EXPERT Insight

Accelerating Medical Device Development Through a Collaborative First Step

In this Expert Insight, Anthony Bracale, Director of Strategic Accounts, and Cassie Haupers, Global Director of Business Development at Vantedge Medical, discuss their First Step™ program — a collaborative, product-based approach designed to accelerate the development of medical devices from concept to production. Built on direct feedback from OEMs, First Step integrates design for manufacturing (DFM), rapid prototyping, and cross-functional alignment to reduce time to market and improve quality outcomes.

***Medical Design Briefs*: What is the First Step program and how does it differ from your standard manufacturing services?**



Anthony Bracale: First Step is a basket of solutions that evolved based on feedback from our customers. We surveyed OEMs to identify pain points in new product development and designed First Step to address them — from concept sketches to precision prototypes. We start early and "own the learning curve," which compresses the time it takes to bring a product to market.



Cassie Haupers: I'll add that it also allows us to engage in design for manufacturing and assembly right from the beginning. We gain a strong understanding of where and how the device will be used, which is key.

***MDB:* Can you walk us through the steps involved in the First Step process?**

Bracale: We start with early engagement to understand the product, its purpose, and the clinical impact. That's followed by translating early concepts — sometimes just sketches — into working models. We get into DFM, challenge tolerances, and begin iterations. The OEM's focus is on the patient and the surgeon; ours is on how to manufacture the part reliably and efficiently.

***MDB:* How do you validate high-precision tolerances during prototyping?**

Bracale: We use a wide range of metrology tools — CMMs, white light, laser scanning, and more. The equipment varies based on project needs, but we can inspect nearly anything. And we often share programs with our OEM partners.

Haupers: That up-front alignment is crucial. We match our inspection methods with what the customer will use for incoming inspection. That correlation helps speed the process and reduces surprises.

***MDB:* How do you proactively address DFM challenges before the prototype stage?**

Bracale: Through a lot of open discussion. Early prints often look perfect on paper but aren't practical for stamping or machining. We bring in toolmakers, application engineers, quality and manufacturing experts — all in one room. The feedback loop continues through every prototype iteration.

Haupers: OEMs lean on us for the manufacturing know-how. We combine their design expertise with our process knowledge to make sure the part works for the patient and is manufacturable at scale.



***MDB:* Once a prototype is validated, how easily can it scale to production?**

Bracale: Very easily. Often, the same equipment used in prototyping is used for production. We have hundreds of CNC machines and a team already familiar with the project. That continuity means we're not tossing designs over the wall to operations — they've been involved the whole time.

***MDB:* How does Vantedge Medical's culture show up in customer collaborations?**

Haupers: Vantedge is made up of five companies across seven U.S. sites, and in 2023, we rebranded under one name. Our culture is built on craftsmanship, no-nonsense execution, and dedication to quality. We work hard because lives depend on it.

Bracale: I'd sum it up with one word: grit. Our people are grounded and reliable. Whether it's precision or deadlines, we deliver. And our plants are full of world-class equipment and teams who know how to use it.

Watch the full interview with Vantedge Medical