

# Automotive Industry Weekly Digest

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# Contents

[Forecast & Analysis Highlights] New vehicle sales in Malaysia surge 21% YOY in April, output up 38% YOY .....	3
[Forecast & Analysis Highlights] Russian passenger car sales rise by 81.2% YOY in April .....	5
[OEM Highlights] Audi, SAIC to jointly develop new BEVs built on China-specific platform .....	8
[OEM Highlights] Japan, ASEAN to formulate joint strategy on automobile production and sales.....	9
[OEM Highlights] Turkish government holding talks with BYD, Chery on BEV production.....	10
[Technology & Mobility Highlights] Tata Power-DDL partners with India Smart Grid Forum to demonstrate V2G technology.....	12
[Technology & Mobility Highlights] Renault Group announces future autonomous vehicle strategy, partners with WeRide.....	12
[EV & Energy Efficiency Highlights] Chinese battery maker Gotion High-Tech unveils innovative battery solutions.....	14
[EV & Energy Efficiency Highlights] EV Connect and bp pulse announce software integration for improved fleet charging.....	15
[Supplier Highlights] Murata partners with Michelin for radio-frequency identification tire tag integration.....	17
[Supplier Highlights] X-Fab enhances 180 nanometer automotive-grade high-voltage CMOS foundry solution .....	18
[VIP ASSET] Automotive marketing in the age of electrification .....	20



## [Forecast & Analysis Highlights] New vehicle sales in Malaysia surge 21% YOY in April, output up 38% YOY

### S&P Global Mobility perspective

**Implications** Malaysian new vehicle sales and production grew in April 2024 thanks to a low base effect as the Hari Raya holidays had resulted in a shorter working month in April 2023. In the year to date, new vehicle sales in the country are up 8% year over year at 260,236 units.

**Outlook** S&P Global Mobility expects light-vehicle sales in Malaysia to decline by 6.6% year over year in 2024 to about 741,000 units, while light-vehicle production is forecast to remain at virtually the same level in 2024 as in 2023.



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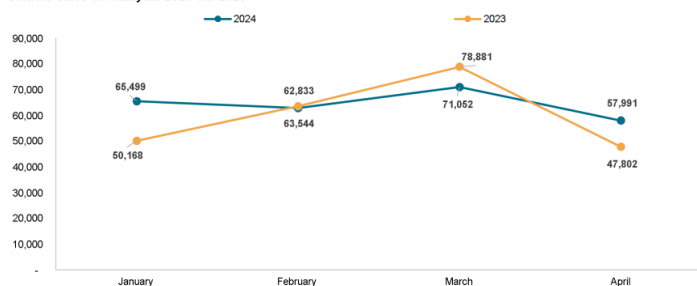
New vehicle sales in Malaysia surged by 21% year over year during April to 57,991 units, compared with 47,802 units in the corresponding month of 2023, according to figures released by the Malaysian Automotive Association (MAA) and data compiled by S&P Global Mobility. It is important to note that the monthly data does not include sales by BMW Group, Mercedes-Benz, Kia, Peugeot, Scania and GMW (excluded since March 2024). However, the MAA has added data from the Neta and MG brands. Of the total number of vehicles sold in the market last month, passenger vehicles accounted for 53,253 units (up 25% year over year), while commercial vehicle (CV) sales reached 4,738 units (down 9% year over year). Perodua was the best-selling passenger vehicle brand in the Malaysian market last month with sales of 26,949 units, followed by Proton with 10,868 units. In third spot, Toyota sold 5,626 units and it was followed by Honda with 4,746 units and Mazda with 1,281 units. The CV segment was led by Toyota with 1,585 units last month, followed by Isuzu with 1,018 units, Ford with 569 units, Mitsubishi with 528 units and Hino with 419 units.

