

Automotive Industry Weekly Digest

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[Forecast & Analysis Highlights] Leapmotor's vehicle deliveries rise by 159% YOY in October

Leapmotor posted record monthly delivery volumes in October, according to a company statement. The automaker delivered 18,202 vehicles in October, up by 159% year over year. However, it did not provide details on sales and delivery volumes of individual models.



Outlook and implications

Compared with September, Leapmotor's deliveries further improved by 15%. In October, Leapmotor entered into a strategy agreement with Stellantis to set up a joint venture company in the Netherlands to sell Leapmotor vehicles in Europe and other global markets. The partnership with Stellantis will play an important role in Leapmotor's effort to scale production of its new-energy vehicles and eventually turn a profit. In the third quarter, Leapmotor achieved a positive gross margin helped by cost-cutting measures and improved sales. The company said that it expects to see record fourth-quarter delivery volumes thanks to strong demand for its C01 sedan and the C11 SUV.



[Forecast & Analysis Highlights] BYD posts net profit increase of 129.5% YOY in Q1–3

S&P Global Mobility perspective

Implications BYD reported record revenues and net profit in the third quarter thanks to an increase in NEV sales. Separately, Seres has recorded a net loss of 949.8 million yuan in the third quarter.

Outlook BYD attributed the strong third-quarter results to increased sales of the company's NEVs, which consist of battery electric vehicles and plug-in hybrid electric vehicles. The company's sales growth during the third quarter was driven by strong demand in the Chinese market, as well as solid overseas demand. Meanwhile, Seres is banking on the AITO M7, the second model it introduced under a partnership with Huawei, to boost its sales and revenues.

BYD has reported increased revenue and net profit in the third quarter thanks to a rise in new-energy vehicle (NEV) sales. Separately, NEV manufacturer Seres has posted a net loss of 949.8 million yuan in the third quarter.

BYD announced its third-quarter financial results on Oct. 30. Thanks to an increase in sales volumes of its NEVs, the company's revenue in the quarter increased by 38.5% year over year to 162.15 billion yuan. BYD's net profit attributable to the shareholders of the listed company surged by 82.2% year over year to 10.41 billion yuan in the third quarter. The company, however, did not announce details regarding the financial results of its automotive division. For the third quarter, BYD's operating costs increased by 50.5% year over year to 338.7 billion yuan. The company's research-and-development expenses for the third quarter were 24.94 billion yuan, up 129.4% year over year. Thanks to the strong third-quarter performance, BYD saw its net profit rise by 129.5% year over year to 21.37 billion yuan in the first three quarters of 2023. The company's revenues for the first three quarters of the year totaled 422.27 billion yuan, up 57.8% year over year.



Meanwhile, Seres Group, which produces a range of NEVs under a partnership with Chinese technology giant Huawei, has posted a revenue decline of 47.3% year over year in the third quarter to 5.65 billion yuan. The company recorded a net loss of 949.8 million yuan in the third quarter owing to a decline in sales volumes. Seres's vehicle sales fell in the third quarter as sales of the AITO brand were affected by a model-year update to the AITO M7 sport utility vehicle (SUV). The company delivered 23,423 units of NEVs in the third quarter. Its vehicle sales in September fell by 42% year over year to 10,246 units.

Outlook and implications



BYD attributed its strong third-quarter results to increased sales of the company's NEVs, which consist of battery electric vehicles and plug-in hybrid electric vehicles. Automotive business accounted for more than 50% of BYD's revenues in 2022 and it has already become the company's main profit driver. In the first nine months of the year, BYD sold nearly 2.08 million units of NEVs as the world's largest manufacturer of such vehicles. The company's sales growth during the third quarter was driven by strong demand in the Chinese market, as well as solid overseas demand. Despite being investigated by the European Union in a probe into subsidies for Chinese-built electric vehicles, BYD continued to expand its presence in Europe by opening its first stores in Hungary in October. The Atto 3, Seal and Dolphin were available for reservation in the country starting from Oct. 19.

