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[OEM Highlights] Geely, Volvo Cars to launch powertrain venture, deepen collaboration on EV and autonomous driving

IHS Markit perspective

Implications Geely Auto and Volvo Cars announced on 24 February that the two companies have agreed to deepen their collaboration to involve a wide range of core business areas to deliver synergies and tap new growth opportunities.

Outlook Compared to a full merger plan, this arrangement in the form of an alliance will help both companies tap into each other's resource pool to cope with rising costs associated with the launch of EVs and new technologies, without potentially going through restructuring.

Geely Auto and Volvo Cars announced on 24 February that the two companies have agreed to deepen their collaboration to involve a wide range of core business areas to deliver synergies and tap new growth opportunities.

The two companies plan to combine their powertrain operations into a new standalone company, which is expected to become operational this year. According to a joint statement, the new powertrain company will provide ICEs, transmissions, and next-generation dual-motor hybrid systems for use by both companies, as well as other automakers. Regarding electrification, the two companies' brands, including Geely, Volvo, Polestar, and Lynk & Co, will share the new SEA and SPA2 electric architectures. In addition, the two companies will work together to jointly develop the next-generation modular electric vehicle (EV) architecture, which will be leveraged across their brands to broaden their portfolios of EVs. Through the collaboration, the two companies will share and jointly source batteries, electric motors, and connectivity solutions. Volvo's autonomous driving software development company, Zenseact, will lead the development of autonomous driving solutions for both companies. Geely and Volvo Cars will also support Lynk & Co's expansion in the European market, leveraging Volvo Cars' existing distribution and service network. "Having evaluated different options to realise value, we concluded jointly that a collaboration model between two standalone companies is the best way to secure continued growth and at the same time achieve technological synergies in many areas," said Håkan Samuelsson, president and CEO of Volvo Cars.



Geely Auto and Volvo Cars will still preserve their existing separate business structures. The companies' collaboration is to be overseen by a new governance model, supported by parent company Zhejiang Geely Holding Group (Geely Group).

Outlook and implications



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Geely Auto and Volvo Cars, the two leading companies of Geely Group, have finally reached an agreement on the next steps in their working arrangement after engaging in talks on a possible merger for over a year. However, it seems both sides and shareholders prefer the companies to remain operating under their current co-operative structures while seeking collaboration in areas including electrification, autonomous driving, and powertrains. Compared to a full merger, the agreed arrangement in the form of an alliance should help both companies tap into each other's resource pool to cope with rising costs associated with the launch of EVs and new technologies, without potentially going through restructuring. Geely Auto and Volvo Cars have been collaborating on vehicle platform development over the past few years. The CMA platform developed by Volvo Cars and Geely Auto for compact vehicles has already become a key architecture of Geely Group. Since the launch of the first models, the Volvo XC40 and the Lynk & Co 01, on this architecture in 2017, production of CMA-based vehicles now takes place at six assembly sites, including three in China – Ningbo, Taizhou Luqiao and Zhangjiakou – and Volvo's site in Ghent, Belgium. IHS Markit forecasts global production of CMA-based vehicles to reach over 530,000 units in 2021, up from 302,647 units in 2019. The modular platform enabled a rapid pace of model launches by the Lynk & Co brand between 2018 and 2020. In addition, Geely Group kicked off the rollout of CMA-based models by its entry-level brand Geely last year. The initiative will help bolster sales of the Geely brand and allow the brand to position its new models at the higher end of the market. The intention to share the SEA and SPA 2 electric vehicle platforms is encouraged by the successful rollout of the CMA platform and the move to combine forces in EV platform development should better position both companies in the EV market.

The new powertrain company should help both companies reduce operational and research-and-development costs. It should also open up new opportunities for the group to tap a wider market by starting to supply its technologies to other players in the industry, although the two companies have yet to disclose details regarding cost-saving targets. In November 2020, Geely and Daimler announced a major collaborative project on the development of powertrain system for hybrid vehicle applications. The new Geely-Volvo powertrain company, once in operation, should be able to increase the pace of the hybrid-focused ICE powertrain development with Daimler and further drive synergies in the field of highly efficient drivetrain systems for the three companies.

[OEM Highlights] Hyundai begins sales of all-new Mistra in China

IHS Markit perspective

Implications	The Mistra has been Hyundai's main sales driver in the sedan market since 2013. According to IHS Markit's light-vehicle sales data, sales of the Mistra totalled 732,661 units during 2013–19.
Outlook	With the all-new Mistra, Hyundai has shifted the vehicle's production to its N1/N2 platform, an architecture shared with the all-new Sonata. The all-new Mistra has also been redesigned both inside and out to help to reposition the model in the Hyundai line-up and for it to command a higher price.



