

Electric Vehicle Industry Research 2024

The development of EV industry - facing serious competition



Contents

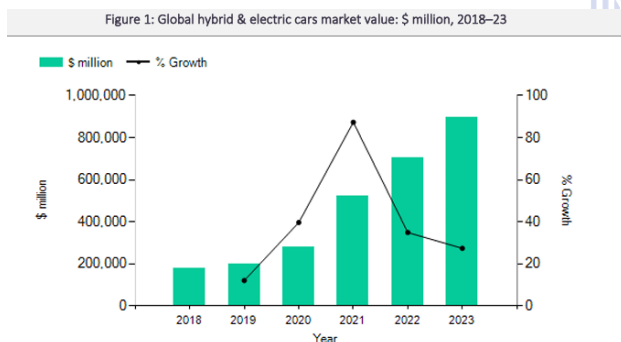
Contact

1 Industry Overview	3
1.1 Industry Overview & Development	3
1.2 Environment Analysis	5
1.3 Main Company	7
2. Company Analysis.....	8
2.1 Market Strategy Analysis	8
2.2 Competition Analysis	10
3. Financial Analysis	11
4. Risk Analysis.....	13

1 Industry Overview

1.1 Industry Overview & Development

Between 2018 and 2023, the worldwide electric vehicle market grew by double digits, and throughout the 2023 – 2028 forecast period, **it is expected to continue growing by double digits**. The electric vehicle market is still expanding rapidly in spite of obstacles including supply chain bottlenecks and growing raw material prices. Global EV sales surpassed one million units per month for the first time in September 2023. The primary cause of this is the rise in demand and sales of hybrid and fully electric automobiles. Simultaneously, government incentives and the progressive stabilization of infrastructure and supply chains are driving the automotive market. As battery technology develops and economies of scale increase, the cost of electric vehicles keeps declining, making them accessible to a wider range of users.

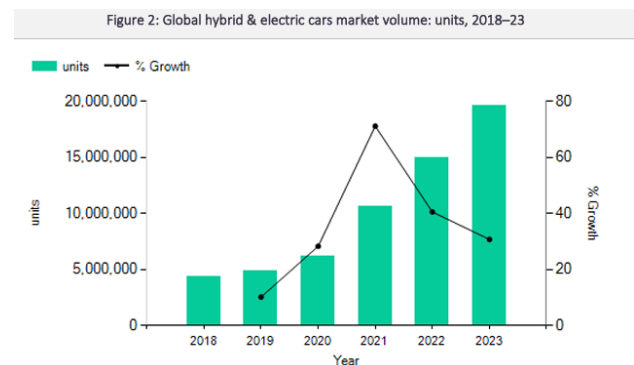


Collaborative innovation and vertical integration are at the heart of the EV industry's business strategy. By using vertical integration approaches, industry leaders like Tesla and BYD have achieved complete chain control from R&D to production, guaranteeing supply chain stability and cutting costs. For instance, Tesla built its own battery and autonomous driving technologies and, with its own Dojo supercomputer, increased the effectiveness of AI model training. Furthermore, strategic collaboration among businesses is typical in the sector. Ford and Google are two examples of established automakers that have teamed up with tech firms to create battery and autonomous driving technologies. Meanwhile, up-and-

coming businesses also use an asset-light strategy to compete, mostly depending on third-party foundry manufacturing and concentrating on market expansion and brand operation.

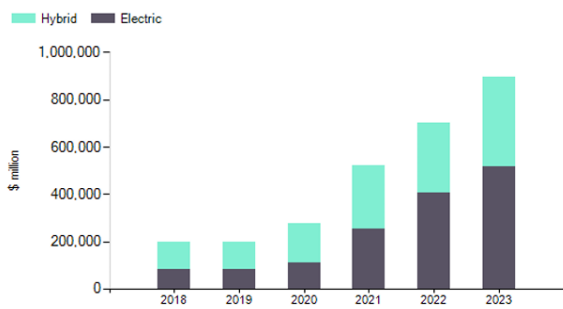
The supply chain for the electric car sector is intricate and heavily reliant on the availability of essential raw materials, including lithium, nickel, and cobalt for batteries. The cost of production and competitiveness in the market depend on having access to these commodities. While Tesla guarantees a steady supply of raw materials by entering into long-term contracts with suppliers, BYD gains a supply chain advantage by utilizing lithium resources and battery manufacturing. Nonetheless, the industry's growth is still hampered by the supply of chips and other essential supply chain components. For instance, Tesla's and other manufacturers' production capacity has been significantly impacted by geopolitical events and chip shortages. Furthermore, building charging infrastructure has become a component of the supply chain, and businesses collaborate with governments and infrastructure providers to support the growth of charging networks and increase customer willingness to buy.

The global market for hybrid and electric vehicles was valued at \$894.089 billion in 2023, up 27.3% from the previous year. It is projected to expand at a compound yearly growth rate of 19.7% to reach \$2.19 trillion by 2028. With global EV sales of 19.6 million units in 2023—up 30.8% year over year—and projected to reach 42.31 million units by 2028, market sales have also grown dramatically.



