

# News Release

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## Powering data, managing heat: Ultrason® for AI-driven E&E applications

- **BASF polyarylethersulfones (PSU, PESU, PPSU) for increasing material requirements in data centers, digital connectivity and e-mobility**
- **Ultrason® enables reliable, durable and safe fiber optical connectors, cable jacketing, magnet wire insulation, and thermal management parts**
- **Ultrason® combines excellent thermal, electrical and mechanical performance with versatile colorability, BASF processing expertise and global technical network**
- **BASF at Fakuma, Germany: hall 4, booth B4-4303**

BASF is expanding the application focus of its Ultrason® portfolio to advance the development of electrical and electronic (E&E) components used in AI-driven data centers, high-speed connectivity and e-mobility. BASF's polyarylethersulfones (PAES) thus support E&E manufacturers, OEMs and data center operators who require materials that maintain reliable operation, signal integrity and long service life as well as ensure fire safety and efficient thermal management. They benefit from Ultrason®'s unique combination of high thermal resistance over a wide temperature range, its good electrical insulation, excellent dimensional stability, inherent flame retardancy and outstanding chemical resistance. The transparent thermoplastics Ultrason® E (PESU), Ultrason® S (PSU) and Ultrason® P (PPSU) are thus ideally suited for fast-developing applications such as fiber optical connectors (FOC), cable jacketing, magnet wire insulation, and thermal management parts.

Driven by AI, cloud computing and high-speed connectivity, electronic components are becoming smaller, more integrated and exposed to increasing thermal, mechanical and electrical stresses. As a result, advanced materials play a critical role in ensuring the long-term reliability of E&E systems for data transmission and power distribution. Because of its extraordinary property profile Ultrason® helps to improve equipment reliability and thermal management, to advance miniaturization and functional integration as well as to enhance energy efficiency and service life – all backed by flexible design based on versatile colorability from translucent to opaque colors. Ultrason® is thus an alternative to polyetherimide (PEI), polyetheretherketone (PEEK) and polyamidimide (PAI) for demanding E&E applications, combining high performance with excellent processability and cost efficiency.

#### **For more design and processing flexibility: tailored BASF support**

“AI infrastructure, advanced connectivity and electrification are creating new E&E applications with increasingly demanding performance requirements,” says Kazuhiro Kida from business management Ultrason® at BASF. “Our ambition is to be the polysulfone material leader in this field. We continuously investigate new Ultrason® grades and work closely with customers worldwide to develop material solutions for AI-driven E&E applications in many industries.” Beyond material supply, BASF supports customers throughout the development process: It offers application-specific Ultrason® grade selection, support for part design optimization, processing know-how for injection molding and extrusion, as well as access to a global expert network and reliable material supply. This helps E&E manufacturers shorten development cycles and design flexibly for future technology needs. With a broad range of grades covering different viscosity levels, Ultrason® also provides processing flexibility: Highly flowable grades enable the molding of complex and thin-walled components, while higher-viscosity grades offer the melt strength and stability required for demanding extrusion applications.

#### **Fiber optical connectors for AI data centers**

The ongoing miniaturization of fiber optic connectors (FOC) requires materials that combine precision, robustness and processability. Ultrason® E supports advanced FOC designs through a unique balance of stiffness and toughness, excellent long-term thermal performance and high flowability for thin-wall geometries. This enables manufacturers to maintain reliable connector performance while supporting efficient

production of increasingly compact and complex components, including lucent connectors (LC) and multi-fiber push-on (MPO) connectors in different colors.

### **Cable jacketing, electric cable and magnet wire insulation for power and data transmission**

Reliable power and data transmission via transformers used in data centers and electric vehicles is increasing the technical requirements for cable materials. Ultrason® P can be processed efficiently by extrusion and is suitable for cable jacketing as well as insulation of aluminum and copper magnet wires operating in hot oil at temperatures up to 200°C. With its high chemical resistance, flexibility, and stable electrical insulation under high temperatures, the BASF-PPSU can also replace PFAS containing polymers used for cable jacketing and wire insulation.

### **Fan blades, fittings and manifolds for efficient thermal management**

Efficient thermal management requires materials that reliably withstand demanding thermal, chemical and mechanical conditions. In data centers, electric vehicles and industrial cooling systems, Ultrason® provides long-term performance and durability for cooling pipe fittings, manifolds and fan blades.

For more information: [www.ultrason.basf.com](http://www.ultrason.basf.com)

### **About BASF's Performance Materials division**

BASF's Performance Materials division drives the transformation of the plastics industry by uniting sustainability with high performance. Our materials expertise, deep industry know-how, and broad product portfolio make us the preferred partner for comprehensive solutions across the plastics lifecycle. With dedicated material-focused teams, strong R&D power, and a global production network close to our customers, we deliver tailored offerings that meet regional and industry-specific needs. Our products enhance performance and efficiency in key sectors such as automotive, construction, consumer goods, and industrial applications. Together with our partners, we embark on #OurPlasticsJourney towards a more circular and sustainable future. In 2025, the Performance Materials division achieved global sales of € 6.4 billion. Join #OurPlasticsJourney on LinkedIn [https://on.basf.com/PM\\_LinkedIn](https://on.basf.com/PM_LinkedIn) and in our newsletter [https://on.basf.com/PM\\_Newsletter](https://on.basf.com/PM_Newsletter). Further information at <https://www.performance-materials.basf.com>.

### **About BASF**

At BASF, we create chemistry for a sustainable future. Our ambition: We want to be the preferred chemical company to enable our customers' green transformation. We combine economic success with environmental protection and social responsibility. Around 95,000 employees in the BASF Group contribute to the success of our customers in nearly all sectors and almost every country in the world.

Our portfolio comprises, as core businesses, the segments Chemicals, Materials, Industrial Solutions, and Nutrition & Care; our standalone businesses are bundled in the segments Surface Technologies and Agricultural Solutions. BASF generated sales of around €60 billion in 2025. BASF shares are traded on the stock exchange in Frankfurt (BAS) and as American Depositary Receipts (BASFY) in the United States. Further information at [www.basf.com](http://www.basf.com).