



Automotive Industry Weekly Digest

19 July – 23 July 2021





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Contents

[Autonomous Highlights] Pony.ai to launch robotaxi service in Shanghai	3
[Autonomous Highlights] Xiaomi acquires autonomous vehicle startup DeepMotion	3
[OEM Highlights] Volvo Cars, Geely Holding Create Joint Powertrain Operations	5
[OEM Highlights] Tesla to set up design studio in China, introduces Standard Range Model Y	5
[Sales Highlights] Chinese new vehicle sales decline 12.4% y/y in June – CAAM	7
[Sales Highlights] Great Wall reports 22.7% y/y growth in sales during June	9
[Supplier Trends and Highlights] SiaSearch to offer data curation solution for Dell's autonomous driving project	10
[Supplier Trends and Highlights] Microchip launches automotive-qualified, single-chip solution for ultrawide touch displays	10
[GSP] Japan/Korea Sales and Production Commentary -2021.06	12
[VIP ASSET] Formula E - Fast Tracking the car tech of tomorrow	14
[VIP ASSET] Powertrain market analysis for revised EU fleet emissions scenarios	15



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[Autonomous Highlights] Pony.ai to launch robotaxi service in Shanghai

Pony.ai has announced that it will begin a pilot operation of its robotaxi service in Shanghai (China) at the World Artificial Intelligence Conference (WAIC) 2021. It will deploy a fleet consisting of modified Lexus RX vehicles integrated with its latest autonomous system in Shanghai's Jiading district. Users can hail the robotaxi service by accessing the PonyPilot+ app. Pony.ai also shared the progress of its autonomous truck business during the event. It said that its autonomous trucks have so far travelled 37,466 km to transport roughly 13,650 tons of goods, reports Gasgoo.



Outlook and implications

Pony.ai claims to be the first company to test fully autonomous vehicles (AVs) on public roads in both the United States and China. The company has developed an AV system, PonyAlpha, which combines cameras with sensors such as radars and LiDAR along with artificial intelligence software to detect objects at distances of up to 200 m. Apart from the passenger vehicle segment, Pony.ai has also ventured into the truck segment and recently received a permit to test its autonomous trucks in Guangzhou.

[Autonomous Highlights] Xiaomi acquires autonomous vehicle startup DeepMotion

Chinese tech giant Xiaomi has reportedly acquired autonomous vehicle (AV) technology startup DeepMotion. DeepMotion's team of more than 20 employees will join Xiaomi, reports Pandaily. They will assist Xiaomi in filling the staff line-up at its AV division and its technology research and development.





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Outlook and implications

The latest development marks an important move following Xiaomi's formal announcement in March of plans to make smart electric vehicles (EVs). The company has reportedly partnered with BYD to develop intelligent EVs. Xiaomi plans to hire 20 engineers for autonomous technology and invest CNY10 billion (USD1.6 billion) in the initial phase of the development to support its EV business.



[OEM Highlights] Volvo Cars, Geely Holding Create Joint Powertrain Operations

Volvo Cars and its parent company Geely Holdings have agreed to create a joint venture (JV) for their powertrain operations. According to the statement, the standalone business known as Aurobay will be a global supplier of complete powertrain solutions including next-generation internal combustion engines (ICEs), transmissions and hybrid solutions. Under the plan, Volvo will initially transfer all the assets in its wholly owned subsidiary Powertrain Engineering Sweden, including its Skövde (Sweden) engine facility and the related research and development (R&D) team, alongside a Chinese engine plant and other relevant assets to the joint venture in coming months.



Outlook and implications

The move was first announced earlier this year. It is taking place as Volvo shifts toward battery electric-only powered vehicles by 2030 and will have increasingly little need for these facilities going forward. However, rather than letting these assets wither away, an opportunity has been seen to leverage its expertise with regards its capabilities in supplying “high-quality, low emission, cost-efficient powertrains solutions”. These look set to be combined with certain Geely capabilities in this area going forward, and creating a “strong base for substantial operational, industrial and financial synergies”. The new business intends to not only supply other Geely-owned businesses but also supply businesses outside the group as well.