Because they rely on an electric drivetrain driven by a battery to achieve zero tailpipe emissions and meet environmental criteria, pure electric vehicles are more popular than hybrids. Pure electric cars are appropriate for long trips and regular commutes since they use cutting-edge battery technology to increase performance and range. Pure electric vehicles are becoming more widely available and more reasonably priced thanks to government incentives and growing charging infrastructure. Hybrid vehicles increase the economy by combining electric motors and internal combustion engines, but they also require complicated architecture and two power sources. **Pure electric vehicles have dominated the market** thanks to their simplified layout, lower maintenance needs, and ongoing advancements in battery technology.

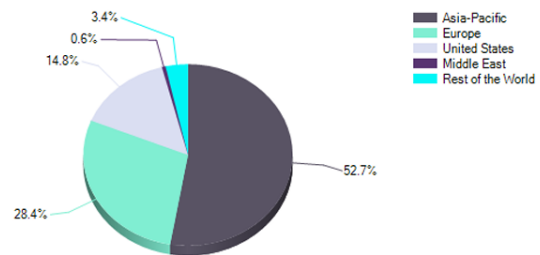
Figure 3: Global hybrid & electric cars market category segmentation: \$ million, 2018-2023



With 52.7% of the global market value in 2023, the Asia Pacific region is the largest regional market for electric vehicles. With 8.51 million electric vehicles registered in 2023—a 26.9% increase—and **a market share of 81.8%, China is the market leader in the Asia-Pacific region.** With a compound yearly growth rate of 19.7% predicted for 2023–2028, the market's performance is anticipated to slow down, and by the end of 2028, it is anticipated to be valued at \$219,388,832 million.

The US and Asia-Pacific markets, on the other hand, are expected to rise at a CAGR of 36.6 and 13.1%, respectively, to reach \$630.4087 million and \$872.3283 million by 2028.

Figure 4: Global hybrid & electric cars market geography segmentation: % share, by value, 2023



From the policy perspective, governments actively work to increase the number of people using electric vehicles. For instance, China extended a tax cut of RMB520 billion in 2024 by offering tax advantages and purchase subsidies. Through NEVI, the US intends to invest \$5 billion to establish a charging network.

From the technical perspective, autonomous driving technology has been expanding quickly all over the world and has steadily emerged as a key differentiator in the new energy vehicle market. Advanced driver assistance systems (ADAS) with AI capabilities are now a crucial piece of technology for enhancing driving safety and facilitating automation. In order to give users features like automated parking, highway autonomous driving, and intelligent obstacle avoidance, ADAS depends on technology like artificial intelligence algorithms, lidar, and high-precision mapping. Li Auto's transition from HD map to map free solutions has greatly increased ADAS's dependability and user experience. The safety of autonomous driving technology is still a significant obstacle for industrial advancement, though. Some systems' performance in severe weather conditions and intricate traffic situations still need to be enhanced. Furthermore, more work needs to be done to build customer confidence in the security of autonomous driving.

Leading companies like BYD and Tesla have an advantage in the market rivalry pattern thanks to their innovative pricing strategies and cutting-edge technologies; BYD has a 31.9% market share in China, which is the largest market for electric vehicles. Tesla's market share decreased from 70.9% in Q1 2021 to 50.9% in Q4 2023, indicating heightened competition in the industry, despite the company maintaining its technological and financial

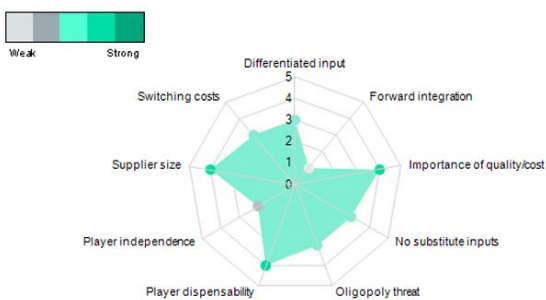
advantages. All things considered, the electric vehicle market is expanding rapidly due to advancements in technology, legislative incentives, and consumer environmental consciousness, all of which are working to steer the sector in an intelligent, low-carbon direction.

1.2 Environment Analysis

Porter developed the "five forces" method to evaluate the competitive environment of the sector.

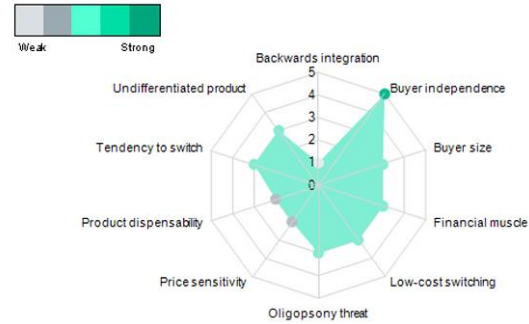
Manufacturers of electric and hybrid vehicles will be considered in the analysis of the EV market. Key suppliers will include manufacturers and traders of metals, labor, automotive parts, charging station operators, independent dealerships, car leasing or rental firms, and people.

The EV industry has high supplier bargaining power, especially for key raw material suppliers (such as lithium, nickel and cobalt). These resources are concentrated in a small number of countries, and price fluctuations have a significant impact on vehicle manufacturers. For example, BYD controls the supply of batteries and key materials by integrating the industrial chain to reduce dependence on external suppliers, while Tesla ensures supply chain stability by signing long-term agreements with mining companies. In addition, as the market demand for high-performance batteries increases, the bargaining power of suppliers may be further enhanced.

