Automotive Industry Weekly Digest

18Dec – 22Dec 2023

S&P Global
Mobility

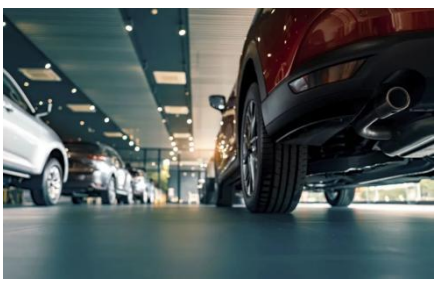
Contents

[Forecast & Analysis Highlights] NEVs reach 40% of passenger vehicle retail sales in mainland Chinese market during November

S&P Global Mobility perspective	
Implications	Retail sales volumes of passenger new-energy vehicles (NEVs) in mainland China increased by 39.8% year over year to 841,000 units in November, according to data from the China Passenger Car Association (CPCA). NEV sales as a share of overall passenger vehicle sales reached 40% in November in the mainland Chinese market.
Outlook	In our November forecast release, we expect the production volume of new-energy light vehicles in mainland China, which include BEVs, PHEVs and REEVs, to grow by 31% year over year to 9.2 million units in 2023.

Retail sales volumes of passenger new-energy vehicles (NEVs) in mainland China increased by 39.8% year over year to 841,000 units in November, according to data from the China Passenger Car Association (CPCA). NEV sales as a share of overall passenger vehicle sales reached 40% in the mainland Chinese market in November, an improvement of 4 percentage points compared with the same month of 2022. On a month-over-month basis, sales volumes of passenger NEVs grew by 8.9% in November, taking passenger NEV retail sales volumes in the year to date (YTD; January–November) to 6.809 million units, up 35.2% year over year.

China's domestic brands had the highest passenger NEV market penetration rate compared to their joint venture (JV) counterparts in November. According to the CPCA data, NEVs represented 62% of passenger vehicle sales of domestic brands last month. In comparison, for mainstream JV brands, including JVs operated by German and US vehicle manufacturers, NEVs represented only about 6.6% of passenger vehicle sales due to a lack of compelling models. In terms of retail sales, battery electric vehicles (BEVs) accounted for 65.6% of mainland China's NEV sales in November, while the share of plug-in hybrid electric vehicles (PHEVs), including range-extended electric vehicles (REEVs), reached 34.4%.



Getty Images

In the sales rankings of the top NEV manufacturers, BYD had a market share of 31.3% by retail sales volumes in November, as the largest NEV manufacturer in mainland China. Retail sales of the company were 263,066 units last month, up 21% year over year. Tesla and Geely took the second and third positions in the NEV rankings in November, with sales of 65,504 units and 63,462 units respectively. Their market shares were 7.8% and 7.6% respectively, lagging far behind BYD. SAIC-General Motors-Wuling and Changan Auto reported NEV sales of 54,300 units and 44,645 units, respectively, in November, taking the fourth and fifth positions in the rankings. Li Auto took the sixth spot in the NEV sales rankings in November with volumes of 41,030 units, a new record for the startup company. GAC AION and Great Wall Motor occupied the seventh and eight positions, respectively, in

the NEV sales rankings in November with sales of 28,941 units and 20,144 units. Startup manufacturer Xpeng posted NEV sales of 20,041 units in November, hitting the 20,000-unit mark for the second time this year.

Overall, Chinese domestic brands are dominating mainland China's NEV market thanks to their competitive product offerings covering BEVs, PHEVs and REEVs. The price cuts initiated by local brands on their high-volume models also helped to make NEVs more appealing relative to same-segment ICE vehicle models.

Outlook and implications

The top five NEV manufacturers in mainland China have over 55% of the passenger NEV market, according to CPCA's November retail sales data. Chinese automakers including BYD, Changan, Geely and Great Wall Motor are leveraging their PHEVs to further erode sales of global automakers which still rely on ICE vehicle models to underpin their sales in China. Pure EV manufacturers such as Tesla and GAC AION are also luring customers away from Japanese and German carmakers, which have yet to have competitive BEVs in the market to head off the competition. The market struggle of traditional global carmakers such as Volkswagen, Toyota and Honda is likely to continue in 2024, as their JV companies have failed to have a presence in the top 10 NEV manufacturers' sales rankings in January–November. With NEV sales hitting a 40% share of passenger vehicle retail sales in November, the auto market of mainland China is moving steadily toward mass-market adoption of NEVs. The NEV sector is set to draw more players to the market in the coming year, which in turn will quicken the introduction of product and technology iterations and remove small players from the market. With BYD having already secured supply chain resources to support sales and production of 3 million units per annum, the scale it has built will continue to allow it to price its models competitively to compete with ICE vehicles.

