
THE SOCIOECONOMIC SITUATION SURROUNDING THE AUTOMOBILE INDUSTRY

1 Introduction

The trade friction between the U.S. and China that came in full swing starting in the summer of 2018 continued to impart severe damage on market sentiment, investment decisions, and international trade, along with the growing momentum of nationalism symbolized by the U.K.'s departure from Europe marked the year 2019. Although December 2019 phase one trade agreement reached by the U.S. and China and the victory of the Conservative Party in the general election in the U.K. provided a sense that the pending issues were moving forward, 2019 as a whole was a year that strongly pushed down on the global economy and the automotive industry.

The slowdown of the global economy became starkly clearer, and vehicle markets in and outside Japan saw their first consecutive two-year drop in new vehicle sales since the global financial crisis. On top of that, the World Health Organization (WHO) reported the discovery of the COVID-19 virus in December 2019. At the time of writing (June 2020), the COVID-19 is expected to cause both the global economy and vehicle sales to exhibit significant negative growth in 2020.

Even amid such political and economic circumstances, manufacturers in the automotive industry are receiving no respite in the pressure to respond to the transformation of the industry described as connected, autonomous, shared, and electric (CASE) for the last several years. As the spread of COVID-19 remains unpredictable, ongoing CASE initiatives must now be complemented by redefining the role of automobiles and mobility in society in the context of improving health and sanitation of society as a whole, as well as of supporting new customer patterns of behavior.

This article summarizes the political, economic, and automotive industry conditions of 2019, and presents observations on the issues faced by that industry.

2 Political and Economic Situation

2.1. The Global Economy (Table 1)

In 2019, growth slowed in all countries, and the global real economic growth rate fell to 2.9%, its lowest level since the global financial crisis. In addition to growing geopolitical uncertainty caused by the U.S.-China trade friction and the protracted negotiations on the U.K. departure from the EU, systemic factors in advanced nations, such as the aging of the population and sluggish productivity, along with country-specific factors in emerging markets, have drawn out the stagnation of the economy.

The WTI crude oil futures price started 2019 at 51 dollars per barrel, and rose to 66 dollars in April as a result of collaboration to reduce production and the embargo on Iranian crude oil. It then fell and fluctuated in the mid-50 dollar range due to concerns over a reduction in demand stemming from the U.S.-China trade friction. Based on expectations of a rise in demand after the U.S.

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

	2017	2018	2019 estimate	2020 forecast
World	3.9	3.6	2.9	-4.9
Major developed nations	2.5	2.2	1.7	-8.0
U.S.	2.4	2.9	2.3	-8.0
Eurozone	2.5	1.9	1.3	-10.2
Germany	2.5	1.5	0.6	-7.8
France	2.3	1.8	1.5	-12.5
Italy	1.7	0.8	0.3	-12.8
Spain	2.9	2.4	2.0	-12.8
UK	1.9	1.3	1.4	-10.2
Japan	2.2	0.3	0.7	-5.8
Developing nations	4.8	4.5	3.7	-3.0
Russia	1.8	2.5	1.3	-6.6
China	6.9	6.7	6.1	1.0
Thailand	4.1	4.2	2.4	-7.7
Indonesia	5.1	5.2	5.0	-0.3
India	7.0	6.1	4.2	-4.5
Brazil	1.3	1.3	1.1	-9.1
Saudi Arabia	-0.7	2.4	0.3	-6.8

Source: IMF World Economic Outlook, revised forecast, June 2020

and Chinese governments reached a phase one trade agreement in early December, prices rose back to the 60 dollar range at the end of the year.

(1) The U.S.

Despite a moderate slowdown, the 2019 U.S. economic maintained a strong real economic growth rate (2.3%). Employment was stable, with the unemployment dropping to its lowest level in 50 years (3.5%) in December and wage growth largely staying at 3% compared to the previous year. The year-end record-high stock prices also imparted momentum to consumer spending, which was showing signs of slowing down. In contrast, exports and capital investment were weak as factors such as the strike at General Motors and cancellations of Boeing aircraft orders led to poorer business conditions and a drop in exports centered around the manufacturing sector, in conjunction with the U.S.-China trade friction and the economic slowdown in other countries created increased uncertainty about the future of the global economy that led corporations, especially those involved in manufacturing, to adopt a cautious approach to investment.