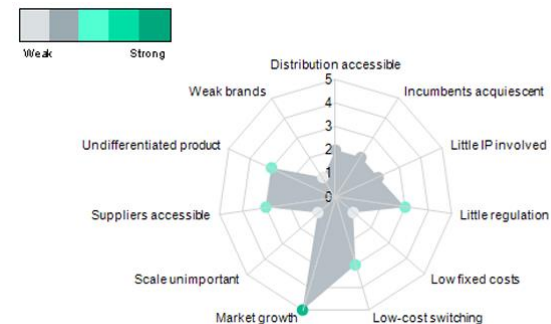


Buyer bargaining power is increasing, especially among consumers in mid-market and developing countries. This trend is mainly influenced by increased price competition, reduced government subsidies and the launch of more cost-effective models. For example,

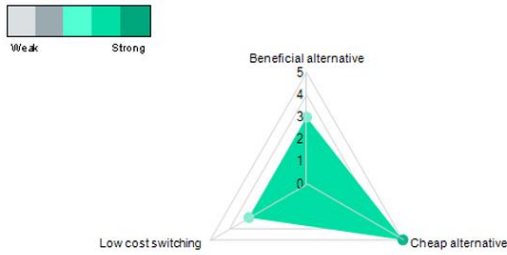
Xiaomi has opened the mid-end market with low prices and high equipment, seizing a certain market share. Consumers have more options to compare battery life, charging efficiency and ADAS technology, forcing manufacturers to strike a balance between technology improvement and price competition.



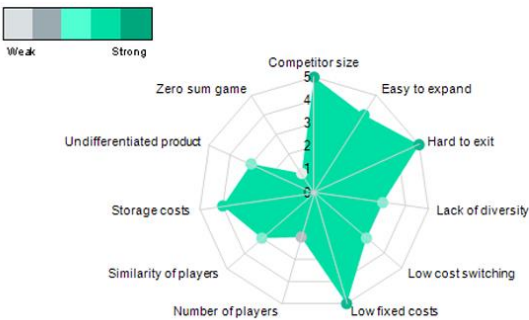
The threat of new entrants in the EV market is limited, but the industry barriers are gradually being lowered. On the one hand, advances in AI and ADAS technology are pushing software-driven companies such as Xiaomi into the market. On the other hand, charging networks and policy support provide convenience for new entrants, but technical barriers and brand recognition in vehicle manufacturing remain challenges.



The substitution threat is relatively low in the EV industry. Although hydrogen fuel cell vehicles and public transportation may become potential competitors, due to technological maturity and cost issues, hydrogen fuel vehicles cannot replace electric vehicles on a large scale in the short term. In contrast, hybrids have a certain impact on the low-end market, but they cannot completely replace the zero-emission advantage of pure electric vehicles.



The EV industry is becoming increasingly competitive, with new entrants (such as Xiaomi and Huawei) and the transformation of traditional fuel vehicle companies intensifying the market competition. For example, Tesla's global market share declined in 2024, while BYD continued to stay ahead by expanding in emerging markets such as Southeast Asia. In addition, in the regional market, the competition in the high-end market (300,000-500,000 RMB) is particularly fierce, and consumers' requirements for intelligent and automated functions are constantly increasing.



China, Europe, and the United States, which together control 95% of the worldwide market, are the primary locations of this increase.

Technology and brand advantages—particularly Tesla's dominant position in the high-end market—are at the heart of the US new energy vehicle sector today.

In addition to creating insurmountable technological barriers, Tesla's fully automated driving (FSD) technology and the largest supercharging network in the world have increased consumer loyalty and brand influence. Furthermore, the US government aided the growth of the new energy sector with a number of legislative initiatives, including the Bipartisan Infrastructure Act and the Inflation Reduction Act, which offered financial and

legislative support for locally produced new energy vehicles, including the establishment of charging networks and investments in battery supply chains. These actions not only strengthen American new energy vehicle firms' market positions but also lay the groundwork for their future international growth.

China leads the world market for new energy vehicles thanks to its robust supply chain integration skills and supportive government regulations.

Specifically, through vertical integration tactics, BYD-represented companies have mastered the fundamentals of battery technology, greatly lowered production costs and enhancing product competitiveness. Simultaneously, the Chinese government has implemented numerous subsidy programs, including subsidies for the acquisition of new energy vehicles and assistance for the development of charging infrastructure, which have significantly boosted the expansion of new energy vehicle exports and domestic demand. As the largest market for new energy vehicles worldwide, Chinese companies have also established a global competitive edge by entering foreign markets at more affordable rates and further lowering R&D and production costs through scale effects.

Due to its advanced manufacturing skills and strict environmental restrictions, the European new energy vehicle industry leads the regional market.

Volkswagen and BMW, two European firms, have built a strong brand recognition among consumers because to their excellent production techniques and premium model market architecture. At the same time, the European Union has aggressively pushed electric vehicle adoption by enacting legislation to reduce carbon emissions and provide incentives. High-end and luxury electric vehicles are preferred in the European market, which opens up more market prospects for businesses with strong technical capabilities. Furthermore, the region's well-built infrastructure has aided in the market penetration of new energy vehicles and given European businesses a distinct edge in international competitiveness.

