



## Expertise & Innovation

Stories by Coats

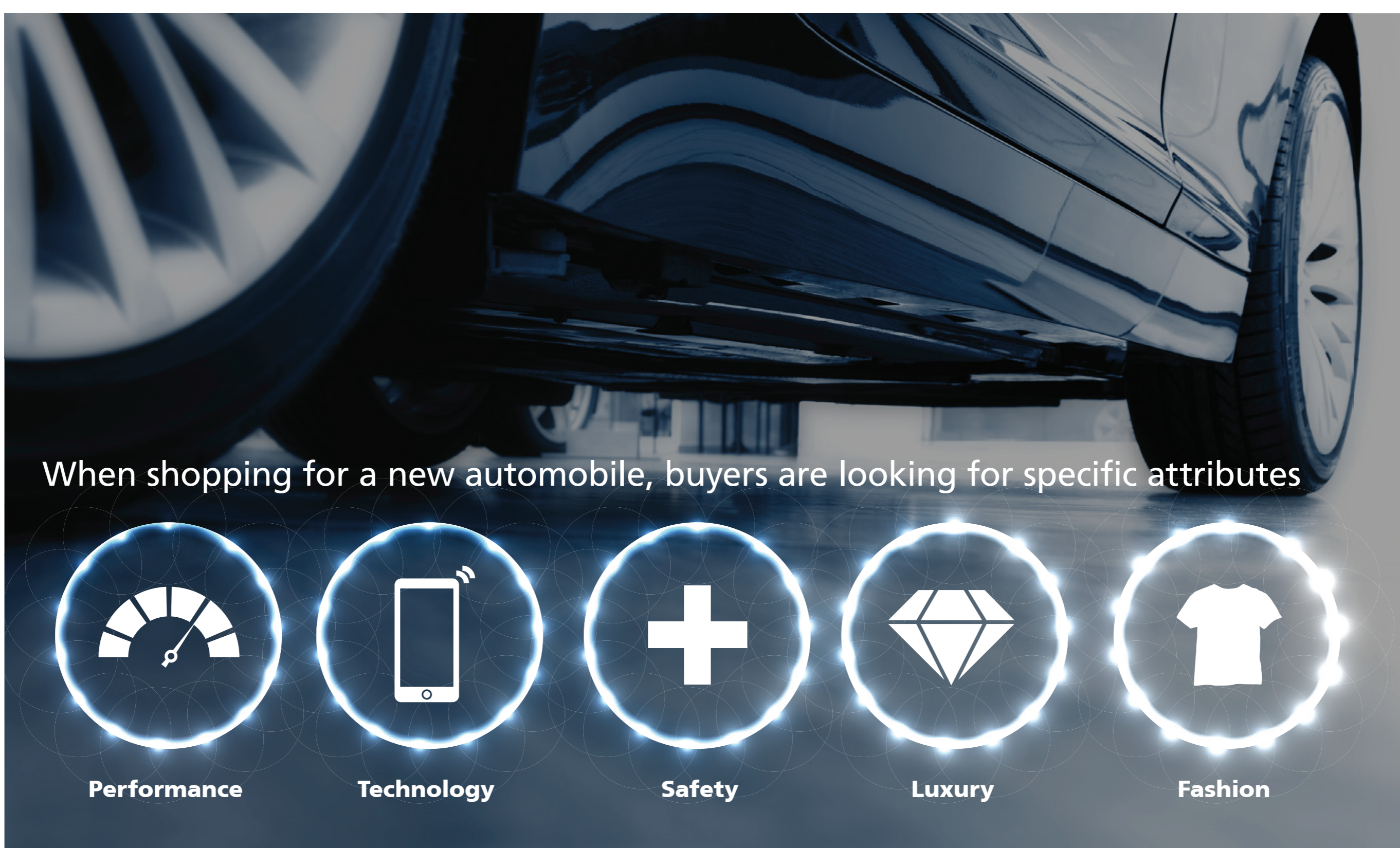


### Beauty and power on the inside, strength and durability on the outside

Around the world, drivers will spend up to 320 hours per year in their automobile traveling to and from work. To better enhance this time, making it more enjoyable and safe, new materials and stitching techniques are being employed.

