

DENTAL PRODUCTS MANUFACTURER STREAMLINES PRODUCTION WITH 3P EVENT

ABOUT CAULK - DENTSPLY INTERNATIONAL INC. Dentsply Sirona (Dentsply) is an international medical device manufacturer of consumable dental products. With two manufacturing plants located in Milford, Delaware, Dentsply has approximately 430 employees.

THE CHALLENGE. Dentsply's Milford plant had recently purchased new technology for making products for the composite, finishing, and polishing value stream. The new technology promised to reduce manufacturing time while improving product quality. However, the equipment produced smaller batches than before, introducing challenges with downstream processing and quality testing. Changing the process for a product in the highly regulated pharmaceutical/dental products industry requires extensive validation and testing. In order to take full advantage of the benefits that this new technology had to offer, Dentsply wanted to ensure that the most efficient and effective process was in place. The company reached out to the Delaware Manufacturing Extension Partnership (DEMEP), part of the MEP National Network™, having already worked with the organization for many years.

MEP CENTER'S ROLE. DEMEP proposed a 3P (Product, Preparation, Process) Kaizen Event for Dentsply, bringing together 15 employees from all areas of the company to participate. A typical 3P event occurs early in the product design and initiates the co-development of product and process to meet business targets. In this event, the product design could not be altered, so the team focused on examining how the new technology could be integrated into the manufacturing process.

The cross-functional team from Dentsply worked with the experts from DEMEP to map the process, determining the critical process design parameters and analyzing demand for all the products in the value stream. Next, DEMEP divided the team into two sub-groups to develop alternatives for the process. The groups created full scale mockups to evaluate alternative designs against the established parameters. The team then converged on a final design, combining attributes of both designs. A new full scale mockup simulated the manufacturing process, allowing the team to see how the system would work prior to actual implementation. This way, the company could foresee potential bottlenecks and avoid costly mistakes in advance of using the equipment. Finally, a project owner took all of the action items developed during the 3P and made sure they were seen through to completion. Dentsply built a new testing laboratory closer to the production process and the company successfully utilized the new technology to produce a higher quality product at a faster rate.

"From my perspective, having a partner that you can rely on in a time like this is pretty significant. An organization like DEMEP being available to local manufacturers to lean on is very important. We've been working with DEMEP for a long time and when we run into a new process, we pick up the phone and call them for help."

-Ankit Shah, Milford Site Director, Operations and Production

RESULTS



Eliminated bottlenecks in value stream



Avoided costly mistakes in applying new technology



Built new testing laboratory



Cross-functional team improved communication

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