

## The Sum of the Parts: Greene, Tweed & Co. See the Full Picture with Qeystone and Minitab

When you supply parts and materials for air travel, fuel production, power generation and other critical industries, your products have to be of the highest quality. That's why Greene, Tweed & Company—a leading maker of high-performance materials and components—integrated the rigorous, data-driven quality improvement methods of Lean and Six Sigma throughout its business many years ago. Since then, thousands of quality improvement projects, large and small, have enabled the company to deliver excellent, completely reliable products, and over the years have created millions of dollars in savings for the company and its customers. Greene, Tweed's quality professionals turn to Minitab Statistical Software to analyze their data. They also use the tools in Minitab's Qeystone platform to complete their projects, and they use Qeystone's dashboard to create and share up-to-minute reports of how the company's quality efforts are faring at all levels with stakeholders and executives.

### The Challenge

Greene, Tweed's longstanding dedication to sustaining and improving quality has produced great results. Amy Howell, a certified Master Black Belt at the company, has helped train and now manages a full wave of black belts and three waves of green and yellow belts. "The nature of our processes lends itself well to advanced statistical methods like DOE, so we turn to Minitab Statistical Software a lot," she says. She's extremely proud of her team's achievements and the way they've incorporated data analysis into their work.

For example, one of Howell's Yellow Belts used data to improve the process for procuring new batches of a specialized type of plastic fabric. "We mold that fabric into high-performance products such as airplane parts," Howell says. "But when we analyzed the process capability for approving new shipments in Minitab, we found the current system was not capable of reliably determining whether a new batch was acceptable or not." Armed with this data, the project team devised and implemented a more systematic process for qualifying batches of the material. When they collected and analyzed data from the new process, it had achieved a nearly perfect capability level. "Just this one project has a major impact," Howell says. "If we still lacked a good way of testing new batches of material, we would have failed good shipments from our supplier—and wasted a lot of time and money on both sides."



#### ORGANIZATION

Greene, Tweed & Company

#### OVERVIEW

- Headquartered in Kulpville, Pa.
- Locations in more than 10 countries worldwide
- A leader in high-performance materials and custom-engineered components

#### CHALLENGE

Understand the impact of quality initiatives at location, division, and company-wide levels.

#### PRODUCTS USED

Qeystone® and Minitab® Statistical Software

#### RESULTS

- Integrated project tools and dashboard make reporting on projects effortless.
- Summaries and reports are always based on the latest information.
- The overall impact of quality improvement efforts is clearly measured and understood.

Howell can relate dozens of similar success stories—but keeping tabs on the status of all the ongoing improvement projects she oversees and tallying the successes of both new and completed projects created a new challenge. Managing and understanding the impact of one project was easy. But ensuring that every project within a program is on track and delivering the expected results—and sharing that information so company leaders can gauge their overall impact—proved to be an extremely daunting task. Here, Greene, Tweed faced a dilemma common to many organizations with robust quality programs: even when project teams capture and report the results of their efforts diligently, companies nevertheless struggle to effectively manage and aggregate information from across all projects.



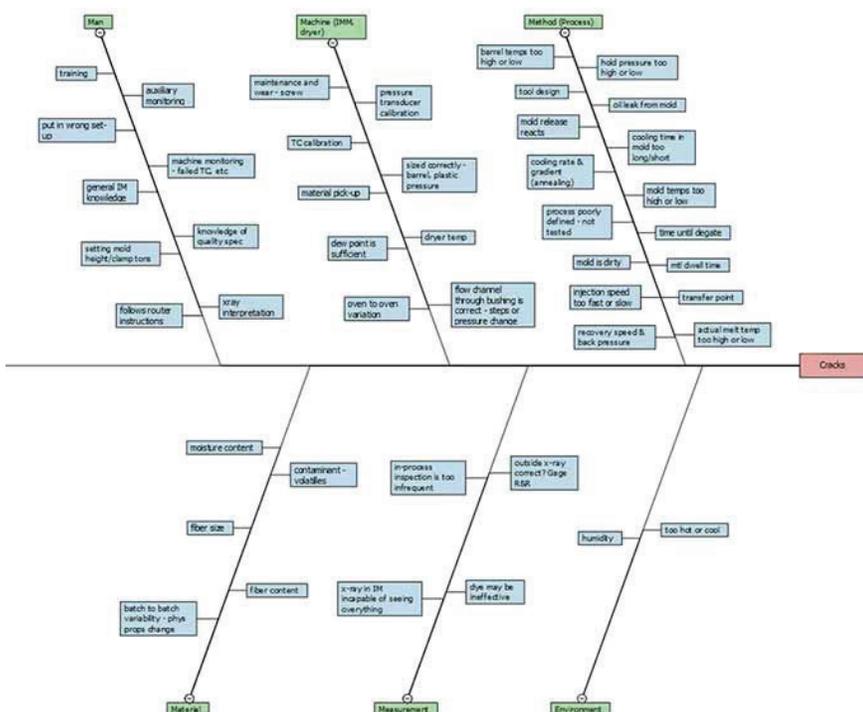
Over its 150-year history, Greene, Tweed & Company has grown from a small distributor to become a leading manufacturer of high-performance plastics, composites, and other materials.