1.3 Main Company

Who are the leading players:

Tesla continues to invest in artificial intelligence and autonomous driving technologies, concentrating on electric vehicles and energy storage. The company is also developing fully autonomous driving software and a potential ROBOTAXI service. With a focus on technological innovation and exceptional user experience, its products are positioned in high-performance electric automobiles. By constructing gigafactories in China, Germany, and other locations to satisfy local demand, Tesla has increased its production capacity in the worldwide market.

Tesla delivered 462,890 cars globally in the third quarter of 2024, up 6.4% year over year. The company also made \$2.2 billion in net revenue, up 17% from the year before. However, November sales dropped 4.3% from the previous year to 78,800 units, and market share dropped to 6% in the Chinese market, where Tesla faces fierce competition.

In order to lower production costs, **BYD** has embraced a vertical integration strategy, producing its own batteries and other essential components. To satisfy a range of customer demands, its product line includes both high-end and affordable models. In an effort to increase its global reach, BYD has aggressively entered the markets in Australia, Europe, Southeast Asia, and other regions.

BYD sold 504,000 cars in November 2024, up 67.2% from the previous year. The company's total sales for the year surpassed 3.7 million cars, surpassing the yearly goal. Sales of hybrid vehicles increased by 70%, which contributed to its success.

Xiaomi, which got its start in smartphones and consumer electronics, has moved into the electric car market in recent years with the launch of its first model, the SU7. The company's approach places a strong emphasis on creating a smart ecosystem that smoothly integrates automobiles with their current mobile devices and smart homes. Xiaomi

has made significant investments in technological research and development, with a particular emphasis on the advancement of smart cockpit and autonomous driving technologies.

Xiaomi's EV division generated RMB 9.5 billion in revenue in the third quarter of 2024, which accounted for 10% of the group's overall revenue and represented a 52.1% quarter-over-quarter growth. The gross profit margin reached 17.1%, which is comparable to Tesla's level, and the average selling price of bicycles rose from 228,600 to 238,700RMB.

Li Auto focuses on an extended range of electric vehicles to solve the problem of battery life anxiety of pure electric vehicles, mainly for family users. The company's strategy includes the launch of multiple SUV models that offer spacious space and advanced smart features. Li Auto excelled in supply chain management and production efficiency to ensure timely delivery of products.

In the third quarter of 2024, Li Auto sales exceeded 150,000 units, car sales revenue reached RMB 41.3 billion, automotive gross profit margin was 21.5%, and it was the only profitable car enterprise among several new forces, with a net profit of RMB 2.8 billion.

XPeng is committed to the research and development of intelligent electric vehicles, emphasizing autonomous driving technology and intelligent cockpit experience. The company launched a variety of sedan and SUV models, positioned in the middle and high-end market. XPeng is actively expanding overseas markets, especially in Europe, seeking international development.

In November 2024, XPeng sales hit a new high, the specific data was not disclosed but showed strong growth momentum. However, the fierce market competition and price war led to the company still facing financial losses.

2. Company Analysis

2.1 Market Strategy Analysis

Based on the 3Q24 research report, the report analyzes the strategic priorities of five companies.

From small cars to high-end luxury vehicles, BYD specializes in the development and marketing of PHEV and BEV. BYD has substantial advantages in power batteries, car manufacturing, and intelligent technologies because to vertical integration of the industrial chain, which also lowers production costs. In order to consistently increase the performance, safety, and intelligence level of new energy vehicles, BYD insists on independent research and development and has introduced numerous industry-leading innovations, including the "blade battery," fifth-generation DM technology, and e platform 3.0 Evo. With operations in Europe, Latin America, and Asia Pacific, BYD is aggressively growing its international market share and speeding up regional production methods. For instance, the "Dolphin Mini" model of the Seagull is scheduled to debut in Europe. With the help of energy storage devices (such power grid and home energy storage) and the photovoltaic sector, BYD enhances the clean energy ecological chain based on new energy passenger automobiles.

BYD uses its price strategy and technology advantages to stay competitive in the Chinese market. In the domestic market, Seagull, Qin Plus, and other models hold a dominant position. **With a market share of over 30% in May 2024, BYD is the clear leader in China's new energy vehicle market,** and several of its models have made it into the top ten sales list. Gaining a greater share in various market categories is made possible by the multi-brand approach, and long-term growth potential is increased by international expansion.

BYD holds a dominant position in the worldwide new energy vehicle industry thanks to its robust **R&D skills, international expansion, and multi-brand strategy.** It also keeps growing its market share through cost

management, technology, and policy support. BYD will make further progress in the future in terms of expanding its global market and innovating clever technologies. With more affordable mid-market models, BYD still has a lot of space to grow in international markets like Europe and the Americas. In order to advance industry standards, BYD intends to keep making investments in battery technology, intelligent driving technology, and new ecological energy chains.

