
THE SOCIOECONOMIC SITUATION SURROUNDING THE AUTOMOBILE INDUSTRY

1 Introduction

In 2020, the world was confronted with the global spread of the COVID-19 disease, leaving countries scrambling and struggling to implement measures such as restrictions on travel and on going outside in an attempt to contain that spread. Global economic activity suffered a severe blow, and in the automotive industry, plants producing completed vehicles had to reduce production or suspend operation due to a drop in the production capacity of the supply chain for parts and other components. Uncertainty about the future caused consumer confidence to drop, resulting in a significant decrease of the demand for automobiles.

Amid the ongoing repercussions of the pandemic, the global automotive industry is shifting toward decarbonization and electrification, and various countries have announced targets such as a timeframe for prohibiting the sale of new gasoline vehicles.

As part of the government's pledge to achieve carbon neutrality in 2050, Japan has announced a policy to ban sales of new internal combustion engine vehicles in the mid-2030s. The government defines changes in society and changes in automobiles as two crucial elements of its vision for a society where anyone in the world can enjoy convenient, pleasant, carbon-free mobility services.

This article presents an overview of the 2020 automotive industry and the issues it faces in the context of the pandemic that shows no sign of abating even in 2021.

2 Political and Economic Situation

2.1. The Global Economy (Table 1)

According to the International Monetary Fund (IMF), the 2020 global economy exhibited a negative real GDP growth rate of -3.5% compared to 2019. The real GDP growth rate showed signs of recovery starting in mid-2020. However, with the pandemic showing no signs of abating, some countries in Europe and elsewhere once

again started imposing partial lockdowns through the end of 2020, and the prospects for the global economy remain murky.

The global economic chaos stemming from the pandemic caused 2020 crude oil prices to fall to negative levels for the first time in history in April, when many countries imposed lockdowns, and the WTI futures price fluctuated wildly. In July and subsequent months, following the resumption of economic activity and a slowdown in the spread of COVID-19, as well as cooperation in reducing oil production between the Organization of the Petroleum Exporting Countries (OPEC) and OPEC Plus (a group that also includes non-OPEC major oil producing countries), crude oil prices for the entire year 2020 reached 39.4 dollars. Although crude oil has recovered its value following its historic fall below zero, the future remains uncertain as the number of people infected by the novel coronavirus remains stubbornly high.

(1) The U.S.

The U.S. posted a real GDP growth rate of -3.4% com-

Table 1 Real GDP Growth Rates in Major Countries (%)

	2018	2019	2020 estimate	2021 forecast
World	3.6	2.8	-3.5	5.5
Major developed nations	2.2	1.6	-4.9	4.3
U.S.	2.9	2.2	-3.4	5.1
Eurozone	1.9	1.3	-7.2	4.2
Germany	1.5	0.6	-5.4	3.5
France	1.7	1.5	-9.0	5.5
Italy	0.8	0.3	-9.2	3.0
Spain	2.4	2.0	-11.1	5.9
UK	1.3	1.4	-10.0	4.5
Japan	0.3	0.3	-5.1	3.1
Developing nations	4.5	3.6	-2.4	6.3
Russia	2.3	1.3	-3.6	3.0
China	6.6	6.0	2.3	8.1
Thailand	4.1	2.4	-6.6	2.7
Indonesia	1.0	5.0	-1.9	4.8
India	6.8	4.2	-8.0	11.5
Brazil	1.3	1.4	-4.5	3.6
Saudi Arabia	2.4	0.3	-3.9	2.6

Source: IMF World Economic Outlook, revised forecast, January 2021

pared to 2019, exhibiting negative growth since the severe economic slowdown imposed by the global financial crisis in 2009.

In April 2020, the unemployment rate rose to 14.7%, its worst level since the Great Depression of the 1930s. Conversely, the rapid shift to work-from-home triggered by global stay-at-home restrictions led to a strong business performance for IT corporations such as GAFAM thanks to the greater use of IT equipment and related services, highlighting the contrast in business revenue due to COVID.

