The global automotive industry is accelerating its transition toward electrification. Once regarded as a policy-driven niche product, EVs have become a key battleground for automakers worldwide and an increasingly mainstream choice for consumers. Supported by ambitious carbon reduction targets, stricter emissions regulations, advances in battery technology, and the continued expansion of charging infrastructure, the global EV market has maintained strong momentum in recent years. As the market matures, however, regional development has begun to diverge. China continues to dominate as the world's largest EV market, Europe has experienced slower growth following adjustments to government incentive programs, while the U.S. has maintained steady expansion backed by industrial policy support. Meanwhile, emerging markets are gradually revealing significant growth potential.

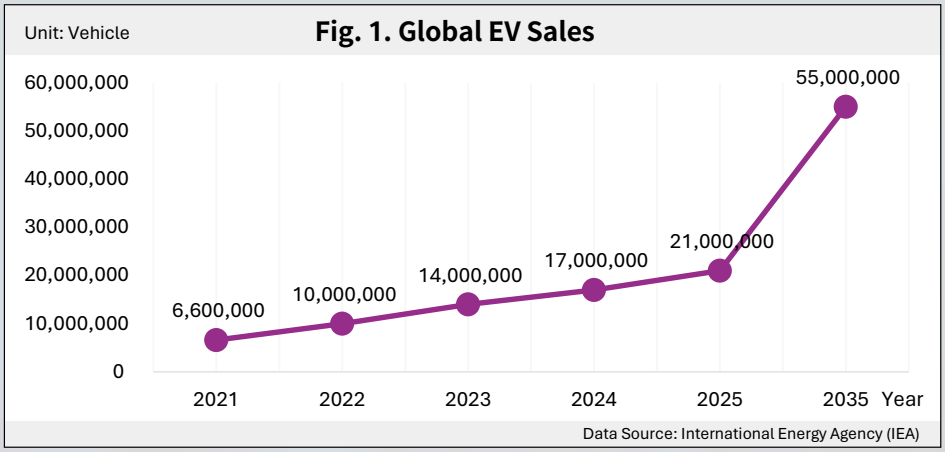
For the automotive supply chain, the rapid expansion of the EV market is reshaping not only vehicle manufacturing but also demand for batteries, electric motors, power electronics, charging equipment, and related components. This transformation presents new opportunities—as well as new technological challenges—for fastener manufacturers and other key component suppliers. This article examines recent EV sales performance and market trends from global, regional, and national perspectives, and explores their implications for the automotive industry and its supply chain.

Global EV Sales More Than Triple in Five Years

Global EV sales have continued to expand steadily in recent years (**Figure 1**), increasing from 6.6 million units in 2021 to 21 million units in 2025—an impressive 218% growth in just 5 years. This remarkable increase underscores that electrification has become one of the defining trends shaping the global automotive industry.

The market expanded rapidly between 2021 and 2023. Although growth moderated slightly in 2024, global EV sales surpassed the 20-million-unit milestone in 2025, reflecting continued demand driven by carbon reduction policies, declining battery costs, a growing variety of EV models, and ongoing improvements in charging infrastructure.

Fig. 1. Global EV Sales



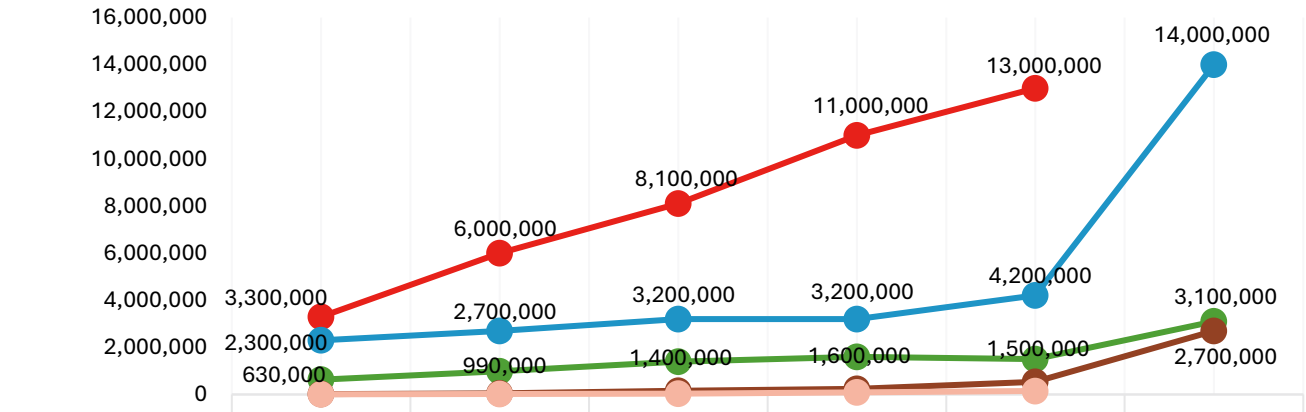
Data Source: International Energy Agency (IEA)

