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[Domestic Sales Highlights] Great Wall reports 13.5% y/y growth in sales during April

Great Wall Motor Co has reported 13.5% year-on-year (y/y) growth in sales to 91,784 units in April, with sales up 86.27% y/y to 430,582 units in the year to date (YTD). In April, the total deliveries of the Haval brand were down by 3.64% y/y to 55,018 units, while sales of the WEY brand decreased 40.9% y/y to 3,590 units. Sales of the automaker’s pick-up trucks, including the Wingle and Pao, totalled 20,200 units last month, up 28.4% y/y. Sales of the Ora electric vehicle (EV) brand were 7,476 units last month, compared with 1,765 units in April 2020. The newly added TANK brand sold 5,500 units last month. Great Wall’s sales volumes in overseas markets totalled 9,081 vehicles in April.

Outlook and implications

Great Wall continued to experience a rebound in vehicle sales during April. The performance of the Ora brand, Great Wall's budget EV brand, was particularly strong in the YTD. Sales of the Ora brand totalled 38,159 units in the YTD, compared with 4,468 units in the same period last year. The surge is largely thanks to the success of the R1 EV, a sub-compact EV designed to appeal to first-time EV buyers. In the sport utility vehicle (SUV) market, the WEY Tank 300, a model Great Wall launched in the second half of 2020, is currently in high demand. Great Wall has invested CNY2 billion (USD305 million) over the past five years to develop hydrogen-power-related technologies to be used in vehicles and plans to roll out its first hydrogen-powered SUV this year. Earlier this year, the automaker announced a net profit increase of 19.3% to CNY5.36 billion in 2020.

[Domestic Sales Highlights] Chery Holding reports 91.6% y/y growth in sales during April

Chery Holding has reported a sales increase of 91.6% year on year (y/y) in April to 76,775 units, according to Gasgoo. In the year to date (YTD), the group sold around 282,000 vehicles, up by 91.6% y/y. Chery Holding has several brands under its belt. The top performers during April were Chery Automobile, which recorded sales of 53,680 units, up by 117.2% y/y; Jetour, with 80.5% y/y growth in sales last month to 10,399 units; and Cowin, with a sales increase of 44.7% y/y to 1,477 units. Chery Holding’s new energy vehicle (NEV) sales in April stood at 8,572 units, up by 214.6% y/y, while exports were up by 312.5% y/y to 22,034 units.
Outlook and implications

Chery Automobile, the main brand of Chery Holding, targets its product line primarily at the entry- and standard-price segments. A comprehensive product portfolio covering entry-level sedans and sport utility vehicles (SUVs) helps Chery secure a footing in the competitive market. The downside, however, is that it gives consumers the impression that Chery represents a budget vehicle brand targeting consumers in less-developed third- and fourth-tier cities in China. The perception has hindered Chery’s effort to improve its product mix with higher-positioned models that contribute a better margin. According to IHS Markit forecasts, sales of the Chery brand in the country are expected to decline from 340,000 units in 2019 to around 274,000 units in 2021. However, its Exeed brand, which targets the higher end of the market, is helping the group change consumers’ perception. The launch of the Exeed VX has further broadened Exeed’s product range to cover C- and D-segment SUVs. Two new sedan models from the brand are expected to follow by 2022. IHS Markit forecasts sales of the Exeed brand in China to reach around 31,700 units in 2021, up from 16,000 units in 2019, and combined sales of Chery Holding to be around 504,700 units in 2021.
[OEM Highlights] Arrival partners with Uber to build electric car for ride-hailing services

IHS Markit perspective

Implications
UK-based EV startup Arrival has partnered with Uber Technologies to build an electric car that will be “purpose-built” for ride-hailing services. The "Arrival Car" will go into production in the fourth quarter of 2023. Arrival will invite Uber drivers to join the design process over the coming months to ensure the Arrival Car meets the needs of professional drivers and their passengers.

