

No Rejects Here

CimWorks VisualSPC Helps Delavau Achieve Zero Defects

In the first 34 weeks of the year 2000, Delavau reduced the number of products that failed to meet specifications to zero.

Each day, Delavau processes up to 15 nutraceutical batches. Technicians mix two 900-kilogram lots of a granular mixture for each batch of 1.5 to 2 million tablets or capsules, each of which must be exactly the same as every other one in the batch.

"Before we developed the AWACS system, the primary cause for product rejects was assay errors caused by improper manual measurement conversions," says Don Prosser, Delavau's Vice President of Operations. "Our tremendous growth, while good for the company, was also causing some problems. We were hiring new technicians and making a wider variety of products with more complicated formulas." Errors made at the critical weighing stage were causing problems throughout the manufacturing process.

"Moving a decimal point incorrectly or other conversion errors are easy to do and hard to catch," Prosser explains. "The computerized AWACS doesn't make those kinds of errors, so we saw an immediate improvement in accuracy." Along with improved accuracy came increased production. Automating the pick process and eliminating hand-written labels tripled the department's output.

Continuous Improvements with VisualSPC

The success of the AWACS implementation led senior management to support further upgrades, including implementing VisualSPC program in the compression and coating operations.

SPC formalizes the analysis of production data. By measuring everything from tablet size and shape to hardness, weight, color, and all the process characteristics in between, variations in the product are detected early. SPC software tracks these measurements, delivering real-time, graphical displays of the data so that operators can control their processes to deliver optimal performance.

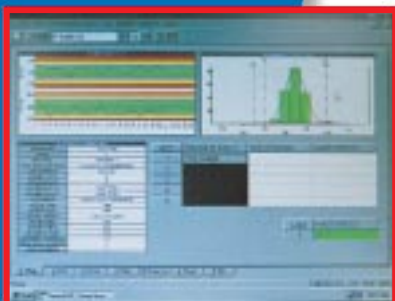
Director of Information Services, Ali Selvi, and Xiomara Delgado, Manager of Quality Improvement for Operations, began evaluating systems in 1998. After narrowing the field to five software packages, the two began head-to-head evaluations of the contenders based on five criteria for their SPC program: database format,

Quality managers at Delavau, a nutraceutical contract manufacturing facility in Philadelphia, Pa., don't measure rejections in their compression and coatings processes anymore. Thanks to VisualSPC statistical process control software from CimWorks, a GE Fanuc company, they don't have rejects anymore. In 2000, Delavau reduced the number of products that failed to meet specifications to zero.

Since installing the software package and supporting hardware, Delavau has moved from measuring rejections—a trailing indicator that reflects a failure in quality—to measuring nonconformance of processes. This leading indicator method allows operators and management to identify an opportunity to fix any problems that occur before producing nutraceuticals that aren't up to spec. The change from measuring "what went wrong" to analyzing processes has increased production, improved quality, and boosted profits at the nutraceutical plant.

Weighing in on Quality Issues

Founded in 1847, Delavau recognized the growth of the emerging nutritional market early in the 1970s and focused on becoming a strategic outsourcing resource to this market. The company has always stressed quality in their deliverable products. Although acknowledged as a premier contract manufacturer by the pharmaceutical industry, Delavau saw significant opportunities to reduce rejections and thereby increase throughput. In 1997, the company focused on converting their automated weigh and control system (AWACS) from a paper-based pick-and-weigh system to a computerized, bar-coded system.



“With VisualSPC, we get more data, it’s more accurate, we get it faster, and we can do more with it.”

operating system, user interface, gauge interface and compatibility, and technical support.

First, and most importantly, the program had to support Open Data Base Connectivity (ODBC) standards. “Our corporate network is built on open architecture,” Selvi says. “We were already using Microsoft SQL servers for our back-end databases, so we were most interested in SQL solutions.” CimWorks VisualSPC offered full SQL compatibility and the ability to import data from flat ASCII files generated by other plant-floor equipment.

“Our second requirement was a Windows™ NT-based program,” Selvi says. Already a standard for stable office computing, NT is becoming more widely accepted on the plant floor as more applications become available. With a familiar graphical interface and point-and-click functionality, Windows offers rapid development and easy use.

“The user interface was a critical consideration,” says Prosser. “Delavau has a history of significantly reduced training time and increased user acceptance of new technology initiatives. VisualSPC’s graphical interface was a crucial selling point.” Data trends are shown via real-time graphs on the color monitors in the compression rooms. When measurements fall outside the acceptable specifications, they are instantly highlighted in yellow or red, depending on how far out of spec they are.

In the compression rooms, where the granular formulations are made into tablets, operators test frequent samples for conformity to specifications. Operators have only a few minutes to weigh, measure, and test each sample tablet for hardness. Samples come from the production stream. If the operator determines that a sample doesn’t conform, the compression equipment shuts down, ensuring that only conforming tablets reach the finishing area.

VisualSPC avoids the need to create custom interfaces for each gauge. For example, the software supports the compression rooms’ scales, calipers, and hardness-

testing devices, so bringing the system on-line was literally plug-and-play, according to Delgado. The software also supports a wide range of other specialized measurement devices, making it easier to implement SPC analysis throughout the company’s processes.

The final consideration—and one that helped convince Delgado that CimWorks VisualSPC was the right choice for Delavau—was the reputation and stability of the company behind the software. “CimWorks has an excellent reputation and they were very supportive as we implemented VisualSPC,” Delgado says.

“There are always issues when you roll out a new software package, but we’ve had excellent technical support from CimWorks,” says System Analyst Ron Capone. “As a programmer, I am given a ‘wish list’ of capabilities, and VisualSPC has certainly helped me do my job. The program’s compliance with standards is excellent, which makes it easy to integrate the information with the third-party applications I work with every day.”

No Paper Required

By eliminating paper records, VisualSPC simplifies meeting government record-keeping requirements and streamlined the organization and storage of information. “Now that we have computerized the data collection, we get more data, it’s more accurate, we get it faster, and we can do more with it,” Prosser says. Delavau currently uses VisualSPC only for data collection, analysis, and storage, but the company plans to integrate the statistical package with their control and manufacturing equipment systems within the next two years.

“Statistical process control is most effective when it’s used end-to-end,” Delgado says. “As we get more proficient at using VisualSPC, we’ll migrate the system throughout our manufacturing process and ultimately out to both ends of our facility. Our suppliers will contribute their information to our data stream, and we’ll be able to supply detailed information to our customers.”



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