# **Electrophysiology** Catheter Design & Manufacturing

## Distal Tip

### CATHETER TIPS
- Shape setting
- Flushing & irrigation
- Tip profiling & optimization

### STEERABILITY
- Steerable & flexible tips – multiplanar & multidirectional steering
- Atraumatic tips
- Introducers

### ABLATION TIP & NAVIGATION INTEGRATION
- Electrodes
- Thermocouples
- Transducers
- Fibre optics
- Sensors
- Visualization

### BALLOON FORMING
- Balloon bonding & assembly
- Integration of electrodes, wires & sensors
- Custom balloon forming
- Custom extrusion – tri-layer & thin-wall

### DISTAL CUSTOMIZATION
- Custom spline design & assembly
- Electrode welding & wire termination
- Nitinol component integration

### TRANSSEPTAL ACCESS & CROSSING
- Transseptal sheaths & crossing catheters
- Transseptal needle grinding, finishing, echogenic enhancement

## Catheter Shaft

### SHAFT TECHNOLOGIES
- Braid & coil reinforcement
- Multi-lumen shafts
- Embedded wire extrusion
- Laser cut metal shafts
- Pull wire assemblies
- Non-metallic reinforcement
- Multi-lumen, multi-layer & multi-durometer extrusions

### FUNCTIONAL COATINGS
- Hydrophilic coating
- Silicone coating
- Surface modification

### CATHETER INTEGRATION, TERMINATION & ASSEMBLY
- Fine wire assembly & termination
- Laser welding
- Wrapped flexible circuits
- Integrated electronic components
- Sensor integration & testing

### SHAFT FINISHING
- Bonding
- Overmolding
- Hole drilling & marking
- Depth markers
- Strain relief

## Handle

### CUSTOM HANDLE DEVELOPMENT
Functional integration – energy, optics, sensors, fluid management

### COMPOSER® PLATFORMS
- Handle, steerable sheath & dilators
- "Plug & play" modular solutions

### CONNECTORS
- Assembly & integration

### HEMOSTASIS VALVES
- Arterial & venous pressures
- Adaptive & manual control
- Proprietary silicone valve technologies

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