SPC Charting for Automotive Seating

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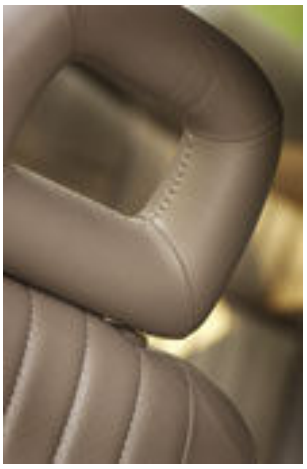


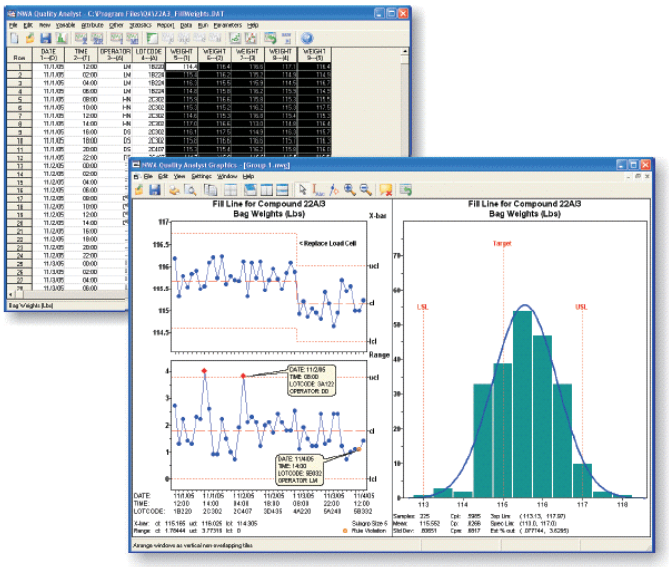
The Situation: This manufacturer of automotive seating components was seeking to automate handling of statistical quality control data. The company had a well-established practice of manual charts to control key product attributes. Changes in customer delivery requirements were driving a shift to fully demand-driven, "just-in-time" scheduling to feed two plants that made the finished seating assemblies. As well, economic constraints required increased throughput with existing production equipment in a 3-shift operation. Taken together, these factors were stressing the company's ability to obtain timely feedback for making process adjustments that would optimize throughput and minimize scrap rates.

Key Issues: The Company engaged ***DMA Systems*** in order to provide a comprehensive solution that would address these concerns:

- Eliminate the time lag for communicating test results from the quality lab to line personnel.
- Interface data collection with existing test equipment.
- Provide a uniform method to manage test data for over 1,000 products, each being tested for a similar set of characteristics.
- Provide test lab and line personnel with a way to record comments on the charts and reference them to incident reports for QS-9000 requirements.
- Provide quality management personnel with graphical tools to analyze process behavior and assess the effects of process change decisions.
- Train line personnel in basic SPC concepts and how to use the new system.

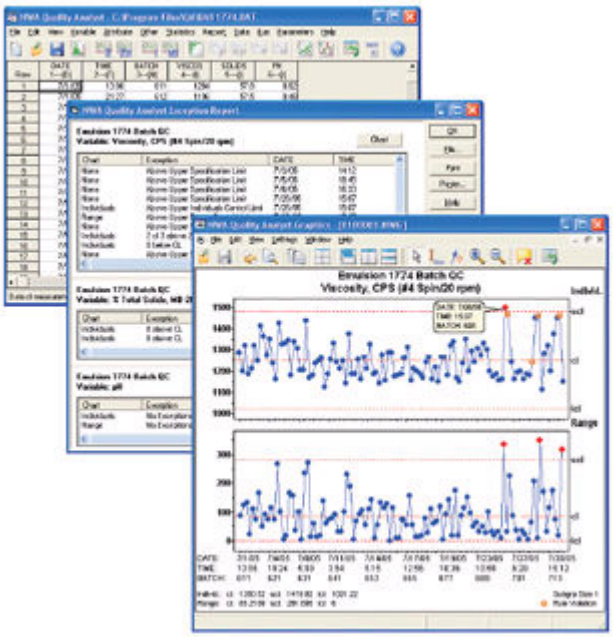
The Solution: The overall solution consisted several components:

- **NWA Quality Analyst®**, provided the core SPC charting and analysis capabilities.
- **Custom interface** software transferred test results from lab instruments to a central data repository.
- **Consolidated database** provided a central repository of specifications and test results for all products tested in the system.
- **Custom LAN client** gave production personnel quick access to view and annotate charts for any part number in the system.
- **Training** for all personnel using the system gave a refresher in basic in SPC concepts combined with hands-on practice using **NWA Quality Analyst®** for solving process problems.



Benefits: The system was launched on a single test machine for a limited range of products and then expanded to full-scale operation over a period of three months. During that time some modifications were made based on feedback received from line personnel. The result was a very high degree of end user acceptance and a smooth transition from a completely manual system to a highly automated one. Specific, tangible benefits achieved by the company included:

- ***Eliminated a 30-minute time lag between testing and availability of test results for line personnel*** allowing the line to operate at higher throughput rates and maintain quality requirements.
- ***Improved conformance to customer specifications*** allowed the process to operate consistently at a C_{pk} well above 1.33 with a corresponding reduction in scrap rates and increased process yield.
- ***High level of user acceptance:*** The system was designed for the factory floor by shop floor personnel. A high level of end user involvement in specifying requirements and testing the final product enabled rapid deployment.



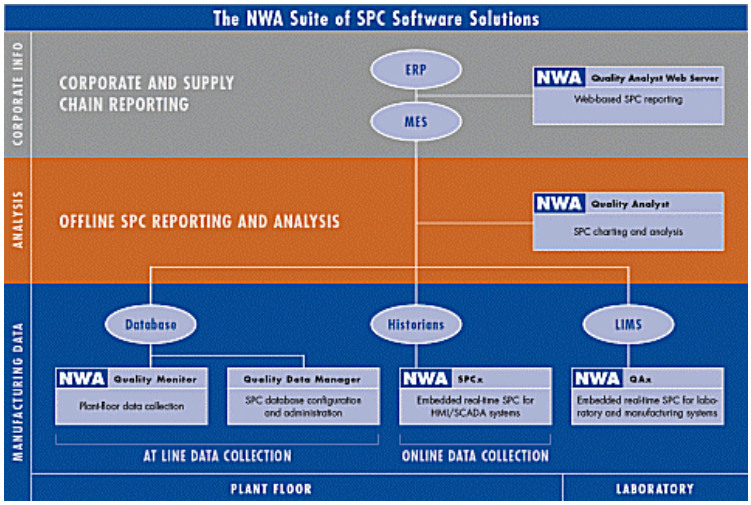
The NWA product family includes:

Quality Analyst: Award winning SPC charting and analysis software used by more than 5,000 manufacturers for vendor certification, compliance, process improvement, and cost reduction.

Quality Monitor: Automates the collection of test data, standardizes data collection procedures, and provides real-time product quality feedback that helps companies manage their manufacturing processes, improve quality, and reduce costs

QA Web Server: Instantly distributes your most current SPC charts to anyone, anywhere with a Web browser, bridging the gap between remote locations and enabling faster, more informed and consistent decision-making.

Quality Data Manager: Enables rapid and economical creation of a scalable, integrated SPC database that runs on MS SQL Server and supports enterprise-wide management and reporting of inspection and test data.



Northwest Analytical provides a comprehensive family of data management and analysis tools for statistical Process Control. Together, they offer practical, easy-to-implement solutions that deliver the benefits of SPC with minimal IT support requirements. Key features include:

- Simple and intuitive user interfaces
- Easy integration with manufacturing databases
- Rapid automation of routine tasks
- Fast generation of ready-to-use charts

DMA Systems

Bill Neaves*, founder and principal consultant of DMA Systems, served as system integrator and project leader throughout the project and delivered SPC training on-site to shift personnel. DMA Systems supplied all software components, including custom code.*

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