

Thank you also for this year (this section has been quoted from President Komaba's message.)

Japan was hit by three large-scale typhoons in 2019, which caused enormous damage through landslides and flooding, etc. Several of our own employees had their homes damaged because of the flooding, and we expect such threats to continue into the future when taking the high possibility of other natural disasters, including earthquakes, into account.

In the field of politics, there are concerns over further deterioration in relations between America and China now that the United States has passed laws to support democracy in Hong Kong amid the lengthening trade dispute that they are currently engaged in. When the global economy is added to this mix, the future remains cloudy owing to the continuation of the issue over the United Kingdom leaving the European Union, the problem between America and Iran, and the outstanding issue of North Korea, etc. With regard to Japan's economy, imports and exports have been drastically reduced owing to the deceleration of the global economy triggered by the trade friction between America and China. Exports of automobiles and steel are in the doldrums and numbers have remained in the red for twelve consecutive months on a year-on-year basis. Turning our attention to industry, management integration between large companies that may result in restructure is occurring one after the other, and it is impossible to predict what the future holds.

KSK's Ohtawara Plant is scheduled to be officially opened on May 6th. We are moving ahead with a wide range of new projects targeted for completion by 2022, and we are leaving no stone unturned in our effort to contribute even on a minor scale to reforms in transportation under the titles of CASE and Maas.

And finally, I would like to extend my thanks to everyone for their support in 2019. I appreciate this from the bottom of my heart.

I also look forward to your continued guidance and encouragement in 2020.

Automotive area (Tesla abandons battery-swap program, leaving evidence on the Model 3)

America's Tesla has abandoned its battery-swap program concept for electric vehicles (EVs). Tesla announced that it has dismantled and compared Model 3 EVs and Model S EVs (**Fig.1**). The company

has decided to abandon the battery-swap concept and instead move across to a policy of maintaining traveling distance in the same way as other automobile manufacturers.

Tesla's Chief Executive Officer (CEO) Elon Musk revealed the battery-swap system, which was under development at the time, in June 2013, proudly stating that "batteries can be replaced in a short 90 seconds, which is faster than filling up a tank with gasoline." A project team from Nikkei xTech/Nikkei Automotive and Nikkei BP Intelligence Group dismantled a Model S vehicle manufactured in 2015 and discovered that it was fitted with a battery pack that enabled battery swapping. In further detail, this meant that all of the bolts attaching the battery pack to the chassis were located on the underside of the vehicle where they were accessible from outside. This enabled robots to remove them so that the battery pack could be replaced automatically.

Evidence that Tesla has changed its policy came in the form of six bolts discovered when the Model 3 was dismantled. Contrary to the Model S, the battery pack on the Model 3 is not only attached with bolts on the underside of the car, but with six bolts on the inside of the vehicle (**Fig.2**). Furthermore, it was necessary to remove the seats and the floor carpeting in order to attach these six bolts.

The reason why Tesla turned its attention to EV battery-swapping was to eliminate anxieties held by consumers over traveling distance. Swapping batteries would reduce the amount of time required for recharging and enable owners to drive long distances. Although Tesla has not announced why they are abandoning this concept, one of the reasons is probably because of the costs involved at battery-swapping stations. Each battery-swap costs "around \$500,000 (55 million yen at 110 yen to the dollar)" (according to Musk), which is rather expensive. In doing away with the battery-swap system, Tesla has chosen a path to attain traveling distance in the orthodox manner adopted by the EV industry.



Fig.1. Removing the battery pack from the Model S.



Fig.2. Immediately before the battery pack is removed. It is necessary to remove the seats and floor carpeting, and then unscrew the bolts fixing the battery pack onto the vehicle's chassis.

Keihin Seimitsu Kogyo (China visits carried out)

A trip was organized to the city of Shenzhen, China, at the beginning of December to gather information on the EV situation and visit EV dealers and retailers in Electric Town.

Although we knew that there were facilities available that were capable of recharging several hundred vehicles at the same time and that nearly all taxis were now EVs, we were unable to suppress our surprise at learning that a major cellphone manufacturer (Xiaomi) had received investment funds from Alibaba and other companies in order to create EVs that are meticulously connected.

We had heard that Electric Town was several dozen times larger than its predecessor, Akihabara, and we discovered more than eleven ten-story buildings in the district, which brought home the realization that it would be impossible to see everything within three days. The people from the technical department who were on the trip displayed interest in and purchased various items that were between 33% and 50% cheaper than those available in Akihabara.

Post-editorial Notes: (An avalanche of year-end parties!)

There is a custom in Japan in which people hold wonderful year-end parties known as “bonenkai” at the end of the year to thank people who have helped them over the course of the past year and to wish for mutual happiness in the coming year, and the author, who is particularly fond of bright and lively events, finds this season second only to summer.

This year, as usual, I attended approximately ten year-end parties after our “bonenkai” was held at the head office on December 5th.

One of these started at 18:00 and involved a woman with the ability to drink men under the table with whom I am friendly, together with the president and director K.

We started off with delicious cuisine centered around seafood and including raw oysters, fried oysters, sea urchins, yellowtail sashimi, seafood salad and grilled fish, not to mention the vast quantities of beer and Japanese sake, and when we were feeling sated, we held a second party at a karaoke bar we frequent in that area. Having entered the bar, the three people I was with swiftly reserved Yumin (famous singer) songs, Christmas songs, songs that we could dance to and other such songs, and we then spent the night singing, dancing and generally causing a ruckus while drinking sparkling wine.

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It was at this point that we decided to call an end to the festivities. I reached home at around 3am... Home at last.

On another day, I celebrated a year-end party for myself. Having seen my family safely off on a visit to the family home on Saturday, I dropped by a gym near the station.

I broke sweat on a running machine while watching a live university rugby match broadcast on TV, and then headed off to a recently opened seafood restaurant at the slightly early time of 4pm.

Having been greeted and showed to my seat, I ordered sardine sashimi and a bottle of beer. The sardines in this place are extremely fresh! The red meat is amazingly delicious! The beer flowed down my parched throat easily. I then ordered another bottle of beer, salt-grilled mackerel and tofu with sea lettuce. This involves an entire block of tofu served with boiled sea lettuce, and it is delicious! The beer continued to flow down easily.

I then ordered six pieces of sardine sushi with a jug of hot sake. The sardine sushi was very tasty, and it went perfectly with the Japanese sake.

Having relaxed over this, I decided to go to another place, and eventually chose a karaoke box, of which there were many in the area.

I sang old songs, new songs and the songs that I believe I excel at with a glass of sour-split in one hand.

Although the room was small, there was no problem with dancing for a man all alone. I spent a long and very pleasant and relaxing night all by myself.

I went to another station that is only accessible by bus, but I had already missed the last bus and had to walk home. I passed through the high-class residential areas of Kataseyama and Nishi-Kamakura, and by the time I had returned to my own middle-class residential area, it was already Sunday morning.

Time passes so fast when you are having fun...

Praying that the God of Thunder was already asleep, the moon shone brightly down on the streets as I walked up the hill to my home that night.