Separately, Seres has recorded a net loss of 2.29 billion yuan in the first three quarters of 2023. The company is banking on the refreshed AITO M7, the second model it introduced under its partnership with Huawei, to boost its sales and revenues. According to Huawei, over 70,000 customers have placed orders for the 2023 M7 as of Oct. 28. The impact of the M7 on Seres's revenues and profits will be reflected in the automaker's fourth-quarter financial results, as the company began deliveries of the refreshed model in late October.

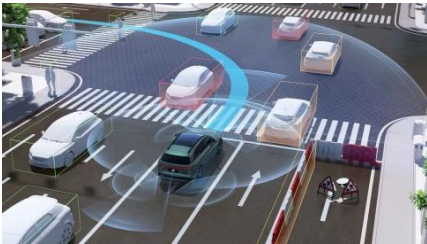


[OEM Highlights] Xpeng unveils MPV model, new-generation smart cockpit system at 2023 Tech Day

S&P Global Mobility perspective

Implications Chinese electric vehicle (EV) manufacturer Xpeng held its 2023 Tech Day in Guangzhou on Oct. 24. The EV startup has been leveraging the annual event to present its latest technologies since 2019 and, this year, the company has put the focus on continuous improvement of its smart cabin system and advanced driving solution.

Outlook The XNGP (Xpeng Navigation Guided Pilot) system, which is Xpeng's full-scenario ADAS, is able to support Level 2+ automated driving in city environments across China. Testing of the system has begun in five cities: Beijing, Guangzhou, Shanghai, Foshan and Shenzhen. By the end of December, the XNGP for city driving is to be available in 50 cities in China. Xpeng plans to begin a large-scale rollout of the XNGP system next year with the aim of covering major cities in China.



Xpeng

Chinese electric vehicle (EV) startup manufacturer Xpeng has announced its latest advancement in smart cabin and automated driving technologies at its 2023 Tech Day event held in Guangzhou, China, on Oct. 24. The automaker also unveiled a new model, the X9 multi-purpose vehicle (MPV), during the event.



Xpeng X9 MPV.
Xpeng

The full unveiling of the X9 MPV is due to take place in November at this year's Guangzhou Motor Show. What has already been announced for the X9 is the model will be developed on Xpeng's latest vehicle architecture, the SEPA2.0. This means the X9 will feature the company's 800-volt high-voltage system for fast-charging and its power modules will use silicon carbide (SiC) technology to improve efficiency. The X9 is also to be equipped with rear-wheel steering as a standard configuration.



In addition, Xpeng shared key technology updates to be rolled out to its new-generation powertrain. The company says its new-generation electric drive system can achieve overall energy efficiency of 93% when the vehicle travels at 120 kilometers per hour. Xpeng says the SiC technology used in the new-generation system will be optimized further for higher efficiency and contribute to its target of reducing vehicle production costs by 10% to 30%. However, it is unclear whether the X9 will feature the new-generation electric drive system when it goes into production.

XOS Tianji

XOS Tianji is Xpeng newest development in smart cabin operating systems. The X9 MPV is to be the first Xpeng model to come equipped with the XOS Tianji system. Deployment of the new system to other Xpeng models, including the P7 and G9, is to begin at a later stage via over-the-air updates. Xpeng says it will also integrate the XGPT, a large-scale artificial intelligence (AI) model, into its smart cabin system, enabling even faster and more-concise responses upon user requests, and delivering the interaction in a more natural way. AI foundation models are deployed not only to enhance intelligent driving and smart cabin capabilities but also vehicle design and code development. The company says users can expect much faster system start time and new user interface (UI) features that support a high level of customization of in-car applications in models featuring the XOS Tianji.

