

# Automotive Industry Weekly Digest

04-08 January 2021



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# [OEM Highlights] Bentley to adapt products to available BEV technology as part of strategic shift

IHS Markit pe	rspective
Implications	Bentley is planning to adapt its product range to suit that of the available BEV technology as part of the brand's pivot away from using ICE technology by 2030.
Outlook	IHS Markit's current expectations for Bentley show that it will add an electric crossover to its range in 2025 that will take around 20% of the brand's production during its first full year in 2026. We also expect a second BEV-only model being introduced in 2029.

Bentley is planning to introduce models into new segments as part of the automaker's pivot away from internal combustion engine (ICE) vehicles and become a battery electric vehicle (BEV)-only brand by 2030. Bentley's chairman and CEO Adrian Hallmark told Autocar that the company had yet to decide whether these new BEVs will take on the nameplates and lineage of its current line-up, but said, "Our position is to look at customers and segments. As well as moving to electric, we're going to adapt our product range because the world is changing". Reflecting on this, he said, "We want to appeal to more women and be more relevant in future urban environments which are very much different to today, and we want to appeal to modern luxury values which are different to ones from 20 years ago", noting that this will evolve further during the next 10 to 15 years.

Hallmark also said that the company does not anticipate a "step change" in BEV technology, but that incremental improvements will help it to achieve its range targets. He told the enthusiast publication, "By 2025, we're predicting 110kWh to 120kWh batteries will be available, which starts to put bigger cars in a position where you can get 400-500km range." He also highlighted the need for plug-in hybrid technology as part of this transition, noting, "You need 150kWh-plus to get a full-size SUV [sport utility vehicle] to have the equivalent performance of a combustion-engined vehicle, which is why hybrids are so important in playing a part for bigger vehicles in the next five to 10 years." Overall, Hallmark said, "We think that BEVs with medium-size cars in that 2025-2030 range become feasible, and larger [electric] cars are post-2030, which is why 2030 is the date we plan to change everything."

Autocar has said that the first BEV due to be built by Bentley in 2025 will be underpinned by a new bespoke platform being developed by Audi under the name 'Project Artemis'. Although Hallmark has not confirmed whether it will, he did confirm the brand's involvement. He stated, "Artemis is a derivative of a new electrical architecture. It will be the basis for multiple products in different segments. With our current cars, we had to get into engineering largely after the architecture had been done. We had to add bits as well as engineer the architecture for Bentley. With this new one [Artemis], we're right in at the beginning defining what it needs to achieve for us. We're a benefactor of it and paying a contribution, so we can give detailed engineering requirements from day one so it makes industrialisation much easier for the company." This will enable Bentley to add its own "sub-architecture" components.

The magazine reports that the first BEV is expected to be a high-riding sedan designed to accommodate the batteries under the vehicle. It also notes that it will not be as tall as current SUVs while its styling will be inspired by the EXP 100 GT concept with a focus on aerodynamic efficiency. However, Hallmark has said, "We're not frozen in terms of the bodystyle and so on. But we know the technology we're going to be using and the capabilities of that technology. We know the dimensions and the hard points that we've got to work with, but that's only the basic elements, maybe 20% of the work. We're also worked on a lot of different options in terms of design of the first car, and over the next three



to six months we'll formalise those, lock and load and be ready to go. But we're still in that searching phase, and not in the implementation phase yet."

### **Outlook and implications**

The comments come just a month after the brand laid out its Bentley100 strategy, for it to become a fully carbon-neutral organisation by 2030 and also move to fully BEV products. While its product strategy is not yet fully defined, it is indicative of what can be expected from the automaker. It is interesting to note that the company seems to be planning to create new products more suited to the current and expected limitations of BEV technology, rather than trying to offer customers a product in an existing category that would fail to meet expectations. Indeed, Hallmark has said that Bentley's initial BEV models are likely to complement its current non-BEV range, noting that "for our customers, [the BEV] won't be their only car. They will have charging capability at home, work and places they frequent, and as that infrastructure builds, it will become more usable. The characteristics of a BEV are so aligned to Bentley, so why wouldn't we?"