In the year to date, new vehicle sales in the country are up 8% year over year at 260,236 units. Of this total, passenger vehicle sales have improved by 11% year over year to 238,247 units, while CV sales have declined by 15% year over year to 21,989 units. Perodua has sold 112,845 passenger vehicles in the year to date, while



Proton has recorded sales of 49,340 units. Honda is next with 26,316 units, followed by Toyota with 21,784 units. In fifth spot, Mazda has sold 5,846 units during the period. Toyota leads the CV segment in the year to date with sales of 8,384 units, followed by Isuzu with 4,349 units, Mitsubishi with 2,497 units, Ford with 2,486 units and Hino with 1,640 units.

Vehicle sales in Malaysia 2024 v/s 2023



Data compiled May 23, 2024.  
Source: MAA.  
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As for new vehicle output, volumes jumped by 38% year over year last month to 56,895 units. This is made up of passenger vehicle output of 53,857 units (up 40% year over year) and CV production of 3,038 units (up 18% year over year). In the year to date, total vehicle production in Malaysia is up 12% year over year at 267,326 units. Output of passenger vehicles during this period stands at 253,056 units (up 13% year over year), while CV production has reached 14,270 units (down 3% year over year).

## Outlook and implications

The Malaysian new vehicle market posted a significant jump in sales during April, pushing the year-to-date growth figure to 8% year over year. This growth can be attributed to a good first-quarter GDP result, driven by stronger private expenditure and a positive turnaround in exports. On a month-over-month basis, sales declined last month by 18% compared with March 2024, owing to the extended Hari Raya Aidilfitri holidays resulting in a shorter working month. The MAA expects sales in May to be slightly higher than in April. For the full year 2024, the MAA forecasts the total industry volume (TIV) figure at 740,000 units, a 7.5% year-over-year decrease after a record-breaking year in 2023. This projected figure for 2024 comprises 666,000 passenger vehicles (down 7.4% year over year) and 74,000 CVs (down 8.2% year over year).

According to S&P Global Mobility light-vehicle data, including passenger vehicles and light commercial vehicles (LCVs), sales in Malaysia are forecast to decline by 6.6% year over year in 2024 to about 741,000 units. According to Mayuree Chaiyuthanaporn, Association of Southeast Asian Nations (ASEAN) light-vehicle sales forecast analyst at S&P Global Mobility, this decline will be due to a normalization of car orders after back orders were cleared in 2023; a sluggish market in China, Malaysia's top trade partner; lukewarm global GDP growth, which will limit the country's export performance; and higher interest rates due to rising inflation. Nevertheless, an



easing of supply chain constraints and new model launches, including battery electric vehicles (BEVs), at affordable and competitive prices will help to sustain consumer interest. Perodua will remain the largest automotive brand in the country in 2024, while Proton will be the second largest. Toyota will be in third place, followed by Honda, while Mitsubishi will take fifth place. Sport utility vehicles (SUVs) will be the best-selling category during 2024, followed by sedans and hatchbacks. The popularity of compact SUVs in the country is growing on the back of new model launches and changing consumer preferences.

In our latest round of forecasts, we project that light-vehicle output in Malaysia will remain at virtually the same level in 2024 as in 2023, posting only a slight increase of 0.3% year over year, or 764,000 units. In 2023, production hit a new record high as market demand returned to normal after the pent-up demand effect during 2022 and 2023, according to Jessada Thongpak, ASEAN light-vehicle production forecast analyst at S&P Global Mobility. However, we expect Malaysian production to remain stagnant in the short to medium term (2024–26) at below 0.8 million units annually. This is due to a slower pace of economic expansion and recovery, as well as limited export potential beyond neighboring and emerging markets. This limited export potential is likely to be the main challenge for Malaysia in the short to medium term. Perodua and Proton are expected to remain the market leaders in Malaysia despite the challenges faced by the industry. They are expected to account for 41% and 22%, respectively, of the country's total vehicle production, which is equivalent to 0.31 million and 0.16 million units. This is due to their strong customer bases and continuous product development efforts.

## [Forecast & Analysis Highlights] Russian passenger car sales rise by 81.2% YOY in April

### S&P Global Mobility perspective

**Implications** The Russian passenger car market has posted an 81.2% year-over-year increase in April; again principally as a result of the different way of measuring data with consideration of previously non-reported brands.

