FACT SHEET

CHINAPLAS 2025, Shenzhen, China, April 15, 2025

ELECTRIFICATION

OVERVIEW

The automotive industry is undergoing a transformative shift toward electrification, driven by rising consumer awareness and favourable regulations. In 2024, global electric vehicle (EV) sales grew by 25% compared to 2023[1]. China holds 62% of the global EV market[1], whose domestic EV production and sales both surpassed 10 million units and the domestic EV sales accounted for 40.9% of total new car sales[2].

As consumer expectations evolve, demand for smarter driving experiences is accelerating the integration of advanced capabilities of sensing and responding into the EV ecosystem. EVs are no longer just a mode of transport but are evolving into intelligent, high-performance mobility solutions.

SABIC is helping with EV's performance, efficiency, and sustainability through cutting-edge materials and expertise. With a strong focus on innovation, SABIC continues to develop next-generation solutions that enable a smarter and more sustainable future.

INDUSTRY LANDSCAPE

The rapid expansion of EVs is reshaping automotive manufacturing, requiring new components and technologies to address challenges in range, safety and performance. Advanced plastics emerged as a key enabler, offering substantial advantages over traditional materials.

To enhance EV range and performance, battery systems must overcome challenges in thermal management, lightweighting, and streamlined assembly. Multi-material thermoplastic solutions offer superior thermal performance, part integration for weight and cost reduction, improved energy efficiency, and enhanced safety through electrical isolation and thermal insulation.

As electrification advances, intelligent features and aesthetics are becoming essential. Smart functionality is no longer a luxury but a core requirement of EV, increasing demand for materials that support advanced driving assistance systems (ADAS) while offering premium aesthetics.

SABIC combines advanced material solutions with deep engineering expertise to help accelerate the world's transition to electric power through our BLUEHERO™ initiative. Our high-performance materials and expertise in thermal management, lightweighting, and system optimization enhance battery enclosures, structural components, and other evolving parts of a vehicle. Through close collaboration across the value chain, we help the industry meet demand for improved performance, safety, design flexibility and other key features.

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[1] Rho Motion, 2025
[2] China Association of Automobile Manufacturers, 2024

SABIC SOLUTIONS

- **SABIC's Comprehensive Solutions for the EV Battery:**
  - o **For small-scale EV battery enclosure**, SABIC offers STAMAX™ long glass fiber-reinforced (LGF) PP, providing a protective seal, 40% weight saving vs. steel, good thermal insulation and low warpage. The FR material with its intumescent quality forms a char under flames, leading to a self-extinguishing behaviour compliant with fire protection requirements. This lightweight solution can also potentially help increase range and efficiency by saving the need to manufacture additional thermal blankets required for steel.
  - o **For EV battery module panels,** SABIC offers PPO Foam with non-halogenated FR V0, low density and high modulus solution to support lightweight design purpose. Its low thermal conductivity and good energy absorption properties help provide good protections for EV batteries.

- **SABIC's Advanced Autonomous Driving Solutions:**
  - o **For radar radome housing,** SABIC offers LNP™ THMERMOCOMP™ WFC06I and WFC06IXP compounds materials, with good performance in dielectric constant (Dk) / dissipation coefficient (Df) and warpage control. They reduce the attenuation of electromagnetic waves passing through the radome, helping enhance image resolution and detection range.
  - o **For internal structural components of LiDAR (light detection and ranging)**, SABIC offers ULTEM™ 2312 resin with low CTE, high modulus & strength and injection molding capability. It provides design freedom, weight reduction, and long-term performance reliability.

- **SABIC provides LEXAN™ LS1 resin for front panel**, combining transparency, impact strength and durability, beautiful aesthetics, warpage and dimensional control and the design freedom to produce a part with integrated features and distinctive styling. A unique laser ablation process allows for an intricate lighting pattern, while possibly delivering cost savings and weight reduction. The seamless airtight surface of the material can contribute to longer EV range via reduction in drag coefficient.

- **SABIC has total solution for strip rear lamp including PMMA as outer lens, LEXAN™ as inner lens and CYCOLOY™ as housing.** Use of high-flow diffusive LEXAN™ resins as inner lens can allow the production of strip rear lamp with complex geometries, aggressive styling and enhanced aesthetics. These materials allow for sharper draft angle during molding, making possible the more aggressive styling, increased functional integration and potential cost reduction. With these resins, new lighting concepts contribute to a differentiated vehicle face and increase consumer appeal.