The shift toward making its entire product line-up BEV also brings with it an interim step of making its entire range consist either of BEVs or plug-in hybrid electric vehicles (PHEVs) by 2026. The automaker is already moving forward with the electrification of its range through the introduction of PHEVs. The Bentayga Hybrid this year will be followed by the Flying Spur Hybrid in 2021, putting it on course to offer all its models with at least one PHEV variant by 2023. This also means that ICEs are not entirely dead for now; Hallmark told Autocar that the brand is planning an "autumn rush" of new and updated vehicles using ICE during the decade, and plans to "release a multitude of derivatives over the next three years." It also has no plans to end investment in ICE or PHEV powertrain technology to focus entirely on BEV yet. Hallmark also added that Bentley is still monitoring the development of synthetic fuels – something other members of the VW Group already have an interest in – which could offer an alternative in the future. However, talking about the near-term prospects for hydrogen, Hallmark said that it is "a great idea, but the quantities of energy required for its production and the challenges of storing and transporting it mean it doesn't make sense yet."

IHS Markit's current expectations for Bentley show that it will add a BEV model that we currently refer to as 'EV E-CUV' to its range in 2025 that will take around 20% of the brand's production during its first full year in 2026. We also see a second BEV-only model being introduced in 2029.

# [OEM Highlights] Toyota Group reports 2.2% y/y growth in global output during November

IHS Markit per	rspective
Implications	Toyota Group's domestic and overseas production increased for the third consecutive month in November after several months of decline.
Outlook	According to IHS Markit's latest production forecasts, Toyota Group's light-vehicle production (including the Hino, Daihatsu, Toyota, and Lexus brands) is expected to decline by 14.7% y/y to around 9.078 million units in 2020, from 10.64 million units in 2019. At its Japanese plants, total light-vehicle production during 2020 is expected to decline by 11.9% y/y to 3.842 million units.



Toyota Group has announced its global production figures for November, reporting a 2.2% v/v increase in overall output to 938,680 units. This figure includes output at its subsidiaries Daihatsu and Hino. According to data released by the automaker on its website, worldwide output of the Toyota brand was up by 7.0% y/y to 828,066 units last month, Daihatsu's output was down by 24.7% y/y to 97,708 units, and Hino's production declined by 13.3% y/y to 12,906 units. By region, Toyota Group's production increased by 2.2% y/y in the domestic market to 381,224 units and also by 2.2% y/y in overseas markets to 557,456 units during November. Japanese output of the Toyota brand was up by 8.5% y/y to 298,968 units. Daihatsu's production was down by 17.9% y/y to 70,791 units, while for Hino it was up by 0.7% y/y to 11,465 units. In overseas markets, production of Toyota-brand models during November was up by 6.2% y/y to 529,098 units, while Daihatsu posted a 38.3% y/y decline to 26,917 units. Hino's output shrunk by 58.9% y/y to 1,441 units.

220.000			
828,066	7.0%	7,153,882	-14.8%
97,708	-24.7%	1,062,744	-22.0%
12,906	-13.3%	118,001	-35.3%
938,680	2.2%	8,334,627	-16.1%
	12,906	12,906 -13.3%	12,906 -13.3% 118,001

Source: Toyota

In the year to date (YTD), Toyota Group's global production declined by 16.1% y/y to 8.334 million units. The Toyota brand's output was down by 14.8% y/y to 7.153 million units, Daihatsu's production was down by 22.0% y/y to 1.062 million units, and Hino's production was down by 35.3% y/y to 118,001 units. By region, total production in Japan during the YTD declined by 14.3% y/y to 3.597 million units, while production outside Japan was down by 17.5% y/y to 4.737 million units.

### **Outlook and implications**

Toyota Group's domestic and overseas production increased for the third consecutive month in November after several months of decline.