(2) Europe

Although the 2019 European economy enjoyed growth in internal demand favored by a strong employment market and somewhat relaxed fiscal policies, the departure of the U.K. from the EU and the slowdown of the Chinese economy due to the trade friction with the U.S. held back growth in external demand and the continued sluggish production in the manufacturer sector imparted a sense that the economy was slowing down as the year came to a close.

In the U.K., ongoing uncertainty surrounding the departure from the EU held back corporate investment for a long time, while worries over the sustainability of the U.K.-EU supply chain had a negative impact on production and exports. With the imbroglio in the U.K. parliament over the departure from the U.K., corporate investments on a GDP basis consistently contracted after the January to March 2018 financial term, and corporate market sentiment dropped another level in 2019. In contrast, boosted by a rise in the number of people with jobs and rapid wage increases, consumer spending expanded strongly and served as an economic pillar.

The 2019 eurozone economy continued its moderate growth from 2018. Since the April to June 2013 financial term, growth has been positive for 27 consecutive terms, but in overall terms, it has lost momentum. Notably, Ger-

many, France, Italy and other countries had negative growth in the October to December term, highlighting the economic slowdown in major countries.

Consumer spending in the eurozone increased moderately thanks to factors such as a rise in the number of people with jobs, rapid wage increases, and monetary easing by the ECB. In contrast, capital investment in machinery, which had been largely stable until the April to June term, fell in the July to September term due to the stagnation of the manufacturing sector. In the January to March term, an increase in last-minute demand before the original end of March U.K. departure date from the EU contributed to positive external demand, but the subsequent backlash resulted in negative demand in the April to June term.

(3) China

The Chinese economy showed signs of slowing down in the latter half of 2018, and the real economic growth rate in 2019 was 6.1%, its lowest level in 29 years. Government initiatives against excessive debt since 2018 caused infrastructure investment to plateau, and the intensification of the trade friction with the U.S. accelerated the economic slowdown that was already in progress.

Nominal retail sales, the representative index of consumer spending, rose by 8.0% in 2019 compared to the previous, a lower ratio than that of 2018 (growth of 9.0%). The increased cost of living resulting from rising food prices have put downward pressure on real income and real spending.

Fixed assets investment, the representative index of investment, grew by 5.4% in 2019 compared to the previous year, a lower ratio than in 2018 (growth of 5.9%). By sector, the growth rate in manufacturing, affected by the trade friction, rose by 3.1% compared to the previous year, a considerably lower ratio than in 2018 (growth of 9.5%). Investment in manufacturing remained low until the first half of 2019. However, the launch of 5G services in about 50 cities in China in November ahead of the original 2020 schedule led to increased investment in computers, communications, and electronic equipment manufacturing that drove the recovery in the latter half of the year.

Dragged down by the trade friction, exports for the entirety of 2019 increased by 0.5% over the previous year, a sluggish pace compared to 2018 (growth of 9.9%). However, they exhibited a significant rebound in December in the wake of the phase one trade agreement with

the U.S.

(4) Emerging Markets

In 2019, the economies of emerging nations, buffeted by the U.S.-China trade friction and rising concerns over the global economic downturn led the economies of many regions to either remain at the same level or start exhibiting signs of a slowdown.

Despite getting pushed around by the U.S.-China trade friction, the ASEAN economy implemented successful economic measures through actions such as monetary easing, and essentially remained steady. The real economic growth rate in 2019 was 5.0% in Indonesia, 7.0% in Vietnam, and 5.9% in the Philippines, which avoided a major downturn and essentially remained steady. However, the 4.3% rate in Malaysia and 2.4% rate in Thailand were clear indicators of a slowdown in growth. In Thailand, hesitation to invest due to suspicion surrounding the March 2019 general election, along with a strong baht, impeded growth.

India enjoyed continue strong growth exceeding 6% until 2018, but in 2019 high interest rates and a stricter stance on loans by financial institutions in the wake of distrust in the financial sector resulted in decreased spending and a contraction of private sector investment. Economic stimulus policies implemented by the government failed to halt the downturn, killing the momentum of the real economic growth rate, which was 4.2% in 2019.

The Mexican 2019 real economic growth rate was negative (0.1% decrease) for the first time in ten years. Although private sector spending and exports maintained positive growth, sales in the petroleum sector fell by 6.7%, and confusion over economic measures following a change of government in December 2018, along with drop in private sector spending due to a reduction in public works, led to a considerable decrease of 5.0% in construction sector sales.

