

# Datum3D

## Streamlining Medical Device Product Development

**M**edical device companies around the globe are continually trying to enhance product quality while also trying to reduce manufacturing costs. When it comes to the development of endoscopic solutions, Datum3D has risen to the forefront. “Our mission is to develop products using a unique blend of creative thinking and advanced computer-aided techniques,” begins Steve Venditti, CEO of Datum3D. “Our innate ability to assess cost drivers and our experience using the latest product design technologies helps our customers overcome various obstacles.”

With the goal of providing innovative products in the endoscopic arena, Datum3D partners with medical device companies in developing highly manufacturable, ergonomically sound, and cost-effective solutions. As revealed by Venditti, the endoscopy space is experiencing a rising need for product functionality, enhanced device modularity as well as a reduction of product parts and costs. With a comprehensive and streamlined approach to the product development process, Datum3D can provide turnkey solutions in short order. Their enduring commitment to utilize the latest design and manufacturing technology—like CAE software, 3D Printers, CNC Machines, and Laser Cutters—helps to provide customers with a functional product while also allowing its engineers to optimize and refine their designs.

Datum3D’s ascension to success and rapid growth can be credited to its founding principle of Design for Manufacture and Assembly. “Each engineer is trained on how to use our fabrication equipment and thoroughly understands the manufacturing process,” says Venditti. “Having the engineers responsible for making their designs creates a wealth of knowledge and a true understanding of DFM&A.”


Datum3D’s process relies on a simple blueprint from which its engineers can refine their designs and offer robust solutions to their clients. Throughout each phase of a product’s life-cycle, Datum3D’s engineers work together with their clients in order to provide constructive feedback and

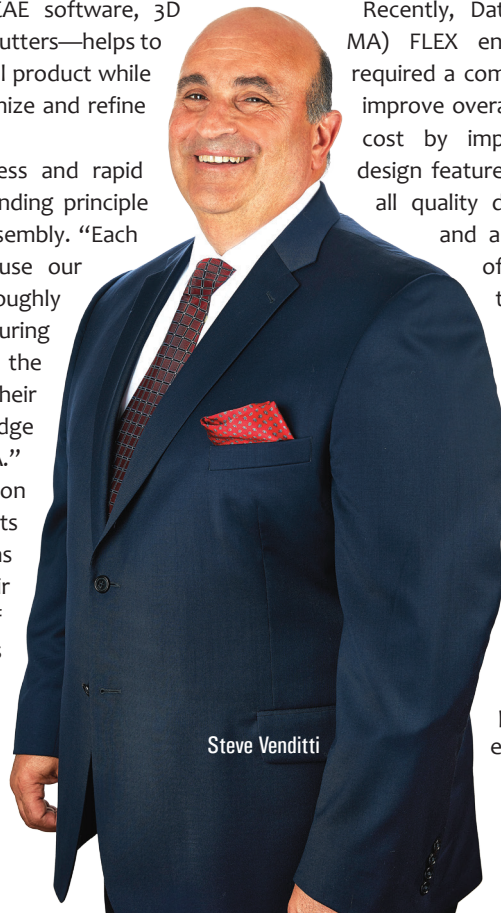
avoid undesirable delays due to miscommunication. “To ensure a successful design solution, we take a collaborative approach to product development,” explains Venditti.

Products are developed at their joint design studio and manufacturing center in the Greater Boston area. They utilize an open environment floor plan to work as a team, quickly assess each product and draw appropriate conclusions. “By integrating our design studio with our manufacturing facility, we can enhance workflow, avoid oversight, and ultimately get products to market faster than our peers,” said Venditti. “Creating a fluid process from which our engineers can strategically adjust a product design in real-time is the fundamental strategy we leverage at Datum3D and is vital to verifying its manufacturability.”

Datum3D conducts competitive product research and ergonomic studies before creating initial product concepts. The engineers then leverage 3D modeling software and rapid prototyping equipment to verify designs and establish cost drivers. Finally, a detailed design is refined using computer-aided engineering software and a functional prototype is constructed. “Our clients benefit from our rapid design implementation, superior quality, and reduced cost,” says Venditti. “Each project is therefore streamlined and ultimately provides a smoother transition to high-volume manufacturing.”

Recently, Datum3D finalized Medrobotics (Raynham, MA) FLEX endoscopic grasper/cutting device which required a complete redesign. The goal of which was to improve overall quality, provide new styling and reduce cost by implementing high volume manufacturing design features. Datum3D then assessed and corrected all quality defects using in-house rapid prototyping and analysis tools, lowering the total number of parts. Lastly, their engineers fabricated the first 20 functional prototypes for FDA/regulatory evaluations. Roughly 90 percent of the final design components were able to be fabricated using injection molding processes, reducing overall manufacturing costs by 30 percent.

Nurturing a creative environment within the workplace, Datum3D envisions emerging as the leading provider of medical devices. “We pride ourselves on our quality and commitment to excellence,” states Venditti, “With an interactive and collaborative approach to product development, we will continue to ensure client satisfaction.” 



Steve Venditti