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*All-new Hyundai Mistra sedan.
Picture courtesy of Hyundai*

Hyundai has announced the beginning of sales and the pricing of the all-new Mistra sedan in China. The all-new Mistra will have two model variants, a gasoline (petrol) engine vehicle and a battery electric vehicle. The gasoline engine model has the option of a 1.8-litre naturally aspirated engine or a 1.5-litre turbocharged engine. The gasoline engine model is priced from CNY133,800 (USD20,700) to CNY168,800. The Mistra EV, the price of which starts from CNY178,000 after subsidies, is powered by a 57-kWh lithium-ion battery pack with cells supplied by Chinese battery-maker CATL. The range performance of the Mistra EV is expected to reach around 520 kilometres under NEDC tests. The model will only come in a single-motor version. The company says the electric motor in the Mistra EV is able to deliver a maximum output of 184 horsepower and a peak torque of 310 Nm.

The all-new Mistra is the second-generation model and its exterior and interior have been revised using Hyundai's global design language, including a lower front grille and a new headlamp design. The vehicle is 4,780 millimetres (mm) long, 100 mm longer than the compact all-new Elantra and 60 mm longer than the outgoing 2019 Mistra. The wheelbase of the all-new Mistra remains unchanged compared with that of the 2019 Mistra, at 2,770 mm. In the cabin, the model features a horizontally positioned digital display that combines the instrument gauge with the central panel. The number of physical buttons has been reduced to create a clean cabin look. In addition, the traditional gear shift in the 1.5-litre model has been replaced with an electric push-button shifter.

Outlook and implications

The Mistra entered the Chinese market in 2013 and the model was introduced then as a China-specific nameplate to tap the mid-size sedan market. The model has been Hyundai's main sales driver in the Chinese sedan market since then. According to IHS Markit's light-vehicle data, sales of the Mistra totalled 732,661 units during 2013–19. In the past three years, sales of the Mistra have been on the decline as no major updates have been made to the model in the past four years. Dealers had to offer heavy discounts on the Mistra, a practice that hurt the brand's reputation in the Chinese market. As a result, the retail price of the 2019 model-year Mistra has dropped to less than CNY100,000, a price point that is normally deemed one of local budget vehicle makers.

With the all-new Mistra, Hyundai has shifted the vehicle's production to its N1/N2 platform, an architecture shared with the all-new Sonata. The all-new Mistra has been redesigned both inside and out. The model's infotainment system now features voice-command and provides the driver with an array of functions such as navigation and music. These updates should help to reposition the model in the Hyundai line-up for it to command a higher price.



In China, Hyundai has accelerated its model launches to strengthen its position in the D segment. In the sedan market, sales of the new-generation Sonata and Elantra began in the middle of last year. Both models are designed to appeal to the younger generation of Chinese consumers. These all-new models are expected to bolster Hyundai's sales in China during 2021. Sales of Hyundai brand sedans are forecasted to reach around 352,000 units in China this year, up 13.7% from 2020.

[OEM Highlights] Xpeng to offer EV models with LFP battery variant

Company reportedly aims to begin the delivery of the new versions equipped with LFP batteries in the second quarter of 2021



Source: 1020067494 – Getty Images/nevodka

Xpeng is planning to offer new variants of its electric models with lithium iron phosphate (LFP) battery, Yahoo Finance reported on 2 March. The company is planning to launch the LFP variant of its P7 all-electric sedan soon, followed by G3 electric sport utility vehicle (SUV). The company reportedly aims to begin the delivery of the new versions equipped with LFP batteries in the second quarter of 2021.

Outlook and implications

According to the report, the LFP battery-equipped variant of P7 is expected to have a range of 480 km, as per New European Driving Cycle (NEDC). This would be lower than the 706 km range the current variants of P7 deliver. The LFP variant of G3 SUV is expected to have a range of 460 km (NEDC). The new variants are expected to significantly lower the price of Xpeng models making them more competitive against Tesla models. Tesla also offers LFP batteries in its Model 3 manufactured at its Shanghai plant in Mainland China. Xpeng collaborated with CATL to develop the P7's prismatic lithium nickel, cobalt, manganese (NCM) cells. Earlier this year, it was reported that CATL is planning to build a new plant for lithium iron phosphate (LFP) cathode material in mainland China. According to reports in 2020, Tesla also has signed an agreement with CATL for sourcing batteries.