In November 2020, Democrat Joe Biden was elected 46th President of the United States to replace Republican Donald Trump, whose four-year term begun in 2017 had come to an end.

President Biden promptly initiated a reversal of the “America First” internal and diplomatic policies of the Trump Administration. He has rejoined the international Convention on Climate Change (Paris Agreement), cancelled visa restrictions against Muslim countries, and otherwise set a course of action that restores the Obama era government policies.

(2) Europe

In 2020, Europe suffered negative growth on an unprecedented scale as the pandemic forced it to impose strict lockdown, travel restrictions, and other policies.

Even as they sought a balance with economic activities, European countries decided to impose severe lockdowns in March and April, and again in October and November 2020 in the wake of the rise in new COVID-19 cases. The pace of the rise in new cases after that slowed down, leading some countries to experiment with relaxing their regulations.

Following the June 2016 referendum that determined the UK would withdraw from the EU (Brexit), negotiations with the EU resulted in both sides agreeing on matters such as continuing to trade without imposing tariffs, finally completing the withdrawal of the UK. In contrast, the pandemic triggered a striking economic downturn, and the 2020 real GDP growth rate of -10.0% constituted a low level among the major European countries. Moreover, a new highly infectious variant became prominent in December 2020, and no forecast for a full-scale economic recovery has been made.

Germany fell into negative growth in 2020, exhibiting a real GDP growth rate of -5.4%. Germany is dependent on exports of vehicles, machine tools, and other high-add-

ed-value products, and the sweeping stagnation of the economies of other EU member countries, which account for the majority of export revenue, led to a major drop in trade balance. In June 2020, the German government enacted economic stimulus measures such as reducing the consumption tax, providing emergency funds for businesses, and giving subsidies to households raising children.

France and Italy also exhibited a real GDP growth rate exceeding -9% in 2020, further illustrating how the impact of the spread of COVID made it a year marked by a tremendous economic slowdown.

(3) China

The Chinese economy had maintained a real GDP growth rate in the +6% range in the three previous years, but in 2020 that pace fell to +2.3% compared to 2019. Nevertheless, while the COVID-19 pandemic dragged all other major countries into negative growth in 2020, China was the only country to maintain positive growth.

Although growth dropped significantly to -6.4% from January to March 2020, the manufacturing and export industries subsequently continued to show signs of recovery. Economic recovery was driven by the expanded production of computer accessories, furniture, appliances and household goods prompted by the global “stay home” movement.

In 2020, the growth of the Chinese economy, which has served as the world factory and been propped by external demand for many years, continued to be held back by the U.S.-China trade friction that began in 2018. In the wake of export restrictions targeting some Chinese companies due to the trade friction and the halt in the supply of industrial products caused by the pandemic, the Chinese government has put forward a dual circulation growth model that combines the traditional external demand (international circulation) and internal demand (internal circulation).

President Biden, who took office in January 2021, has demonstrated a pro-China stance since the days of the Obama administration, drawing speculation about whether the U.S.-China relationship will improve.

(4) Emerging Markets

Mexico exhibited a real GDP growth rate of -8.3%. The fallout from COVID-19 policies severely depressed not just the automotive industry and other parts of the mining and manufacturing sector, but also the commerce,

tourism, and other parts of the service sector. The United States-Mexico-Canada Agreement (USMCA) entered into force in July 2020 includes provisions, such as revised rules of origin for motor vehicles, that stemmed from the Trump administration's goal of creating employment and protecting industry in the U.S. Revisions include the gradual raising of the threshold for automotive part content (62.5%) that qualifies for tariff-free treatment, the requirement for all core vehicle parts to be produced in North America, and sourcing 70% of steel and aluminum in North America. For Mexico, this makes producing automotive parts for export to the U.S. and completed vehicles domestically more difficult than in the previous North American Free Trade Agreement (NAFTA). With the transition to the Biden administration in the U.S., the progress of the trade relationship between the two countries, notable in the automotive industry, will be observed closely.