## How Qeystone Helped

Greene, Tweed found the solution in Qeystone, a project management platform that Minitab Inc. designed specifically for managing, monitoring, and understanding the impacts of a Lean Six Sigma program.

The Qeystone platform combines a collection of powerful project tools, like FMEA and value-stream mapping, with a cloud-based dashboard that delivers high-level insights and graphical summaries of a company’s entire improvement initiative. “Before we began using Qeystone, we tried a different system for reporting, but it didn’t have tools for doing projects,” Howell notes. “We’ve learned that the integrated forms and tools in Qeystone make things much easier on a lot of levels.”

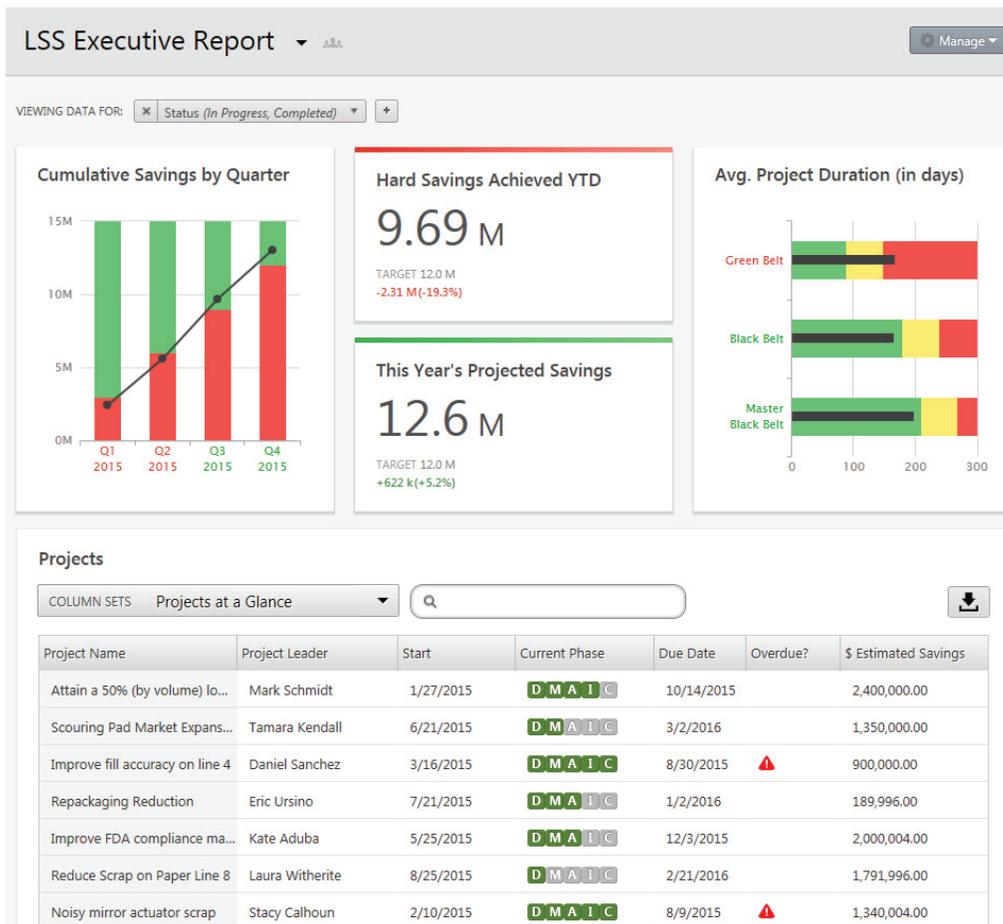
Linking the tools that teams need to complete their projects with a dashboard for assessing their impact actually solves two challenges: it helps project teams do their jobs, and it helps executives understand the performance of all of their organization’s quality efforts.