[OEM Highlights] Tesla to set up design studio in China, introduces Standard Range Model Y

Tesla has announced plans to set up a design studio in China to develop models locally for Chinese customers, according to China Daily. In a statement, the automaker said, “We look forward to soon seeing China-designed and China-made Tesla models sold in the world”. It also said that it will continue to increase its investment in the country. Tesla also announced started taking orders for a new variant of the China-made Model Y sport utility vehicle (SUV). The new addition has a driving range of 525 kilometers

Outlook and implications



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Setting up of a local design centre in China will help Tesla regain confidence of the Chinese consumers. The automaker came under scrutiny in China earlier this year for not releasing accident data to a customer who said a crash occurred because the brakes failed. The automaker ultimately released the data, which reportedly showed the vehicle braking more than 40 times in the half hour before the crash. Tesla also announced in May that it is developing a platform that will allow its customers in China to access the data generated by their cars. Tesla also announced that it has set up a data centre in China to enable it to store locally the data it collects from vehicles sold in the country. This move is in line with the draft rules announced by the Chinese government to ensure that the data generated by connected vehicles are secure. Sales of the Model Y in China are expected to be around 102,200 units this year and 126,000 units in 2022, according to IHS Markit's light-vehicle sales forecast data. Currently, the Tesla Model 3 is the highest selling model for the brand in China with 2021 sales expected to be around 164,800 units this year.



[Sales Highlights] Chinese new vehicle sales decline 12.4% y/y in June – CAAM

IHS Markit perspective

Implications

New vehicle sales in China declined year on year (y/y) for a second consecutive month in June, after four consecutive months of increase, due to a higher base of comparison. The y/y decline in vehicle sales in China during June was also a result of the semiconductor shortage issue affecting global automakers this year. In mainland China, based on available information, the latest estimate of vehicle production lost over the microchip shortage is unchanged at 364,000 units in the first quarter, is unchanged at 420,000 units in the second quarter, but has been raised to 60,000 units in the third quarter, up from 40,000 units in the estimate last week.

Outlook

According to IHS Markit's light-vehicle market forecasts, light-vehicle sales in mainland China are expected to increase 5.85% to 25.052 million units in 2021. IHS Markit anticipates that combined production of electric vehicles, full hybrids, and fuel-cell vehicles in China will total around 2.908 million units this year, rising to 4.326 million units in 2022.

The auto market of mainland China experienced a year-on-year (y/y) decline in new vehicle sales for a second consecutive month during June, due to softened demand for passenger vehicles (PVs) and for commercial vehicles (CVs). According to data released by the China Association of Automobile Manufacturers (CAAM), new vehicle sales on a wholesale basis decreased 12.4% y/y to 2.015 million units in China last month, while production was down by 16.5% y/y to 1.943 million units. In the year to date (YTD) for June, China's new vehicle sales were up by 25.6% y/y to 12.891 million units, while production volumes grew 24.2% y/y to 12.569 million units.

Of the total new vehicle sales and production in China last month, PV sales decreased 11.1% y/y to 1.569 million units, while PV production was down by 13.7% y/y to 1.555 million units. The CAAM definition of PVs includes sedans, sport utility vehicles (SUVs), multi-purpose vehicles (MPVs), and minivans. During June, China's sedan sales decreased 11.8% y/y to 724,000 units, MPV sales declined 21.5% y/y to 68,000 units, SUV sales dropped 9.3% y/y to 746,000 units, and minivan sales decreased 11.0% y/y to 31,000 units. In the YTD, Chinese sales of PVs were up 27.0% y/y to 10.0 million units, while production of PVs increased 26.8% y/y to 9.84 million units.



China's CV sales, including medium and heavy vehicles, also remained weak in June. During the month, sales volumes of CVs dipped by 16.8% y/y to 446,000 units, while CV production declined 26.3% y/y to 388,000 units. In the YTD, sales of CVs rose by 20.9% y/y to 2.884 million units, while production of CVs increased 15.7% y/y to 2.73 million units.

China's sales of new energy vehicles (NEVs), which include battery electric vehicles (BEVs), plug-in hybrid electric vehicles (PHEVs), and fuel-cell vehicles (FCVs), increased 139.3% y/y to 256,000 units in June. Sales of



passenger NEVs grew 153.4% y/y to 241,000 units in June, while sales of commercial NEVs increased 23.7% y/y to around 14,000 units. Within the NEV passenger car category, in June, sales of BEVs were up 163.8% y/y to 198,000 units, while sales of passenger PHEVs stood at 44,000 units, up 115.1% y/y. In the YTD, NEV sales in China rose by 201.5% y/y to 1.206 million units.

China's new vehicle exports jumped by 154.5% y/y to 158,000 units in June. By vehicle type, PV export volumes increased 171.2% y/y to 120,000 units, while CV export volumes grew 113.9% y/y to 39,000 units.

Outlook and implications

New vehicle sales in China declined year on year for a second consecutive month in June, after four consecutive months of increase, due to a higher base of comparison. Chinese new vehicle sales were affected from January to March last year by the coronavirus disease 2019 (COVID-19) virus outbreak. However, new vehicle sales started to rebound in April 2020 and jumped sharply in May and June last year.

