

# Press Release



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Covestro AG  
Communications  
51365 Leverkusen

Contact  
Dr. Frank Rothbarth  
Telephone  
+49 214 6009 2536  
E-mail  
frank.rothbarth  
@covestro.com

Covestro at Fakuma trade fair and the International Suppliers Fair (IZB)

## Front module concept in a new design

### Functional solutions made of polycarbonate in the most confined spaces

Vehicle construction is in a state of upheaval worldwide. Alternative drive technologies such as electric mobility, new forms of connectivity and autonomous driving require totally new car concepts. This also includes a newly designed front section – an individual “face” – of the car, with seamless, glass-like surfaces that can be used for a variety of purposes.

Covestro has more than ten years of experience in the field of glass-like exterior parts and, by combining its film and glazing technologies, has devised a study for an innovative front module that offers solutions for many requirements of the automotive industry. The company will present the concept simultaneously at the Fakuma trade fair in Friedrichshafen and the International Suppliers Fair (IZB) for the automotive industry in Wolfsburg from October 16, 2018.

### New design with high functional integration

The front section of future automobiles will be characterized by three-dimensional, jointless and glass-like surfaces – the classic radiator grille will be obsolete. “It is not only the desire of car manufacturers to differentiate their models from the competition by designing them as individually as possible,” explains Stefan Schulten, segment manager automotive in the specialty films segment at Covestro and responsible for the Europe, Middle East and Africa region. “It is also about integrating more and more functions in ever less space.”

The front section can already be designed in a variety of ways using a variety of decorated or semi-transparent films. In addition, there are, for example, lighting and signal functions such as those required for communication between an autonomous vehicle and pedestrians. One special variant is the black panel



technology, in which a special Makrofol® polycarbonate film with a light source behind it is illuminated. When switched off, passers-by see only a mat, black surface.

### **Compact polycarbonate construction**

The structure of the front module prototype consists of a film printed with a colorful motif, for example the company logo, depending on customer requirements. The classic metal logo is replaced by a modern version.

This composite is then over-molded with transparent Makrolon® AG polycarbonate using film insert molding technology (FIM). The flat surface and the depth effect of the polycarbonate create a glass-like appearance. Besides that a three-dimensional effect is generated, despite the use of a flat Makrofol® film. A transparent, scratch-resistant silicone hard-coating is also applied as the outermost layer.

### **More functions are conceivable**

This combination of polycarbonate resin and films and the coating creates a light, multifunctional part with the desired properties for use in car exterior. It also enables a glass-like design with embedded multidimensional structures, which can be amplified by light functions. The structure can be made permeable to radar and LiDAR radiation, also allows the integration of further functions, for example embedding heating wires for de-icing.

### **About Covestro:**

With 2017 sales of EUR 14.1 billion, Covestro is among the world's largest polymer companies. Business activities are focused on the manufacture of high-tech polymer materials and the development of innovative solutions for products used in many areas of daily life. The main segments served are the automotive, construction, wood processing and furniture, and electrical and electronics industries. Other sectors include sports and leisure, cosmetics, health and the chemical industry itself. Covestro has 30 production sites worldwide and employs approximately 16,200 people (calculated as full-time equivalents) at the end of 2017.

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