In 2020, the Thai economy exhibited a real GDP growth rate of -6.6% as restrictions on entering the country struck a hard blow to the tourism industry, its main driver. Economic stimulus measures such as low-interest funding (soft loans) for businesses and providing cash to the unemployed instituted by the government of Thailand stemmed the drastic deterioration of the economy.

The Indian real GDP growth rate was -8.0%, a stagnant level even among emerging countries. In March 2020, a stringent lockdown that closed all commercial facilities except those selling food and other necessities, restricted movement between states, and prohibited the use of public transportation and taxis, was imposed. However, hasty policies triggered a severe economic slowdown, not only leading to resuming economic activity before the virus stopped spreading, but also highlighting the insufficient public financial support, and the delay in implementing monetary easing measures.

In Brazil, President Bolsonaro's policies of prioritizing economic policies prevented the adoption of thorough measures against the pandemic, resulting in the highest number of infection cases and fatalities in the world.

2. 2. The Japanese Economy

The Japanese economy exhibited negative growth in 2020, with the real GDP growth rate falling to -5.1% compared to 2019.

Many countries imposed full or partial lockdowns when COVID-19 started spreading rapidly in March and

April 2020. Similarly, the Japanese government declared a state of emergency that called for refraining from non-essential, non-urgent outings, reducing work at the office by 70%, as well as the closing of eating establishments, thereby limiting economic activity on various fronts.

This led to a real GDP growth rate of -29.2% for April to June 2020 compared to the same period for 2019.

Under these circumstances, the government provided relief funding for businesses that lost revenue as well as support grants for medical institutions, and prepared a supplementary budget to give citizens a special cash payment. These measures brought about an impressive recovery the real GDP growth rate for July to September 2020, which reached +22.9% compared to the same period in 2019.

The consumer price index (excluding fresh foods) for 2020 was -0.2% compared to 2019. Fear of infection led to stagnant demand, particularly for services involving face-to-face interaction, but the "Go to Travel" campaign aimed at spurring tourism demand through rebates on accommodations and tour packages propped up the economy as a whole.

Capital investment for October to December 2020 rose 2.6%, reaching a positive level for the first time in three terms. Despite business production activity picking up and the loss in revenue showing signs of leveling out, the renewed increase in the number of infections at the end of the year and continued high levels of uncertainty about the future limited recovery to a mild pace.

3 Current State of the Automotive Industry

3. 1. Inside Japan (Table 2)

Vehicle sales in Japan in 2020 (January to December, including mini-vehicles) dropped 11.5% compared to the previous year, to 4.6 million vehicles.

The number of registered vehicles dropped 12.3% to 2.88 million vehicles, a third consecutive year of decrease over the previous year, and fell below 3 million for the first time since the 2011 Great East Japan Earthquake (2.69 million vehicle) nine years earlier.

Sales of mini-vehicles fell by 10.1% to 1.72 million vehicles. Although less than the decrease in registered vehicles, this nevertheless represents a second consecutive year of decline. Activity concerning automated vehicles in Japan was marked by a revision to the Road Traffic Act in April 2020 allowing level 3 automated vehicles to