**Outlook** The rise during April was consistent with what we have seen in recent months, and is a combination of the difference in data measurement, as well as attributed to a low comparison base, an increase in local production, and more Chinese imports.



Getty Images

Russian passenger car sales rose by 81.2% year over year to 133,751 units, according to the latest data from the AEB, with further refinement being carried out by S&P Global Mobility. This increase was partially down to a change in the way data is managed and collated, with previously unreported brands included in the numbers. The increase in April was in line with the rises in the first three months of 2024, and in the year to date Russian passenger car sales have risen by 87.6% year over year to 452,031 units. In addition to the change in data reporting, the market's improvement was also the result of a low comparison base, rising local production, and increases in both Chinese imports and local assembly of Chinese vehicles.

## Brand by brand

State-owned national automotive champion Lada enjoyed another strong performance in April, rising 64.8% year over year to 45,551 units; this was one of the brand's strongest monthly sales performances in quite some time. The Lada Granta remains the firm's and the country's perennial best-selling model by far, and Lada has also restarted production of the Largus MPV for the first time since the beginning of the war in Ukraine in February 2022, following Renault's divestment of its interest in the company.

China's Haval occupied its usual position in second spot; the Great Wall-owned brand's sales almost exactly doubled to 14,688 units during the month. The B-SUV segment Chulian was the brand's best-seller once more, as it has been consistently since it was launched.

Another Great Wall brand, the Tank sport utility vehicle (SUV) brand, was in third place on the list, with sales increasing by 428.3% year over year to 16,176 units due to the extremely warm reception of the brand's 300 and 500 SUVs. They have replaced models no longer available in the market from the likes of Toyota, Hyundai and Kia, which all left Russia in the wake of the war in Ukraine.



Domestic utility vehicle manufacturer UAZ was fourth in the best-sellers list thanks to the Patriot utility vehicle, although the company's sales were down year over year as more and more Russian customers pulled away from the rugged Patriot to favor more sophisticated and comfortable off-road offerings from China; UAZ sales fell 54.4% year over year to 2,332 units.

## Outlook and implications

The very strong headline growth figure does not tell the full story. In April 2024 new vehicle taxes and other new regulations (increased scrapping fees) came into force. This meant some vehicle purchases had been advanced to March 2024 and the April volumes indicate some slowdown on the Russian vehicle sales market. Given the rising stock of Chinese vehicles at Russian dealerships, we anticipate a price stabilization in the Russian market over the next one to three months. Already from the second quarter of 2024 onwards we could see a slowdown in growth rates to around 30% and potentially even lower in the second half of 2024. This is primarily due to the diminishing low base effect from the comparison year, challenging supply conditions, and the introduction of additional scrapping fee payments for imports from Eurasian Union countries from April 2024. Russian manufacturers are re-establishing their supply chains and have restarted mass vehicle production. Chinese OEMs are expanding their local vehicle assembly, including battery electric vehicles (BEVs). Several Russian brands have been introduced, all of which are rebadged Chinese vehicles (Moskvitch, Sollers, Amberavto). Moreover, imports of Chinese vehicles are growing, and the variety of brands is increasing. Many vehicles are imported via Russia's neighboring countries and may be considered as used imports into Russia. It is nearly impossible to include these imports in our forecast. However, other factors are still in place, which should be capable of helping sales momentum. These include the Russian government's automotive credit program, which has been extended into 2024. Program participants receive a 20% discount (25% for the Russian Far East Region) on the vehicle price. For BEVs assembled in Russia, the discount has been increased to 35%. New car buyers who have at least one child, who are teachers, healthcare workers, soldiers, or first-time car buyers are eligible for the program. The anticipated second-half slowdown in the accelerated market increases currently puts S&P Global Mobility's forecast for full-year sales for 2024 at 1,262,301 units, which is an increase of 22.9% year over year.