XPeng focuses on the development of smart car features, especially ADAS and all-scene autonomous driving (such as XNGP). By the end of 2025, a comparable level 3 intelligent driving experience with fewer than one takeover every 100 kilometers is anticipated. By combining software with hardware, like the chassis and powertrain, the company's AI-driven approach to R&D speeds up product iterations and upgrades. The EREV (super extended range electric vehicle) and BEV models are among the minimum of four new models anticipated for 2025. These models have **cost management benefits** and are built on the third-generation 800V architecture.

By 2025, the company intends to have over 90% of the non-North American new energy vehicle market covered by its active international market expansion. Through supply chain negotiations, economies of scale, and technology advancements like lower costs for electronic materials, you can reach higher gross margin goals. By 2030, the gross profit margin is anticipated to be about 18%. With almost 200,000 RMB, XPeng holds a 4.4% market share, according to the September 2024 report. With greater market acceptance and orders for new models like the MONA M03 and P7+, the business intends to boost sales. XPeng monthly sales are currently consistent at over 20,000 units.

Intelligent technology, product diversification, and a global market strategy are driving XPeng 's rapid growth while posing risks like production bottlenecks and escalating industry competition. It is anticipated that ongoing cost-cutting and efficiency initiatives, along with

the introduction of new models in 2025, will boost market competitiveness and profitability.

Xiaomi focuses on the development and marketing of cost-effective and mid-to-high-end models. With a self-developed super motor and intelligent driving system (Hyper OS system), Xiaomi's first electric model, the SU7, is positioned as a C-class high-performance ecological technology automobile in 2024. This demonstrates Xiaomi's technological accumulation in intelligence and high performance. In order to provide smooth user experience, Xiaomi incorporates its ecosystem and technologies into smartphones, home appliances, and other consumer gadgets into electric vehicles. In order to guarantee product quality and supply chain management, Xiaomi constructs its own factories and carries out extensive independent research and development in key technical areas such as electric drives, batteries, massive die-casting, and intelligent driving.

Xiaomi SU7's direct rival at the moment is the Model 3 from Tesla, which costs between 200,000 and 300,000 RMB. As per the predictions for smart devices like Xiaomi smartphones, **Xiaomi will enter the domestic market in two stages:** First, open up the Chinese market by offering more affordable goods and reduced costs. Second, a high-performance SU7 Ultra model (costing more than \$100,000) will be the company's entry into the luxury EV market. The Chinese market is the primary target of Xiaomi's current product line. Over 20,000 copies of the November 2024 SU7 have been sold. The precise market share information for millet electric vehicles has not yet been made public. Nonetheless, Xiaomi's improved standing in the electric car market and SU7's sales performance show that its market share is steadily increasing.

The goal of Tesla is to hasten the world's switch to sustainable energy. Its plan calls for cutting production costs while increasing the range of energy and electric vehicle goods it offers. In 2025, Tesla intends to introduce a fully automated driving (FSD) feature that can outperform human drivers in order to further advance **technological advantages** in the Chinese market. **The cost**

of manufacturing per unit (COGS) has reached an all-time low, while production efficiency at Tesla's Shanghai facility is still increasing. Over 3 million vehicles have been built at the Sea facility, and over 1 million have been exported. In order to appeal to a wider range of customers and maintain its competitiveness in the premium market, Tesla intends to introduce new, affordable cars based on its next-generation platform in 2025 (such as Model S and Cybertruck). In 2024, the number of charging outlets worldwide increased by 22% year over year as Tesla continues to **grow its network of superchargers**. The Chinese market is still dominated by the Model 3 and Model Y, especially in the price-conscious mid-range market. Along with automobiles, Tesla is promoting green energy uses in China by supplying solar and energy storage devices (such Megapack and Powerwall).

Tesla is the clear market leader for electric vehicles in the US, holding nearly 60% market share. In 2024, Li Auto and Tesla have the same market share in China.

Due to its large charging network, broad product lines, efficient production, and fully autonomous driving technology, Tesla has been able to sustain its competitiveness in the Chinese market. Despite intense competition, it holds a significant place in the Chinese market thanks to its global reach and technological capabilities.

Due to technological advancements like FSD, a variety of product lines, worldwide production and sales networks, and the growth of its green energy sector, Tesla is able to maintain its dominant position in the global electric car market. Its size, technological leadership, and global presence give it a significant competitive edge even in the face of heightened competition.

Li Auto concentrates on creating and promoting high-end models, which is consistent with the trend of China's electric car market developing at a high level.

The company's premium positioning helped sustain high profitability in the third quarter of 2024, as evidenced by the 45.4% year-over-year rise in deliveries and the operating margin of 8.0%. In order to double sales of high-end products, the company set conservative sales

projections for the fourth quarter, focusing on network growth and supply chain optimization rather than increasing promotions to boost volume. Next year, management anticipates 15%–20% market growth, however 30%–40% is the ideal goal. Li Auto intends to keep its R&D expenditure at RMB 12 billion, primarily funding advancements in intelligent driving technologies (ADAS upgrades). Sales of high-end vehicles, like the Max variant, are anticipated to increase as autonomous driving technology advances. For the time being, Li Auto does not consider entering the Western European and North American markets; instead, it prioritizes targeting low-cost, reliable growth regions like the Middle East and Central Asia.

