

# Press Release



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Covestro AG  
Communications  
51365 Leverkusen,  
Germany

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

Completely digitalized process almost without waste

## Convenient production of insoles using 3D printing

### Made-to-measure products from Covestro's TPU

At the [K 2019](#) plastics trade fair in Düsseldorf from 16 to 23 October, [Covestro](#) will be presenting the prototype for a new application of Covestro materials for additive manufacturing at its Booth A75 in Hall 6: 3D-printed orthopedic insoles for shoes. They are efficiently produced using an automated and completely digitalized process that generates almost no waste. The part in question is in the form of a 3D file that can be sent anywhere in the world. On site, a printer uses this data to produce the physical product – regardless of whether only a single individualized sole or millions of soles have to be produced.

“Thermoplastic polyurethane is the material of choice for this application thanks to its favorable range of properties,” says Patrick Rosso, Head of Additive Manufacturing at Covestro. “In particular, our TPU products cover a wide range of hardness. The hardness can also be adjusted by changing the printing structure. This allows manufacturers to print shoe insoles that are completely custom-made – with hard or soft contact areas.”

### High functionality and durability

Together with a partner, Covestro is currently testing different sole designs to determine which are the easiest to print along with the most durable. Initial tests have been promising, both in terms of functionality and longevity. Orthopedic insoles are often produced by hand and take a lot of time.

Besides that, conventional insoles are e.g. made by forming or machining rigid foam blocks and are also less breathable. Using additive manufacturing offers a more sustainable approach to producers. It could help significantly more people to get access to orthopedic insoles.



### **Successful last production using 3D printing**

Already back in May 2018, Covestro presented the design of an efficient complete solution for the manufacture of orthopedic shoe lasts at the OT World orthopedics trade fair in Leipzig. Thanks to 3D printing technology, the time required for production has been reduced from several weeks to just a few days. At the same time, patient visits to the shoe manufacturer can be reduced to a minimum. After the trade fair, customers expressed the idea of also printing the insoles instead of manufacturing them by hand as before. The idea and the favorable material properties of TPU were the reason for the current project.

### **About Covestro:**

With 2018 sales of EUR 14.6 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 16,800 people (calculated as full-time equivalents) at the end of 2018.

*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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