AI Valet Driver

Xpeng also rolled out a new door-to-door advanced driver-assistance system (ADAS), AI Valet Driver. The feature, which is similar to Li Auto's "commute navigation-guided autopilot (NOA)", allows the vehicle to perform autopilot functions on pre-set city routes. The company says the driver will need to drive the vehicle manually first to help the system create the specific route. Once the training is completed, the driver can activate the "AI Valet Driver" function to let the vehicle perform automated driving for specific routes in cities, says the company. Xpeng said that it had already begun road-testing of the AI Valet Drive feature in China and it is to be available at a later date in all cities in China.

At the Tech Day event, Xpeng also presented its ultimate architecture for full-scenario ADAS, XBrain. This system is supported by XNet2.0, Xpeng's next-generation perception architecture with spatiotemporal understanding, and XPlanner, the neural network-based planning and control system, to enable more human-like learning, thinking and actions, said the company.

Outlook and implications

The 2023 Xpeng Tech Day was hosted by He Xiaopeng, CEO of Xpeng, and Li Ligeng, the head of Xpeng's automated driving department. The EV startup has been leveraging the annual event to present its latest technologies since 2019 and, this year, the company put the focus on continuous improvement of its smart cabin system and advanced driving solution. According to He, the XNGP (Xpeng Navigation Guided Pilot) system, which is Xpeng's full-scenario ADAS, is able to support Level 2+ automated driving in city environments across China. Testing of the system has begun in five cities: Beijing, Guangzhou, Shanghai, Foshan and Shenzhen. By the end of December, the XNGP for city driving is to be available in 50 cities in China. Xpeng plans to begin a large-scale rollout of the XNGP system next year with the aim of covering major cities in China. He also said that Xpeng will be able to provide navigation-guided autopilot functions in Europe by the end of 2024.



Xpeng did not announce full specifications of the X9 MPV. The company did confirm that the XOS Tianji system in the X9 is to be powered by Qualcomm's Snapdragon 8295 chip. The main target customer group of the MPV will remain family-oriented vehicle buyers, although Xpeng believes the X9 will appeal to younger consumers or those looking for an intelligent, modern MPV. S&P Global Mobility will report more details on the X9 when the MPV is launched at the upcoming Guangzhou Motor Show in November.

[OEM Highlights] Chery, Huawei to begin pre-sales of Luxeed S7 on November 9

Chinese automaker Chery Auto and Huawei are expected to announce the pre-sales pricing of the Luxeed S7 on November 9. The electric sedan, which is the first model from the Chery-Huawei partnership, will compete with the likes of the IM L7 and the NIO ET7. The model measures 4,971 mm in length, 1,963 mm in width, and 1,474 mm in height. The two automakers, however, have yet to announce the official unveiling date of the Luxeed S7. According to local media reports, the model will feature Huawei's HarmonyOS 4 smart cockpit system and the tech company's ADS 2.0 automated vehicle system.



Outlook and implications

The Luxeed S7 will enter the market as not just a Huawei technology-powered model. The vehicle will also enter into Huawei's sales network, adopting a similar sales and marketing model as AITO-brand vehicles. Given that Huawei does not engage in vehicle manufacturing, the S7 will be manufactured by Chery. Compared with Seres, which is Huawei's partner in the development of AITO models, Chery has more experience in passenger vehicle production and is also a high-volume car maker in the industry. The development of the S7 has also leveraged Chery's E0X platform, which is the underpinnings of Chery's upcoming premium models, the Exeed Sterra ET and ES.



[Technology & Mobility Highlights] LG Electronics to supply in-vehicle infotainment system for Genesis cars

LG Electronics Co. has announced a partnership with Hyundai Motor Co.'s luxury brand Genesis to provide its advanced in-vehicle infotainment system, reports Yonhap News Agency. The collaboration will see LG's webOS for Automotive platform integrated in two Genesis vehicles — the 2024 Genesis G80 and the new GV80 Coupé. This will enable drivers and passengers to stream a variety of content, including YouTube, from their mobile devices or TV, in accordance with driving safety regulations. According to the report, LG, Hyundai Motor Group and YouTube have “collaborated to integrate a dedicated YouTube app into webOS for vehicles to create an optimized in-car viewing environment.”