In S&P Global Mobility's November forecast release, we expect the production volume of new-energy light vehicles in mainland China, which include BEVs, PHEVs and REEVs, to grow by 31% year over year to 9.2 million units in 2023. With solid domestic demand and strong exports, production of new-energy light vehicles is forecast to rise by 28.5% year over year to 11.8 million units in 2024, accounting for 42% of light-vehicle production in mainland China.

[Forecast & Analysis Highlights] Russian car sales rise 44% in YTD 2023

The Russian light-vehicle industry posted sales volume of 110,935 units in November, according to the latest data compiled Association of European Businesses. The preliminary data available was not the usual full data set, which normally contains specific OEM and model sales data. The AEB now also collates data from the PPC JSC which is includes data from Chinese OEMs such as, Exeed, Changan, Omoda and Geely are now available, with the JSC data putting the volume level at 117,994 units. The PPC JSC includes data from the sales of new vehicles, based on data on their transfer to owners. In the first 11 months of the year sales rose by 44% year over year, although no outright volume figure was given.

Outlook and implications

The AEB said that full-year results and the forecast for 2024 will be presented at the annual press conference of the AEB Automobile Manufacturers Committee in January. Detailed statistics by brand will be provided in the annual press release at this time. However, S&P Global Mobility will offer a more comprehensive sales update on the November data before this time. So far our forecast puts light vehicles at 1.14 million units, up from 695,000 units last year.

[OEM Highlights] Lynk & Co eyes car-sharing concept for 02 all-electric SUV in Europe

Lynk & Co, a joint venture (JV) between Geely and Volvo Cars, plans to launch a new battery-electric sport utility vehicle (SUV), the 02, in late 2024 in its European markets, reports Automotive News Europe. Contrary to previous plans, the 02 will be sold alongside the 01 plug-in hybrid compact SUV, rather than replacing it. The brand, currently operating in several European countries, plans to expand to the United Kingdom, Norway, Austria, and Switzerland, where the 02 will be the only model available. The 02 will be built on Geely's Sustainable Experience Architecture (SEA) platform, shared with the Volvo EX30 and the Smart #01 and #03 models. The vehicle will be offered with a subscription model covering maintenance and insurance, with a focus on car sharing to help customers offset costs. The 02 will initially be launched in Europe, followed by China.

Outlook and implications

Automakers have been testing subscription services in varying forms in recent years as the industry expects vehicle-ownership models to change in the future, and ultimately, customers to pay for miles traveled, rather than purchasing a vehicle. In 2021, Lynk & Co delivered its China-made 01 SUV to Europe. The monthly subscription price for the 01 has recently increased to €600 (US$648) from €550, or €650 for customers in the Netherlands. The automaker said that currently 16% of its customers in Europe share their car, earning on average €30 a day.

[OEM Highlights] Huawei approaches Audi, Mercedes over investing in smart car firm

China’s Huawei Technologies has reportedly approached Mercedes-Benz and Audi, proposing they buy small stakes in its smart car software and components firm. According to a report by Reuters, preliminary talks have been held with Mercedes, with an offer of a 3–5% stake, but Mercedes showed little interest, preferring to maintain control of its software to uphold its premium brand positioning. Audi's interest level is currently undetermined, but sources suggest a partnership to develop autonomous vehicle (AV) technologies for the Chinese market from 2025 is being planned. Those technologies would be built by Audi’s venture with FAW Group. However, all parties declined to comment on the matter.

Outlook and implications

The key for Huawei to gain a foothold in the automotive sector lies in whether its partnerships with OEMs will lead to the creation of an array of high-volume, high-margin models. Its smart car unit has already entered into partnerships with several Chinese automakers including BAIC and Chery, to develop new electric models. Huawei, which has been under US sanctions since 2019, hopes that partnerships beyond Chinese brands will defend the business from potential further geopolitical tensions. Last month, Huawei said it will spin off its Intelligent Automotive Solution (IAS) business unit, which will reportedly be valued between US$28 billion and US$35 billion.

[Technology & Mobility Highlights] Ambarella unveils full software stack for autonomous and semi-autonomous driving

The software stack features a deep-learning-based planner, which enables a natural driving experience, and only requires readily available standard-definition maps

Source: Getty Images/BeeBright

Ambarella has unveiled its autonomous driving software stack, according to a press release dated Dec. 12. It is based on deep-learning AI processing for all its modular components, including environmental perception, sensor fusion and vehicle path planning.

