Arrhythmias including atrial fibrillation are very prevalent in the United States and with the aging population, the number of cases is expected to increase. Electrophysiology (EP) studies are used to diagnose arrhythmias, with the help of mapping catheters that record electrical activity in the heart and detect abnormal rhythms. Once the source of the arrhythmia is located, electrical or extreme temperature therapy can be applied through the catheter to eliminate the arrhythmia.

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Nordson MEDICAL has extensive experience in the electrophysiology space, including developing catheters for mapping, diagnostics, and ablation and energy delivery. Our engineers can incorporate components, including sensors and wire layout, and maintain catheter performance, such as controlling deflection for bending in a single plane with no curl or twist. Our component expertise includes:

- **Engineered shafts, which include:**
  - An inner, film-cast, braid-engineered polyimide shaft for strength and flexibility
  - A middle extruded layer with a complex geometric profile to provide connectivity to the electrodes and sensors
  - An outer laminated, multidurometer thermoplastic shaft to provide structure and kink resistance

- **PET heat shrink:** tubing to add strength at stress points and provide ultrathin insulation at electrical junctions

- **Balloons:** to increase the efficiency of the RF energy delivered for treatment

**SIMSHAFT™ DESIGN SIMULATION SERVICE**

Find your optimal catheter shaft design faster and more cost effectively with our SimShaft™ design simulation service. Our experienced engineers use specialized software to analyze your design and simulate catheter shaft performance characteristics.