Outlook and implications

LG, South Korea's second-largest home appliances manufacturer, has been diversifying its business portfolio to include several business-to-business segments, including automotive electronics and air solutions businesses. LG's automotive business is primarily focused on infotainment, powertrains and auto lighting systems. The webOS for Automotive program is “LG's first in-vehicle infotainment software based on its web-centric smart TV platform, allowing the driver and passengers to enjoy content from YouTube and other streaming services in the car.” The growth of LG's automotive business is evident from the sales performance of its Vehicle Solutions (VS) division, which reported sales of 8.6 trillion won (US\$6.3 billion) in 2022, up 29.1% from 2021. Last year, LG Electronics, along with GS Energy and GS Neotek, acquired local battery manufacturer AppleMango to expand its electric vehicle (EV) solutions business.



[Technology & Mobility Highlights] L&T Technology accelerates transition to smart vehicles with AWS generative AI

Leveraging AWS helps automakers in the development of SDVs with tailored safety and security solutions



Source: Getty Images Plus/ kaptnali

L&T Technology Services (LTTTS), a leading global digital engineering and research and development (R&D) services company based in India, announced that it is leveraging Amazon Web Services (AWS) to help global automotive manufacturers accelerate the transition toward software-defined vehicles (SDVs) using generative AI, according to a company press release dated Oct. 31.

SDVs rely heavily on software to control and manage their operations, including performance and comfort, with the use of sensors and computer systems to make driving safer and more efficient. These digitally enabled vehicles can help drive significant improvements to safety, security, entertainment and convenience with software updates over-the-air (OTA) from the cloud, allowing drivers to receive continued value from their vehicles even after purchase.

According to LTTTS, leveraging AWS helps vehicle manufacturers worldwide accelerate the development of next-generation SDVs with tailored safety and security solutions, covering digital cockpit, connected services and autonomous driving. LTTTS has accelerated the time to launch new products by 25% with virtual workbenches on AWS to develop and test new software for vehicle electronic control units, which control a car's operation.

LTTTS uses Amazon CodeWhisperer as the preferred development environment for engineering teams. Providing AI-powered code recommendations in real time, Amazon CodeWhisperer helps LTTTS engineers to rapidly develop smart applications such as driver warnings, automated braking and steering functions designed to improve a vehicle's performance on the road. This will allow fleet managers, maintenance staff and other stakeholders to interact with and access details of the car via large language models built on AWS.

The company also uses Amazon Bedrock — a fully managed service for accessing an array of leading foundation models, and building and scaling generative AI applications — to implement cloud-based, vehicle-test automation. Amazon Bedrock also allows the reuse of proven, good quality, safety-compliance code, to further reduce the time needed to develop new software applications. With AWS internet-of-things (IoT) FleetWise, a service that makes it easier for automotive companies to collect, transform and transfer vehicle data to the cloud in near real time, LTTTS can improve vehicle quality, safety and autonomy.



[EV & Energy Efficiency Highlights] European Parliament environment committee backs European Commission MHCV emissions proposal

The European Parliament's Environment Committee (ENVI) has voted in favor of the European Commission's proposal to cut medium and heavy commercial vehicle (MHCV) emissions, reports Motor Transport. The group has voted for a 45% reduction in the average CO₂ emissions of trucks in 2030 and a 90% reduction by 2040. However, the committee has also called for the 2035 target to be 70%, more than the 65% proposed by the European Commission. The committee has also pushed back against the European Commission's proposal to exempt trucks in certain applications, including refuse collection, construction, and smaller city delivery trucks vehicles which represent around 20% of MHCV sales. The Environment Committee has also voted that for the emissions performance of trailers used by trucks to improve by 12.5% by 2030, which is said to be slightly weaker than that proposed by the European Commission.