The early 1800's was dedicated to perfecting the engine, going from steam power to internal combustion to gasoline. In the 1900's seat belts and airbags become new safety car options and the steering wheel was introduced. Today, the automotive industry is progressing at lightning speed with focus on both the interior and exterior.

With over 50% of an automobile being made of textiles, the interior is aesthetically very important to consumers. From the material used to construct the seats to the sewing threads meant to bind them together, colours are intended to complement each other and enhance an automotive's beauty.



With these attributes in mind, customers are zeroing in on the use of technology and advanced materials, from 'smart' electronics in the interior to the replacement of metal with new materials for the exterior.

### 'Smart' Yarns

Remember when interacting with the comfort systems of the car involved manual dials or push buttons? Now imagine this interaction being completely hands free. With the swipe of your hand over certain areas, you could be able to adjust the heating and cooling system and seats could monitor your body temperature making it completely comfortable just for you.

Consider a concept from Erik Stensrud, former student at The Art Center College of Design in Pasadena, CA. Stensrud's concept used traditional materials to alter the use of digital or manual functions by creating a touch-sensitive, directional baseball-style stitching on areas of the car previously controlled by knobs or buttons, such as the steering wheel or console. These stitches, made with a new carbon fibre material engineered thread, work in conjunction with knobs and are connected to the vehicle's head-up display. The stitches could eliminate many interior switches and buttons, allowing designers the ability to create a more streamlined, elegant looking interior for the future.

"I wanted the reaction to be more emotional with the car. My idea was when you're using more of your senses, the attachment with your car will be stronger. I ended up focusing on touch. Keep your eyes on the road all the time but keep in touch using touch." — Erik Stensrud

<http://www.autonews.com/article/20151108/OEM03/3110999777-innovations-in-auto-interiors>

### Composites

Materials and technologies used in racing cars such as Formula One are quickly evolving to mainstream automotive manufacturing due to the want for high-speed, low-weight and crash-resistance materials. To meet this, components traditionally manufactured with aluminum and other metals are now being replaced with composites, which are more lightweight, provide high strength and meet the safety requirements of today's consumers.

In 2013, BMW led the way with the i3/i8 model line. Now, in 2017, nearly every global manufacturer is using composites of some fashion in their automotives.

Other industry leaders:

- The newest Audi A8 model will use carbon fibres in the mid and rear panels of the vehicle.  
<http://compositesmanufacturingmagazine.com/2017/04/audi-a8-features-carbon-core-technology/>
- Toyota is rolling out a new Prius Prime Plug-in Hybrid featuring composite fibres in the rear hatch  
<http://www.compositesworld.com/news/2017/01/toyota-prius-features-carbon-fiber-rear-hatch>
- The new 2017 Ford GT features a chassis produced with composite fibres and is only the second Ford vehicle to be produced with carbon fibre wheels.  
<http://compositesmanufacturingmagazine.com/2017/01/ford-gt-fastest-production-vehicle/>

#### Need a traditional sewing thread? We recommend:

[Coats Neophil](#) is a bonded nylon thread which caters to every sewing application in the automotive sector

[Coats Gral](#) is a lubricated polyester, which offers uniform, balanced seams for automotive interiors and seat belts.

#### Looking to create the automotive of the future? We recommend:

[Coats Magellan](#), is a range of uniquely conductive composite yarns capable of modulating currents and leading away electrostatic charges.

[Coats Synergex](#) is a custom range of composite fibres, which can be commingled as well as twisted in order to be the perfect harmony of strength, weight and performance

Find out more. Email [marketing@coats.com](mailto:marketing@coats.com)