

To all of our German frontrunners (this section has been quoted from President Komaba's message.)

About ten of our employees visited the companies that we call our "frontrunners" in Germany between October 21st and 25th.

In addition to attending A Co., Ltd.'s Kaizen Convention, we also received factory visits.

All of the teams gave amazing presentations and displayed an imposing attitude during the Kaizen Convention, all of which incorporated clear stories with little to choose between them, and I was deeply impressed by the huge success of the convention.

During the factory visits, we also learned about the way in which the plants were promoting visibility with regard to the management of a wide range of facility operation status results, etc., for all vehicles throughout the world, that all areas of the factories were involved in spreading the word about the Kaizen activities implemented on a constant basis, and that a Bottom-Up system was being established at a rapid pace.

At B Company, we learned how they have adopted amazing initiatives for digitalization created in-house for placing the emphasis on training and creating a culture for improving the health and life-work status of employees while moving ahead with their Kaizen activities, pushing forward with a new concept for grooming the right people for higher positions, promoting a culture of bottom-up kaizen, establishing visibility for result management for everything concerning OEE in all plants throughout the world, right through to the installation of various simulation systems.

At C Company, we observed metal molding technology, various laser technology applications targeting the future, and the application of digitalization.

The lessons learned by everyone in the team not only helped them with their studies, they also said that it reminded them that we may be facing a huge crisis with regard to being left behind, which increased their motivation.

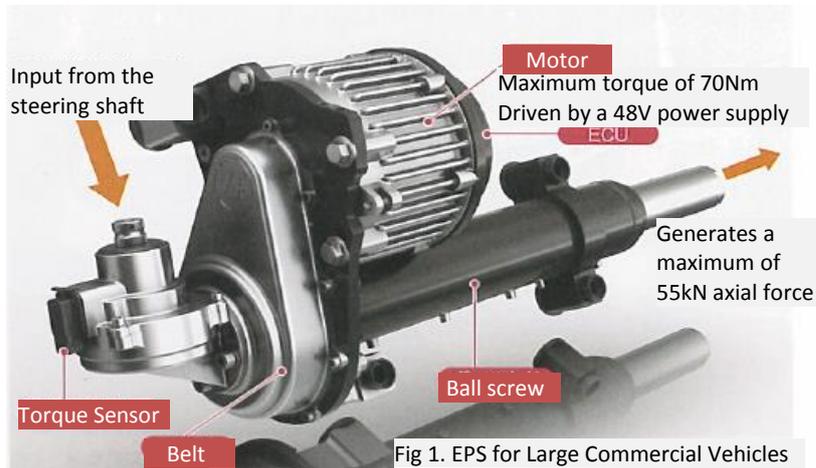
I would like to express my deepest gratitude to everybody who facilitated this visit.

Thank you all very much indeed.

## Automotive area (Fully-motorized EPS)

Development projects to incorporate the piece missing in the race to realize autonomous driving in large commercial vehicles is accelerating. The missing piece is the electronic power steering (EPS) unit for automating steering. Although it is possible to share the use of sensors and on-board computers, etc., designed for passenger cars, commercial vehicles are very heavy, and it is very difficult for them to use the EPS units used by passenger cars. A Co., Ltd. of Germany has developed a "fully motorized" EPS. Commercial vehicles need automatic-driving functions more than other vehicles... The demand for functions that reduce the burden on driving is expanding amid the current shortage of drivers. It is necessary to motorize the hydraulic power steering systems that have been used for many years in commercial vehicles in order to provide functions that will keep vehicles in the center of the lines, and provide them with automatic parking and convoy traveling, etc.

A Co., Ltd. has developed a prototype EPS for commercial vehicles under the name of ReAXEPS. This will replace the existing 48V system motors and decelerators (Fig.1). Eradicating the use of oil pumps, reserve tanks and other such components is said to enable the company to "not only aim at reducing weight by 10% over hydraulic power steering units, but also to improve maintainability by eradicating the need for replenishing the oil." The main difference with EPS systems for passenger cars is the motor. The motors mounted on the products developed by A Co., Ltd. have a maximum torque of 70Nm. This generates a maximum of 55kN in axial force for use with large trucks. The EPS systems in most passenger cars are equipped with motors that rarely exceed 10Nm.



(Source: Nikkei Automotive)

Fig 1. EPS for Large Commercial Vehicles

Keihin Seimitsu Kogyo (58th anniversary ceremony, booth operated at A Co., Ltd.'s production technology exhibition)

A ceremony celebrating the 58th anniversary since the company was founded was held on October 13th.

The president gave a speech on the history of the company since its establishment and his concept for the future, and this was followed by an award ceremony for the people who had won the various awards, a congratulatory speech by the union and a congratulatory speech by a representative of the board of directors, and it ended on a high note with everybody chanting our corporate philosophy in unison.

A reception was held after this, and everyone celebrated this great day together once the toasts had been announced. The closing speech implored us to be single-mindedly earnest in our efforts to avoid displaying embellishment, falsehoods and prevarication while remaining totally sincere, and the reception then drew to a close.

We operated a booth at an exhibition for leading-edge technology held at the head office of A Co., Ltd. on October 23rd (Tuesday).

The items we showcased centered around our plastic-flow molding technology, our valve body and one-piece flow line technologies, and our thin-casting technology. A large number of people visited our booth, and the exhibition ended on a high note.

Post-editorial Notes: (Delicious beer and wine... Yes, I'm drinking again. Is that a problem?)

I visited several companies that we consider to be our front-runners in Germany this month.

It goes without saying that I remained earnest and serious during the study periods... Well, I think I'll leave the talk about being serious up to the president and instead talk about the amazing drinks we had in Germany.

We visited A Co., Ltd. on the first day, and were taken that night to a nearby restaurant that also doubled as a brewery. The interior was decorated like a mountain hut, and having entered and ordered beer, and were served with pilsner (which is brewed in the same way as most Japanese beers) that was slightly cloudy and had a wonderful taste of hops, and it was absolutely delicious. That day we enjoyed lively conversations with our German friends, with whom it was not necessary to stand on ceremony, we enjoyed the beer, and we also enjoyed chatting after returning to our rooms, where the entire team gathered to rehydrate ourselves (with wine, naturally).

One day, the team was taken to a Japanese restaurant by the president and Mr. Terashima.

We all enjoyed the delicious Japanese cuisine, beer and shochu (white spirit) while listening to the president's and Mr. Terashima's tales of extravagant drinking sprees, misdeeds and other interesting stories. And, after they moved to another drinking establishment, we stayed in the same place and enjoyed a relaxing time as the night wore on.

On another day, we were taken to a restaurant located on top of a hill with incredible views over the vineyards that stretched out in front of it by the people from B Co., Ltd. The (red) wine was slightly bitter with a hint of sweetness, and I had a wonderful time chatting with a young man (middle-aged now) with whom I share a long-standing family relationship and his ever-smiling boss.

It was getting a little late and we still had tomorrow ahead of us, so we bid each other good night and returned to our rooms... Where I immediately hopped into bed.

When I checked my clock, it was two o'clock in the morning, but my eyes were wide open. It had arrived! Jet lag... (in a way that made it seem as if my normal senility had been cured...).

I was facing a sleepless night...!

Accepting my fate, I opened another bottle of wine and sat reflecting on my deficiencies w(^o^)w  
Feeling defiant yet in a good mood, I managed to get through the rest of the night!