[Autonomous Driving and Mobility Highlights] Shanghai opens 5G-based autonomous vehicle centre to public

China's Jiading District in Shanghai has opened an autonomous vehicle (AV) centre to the public. Appointments can be made using SAIC Motor's mobile app to experience 5G-based autonomous technology embedded in SAIC Motor's electric sport utility vehicles at the centre. The initiative is being conducted by SAIC Motor, Shanghai International Automobile City, China Mobile, and Huawei, reports SHINE. The centre console in the vehicle automatically displays information about the status of traffic lights, allowing users to have access to real-time information.



Outlook and implications

Shanghai opened its first road section for testing AVs in March 2018. To date, Shanghai has issued 119 licence plates for AV testing to 20 companies. These companies have logged about 650,000 km of road tests, with a cumulative testing period of 28,000 hours. In 2019, Shanghai issued intelligent connected vehicle demonstration licences to SAIC Motor, BMW, and Didi Chuxing. The three companies are allowed to use their AVs to transport qualified passengers (volunteers) as well as goods for delivery. Shanghai's Fengxian district recently opened an AV testing hub that will serve as China's first multi-scenario testing zone.

[Autonomous Driving and Mobility Highlights] Nissan partners with Suzhou HSR New Town to deploy intelligent mobility solutions

Nissan Motor has partnered with Suzhou HSR New Town to deploy intelligent mobility solutions. This will include development of intelligent connected networks and transport to support Chinese city Suzhou's intelligent transport initiative. The companies also plan to test autonomous vehicles (AVs) for future commercial services. Shohei Yamazaki, senior vice president of Nissan, said, "Nissan has a long history of delivering leading-edge tech in vehicle electrification, autonomous driving, and other innovative technologies which enrich people's lives. We look forward to working with Suzhou city to help develop the city's transport system and contribute to the local community."



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Outlook and implications

Nissan has been working towards reducing carbon emissions. It has conducted multiple autonomous mobility trials in countries such as Japan, the United Kingdom, and China. Nissan has launched the Blue Switch programme, which promotes the use of electric vehicles to address issues related to disaster prevention, energy management, climate change, and population declines in Japan. By utilising its strengths in electrification and AV technologies, the automaker aims to improve mobility and create a sustainable low-carbon community.



[EV Highlights] Volvo Cars to be BEV-only automaker from 2030

IHS Markit perspective

Implications Volvo Cars has announced that it will become a BEV-only automaker from 2030, while also confirming that they will be sold only online.

Outlook The latest announcement marks another aggressive step forward in its aims to broaden its electrified offering. However, later today (2 March), Volvo will reveal its second fully electric car, that will be built alongside the XC40 Recharge. More are set to be launched in the coming years. IHS Markit expects the first of these to be the next-generation XC90, followed by the XC60, and the S60 and V60 by the middle of the decade.

Volvo Cars has announced that it will become a battery electric vehicle (BEV)-only automaker from 2030. The company has said in a statement that it is “committed to becoming a leader in the fast-growing premium electric car market” and that it intends to “phase out any car in its global portfolio with an internal combustion engine [ICE], including hybrids” at this point. It added that its ambitions for 2030 represent an “acceleration of Volvo Cars’ electrification strategy, driven by strong demand for its electrified cars in recent years and a firm conviction that the market for combustion engine cars is a shrinking one.”

On the announcement, Volvo’s chief technology officer (CTO) Henrick Green said, “There is no long-term future for cars with an internal combustion engine... We are firmly committed to becoming an electric-only car maker and the transition should happen by 2030. It will allow us to meet the expectations of our customers and be a part of the solution when it comes to fighting climate change.”

In a separate statement, Volvo has also announced that to coincide with this move towards a BEV-only product line-up, these new products will be available online only as part of a new commercial strategy. The company said that as well as heavily investing in its online sales channels, it will “radically reduce complexity in its product offer” and have “transparent and set pricing models”. This will help to simplify the process and reduce the steps towards buying an electric Volvo on its volvocars.com online store, while pre-configuration will mean that a vehicle is “ready for simple and convenient ordering and quick delivery”.



It added that this will be combined with a “focus on a complete convenient customer offering, all under the Care by Volvo name”, which includes items such as service, warranty, roadside assistance, insurance and home charging options.



