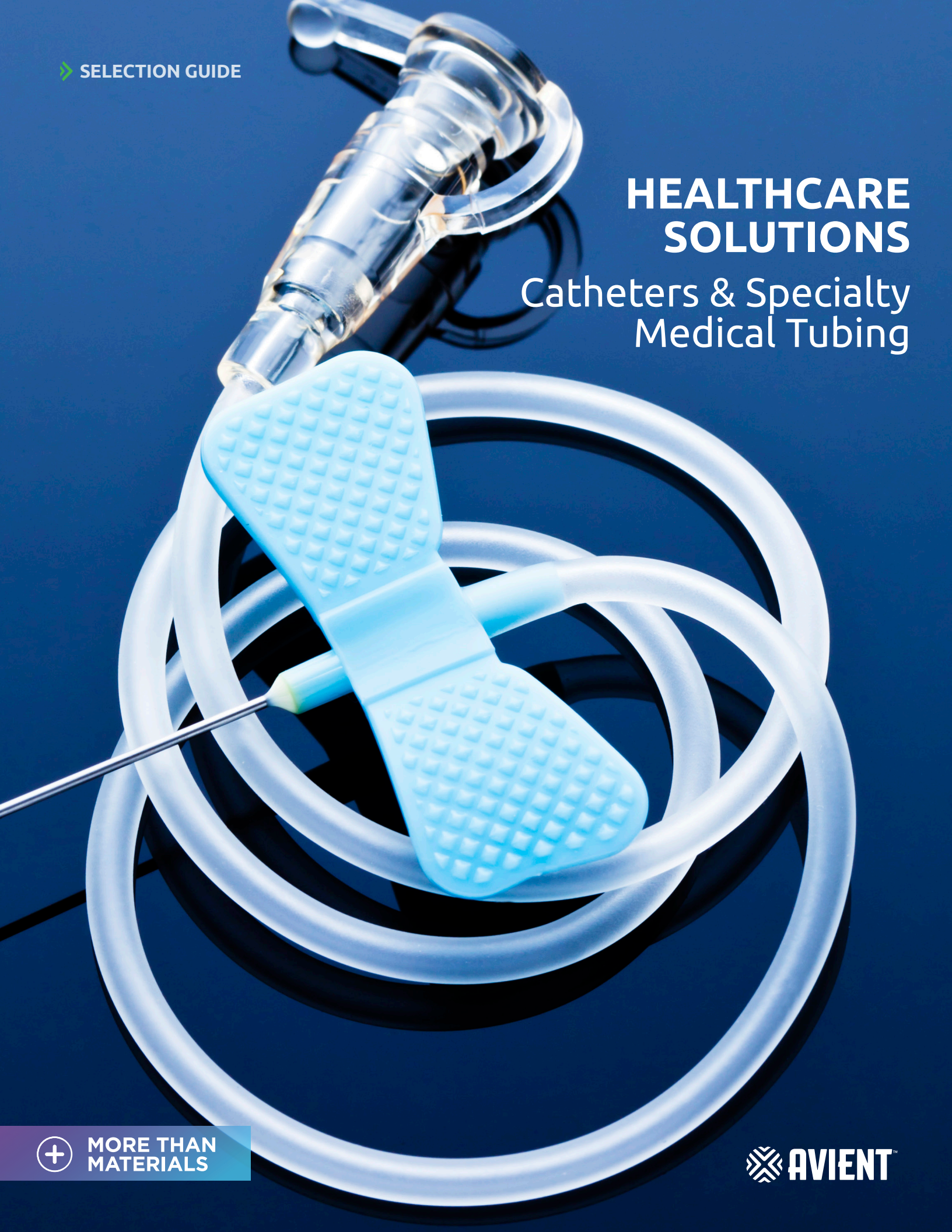
SELECTION GUIDE

HEALTHCARE SOLUTIONS

Catheters & Specialty Medical Tubing

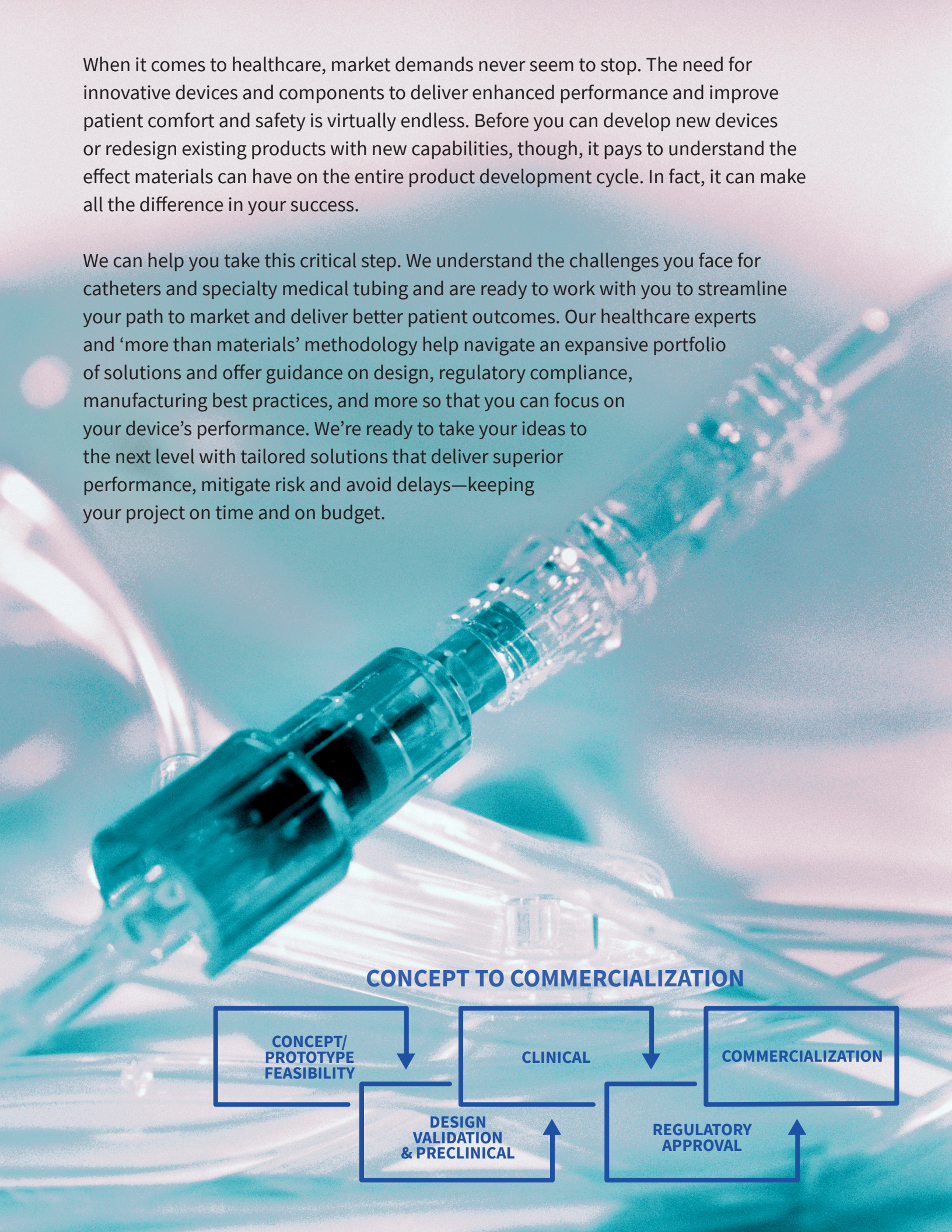


MORE THAN MATERIALS

AVIENT™

When it comes to healthcare, market demands never seem to stop. The need for innovative devices and components to deliver enhanced performance and improve patient comfort and safety is virtually endless. Before you can develop new devices or redesign existing products with new capabilities, though, it pays to understand the effect materials can have on the entire product development cycle. In fact, it can make all the difference in your success.

