

# FACT SHEET

PLASTINDIA 2023, New Delhi, February 1-5, 2023

## AUTOMOTIVE & TRANSPORTATION

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### OVERVIEW

The automotive sector and the larger transportation industry continue to take steps towards building a low-carbon future. As vehicle manufacturers strive to continuously decrease CO<sub>2</sub> emissions, they are also challenged to meet changing consumer expectations, enhance performance and comply with ever-evolving safety requirements and standards.

SABIC has a dedicated team of specialists in place to help manufacturers and their suppliers address these challenges. The company offers one of the industry's broadest portfolios of thermoplastics materials for vehicle applications, backed up by expert engineering design and technical support.

### INDUSTRY LANDSCAPE

In 2022, India surpassed Germany and Japan to become the third largest passenger vehicle manufacturer in the world behind the United States and China. When it comes to two-wheeler production, India ranks as the second largest producer in the world. According to the Society of Indian Automobile Manufacturers (SIAM), the automotive industry is expected to increase to 12% of the country's total GDP by year 2026, from today's 7-8%.

India has also shifted from a small car market to one in which sport utility vehicles have become the dominant segment, with penetration of more than 40%.

The pivot to electrification is also underway, especially in the two-wheeler category. In fact, the Indian government has set ambitious targets to increase EV adoption in the next decade. Sales of EVs in the country are expected to rise by between 40% and 45% by 2030, at which point 13 million new vehicles will be sold annually, according to projections from Bain & Company published in December.

With the shift to EVs and the continued need for lightweighting and new material approaches to address a range of challenges, the potential for increased use of plastics is immense.

### SABIC SOLUTIONS FOR AUTOMOTIVE

In response to the industry's shift to electrification, SABIC formally launched a new strategic initiative last year known as BLUEHERO™. Under BLUEHERO, SABIC is building an ecosystem of materials, solutions and expertise to help automakers and the full EV value chain advance the development of EVs. SABIC's initial focus is enabling 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 boosting efficiency, performance and design freedom. SABIC's plastic materials can also help address key industry requirements around crash and fire protection.

Material solution highlights from SABIC's automotive exhibit area at PlastIndia include:

- **STAMAX™ resin for automotive structural solutions** is a long-glass filled polypropylene with an excellent balance of properties including stiffness, flow and impact. The material is well suited for applications such as tailgate and instrument panel carriers. Examples of each are on display at SABIC's PlastIndia booth. This same LGF-PP material comes in flame retardant (FR) grades, developed under the umbrella of BLUEHERO™, for use in EV battery structural components.
- **A range of LEXAN™ (PC) and CYCOLOY™ FR (PC/ABS) resins can provide solutions for EV battery pack components** such as cell carriers, battery housings, module covers, and more. In addition to flammability protection, these resins can enable weight reduction, while meeting stiffness and impact requirements.

As a demonstration of these solutions, SABIC has on hand at PlastIndia a Lucid in-house designed, patented, and prized battery module housing from the Lucid Air's battery pack. Use of a LEXAN™ FR resin from SABIC's ETP portfolio meets the high stiffness requirements for the part, while providing a lightweight solution that can potentially contribute to improvements in specific energy or energy density.

The LEXAN material, a 20% glass fiber filled injection moldable grade (non-chlorinated/non-brominated FR, UL94 V0 at 1.5 mm), provides thermal and dimensional stability in addition to high impact strength and ductility. Use of metal for the same part would add significant weight, limit design freedom and introduce significant processing challenges.

- **SABIC® PP compound (PPc) FR H1030** is a short glass fiber-filled PP material with a number of beneficial properties and 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, without the heavy weight and increased complexities that come with use of metal.

At PlastIndia, SABIC is showcasing an award-winning EV battery pack cover in production on Honda CRV PHEV models in China, which uses the SABIC® PPc FR grade. Doing so makes possible 40% in weight savings, while meeting all other requirements and enabling compliance with China's stringent EV fire protection standards.

- **Various PP and ETP materials can be used for multiple components of outdoor EV charger posts.** At PlastIndia, SABIC is displaying a concept charger post application with components made from its thermoplastic materials, which can provide design and cost optimization advantages compared to use of metal. Flame retardant materials, with good aesthetics for housing parts and strong mechanical properties for the inner structural parts can help manufacturers create safe, long-lasting equipment to support the expansion of EV charging infrastructure and, in turn, meet increasing demand for dedicated, reliable EV charging infrastructure to help promote consumer adoption of EVs.