

News Release

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BASF at Simac – sustainable and high-tech solutions for footwear

- **Infinergy® – ready for new applications**
- **Eye-catching women's sandals**
- **No limits in design and functionality**
- **3D printed soles and shoes**

A virtual concept shoe made entirely of innovative BASF materials, a 3D printed shoe made from TPU, breathtaking creations by young designers - this and other product-related innovations will be presented by BASF at SIMAC, the international machine and technology fair for shoes in Milan. From February 19 to 21, visitors to Hall 14, Stand G 40, will be given an insight into sustainable, high-performance materials, pioneering shoe concepts and BASF's wide-ranging shoe expertise.

Infinergy® for occupational and dress shoes

First launched in 2013, Infinergy® is the world's first expanded thermoplastic polyurethane (E-TPU). The closed-cell, elastic particle foam combines the properties of TPU with the advantages of foams, making it as elastic as rubber but lighter. After 7 years of worldwide success transforming athletic and safety shoes, Infinergy® is now bringing this revolutionary product to occupational and dress shoes. This innovative product brings a unique combination of comfort, light weight and long-term durability to consumers in the work place.

Innovation leads to inspiration and imagination – design contest

The wedge for a model of women's sandal was the theme of the XIII edition of the "Footwear Design Contest", the competition organized every year by the Politecnico Calzaturiero of Padua in collaboration with BASF Italia, the producer of the polyurethane sole conceived by designer Roberto Guzzonato. Based on this wedge, students created eye-catching sandals which are presented at the booth to attract the attention of the visitors. Roberto Guzzonato will be at the booth on February 20th from 11:00 a.m. to 1:00 p.m. to discuss latest trends in the footwear industry with the visitors.

Limitless – innovative and sustainable

Presenting the concept shoe "Limitless", BASF brings together intelligent design and its expertise in materials. The innovative product portfolio includes potential for recyclability and instant exchange of fossil raw materials by biomass resources - without compromising on design and functionality. Created in cooperation with internationally renowned designers, "Limitless" is setting standards in comfort, design flexibility, lightweight cushioning and durability.

Pacing ahead – with 3D printed footwear

The footwear industry increasingly favors 3D printing techniques in manufacture. Ultrasint® TPU01 from BASF 3D printing solutions is a multi-purpose TPU material for producing flexible parts, with high throughput and excellent quality. Typical applications are sports footwear, orthopedic insoles in which the required properties of shock absorption, energy return, and flexibility can be specifically tuned by design through additive-based manufacturing. BASF demonstrated this by 3D printing 50 pairs of sneakers using its TPU powder with both HSS and SLS technologies. Leveraging its expertise in the FEA simulation (Ultrasim®) of lattice structures and its own material models, the team created a gradient lattice structure that fulfilled the target comfort and stability requirements throughout the shoe's midsole. The finishing touch was BASF's flexible coating, which provided enhanced durability and outstanding aesthetics.

About BASF's Performance Materials division

BASF's Performance Materials division encompasses the entire materials' know-how of BASF regarding innovative, customized plastics under one roof. Globally active in four major industry sectors – transportation, construction, industrial applications and consumer goods – the division has a strong portfolio of products and services combined with a deep understanding of application-oriented system solutions. Key drivers of profitability and growth are our close collaboration with customers and a clear focus on solutions. Strong capabilities in R&D provide the basis to develop innovative products and applications. In 2018, the Performance Materials division achieved global sales of €7.65 bn. More information online: www.plastics.basf.com.

About BASF 3D Printing Solutions

BASF 3D Printing Solutions GmbH, headquartered in Heidelberg, Germany, is a 100% subsidiary of BASF New Business GmbH. It focuses on establishing and expanding the business under the Forward AM brand with advanced materials, system solutions, components and services in the field of 3D printing. BASF 3D Printing Solutions is organized into startup-like structures to serve customers in the dynamic 3D printing market. It cooperates closely with the global research platforms and application technologies of various departments at BASF and with research institutes, universities, startups and industrial partners. Potential customers are primarily companies that intend to use 3D printing for industrial manufacturing. Typical industries include automotive, aerospace and consumer goods. For further information please visit: www.forward-am.com.

About BASF

At BASF, we create chemistry for a sustainable future. We combine economic success with environmental protection and social responsibility. The approximately 122,000 employees in the BASF Group work on contributing to the success of our customers in nearly all sectors and almost every country in the world. Our portfolio is organized into six segments: Chemicals, Materials, Industrial Solutions, Surface Technologies, Nutrition & Care and Agricultural Solutions. BASF generated sales of around €63 billion in 2018. BASF shares are traded on the stock exchange in Frankfurt (BAS) and as American Depositary Receipts (BASFY) in the U.S. Further information at www.basf.com.