Global EV Landscape Is Being Reshaped—

From "Supplier" to "Strategic Partner"

Unit: Vehicle

Fig. 2. EV Sales by Specific Regions



	2021	2022	2023	2024	2025	2035
China	3,300,000	6,000,000	8,100,000	11,000,000	13,000,000	-
Europe	2,300,000	2,700,000	3,200,000	3,200,000	4,200,000	14,000,000
USA	630,000	990,000	1,400,000	1,600,000	1,500,000	3,100,000
Southeast Asia	15,000	46,000	160,000	240,000	540,000	2,700,000
Middle East	8,100	17,000	36,000	87,000	150,000	-

Data Source: International Energy Agency (IEA)

Looking ahead, the International Energy Agency (IEA) projects global EV sales to reach 55 million units by 2035, representing a further 161% increase over the 2025 level. The forecast suggests that EV penetration will continue rising throughout the next decade, creating another wave of opportunities for automotive components, batteries, charging infrastructure, automotive fasteners, and the broader supply chain.

Regional EV Sales: China's Overwhelming Dominance

From a regional perspective (**Figure 2**), the global EV industry is becoming increasingly concentrated, with China serving as the primary engine of growth. China's 2025 sales (13 million units) not only far exceed those of Europe (4.2 million units) and the U.S. (1.5 million units), but are also approaching Europe's projected 2035 market size of 14 million units. This indicates that China has reached, roughly a decade ahead of Europe, a comparable level of market development through its strong policy support, vertically integrated supply chain, leadership in battery technology, competitive vehicle offerings, and enormous domestic demand. Europe continues to grow, but sales plateaued between 2023 and 2024, reflecting the combined effects of subsidy adjustments and increasing market maturity. The U.S. market has maintained stable, albeit more moderate, growth. Meanwhile, Southeast Asia and the Middle East remain relatively small today, yet both are expected to experience significant expansion by 2035, with Southeast Asia forecast to reach 2.7 million units, highlighting the emergence of new growth engines for the global EV industry.

China's rapid expansion is also fundamentally reshaping the competitive landscape. As Chinese automakers leverage their domestic economies of scale and aggressively expand overseas, their growing market presence is placing mounting pressure on traditional automotive powerhouses in Europe, Japan, South Korea, and the U.S. The global EV industry is gradually evolving from a multi-polar competitive market into one increasingly influenced by China's leadership.

Such concentration means that global EV demand, component procurement, battery supply chains, and related industries are becoming increasingly sensitive to China's policy decisions, consumer demand, and competitive dynamics. For EV component and fastener suppliers, this represents both tremendous market opportunities and increasing dependence on developments within the Chinese market.