Outlook
Given the massive benefits offered by EVs, mobility firms are also turning to EVs as solutions to transport problems. In the booming mobility service market, EVs are deemed as a natural fit. This partnership will support Uber’s aim for 100% of its ride-hailing fleet globally to be zero-emission vehicles by 2040 and support Arrival in providing multi-modal zero-emission transportation ecosystems in cities.

UK-based electric vehicle (EV) startup Arrival has partnered with Uber Technologies to build an electric car that will be “purpose-built” for ride-hailing services. The "Arrival Car" is to go into production in the fourth quarter of 2023. Tom Elvidge, senior vice-president of Arrival Mobility UK, said, “We are confident that electrifying ride-hailing vehicles will have an outsized impact on cities, and we are keen to support drivers as they manage this transition. Arrival Car will be designed around drivers’ needs to create a vehicle that is affordable, durable and desirable. We have a great partnership with UPS to create a best-in-class electric delivery vehicle, and we hope to replicate that success with Uber as we develop the best possible product for ride hailing that elevates the experience of the passenger and improves drivers’ health, safety and finances.”

Arrival will invite Uber drivers to join the design process over the coming months to ensure the Arrival Car meet the needs of professional drivers and their passengers. The final vehicle design is expected to be revealed before the end of 2021. Jamie Heywood, Uber’s regional general manager for Northern and Eastern Europe, said, “As our cities open up we have an opportunity to make sure that urban transport is cleaner than ever before. Uber is committed to helping every driver in London upgrade to an EV by 2025, and thanks to our Clean Air Plan, more
than USD135 million has been raised to support this ambition. Our focus is now on encouraging drivers to use this money to help them upgrade to an electric vehicle, and our partnership with Arrival will help us achieve this goal."

**Outlook and implications**

Given the massive benefits offered by EVs, mobility firms are also turning to EVs as solutions to transport problems. In the booming mobility service market, EVs are deemed as a natural fit. A fundamental reason for this is that EVs generally have lower operating costs than ICE vehicles and EVs in mobility services are generally driven more miles per year than personal vehicles, says IHS Markit's research report, 'Electrifying MaaS'. The ride-hailing industry is evolving into one of the preferred forms of personalised transport for commutes. Therefore, this service can be categorised as one of the catalysts for adoption of vehicle electrification efforts. This partnership will support Uber's aim for 100% of its ride-hailing fleet globally to be zero-emission vehicles by 2040. By 2030, the company has set a goal of converting all its vehicles to EVs in the United States, Canada, and Europe. To achieve this, the company has earmarked USD800 million for programmes to help drivers switch to EVs by 2025, including discounts for vehicles bought or leased from partner automakers. The company recently launched Uber Green, which gives riders the opportunity to select an EV at no extra cost, while drivers pay a lower service fee. Two years ago, Uber devised a similar model to help drivers make the transition to EVs in London (United Kingdom) by 2025 under its clean-air plan. Uber introduced a 15-pence-per-mile charge, termed a "clean air fee", on each trip booked in London to raise funds and the ride-hailing firm managed to raise GBP135 million (USD187 million) through it. Uber has formed a partnership with Renault-Nissan to provide attractive offers on EVs to drivers in Europe, notably in France, the Netherlands, Portugal, and the UK.

Arrival, which went public in March via a merger deal with a special purpose acquisition company (SPAC), focuses on manufacturing electric vans and buses. The Arrival Car is the result of the small vehicle platform referenced in the company's investor deck and will join its previously announced commercial products, the Bus and Van. Arrival focuses on providing multi-modal zero-emission transportation ecosystems in cities to help them meet their sustainability goals over the coming years. The company has received funding from a range of investors. Arrival's product has already gained large interest, including a commitment to buy 10,000 vehicles from United Parcel Service (UPS), plus an option to order up to an additional 10,000. IHS Markit currently expects Arrival's global sales to reach almost 15,000 units during 2027, although this expectation is likely to change once more orders are announced and production locations of the company’s Microfactories are revealed.