The y/y decline in vehicle sales in China during June was also a result of the semiconductor shortage issue affecting global automakers this year. In mainland China, based on available information, the latest estimate of vehicle production lost over the microchip shortage is unchanged at 364,000 units in the first quarter, is unchanged at 420,000 units in the second quarter, but has been raised to 60,000 units in the third quarter, up from 40,000 units in the estimate last week. Overall, the Chinese market has been less widely disrupted than initially expected and this could be attributed to the market being the first to recover from the COVID-19-related lockdowns of early 2020.



Meanwhile, despite the slowdown in sales of ICE vehicles, sales of NEVs has been following a regular growth path. According to a recent statement by CAAM's executive vice-chairman, Fu Bingfeng, Chinese NEV sales are anticipated to increase by more than 40% each year for the next five years. According to the estimate, NEV sales in China will reach 1.9 million units in 2021 and 2.7 million units in 2022. A high-ranking government industrial policy adviser has said that the country may extend tax exemptions on NEV purchases beyond 2022. To promote the use of NEVs, China is aiming for all the vehicles used in the public service area to be fully electrified and for FCVs to be commercially viable by 2035. The government also plans to promote electrified buses and other vehicles used in city logistics services and urban sanitation services.

According to IHS Markit's light-vehicle market forecasts, light-vehicle sales in mainland China are expected to increase 5.85% to 25.052 million units in 2021. IHS Markit anticipates that combined production of EVs, full hybrids, and FCVs in China will total around 2.908 million units this year, rising to 4.326 million units in 2022.



[Sales Highlights] Great Wall reports 22.7% y/y growth in sales during June

Great Wall Motor Co has reported growth in sales of 22.7% year on year (y/y) to 100,664 units in June and 56.5% y/y to 618,211 units in the year to date (YTD). In June, total deliveries of Great Wall's Haval brand were up by 27.55% y/y to 59,946 units, while sales of its Wey brand decreased 16.7% y/y to 4,707 units. Sales of the automaker's pick-up trucks, including the Wingle and Pao, totalled 18,060 units last month, down 32.3% y/y. Sales of the Ora electric vehicle (EV) brand were 10,791 units last month, compared with 2,635 units in June 2020. Great Wall's new Tank brand sold 7,160 units last month. Great Wall's sales volumes in overseas markets totalled 13,702 vehicles in June, with YTD export volume at 61,672 units.



Outlook and implications

Ora brand's sales are driven largely by the success of the R1, a subcompact 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. The automaker recently reported that it is aiming to sell 4 million vehicles annually by 2025, with revenues expected to reach CNY600 billion. In addition, the automaker expects its new energy vehicle (NEV) sales to account for 80% of its total annual sales by 2025. Last month, the automaker signed an agreement with Shangrao municipal government to set up a vehicle and parts production base in Jiangxi Shangrao Economic and Technological Development Zone. The facility is to mainly produce SUVs under the Haval brand. The facility is to have an annual output capacity of 120,000 vehicles in the future. The company also plans to invest in setting up supporting projects such as the production of interior and exterior trim, seats, chassis, and 150,000 engines per year. Meanwhile, to accommodate the growing demand for its vehicles overseas, the automaker has opened a new production plant in Rayong province, Thailand, and has bought Mercedes-Benz's Iracemápolis plant in São Paulo state, Brazil.



[Supplier Trends and Highlights] SiaSearch to offer data curation solution for Dell's autonomous driving project

SiaSearch is a Berlin-based data management company



Source: Getty image/metamorworks

SiaSearch has been selected as an official data curation solution as part of the Autonomous Driving Partner Ecosystem by Dell Technologies, the company said in a 5 July blog post. The companies aim to remove data bottlenecks with a scalable solution that provides a foundation for efficient autonomous driving (AD) development.

SiaSearch interacts with raw data wherever it is stored, on-premise or in the cloud, with Dell PowerScale NAS. SiaSearch automatically extracts and stores metadata in a proprietary database for quick access and enables users to integrate additional metadata, whether it is created manually, automatically, by the user, or by a third party.

Outlook and implications

Founded in 2019, SiaSearch is a Berlin-based data management company that uses its platform to automatically extract frame-level, contextual metadata. The Dell Autonomous Drive Ecosystem is an open development system from edge to core to cloud. It provides a roadmap of solutions for building advanced driver-assistance systems (ADAS) and AD solutions. Dell recently announced a new reference architecture to support the specific needs of automotive OEMs, tier-1 suppliers, and AD developers.

