



## CASE STUDY

# Design Collaboration & Quick-Turn Tube Fabrication Enable Faster Design Freeze for Surgical Device



representative image

## CUSTOMER SITUATION



A large surgical technology company was facing a competitive threat and needed to rapidly re-engineer one of its market-leading devices to lower the cost of use. The company needed a manufacturing partner with the ability to rapidly iterate tubing for a novel energy-based device.

The company selected Viant based on:

- **Design for manufacturing (DFM)** expertise to ensure repeatable and reliable product quality and manufacturing, with a particular focus on process expertise in laser cutting and die forming
- **Quick-turn tube fabrication** to quickly iterate and refine design within its Tube Fabrication Center of Excellence
- **Recognized tubing quality** as the foundational element in creating reliable, high-performing, minimally invasive surgical devices

## VARIANT SOLUTION

The customer's design for a next-generation energy device presented a challenge: maintain efficacy and performance, while lowering cost of use. Viant's engineering team leveraged its metallurgical expertise to ensure the tube had the right characteristics such as hardness and tensile strength. The team supported the customer in optimizing the most critical areas of the tube to achieve the desired performance characteristics (such as clamp force, sealing, and efficiency) as well as providing key measurement feedback to ensure optimal manufacturing.

In-house design and manufacturing of precision die forming and fabrication tooling accelerated the process. Viant's development of a dedicated prototype line within its Tubing Fabrication Center of Excellence supported quick-turn concept iterations to allow rapid design refinement. Viant quickly and consistently delivered design of experiment (DoE) tube fabrication prototypes to enable a faster design freeze.



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## RESULTS

Viant delivered DoE tube fabrication prototypes every 3-4 weeks, which enabled the customer to analyze and test design concepts and rapidly iterate. Design freeze for the tubing components was achieved 3-4 months before the other components.

**12** DESIGN ITERATIONS

**3,500+** DOE PROTOTYPES DELIVERED

**3-4** WEEK PROTOTYPE TURNAROUND

TUBING COMPONENTS DESIGNED  
**3-4** MONTHS BEFORE OTHERS