**[OEM Highlights] EV startup NIO reveals strategy in Norway**

Chinese electric vehicle (EV) maker NIO has announced its plans to expand to Europe by making an entry into the Norwegian market. According to a company press release, the automaker plans to establish a full-fledged ecosystem encompassing cars, services, and digital experience, with the ES8 sport utility vehicle (SUV) being the first model to be introduced in Norway this year followed by the ET7 in 2022. Pre-orders for the ES8 will begin from July, while sales are expected to start from September. NIO’s first sales and service centre will be set up in Oslo and will open in September this year. This will be followed by the opening of NIO Spaces in Bergen, Stavanger, Trondheim, and Kristiansand by 2022. The company will also introduce its Power Swap technology, which enables vehicle batteries to be automatically replaced within three minutes.
Outlook and implications

Chinese EV makers are eager to explore sales opportunities in Europe, as the region represents one of the largest market for battery electric vehicles (BEVs) and plug-in hybrid vehicles, thanks to generous government subsidies and the rapidly expanding charging infrastructure. Another EV maker, Xpeng, began deliveries of its G3 compact electric SUV in Norway last year. According to earlier media reports, NIO has set an initial target to sell 7,000 vehicles in Europe in the first two years of sales launch. However, according to IHS Markit forecasts, sales of new vehicles are expected to be around 200 units in 2021 and around 1,500 units in 2022.
[Technology Highlights] Huawei looks to acquire EV unit of domestic automaker

Chinese tech company Huawei is in discussion to acquire the electric vehicle (EV) unit of a small domestic automaker, according to ET Auto citing two unnamed people with direct knowledge of the matter. According to the sources, Huawei is in talks with Chongqing Sokon to acquire a controlling stake in the latter's Chongqing Jinkang New Energy Automobile. Jinkang counts the EV brand Seres, formerly known as SF Motors, as its main asset. Seres is a new brand for China, and made an effort at the US market that has not come to fruition. As part of the deal, Huawei also plans to buy an undetermined stake in privately-owned Chongqing Sokon Holdings, the biggest shareholder of Shanghai-listed Sokon. The unnamed sources also indicated that Huawei is also looking to take a controlling stake in EV brand Arcfox of BAIC's BluePark New Energy Technology, however, BAIC wants Huawei as just a minority stake holder in Arcfox.

Outlook and implications

Although there is currently no official confirmation from Huawei or Sokon on this matter, the reports signifies Huawei's eagerness to enter the automotive market as a manufacturer rather than just being a technology partner focusing on intelligent vehicle systems. Huawei recently showcased the SF5 EV, developed by the electric car manufacturer Seres. The telecoms company has also partnered with three automakers – BAIC BJEV, Changan Automobile, and GAC Group – to jointly introduce autonomous car brands from the end of 2021. The reports suggest that Jinkang's most significant asset is the Seres brand, which began selling vehicles in China in 2020 and had aspirations for a US launch. The brand's US aspirations have essentially evaporated. Its launch was delayed in July 2019 and SF Motors is selling its US plant to Electric Last Mile. Electric Last Mile, however, is also a Sokon company and is among the EV startups looking to go public through a reverse merger. IHS Markit forecasts that Seres' sales in China will ramp up to about 10,000 units by 2024.