Li Auto's market share in China's high-end new energy passenger car market was 17.3% as of the third quarter of 2024, with a long-term target of 25%. Li Auto intends to update current models in order to continuously increase its market share and achieve above-market growth rates. Li Auto is currently the sole profitable company in the same time period and the sales leader among emerging businesses, with monthly sales of roughly 50,000 vehicles. Li Auto's primary rival in the high-end product sector is HIMA.

In conclusion, Li Auto aims to increase its market share over the coming years by maintaining high profitability through a clear high-end positioning, a cautious approach to the market, and wise investments in research and development. In the short term, this approach can make investors cautious, but it has intriguing long-term prospects.

2.2 Competition Analysis

OEM Model	Tesla Model 3	Xiaomi SU7	BYD Han DM	BYD Han EV	BYD Qin Plus EV	BYD Seal DM-i	Xpeng P7+	Xpeng MONA M03
Model launch date (latest facelift entry level)	Sep-23	Mar-24	Sep-24	Sep-24	Feb-24	Feb-24	Nov-24	Aug-24
Body type	Sedan	Sedan	Sedan	Sedan	Sedan	Sedan	Sedan	Sedan
Segment	B	C	C	C	A	B	C	A
Powertrain	BEV	BEV	PHEV	BEV	BEV	PHEV	BEV	BEV
Entry price (RMB k)	231.9	215.9	185.8	179.8	109.8	149.8	198.8	119.8
Max driving range (km)	606	700	1350	506	420	1300	602	515
Wheelbase (mm)	2,875	3,000	2,920	2,920	2,718	2,900	3,000	2,815
0-100km/h acceleration time (s)	6.1	5.3	6.9	7.9	7.3	8.2	6.9	7.8
Hardware Battery size (kWh)	60.0	73.6	18.3	60.5	17.6	17.6	60.7	51.8
Charging speed (kWh/min)	1.4	2.0	0.3	1.7	0.5	0.5	2.1	1.2
Software Continuous voice command	NO	YES	YES	YES	YES	YES	YES	YES
Navigate on Autopilot	YES	YES	NO	NO	NO	NO	YES	NO

OEM Model	Li Auto L6	Li Auto L7	Li Auto L8	Li Auto L9
Model launch date (latest facelift entry level)	Apr-18	Feb-8	Sep-30	Jun-21
Body type	SUV	SUV	SUV	SUV
Segment	C	C	C	C
Powertrain	BEV	PHEV	PHEV	PHEV
Entry price (RMB k)	249.8 (pro) 279.8 (max)	319.8 (air)	321.8 (pro) 339.8 (air)	409.8(Pro) 439.8 (max)
Max driving range (km)	1380	1315	1315	1315
Wheelbase (mm)	2,920	3,005	3,005	3,105
0-100km/h acceleration time (s)	5.4	5.22	5.5	5.3
Hardware Battery size (kWh)	35.8	42.8	52.3	52.3
Charging speed (kWh/min)				
Software Continuous voice command	YES	YES	YES	YES
Navigate on Autopilot	YES	YES	YES	YES

The chart is a detailed comparison table of newly released and popular electric vehicles of different brands and models, covering information such as OEM (Original Equipment Manufacturer), model, model release date, body type, market positioning, power type, entry price, maximum driving range, wheelbase, 0-100km/h acceleration time, hardware (including battery capacity and charging speed), and software functions (including continuous voice commands and autonomous navigation).

OEM and Models:

The chart lists multiple OEMs, including Tesla, Xiaomi, BYD, XPeng, and Li Auto, with corresponding models listed under each OEM. For example, Tesla has the Model 3, Xiaomi has the SU7, BYD has multiple models such as Han DM and Han EV, XPeng has the P7+ and MONA m03, and Li Auto has models such as L6, L7, L8, and L9. These models are the more popular and best-selling ones for each brand.

Model Release Date and Body Type:

The model release date shows the recent update or release time for each model. The body types are mostly Sedans and SUVs, with differences in body type among different brands and models.

Market Positioning and Power Type:

Market positioning is classified according to the characteristics and target consumers of the models. Power types include BEV (Battery Electric Vehicle) and PHEV (Plug-in Hybrid Electric Vehicle), with differences in power type among different models.

Entry Price:

The entry price is in thousands of Chinese yuan, showing the price range of each model. The entry price of an EV refers to the starting price of a particular model, which can vary significantly based on factors such as brand, model, features, and battery capacity. EVs with more advanced features, such as larger screens, higher-quality materials, and autonomous driving capabilities, tend to have higher entry prices. For example, Li Auto's L9 and L8 models, which offer luxurious interiors and advanced technology, have higher entry prices than some other EVs in the same segment.

Maximum Driving Range:

The maximum driving range is in kilometers, indicating the maximum distance each model can travel on a full battery. The maximum driving range of an EV is a key factor that determines its usability and convenience for consumers. It refers to the maximum distance an EV can travel on a single charge. Advances in battery technology have significantly increased the driving range of EVs over the years. Models like Tesla's Model S Plaid and Ford's F-150 Lightning offer impressive driving ranges thanks to their cutting-edge battery technology. While the maximum driving range provided by manufacturers is often based on ideal conditions, real-world driving conditions can affect the actual range. Factors such as driving speed, climate, and use of accessories like air conditioning can all impact the range.

