that involve lengthy IT implementation timetables and extended time-to-benefit, a global Synergy 3000 SPC rollout can occur within a matter of days, and suppliers can begin measuring improvements and reducing costs on the very first project. Inefficient processes can drain 20 percent or more from the corporate bottom line; therefore calculating your Synergy 3000 return-on-investment can be a tremendously encouraging financial exercise.

Begin with the current annual personnel expenses for running your supplier quality

Synergy 3000 by Zontec, Inc. Supplier SPC Program Return on Investment (ROI)			
Supplier Quality and SPC Program	Hours/week	Hourly rate	Total yearly cost
Quality Engineer			
a. Time spent on quality and SPC project	20.0	\$ 75.00	\$ 78,000.00
b. Review supplier's SPC reports	2.0		\$ 7,800.00
c. Other supplier quality and SPC functions	2.0		\$ 7,800.00
Quality Inspectors			
a. Time spent on supplier SPC project	5.0	\$ 50.00	\$ 13,000.00
b. Incoming product inspection	2.0		\$ 5,200.00
c. Data collection function	3.0		\$ 7,800.00
d. Other supplier quality and SPC functions	1.0		\$ 2,800.00
Quality Manager			
a. Time spent on supplier SPC project	10.0	\$ 100.00	\$ 52,000.00
b. Review supplier's SPC reports	2.0		\$ 10,400.00
c. Other supplier quality and SPC functions	2.0		\$ 10,400.00
Production Engineer			
a. Time spent on supplier SPC project	10.0	\$ 75.00	\$ 39,000.00
b. Review supplier's SPC reports	2.0		\$ 7,800.00
c. Other supplier quality and SPC functions	3.0		\$ 11,700.00
Production Operator			
a. Time spent on supplier SPC project	3.0	\$ 35.00	\$ 9,100.00
b. Review supplier's SPC reports	2.0		\$ 3,640.00
c. Other supplier quality and SPC functions	1.0		\$ 1,820.00
Other Departments			
a. Time spent on supplier SPC project	3.0	\$ 100.00	\$ 15,000.00
b. Review supplier's SPC reports	2.0		\$ 10,400.00
c. Other supplier quality and SPC functions	1.0		\$ 5,200.00
Total projected cost			\$ 289,260.00
Cost to implement supplier SPC system	Total units/users	Cost per unit or user	Total cost
Hardware			
a. Computer systems	5	\$ 1,000.00	\$ 5,000.00
b. Network system with OS	1	\$ 2,000.00	\$ 2,000.00
c. Gauge devices	5	\$ 200.00	\$ 1,000.00
d. Gauge in interface unit (Multiplex)	4	\$ 800.00	\$ 3,200.00
e. Other equipment	2	\$ 1,500.00	\$ 3,000.00
Software			
a. Synergy 3000 system	1	\$ 80,000.00	\$ 80,000.00
b. SQL server and database	1	\$ 5,000.00	\$ 5,000.00
c. Other software	0	\$ -	\$ -
Software Training			
a. Synergy 3000 system	1	\$ 3,000.00	\$ 3,000.00
b. Other training	1	\$ 1,500.00	\$ 1,500.00
Miscellaneous			
a. Synergy 3000 Multi-Function Toolbox	0	\$ 2,500.00	\$ -
b. Travel expenses for training	1	\$ 1,500.00	\$ 1,500.00
Total implementation cost			\$ 105,400.00
Cost justification		Total initial savings	
Implementing Synergy 3000 system			
a. To reduce projected cost by %	50%	\$ 149,630.00	
b. Total supplier facilities and plant locations	30		
c. Cost saving from each of the supplier facility	\$ 15,000.00	\$ 450,000.00	
d. System cost paid by each of your supplier	\$ 2,400.00	\$ 72,000.00	
e. To reduce supplier's rework and scrap		\$ 50,000.00	
f. Improving overall supplier quality		\$ 50,000.00	
g. Increase product satisfaction		\$ 75,000.00	
h. Increase product sales		\$ 100,000.00	
i. Reduce cost of quality for the company		\$ 100,000.00	
j. Reduce trips to your supplier's facility		\$ 20,000.00	
k. Other cost savings		\$ 5,000.00	
Total adjusted savings		\$ 1,071,630.00	
Net Savings with initial investment		\$ 966,230.00	
Return on Investment (ROI)		917%	
Payback Period (Break even in months)		1.18	

program and statistical process control functions today. Next, figure the total implementation cost for the new system. This expense category should include:

- computer hardware and related equipment costs including the network
- cost of both the Synergy 3000 and SQL database software
- training expenses

Finally, your cost justification will reflect the total initial savings for the project. The cost justification is where dramatic improvements can be demonstrated and should factor in such benefits as:

- having a global SPC system in place with only one system to manage
- real-time information sharing and improved time-to-decision (a better system for measuring and managing the business)
- having total control over both internal processes and the supply chain
- improved regulatory compliance
- historical information readily available for future analysis and reporting
- instant feedback to every level of operation
- elimination of paper-based records system
- being more proactive by predicting and preventing problems rather than inspecting and rejecting parts after production
- replacement of manual activities by automating data collection, calculations and SPC charts
- reduction in data entry errors by using automatic input devices
- efficiencies realized from instant traceability and audit trail generation
- reduction in travel to supplier facilities for knowledge transfer, procedural training and supervision
- reduction in incoming inspection
- on-the spot conformance to requirements and quality prior to shipment
- improved customer and supplier relationships
- manufacturing cost savings
- rapid return on system investment
- scrap reduction and decrease in rework
- faster time-to-market as a competitive advantage

Conservatively speaking, the net savings for the global supplier quality system may result in a multi-million dollar figure. And based on Zontec's experience, the low investment cost can actually achieve a return-on-investment of over 900% and a payback in a short a time as one month. Recognizing the benefit just makes good fiscal sense, and every day of delay just perpetuates unnecessary waste and spending.

To flourish in this highly competitive marketplace, global businesses must focus their quality efforts on process collaboration and cooperation up and down the supply chain. Synergy 3000 represents a reasonably small to moderate technology

investment that satisfies the urgent quality challenges you have today with a long-term continuous improvement tool designed for a highly competitive advantage.