During November, Toyota-brand production in North America decreased by 0.6% y/y to 157,332 units, driven by high demand for the Highlander and RAV4 models. Production in the United States was up down by 2.6% y/y to 96,269 units during the month, while in Mexico it grew by 12.3% y/y to 18,075 units. In Latin America, Toyota-brand production was down by 4.0% y/y to 25,610 units last month owing to coronavirus disease 2019 (COVID-19) virus effects.

In Europe, Toyota's production was up by 4.5% y/y to 73,926 units in November on the back of strong demand for the Yaris and Corolla models despite the resurgence of the pandemic.

In China, output was up by 11.2% y/y during November to 158,927 units on the back of high demand for models such as the Camry, RAV4, Corolla, and Levin. In Thailand, production of Toyota-brand models was strong at 55,254 units, up by 30.2% y/y, owing to strong demand for the Hilux, Fortuner, and Corolla Cross. In Japan, production grew by 8.5% y/y to 298,968 units on the back of strong demand for the Harrier and Yaris. Although consumers have gradually started to return to a new normal during the pandemic, the market has been hurt as customers have continued to cut back on spending following the consumption tax rise. It appears likely that the coming months will be equally tough for the industry as the government looks at ways to contain the spread of the COVID-19 virus. Additionally, drastic global market stagnation and increasing political and economic uncertainties will present downside risks for Japanese sales. The Japanese economy is expected to post a 5.4% decline in 2020, down from the 0.7% growth in 2019. The figures are based on IHS Markit's preliminary forecasts dated 16 December 2020.



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## [Autonomous Driving Highlights] Chery partners with Huawei to develop smart cars

Chery has partnered with Huawei to jointly develop technologies for smart cars. The companies will co-operate to develop smart car-related electrical and electronic architectures, intelligent connection, intelligent cockpit, onboard computing, automated vehicle operation, intelligent energy and Intelligent Vehicle Cloud Services (IVCS). In addition, the companies will make joint efforts to explore 5G-enabled innovative application scenarios and develop the technologies of 5G-based V2X (vehicle-to-everything), intelligent vehicle infrastructure and autonomous vehicles.

### **Outlook and implications**

Chery is accelerating its efforts to develop smart cars and has developed first and second generation of unmanned driving products. The automaker has integrated its Chery Lion 2.0 system with the Chery Tiggo 8 and EXEED models that support functions such as voice control, facial recognition, AR navigation, internet service and smart home. Chery plans to achieve Level 4 highly autonomous vehicle operations in 2025. Huawei is looking to expand its presence in the automotive industry. Huawei's 5G technology offers advantages such as high transmission speed, reliability and latency that meet the technical connectivity requirements for autonomous vehicles. This year, Huawei partnered with 18 Chinese automakers to accelerate the use of 5G in vehicles.

# [Autonomous Driving Highlights] China's Jiading district signs agreement with AI firms to develop smart car technologies

China's Jiading district has signed an agreement with artificial intelligence (AI) companies to infuse momentum into the development of the automotive industry. The AI companies include Horizon Robotics, CITICPE, and Baidu Group, which will help the district build smart cars and cities, reports SHINE. Horizon Robotics will provide AI chips to help traditional car enterprises in the district to develop smart cars and their computing platform. In Jiading, CITICPE will build its headquarters, which will involve in science technology and intelligent internet of things (IoT) and will also provide financial support for regional industrial development. CITICPE also plans to invest in the "Cloud+ Intelligent Driving Innovation Base" project in Jiading that intends to meet the cloud computing requirements of smart cities. Baidu will establish a demonstration zone in the district to test intelligent connected vehicles.

### **Outlook and implications**

The Chinese government is strongly prioritising the electrification and autonomous vehicle (AV) sectors for it to gain the leadership position in the global automotive industry. China is pushing to commercialise smart AVs, which is a key part of the country's 'Made in China 2025' plan. Recently, the country released the Technology Roadmap for Intelligent-Connected Vehicles 2.0, which expects vehicles with partial autonomous functions to account for 50% of new vehicle sales by 2025. Under this plan, new vehicles with Level 2 or Level 3 automation will represent 70% of new vehicle sales by 2030.