## [OEM Highlights] Audi, SAIC to jointly develop new BEVs built on China-specific platform

Audi and SAIC will jointly develop new models built on a China-specific platform named Advanced Digitized Platform. An Audi company statement said, “The co-developed products will have Audi’s distinct DNA, with its clear design language, premium driving experience, highest standards of quality, and the latest EV technology”. The cooperation starts with three battery electric vehicles (BEVs) positioned in the B and C segments, the first of which will enter the market in 2025. “We have a clear and common goal: to combine the best of our two companies to the full advantage of our Chinese customers with Audi’s premium experience and SAIC’s innovation speed in China. Through the partnership with SAIC, we will significantly accelerate our local electrification strategy”, said Audi CEO Gernot Döllner. Fermín Soneira, former head of product line for electric models from the A to C segment at Audi, has been appointed as the head of joint project team.



### Outlook and implications

Audi is currently the only German premium brand that has entered into strategic partnerships with a Chinese automaker to jointly develop BEVs; the collaboration with SAIC will help to keep Audi relevant to premium car buyers in the EV market. Due to a lack of competitive BEVs, the brand is at risk of disconnecting with younger car buyers in China, which is experiencing a swift shift to software-defined BEVs and plug-in hybrid vehicles (PHEVs). The new Audi models jointly developed with SAIC will feature competitive intelligent vehicle technologies, many of which have already been deployed in BEVs launched by SAIC’s premium vehicle brand IM. SAIC’s strong technology capacity in smart EV technologies is helping the company gain a greater voice in its partnership with Audi, which also has a long-standing partnership with FAW to produce some of Audi’s most profitable ICE models in China. The Audi-FAW New Energy Company’s Changchun plant will begin production of the Audi Q6L e-tron, which is slated for market launch in 2025.





## [OEM Highlights] Japan, ASEAN to formulate joint strategy on automobile production and sales

Japan and ASEAN are planning their first collaborative approach to auto production and sales within the Southeast Asian region, aiming to rival Chinese electric vehicle (EV) brands, according to Nikkei Asia. The interim joint strategy, to be drawn up by their economic ministers as early as September this year, is expected to last until about 2035. It will include cooperation in areas like staff training, production decarbonization, raw material procurement, and investment in future-oriented sectors like biofuels. The joint procurement of rare EV battery materials and research into areas like battery recycling are also on the agenda. One project being considered is biofuel production from used cooking oil. They also plan to jointly predict the global auto market trends, including in developing nations, until 2035.



### Outlook and implications

Japanese car manufacturers including Toyota, Daihatsu, Mitsubishi, Honda, and Isuzu have established a significant footprint in the ASEAN region, with production facilities in Thailand, Indonesia, Vietnam, Malaysia, and the Philippines. The collective light-vehicle output of these Japanese firms in the ASEAN region is approximately three million units. Despite this, Chinese firms like BYD and SAIC Motor are slowly but surely expanding their influence in the region, necessitating intervention from the Japanese government to formulate a collaborative strategy. According to the report, Japanese technology will be utilized to quantify CO2 emissions from factories and facilitate the transition to renewable energy. In an effort to enhance automobile exports, Japan and ASEAN will jointly publicize these environmental initiatives globally. Last month, Japan, the United States, and the Philippines joined hands to cooperate in areas such as semiconductors, digitalization, communication networks, clean energy, and critical minerals.



## [OEM Highlights] Turkish government holding talks with BYD, Chery on BEV production

The Turkish government is holding talks with Chinese automakers BYD and Chery regarding establishing battery electric vehicle (BEV) production in the country. Mehmet Fatih Kacir, Turkey's Minister of Industry and Technology, has told Bloomberg News in an interview, "We would like to complete the talks as soon as possible. We have come a long way with both of them." He added that separate negotiations are also under way with SAIC Group and Great Wall. The senior politician highlighted Turkey as being an ideal base for exports to the EU because of its customs union with the bloc and the existing capabilities of the automotive industry in the country. He also said that any decision to open a car plant in Turkey would bring the Chinese companies "privileged opportunities for battery investments as well," adding that the talks may or may not end in a final investment decision. Bloomberg News said that BYD, Chery, SAIC and Great Wall did not respond to requests for comment.



