

Solving the Social Issues Through Marketing Orientation and Solution Proposals



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In recent years, the regulations for the pure gasoline engine vehicles, which are targeted to be implemented in the 2030s, have begun to be planned in each country. As one of the solutions to the social issues aiming for a carbon-free society, a trend in the electrification of the mobility has been accelerating and the product developments of the motors, the batteries, the inverters, etc. to be mounted on the electrified vehicles (xEV) have been becoming active. In the xEV, copper plays an extremely important role as a metallic material that handles the electrical conduction and the heat dissipation. This time, we have organized a special edition on the “Laser Processing for Copper”, which is attracting the attention in the electrification of the mobility. In this special edition, we will introduce the laser processing technology of copper, which aims to be the world’s number one with our unique technology and the latest laser oscillator technology equipped with a high-power blue laser oscillator. We are also promoting the open innovation initiatives. Among them, this time, we requested the contribution regarding the relationship between Japan’s smart country concept and the blue laser processing technology from Professor Masahiro Tsukamoto at the Joining and Welding Research Institute, Osaka University and regarding the development of a high-power blue laser diode from Dr. Shinichi Nagahama, Principal Researcher at Nichia Corporation. Here, we would like to express our sincere gratitude.

By the way, the “marketing orientation” has become more and more important in the last 10 years. This is the result of listening to the various Voices Of Customers (VOCs), making them into the bundled needs and then formulating a product strategy. With regard to VOCs, it is important to firmly grasp the true intentions of the customers, the facts in the field and the technical issues. And also, it is extremely important to have a frank dialogue with the customers who are competing at the forefront of the development, the design and the production technology. In our laser processing field, we have set up a place called Application Lab (App Lab) to solve the customers’

problems through the laser processing. In this App Lab, the actual work can be brought in many times based on the discussion with our customers. Even under the COVID-19 crisis, the laser processing can be used as a tool for solving customers’ problems using a web camera remotely. In this way, we repeat a dialogue with our customers many times. This activity is a place to listen to the true VOCs of our customers and to embody the “selling experience” as a solution.

Our group companies have been developing a wide range of the businesses based on the four core technologies of “metals”, “polymers”, “photonics” and “high frequency”. In the customer’s projects related to the mobility at our App Lab, the demands for processing the non-ferrous metals such as “Copper” and “Aluminum” have been increasing from “Iron” year by year. This “Laser Processing for Copper” is a unique area that can be said to have been created by fusing the oldest “metals” and the relatively new “photonics” in our history. “Copper”, which is the core material of the “metals” business, is a material that we have developed for 137 years since our foundation in 1884. On the other hand, the “photonics” is an area where we have expanded our business through the development and the manufacture of the related parts since the early days of the optical fiber communication in the 1970s. The “Laser Processing for Copper” is a new area that requires a high-power blue laser diode with the excellent processing characteristics in addition to the fiber lasers derived from the optical communication technology. In order to implement the reliability that can withstand the in-vehicle use, our knowledges in copper materials as well as in lasers is extremely important. In addition to combining the material powers of the “metals” and the “photonics”, by proposing a solution called the “Laser Processing for Copper” through the co-creation with our partners, we will strive to resolve the social issues aiming for a carbon-free society through the electrification of the mobility. We really hope that this special issue will help the customers involved in the mobility electrification.

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