Outlook and implications

The Environmental Committee's vote provides a guide for the European Parliament prior to the latter voting on its position. According to the report, this is expected to take place at a plenary session scheduled for Nov. 21 or 22, 2023. While the Environment Committee has made some tweaks before voting on its support, the most notable being the bringing of vehicles that had been excluded from the targets, it effectively means that a growing share of new trucks will need to be zero-emission from the turn of the decade. This will mean either battery electric or hydrogen fuel cell, both of which currently have public charging infrastructures that are in their infancy. One area which both the European Commission and the European Parliament's Environmental Committee have both rejected is the use of e-fuels and biofuels. Lobby group Transport & Environment (T&E) has called on the European Parliament "plenary to keep the door closed to these Frankenstein fuels." However, as was the case with the light-vehicle targets, there could be a battle for them to be included at a European Council level. Indeed, Italy and a coalition of other countries is calling for the inclusion of both synthetic fuel and biofuels as counting towards reducing CO₂ emissions for MHCVs in the region.



[EV & Energy Efficiency Highlights] China's largest EV grid integration demonstration opens in Wuxi City in Jiangsu

The pilot project, which is now open for demonstration, can feed power from 50 EVs into the smart grid at the same time



Source: Getty Images

China's largest electric vehicle grid integration pilot project has been put into operation in Wuxi City, which is situated in east China's Jiangsu Province, according to a news report published by Xinhua News Agency on Oct. 25.

The pilot project, which is now also open for demonstration, can feed power from 50 EVs (also known as new-energy vehicles [NEVs] in China) into the smart grid at the same time.

Citing state power grid Jiangsu Electric Power Co., the report said that EV owners can receive subsidies if they feed unused power from their vehicles into the network by using bidirectional-charging facilities at the EV charging stations installed at the demonstration site.

The report further added that in the second phase of construction, the pilot EV charging site is expected to be equipped with charging stations capable of charging 144 EVs and discharging 50 EVs. It will also have a battery replacement service for 400 EVs at the same time. This will make the site one of the largest bidirectional EV charging parks in the world.

Quoting Duan Meimei of State Grid Jiangsu Electric Power Marketing Service Center, the report stated that the goal of the smart grid is to adjust the electricity load for charging EVs and encourage EV owners to send the unused electricity stored in their car batteries to the grid during peak demand to sell power and charge their EV batteries when the power is available at cheaper rates.



[Supplier Highlights] Upstream Security, ABeam Consulting partner to enhance connected vehicle data security

The partnership aims to empower mobility stakeholders to effectively unlock the power of their data



Source: Getty Images/Jackie Niam

Upstream Security, a leading provider of cybersecurity and data-management platforms for connected vehicles, has partnered with ABeam Consulting, a global business and digital transformation consulting firm, to offer advanced data-driven and cybersecurity solutions. The partnership aims to empower mobility stakeholders to effectively unlock the power of their data and leverage it to deliver advanced analytics and data-driven solutions, according to a company press release on Oct. 31.

The partnership will enable Upstream and ABeam Consulting to host a joint webinar on Nov. 1 titled "Emerging cybersecurity risks in automotive, manufacturing & smart mobility." The webinar will focus on the ever-changing automotive and mobility landscape and how it is challenged with handling large amounts of data from hundreds of data sources. The platform will utilize data normalization and cleansing, as well as advanced profiling and AI-powered detection to identify patterns and anomalies in mobility data.

The webinar will also cover various use cases, including telematics-based insurance, manufacturing and vehicle quality, and cybersecurity for electric vehicles charging and mobility applications. The speakers will discuss how the Upstream platform supports these use cases and offers unparalleled data-driven actionable insights.