Despite the change to its business model, Volvo intends to “build stronger customer relationships together with its retail partners” which will “remain a crucial part of the customer experience and will continue to be responsible for a variety of important services such as selling, preparing, delivering and servicing cars.”

Volvo’s chief executive Håkan Samuelsson has said, “To remain successful, we need profitable growth. So instead of investing in a shrinking business, we choose to invest in the future – electric and online. We are fully focused on becoming a leader in the fast-growing premium electric segment.”

Outlook and implications

The latest announcement marks another aggressive step forward in its aims to broaden its electrified offering. This began in mid-2017, when the company revealed that all its new models from 2019 would feature some kind of electrified powertrain. It followed this in the first half of 2018, with the announcement that it is planning to make 50% of the vehicles it sells BEV by 2025. In this latest announcement, the company will drop sales of ICE-based vehicles entirely, including both hybrids and plug-in hybrids (PHEVs).



Volvo has said that this latest shift “is part of its ambitious climate plan, which seeks to consistently reduce the life cycle carbon footprint per car through concrete action.” However, it is also underpinned by the expectation that legislation as well as a rapid expansion of accessible, high-quality charging infrastructure will speed up consumer acceptance of fully electric cars. Indeed, some markets are already planning to end the sale of ICE-powered light vehicles by 2030, including Norway, Netherlands, Ireland, Sweden, Denmark, and the UK, which announced in November last year that it would become a BEV-only market by 2035. Governments in key markets are also providing support for the transition to BEVs via incentives, while legislators are also incentivising automakers towards lower carbon dioxide (CO₂) emissions through the application of penalties, which is also encouraging the development of this technology.

If Volvo is successful in hitting these milestones for its electrification strategy, it would be hugely impressive, given that it only revealed its first BEV – the XC40 Recharge – in late 2019, and this did not enter production until October 2020. However, it has committed to electrified powertrain technology and invested in electric motors as well as embarking on relationships for battery supply. On top of this, the move away from more traditional powertrain technologies is underlined by its plans to roll its interests in these areas into a standalone business with Geely.



[EV Highlights] Geometry rolls out battery-leasing programme for C BEV

Geometry, the electric vehicle (EV) brand of Geely Auto, has launched a battery-leasing programme in China. Customers can now opt to pay a monthly subscription fee of CNY666 (USD103) to rent a battery pack for the Geometry C battery electric vehicle (BEV). Under the leasing programme, which lasts for three years, the down payment for the Geometry C with a 53-kWh battery pack will start at CNY31,140. The automaker also allows customers to lease a battery pack for the top-of-range Long-Range Geometry C, which is fitted with a larger 70-kWh lithium-ion battery pack. The monthly fee for the Long-Range Geometry C is CNY888. The Geometry C is a compact battery electric crossover utility vehicle (CUV). The price of the entry-level Standard-Range Geometry C with a 53-kWh battery starts at CNY129,800, while the price of the 70-kWh model starts at CNY162,800.



Outlook and implications

According to Geometry, currently, the battery-leasing programme will only be available to retail customers in Beijing, Shanghai, Shenzhen, and Hangzhou. When the lease ends, customers will have the ownership of the battery pack, which means they do not have to lease the battery from the company through the whole period of the car's ownership. The benefit for customers is that they will pay less for the vehicle upfront, with the cost of the battery pack taken out from the vehicle's purchase price and they can still take out a loan for the battery-less vehicle under the battery-leasing programme. It will be interesting to see whether the battery-leasing programme helps to boost sales of the Geometry brand in the EV market. Premium EV maker NIO offers a similar programme to its vehicle buyers and has seen an increasing take-up rate under its battery-leasing programme in the past few months. Geely introduced the Geometry A sedan, the first model from the Geometry brand, in April 2019. This model was followed by the launch of the Geometry C CUV in August 2020. With China slashing subsidies for EVs and a surge in new models from rival brands, the combined sales of the two Geometry models only reached 10,328 units in 2020.



