

# Press Release



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Fire, smoke and toxicity (FST)-performing honeycomb cores and panels

## **Covestro and EconCore join forces in composites development**

### **Polycarbonate applications in mass transportation**

[EconCore N.V.](#) and [Covestro](#) are combining their technologies in order to produce strong and lightweight honeycomb panels with outstanding performance. One of the targeted key performance aspects is to comply with Fire, Smoke, Toxicity (FST) requirements for public transportation applications, including railway and aerospace.

Covestro has developed and tested a wide range of polycarbonates and -blends with specific grades to meet the FST performance required by railway and aviation applications. Furthermore, the company is currently developing a range of lightweight thermoplastic composite solutions under the brand name Maezio™. EconCore has developed and patented a unique manufacturing process to produce ultra-light honeycomb structures in an economic way, with a high variety of material combinations that can be fine-tuned in order to meet customers' needs.

### **Meeting different requirements**

Goal of the two companies' collaboration is to optimize the FST performance of honeycomb panels in order to meet different application requirements. This shall be achieved by selecting the right combination of polycarbonate grades and composites for the honeycomb core and skin and at the same time adapting the parameters within EconCore's honeycomb technology.

The results of preliminary FST tests, carried out by an independent institute on semi-finished, laminated honeycomb panels, are very encouraging: already at this early stage of development, sandwich-panels with different material and



technology combinations have been produced and evaluated, fulfilling critical tests of EN45545 or FAR25.853 standards for various applications. Currently, the positive results of the preliminary FST tests are being verified in detailed investigations of different material combinations.

### **Fully integrated, continuous production**

Ultimate goal of the joint development is to provide sandwich panels that fulfill the technical requirements, offer weight advantages and show better economics compared with currently used composite or metal solutions. The manufacturing process developed and patented by EconCore offers significant cost saving potential due to a high-speed and fully integrated continuous production process, where thermoplastic polymers are directly converted into a honeycomb structure and where, in addition, the sandwich skin layers can be immediately laminated onto core.

“The outstanding manufacturing process of EconCore allows tailoring our materials into lightweight sandwich panel solutions for our customers,” said Klaus Kraner, responsible for mass transportation applications in the Polycarbonates segment at Covestro. “The sandwich technology of EconCore is especially interesting for lightweight applications Covestro is targeting with Maezio™,” added Arne Böttcher, responsible for market development of the Maezio™ brand in the EMEA region.

“After succeeding in other application domains, we have decided to address inquiries of the higher end markets. The process has been proven to work very well with a wide range of thermoplastic materials, including these with FST chemistry, while EconCore’s technology has demonstrated its capability of delivering high-performance sandwich panels at high efficiency and cost levels not achievable with conventional methods,” said Tomasz Czarnecki, COO of EconCore N.V.

### **Finished parts in one shot**

Tomasz Czarnecki adds, “We look forward to this new development and to continuing the partnership with Covestro. The polycarbonate-portfolio of our partner, combined with the composite solutions of Maezio™, provides us with the variety and quality of materials needed to meet the high technical requirements in mass-transportation markets. This journey is not only about making thermoplastic honeycomb cores. Imagine the potential benefits for the aerospace industry, if it had the option to thermoform sandwich panels into finished parts in a one-shot operation. The industry, already inclining to monolithic thermoplastic composites, has not seen such a change for decades.”



You are cordially invited to visit Covestro (booth no. L5/H5) and EconCore (booth no. R83/H6) at the forthcoming JEC World 2019 exhibition for more information.

**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.

**About EconCore:**

EconCore provides technology for the continuous production of honeycomb sandwich materials. The fast, versatile, continuous ThermHex process allows users to produce sandwich materials for various applications including automotive, transportation, building and construction, industrial packaging, photovoltaics, furniture and many others at minimal cost, weight and environmental impact. Several licensees of EconCore over the world operate the honeycomb sandwich panel production technology supplying performing sandwich to different markets. For more information, please visit **[www.econcore.com](http://www.econcore.com)**.

*This press release is available for download from the Covestro press server at [www.covestro.com](http://www.covestro.com). A photo is available there for download as well. Please acknowledge the source of any pictures used.*

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**Forward-looking statements**

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