### Outlook and implications

The Turkish government effectively closed the door to Chinese automakers importing BEVs into the country by creating an exceptionally high barrier to entry from the start of 2024. After raising duties on Chinese BEVs during 2023 to 40%, it subsequently announced in November 2023 that automakers importing BEVs into Turkey must have at least 140 authorized service stations spread across the country, as well as opening a call center to support each brand. Automakers only had until the end of December 2023 to comply with the new ruling. These rules do not apply to BEV imports from the EU or other markets with free-trade agreements with Turkey, but did lead to imports of Chinese BEVs, which had been growing, falling away rapidly. This has consequently protected demand for the locally developed Togg T10X crossover, which is the best-selling BEV in the country. It would seem that creating this barrier is leading to discussions between Chinese automakers and the Turkish government about production investment in the country, with the opportunity to supply not only domestic demand but also to export to Europe. While Chery is in the mix, much of its recent growth has been underpinned by its internal combustion engine (ICE)-based crossovers, and the general manager of Chery International, Zhang Guibing, has indicated that this is likely to start with some sort of research and



development (R&D) function after establishing an assembly joint venture (JV) in Spain. BYD is already investing in passenger car production in Hungary, which could suggest that a plant in Turkey is not a priority at the moment. However, SAIC Group — which owns the increasingly successful MG brand — and Great Wall Motor could be especially interested in making an investment. Both have been exploring making investments in Europe in recent times, but neither have committed yet. An investment in Turkey could be useful for tapping both Turkish and EU demand for products, as well as avoiding potentially onerous tariffs in the latter.



## [Technology & Mobility Highlights] Tata Power-DDL partners with India Smart Grid Forum to demonstrate V2G technology

Tata Power Delhi Distribution (Tata Power-DDL) has announced an initial agreement with the India Smart Grid Forum (ISGF) for a vehicle-to-grid (V2G) technology demonstration project, reports HT Auto. The initiative aims to explore the potential of electric vehicles (EVs) in providing essential grid services. The project will investigate how EVs can offer frequency and voltage support, serve as backup power sources during outages and assess the impact of bi-directional charging. Tata Power-DDL CEO Gajanan S. Kale said that the initiative aligns perfectly with the company's commitment to promoting sustainable energy solutions and fostering a future-ready grid. The project aims to revolutionize power grid management and the integration of EVs.



### Outlook and implications

This pilot project is set to showcase how EVs can interact with the grid and contribute to reducing carbon emissions in the transport and energy sectors. Another significant aspect of the project is exploring how EVs can participate in the power market. The idea is to store electricity when prices are low and sell it back during peak hours, testing the feasibility of charging EVs with green electricity. The Delhi Electricity Regulatory Commission, the Central Electricity Authority and Tata Motors are observers of this demonstration project, while the V2G technology partner is the University of Delaware in the US. ISGF president Reji Kumar Pillai highlighted the project's potential to launch V2G-compliant EVs in India soon and issue supporting regulations.

## [Technology & Mobility Highlights] Renault Group announces future autonomous vehicle strategy, partners with WeRide

Renault Group announced its future autonomous vehicle (AV) strategy, under which the company said it will not aim for Level 3 autonomy for passenger cars, according to a company statement. It said the cost of Level 3



automation outweighs the driving benefits at this stage, resulting in limited demand. Instead, Renault Group will focus its AV efforts on minibuses that operate at Level 4 on defined routes. To achieve this, Renault Group has partnered with WeRide to launch an autonomous shuttle service during the 2024 French Open. The shuttle will operate on Level 4 autonomy with remote supervision but will function without an on-board operator. Gilles Le Borgne, CTO of Renault Group, said, "Renault Group is moving forward to implement its autonomous vehicle strategy. As a result, thanks to our experiments and our partners, the best in their fields, we will be in a position, well before the end of this decade, to propose a highly relevant range of autonomous, low-carbon miniBuses to meet the growing needs of the regions."



