



Customers, employees,
investors benefit from
manufacturer's use of JMP®
in Six Sigma® program

REGAL-BELOIT Corporation

Wisconsin-based manufacturer REGAL-BELOIT is aggressive when it comes to growth. In fact, the company has made more than 25 acquisitions in the last 25 years. One of its largest recent buys brought GE Commercial and HVAC Motors into REGAL-BELOIT's family of electrical and mechanical motion-control products.

And with the acquisition from General Electric came a crew dedicated to Six Sigma®, a discipline for using statistical methods and designed experiments in industry. The team members from REGAL-BELOIT follow the highest quality manufacturing processes, which is why they rely on JMP® software for statistical analysis.

"To be leaders in the market, we must provide the best overall value to our customers as well as control costs and quality," said Vivek Bhargava, director of critical business processes at REGAL-BELOIT. "REGAL-BELOIT has implemented a Lean Six Sigma program for which statistical analysis and design of experiments (DOE) are critical tools. We found JMP to be our preferred statistical package for satisfying these needs."

"JMP is a great and complete package," said Tammy Sherman, a Master Black Belt Six Sigma instructor at REGAL-BELOIT. "It is very user-friendly, and it's easy to teach people who aren't even statisticians how to use it. Other more traditional packages got us part of the way there, but JMP was the only one that addressed the complexity of our problems while providing comprehensive statistics."

With headquarters in Beloit, Wisconsin, and manufacturing facilities in the United States, Canada, Mexico, China and India, REGAL-BELOIT's products include electric motors and capacitors for residential and commercial air-conditioning applications. REGAL-BELOIT is a publicly held company with over \$1 billion in sales.

A triple win

A competitive marketplace and the rising cost of raw materials like copper and steel drive the need for ever-increasing efficiency. Fortunately, the acquisition from General Electric included an active Six Sigma program. Since the acquisition, 360 employees have been trained to use JMP software. Users include several Master Black Belts and Green Belts whose Lean Six Sigma work is transforming the culture of the company, as well as contributors from all segments and levels of the company and from around the world.

"By improving our processes, we created a triple win," said Henry W. Knueppel, REGAL-BELOIT's president and CEO. "Customers benefit when they get quality products and service. Employees win as they do not have to spend their time fire-fighting; they fix the problem once and it stays fixed. And investors win as business becomes more competitive."

REGAL-BELOIT enjoys a number of advantages since adopting JMP. Among them:

- Visual software—graphical representation of data makes it easy to draw

quick inferences so that users see more than they would if using other statistical packages.

- Data interactivity with the analysis—it's easy to identify outlier data groups that can subsequently be highlighted and excluded from the analysis versus sorting and permanently deleting them from a spreadsheet.
- Color coding—JMP makes it easy to identify and subset data graphically.
- Fewer keystrokes are required to analyze data; additional data is acquired from drop-down menus instead of going through a series of screens.
- JMP's ability to customize menus and scripts allowed REGAL-BELOIT to seamlessly convert former users of other packages.

Unmatched capabilities for DOE

And JMP's capabilities for DOE are unmatched in other software. JMP is well known for classical DOE, fractional factorial, and RSM (response surface methodology) designs, but it stands out for its more advanced real-world capabilities.

"Unbalanced experiments can be analyzed, experiments with special considerations can easily be set up and analyzed in the custom designer, and the economy of experimentation is powerful," said Cindy Grimes, a REGAL-BELOIT process and development engineer. "JMP allows you to solve for optimized input and output

values during the DOE analysis. In other words, it solves for the best x 's to give an optimized y or optimized multiple y 's. This is done manually in other software."

A rewarding partnership

JMP's other unique advantages include e-mail and local-language telephone support available world-wide to all users—with extended hours to serve many time zones. "Our JMP response time via e-mail is generally less than two hours," Bhargava said. "And not only were printed manuals sent to us, but they are also available online, which makes them even easier to access."

According to Grimes, the relationship between the REGAL-BELOIT team and the entire JMP organization did not end with the purchase of the software. "JMP has continued to remain involved in our deployment and is always anxious to help us answer any questions we have," she adds.

"Because JMP is part of SAS," Bhargava said, "it is a credible partner that we know is committed to working with us for our success. Our business is moving forward knowing that we made the right decision to switch to JMP."



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