The company's CV3-AD AI domain controller system-on-chip (SoC) family was designed in conjunction with the software stack. The stack provides a flexible implementation model, allowing automotive original equipment manufacturers to use any or all of its modules in combination with their own software intellectual property.

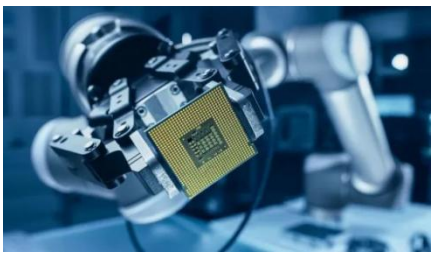
The software stack features a deep-learning-based planner, which enables a natural driving experience, and only requires readily available standard-definition maps. The stack generates high-definition maps in real time using live environmental data.

Ambarella’s modular autonomous driving software and hardware solutions provide OEMs with a scalable platform, including a broad range of autonomous and semi-autonomous vehicle implementations, from fully featured Level 2+ systems to higher levels of autonomy.

The company also provides automotive OEMs with a complete tool chain, including tailored tools for data collection, simulation and annotation. Development is streamlined via accelerated software-in-the-loop simulations and a fully automated 3D annotation pipeline to support AI training.

[Technology & Mobility Highlights] Bosch melds ADAS and infotainment onto one chip

Bosch has developed a new electronic control unit that combines both infotainment and autonomous vehicle functions, according to a company press release. The move sees future architectures being much simplified from the multiple control units that are currently used in modern cars. The new kind of unit is referred to as system on chip (SoC). Bosch will be the first automotive supplier to demonstrate the fusion of infotainment and driver assistance functions in a software-intensive central computer on a single SoC at the CES 2024 in Las Vegas in January. Markus Heyn, member of the board of management at Robert Bosch GmbH and chair of Bosch Mobility, commented: “We want to reduce the complexity of the electronics systems in cars and make them as secure as possible at the same time. With this demonstration of our new vehicle computer platform at CES, we are taking an important step in exactly this direction. Our goal in the medium term is to bring even more automated driving functions to the road, including to the compact and midsized car segments.”



Outlook and implications

OEMs all over the world are investing massively in software-defined vehicles. Bosch predicts that the market for automotive software will reach a volume of around €200 billion by 2030. In the field of vehicle computers for infotainment and driver assistance systems, the company expects a market volume of €32 billion by 2030. As the world’s biggest automotive supplier, Bosch is very well placed to benefit from this growth as it has experience in multiple types of vehicle control units that cover a huge array of functions.

[EV & Energy Efficiency Highlights] China publishes technical requirements for NEVs to qualify for tax breaks

China has published technical requirements for new-energy vehicle (NEV) eligibility for purchase tax exemptions from 2024. Key requirements listed out in the statement published by the Ministry of Industry and Information Technology (MIIT) are that passenger battery electric vehicles (BEVs) should have a driving range of at least 200 km, while passenger plug-in hybrid electric vehicles (PHEVs) should have an electric-only range of at least 43 km. The battery system of passenger BEVs should have an energy density of no less than 125 Wh/kg. The new regulations also allow electric vehicles (EVs) capable of battery swapping to be eligible for the tax breaks.

Outlook and implications

According to Reuters, citing the MIIT, more than 90% of NEV models that currently qualify for the purchase tax exemption program will continue to receive tax breaks on purchases under the new requirements. With new requirements taking effect on June 1, 2024, certain models with less than 200 km of range will no longer receive tax breaks. Most of these BEVs are entry-level mini-size vehicles. Two base models of the Chery QQ Ice Cream, for instance, offer a driving range of 120 km and 170 km, respectively. Wuling's best-selling mini EV, the Hongguang Mini, is also available in a base version with 170 km of range.

[Supplier Highlights] CES 2024: Elektrobit to showcase complete offering for software-defined mobility

The company's innovative software and services allow carmakers to accelerate the development of their next-generation vehicles

Source: GettyImages/metamorworks

Embedded and connected software products and services provider Elektrobit plans to showcase its 360° offering for software-defined vehicle (SDV) enablement, from automotive architecture and virtual development solutions to leading-edge digital cockpits that provide the ultimate in-vehicle user experiences at the Consumer Electronics Show (CES) 2024, according to a PRNewswire release dated Dec. 11.

The company's innovative software and services — reflecting decades of experience and spanning a wide range of solutions road-tested in more than 600 million vehicles and over 5 billion embedded devices — allow carmakers to accelerate the development of their next-generation vehicles.