In Brazil, the first year of the Bolsonaro administration saw a 2019 real economic growth rate of 1.1%, a lower ratio than the 2018 rate (1.3%). The new administration advocates a three-point platform of “small government”, “economic freedom”, and “restoring public safety”. The stagnation due to factors such as reduced government spending and weak international price growth for exported agricultural products, the main driver of the economy was counterbalanced by growth in private sector internal demand.

2. 2. The Japanese Economy

The 2019 Japanese real economic growth rate was 0.7%, maintaining positive growth for the year as a whole. However, in the October to December financial term following the raising of the consumption tax reduced private sector demand in major categories across the board, recording the first negative growth in five financial terms (a 7.1% reduction when converted to an annual rate).

Consumer spending, the main cause of negative growth, exhibited a considerable drop of 2.8% compared to the previous term between October and December. This increase in the consumption tax was smaller than the previous one (in 2014) and was accompanied by large-scale measures to alleviate its impact. Nevertheless, the drastic drop in demand durable consumer goods following last minute demand before the increase, along with the effect of the severe typhoon and the warm winter caused a larger than anticipated drop in consumer spending.

Capital investment in 2019 (entire year) was exhibited a growth of 0.7%, but dropped for the first time in three terms (4.6% reduction over the previous term) between October and December. Despite a continued strong need for investment in digitalization and improving productivity, factors such as the uncertainty of economies outside Japan dragged down the growth in capital investment, particularly in the manufacturing sector. The December Bank of Japan investment DI also exceed the excessive rating for the first time in three years, leading corporations to take a cautious approach to investment.

Both imports and exports of goods and services fell in 2019, and the drop in imports was greater than that in exports. Raw exports made a positive contribution to the real economic growth rate. Exports decreased by 1.8% as exports of goods to China, which had been decreasing, exhibited signs of recovery in the wake of the U.S.-China trade friction, while exports of goods to the U.S. decreased in the latter half of 2019.

3 Current State of the Automotive Industry

3. 1. Inside Japan (Table 2)

Vehicle sales in Japan in 2019 (January to December, including mini-vehicles) dropped 1.5% compared to the previous year, to 5.2 million vehicles. Prominent last minute demand prior to the October consumption tax in-

Table 2 Sales Trends in the Japanese Automobile Market

Unit: 1,000 vehicles

	2014		2015		2016		2017		2018		2019	
	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	5,563	103.5%	5,047	90.7%	4,970	98.5%	5,234	105.3%	5,272	100.7%	5,195	98.5%
Vehicle registrations	3,290	100.8%	3,150	95.8%	3,245	103.0%	3,391	104.5%	3,348	98.7%	3,285	98.1%
Passenger vehicles	2,860	99.6%	2,704	94.5%	2,801	103.6%	2,943	105.1%	2,895	98.4%	2,822	97.5%
Ordinary trucks	1,438	102.7%	1,355	94.2%	1,490	110.0%	1,548	103.9%	1,583	102.2%	1,586	100.2%
Light-duty trucks	1,423	96.6%	1,350	94.9%	1,311	97.1%	1,395	106.4%	1,313	94.1%	1,236	94.1%
Trucks	418	110.2%	432	103.5%	428	98.9%	432	101.0%	439	101.5%	449	102.4%
Ordinary trucks	165	115.0%	173	104.7%	173	100.4%	176	101.8%	180	102.2%	182	101.2%
Light-duty trucks	253	107.2%	260	102.8%	255	97.9%	256	100.5%	259	101.0%	267	103.3%
Buses	12	106.5%	13	111.7%	15	115.8%	16	100.6%	14	87.9%	14	99.2%
Mini-vehicles	2,273	107.6%	1,896	83.4%	1,725	91.0%	1,843	106.8%	1,924	104.4%	1,910	99.3%
Passenger vehicles	1,839	108.8%	1,511	82.2%	1,345	89.0%	1,443	107.3%	1,496	103.6%	1,479	98.9%
Trucks	434	102.6%	385	88.7%	380	98.9%	400	105.1%	428	107.1%	431	100.6%

Source: Japan Automobile Manufacturers Association (JAMA)

Table 3 Sales Trends in the Overseas Automobile Market

Unit: 1,000 vehicles

	2014		2015		2016		2017		2018		2019	
	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
China	23,158	108.1%	24,500	105.8%	27,607	112.7%	27,987	101.4%	27,110	96.9%	24,851	91.7%
North America	19,486	105.9%	20,724	106.4%	21,089	101.8%	20,805	98.7%	20,723	99.6%	20,312	98.0%
Europe	18,298	101.8%	18,894	103.3%	19,825	104.9%	20,579	103.8%	20,556	99.9%	20,621	100.3%
Asia & Oceania	9,465	97.8%	9,832	103.9%	10,171	103.4%	10,652	104.7%	11,147	104.6%	10,482	94.0%
Middle East & Africa	5,270	110.0%	4,993	94.7%	4,780	95.7%	4,756	99.5%	4,280	90.0%	3,849	89.9%
Central and South America	5,409	90.7%	4,393	81.2%	3,914	89.1%	4,408	112.6%	4,698	106.6%	4,504	95.9%