[Technology Highlights] Luminar to supply LiDAR sensors to autonomous vehicle startup Pony.ai

Autonomous vehicle (AV) startup Pony.ai in collaboration with Luminar Technologies has introduced its newly designed sensing platform. Pony.ai's next-generation autonomous fleet will be integrated with Luminar's LiDAR sensor Iris, which is about 10 cm high, and four of them will be mounted on top of the car for 360-degree views, reports Reuters. James Peng, CEO and founder of Pony.ai, said, “Luminar is in a league of their own when it comes to lidar and shares our belief that delivering autonomous mobility globally will enable a safe and sustainable future. We’re excited to realize that vision together with them.”
Outlook and implications

Pony.ai plans to deploy automotive-grade production autonomous fleets in 2023 globally. It is conducting AV tests on public roads in five Chinese cities as well as the United States, and has provided more than 220,000 robotaxi rides with the combined mileage totalling 5 million km. Pony.ai has developed an AV system, PonyAlpha, that combines cameras with sensors such as radars and LiDAR along with artificial intelligence software to detect objects at distances of up to 200 m. Besides the passenger vehicle segment, the company has also ventured into the truck segment and recently received the permit to test autonomous trucks in Guangzhou. Luminar, which recently went public, is working towards having its advanced LiDAR sensor ready for series production and claims to be working with 12 of the world’s top 15 automakers.
**[GSP] North America Sales and Production Commentary -2021.04**

**Japan/Korea sales**

**March 2021: +3.7%: 0.77 million units vs. 0.74 million units**
**YTD 2021: +5.6%: 1.83 million units vs. 1.73 million units**

- Japanese light vehicle sales increased 6.4% year on year (y/y) in March 2021. The rise in sales in the last couple of months can be partly attributed to the low base of comparison after 2019, as customers trimmed their spending following the October 2019 consumption tax rise and COVID-19 outbreaks in early 2020. The recent resurgence in COVID-19 infections and the government’s decision to suspend subsidies for eating out and tourism in areas experiencing outbreaks will likely weigh on consumer spending. Meanwhile, selected areas of Japan continue to be in the state of emergency, extended through March 2021. Key factors that continue to keep consumers cautious and pose downside risks include weak employment conditions in the short term owing to uncertainties over new infections and slow progress with the vaccine rollout.

- The Japanese near-term economic outlook still shows stagnating momentum, reflecting weak business conditions nationwide in the past several months since the COVID-19 pandemic started earlier in 2020. However, the situation shows slightly better-than-expected momentum, as some affluent families can afford durable goods, such as higher priced cars, instead of actively going abroad or taking long holidays to return to their hometowns. The Tokyo 2020 Olympics and Paralympic Games were postponed to summer 2021 owing to COVID-19.

- The environmental performance tax reduction support has been reextended until the end of 2021. This support particularly aims to cope with effects of the COVID-19 pandemic. Moreover, the eco-car tax breaks have been extended for two more years from April 2021 to 2023, with a more stringent threshold on the fuel economy level, which might also support domestic demand for vehicles with better fuel economy.

- Many domestic OEMs in Japan posted a year-on-year increase in sales in March, except Mazda. Sales at Toyota (including the Lexus brand) increased 6.1% y/y. Sales at Honda were up 3.2% y/y and sales at Nissan increased 17.9% y/y.

- Owing to the post-recovery effect of the COVID-19 crisis in 2020, the Japanese market’s overall domestic sales forecast in 2021 is set at 4.87 million units, up 8% compared with 2020.
South Korea’s total light vehicle sales decreased 5.4% y/y in March 2021, mainly owing to a drop in sales of domestic OEMs except Hyundai/Kia, nevertheless of a growth in imported passenger vehicle sales compared with the same month in 2020.

Most domestic OEMs in South Korea posted y/y negative growth in March 2021, except Hyundai. Hyundai’s sales increased 2.3% y/y, and Kia’s sales were up very marginally. Renault Samsung’s sales decreased 52.6% y/y. Sales of imported vehicles increased 40.2% y/y in March 2021.

The COVID-19 virus outbreak and the trade friction overseas will take a toll on the South Korean economy. The post-consumption tax relief already ended in 2020, but the government again decided to extend until June 2021 to attempt to tentatively boost vehicle sales. Thus, negative payback effects are gradually expected in the second half of 2021. The country’s sales of new vehicles in 2021 will likely decrease 3.8% compared with 2020, to 1.79 million units, after finishing 6.4% up in 2020 from 2019.