At the event, the company will showcase the interactive automotive operating system framework, cloud-based electronic control unit virtualization with Amazon Web Services, next-gen digital cockpit, security by design, partner ecosystem and more.

Speaking on the company’s plans, Mike Robertson, chief product officer of Elektrobit, said, "Our goal is to make it easier for carmakers to develop the complex systems that are required for software-defined mobility. Elektrobit provides products and services from a single vendor to simplify the process, and we work closely with legacy OEMs, industry newcomers and tech leaders alike to make their visions a reality. Our software truly moves the world."

[Supplier Highlights] Panasonic Automotive Systems develops Verzeuse for cybersecurity

The solution monitors and protects against cyberattacks in real time by continuously verifying the integrity of security monitoring functions during vehicle operation

Source: Getty/metamorworks

Panasonic Automotive Systems has developed a cybersecurity solution called Verzeuse for Runtime Integrity Checker to protect vehicles from cyberattacks, it said in a press release dated Dec. 11. The solution monitors and protects against cyberattacks in real time by continuously verifying the integrity of security monitoring functions during vehicle operation.

The company said Verzeuse for Runtime Integrity Checker has three prominent characteristics:

- 1. Trust chain establishment: The solution establishes a secure execution environment (trusted area) as the root of trust (RoT), where integrity monitoring software is implemented.
- 2. Integrity monitoring: Integrity monitoring software continuously verifies that security monitoring functions in the normal execution environment are working properly.
- 3. Tamper detection and response: If the integrity monitoring software detects tampering or unauthorized termination of the security monitoring function, it sends the monitoring log to the security operation center (SOC) outside the vehicle. The solution also verifies signed heartbeats to ensure correct operation of the security system, including the security monitoring functions and integrity monitoring software.

Panasonic Automotive Systems will market Verzeuse globally as a brand of cybersecurity technologies and services to combat increasingly common cyberattacks on connected cars with advanced driver assist and automated driving systems.

[VIP ASSET] COP28: Banks facing climate-change pressure for financing auto industry emissions

KEY TAKEAWAYS

- ·Banks and financial institutions are increasingly committed to reducing the emissions they finance - with the auto industry among the world's biggest contributors to greenhouse gas emissions.
- ·This presents a problem for banks' disclosure processes and target setting: Estimating financed emissions from vehicles is a broad and complex process, and automakers' own disclosures use a patchwork of varying methodologies.
- ·With data from S&P Global Mobility, banks are equipped to understand and trace the Scope 3 emissions from their vehicle portfolios, evaluate future emissions projections, and establish ambitious net-zero goals.

Banks and other financial institutions are increasingly evaluating and disclosing the greenhouse gas emissions emitted by the businesses or assets they finance and underwrite, under their Scope 3 emissions category. Investments and loans in the highly carbon-intensive automotive industry and supply chain are a key part of their net-zero analyses.

Decarbonization commitments begin with banks and financial institutions making transparent climate disclosures on their current emissions exposures, setting targets in line with the Paris Agreement and other international standards, and evaluating progress against those goals.

This presents a problem: How to account for automotive emissions, encompassing both full-lifecycle vehicle emissions and the emissions of the supply chain?

Many banks are homing in on their vehicle portfolios, aiming to evaluate and manage emissions from both the gasoline/electricity carbon footprint (Well to Tank) and combustion (Tank to Wheel) processes, as well as portfolio-level analysis with net-zero goal setting.

The goal is to identify the key drivers of emissions, forecast future emissions pathways, and set and work toward ambitious emissions targets for 2030 and 2050.

However, this journey toward transparency is not without challenges. Banks are finding that methodologies for estimating Scope 3 emissions vary widely across the industry, and the necessary data is often difficult to access and lacks consistency. In contrast with most non-financial corporates, banks typically have low Scope 1 (direct operations) and Scope 2 (purchased energy) emissions; accurate Scope 3 emission analysis is critical to banks' net-zero goals.

Properly calculating vehicle emissions requires three key steps: estimating Well-to-Wheel (vehicle lifetime) emissions, projecting manufacturer-level emissions projections, and conducting portfolio-level analysis.

Please add WeChat ID(ihsmarkitautomarket), join the VIP group for the full article

###

Email

AskMobility@spglobal.com

Local Automotive Site

中国（中文）：SPGlobal.com/China_Automotive

日本（日文）：SPGlobal.com/Japan_Automotive

韩国（韩文）：SPGlobal.com/Korea_Automotive

S&P Global Mobility