Table 2 Sales Trends in the Japanese Automobile Market

Unit: 1,000 vehicles

	2015		2016		2017		2018		2019		2020	
	Volume	Compared to previous year	Volume	Compared to previous year	Volume	Compared to previous year	Volume	Compared to previous year	Volume	Compared to previous year	Volume	Compared to previous year
Total	5,047	90.7%	4,970	98.5%	5,234	105.3%	5,272	100.7%	5,195	98.5%	4,599	88.5%
Vehicle registrations	3,150	95.7%	3,245	103.0%	3,391	104.5%	3,348	98.7%	3,285	98.1%	2,881	87.7%
Passenger vehicles	2,704	94.5%	2,801	103.6%	2,943	105.1%	2,895	98.4%	2,822	97.5%	2,479	87.8%
Ordinary trucks	1,355	94.2%	1,490	110.0%	1,548	103.9%	1,583	102.3%	1,586	100.2%	1,356	85.5%
Light-duty trucks	1,350	94.9%	1,311	97.1%	1,395	106.4%	1,313	94.1%	1,236	94.1%	1,123	90.9%
Trucks	432	103.3%	428	99.1%	432	100.9%	439	101.6%	449	102.3%	392	87.3%
Ordinary trucks	173	104.8%	173	100.0%	176	101.7%	180	102.3%	182	101.1%	161	88.5%
Light-duty trucks	260	102.8%	255	98.1%	256	100.4%	259	101.2%	267	103.1%	232	86.9%
Buses	13	108.3%	15	115.4%	16	106.7%	14	87.5%	14	100.0%	9	64.3%
Mini-vehicles	1,896	83.4%	1,725	91.0%	1,843	106.8%	1,924	104.4%	1,910	99.3%	1,718	89.9%
Passenger vehicles	1,511	82.2%	1,345	89.0%	1,443	107.3%	1,496	103.7%	1,479	98.9%	1,331	90.0%
Trucks	385	88.7%	380	98.7%	400	105.3%	428	107.0%	431	100.7%	387	89.8%

Sources: Japan Automobile Manufacturers Association(JAMA), Japan Automobile Dealers Association (JADA), Japan Light Motor Vehicle and Motorcycle Association

Table 3 Sales Trends in the Overseas Automobile Market

Unit: 1,000 vehicles

	2015		2016		2017		2018		2019		2020	
	Volume	Compared to previous year	Volume	Compared to previous year	Volume	Compared to previous year	Volume	Compared to previous year	Volume	Compared to previous year	Volume	Compared to previous year
North America	21,186	105.8%	21,487	101.4%	21,196	98.6%	21,165	99.9%	20,824	98.4%	17,433	83.7%
Europe	19,004	106.4%	19,997	105.2%	20,723	103.6%	20,687	99.8%	21,081	101.9%	15,971	75.8%
China	24,565	103.3%	27,939	113.7%	28,941	103.6%	28,039	96.9%	25,769	91.9%	25,268	98.1%
Japan	5,047	106.4%	4,970	98.5%	5,234	105.3%	5,272	100.7%	5,195	98.5%	4,599	88.5%
Asia	9,047	103.3%	9,370	103.6%	9,872	105.4%	10,504	106.4%	10,165	96.8%	1,303	12.8%
Oceania	1,290	103.9%	1,325	102.7%	1,349	101.8%	1,315	97.5%	1,217	92.5%	1,037	85.2%
South Africa, Egypt	896	94.7%	771	86.0%	781	101.3%	748	95.8%	721	96.4%	434	60.2%
South America	3,495	81.2%	3,092	88.5%	3,503	113.3%	3,683	105.1%	4,340	117.8%	2,641	60.9%

Source: FOURIN's Monthly Report on the Global Automotive Industry

drive on public roads under certain conditions such as driving on expressways.

3. 2. Outside Japan (Table 3)

(1) The U.S.

Sales of new vehicles in 2020 were 16.3% lower than in the previous year at 17.43 million vehicles. As the spread of COVID-19 intensified between April and June 2020, the suspension of operation or curtailing of production at completed vehicle plants led to a significant drop in sales of new vehicles. The economy then hit rock bottom, and then gradually picked up until the end of the year. Changes in consumer trends included avoiding public transportation in an effort to control the epidemic, and an increase in the number of people enjoying more time with their families due to moving to the suburbs or an increase in working from home, resulting in strong sales for SUVs and other larger vehicles.

Amid the drop in overall vehicle sales, 2020 saw electric vehicle sales rise slightly compared to the previous

year. The electrification sector in the U.S. had been stagnant due to policies by the previous Trump presidency such as the unilateral withdrawal from the Paris Agreement and freeze on the U.S. vehicle fuel regulations set by the Obama administration. Despite the shift in national policy, California and several other states continued to implement their existing measures to disseminate electric vehicles. The election of Biden, an active supporter of measures to address climate change, as president is expected to intensify the shift toward electrification.

(2) Europe

In Europe, sales of new passenger vehicles dropped 24.2% compared to 2019 to 15.97 million vehicles. All countries in Europe, including the five main countries, had significantly lower sales than in the previous year.