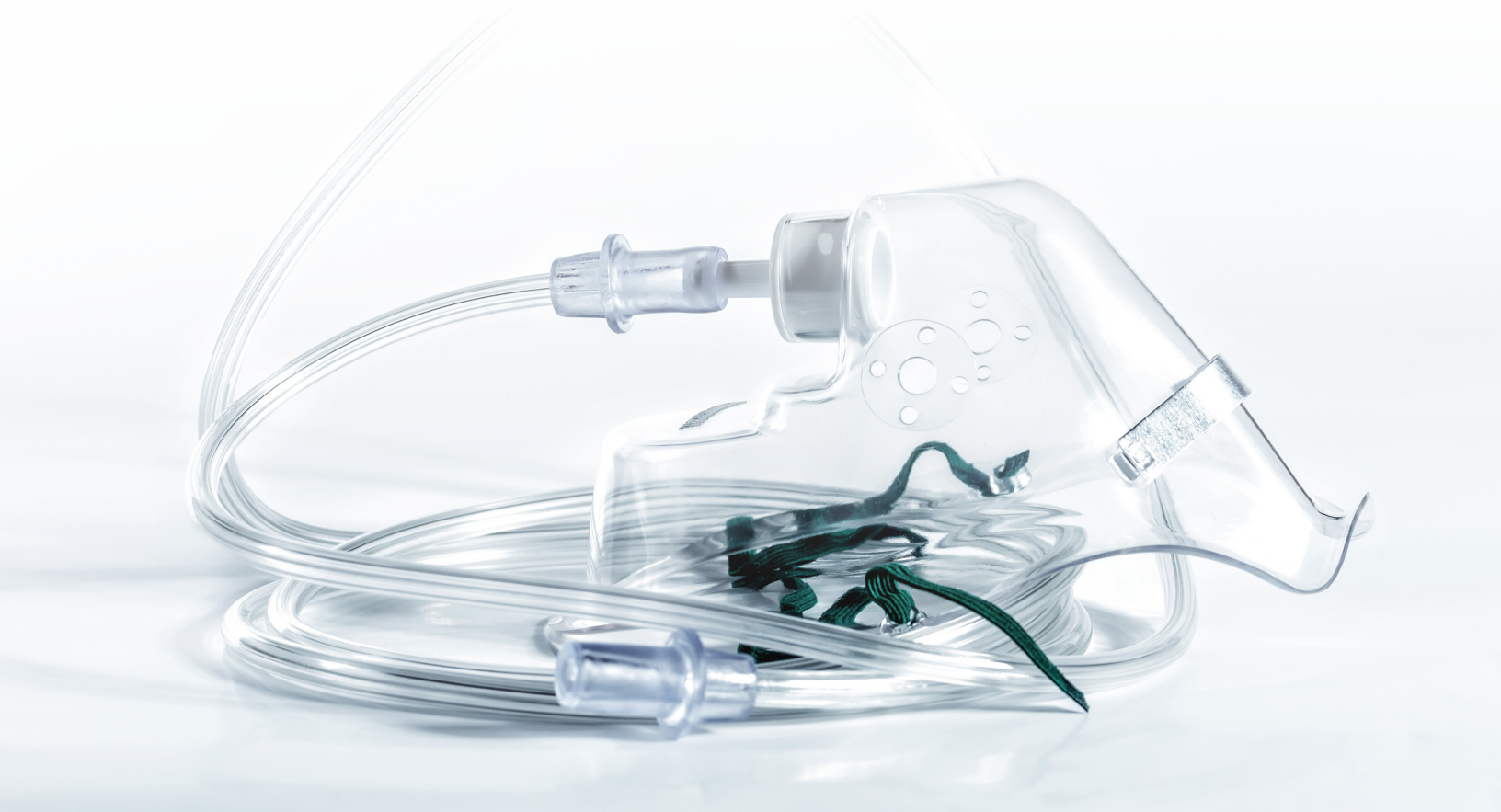
We can help you take this critical step. We understand the challenges you face for catheters and specialty medical tubing and are ready to work with you to streamline your path to market and deliver better patient outcomes. Our healthcare experts and 'more than materials' methodology help navigate an expansive portfolio of solutions and offer guidance on design, regulatory compliance, manufacturing best practices, and more so that you can focus on your device's performance. We're ready to take your ideas to the next level with tailored solutions that deliver superior performance, mitigate risk and avoid delays—keeping your project on time and on budget.



FLEXIBLE COMPONENTS: CATHETERS & SPECIALTY MEDICAL TUBING

(dialysis tubing, intravenous tubing, cardiovascular & IV catheters, cannulas, peristaltic pump tubing, biopharmaceutical tubing, gas supply tubing, urinary catheters, feeding tubes, etc.)

Custom Solution Needs	Avient™ Custom Solutions
Short-term in-vivo compliant formulations to optimize performance with patient comfort	NEU™ Custom Capabilities provide tailored in-vivo catheter formulations and pre-color capabilities with an array of chemistries and functional additives to meet your material specifications
Specialized solutions for enhanced performance, device function, aesthetics and feel	Customizable solutions formulated to address complex performance requirements of your applications, including withstanding sterilization cycles, resistance to disinfectants, and regulatory compliance and certification. Trilliant™ Healthcare Solutions GLS™ Thermoplastic Elastomers Healthcare Solutions Colorant Chromatics™ X-ray Opaque Solutions
Regulatory-compliant colorants and additives to minimize risk, reduce validation times, support brand recognition, and provide color coding for safety and size differentiation	Customizable color masterbatches, additives and formulated solutions to serve a wide array of resin systems with a targeted level of regulatory compliance or certification to fit your application requirements MEVOPUR™ Colorants MEVOPUR™ Additives OnColor™ HC Plus Colorants Stan-Tone™ HC Plus LSR Colorants Stan-Tone™ HC Plus HCR Colorants Colorant Chromatics™ Masterbatches
Reduced growth of microbes	Withstand™ Antimicrobial additives limit microbe growth, helping to reduce odor, staining and loss of mechanical properties