Source IHS Markit Light Vehicle Sales

crease was avoided by the revision of the vehicle tax system that accompanied the increase, but the effects of damages from the typhoon, notably, kept demand low in October and later, leading figures for the entire to fall below those of the previous year for the first time in three years.

Among new vehicle sales, registered vehicles dropped by 1.9% to 3.28 million, declining for a second consecutive year. Although new models produced some results, the annual trend remained weak. Sales of mini-vehicles dropped by 0.7% to 1.91 million, staying below the previous year's level for the first time in three years.

Sales of hybrid, electric, and other electric powered vehicles rose by 1.9% compared to the previous year, reaching 1.51 million vehicles. In Japan, hybrid vehicles drove those results, accounting for 96.5% of electric powered vehicle sales while electric and plug-in hybrid vehicles plateaued. By vehicle type, sport utility vehicles (SUVs) broke through the annual 500,000 sales mark for the first time. These results highlight the popularity of

SUVs, which have seen an increase in sales of approximately 40% over three years even as the overall market in Japan is in a slump.

3. 2. Outside Japan (Table 3)

(1) The U.S.

Sales of new vehicles in 2019 were 1.4% lower than in the previous year at 17.08 million vehicles. The economy entered a downturn as the trade friction with China dragged on, but lower interest rates on car loans and higher sales incentives reduced prices, allowing sales to maintain the milestone 17 million mark for five consecutive years.

By vehicle type, the light truck category that consists of SUVs and pickup trucks reached 71.8%, setting a record, bringing the shift from passenger vehicles to light trucks to the fore.

Sales of electric powered vehicles rose 3.1% compared to the previous year, reaching 7.27 million vehicles. The significant rise of 16.8% over the previous year for hybrid vehicles, which reached 4.01 million vehicles, was

contrasted by the 1.3% increase for electric vehicles (2.42 million vehicles) and the 31.6% drop (84,000 vehicles) for plug-in hybrid vehicles.

(2) Europe

Sales of new passenger vehicles in Europe in 2019 rose 0.3% to 20.62 million vehicles. In the five major countries, Germany, France, and Italy saw respective increases of 5.0%, 1.9% and 0.3%, while the U.K. and Spain had decreases of 2.4% and 4.8%, respectively. The new measurement standard (WLPT) introduced in September 2018 led to a slow start in new vehicle sales in 2019, but last minute demand ahead of the partial introduction of EU environmental regulations in 2020 pushed sales up in autumn and winter.

The the third consecutive annual drop in the U.K. since the decision to withdraw from the EU, is attributed to both the economic slowdown stemming from the protracted departure negotiations and market confusion caused by measures such as the imposition of a restricted emissions zone initiated in the center of London in April.

Spain had exhibited the strongest growth among major European countries in the last few years. However, factors such as the high unemployment rate hovering around 14% and the high proportion of fixed-term workers facing economic instability, both at the highest level among EU countries, are exacerbating economic disparity and creating a reluctance to purchase automobiles and other durable consumer goods.

The breakdown of the number of vehicles sold in Europe by type of fuel shows an increase of 5% for gasoline vehicles (59% share of 2019 sales) and electric vehicles (8% share), and a 12% decrease for diesel vehicles (31% share). Electric vehicles, notably, rose by 160,000 vehicles since 2018 and have grown to occupy a 2.3% share of the overall passenger vehicle market in Europe. By vehicle type, SUV sales grew by 12%, marking a seventh consecutive year of double-digit growth.

(3) China

Sales of new vehicles in 2019 were 8.3% lower than in the previous year at 24.85 million vehicles. The trade friction with the U.S. and reduction of subsidies continued to hold back purchases, and sales of new vehicles have remained below those of the previous year for 18 months in a row, from July 2018 to December 2019. It was the second consecutive year of negative growth for the year as a whole. Following the first negative growth

in 28 years (3.1% drop over the previous year) recorded in 2018, the 2019 figures exhibited a significantly higher decrease.