# [Technology and Mobility Highlights] VW demonstrates mobile charging robot prototype

The Volkswagen (VW) Group Components division has released a first look at a mobile charging robot under development; although deployment timing is not certain, the project is moving to a further stage of development, according to a VW press statement. VW Group Components is working on a complete DC charging family, with a flexible quick-charging station planned to be launched onto the market in early 2021. The mobile charging robot has potential to work with the quick-charging station to move the station to a vehicle, open the charging socket flap and connect the plug, as well as then decoupling the plug when charging is complete or it is time to remove the flexible unit. The flexible quick-charging unit is envisioned as a relatively small unit, compact for storage as well as sitting next to a vehicle. The solution has potential to lend itself well to a situation like an underground parking garage, where space is at a premium and creating multiple charging stations is cost- or space-prohibitive. VW Group components, based on the CGI demonstration video released, envisions a series of the flexible charging units in small area, with the mobile charging unit to also be recharged. The mobile charging robot itself could slot next to the charging units, also taking on whatever electricity it needs. The solution could enable banks of the charging units, with one mobile charging robot able to support several charging units. With no human interaction necessary, the cars can be charged once the owner has parked.



VW mobile charging robot and flexible charge station Image courtesy of VW

### **Outlook and implications**

There are many potential applications for this technology, including parking garages, but also potentially for maintaining autonomous fleets. As automakers plan to roll out any number of electric vehicles (EVs) in the next several years, development of solutions to make living with them easier is also part of the equation. This solution has potential to enable installation in parking garages with less building reconstruction needed, as the electricity needs to be routed to one location to support charging of multiple vehicles, rather than to each parking spot intended for EV use. One element that VW notes that would be required for this technology to mature is car-to-everything (car-to-X or V2X) communication technology. VW already uses this technology and has the capability of deploying it in its own vehicles, but for such a system to work with others, the other vehicles would need to include that technology as well. V2X technology is being deployed relatively slowly. Certain Audi vehicles have deployed V2X, which has been used for communicating information about upcoming traffic signals as well as automatic toll booth operation. General Motors (GM) has also produced certain Cadillac vehicles, this includes developing and evolving new technologies for how those



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vehicles interact with the world. The VW mobile charging robot is a clever solution. Ford and Bosch have also partnered to develop technology which could contribute to easier EV charging via an automated valet-parking system, though that still requires a person to connect the vehicle.



VW mobile charging robot Image courtesy of VW



VW mobile charging robot Image courtesy of VW

## [Technology and Mobility Highlights] SK Innovation on track for pilot battery production in US during H1 2021

SK Innovation is on track to meet its schedule of beginning pilot battery production at a new plant in the US state of Georgia in the first half of 2021, reports the Electronic Times. According to the report, SK Innovation plans to supply Volkswagen (VW) with its mid-size to large pouch-type NCM811 batteries, which have an 80% nickel content, from the facility in Georgia. The batteries are to be used in the VW ID.4, which is slated to see US production in 2022. An SK Innovation spokesperson reported as saying, "Our first Georgia plant is 90% completed. We are expecting to receive battery materials in the first half of next year [2021] and start conducting necessary tests for actual production." The report also states that the US International Trade Commission (USITC) is due to make a full decision on 10 February 2021 regarding a dispute between SK Innovation and LG Chem. SK Innovation expects the decision to go in its favour. In addition, SK Innovation broke ground on a second US plant in July. The company plans to manufacture a different battery for the Ford F-150 battery electric truck at the plant in 2023, according to the report. These batteries will have a nickel content of 90%, the report states. The higher nickel content increases battery density, the report states. SK



Innovation aims to produce 200,000 batteries per year at the two US plants, the report states. The company reportedly plans to begin commercial battery production at the second plant in the first quarter of 2023.