## Outlook and implications

Renault Group currently offers Level 2 or Level 2+ automation for passenger vehicles, featuring advanced driving assistances such as contextual cruise control and lane keeping assist. In terms of public transportation, Renault Group recognizes the importance of autonomous technology and anticipates a demand for several thousand minibuses in the future. This is supported by new regulations in France and Germany that permit the use of autonomous shuttles on public roads. Renault Group has been conducting trials for several years to determine the best approach to meet the requirements of local authorities. One example is the "Mach 2 project" announced in 2023, which from 2026 will integrate a fleet of automated electric minibuses into the public transportation network of Chateauroux Metropole in France. Renault through its Alliance Ventures has invested in AV startup WeRide, which has 700 vehicles in operation, including 300 minibuses, since 2021.



## [EV & Energy Efficiency Highlights] Chinese battery maker Gotion High-Tech unveils innovative battery solutions

Gotion's fast-charging G-Current batteries are ready for mass production



Source: 1020067494 – Getty Images/nevodka

Mainland China-based battery manufacturer Gotion High-Tech unveiled innovative battery technologies on the sidelines of its 13th Technology Conference on May 17. The new innovations it unveiled included the 5C ultra-fast charging G-Current battery, high-nickel NCM (nickel, cobalt, manganese) cylindrical Stellar battery as well as all-solid-state battery technology at its annual event.

Gotion said that its innovative 5C ultra-fast charging G-Current battery can charge up to 80% state-of-charge (SOC) in just 9.8 minutes and up to 90% SOC in 15 minutes. “This solution can be applied to the entire range of battery applications, battery electric vehicles (BEVs) and hybrid electric vehicles,” the company said, adding that the fast-charging feature can be offered in batteries with multiple chemistries such as lithium iron phosphate (LFP), lithium manganese iron phosphate (LMFP) and NCM chemistry systems.

At the event, Cao Yong, vice president of the engineering research and development (R&D) Institute of Gotion High-tech said that the fast-charging G-Current batteries are ready for mass production.

Gotion also showcased its Stellar battery, which uses the battery maker's self-developed second-generation silicon-carbon material and fast-charging electrolyte, enabling ultra-fast charging from 10% to 70% SOC in just 9 minutes.

According to Gotion, the battery packs equipped with these innovative cells can achieve 350 km of driving range by charging for just 5 minutes and 600 km of driving range by charging for 10 minutes.



“The unique structural design of the ‘Stellary Battery Pack’ can dissipate 70% of the heat outside the pack within only 3 seconds, ensuring maximum-speed cooling under extreme conditions and achieving the non-thermal propagation of the pack,” the company said, adding that the Stellary battery is also equipped with wireless BMS technology and multi-faceted effective cooling technology, which improves the safety and reliability of the battery.

Gotion also unveiled its Gemstone battery, which incorporates groundbreaking all-solid-state technology, boasting an energy density of 350 Wh/kg. According to the company, the energy density of its Gemstone battery is over 40% higher than the mainstream NCM batteries that are currently available in the market. Interestingly, Gotion’s all-solid-state battery has successfully passed the 200-degree hot box test in one go, a temperature significantly higher than the 130 degrees defined by national standards, marking a significant advancement in battery technology in terms of safety.

## [EV & Energy Efficiency Highlights] EV Connect and bp pulse announce software integration for improved fleet charging

Omega's integration with the EV Connect platform will enable fleet operators to manage charging operations efficiently



Source: Getty Images/ baona

EV Connect, a prominent EV charging business platform, and bp pulse, a key player in charging infrastructure for fleets and public charging, have announced a collaborative partnership. This collaboration intends to integrate Omega, bp pulse's EV charge management software, into the EV Connect platform, offering an efficient cross-fleet charging solution.

"This collaboration between EV Connect and bp pulse brings unparalleled expertise in the electric vehicle charging industry, opening doors to elevate our fleet management capabilities and deliver cutting-edge



solutions that set new standards for both of our customers. By integrating our platforms, we can offer a comprehensive management solution that caters to fleet operators looking to optimize electric fleet efficiency like never before," said Jon Leicester, vice president and head of commercial at EV Connect.

Omega's integration with EV Connect platform will enable fleet operators to manage charging operations efficiently, focusing on core business functions while also providing real-time insights. Omega provides a comprehensive managed charging solution that combines EV Connect's and bp pulse's charging management technology, reducing costs associated with energy consumption. The collaboration aims to provide significant control over charging infrastructure to fleet operators and detailed historical data for further optimization.

