



## Coloplast

### Challenge

Design, test and manufacture innovative new products for patients with unique medical and quality-of-life requirements.

## Innovating like the customer's well-being depends on it

When Coloplast develops solutions for ostomy, urology, continence and wound care, it relies heavily on analytics. Its customers wouldn't have it any other way.

When you work for a company like Coloplast, it's easy to comprehend the organization's mission – and recognize the importance of analytics to fulfilling that mandate. With a focus on ostomy, urology, continence and wound care, Coloplast develops products and services that improve the lives of people with intimate health care needs. Its customers depend on the company to understand their unique needs and deliver solutions that help them live life most fully.

Based in Humlebæk, Denmark, Coloplast's workforce of approximately 11,000 serves customers in 32 countries, generating annual revenue of about US \$2.6 billion. But revenue isn't the only priority of Coloplast's employees. They're equally concerned with getting as close to patients as possible to understand their needs and create innovative products that improve their lives. It's no wonder the company has been ranked on Forbes' list of World's 100 Most Innovative Companies several years in a row. To achieve that kind of innovation consistently and cost-effectively, Coloplast must invest in the capture and analysis of complex data.

### Transforming R&D challenges

Coloplast has been committed to meeting customer needs since its inception 60 years ago, when founder Elise Sørensen invented the world's first adhesive ostomy bag to help her ailing sister. In the years that followed, Coloplast's technical experts relied on their individual knowledge and experience when designing, testing and manufacturing new solutions. "Not all our operators understood the importance of data collection," says Lise Isachsen, Senior Process Specialist for Coloplast. "So, they would fail to capture complete test results. And missing data meant we didn't always have a clear picture."

Isachsen focuses on research and development in her company's pilot department. Her group tests processes to uncover problems and reduce

variation, especially in early stages before volume production begins. In the past, such process testing could be time-consuming and costly. "If we developed a new product using a new material, we had to test one factor at a time," Isachsen says. "We'd change the temperature five degrees and test it, change it five degrees more, and so on."

Those challenges were transformed when her company invested in JMP and began using a design of experiments (DOE) methodology to hone experimentation. "With JMP and DOE, now everyone recognizes the value of data and how it's improving processes and product quality," Isachsen believes. "And now that we're using JMP, we can test multiple interactions. Then we can go back to our technicians and show them the data."

### From "aha!" to Six Sigma: Improving processes and outcomes

Isachsen remembers her first encounter with JMP as an "aha!" moment. "I was so excited the first time I saw the JMP Profiler because it's just so intuitive," she says. "You can see all your questions get answered." Today Isachsen primarily uses JMP for DOE with custom design and screening. In addition to the Profiler, she also relies on the JMP Graph Builder.

Coloplast employs JMP when testing design quality, such as welds in an ostomy bag: Are they strong enough; will they leak; do they use too much welding material? In cases like this, the team can test 16 individual designs and evaluate the differences among them. Moreover, the



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Lise Isachsen, Senior Process Specialist



company also uses JMP for daily analyses of running production, looking for outliers. It will conduct more than 50 DOE tests to identify optimal processes and settings, "resulting in perfect validation," Isachsen says. She and her colleagues also turn to JMP during revalidation, having developed a script especially for this purpose.

## Using JMP® to avoid fighting fires – and deliver high-quality products

Recently, JMP was a key enabler of a successful new Coloplast product, as a part of the company's Body Fit Technology. This innovative approach enables customers to identify the optimal ostomy solution for their body type. That's especially helpful to customers who might gain or lose weight or have a hernia and need a better-fitting solution.

Isachsen was closely involved in the product development, which required multiple DOEs on various processes. Because the volume was too much for one person to handle, she assembled a team of skilled operators. With JMP, she could train them in basic statistics and DOE for a period of nine months. "When you have JMP, it's not the statistical [knowledge] that is the most important thing. The most important thing is that you know your process so you are able to analyze what you see in your profile and your analysis."

Together, the team performed more than 50 DOEs. "All our validation went straight through," Isachsen reports. "The results were really good. We generated reports on the factors we chose and didn't choose, so that when we transferred the process to our other locations, they could see the decisions we made and why. Now every time we visit operators at the machines, they recognize what we're going to do."

"Ultimately, we got really high-quality products out of this team effort." In fact, the positive outcome increased understanding of the value of DOE among executive leadership. Management's support for JMP use has also been growing, and for good reason, Isachsen says. Data visualization in JMP has enabled practitioners within Coloplast to clearly communicate their findings to the C-suite. And JMP is plainly demonstrating return on investment.

"When we use JMP for root-cause analysis, we calculate the business case. And those analyses have proved to be a good investment," Isachsen says. "Management also recognizes this, or they wouldn't allow us to invest the time and resources on those analyses."

But one of the biggest benefits of JMP is the ability to avoid "fighting fires," as she puts it. "In manufacturing, we typically start out on one machine and make sure it's functioning perfectly," she explains. "If we can ensure that the first machine is perfect in function and processes are on target, it decreases costs for the next 10 machines. And the cost savings of that are huge."

As important as cost savings are, Isachsen says they come second to meeting the needs of Coloplast's unique customer base. "When we develop new products, we're not focused on trying to save time or money, but on creating a quality product for patients," she says. "It's just that by performing our DOEs and investing the time and money upfront, we're saving time and money by avoiding problems later."

"The result is that the quality of the product is optimized right from the start. We can immediately identify any problems, and we know when we hit the target. It's so cool." And the customers who benefit from Coloplast's commitment to product innovation would certainly agree.

## Solution

Apply DOE applications in JMP® to reduce costs, accelerate processes and ensure the highest possible product quality. Boost efficiencies by empowering operators to process data themselves with the help of JMP.

## Results

R&D teams now analyze data more efficiently and effectively than ever before, enabling Coloplast to get its newest medical innovations on the market and in the hands of patients in need.

To contact your local JMP office, please visit: [jmp.com/offices](http://jmp.com/offices)



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