### **Outlook and implications**

Significance: According to SK Innovation, the USITC case began with LG Chem suing SK Innovation in April 2019, alleging misappropriation of trade secrets. SK Innovation says there is currently a total of 10 disputes between the two companies, with some cases filed in South Korea and some in the United States. If the USITC determines that a violation took place in the cases it is hearing, it has the authority to issue an exclusion order and prohibit the importation or the sale after importation of the products. In addition, SK Innovation states that it has won large orders from OEMs for batteries based on its technology and plans to continue investment in and expansion of production facilities. Among the hurdles to speeding the adoption of electric vehicles (EVs), and to complying with some of the tentative efforts at banning ICEs in various jurisdictions in the US and globally, will be creating enough battery supply to support EV production.



# [Supplier Trends and Highlights] ABS and ESC fitment to be driven by emerging markets and affordable vehicle segments

## Increasing numbers of emerging countries are introducing legislations that make the fitment of these features mandatory in new vehicles

Having a high safety ranking is a unique value proposition (UVP) for any carmaker, coupled with the fact that safety norms worldwide are becoming increasingly stringent, and the number of vehicles on the roads are increasing globally at very high rates, the requirement to improve overall vehicular safety is of paramount importance to OEMs.

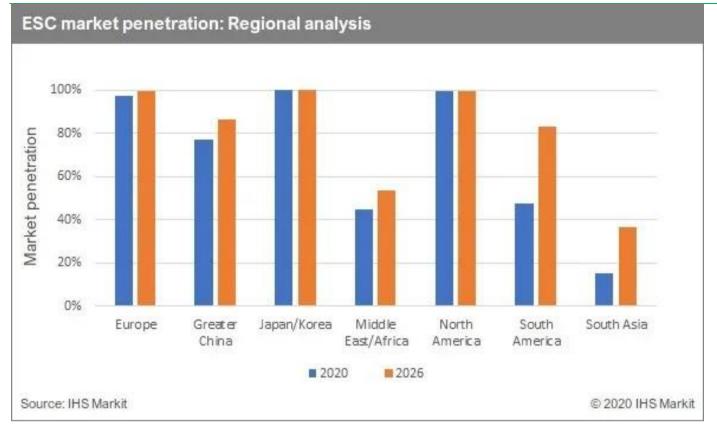
Despite various safety measures dotting the modern automobile, one of the earliest and best-known active safety measures is the anti-lock braking system (ABS). A conventional braking system would lock up the wheels when pressed hard, causing the driver to lose the ability to steer the vehicle. If installed, the ABS applies and releases braking pressure several times per second so as to ensure that the tire never loses tractive contact with the terrain. Additionally, it also has the ability to reduce or increase braking pressure at each wheel independently to bring the vehicle to a halt almost immediately without locking the wheels. ABS has been further developed by carmakers such as Mercedes-Benz and BMW into cornering brake control (CBC). This system applies braking pressure asymmetrically during cornering by varying the brake force distribution between the left and right sides of the vehicle to maximize safety and overall control.

A more evolved technology is electronic stability control (ESC), which can alter the brake bias between the wheels when onboard sensors detect a loss of steering control. ABS is quite prevalent in most vehicles today, including entrylevel vehicles, partly due to legislations in many countries that make the installation of ABS mandatory in new vehicles sold after a particular year. However, ESC is still only found in mid-level and/or premium vehicles, depending on the market where the vehicle is being sold. In most emerging automotive markets, ESC, which is also referred to by automotive manufacturers as dynamic stability control (DSC), vehicle stability control (VSC), or electronic stability program (ESP), is only now beginning to trickle down to the more affordable vehicle segments, primarily as a selling point for manufacturers.

From a global standpoint, the demand for ABS and ESC fitment currently stands at around 67 million units. According to IHS Markit data, this number is expected to climb to just short of 80 million units within the next two years and will nearly reach the 87-million-unit mark in 2026. Major suppliers of this component include Bosch, Continental, Hyundai Mobis, Hitachi Automotive Systems, and the ZF Group.