Wheelbase and 0-100km/h Acceleration Time:

The wheelbase represents the distance between the front and rear axles of the vehicle, affecting its stability and ride comfort. The 0-100km/h acceleration time indicates the time required for the vehicle to accelerate from a standstill

to 100km/h, which is an important indicator of the vehicle's dynamic performance.

Hardware and Software Functions:

The hardware section includes battery capacity and charging speed, representing the performance of each model in battery technology and charging efficiency. The software functions include continuous voice commands and autonomous navigation, showcasing the characteristics of each model in intelligence and autonomous driving technology.

The chart provides detailed comparative information about electric vehicles of different brands and models, covering multiple performance indicators and functional characteristics. Through this chart, consumers can gain a more comprehensive understanding of the performance and advantages of each model, thereby making more informed purchasing decisions. Additionally, the chart also serves as a reference for market analysis and product positioning for automotive manufacturers.



3. Financial Analysis

XPeng: With at least four new model launches in the pipeline in 2025, we continue to see strong volume growth of +81% yoy for XPeng. Post 3Q24 result, we raise our 2024E-2026E revenue estimates by 5%-9% and non-GAAP net income from Rmb-5.7bn/-6.0bn/-4.9bn to Rmb-5.3bn/-3.3bn/-4.74bn, mainly on stronger sales volume outlook. Our 12-month DCF-based target price increases by 7%/7% to US\$12.5/HK\$49 for ADR/H share, implying 1%/3% downside. Given the shares are currently trading in line with historical average 12-month forward P/S multiple over the last 2 years, we see the risk-reward as fair. We believe our DCF-based valuation factors in XPeng's latest strength/margin profile, with long-term valuation also at reasonable levels: (1) Our TP implied 2030E P/E at 8.3x (when growth normalizes) is in line with global auto OEMs' trading P/E. (2) In our DCF, we now expect XPeng's gross

margin to reach close to 18% by 2030E (vs. 16% before) on the back of its volume ramp up and cost reduction efforts. Our FCF break-even point is now 2025E (vs. 2026E before), and EBIT break-even point is now 2028E (vs. 2029E before). Net cash also increases to US\$3.8bn in 2024E (vs. US\$0.9bn before), with 2024 changes in working capital turning positive now (vs. negative before).

Tesla: Tesla reported revenue/non-GAAP diluted EPS (excluding SBC) of \$25.2 bn/\$0.72, which was 1% below/\$0.13 above the Street (FactSet) and about in line with/\$0.15 above GS. The automotive non-GAAP gross margin (including SBC and excluding the revenue from regulatory credits) was 17.1%, well above GS at 14.6% (although excluding ~\$326 mn of FSD revenue released tied to feature launches the margin would have been 15.6%). This margin compares to 14.6% in 2Q24, and 16.3% in 3Q23. The gross margin in the Energy segment was also stronger than we expected, at over 30% (vs. our ~25% forecast). ESLA reported 3Q24 revenue of \$25,182 mn (down 1% qoq and up 8% yoy) which was about in line with GS at \$25,279 mn and 1% below the Street (FactSet) at \$25,468 mn. Our 2024 delivery assumption is now 1.81 mn from 1.79 mn prior and our 2025/26 assumptions are effectively unchanged at 2.10 mn/2.40 mn respectively. Overall, we are raising our EPS estimates driven primarily by higher gross margins and higher regulatory credit revenue, and partly offset by a higher tax rate. We raise our 2024/2025/2026 EPS estimates including SBC to \$2.03/\$3.00/\$4.25 from \$1.80/\$2.95/\$4.20. Our CY24/25/26 non-GAAP EPS estimates (ex. SBC) are now \$2.44/\$3.40/\$4.65.

Li Auto :Li Auto reported above-expectation 3Q24 result, but guided for conservative 4Q24 vehicle delivery volume and total revenue (First Take), with Oct monthly delivery of 51,443 units (vs. 53,709 units in Sep). Looking forward: (1) Volume & pricing: management believes the government trade-in subsidies are working and does not

plan to be aggressive on sales policy in 4Q, hence the relatively conservative guidance on volume; (2) Margin: management expects 20%+ vehicle gross margin in 4Q24 and 2025, as supply chain cost reduction continues with improving component yields and factory efficiency. (3) ADAS: Li Auto has had meaningful improvement on its autopilot performance this year and plans to release further updates to users into year-end which could continue to drive up the volume mix of Max versions. (4) BEV: limited information is given on the company's BEV model launch, but management targets for Li Auto to double the overall >Rmb200k NEV segment volume growth in 2025, which is expected at 15%-20%, implying Li Auto's volume growth at 30%-40% (vs. Visible Alpha Consensus Data for Li Auto at 36%). Post result and factoring in weaker volume in October, we lower our 2024E-2026E net profit estimates by 4%-5%, and our 12m DCF-based TP is 5% lower to US\$36.0/HK\$140 for ADR/H share, implying 44%/44% upside.