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Flexible Component Solution Needs:			
	TPE & TPC-ET		
Materials compliant with ISO 10993 & USP Class VI, if required Optimum durometer to meet application needs	Thermoplastic Elastomers (TPE)	Avient GLS™ Versaflex™ HC Medical Tubing Series	Durometer range 54–84 Shore A; autoclave, radiation and EtO sterilizable; high clarity grades without plasticizers; high temperature grades available
		Arkema Pebax® MED	Wide range of flexibility (25–72 Shore D); lowest hysteresis among TPEs; kink resistance; fatigue resistance; chemical resistance; sterilizable
	Thermoplastic Polyester Elastomers (TPC-ET)	DuPont™ Hytrel®	BPA-free; excellent flex fatigue and toughness; low temperature flexibility; good chemical resistance
Non-irritating and non-sensitizing for patient comfort Bond strength when connected to other components	**Polyolefin Elastomers (POE)**		
	Thermoplastic Elastomers	Dow™ ENGAGE™ Polyolefin Elastomer	Excellent melt strength and processability; outstanding toughness and durability yet flexible; excellent clarity; plasticizer-free
	S-TPE		
Chemical resistance to medication, blood or bio-fluids	Styrene Thermoplastic Elastomer	INEOS Styrolution™ Styroflex® 4G80	Rubber-like mechanics; outstanding resilience, toughness and transparency; extremely high elasticity; excellent bonding to other polymers; DEHP-free.
	TPU & TPV		
Surface lubricity	Thermoplastic Polyurethane (TPU)	NEUSoft™	Ultra-soft TPU blends with good elasticity, abrasion and tear resistance; good overmolding capability; durometers from 42 to 73 Shore A
		Covestro Texin®	Biocompatible; soft touch; sterilizable; good chemical and abrasion resistance and toughness; excellent bonding to polar substrates like PC; 70 to 95 shore A grades
	Thermoplastic Vulcanizate (TPV)	Avient GLS™ Versalloy™ HC Series	Exceptional surface aesthetics; 70 to 90 Shore A; autoclave; radiation and EtO sterilizable; natural and colorable; smooth texture; bonds to PP

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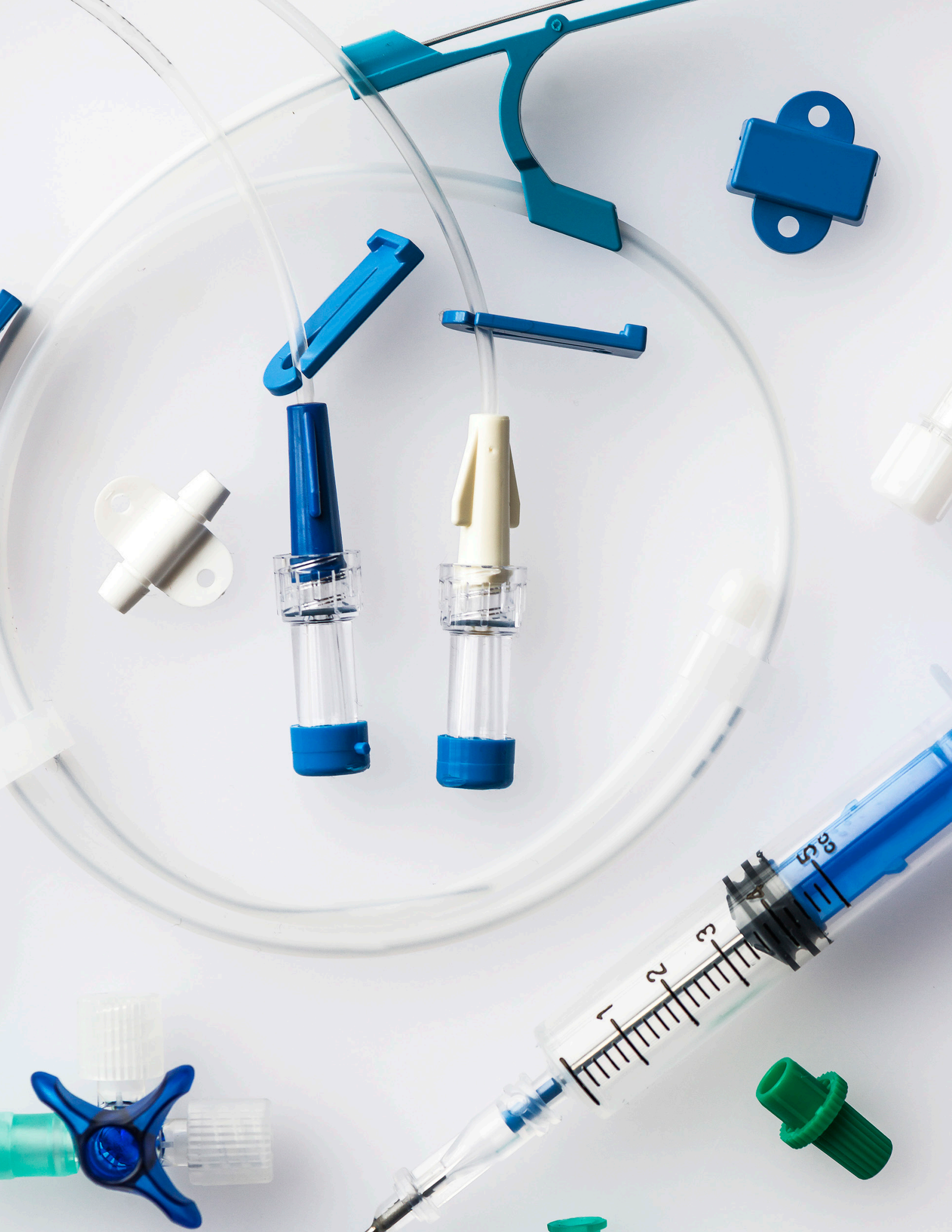
- Materials compliant with ISO 10993 & USP Class VI, if required
- Optimum durometer to meet application needs
- Non-irritating and non-sensitizing for patient comfort
- Bond strength when connected to other components
- Chemical resistance to medication, blood or bio-fluids
- Surface lubricity

