Developing a complex catheter shaft takes a lot of iterations, which can strain tight budgets and timelines.

Nordson MEDICAL’s SimShaft design simulation service gives you the information you need to make informed design decisions, at a fraction of the time and cost of traditional prototype iterations.

With our SimShaft service, experienced Nordson MEDICAL engineers simulate catheter shaft performance characteristics using specialized, validated software and determine the optimal design—earlier in the design process.
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**SimShaft™ Design Simulation Service**

**3 STEPS TO OPTIMAL SHAFT DESIGNS**

**HOW IT WORKS**

**Step 1: Collaborate**

Working closely with your team, Nordson MEDICAL engineers input your current and desired shaft design attributes or performance characteristics, including:

- Wall thickness
- Liner material
- Outer jacket material
- Type of reinforcement (braid or coil)
- Reinforcement material
- Number and direction of wires
- Pick count or pitch
- Tensile strength
- Bend radius
- Flexural modulus
- Burst pressure
- Torque response

**Step 2: Simulate**

Using proprietary software, Nordson MEDICAL experts simulate iterations on various parameters to achieve your desired attributes or performance characteristics.

**Step 3: Analyze and Recommend**

Experienced Nordson MEDICAL design engineers analyze and interpret the results of the software and provide a report with recommended shaft designs.

**Real-Life Example:**

**SIMSHAFT SERVICE QUICKLY OPTIMIZES DESIGN TO ACHIEVE TARGET FLEXIBILITY**

A customer developing a second-generation shaft got user feedback that the shaft needed better torque response while maintaining or improving flexibility. Using the SimShaft design simulation service, the customer collaborated with Nordson MEDICAL engineers who input current shaft design specifications—including wall thickness, number of layers, wall reinforcement, and materials—and ran iterations on each parameter.

After analyzing the results, Nordson MEDICAL experts provided the customer with detailed recommendations for optimal design options to improve torque response and increase flexibility. The process took about a week—much faster and more cost-effective than iterating actual prototypes.
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