ABS has attained a relatively high level of market penetration globally, and ESC fitment has been made compulsory in European and North American markets for nearly a decade. On the other hand, ESC continues to remain a feature that is seen largely in premium vehicles in emerging automotive markets. However, markets such as India are working on plans that could potentially make the fitment of ESC and autonomous emergency braking (AEB) standard on all new vehicles by the 2022–23 period, according to the Indian Ministry of Road Transport and Highways. According to the Global Road Safety Report published by the World Health Organization, ESC was found to be 38% effective in reducing the number of deaths in collisions where the driver was found to have lost control of the vehicle.





Although the European, Japan/Korea, and North American markets have registered almost complete or complete ESC penetration for a few years now, emerging markets such as South America and Greater China are expected to make significant inroads in terms of ESC penetration over the next six-year period. IHS Markit data points to ESC penetration in the South American car market climbing from the present level of 47% to around 83% by 2026. During this time frame, ESC penetration in the Greater China market is projected to rise from 77% to 87%. Numbers for the Middle East currently stand at 45%, and IHS Markit predicts that it would reach 54% by 2026. The market penetration in the South Asian region is forecast to have a comparatively steeper increase between 2020 and 2026, going from 16% to 37%.

Emerging markets are primarily responsible for the sharp uptake of ABS and ESC systems. Elaborating on the scenario for these components in the mainland Chinese market, Mengyin Tao, a senior research analyst of chassis systems at IHS Markit, said: "In [mainland] China, there are no direct state standards or regulations which mandate ESC to be equipped either in passenger cars or commercial vehicles. However, the fitment of ESC can earn additional bonus points when the vehicle is put through the C-NCAP test. It is to be noted that this rule is still effective in the recently released version of the C-NCAP procedures in 2021. Regarding the case of ABS, there is the state standard GB 7258-2017 (successor of the GB 7258-2012 standard), which mandates ABS to be equipped on certain types of commercial vehicles and vans. Nowadays, all passenger vehicles sold in the mainland China market are featuring at least ABS, if not ESC."

*IHS Markit maintains its forecast intelligence globally at vehicle model/platform levels for multiple chassis-related components. This intelligence has centered on supply and consumption (OE demand) according to the vehicle assembly location. IHS Markit now also specifies in the intelligence the component manufacturing location (geographic area, country, and town/city). The analysis for the above article is driven directly from these sources.* 



## [Supplier Trends and Highlights] ACCESS's NetFront Browser BE for Car v3.0 enables in-vehicle connected services in Europe

NetFront Browser BE for Car v3.0 is available for testing now and will be available in first quarter 2021



Source: Getty Images/Igor Nelson

ACCESS has launched NetFront Browser BE for Car v3.0 for in-vehicle connected services across Europe, the company said in a press release on 17 December. It will offer automotive, entertainment, and media markets with secure and advanced commercially supported embedded browser.

The new upgrade is based on the latest standards and provides security updates and media playback support to cars, including support for the new Google services login requirements from January 2021, via the ACCESS Twine for Car invehicle infotainment system.

"Software is now a central component in cars and it is critical that OEMs and their tier-1s keep up with the latest updates of Internet standards if they are to succeed in the new era of connected Software-Over-The-Air enabled vehicles. Through NetFront Browser BE for Car v3.0, we are helping OEMs support the latest industry developments, such as Google's new mandatory Single Sign-On (SSO), which would otherwise prevent access to Gmail, Calendar and YouTube in the car," said Neale Foster, CEO, ACCESS Europe.

### **Outlook and implications**



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Key features of the NetFront Browser BE v3.0 include Google single sign-on support with access to Gmail, Calender, YouTube and other Google powered services in the car, up-to-date support for HTML5, CSS, JavaScript, support for Android, Linux and embedded automotive OS like QNX. NetFront Browser BE for Car v3.0 is available for testing now and will be available in first quarter 2021.

In December, the company also announced a partnership with DW that will see international and regional news delivered in multiple formats to connected cars via Twine4Car in-vehicle infotainment solution.