[Supplier Trends and Highlights] Microchip launches automotive-qualified, single-chip solution for ultrawide touch displays

MXT2912TD-UW is based on the ISO 26262 specification for functional safety in road vehicles



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Source: Getty image/4X-image

In an official press release, Microchip Technology announced its maXTouch MXT2912TD-UW touch-screen controller, the industry's first automotive-qualified, single-chip solution that addresses display sizes up to 45 inches with a very wide aspect ratio, supporting liquid-crystal display (LCD) and organic light-emitting diode (OLED) display technologies.

“The automotive industry is driving innovations in interior design, including the integration of sleek human-machine interface [HMI] concepts. Microchip enables these revolutionary designs with our new touch controller, supporting wide aspect ratio touch sensors with our unique and patented technology,” said Fanie Duvenhage, vice president of Microchip’s HMI business unit. “Our single-chip solution offers display makers and automotive tier-1 suppliers simple and known touch solutions for modern vehicle HMI systems, reducing cost, risk, and time to market.”

Outlook and implications

The MXT2912TD-UW, which is based on the ISO 26262 specification for functional safety in road vehicles, includes a number of safety-related features that simplify the display module system's path to functional safety certification. Periodic self testing, touch sensor testing, internal flash and RAM tests, full signal data path integrity checks, and additional microprocessor (MPU) core testing are among them. Automotive SPICE processes are used to develop the embedded firmware.

Microchip also provides complementary devices such as low-dropout regulators (LDOs); 8-, 16-, and 32-bit microcontrollers (MCUs); controller area network (CAN) and CAN physical layer (PHY) controllers; and more to support its touch-screen controllers.



[GSP] Japan/Korea Sales and Production Commentary -2021.06

Japan/Korea sales

May 2021: +18.4%: 0.45 million units vs. 0.38 million units

YTD 2021: +9.5%: 2.78 million units vs. 2.54 million units

Japanese light vehicle sales increased 47.6% year on year (y/y) in May 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, following the state of emergency announced by the government in April 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. To contain the COVID-19 virus, the state of emergency was extended two more weeks to late March, followed by another extension for some selected areas toward the end of May. The government had extended the state of emergency for most prefectures to from 31 May to 20 June. 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 Olympic and Paralympic Games were already postponed to summer 2021 because of the COVID-19 pandemic. They will take place from 23 July to 8 August, but without overseas spectators.



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.

All domestic OEMs in Japan posted a year-on-year increase in sales in May. Sales at Toyota (including the Lexus brand) increased 30.4% y/y. Sales at Honda were up 17.5% y/y, and sales at Nissan increased 34.5% 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 4.88 million units, up 8.2% compared with 2020.



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South Korea's total light vehicle sales decreased 18.9% y/y in May 2021, mainly owing to a drop in sales of all domestic OEMs, despite the 5.9% growth in imported passenger vehicle sales compared with the same month in 2020.



All domestic OEMs in South Korea posted year-on-year negative growth in May 2021. Hyundai's sales declined 12.4% y/y, and Kia's sales were down 6.4% y/y. Renault Samsung's sales decreased 56.2% y/y. Sales of imported vehicles increased 5.9% y/y in May 2021.

The post-consumption tax relief already ended in 2020, but the government again decided to extend it until June 2021 to tentatively boost vehicle sales. The government then decided to further extend it until the end of this year. Nevertheless, the prolonged effects of the special consumption tax reduction are waning and becoming less impactful in terms of sales development sustainability in the short term. The country's sales of new vehicles in 2021 will likely decrease 3.9% compared with 2020, to 1.79 million units, after finishing 6.4% up in 2020 from 2019.

Japan/Korea production

May 2021: +42.0%; 0.74 million units vs. 0.52 million units

YTD 2021: 11.8%; 4.78 million units vs. 3.76 million units

In Japan, May 2021 output is expected to have drastically increased 66.4% year on year (y/y), owing to the relatively low base effect of May 2020 due to the effects of the COVID-19 pandemic. In May 2020, almost all OEMs had downtime as they extended the Golden Week holidays to adjust their inventories owing to lockdown measures executed in many countries. All OEMs achieved year-on-year growth in May 2021, except Honda, which dropped 52% y/y. Nissan increased 57%, Toyota including Daihatsu grew 68%, Suzuki rose 82%, Mazda swelled 192%, Mitsubishi soared 232%, and Subaru surged 236% y/y. However, the production level in May 2021 was still 35% lower than that of May 2019, owing to the semiconductor shortage issue. In May, many OEMs, such as Nissan, Honda, Mazda, Subaru, and Mitsubishi, had downtime and/or drastically reduced their line rate, cutting overtime and holiday operations. Production reductions have been continuing in June. Japan will likely lose 288,000 units because of the issue in the first half of the year. July is the key month to influence the recovery trend in the second half of the year. IHS Markit analysts will closely monitor the situation in July, when Renesas will fully recover its shipment, and watch how OEMs can mitigate the negative impact through July.