The imposition of large-scale lockdowns in 2020 led to halting completed vehicle plant operations and limiting dealership business activities in all regions, causing April sales of new passenger vehicles for Europe as a whole to

drop precipitously by 70 to 80% compared to the same month in 2019.

Sales of new energy vehicles such as electric, plug-in hybrid, and hybrid vehicles in 2020 were strong increasing 70.5% compared to the previous year. By vehicle type, hybrid vehicles held the largest share of new energy vehicles sold in Europe, rising 51.3% in 2020 compared to 2019 to reach 1.45 million vehicles. Compare to the previous year, sales of electric vehicles increased 107.0% to 0.75 million vehicles, while the figures for plug-in hybrids rose 210.0% to 0.62 million vehicles. Stricter environmental vehicles on vehicles and economic measures such as incentives for the purchase of electric vehicles by the governments of various countries boosted the increase in demand.

Sales of new passenger vehicles in the UK dropped 29.0% to 1.95 million vehicles compared to the previous year. In addition to the impact of the pandemic, bringing the ban on sales of gasoline and diesel vehicles forward (the policy was moved up from 2035 to 2030) as well as economic uncertainty surrounding the withdrawal from the EU also contributed to decreasing sales of new vehicles. In contrast, the various incentives and other measures set forth by the government led to robust sales of new energy vehicles, which increased 59.8% to 0.39 million vehicles compared to 2019.

In June 2020, France launched environmental incentives for the purchase or leasing of new electric vehicles, as well as a subsidy program for switching to a new energy vehicle to promote the purchase and spread of low-polluting vehicles.

Germany, the largest vehicle market in Europe, introduced an "environmental bonus" incentive program for new energy vehicles in July 2020. The program expands eligibility for incentives (also covering vehicles with a purchase price of 40,000 euro or less), and doubles the original amount borne by the government (6,000 euro). This generous policy drove sales of new energy vehicle in Europe as a whole.

(3) China

Sales of new vehicles in 2020 were 1.9% lower than in the previous year at 25.27 million vehicles. The market contraction that had continued since 2018 due to the trade friction was exacerbated by the pandemic, resulting in three consecutive years of negative growth compared to the previous year.

In addition to its efforts to contain the pandemic in

early 2020, the Chinese government provided assistance for infrastructure investments, including the transport infrastructure, 5G, and AI, prompting an early recovery of the economy. Thanks to the extension of the scope of central and regional government incentives for the purchase of new energy vehicles, the promotion of automobile loans, and the easing of regulations on issuing license plates in large cities, sales of new vehicles were strong in March and subsequent months. However, they did not reach 2019 levels over the entire year.

By vehicle type, passenger vehicles achieved sales of 20.14 million vehicles, a 6.1% decrease compared to the previous years, while sales of SUVs were relatively healthy. Sales of new energy vehicles rose 10.9% compared to 2019, reaching 1.37 million vehicles.

(4) Emerging Markets

Sales of new vehicles in Mexico in 2020 dropped to 0.98 million vehicles, a 28.1% decrease over 2019 and falling below the previous year's level for a fourth consecutive year. Since the inauguration of the Andrés Manuel López Obrador (AMLO) administration in December 2018, Mexico has been beset by a budget deficit, stagnant capital investments, and deteriorating public safety. The spread of the pandemic in early 2020 made matters worse, resulting in continued negative growth.

Sales of new vehicles in Brazil fell to 2.06 million vehicles, a 26.2% decrease compared to the previous year.

In India, sales of new vehicles in 2020 dropped 25.2% compared to 2019, to 2.04 million vehicles. The Indian government imposed a nationwide lockdown from March to May 2020, and vehicle production in April fell to zero. Every month since August exhibited a double-digit recovery compared to the same month in 2019, but the stagnation that continued until July had a profound impact.

Vehicle sales in Thailand in 2020 dropped to 0.69 million vehicles, a 25.1% decrease compared to the previous year. This marked a second consecutive year of negative growth and the lowest level since 2016.

