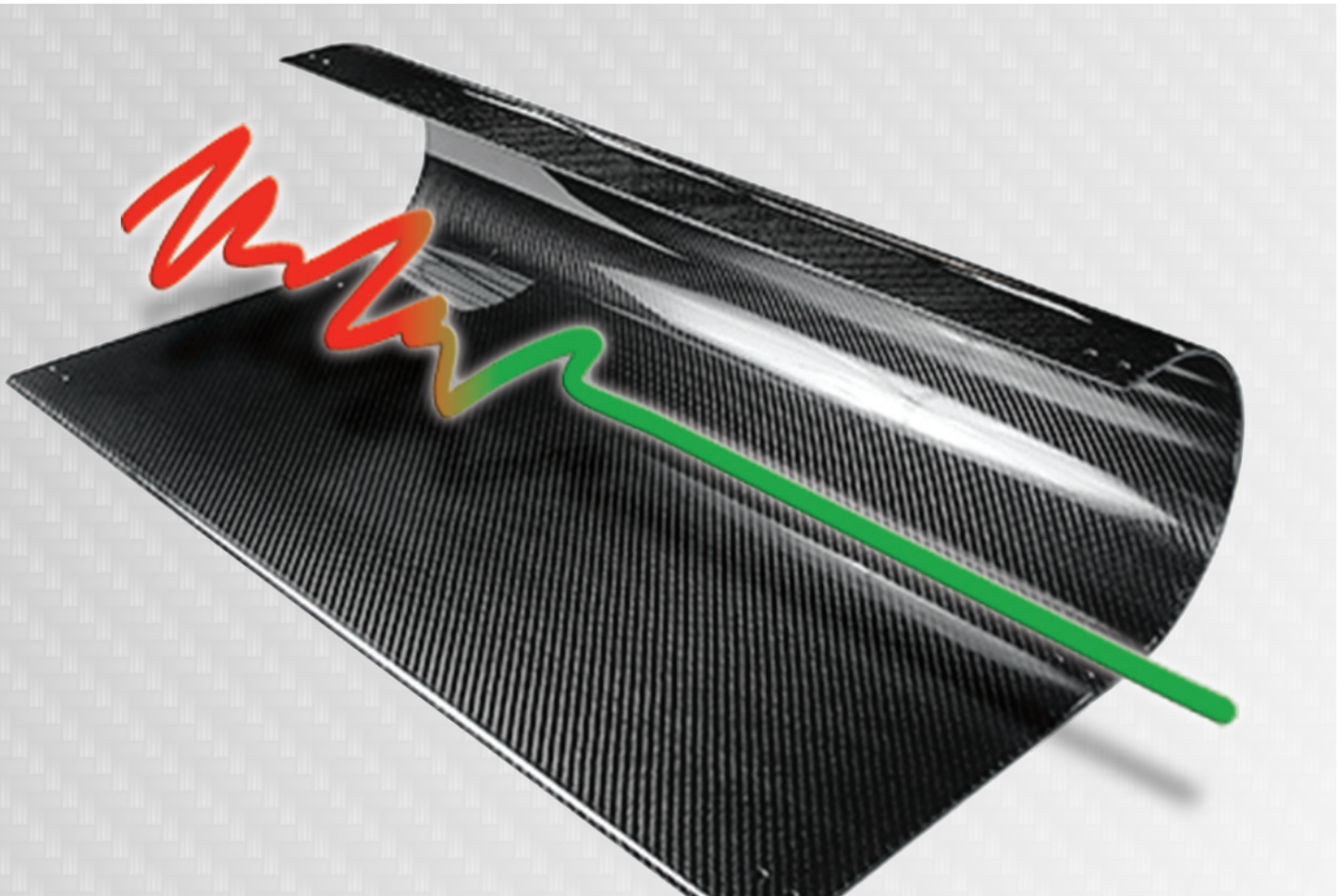


AEROSPACE & DEFENSE OPERATIONS INTELLIGENCE FOR COMPOSITES



Reduce Composites Quality Errors and Rework with Fact- Based Answers

DELMIA Operations Intelligence for Composites enables users to extract risk patterns from production history that resulted in both high- and poor-quality composites.

In the composites industry, manufacturing engineers and process and quality experts are in charge of successful new product introductions, ramp-ups and continuous improvement of first-pass yield. A typical challenge they face is to determine which critical process and product attributes to monitor, and the right combinations to prevent variations.

Risk patterns are detected with a fact-based approach supported by actual data. From this analysis, rules are identified that will improve the composite's quality and reduce scrap and rework. Real-time shop floor information is monitored, risk of quality defects is analyzed and operations are alerted of issues while there is still time to correct the situation. When a potential problem is identified, the level of risk is quantified based on best practices, a risk analysis is published and preventative or rectifying actions are proposed to the operators.

MANUFACTURING CHALLENGES

- Understanding patterns of production parameters that result in defects
- Gaining real-time visibility of the shop floor to monitor progress and collaboratively solve production problems
- Communicating preventative or rectifying actions to operators quickly
- Improving production without having to re-engineer processes

SOLUTION

- **Remove Unpredictability** Analyze your shop floor data to discover hidden root causes of previously unexplained voids and delamination defects. Simplify execution and control of complex and highly engineered composite processes.
- **Formalize your Manufacturing Know How** Capture best practices in natural language rules from past production data for clear recommendations to shop floor workers during real-time execution. Improve yields by capitalizing and industrializing best practices.
- **Scale up Production Volume** Monitor shop floor data to quantify risk of defect and proactively prevent scrap and rework. Increase product quality through a closed loop, continuous improvement process.

With a typical rework rate of 25%, composite manufacturers are anxious to improve first-time quality and cycle times.

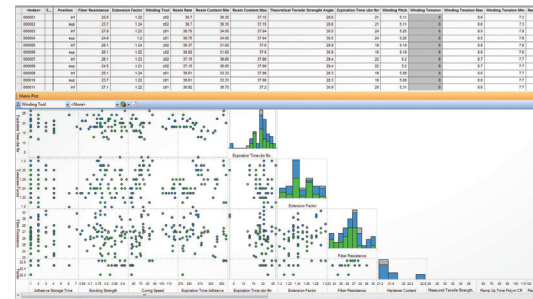
KEY FEATURES

- Create risk probabilities of failure for ongoing processes at dedicated checkpoints
- Real-time adjustment of the production settings while staying within tolerances
- Leverage standard statistics indicators to filter variables
- Knowledge is formalized by the automated creation of rules
- Real-time traceability and reporting provides the insight needed to run critical operations

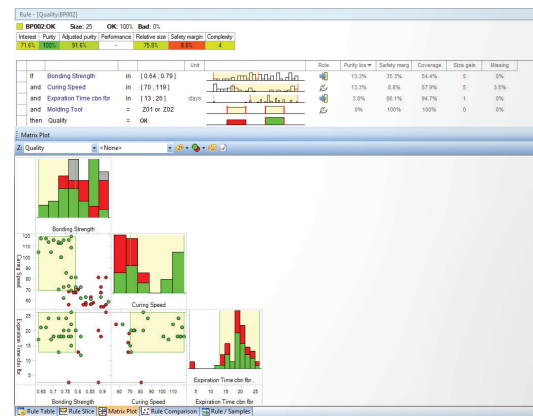
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User Interface: View shows a rule of Risk Situation discovered in the data.



Visualization of Rules and Related Samples: A graphical view enables users to understand how samples are distributed within and outside of a rule.