By vehicle type, the struggle of passenger vehicles stood out as their sales, which account for just under 90% of the overall market, fell by 9.6% while commercial vehicle sales decreased by 1.1%.

Sales of new energy vehicles, with electric vehicles as their core, dropped by 4.0% to 1.2 million vehicles (breaking down to a decrease of 1.2% to 970,000 for electric vehicles and of 14.5% to 230,000 for plug-in hybrid vehicles). The Chinese government had supported the expansion of electric vehicle sales with large subsidies, but after they were cut in half in June 2019, sales of electric vehicles dropped below those of the previous year for the first time.

(4) Emerging Markets

Sales of new vehicles in India fell below those of the previous year for the first time in five years, dropping 13.3% to 3.82 million vehicles. On the heels of the slowdown in new vehicle sales was already underway as loans were curbed due to distrust in non-banking institutions since the latter half of 2018, the rapid downturn of the economy as a whole resulted in sales of new vehicles falling below the level of the previous year for 14 consecutive months until December 2019. In terms of market scale by country, India was passed by Germany in 2019, dropping to fifth place.

Sales of new vehicles in Indonesia decreased by 10.5% over the previous year to 1.03 million vehicles. Although it managed to retain its position as the largest new vehicle market in Southeast Asia, this was the first time in four years that sales were lower than in the previous year. The reluctance to purchase prior to the presidential and general elections in April, along with stagnant prices in main exports such as coal, had a negative impact on the desire to spend.

Sales of new vehicles in Thailand fell 3.3% compared to the previous year to 1.01 million vehicles. The worsening of the domestic economy due to the U.S-China trade friction and the strong baht was exacerbated by stricter vehicle loan examinations measures applied by the Central Bank due to concerns over the high level of household debt, resulting in the first drop in sales in three years.

Sales of new vehicles in Mexico dropped by 7.7% over the previous year to 1.32 million vehicles, the first such

Table 4 Trends in the Number of Automobiles Produced in Japan

Unit: 1,000 vehicles

	2014		2015		2016		2017		2018		2019	
	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	9,775	101.5%	9,278	94.9%	9,205	99.2%	9,691	105.3%	9,730	100.4%	9,684	99.5%
Vehicle registrations	7,481	99.5%	7,355	98.3%	7,563	102.8%	7,795	103.1%	7,798	100.0%	7,778	99.7%
Passenger vehicles	6,409	98.5%	6,300	98.3%	6,610	104.9%	6,863	103.8%	6,861	100.0%	6,856	99.9%
Ordinary trucks	4,658	100.9%	4,744	101.8%	5,000	105.4%	5,147	103.0%	5,256	102.1%	5,317	101.2%
Light-duty trucks	1,751	92.7%	1,556	88.9%	1,610	103.5%	1,716	106.5%	1,605	93.5%	1,538	95.8%
Trucks	933	105.9%	917	98.4%	823	89.7%	808	98.2%	824	101.9%	799	97.0%
Ordinary trucks	605	104.3%	587	97.0%	506	86.2%	516	101.9%	518	100.4%	506	97.8%
Light-duty trucks	328	109.1%	331	100.9%	317	95.9%	293	92.3%	306	104.6%	293	95.7%
Buses	140	105.4%	138	98.6%	130	94.1%	123	94.9%	113	92.0%	123	108.3%
Mini-vehicles	2,293	108.7%	1,923	83.8%	1,642	85.4%	1,896	115.5%	1,931	101.9%	1,907	98.7%
Passenger vehicles	1,868	111.0%	1,531	81.9%	1,264	82.6%	1,485	117.5%	1,498	100.9%	1,473	98.4%
Trucks	425	99.4%	392	92.3%	378	96.3%	411	108.8%	433	105.3%	434	100.1%

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		2018		2019	
	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%	9,730	32.9%	9,684	33.9%
Overseas production	6,288	38.3%	10,606	49.5%	13,182	57.8%	18,095	66.1%	19,966	67.2%	18,853	66.1%
Total	16,429	100.0%	21,406	100.0%	22,810	100.0%	27,373	100.0%	29,696	100.0%	28,537	100.0%

Source: Japan Automobile Manufacturers Association (JAMA)

decrease in three years. The rejection of the private sector-led economic policy of the previous government by the left-wing López Obrador administration that came to power in December 2018 caused an economic slowdown. As the negative impact on employment and household finances became obvious, there was no stopping the decline in sales of new vehicles.