Japan/Korea production

March 2021: +0.9%; 1.17 million units vs. 1.16 million units
YTD 2021: 0.0%; 3.05 million units vs. 3.05 million units

In terms of variance volume from the last forecast, Japanese full-year 2021 production was sharply downgraded 300,000 units, or 3.5%. In the second quarter, the negative impact from semiconductor shortage is severely expanding. In the second quarter, by OEM, compared with the last forecast, Mazda and Subaru will be forced to suspend production for weeks, losing nearly 40%. Renault-Nissan-Mitsubishi and Honda will also lose 14.6% and 8.9%, respectively, reducing night-shifts and over-time or halting operations for a few days. However, Toyota and Suzuki may be less affected. Toyota will likely maintain the original production plan until June at least, thanks to much more sufficient inventory compared with other OEMs. Suzuki will have an opportunity to leverage favorable demand for the Jimny series, which may not be affected by the issue. Full-year 2022 production was upgraded 150,000 units, or 1.8%, compared with the last forecast to recover the lost volume. The long-term volume was downgraded 50,000 units per year. It is mainly owing to the transfer of the Nissan Leaf production to the United Kingdom from Japan. Nissan will likely utilize the UK as a production hub in Europe, as long as the UK enjoys the benefit of free-trade.
[Supplier Trends and Highlights] Green Hills Software partners with MathWorks to develop toolbox for embedded automotive processors

The MULTI Toolbox for Embedded Coder enables users to easily run, verify and test Simulink and MATLAB models on thousands of embedded processors

Green Hills Software has announced a partnership with MathWorks, under which the companies will develop toolbox for embedded processors, according to a 4 May press release. Developers will have a secure method to develop, debug, optimize and deploy their programs on thousands of embedded processors supported by Green Hills.

“Many of our customers use MathWorks products to create algorithms destined for embedded systems. Now, they not only have an easy-to-use way to run and verify these algorithms on embedded processors but they can also debug, analyze and optimize their code with safety-qualified MULTI and its optimizing C/C++ compilers,” said Rob Redfield, director, Business Development, Green Hills Software.

Outlook and implications

The MULTI Toolbox for Embedded Coder enables users to easily run, verify and test Simulink and MATLAB models on thousands of embedded processors. Simulink is a time-based and multi-rate system while MATLAB is for math-based algorithm development which will not consider the time while in simulation.

Once the program is completed, users can run, debug and analyze the program at any point in its execution using MULTI and the TimeMachine debugger. They can Debug INTEGRITY, μ-velOSity, and AUTOSAR real-time operating systems, or Linux and other operating systems.

[Supplier Trends and Highlights] Arbe Robotics announces availability of 4D imaging radar solution on NVIDIA DRIVE Platform

4D Imaging Radar Solution also provides advanced long-range perception capabilities with a wide field of view.
Arbe, a global leader in next generation 4D Imaging Radar Solutions, announced on its company website on 4 May, that its 4D Imaging Radar Solution with 2K resolution is available on the open NVIDIA DRIVE platform.

"We are excited to be part of NVIDIA's ecosystem of partners—providing access to our 4D Imaging Radar to the world's most forward-thinking automakers developing on NVIDIA DRIVE," says Ram Machness, chief business officer, Arbe. "The availability of Arbe on NVIDIA's platform will expedite the development of safety features for ADAS applications and autonomous vehicles and provide a platform for sensor fusion development.

**Outlook and implications**

Arbe's imaging radar availability aims to accelerate the development of autonomous vehicles. By allowing leading OEMs and tier-1 suppliers to access the 4D imaging radar data on NVIDIA's autonomous vehicle platform, Arbe's solution can serve as the basis for advanced safety applications, sensor fusion, and perception algorithm development.

Arbe recently revealed plans to go public through a SPAC merger with Industrial Tech Acquisitions