

The EV industry is attracting a number of entrants from different industries - Aiming to develop new markets with a focus on compact EVs

The automotive industry is undergoing a period of once-in-a-century transformation. An increasing number of companies from different industries are seizing this period of change as a business opportunity and using the mobility field as a new business growth pillar. Electric vehicles (EVs), in particular, have fewer parts than conventional internal combustion engine vehicles. In addition, they can be developed through horizontal specialization rather than vertical integration, which is the traditional business model of the automotive industry, and the hurdle for new entrants is considered low. In particular, there are many different industries that are keenly interested in small EVs, and it is still fresh in our memories that the "Hongguang Mini EV," a small EV priced at about 450,000 yen that was launched by SAIC-GM-Wuling Automobile in China, has become an explosively popular vehicle. In Japan, too, the number of new companies entering the EV market is increasing along with the growing social expectations for EVs.

Small EV Startup Company from Japan

In Japan, the development of small EVs targeting both domestic and international markets is accelerating, especially among venture companies. FOMM Corporation (CEO: Hideo Tsurumaki, Saiwai-ku, Kawasaki City), a company that develops and sells ultra-compact mobility vehicles, has begun full-scale business development in Japan for its four-seater compact EV "FOMM ONE."

FOMM Corporation is a start-up company founded in 2013 by CEO Tsurumaki, who developed the ultra-compact EV "COMS" at TOYOTA AUTO BODY Co.,Ltd., and began mass production of the FOMM ONE in Thailand in 2019. They have a showroom in Bangkok and have sold a cumulative total of 400 units.

The production base in Thailand is "MICROFAB," a small-scale production plant suitable for the mass production of ultra-compact EVs, with an annual production capacity of 5,000 units (one shift), although operations are currently suspended due to the declaration of the state of emergency following the spread of COVID-19.

In the Japanese market, it is treated as a mini-vehicle and has started to be sold to the public in limited numbers. This is based on the fact that mini-vehicles are becoming more and more popular, and it is assumed that they will be able to run on expressways. They are also participating in the "Sharing-type Multi-mobility Demonstration Experiment" that started in Saitama City in late March, in which EVs and scooters are rented out to citizens, in an effort to raise awareness of the product in preparation for full-scale sales.

The entry into the Japanese market is positioned by CEO Tsurumaki as "one part of their global expansion centered on Thailand," and they will explore whether there is room for the spread of ultra-compact mobility in the mature market. They plan to expand their business in Japan by building a sales and service network and setting up battery exchange stations.

In order to expand its business globally, FOMM Corporation is targeting business in emerging countries where motorization has not yet taken off. They are planning to franchise their manufacturing bases and to promote mobility service suitable for short distance (first one mile) travel. They also plan to build a new plant in Thailand, which it considers to be their main market, this fall and expand their sales channels to the Association of Southeast Asian Nations (ASEAN) and other markets. The reason for building a new plant in Thailand is to reduce the operating cost of the plant and to increase their production capacity. "In addition to FOMM ONE as a passenger car, we plan to increase the variety of our products including commercial vehicles. We will need at least two or three production lines to accommodate this," he said, adding that they will expand their sales channels in parallel with increasing their production capacity.

Currently, FOMM ONE is sold only in Japan and Thailand, but there are strong inquiries from Southeast Asian countries such as Myanmar and Laos, as well as island countries in Africa and Latin America. For these markets, they will first export vehicles from Thailand for sale.

Based on the sales results and prospects, they will consider franchising the installation and operation of MICROFAB to local companies. CEO Tsurumaki says, "MICROFABs funded by local investors will be in charge of assembly. If there are parts that can be procured locally, we will adopt them, and if it is difficult, we will supply them in bulk. We would like to develop franchises within this framework."

Although the field of ultra-compact mobility is one in which finished car manufacturers are also involved, FOMM Corporation is strongly committed to

developing business in emerging automobile markets, and therefore, "from the beginning, we are not considering to compete with major automobile manufacturers." In the future, they plan to build a system in which partners (companies) in emerging countries can assemble ultra-compact EVs, which have the potential to be sold at low prices, and earn income from them. It is envisioned that ultra-compact EVs will be used as a means of transportation for daily life in emerging countries.

Delivery company develops its own EV for delivery

There are also cases where EV ventures and different industries are teaming up to develop new EVs. SAGAWA EXPRESS CO.,LTD. of the SG Holdings Co., Ltd. Group has developed an EV for logistics with ASF Co.,Ltd. (President: Hiroyasu Iizuka, Minato-ku, Tokyo), an EV venture. The developed vehicle will be used by SAGAWA EXPRESS CO.,LTD. and they plan to start production in September this year. The vehicles are scheduled to be delivered to SAGAWA EXPRESS CO.,LTD. sales offices in September of next year.

SAGAWA EXPRESS CO.,LTD. plans to switch all of its approximately 7,200 mini-vehicles used for pickup and delivery to EVs by 2030. The mini EVs are expected to be used in residential areas with narrow streets.