Top 10 EV Markets: China Alone Nearly Triples the Rest Combined

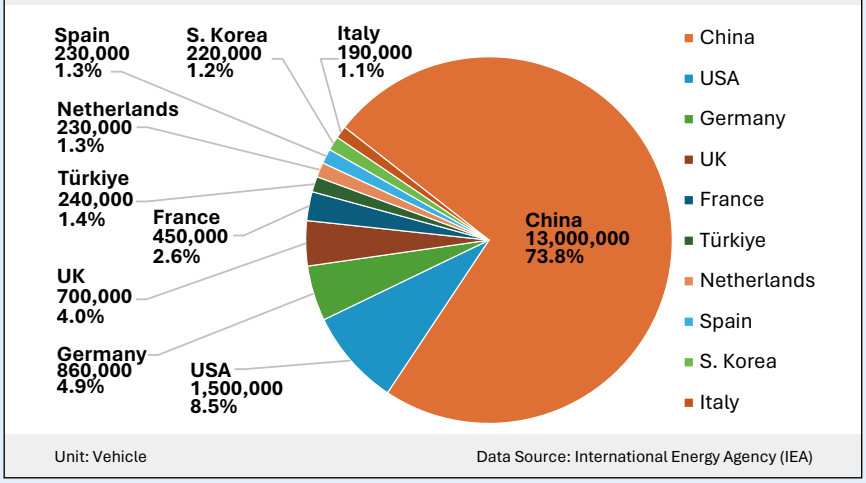
Looking at EV sales by individual country reveals an even higher level of market concentration. In 2025, China remained the world's largest EV market with 13 million units sold (**Figure 3**), accounting for an extraordinary 73.8% of total sales among the world's top ten EV markets—nearly three times the combined total of the other 9 countries. China's sales exceeded those of second-ranked U.S. (1.5 million units) by approximately 8.7 times and surpassed Germany (860,000 units) by more than fifteenfold.

These figures illustrate that the global EV market has shifted from one characterized by competition among several major automotive nations to one increasingly dominated by a single market. China is no longer merely the world's largest EV consumer; it has become the principal force shaping global EV demand, supply chain strategies, technological development, and pricing dynamics. As Chinese automakers continue expanding internationally, the challenge facing automakers worldwide is no longer simply accelerating electrification, but finding ways to remain competitive against China's scale, cost advantages, and highly integrated supply chain.

Traditional Automotive Powers' Sales in the EV Era

Comparing the world's traditional automotive manufacturing giants—China, the U.S., Germany, South Korea, and Japan—reveals that the global automotive industry is undergoing an unprecedented shift in competitive power. For decades, the internal combustion engine era was dominated by manufacturers from Europe, North America, Japan, and South Korea. In the EV era, however, competitive advantages have increasingly shifted toward China. China's EV sales surged from 3.3 million units in 2021 to 13 million units in 2025 (**Figure 4**)—nearly quadrupling within 4 years. Not only has China established a commanding lead over every other major automotive producer, but the gap continues to widen. By comparison, the U.S. market has grown steadily to 1.5 million units, still only about one-ninth the size of China's market. Germany has experienced fluctuations due to shifting consumer demand and policy adjustments, while Japan and South Korea—once dominant forces in the global ICE market—have maintained relatively modest EV sales, indicating a slower pace of electrification. These figures demonstrate that competition is no longer defined by brand heritage, engine technology, or manufacturing capability alone. Instead, success increasingly depends on battery supply chains, software integration, smart manufacturing, and the broader new-energy ecosystem. Those capable of building complete EV industrial ecosystems and achieving economies of scale will be best positioned to lead the next generation of the automotive industry. Judging from current market performance, China has established a clear first-mover advantage.

Fig. 3. Top 10 Countries by EV Sales, 2025

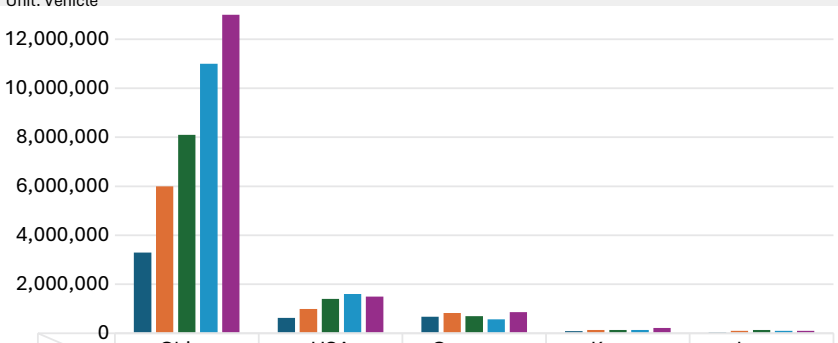


Unit: Vehicle

Data Source: International Energy Agency (IEA)

