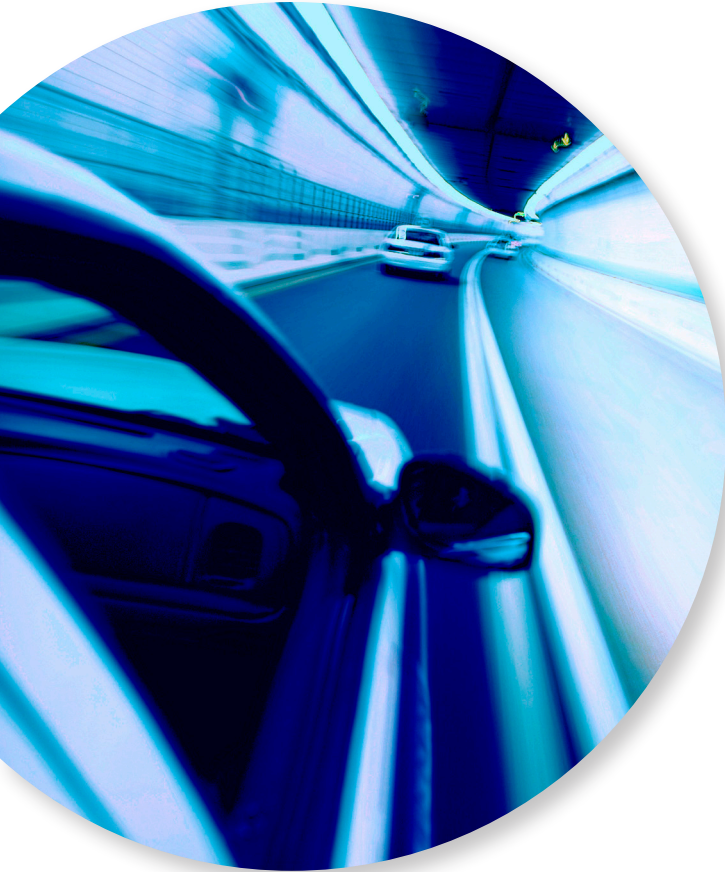


# ADVANCED COMPOSITES FOR DEMANDING APPLICATIONS



Fiber-reinforced polymer composites combine thermoset or thermoplastic resins with fiber reinforcement, the resulting product having substantially different properties than the individual components. They are used in many different industries, from automotive and aerospace to infrastructure and recreation.

**\$10.6B** Value that the U.S. composite materials market is expected to reach by 2022

**50%** Amount of weight reduction that advanced composites could bring to passenger cars, leading to 35% better fuel efficiency

**7%** CAGR that analyst firm Technavio forecasts the global medical composite materials market will experience from 2016–2020

## THERMOSET VS. THERMOPLASTIC

The matrix material of a composite can be a thermoset or a thermoplastic

THERMOSET	THERMOPLASTIC
A thermoset is a cross-linked polymer that cannot be reshaped after it's formed, cured, and cooled.	A thermoplastic is not cross-linked so it can be re-melted and reformed.
<p><b>Advantages</b></p> <p>High temperature resistance, creep resistance, low viscosity, paintability, and fatigue resistance</p>	<p><b>Advantages</b></p> <p>Recyclability, enhanced toughness, chemical resistance, noise and vibration damping, post-formability, and lower density</p>



For more information on advanced composites, visit [avient.com](http://avient.com) or call +1.844.4AVIENT