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[VIP ASSET] Formula E - Fast Tracking the car tech of tomorrow



In the debut episode of the new Autology podcasts, we discuss how Formula E is driving technology for EVs on the road, including how OEMs-come-race-teams like Nissan and Jaguar Land Rover are applying their learnings in energy regeneration systems to their production vehicles.

The sport has come a long way since the drivers were forced to change vehicles mid-race due to limited battery range, with the upcoming third generation Formula E race car including a fast-charging 350kW battery.

However, the high cost of battery systems is still an issue both on and off the circuit – a point that that is explored in the podcast, alongside when the cost of batteries will be more sustainable.

And then there's the question if we'll see the day without Formula 1 and other traditionally fueled racing car series? Tune in to reveal all, including the predicted year which our experts think will mark the end of the internal combustion engine.

Speakers:

- Frederic Espinos, Sporting Director at Formula E
- Elisha Thakorlal, OEM strategy expert at IHS Markit
- Richard Kim, Battery expert at IHS Markit

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[VIP ASSET] Powertrain market analysis for revised EU fleet emissions scenarios

As part of the European Green Deal initiative, tomorrow (14 July) the European Commission will unveil its 'Fit for 55' package of legislation aimed at slashing greenhouse gas emissions across the European Union by 55% by 2030, which will have potentially massive implications for Europe's automotive industry.

Outlook: The component that will govern the future passenger car emissions regulations is expected to increase from the proposed current fleet CO₂ reduction of 37.5% by 2030, to 50% or even a stretch goal of 65%. This will of course mean a significant acceleration of the pace of light-vehicle electrification across the bloc.

The European Commission is set to unveil its 'Fit for 55' legislative agenda tomorrow (14 July), which is aimed at reducing European Union-wide greenhouse gas emissions by 55% from 1990 levels by 2030. This will include a component called 'Amendment of the Regulation setting CO₂ emission standards for cars and vans' which will have potentially huge implications for the European automotive industry. IHS Markit expects that the announcement regarding the future emissions framework for light vehicles will go a lot further than the existing proposal, which was to target a 37.5% reduction in passenger car carbon dioxide (CO₂) emissions from 2021 target levels. Now, IHS Markit expects that target will be raised by anything from between 50% to as much as 65%. The higher target is now more likely given the fact that the European Commission is expected to set out a proposal for a 100% CO₂ reduction for the passenger car and LCV fleet by 2035.

This will have massive implications for the electrification strategies of the major OEMs operating in the EU market. It is clear that if these stretch goals are implemented as solid proposals to be voted into legislation, that OEMs that have been bolder and invested heavily earlier on in electrification will have a significant advantage. Below, we present data on what each scenario could mean for passenger car powertrain type market share in EU by 2030.

EU* powertrain market share analysis for two passenger car fleet CO₂ reduction scenarios against current target

	Baseline	Scenario 1	Scenario 2
2030 fleet CO₂ reduction target	-37.5%	-50.0%	-65.0%
ICE Conventional	1.6%	0.3%	0.0%
Hybrid-Mild	34.2%	27.0%	17.0%
Hybrid-Full	14.1%	11.0%	10.1%
Hybrid-Full Plug-In	10.4%	9.7%	9.4%
Fuel Cell	0.3%	0.5%	0.5%
BEV	39.4%	51.5%	62.9%

Source: IHS Markit Baseline data based on first-half 2021 sales-based powertrain forecast.

*EU refers to EU27, Iceland and Norway, which are the markets covered by the fleet CO₂ reduction target.

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The data highlight the far greater emphasis on battery electric vehicles (BEVs) under these two scenarios. A 39.4% BEV share was forecast to be required to meet the 37.5% reduction in CO₂ by 2030 in the EU; under a 50% reduction scenario this share is expected to reach 51.5%, while in a 65% reduction scenario, BEVs would need to reach a 62.9% share. This will be to the detriment of other powertrain types that have been more commonplace



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up to now, including plug-in hybrid (PHEV), which has been seen as a transitioning technology for some customers towards BEVs.

This acceleration of electrification across the EU will not only affect OEMs. The market for lithium-ion batteries in the EU (for passenger cars) would evolve, as the demand in 2030 would be pushed from 354 GWh for the current 37.5% reduction target to 438 GWh for the 50% reduction target and 528 GWh for the 65% reduction target.

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