[GSP] North America Sales and Production Commentary -2021.02

North America sales

January 2021: -6.0%; 1.278 million units vs. 1.360 million units

- While regional light vehicle sales continue to improve from April's depressed levels, the sales pace in the region has moved sideways from September–December 2020. The auto demand levels over the past few months not only reflect the tough economic conditions realized across the region, but also signal a sustained recovery—so far—from the depths of the COVID-19 pandemic effect 10 months ago. At least in the United States, auto demand began the new year with a strong result.
- While COVID-19 mitigation efforts continue across the region, the pandemic situation, along with auto production levels stymied by semiconductor supply issues, present the biggest immediate risks to auto sales levels. However, incoming January 2021 sales figures, at least for Canada and the US, reflected sustained recovery levels in wake of these pressures, although some uncertainty continues moving through the early stages of 2021.
- After a full-year 2020 auto sales volume decline to 16%, January began the new year with a relatively mild—6.0% year-over-year (y/y) estimated decline
- With a sales pace of 16.6 million units seasonally adjusted annual rate (SAAR), January auto demand in the US presented a tremendous start to the new year. The sales pace for the month will come close to matching pre-COVID-19 levels (reading of 16.8 million units in February 2020) and would certainly be the best monthly performance of the auto demand recovery since March 2020. The result is even more impressive given the potential headwinds from vehicle inventory concerns, semiconductor supply issues, political unrest, still wavering economic conditions as a result of the pandemic, and still recessed levels of total fleet sales volume. Some of these pitfalls remain prevalent and point to the potential for some volatility in the month-to-month (m/m) results ahead. The January 2021 forecast release reflects an annual level of 16.14 million units in 2021 and 16.20 million units in 2022, up 127,700 units and 61,500 units, respectively, from the previous forecast setting.



- Even with the provinces of Ontario and Quebec implementing the strictest levels of “lockdown” orders during the month, January 2021 auto demand levels persevered, posting an estimated -21.5% y/y decline for the month. A much better result than expected, and points to the sustained capacity for those Canadian consumers that are willing, ready, and able to enter a new car purchase are doing so. Looking back at 2020, while lockdown policies were no stricter than found elsewhere, Canadian light vehicle sales reflected some



of the weakest results in the region early in the pandemic. After plummeting 75% in April, May sales were down approximately 44%. The rebound rates in auto demand levels since have been the strongest in the region. IHS Markit expects demand to grow 18% in 2021 to 1.83 million units. Sales are expected to reach 1.9 million units by 2025, bumping against the pre-COVID-19 pandemic levels.

- For three years before the current COVID-19 effect, Mexican light vehicle demand was leading the region in auto sales declines, and the current situation adds additional pressure to an economy that was already stagnating. Auto sales in the country continue to reflect the weakest recovery levels within the region and calendar year (CY) 2020 demand reflected a 28% decline for the year. January 2021 sales volume sustained this trend, with y/y sales down 22.5% for the month. IHS Markit projects demand in CY 2021 to jump 13%, to 1.07 million units, with demand rising 1.34 million units by 2024, eclipsing the level during pre-COVID-19 CY 2019.
- While the region inches toward “normalcy” in 2021, vehicle demand is expected to remain somewhat constrained. With the continuing struggle in the battle to contain the COVID-19 pandemic and rising pressure on vehicle supply levels owing to semiconductor shortages at auto plants, demand level in the first half of the year face some uncertainty in the midst of the recovery. Regional sales are projected to decline approximately 16% in 2020, to 17.09 million units, followed by a moderate rebound of 11.4% in 2021, up to 19.04 million units.

North America Production

January 2021: -12.7%; 1.17 million units vs. 1.34 million units

- The production outlook for 2021 was revised down 88,572 units, or 0.5%, to 16.2 million units amid the ongoing semiconductor shortage. More telling of the situation is that production in the first half of 2021 was revised down 325,827 units, or 3.9%, while production in the second half of the year was revised up 237,255 units, or 3.0%, on expectations that shortages will be addressed. While the February 2021 forecast release addresses more widespread effects to vehicle production in the region, further downside potential exists as manufacturers continue to be blindsided by the shortages. Conversely, while measures are in place that tries to identify those that will be more likely to be affected than others, the sheer volatility of the situation poses further downside threats to vehicle production in the first half. While most instances require manufacturers work to recover the lost volume to meet demand and improve the already below average inventory levels, there are instances whereby volume is not needed to be recovered. Expectations are that manufacturers are rationalizing production to favor their most popular and highest margin vehicles while sacrificing volume for less important vehicles. General Motors (GM) made this apparent with plants to idle production at several plants that while producing key vehicles are not as nearly as important as protecting production for the full-size trucks and utility vehicles. Subaru is also taking a similar approach that will sacrifice the Impreza, Legacy, and Ascent volume to support stable production of their best-selling Outback. While most shortages are expected to be addressed by the end of the second quarter, the IHS Markit Semiconductor and Components team is projecting that shortages could stretch into the third quarter of 2021. While the semiconductor hangs over the industry, the recovery of lost volume remains high, as many manufacturers can leverage increased overtime in the second half, while also curtailing summer shutdown plans. This is most notable at Ford where current plants still have two weeks of shutdown planned at any plants. With the all-important Ford F-150 being affected, the forecast for the February 2021 release reflects that Ford will cancel the two-week summer shutdown at the Dearborn Truck and Kansas City plants, as doing so is the only effective measure they can take to recover the lost volume given the work structure at the plants. More widespread cancellations of summer shutdown plans could result in higher production levels in the second half. Reported production results for January 2021 came in 61,491 units, or 5.0% lower