The Omega system orchestrates EV charging to optimize cost-effective charging for fleets, while the EV Connect platform manages financial transactions, especially in commercial fleet settings. This includes operations where drivers bring vehicles home, necessitating private chargers with straightforward reimbursement options.

By integrating both platforms, fleet operators across government, municipal, logistics, services and sales sectors can expect improved efficiency and optimization of their charging stations. This allows precise control over when and how their vehicles are charged, optimizing for factors like energy cost, power constraints, vehicle readiness and operational efficiency.





## [Supplier Highlights] Murata partners with Michelin for radio-frequency identification tire tag integration

Murata will make the generation-4 RFID tag available to other tire manufacturers once it enters mass production early in 2025



Source: Getty Images/ Marcus Millo

Murata Manufacturing has announced a licensing agreement with the French tiremaker Michelin, the company said in a press release on May 20. The partnership will allow for the integration of Murata's radio-frequency identification (RFID) tire tags into tires, advancing tire management, sustainability, security and traceability until the end of life in the automotive industry. The RFID tags will ensure compliance with new European standards and improve logistical aspects of the tire and automobile industry at large.

Murata has increasingly invested in the interconnectivity and traceability of products as part of its response to emerging environmental and societal challenges. Under the new agreement, Murata will produce generation-4 RFID tire tags and offer the integration of RFID tag in tires, patented by Michelin.

The technology is expected to be available to other tire manufacturers once it enters mass production, which is expected to commence early in 2025. Murata will also support tire manufacturers in evaluating and implementing these tags into their products. The company will provide tailored solutions to improve tire traceability and management for various applications, including high-performance motorsport, passenger vehicles and global transport networks.

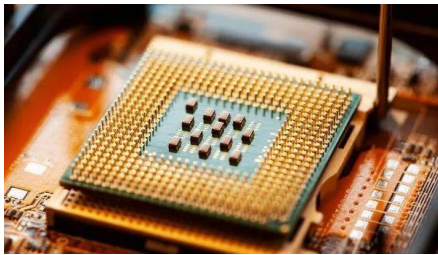
“RFID technology is a key element, in improving the efficiency and optimization of tire operations. This RFID tag is the unique way to identify tires, from cradle to grave, in a consistent manner, thus responding to the ecological challenges of our time,” said Laurent Couturier, RFID system designer at Michelin. “Through



this license, Murata and Michelin, hand in hand, are revolutionizing the tire industry, by allowing stakeholders to benefit from this technology, this agreement will open up new perspectives for the future of mobility.”

## [Supplier Highlights] X-Fab enhances 180 nanometer automotive-grade high-voltage CMOS foundry solution

The new second-generation high-voltage primitive devices have been added to XP018



Source: Yulia Shaihudinova/iStock/Getty Images Plus via Getty Images

X-Fab Silicon Foundries SE (X-Fab), an analog/mixed-signal and specialty foundry, has introduced updates to its XP018 high-voltage complementary metal-oxide-semiconductor (CMOS) fabrication platform. The platform now includes new 40-V and 60-V high-voltage primitive devices that offer an extended safe operating area (SOA) for improved operational robustness, as reported in a press release on May 16.

These second-generation devices also boast a significant reduction in RDSon figures, up to 50% compared to the previous version. This enhancement makes the platform better suited for certain applications where device footprints need to be minimized and unit costs need to be optimized.

The XP018 platform is a modular 180 nanometer high-voltage EPI technology solution built on a low mask count 5-V single-gate core module. It supports an extended temperature range of -40°C to 175°C and offers a wide range of optional devices and modules, including high-gain bipolar devices, standard and high-capacitance metal-insulator-metal capacitor (MIM) capacitors, multi-threshold (Vt) options, Schottky diodes, and depletion devices.



Designed specifically for cost-sensitive and robust automotive, industrial and medical applications, the platform is further strengthened by high-reliability automotive Non-Volatile Memory (NVM) solutions such as embedded Flash, electrically erasable programmable read-only memory (EEPROM) and Open Telematics Platform (OTP).

