FACT SHEET

CHINAPLAS 2023, Shenzhen, China, April 16, 2023

TRANSPORTATION

OVERVIEW

A number of internal and external pressures, disruptions and trends are contributing to a transformation of the automotive and transportation sectors. Evolving attitudes and changing expectations from government and consumers are leading manufacturers toward more sustainable practices. This includes a seismic shift to electric vehicles, which requires collaboration across the entire value chain to be successful. Material producers are an integral element of the cross-industry engagement that can enable a new world of sustainable mobility.

SABIC is home to a dedicated team of automotive materials experts who can help overcome the challenges faced by customers and the industry at large. This global segment team, with a substantial presence in China, offers a broad, proven, and versatile product portfolio for vehicle applications that can help support decarbonisation, while meeting the latest customer demands.

INDUSTRY LANDSCAPE

Today, tech-savvy consumers increasingly demand the latest technology in vehicles and have high expectations when it comes to quality, overall performance, safety, design and comfort. At the same time, sustainability has become a more prominent concern, with a larger share of car buyers and drivers preferring alternative fuel models, such as electric vehicles.

China has the largest and one of the fastest growing EV markets in the world. 6.88 million EVs and plug-ins were sold in the country in 2022 and, according to the China's Association of Automobile Manufacturers, sales of EVs and plug-in hybrids are expected to surge by 35% in 2023 to reach 9 million vehicles, making up nearly a third of total new vehicle sales. Meanwhile, the fast-growing EV market is becoming increasingly competitive, with both domestic and international manufacturers stepping up production and intensifying innovation.

Against this backdrop, the country has been taking measures to improve automotive and transport safety. Apart from the efforts of government authorities and regulators, Chinese customers rely on manufacturers to improve the safety of their own cars. In response, automakers are focusing on the needs of car buyers and drivers and tackling existing challenges such as enhancing EV battery performance and safety. SABIC materials solutions that are both sustainable and engineered to support improved efficiency through reduced weight, cost, and complexity can help automakers address key technical challenges and help them stand out in this highly competitive industry.

SABIC SOLUTIONS FOR AUTOMOTIVE & TRANSPORTATION

In response to the industry's shift to electrification, SABIC formally launched a new strategic initiative last year known as BLUEHERO™. Through it, SABIC is cultivating an ecosystem of materials, solutions and expertise to help the full EV value chain make advances in EVs. SABIC's initial focus under the initiative is contributing to the development of enhanced structural battery components with unique flame retardant materials and solution development expertise.

Those materials, combined with engineering design expertise, can help vehicle and part manufacturers develop bold new solutions and support meeting numerous objectives – from removing weight, cost and complexity to increasing efficiency, performance and design freedom. Especially critical to the industry, SABIC's intumescent plastic materials can help address key industry requirements around crash and fire protection.

Featured materials from SABIC for the automotive & transportation space include:

- SABIC® PP compound (PPc) FR H1030 is a flame retardant (FR) short glass fiber-filled PP material with a number of beneficial properties. This material is one of several from SABIC's portfolio that can support battery components such as enclosures, modules and other structural parts. With a UL94 V0 rating, the material delivers excellent non-halogenated FR performance – which can help address EV safety regulations and standards. Although battery systems based on conventional metal solutions can pass regulatory fire exposure tests, their weight can impose limits on efficiency and range performance. SABIC PPc can help lighten various components and support overall vehicle weight reduction, while providing greater design freedom, excellent warpage control and faster throughput by avoiding costly secondary operations.

- STAMAX™ FR (LGF-PP) resin is another material that can support weight reduction and structural integrity for various automotive parts, including EV battery pack applications. At CHINAPLAS 2023, SABIC is displaying a prototype of an EV battery pack tray. The prototype helps demonstrate the potential to integrate cooling channels and other features that can help improve thermal management efficiency and insulation performance, while reducing weight vs metal. In addition to potentially contributing to efficiency and extended driving range, use of plastic to produce this part is less energy intensive, resulting in reduced emissions.

- Various PP and ETP materials can meet requirements for multiple components of outdoor EV charger posts. SABIC is displaying a concept of this application with components made from its thermoplastic materials, which can provide design and cost optimization advantages compared to use of metal. FR materials, with good aesthetics for housing components and strong mechanical properties for inner and structural parts can help manufacturers create safe, long-lasting equipment to support the expansion of EV charging infrastructure. These material solutions can help meet increased demand for dedicated, reliable EV charging infrastructure.

- LEXAN™ PC resin with proven impact strength, transparency and a versatile set of properties. This material can meet critical requirements for various automotive lighting components and systems and large panels at the front and rear of the vehicle. These panels, replacing traditional front grilles and enabling new possibilities for rear designs, are an emerging application space for the automotive industry. Use of LEXAN™ resin for these applications offer decisive advantages and allow manufacturers to create panels with differentiated designs and striking aesthetics, while meeting critical requirements such as transparency, impact performance and dimensional stability. LEXAN™ resin can also come as a bio-renewable material, offering significant greenhouse gas emission reductions.