Fig. 4. EV Sales of Primary Fuel Car Manufacturing Countires, 2021-2025

Unit: Vehicle



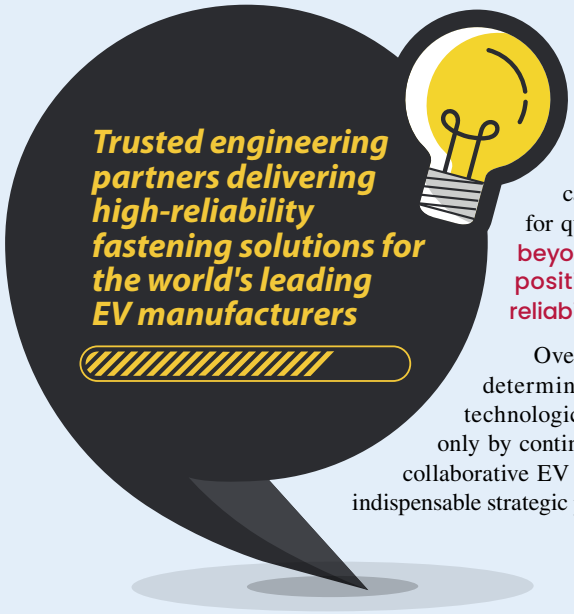
Year	China	USA	Germany	Korea	Japan
2021	3,300,000	630,000	680,000	91,000	44,000
2022	6,000,000	990,000	830,000	140,000	96,000
2023	8,100,000	1,400,000	700,000	130,000	140,000
2024	11,000,000	1,600,000	570,000	130,000	100,000
2025	13,000,000	1,500,000	860,000	220,000	100,000

You Are No Longer Just a "Supplier" You Are a "Problem Solver"

From sustained global market expansion and widening regional disparities to increasingly concentrated market shares and shifting competitive dynamics among major automotive nations, one conclusion is becoming increasingly evident: the global EV industry has entered a fundamentally new stage of development. This transformation extends far beyond the replacement of internal combustion engines with electric drivetrains—it represents a profound restructuring of the global automotive competitive landscape. Backed by an enormous domestic market, an integrated battery supply chain, mature manufacturing capabilities, and strong policy support, China has evolved into far more than the world's largest EV market. It has established formidable economies of scale and industrial advantages that are reshaping global competition. Meanwhile, traditional automotive leaders—including the U.S., Germany, Japan, and South Korea—continue to possess world-class brands and engineering expertise, yet increasingly face pressure to keep pace with China's rapid progress in electrification and supply chain integration.

More importantly, competition is no longer centered solely on vehicle sales. It now extends across the entire new-energy ecosystem—from battery materials, power semiconductors, charging infrastructure, and intelligent software to every critical component throughout the supply chain. Those capable of building integrated, cost-competitive industrial ecosystems will ultimately define the next era of automotive leadership. For suppliers worldwide, the challenge is no longer simply adapting to EV growth, but positioning themselves within the new global market order that China is helping shape.

For Taiwan's fastener industry, this transformation presents both unprecedented challenges and valuable opportunities. Companies such as Boltun have already made significant investments in developing EV fastener solutions, demonstrating that Taiwanese manufacturers are successfully evolving from conventional automotive fastener suppliers into participants in the global new-energy vehicle supply chain. Yet as China's manufacturing scale and cost advantages continue to expand, competing solely on price or standardized products is unlikely to be a sustainable strategy. Future competitiveness will instead depend on delivering high-value solutions—including high-strength, lightweight, corrosion-resistant, and high-reliability fasteners—while also providing engineering capabilities such as co-development with automakers, rapid platform integration, global quality management, and sustainable manufacturing. In other words, Taiwan's fastener industry should not be competing against China's manufacturing capacity—it should be competing to satisfy the global market's growing demand for quality, reliability, and innovation. Taiwanese manufacturers must move beyond seeing themselves simply as EV fastener suppliers and instead position themselves as trusted engineering partners delivering high-reliability fastening solutions for the world's leading EV manufacturers.



Over the coming decade, success in the automotive industry will no longer be determined by engine displacement, but by the strength of industrial ecosystems, technological innovation, and supply chain resilience. For Taiwan's fastener industry, only by continuously investing in technology, increasing product value, and participating in collaborative EV development programs can companies evolve from component suppliers into indispensable strategic partners in the rapidly reshaping global automotive landscape. ■