In addition to the new high-voltage devices, the platform now includes 5.3-V Zener diodes to protect the gate oxide in critical applications such as Wide Bandgap gate driver applications.



# [VIP ASSET] Automotive marketing in the age of electrification

Whether your views on the pace of BEV adoption are optimistic or pessimistic, EVs are here, and more are on their way.

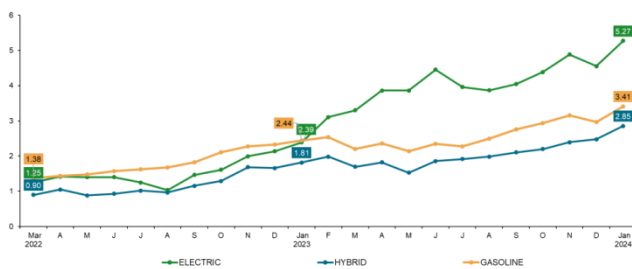
Automotive marketing is going through a transformative change. The industry's path to electrification, while bumpy, is giving consumers more vehicle options and choices than ever before.

Today, US auto shoppers have nearly 450 vehicle nameplates to consider. With the arrival of electric vehicles across every mainstream and luxury brand, and increasing demand for hybrid powertrains, there will be nearly 650 nameplates by the end of the decade — all competing for showroom space, lot space, marketing budget and most importantly, the hearts and minds of customers.

## Inventory recovery driven by EV supply, leading to pivots

The industry has largely recovered from the semiconductor supply constraints and on average, dealership inventory is up 2x since January 2022. A big contributor to increased inventories, electric vehicles are occupying a growing amount of lot space. Since early 2023, EV inventories have risen more rapidly than ICE or hybrid options available. Yet sales have not kept pace and in January 2024, national EV inventory exceeded five months' supply (Figure 1).

Figure 1: Retail Advertised Inventory/Retail Registrations



Source: S&P Global Mobility Mar. 2022 - Jan. 2024

And more inventory is coming. 2024 and 2025 will see over 130 new vehicle launches — and more than half of them will be electrified. As a result, manufacturers have had to pivot, tempering EV production volume to better



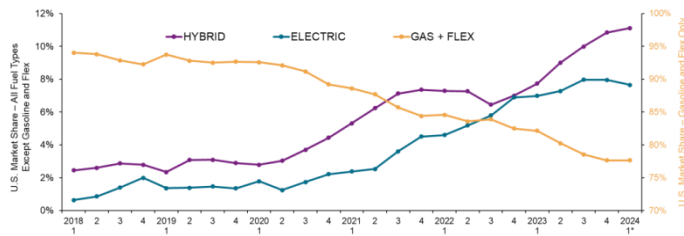
align with demand. S&P Global Mobility's forecast reflects an expected EV production decline of 4% in 2024 and 10% in both 2025 and 2026 respectively.

## Hybrid's growing role in electrification transition

While EVs stack-up, hybrid vehicles are having a moment. According to S&P Global Mobility analysis, hybrid share of new vehicle registrations has been over 10% for seven consecutive months while EV share has topped 9% just twice in the same time span (Figure 2).

Hybrid loyalty is also at a six-year high (42%), while EV loyalty (66%) has plateaued over the last five quarters. Additionally, over 8% of EV households that return to market are migrating to a hybrid, the highest share since 2018.

Figure 2: Retail market share by fuel type



Source: S&P Global Mobility US Market share by fuel type. 2018 - Jan. 2024. \*Q1 2024 includes Jan. data only

## Electrified vehicle sales remain a mostly additive purchase

Electrified vehicles generally compete for household parking space, with seven-in-ten new EVs joining other vehicles in the driveway instead of replacing one. For hybrids, the split is six-in-ten as addition versus replacement while ICE vehicles have a more even split of 49% additive vs. 51% replacement.

The status of EVs as replacement vehicles will likely shift later this decade, signaling a substantial change in buying motivations as the gap between marketing spend and demand narrows.

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## Local Automotive Site

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