Thermoset Silicone Elastomers		
Thermoset Silicone Elastomers	DuPont™ Liveo™ Silicone Elastomers	Biocompatible; non-irritating and non-sensitization; excellent tensile strength and elongation
	Avient Stan-Tone™ HC Plus LSR	USP Class VI certified silicone paste colorants dispersions; uses a silicone carrier specially developed for liquid silicone rubber (LSR); optimal color lightfastness and chemical resistance performance in molding applications
	Avient Stan-Tone™ HC Plus HCR	USP Class VI certified color dispersions; suitable for all conventional fabrication methods; provides enhanced lightfastness and chemical resistance
Fluoropolymers, High Temperature Polymers, PVC		
Fluorinated Ethylene Propylene (FEP) High Temperature Polymers	Avient Colorant Chromatics™	Fluoropolymer and high temperature pre-colored solutions that can be designed for FDA approval; multi-sterilizable; excellent chemical resistance; good molding performance; metal replacement; weight reduction; dispersed pigments and printing/striping inks for PTFE
Flexible Polyvinyl Chloride (PVC)	GEON Performance Solutions Geon™ Flexible PVC	Engineered exclusively for the healthcare market; transparent and opaque colors; radiopaque grades available; durometer range from 55A to 40D; gamma and EtO sterilizable; USP Class VI and FDA certified formulations; available in non-phthalate, ortho-phthalate free and bio-based solutions



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Healthcare Supplier Line Card

You face a unique set of challenges when designing parts for the healthcare industry. In addition to maintaining an effective manufacturing and supply chain operation, you're challenged with designing products that must meet strict regulatory and quality assurance standards. At Avient Distribution, we help you achieve these goals with our comprehensive portfolio of leading suppliers, on-time delivery and a host of services focused on helping you succeed.

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Pinnacle
Polymers

TRINSEO

Westlake
Chemical

AVIENT HEALTHCARE SOLUTIONS

At Avient, we're prepared to help you:

- Mitigate risk
- Optimize design
- Accelerate commercialization

Contact us today to learn how we can help you overcome the challenges you face.

POLYMER SOLUTIONS DELIVER SUPERIOR PERFORMANCE AND PATIENT COMFORT

Your flexible components for catheters and medical tubing must meet high performance demands, regulatory requirements and, most importantly, deliver greater patient comfort and safety. With the right polymer solutions, your device will not only comply with stringent healthcare protocols, but also can streamline your path to market, keeping you ahead of the competition.

- Dialysis Tubing
- Intravenous Tubing
- Cardiovascular & IV Catheters
- Cannulas
- Peristaltic Pump Tubing
- Biopharmaceutical Tubing
- Gas Supply Tubing
- Urinary Catheters
- Feeding Tubes

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