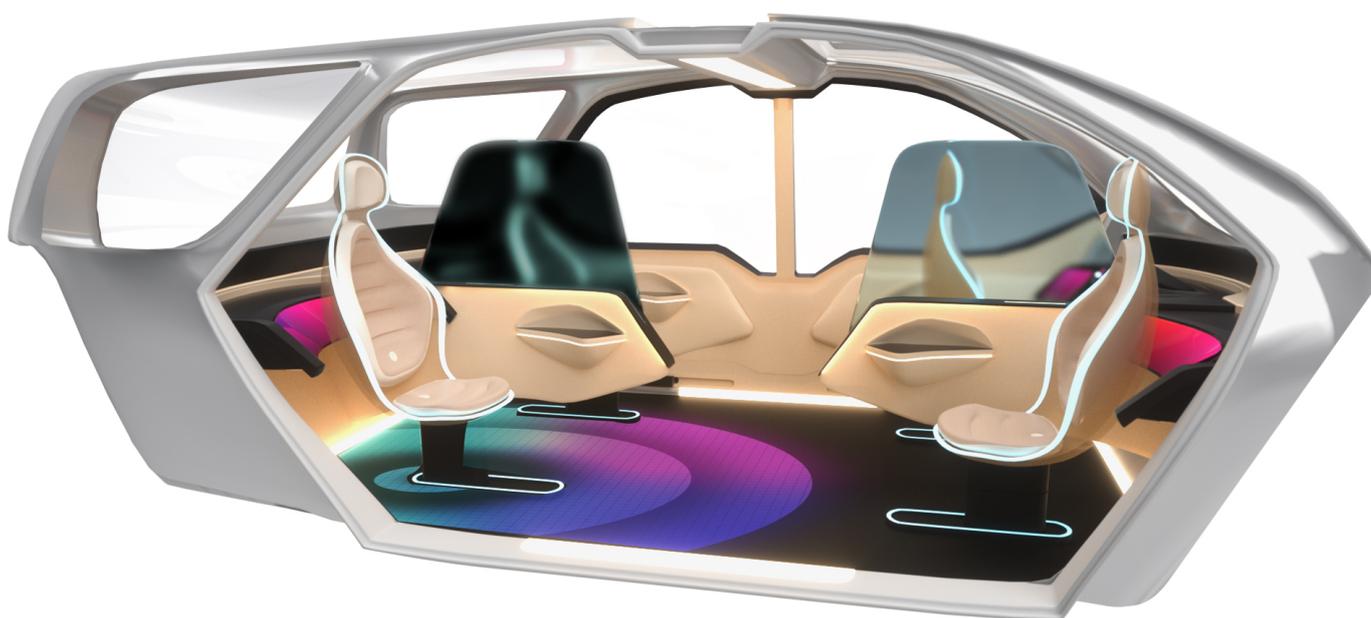




Covestro sees new automotive opportunities as cars evolve



With the car undergoing some of the biggest changes in its 130-year history, companies such as materials maker Covestro hope to capitalize on the fresh opportunities emerging in the automotive supply chain.

Covestro, a 2015 spin-off from German chemicals group Bayer, makes advanced polymers and high-performance plastics for a range of industries. Up to one-fourth of its roughly 16 billion euros in annual sales are in the automotive sector.

New technologies will be core to the next generations of connected, autonomous, electric and shared vehicles and Paul Platte, Covestro's senior North American marketing manager for polycarbonates in the automotive and transportation industries, sees a big role for the company's materials.



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“These trends create significant new business opportunities for us,” he said in a phone interview with automotiveIT International.

Invisible lidar

Many companies, regardless of whether they were already part of the automotive supply chain or not, say the transformation of the auto industry can bring new business. For Covestro, the potential is on the materials side, where it sees multiple use cases in tomorrow’s cars and trucks.

The company has summarized that potential in a short video, which can be seen at: <https://www.youtube.com/watch?v=0DTr4BRyZQU>. In it, Covestro envisages a mobility future of autonomous cars that are shared between users, who all do many different things while on the road. All their activities have one thing in common: they are powered by connected electronics built into the cars’ interior spaces.

The sharing of vehicles will result in stepped-up demand for durable and easy-to-clean materials for seating and floors, Covestro predicts. Hence, it offers a product specifically designed for this purpose.

The company also expects in-car sensors and other electronics to be increasingly embedded in panels and pillars. Covestro is working on transparent surfaces made of its “Makrolon” polycarbonate material.

Cars will, in future, also have multiple displays, regardless of whether they still have drivers or not. These displays can be built into transparent surfaces, rather than pop up and take extra space. They could be inside a car’s B pillar or the back of a seat, where they will not be visible until they are electronically illuminated.

At the VDI Congress in Mannheim, Germany, last month, Covestro showed a hybrid speedometer with precision-controlled light functions. The three-dimensional surface of the display was made from a Covestro polycarbonate film. The VDI is the Association of German Engineers.

Lidar systems, which are seen as crucial for autonomous vehicles, can also be embedded in interior



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materials. “The lidar can see through the surface, but you do not see the lidar,” Platte said.

Absorbing heat

As more electric vehicles are sold and cars become more highly automated, Covestro sees potential for increased use of thermally conductive polycarbonates, which will help absorb the heat that growing numbers of computer systems in cars will emit.

“Computational power will grow as artificial intelligence systems in the car increase,” said Platte. “Electronics brings heat generation to confined spaces,” he added. “That’s a key development area for us.”

One of those spaces is a car’s headlamp housing, where LEDs and associated circuitry generate heat that can be absorbed by thermally conductive polycarbonate. Covestro is taking technology from industrial lighting applications and adapting it to the car.

Platte said car designers can benefit from Covestro’s polycarbonate materials because they can be transparent and are impact- and heat-resistant. That gives designers more options when integrating electronics in the car.

Anticipating that electrification is the first of the major transformational trends to reshape the auto industry, Covestro recently signed an agreement to partner with China’s Shanghai Tongji University on enhancing EV battery performance and other R&D.

For EV batteries, Platte said, it’s important to have lightweight packaging that is flame-retardant and can be molded into different shapes. The casings should also have minimal thickness.

Convergence between automotive and electronics

As the convergence between traditional automotive and digital technologies in the car is growing, the blurring of the lines between the two industries is also benefiting Covestro, which has a sizable footprint in the electrical and electronics sectors.



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“Five years ago there was some overlap, but not much,” Platte said. “Today, there’s a fair amount of overlap and it’s increasing,” he added. “And in five years, there’s likely to be even less difference between the two.”

-By Arjen Bongard