Jonathan Vargas Ruiz, director at ABeam Consulting and head of Mobility and Association of Southeast Asian Nations (ASEAN) Automotive Strategy, said, "By partnering with Upstream, we can accelerate automotive and mobility stakeholders' digital transformation. The flexibility and scalability of Upstream's platform will enable our clients to introduce data-driven revenue streams, formulate analytics-based decisions, and strengthen their competitive positioning moving forward, while benefiting from their strong cybersecurity capabilities."

Uval Daniel, vice president of Asia-Pacific at Upstream, said, "We are thrilled to partner with ABeam Consulting and collaborate to jointly offer advanced data-driven and cybersecurity solutions. Today, Upstream's platform monitors over 25 million connected vehicles and millions of application consumers. Together with ABeam Consulting's unique data and domain expertise, we'll be able to empower mobility stakeholders and ensure they are able to effectively unlock the power of their data."



[Supplier Highlights] Stradvision showcases vision perception technologies at SV Roadshow 2023

Stradvision's vision perception solutions support automotive OEMs in integrating driver-assist systems



Source: Getty Images

Stradvision has announced the showcasing of its innovations at the SV Roadshow 2023, held globally from October to November. The roadshow highlighted SVNet, including FrontVision, SurroundVision and MultiVision, which are technologies designed for autonomous driving and advanced driver assistance systems (ADAS), according to a press release on Oct. 30.

During the event, Stradvision demonstrated the high-accuracy performance of its vision perception intelligence on light and versatile platforms. The company also shared its newly organized product lineup and roadmap, which will be showcased at the upcoming CES 2024 in Las Vegas.

"In the dynamic landscape of autonomous driving and ADAS, automotive [original equipment manufacturer] customers are actively striving to integrate cutting-edge automotive technologies," said Junhwan Kim, CEO of Stradvision. "At STRADVISION, we are dedicated to fueling this innovation by providing robust vision perception technologies. We are committed to supporting our customers' eagerness to embrace driver-assist systems, offering them not just solutions, but the promise of a safer and more connected future on the roads."

At the core of Stradvision's innovations lies SVNet, an ultralight, high-efficiency solution that seamlessly integrates deep-learning-based object recognition. Compatible with over 18 system-on-chip (SoC) platforms, SVNet offers more than 30 object recognition functions. Stradvision's contributions to mass-producing vehicle models featuring autonomous driving capabilities at Level 2 or higher demonstrate the company's technical prowess and adaptability, positioning it as an industry leader.



[VIP ASSET] While the industry talks about casting, the play is being rescripted and the staging changed

There's more to the gigacasting trend than meets the eye. It's not just about the product and the presses and has the potential to upend that 110-year-old automotive institution that is the moving assembly line.



Source: alvarez via Getty Images

Gigacasting is a hot topic in the automotive industry right now. We continually receive calls from clients on the subject, either concerned about how it'll change their market prospects or warning of the perils of this 'eggs-in-one-basket' strategy.

They're right about the perils. It's a long list. Massive castings can cost up to 10 times more than what they're replacing. They may have distortion issues, may remove important repair capabilities. What's more they require intensive end-of-line inspection scanning. Oh, and they all come after the ordering of a custom-built gargantuan piece of tooling, moving it into place and figuring out how to efficiently work the temperamental processes.

We've covered the above issues many times on AutoTechInsight, but still the questions come. Why are established industry suppliers worried about big dreams with massive headwinds? Do casting experts have enough technical solutions to known operational problems? Can ADAS systems prevent enough crashes to make up for unreparable castings?

Simple answer: it's not about the components, or gigacasting per se, it's about the assembly plant. If you've made it this far, maybe you understood the tongue-in-cheek theatre reference in my title. The metaphor paints a useful framework for what is really happening here.

Initial concerns from many players are about market share of advanced steels, stampers of those components, and conversion rates in adoption scenarios. By my estimates 15-20% of body-in-white (BIW) stampings in 2030 may be at risk. Underbody components typically comprise about 50% of a vehicle's BIW shell, and this soft belly is the target of gigacasting's attack.

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