Qeystone’s built-in project tools, like the Fishbone diagram for brainstorming the causes of an issue, make completing projects easier—and make reporting on their progress effortless.

Teams typically use many different tools to create charters, process maps, value stream maps, and other documents, but Qeystone brings together all the tools a team needs in one application. Qeystone's standardized roadmaps ensure that results and metrics are reported consistently from one project to another, and since all project information is stored in one centrally located file, teams never need to track multiple versions of a document to keep the project current. Qeystone's project tools also share data, so team members don't need to waste time entering redundant information into multiple applications. Qeystone's project roadmaps also put the tools different belts need right at their fingertips. "After I show my trainees how to do process and value stream mapping in Qeystone Tools, as well as C&E and FMEA, the roadmap lets them immediately start applying those tools on their own projects."

As teams enter information into their Qeystone project tools, those updates automatically roll up to Qeystone's dashboard, giving leaders an accurate and current view of their entire improvement program. The dashboard lets executives and champions easily monitor key performance indicators and filter reports based on status, phase, location, business, people, and other factors.



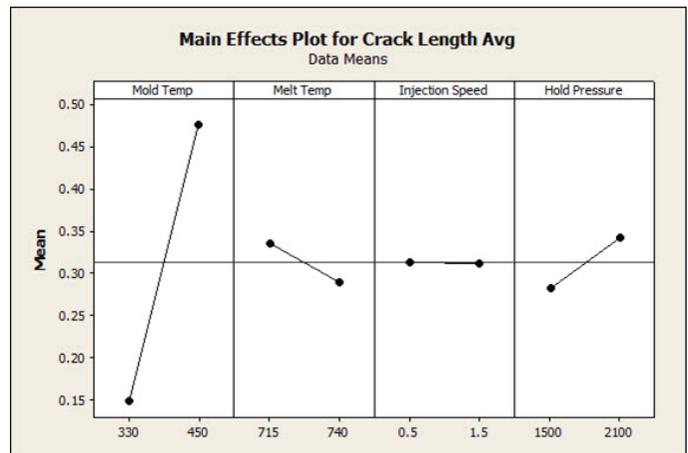
Because the data that project teams enter into Qeystone Tools automatically rolls up to the dashboard, when executives and stakeholders access summaries like the one above, they always see the most up-to-date information about the performance of their quality deployment.

# Results

Qeystone has made it much easier for Howell to know exactly what's happening with her own projects, and those of the people she supervises. "I'm responsible for working with all my active green and yellow belts to keep projects on track," she says. "I oversee around 30 projects at any given time, and I can use the dashboard to get a quick overview of how they're all doing. Then, when I need to see more about a specific project, I can drill down into the project file and see what's happening with it."

Successful projects that have used Qeystone abound. For example, a green belt recently tackled a problem with injection-molded stock-shaped rods. "This team used Minitab to analyze the process data, and used Qeystone Tools to do process mapping, Fishbone diagrams, FMEA, and more," Howell explains. The FMEA helped the team narrow the potential process variables from 20 to 5 key inputs. A designed experiment created and analyzed using Minitab let the team optimize the process to avoid problems. "In the end, the project improved process yield to 96%, and saved more than \$66,000," Howell says.

Qeystone makes gathering and reporting results such as those easier, whether it's by project, team, department, or location. "Every time we validate a project savings, it's included in the dashboard," Howell says, "and all of my managers know how to use Qeystone's dashboard to look at how they're doing. For myself, I can always go in and look at our current savings, and I know that the number is always right. I just keep that number in my back pocket at all times for when anyone asks how we're doing." That high-level awareness of how the entire quality program is doing wasn't always so easy to come by. "When we had to produce those reports before, we needed to break out the spreadsheets, and it was horrible," Howell laughs. "I've done that before, and I never want to do it again."



By using Qeystone's FMEA tool and the Design of Experiments capabilities of Minitab Statistical Software, a project team at Greene, Tweed brought an underperforming process to 96% capacity.

Fortunately, with Qeystone, she doesn't have to. "It's just a great tool for managing your improvement project portfolio," Howell says. "It makes reporting on projects really easy, but the fact that it also includes tools for tasks like mapping and FMEA makes it really powerful. It's like a one-stop shop for everything related to executing and reporting on projects."

Interested in learning more about Minitab Statistical Software? Visit [www.minitab.com](http://www.minitab.com) or contact us at [commsales@minitab.com](mailto:commsales@minitab.com).

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