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than forecast, while also being down 169,969 units, or 12.7% lower than year-ago levels. While semiconductors have been slowing production across numerous plants, the lower results are likely a combination that includes higher worker absenteeism levels amid increased cases of COVID-19. Production at Ford and Honda were the most distressed in January 2021 with production underperforming the previous forecast by 18.8% and 17.2%, respectively, with Ford experiencing broader and widespread issues, while Honda losses were mostly isolated to the Accord and Civic. GM is expected to realize more material losses between February and March 2021 than they experienced in January.

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[Supplier Trends and Highlights] LG Innotek unveils automotive Wi-Fi 6E module

The module combines a communications chipset and a radio frequency (RF) circuit



Source: Getty Images/Wiyada Arunwaikit

LG Innotek has developed an automotive Wi-Fi 6E module, a push to gain market share in the vehicle communication module space, the company said in a press release on 2 March. The module combines a communications chipset, a radio frequency (RF) circuit, among other components. It is mounted on multiple components of a vehicle, such as the audio video navigation (AVN) system and smart antenna.

Outlook and implications

The module enables passengers to stream movies, games on the in-vehicle display or audio system by wirelessly connecting it to a smartphone. The module also allows easier software updates of the automotive navigation system. According to the company, the next-generation Wi-Fi 6E technology, which uses 6GHz bandwidth in which data is transmitted at speeds which is about three times faster than the existing Wi-Fi 5. The product is durable and can withstand temperature changes between -40° and 85°.

In January, LG Innotek developed a digital car key module with more efficient location detection precision and security. The digital car key module uses the ultra-wideband (UWB) communication technology.

[Supplier Trends and Highlights] CATL-SAIC JV to increase battery production capacity

Chinese battery-maker Contemporary Amperex Technology Co Limited (CATL) plans to increase the battery production capacity of its joint venture (JV) plant with Chinese automaker SAIC Motor, according to a company statement. The plant expansion project is to involve construction in phases and an investment of up to CNY12 billion (USD1.86 billion). CATL currently holds 51% of the equity of the CATL-SAIC JV established in 2017. SAIC holds the remaining 49% of the JV company.



Outlook and implications

CATL has announced a series of new investments since the end of last year involving a total investment exceeding CNY50 billion. The company's JV plant with SAIC is located in Jiangsu province and primarily supplies batteries for SAIC's electric vehicles. Local media reports indicate the first phase of the expansion project is due to be completed by the end of year and it will have 12 product lines for the production of battery cells, modules, and packs.

[Supplier Trends and Highlights] Faradion and Phillips 66 partner to develop advanced anode materials for sodium-ion batteries

New anode material is claimed to be lower in cost and offer higher performance



Source: Getty Images/urfanguss

Faradion has partnered with Phillips 66 to develop advanced anode materials for sodium-ion batteries, the company announced in a press release on 25 February. The new anode material is claimed to be lower in cost and offer higher performance. "This agreement brings together Phillips 66's strengths in hard-carbon anode material and Faradion's sodium-ion technology for a high-performance, sustainable next-generation energy storage technology. Our aim is to further accelerate large-scale industrialization of Faradion's safe, low-cost sodium-ion energy technology. We are looking forward to Phillips 66 supporting Faradion's growth in the rapidly expanding battery market and jointly contributing to the transformation of the global energy market," said James Quinn, CEO, Faradion.

Outlook and implications



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According to Faradion, sodium-ion battery technology has an inherent advantage over other power-storage technologies because it uses low-cost materials that are sustainable and widely available. Carbon is the preferred anode material for the batteries, and the collaboration is expected to leverage Phillips 66's experience developing specialty carbon materials and Faradion's work as a leader in sodium-ion battery technology. Phillips 66 has filed numerous patent applications on battery-related technology. Faradion's technology provides similar performance to conventional chemistries while avoiding the use of expensive materials such as cobalt and replacing lithium with the more sustainable and abundant sodium while giving better safety and thermal stability.

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