The developed mini EV has a cruising range of over 200 km per charge. ASF Co.,Ltd. is in charge of system design, while China's Wuling Motors is in charge of vehicle production. Maintenance of mini EVs will be carried out by SG motors Co.,Ltd., a group company of SAGAWA EXPRESS CO.,LTD. engaged in the maintenance business.

In June last year, SAGAWA EXPRESS CO.,LTD. and ASF Co.,Ltd. reached an agreement on the joint development of a compact EV. At the time, "automobile manufacturers were producing all-around EVs, but there were no EVs specialized for home delivery services" (SAGAWA EXPRESS CO.,LTD.), which is why the home delivery company itself decided to jointly develop an EV venture. SAGAWA EXPRESS CO.,LTD. will also make use of its decarbonization efforts by converting its mini-vehicles for pickup and delivery to EVs. They plan to reduce the amount of carbon dioxide (CO₂) emitted by its fleet of about 27,000 vehicles by 28,000 tons, or about 10% of the total amount of CO₂ emitted in a year.

The prototype vehicle was "developed with two concepts in mind: easy use for the driver and IoT devices to carry cargo." (Masahide Motomura, President of SAGAWA EXPRESS CO.,LTD.). The driver's seat is wider than the

passenger seat, and there is a table for efficient work inside the vehicle and a drink holder for 1 litre paper packs. In the cargo area, four LED lights have been installed to increase convenience during nighttime pickup and delivery, and the cargo bed has been raised to eliminate the protrusion of the tire house to reduce the burden on the delivery staff. In addition, the new truck will be equipped with a system to manage vehicle information and operation data in the cloud, and will be equipped with an operation logger.

Major oil companies are also participating

Oil wholesalers have also started to enter the compact EV market. Idemitsu Kosan Co.,Ltd. has invested in TAJIMA EV, an affiliate of TAJIMA MOTOR CORPORATION. (Representative: Nobuhiro Tajima, Nakano-ku, Tokyo) that designs EVs, to develop ultra-compact EVs, with the intention of putting them on the market in 2022 at a price range of 1 million to 1.5 million yen. The company name of TAJIMA EV will be changed to "IDEMITSU TAJIMA EV" and the developed vehicles will be sold at service stations (SS).

IDEMITSU TAJIMA EV will develop a low-cost ultra-compact EV by combining the design and development technology of the TAJIMA MOTOR CORPORATION. Group, which has been cultivated through EV racing, and Idemitsu Kosan Co.,Ltd.'s technology for developing materials such as high-performance plastics. That ultra-compact EV will have a capacity of four passengers and a cruising range of about 120 km on a full charge. It will comply with the standards for ultra-compact mobility set by the Ministry of Land, Infrastructure, Transport and Tourism, and will acquire type designation.

Production will be carried out at Idemitsu Kosan Co.,Ltd.'s bases or outsourced to suppliers, and the company is considering manufacturing at multiple plants. Sales and after-sales service will be provided at 6,400 Idemitsu Kosan Co.,Ltd.-affiliated service stations nationwide. Idemitsu Kosan Co.,Ltd. and TAJIMA MOTOR CORPORATION. believe that low-priced ultra-compact EVs are suitable for people who are not accustomed to driving but use their cars for shopping or to pick up and drop off their children, and for people who use mini-vehicles for work and travel less than 15 km per day.

In addition, IDEMITSU TAJIMA EV plans to respond to the trends in the automotive industry by developing in-vehicle solar power, next-generation in-vehicle batteries, self-driving cars, green slow mobility (EVs capable of speeds of less than 20 km/h), developing new subscription and car-sharing models, and building a MaaS (mobility as a service) platform.

Movement of material manufacturers

Materials manufacturers, which play an important role in the upstream of the automotive industry, are also seeking to expand their business by applying their unique technologies, such as those for weight reduction and impact resistance, to compact EVs. TEIJIN LIMITED has jointly developed a prototype of a low-speed EV with an Australian company, APPLIED ELECTRIC VEHICLES PTY LTD (AEV), which develops EV platforms and other products.

The developed EV seats four people and is equipped with a 10 kW/h battery. The windows and doors are glazed with TEIJIN LIMITED's Panlite polycarbonate resin, which is lightweight and highly impact-resistant. TEIJIN FRONTIER CO., LTD.'s polyester vertical non-woven fabric was used for the interior insulation and sound-absorbing materials to reduce interior noise and temperature rise, and to improve the energy efficiency and comfort of the EV.

The two companies have been cooperating on the development of low-speed EVs since 2019, and are aiming to commercialize low-speed EVs in the second half of 2022. The new EV uses the "Blank Robot" EV platform and solar roof, which have been jointly developed by the two companies, as well as TEIJIN LIMITED's polycarbonate resin glazing. TEIJIN LIMITED will apply the know-how gained from the development of the prototype to its business for mobility. Competition in the compact EV market is intensifying as companies from other industries enter the market at an accelerating pace. New entrants in the market are trying to differentiate themselves from existing automakers by adding their own technologies and user-friendly structures and functions, and are steadily developing new markets.