Sales of new vehicles in Brazil rose by 8.6% over the previous year to 2.79 million vehicles, marking a third consecutive year of positive growth. Steady private sector internal demand continue to support sales of new vehicles, which received a further boost from the historically low interest rates resulting from monetary easing that led to a greater number of private vehicle loans.

3.3. Production (Tables 4 and 5)

The global vehicle production by Japanese manufacturers in 2019 decreased by 3.9% over the previous year to 28.54 million vehicles, marking the first such drop in the eight years since 2011. The slight reduction in domestic production combined with the first decrease in production outside Japan in the ten years since 2009. In addition to the decrease of 540,000 vehicles for produc-

tion in Asia, production dropped by approximately 200,000 vehicles in both Europe and North America.

4 Issues of the Automotive Industry in Japan

In 2019, the name of the Japanese era changed from Heisei to Reiwa. Although Japan faced no wars during the 30-some years of the Heisei era, it was beset by numerous natural disasters. In 2019 alone, Northern Kyushu suffered damage from heavy rains in August, and a succession of typhoons hit the Kanto area hard in September and October.

Typhoon No. 15 in September notably led to prolonged blackouts in Chiba, with as many as 930,000 households deprived of electricity when conditions were at their worst. It took approximately twelve days to fully restore power. During that time, automakers dispatched electric powered vehicles to local authorities and power companies in the afflicted regions, and the role of “running batteries” played by those vehicles at community centers or homes for the elderly was presented by the media. Electric powered vehicles served as social infrastructure dur-

ing the disaster and played a part in helping local authorities provide a little comfort to life in regional shelters. The report subsequently compiled by the Ministry of Economy, Trade and Industry proposed a specific action plan to promote the use of electric powered vehicles as emergency sources of power in the event of a disaster. In various regions, automakers are also concurrently setting up agreements concerning collaboration with the other parties involved in the event of a disaster.

Automakers also provided electric vehicles after the 2011 Great East Japan Earthquake. At that time, they served primarily as a form of transportation that does not require gasoline during the severe shortage of that fuel, rather than as batteries for shelters. The initiatives undertaken during those disasters have raised awareness that electric powered vehicles constitute more than a means of transportation and play a role as a vital part of the social infrastructure.

Electric powered vehicles will likely become a part of the smart grid and contribute to ensuring a stable supply of energy in both ordinary times and during emergencies. Similarly, the traffic infrastructure will make use of data collected from vehicle sensors to ascertain whether roads are passable in a disaster and transmit that information, enabling uses such as the rapid transport of goods. Supplying electricity to shelters and delivering necessary supplies in a timely fashion in the event of a disaster should significantly cut down on the physical and mental stress of the victims. The usefulness of electric powered vehicles as “running batteries” is not limited to times of emergency. In depopulated areas where medical and administrative services are difficult to maintain, they can easily serve as a means of making services themselves mobile and help alleviate the problem of labor shortage in the regions.

Automaker contributions to society are not limited to efforts relying on electric power-based technologies. In 2020, unanticipated limitations imposed on the movement of people around the world led everyone to keenly realize how mobility impacts people physically and mentally. This is providing a belated renewed awareness that people remain healthy through movement. And of course,

society is also energized when people are moving. If that movement can be made cleaner and safer, the increase in the global population will increase the number of people using cars to move around, even if air pollution is a concern. In contrast, in Japan and other countries with an aging population, there will certainly be a further rise in needs related to the desire to enjoy freedom of movement. The joy of movement automakers can contribute to society goes beyond safe transportation to the anticipated fun destination. It also encompasses joy while in movement and, eventually, offering the experience of being a passenger even if movement is not possible. Providing such movement-related pleasure is likely to alter the behavior of people in regions where the population is aging and help revitalize local communities.

Efforts by automakers to solve issues by securing electric power during a disaster or providing public services in depopulated regions, in conjunction with bringing a new joy of movement to communities, will enrich the lives of people. How will automakers, as corporations, participate in achieving this ultimate goal? Various field tests are currently being carried out throughout the country. Automakers have reached the stage of drawing up concrete business models based on the results of those tests. How much will be done in-house, and how much in collaboration with third-parties, to offer new products and services? Each automaker is likely to have a different answer. What corporate structure will be used to realize a yet non-existent new business while preserving the existing automobile manufacturing business? Natural disasters and changes in the global environment present an opportunity to rethink the role of automobiles in the context of social systems. The issue of how the automotive industry will contribute to realizing a sustainable society represents a challenge worth pursuing.

References

- IHS Markit: Light Vehicle Sales