In Indonesia, vehicle sales in 2020 plummeted to 0.53 million vehicles, a drop of 48.8% compared to 2019. The imposition of a strict lockdown cause a drastic decrease of 96% in vehicles sales in May 2020 compared to the same month in the previous year.

Sales of new vehicles in Malaysia decreased by 17.5% compared to 2019, dropping to 0.45 million vehicles. In June 2020, the Malaysian government initiated a short-

Table 4 Trends in the Number of Automobiles Produced in Japan

Unit: 1,000 vehicles

	2015		2016		2017		2018		2019		2020	
	Volume	Compared to previous year	Volume	Compared to previous year	Volume	Compared to previous year	Volume	Compared to previous year	Volume	Compared to previous year	Volume	Compared to previous year
Total	9,278	101.5%	9,205	99.2%	9,691	105.3%	9,730	100.4%	9,684	99.5%	8,068	83.3%
Vehicle registrations	7,355	99.5%	7,563	102.8%	7,795	103.1%	7,798	100.0%	7,778	99.7%	6,332	81.4%
Passenger vehicles	6,300	98.5%	6,610	104.9%	6,863	103.8%	6,861	100.0%	6,856	99.9%	5,603	81.7%
Ordinary trucks	4,744	100.9%	5,000	105.4%	5,147	102.9%	5,256	102.1%	5,317	101.2%	4,193	78.9%
Light-duty trucks	1,556	92.7%	1,610	103.5%	1,716	106.6%	1,605	93.5%	1,538	95.8%	1,410	91.7%
Trucks	917	105.9%	823	89.7%	808	98.2%	824	102.0%	799	97.0%	659	82.5%
Ordinary trucks	587	104.3%	506	86.2%	516	102.0%	518	100.4%	506	97.7%	405	80.0%
Light-duty trucks	331	109.1%	317	95.8%	293	92.4%	306	104.4%	203	66.3%	254	125.1%
Buses	138	105.4%	130	94.2%	123	94.6%	113	91.9%	123	108.8%	70	56.9%
Mini-vehicles	1,923	108.7%	1,642	85.4%	1,896	115.5%	1,931	101.8%	1,907	98.8%	1,736	91.0%
Passenger vehicles	1,531	111.0%	1,264	82.6%	1,485	117.5%	1,498	100.9%	1,473	98.3%	1,358	92.2%
Trucks	392	99.4%	378	96.4%	411	108.7%	433	105.4%	434	100.2%	378	87.1%

Source: Japan Automobile Manufacturers Association (JAMA)

Table 5 Trends in Domestic and Overseas Production by Japanese Automobile Manufacturers

Unit: 1,000 vehicles

	2000		2005		2010		2015		2019		2020	
	Volume	Proportion	Volume	Proportion	Volume	Proportion	Volume	Proportion	Volume	Proportion	Volume	Proportion
Domestic production	10,141	61.7%	10,800	50.5%	9,629	42.2%	9,278	33.9%	9,684	33.9%	8,068	34.4%
Overseas production	6,288	38.3%	10,606	49.5%	13,182	57.8%	18,095	66.1%	18,853	66.1%	15,376	65.6%
Total	16,429	100.0%	21,406	100.0%	22,811	100.0%	27,373	100.0%	28,537	100.0%	23,444	100.0%

Source: Japan Automobile Manufacturers Association (JAMA)

term economic recovery program that included a reduction on the sales tax levied on vehicle manufacturing and imports that spurred demand for the purchase of vehicles in June and subsequent months.

New vehicle sales in Vietnam were 0.24 million vehicles, a 12.9% drop compared to the previous year. The Vietnamese government contained the spread of COVID through early border controls such as closing its border with China, and also had success with economic measures such as having the vehicle registration fee and reducing the value added tax.

3. 3. Vehicle Production (Tables 4 and 5)

Vehicle production in Japan in 2020 was 8.07 million vehicles, a significant drop of 16.7% compared to the previous year. All eight major Japanese manufacturers exhibited a double-digit decrease in both their domestic and foreign production compared to 2019.