BYD: 3Q24

	The Reporting Period	Increase/decrease for the Reporting Period as compared with the corresponding period of last year (%)	From the beginning of the year to the end of the Reporting Period	Increase/decrease for the period from the beginning of the year to the end of the Reporting Period as compared with the corresponding period of last year (%)
Operating revenue (RMB)	201,124,599,000.00	24.04%	502,251,312,000.00	18.94%
Net profit attributable to shareholders of the listed company (RMB)	11,606,858,000.00	11.47%	25,238,115,000.00	18.12%
Net profit attributable to shareholders of the listed company after deduction of extraordinary gains or losses (RMB)	10,876,911,000.00	12.67%	23,192,325,000.00	19.86%
Net cash flow from operating activities (RMB)	—	—	56,273,315,000.00	-42.50%
Basic earnings per share (RMB/share)	4.00	11.73%	8.68	18.10%
Diluted earnings per share (RMB/share)	4.00	11.73%	8.68	18.10%
Weighted average rate of return on net assets (%)	7.48%	-0.87%	17.15%	-0.59%

	As at the end of the Reporting Period	As at the end of the previous year	Increase/decrease as at the end of the Reporting Period as compared with that at the end of the previous year (%)
Total assets (RMB)	764,259,515,000.00	679,547,670,000.00	12.47%
Total owners' equity attributable to shareholders of the listed company (RMB)	155,462,393,000.00	138,810,065,000.00	12.00%

Xiaomi: The Xiaomi SU7 Series was highly acclaimed by

users after its official release on March 28, 2024. In the third quarter of 2024, revenue from our smart EV and other new initiatives reached RMB9.7 billion, which consisted of RMB9.5 billion from smart EV and RMB0.2 billion from other related businesses. In the third quarter of 2024, the gross profit margin of our smart EV and other new initiatives segment reached 17.1%. In the third quarter of 2024, the deliveries of the Xiaomi SU7 Series reached 39,790 vehicles. We continued to ramp up production and achieved our goal of cumulative production of 100,000 vehicles on November 13, 2024. Our monthly deliveries of the Xiaomi SU7 Series exceeded 20,000 vehicles in October 2024.

4. Risk Analysis

XPeng: Stronger policy support: If trade-in policies continue into 2025 at the same or larger magnitude vs. 2024, or government issues other types of support for the auto/NEV space, it would have a positive impact on XPeng's volume, esp. MONA M03 with lower price points. **Better order/volume trends:** If XPeng generates better-than-expected orders/volume on the back of competitive model pricing, design, and cost reduction, revenue as well as gross margin could be higher than our projection. **Intensified competition:** If price competition intensifies into 2025 as OEMs prepare to launch various new models to compete and grab market share, there could be pricing and margin pressure on XPeng. **Production ramp-up bottleneck:** If the company encounters bottlenecks on supply chain, production ramp-up would be negatively impacted, leading to lower-than-expected delivery.

Tesla: Key downside risks to our view relate to potentially larger vehicle price reductions than we expect, increased competition in EVs, slower EV demand, delays with products/capabilities like FSD/the third-generation platform/4680, key person risk, the internal control

environment, margins, and operational risks associated with Tesla's high degree of vertical integration. Upside risks include faster EV adoption and/or share gain by Tesla, a stronger macroeconomic environment for new vehicle sales more generally, earlier new product launches than we expect (e.g., a vehicle using the third-generation platform), and an earlier/larger impact from AI enabled products (e.g., FSD, Optimus and robotaxis) than we currently anticipate.

Li Auto: Key risks: lower-than-expected industry demand, intensifying competition, product competitiveness of upcoming BEV models, and more sensitive cost structure due to the launch of BEV models.

BYD: Market risks: The increasingly fierce competition in the new energy vehicle market, coupled with uncertainties in overseas markets due to trade and political environments, make it difficult for BYD to maintain its market share. Additionally, the company's internationalization efforts are hindered by factors such as low brand recognition and geopolitical tensions.

Technological risks: The rapid iteration of new energy vehicle technology requires BYD to continuously invest in research and development to stay ahead. However, technological uncertainties and potential delays in research and development outcomes may affect its competitiveness.

Financial risks: Despite maintaining a reasonable level of debt in the industry, BYD's high debt still brings certain financial pressure. The declining profit margins in the automotive industry have also challenged the sustainability of BYD's profitability. **Product quality risks:** With factories across the country producing different models, maintaining consistent product quality over time is a long-term challenge. Any issues with product quality or after-sales service could damage BYD's brand image and market reputation.

Xiaomi: Market competition: With established players like Tesla, and XPeng already occupying a substantial market share, Xiaomi Motors needs to quickly establish its brand image and market position, which is a daunting task.

Technical risks: The development and production of electric vehicles involve overcoming numerous technical

challenges, such as battery performance, drive systems, and autonomous driving technology. Any failure to make breakthroughs in these areas could severely impact Xiaomi Motors' product competitiveness and market prospects.

Financial risks :Xiaomi Motors is currently incurring losses per vehicle sold, due to high research and development costs and production investments. If profitability cannot be achieved in the future, it will have a

negative impact on Xiaomi's overall financial position. **Policy and regulatory risks :**The new energy vehicle industry is strictly regulated, and failure to comply with relevant policies and regulations could result in legal consequences and market risks.

