



IHS Markit™

Worldwide Medical Device Manufacturer Accelerates Innovation and Fosters Product Development in Record Time



Focused on building a culture of innovation and discovery, this worldwide developer, manufacturer, and marketer of medical devices has built its reputation on introducing a steady stream of successful new products to the market. Keeping the pipeline of new stents, pacemakers and catheters updated, for instance, is especially important for the company, whose heart-related items account for 80 percent of its sales.

Staying innovative, agile, and cutting-edge is difficult when your firm's 25,000+ employees and large teams of engineers can't communicate effectively with one another. Due to this communication gap, the company would often replicate its efforts across multiple sites, spending three times as much time as it should have been on the development process.

The manufacturer's challenges didn't end there. In the past, innovation was largely driven from business strategy to technology development to product development. In this staged approach, engineers created technology-driven products that were then shown to business units and customers at the prototype stage. When later groups found gaps or risks in the proposed product late in the product development process, the company had to spend more money than expected putting out fires while trying to hold to a launch schedule.

Hurdling the Obstacles to Innovation

To successfully hurdle the innovation obstacles that stood in its way, the company has moved to a more systematized approach for new product development, focusing on a business case that includes ROI metrics and models the voices of the consumers and regulators as well as the technologists and scientists. Engineering Workbench, by IHS Markit is one of the technologies chosen to capture knowledge, manage requirements, and assist in planning.

Using Engineering Workbench: Knowledge Discovery, the company can create workflows to analyze markets and search through its intellectual property for ideas for new products, test results, market research, and other information. Knowledge Discovery combines proprietary company knowledge with information from public sources such as patent databases to help build connections between previously unrelated data sets, helping researchers and engineers to be more creative.

The platform has also created an automated workflow out of tasks like analyzing markets and tapping into a company's intellectual property. It combines internal company data with information from public sources, such as federal government databases. Researchers can use the software to find connections among different sources, for instance by highlighting similar ideas. Engineers can use such analysis to get ideas for new products and begin to study their feasibility.

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Knowledge Discovery also provides the right mix of openness and security for data. Previously, product developers worked in silos with limited access to research by colleagues on different product lines. Information was locked down so that even if scientists found something useful from a past project, they often didn't have access to it.

Challenge

- Create a corporate culture focused on innovation in a very efficient and effective manner
- Get engineers located around the globe focused on common goals and projects
- Develop the right mix of security and openness when sharing internal data

Solution

Engineering Workbench by IHS Markit

Results

- Better productivity with engineers spending just 10 percent of their time researching intelligence – a savings of more than 20 to 30 percent
- Improved knowledge capture, requirement management, and planning
- Easier and more efficient patent filing, with 10 to 15 percent of patents filed by the cardiovascular division generated with the help of Engineering Workbench during the first year

The company rolled out a corporate-wide initiative to minimize R&D waste and more rapidly bring about new products – an initiative largely driven by the \$200 million in waste that was housed in the company’s R&D system. Knowledge Discovery, a key enabler of the transformation initiative, was deployed across roughly 1,000 of the company’s New Product Development (NPD) engineers, scientists, and researchers worldwide. Knowledge Discovery was also used to equip these innovation workers with greater knowledge, thereby accelerating discovery and speeding development of competitive value-driving products.

Accelerating Speed-to-Market

Using Knowledge Discovery, the firm’s engineers increased productivity by 30 percent and significantly accelerated speed-to-market using. In fact, within one year of implementing the platform, 10 to 15 percent of patents filed by the cardiovascular division were generated with the help of Knowledge Discovery. The time savings were significant: Engineers using the platform spent only 10 percent of their time researching intelligence, compared to 20-30 percent by non- users.

Since implementing Knowledge Discovery, the company has improved the design of cardiac stents to reduce a patient’s injury-response to the device. By combining knowledge from across the innovation ecosystem, the company mapped key clinical knowledge about heart disease and how different heart artery conditions affect the patient outcomes with different stent designs.

Additionally, the company used the platform to solve a technical problem in manufacturing that was reducing product yields. Engineers found that previously undocumented thermocapillary effects were leading to clogged spray nozzles. By understanding the physics of the cause, the company was able to make a simple change to the manufacturing line to eliminate the clogging and thereby improve yields.

“We are committed to delivering innovative medical technologies, and Engineering Workbench: Knowledge Discovery is integral to our innovation and product design process.”

Innovation Practices Lead

For more information IHS.com

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