With respect to production by other countries, China was the first to resume economic activity and recover. In contrast, repeated increases in the number of infection cases and multiple lockdowns delayed recovery in Europe, Asia and elsewhere, resulting in a considerable de-

crease in production outside Japan for 2020 as a whole.

4 Issues of the Automotive Industry in Japan

The year 2020 marked an unparalleled challenge that neither Japan nor the rest of the post-war international community had ever faced. In December 2019, the novel coronavirus first identified in Wuhan in Hubei province, China, spread throughout the globe in the blink of an eye, leading to restrictions on the movement of people and goods, as well as on economic activity, as the governments of various countries imposed lockdowns and people were urged to stay home. Although Japan did not go as far as imposing a strict lockdown, the government invoked an amended Act on Special Measures and declared a state of emergency. The pandemic affected more than just economic activity. It also had a strong impact on society, highlighted by the postponement of the Tokyo Olympic and Paralympic Games scheduled from July to September 2020 to the following year for the first time in history.

In the automotive industry, the COVID-19 pandemic

wreaked havoc on the supply chain as both parts and completed vehicle plants either curtailed production or suspended operations. At the same time, the stagnation in consumption also decreased demand for automobiles. Even amid such circumstances, top-selling global automakers have continued to make upfront investments in electrification, automated driving, and other next-generation automotive technologies. For these automakers, the drive to survive the once-in-a-century period of transformation has prompted a mid-to long-term strategy and intensified in the CASE (C: connected, A: automated, S: sharing, and E: electrification) technologies that embody this transformation of the automotive industry.

In the field of automated driving, the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) instituted the world's first type approval for Level 3 automated vehicles in November, thereby showcasing Japanese automated driving technology to the world. Meanwhile, even as Japanese, European and American are jockeying for position in automated driving technology development, other industries joining the fray are anticipated to intensify their activities. Added value for automobiles is shifting from the past emphasis on hardware to the areas of software and communications with respect to the development and production of automated driving technologies. This shift is concurrent with digital platformers, typified by GAFAM, along with many corporations from non-automotive industries, manifesting interest in entering the automotive industry. The ability of the entire automotive industry to adapt to a new competitive environment that includes corporations from the IT and other industries will be tested.

Within the context of CASE, many countries around the world fully embraced electrification in 2020, announcing future bans on the sale of new gasoline and diesel vehicles to achieve decarbonization targets as part of measures to address climate change by the governments of those countries.

The timing of measures to ban sales of gasoline and

other conventional vehicles as part of the shift toward electrification varies from one country to the next. The UK government announced targets of 2030 for the ban on sales of new gasoline and diesel vehicles, and 2035 for hybrid vehicles. The planned year for the ban on sales of new gasoline and diesel vehicles was set to 2035 by the U.S. State of California and China, and to 2040 by France. In Japan as well, preparations to ban sales of gasoline vehicles by 2035 have begun, and among local authorities, the Tokyo Metropolitan Government announced its intent to eliminate gasoline vehicles by 2030, one step ahead of the national government.

Promoting electrification will be difficult to achieve with only measures to ban sales of conventional vehicles. In the U.S., the federal and local governments are taking the lead in establishing not only regulations, but also incentive packages that, depending on the state, can include a state-specific subsidy scheme, tax exemptions, and the assignment of EV-only lanes on highways to avoid congestion.

Achieving the carbon neutrality envisioned by the government will require various actions. One example is shifting from the thermal power generation that relies on natural gas, coal, or petroleum as heat sources and constitutes a large proportion of the electricity generated in Japan to renewable energy that does not emit carbon dioxide. Doing so will rest almost entirely on a government-led energy policy.

As the wave of electrification spreads throughout the world faster and faster, close public-private sector cooperation and initiatives concerning not only the development of electrification technologies, but also the aforementioned energy policy and the establishment of charging facilities and other infrastructure will be essential to ensuring that the Japanese automotive industry is not left behind.

References

- IHS Markit: Light Vehicle Sales