### [GSP] North America Sales and Production Commentary -2020.12

### North America sales

#### November 2020: -14.6%; 1.436 million units vs. 1.682 million units

#### YTD 2020: -17.9%; 15.179 million units vs. 18.498 million units

- While regional light vehicle sales continue to improve from the depressed levels of April, the pace of sales in the region has moved sideways since September. The auto demand levels during the past few months reflect the tough economic conditions realized across the region, but also signal a sustained recovery—so far—from the depths of the COVID-19 pandemic effects just eight months ago.
- The immediate risk to auto sales levels would be the rising regionalized COVID-19 infections in the United States and Canada, which have local and federal governments preparing the possibilities to backtrack on reopening measures, creating some uncertainty moving into the remainder of 2020 and early 2021.
- Across the region, growth in auto demand levels realized since April took a mild pause in November. All countries realized year-on-year (y/y) declines for the month, and regional sales are estimated to have dropped almost 15% y/y.
- With a seasonally adjusted annual rate (SAAR) of 15.6 million units, November light vehicle demand declined mildly from the pace of the previous two months (September and October readings of 16.2 million units and 16.3 million units, respectively). Incoming figures reflect sustained retail demand levels (compared with both month-prior and year-earlier results), while fleet sales, which seemed to improve slightly in the previous two months, waned again in November. With the usual end-of-year promotional activity and three additional selling days, IHS Markit expects the pace of sales in December to bounce back above the 16.0-million-unit mark, although lockdowns being reimplemented in various regions of the country could create some headwinds for a strong close out to the year. The December forecast release reflects an annual level of 14.55 million units in 2020 and 16.0 million units in 2021—up 275,200 units and 463,800 units, respectively, from the previous forecast setting.
- The economic shutdown and the rise in unemployment levels had an immediate effect on spending levels by the debt-laden Canadian households. While lockdown policies were no stricter than found elsewhere, Canadian light vehicle sales reflected some of the weakest results in the region early in the pandemic. After plummeting 75% in April, May sales were down approximately 44%. The rebound rates in auto demand levels since have been the strongest in the region, but like elsewhere, the recovery momentum has waned recently with a moderate y/y demand decline of approximately 2% y/y in October followed by an estimated 11% decline in November. The IHS Markit calendar year (CY) 2020 light vehicle sales forecast setting for Canada remains at 1.53 million units, with demand expected to grow 14% in 2021 to 1.75 million units. Sales are expected to reach 1.9 million units by 2025, bumping against the pre-COVID-19 pandemic levels.
- Even during several years before the current COVID-19 effect, Mexican light vehicle demand was leading the region in auto sales declines, and the current situation adds additional pressure to an economy that was already stagnating. November auto demand in the country was down an estimated 24%, sustaining the weakest results within the region. IHS Markit projects demand in CY 2020 at 947,500 units, with demand rising 13% in 2021 to 1.025 million units.
- Deep-cutting, consumer-led, and at least in the US and Canada—quick—recessions are expected across North America in 2020. While the region inches toward "normalcy" next year, auto demand is expected to remain somewhat constrained. The recent surge in COVID-19 infections in the US and Canada could undermine the auto recovery levels in the immediate term. Regional sales are projected to decline approximately 16% in 2020, to 17.04 million units, followed by a moderate rebound of 10.5% in 2021, up to a level of 18.83 million units.



#### **North America production**

#### November 2020: -8.9%; 1.25 million units vs. 1.37 million units

#### YTD 2020: -22.3%; 11.85 million units vs. 15.24 million units

• The production outlook for North America for the December 2020 release was revised higher in 2021 and 2022 on an increased US demand outlook that was revised higher by 3.0% or over 463,000 units to 16.0 million units in 2021 and 0.8% or 130,000 units in 2022. Production in the region for 2021 was revised 1.6% or 262,000 units higher, totaling 16.2 million units, while 2022 was revised 2.5% or 404,000 units higher to total 16.7 million units.

Welcome to join the VIP group and read the full article

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