» Opening Remarks

Technologies Supporting the Achievement of Furukawa Electric Group Medium-term Management Plan 2022-2025

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Ichibei Furukawa, the founder of Furukawa Group, made great strides in the mining industry through aggressive introduction of technological innovation. Based on his wish to "brighten Japan" with the utilization of frontier technology of the time, he started the electric wire and cable business and has succeeded in solving the social issues of the time. The technology development in Furukawa Electric Group Medium-term Management Plan 2022-2025 announced in May 2022 has formulated its direction based on the four domains of core technologies of metals, polymers, photonics, and high-frequency that have been accumulated and intensified through the corporate activities of Furukawa Electric Group. In parallel, it has defined its direction based on backcasting the research on the social issues and solutions which were foreseen in Furukawa Electric Group Vision 2030 established in 2018. (Namely, in order to build a sustainable world and make people's life safe, peaceful, and rewarding, Furukawa Electric Group will create solutions for the new generation of global infrastructure combining information, energy, and mobility.).

In the information field, Furukawa Electric Group has supported the development of the information and communication society with photonics technologies such as optical fibers and semiconductor lasers. Through further development of this core technology, in a society where the introduction of 5G/6G begins, we will be achieving next-generation optical networks with ultra-large capacity. Photonics-electronics convergence technology will be indispensable for expanding data centers in the future, and along it through deploying high-performance thermal technologies as well, we will achieve a significant reduction in system power consumption. The application field of photonics technology is not limited to terrestrial optical communication networks. We are also working to expand to the field of space satellite communication. Applications of high-power laser technology are expected not only for industrial applications such as metal processing but also for new applications such as the maintenance of infrastructure structures and energy transmission.

In the energy field, the commercialization of new-age power cables to support the growth of renewable energy is in progress. DC microgrid and high-frequency power electronics technology will also become important, and these will be developed into new energy infrastructures including power storage systems based on new-age batteries such as bipolar lead batteries, as well as EV charging facilities. As the only company working on both low-temperature and high-temperature superconducting wires, we are supporting the future of quantum technology and nuclear fusion. Green LP gas creation technology utilizing a catalyst technology is the spearhead of Green Transformation (GX) technology that we are promoting. Through this technology, we will also be working to solve regional issues such as creating a new infrastructure to achieve "Succession of local resources and local culture for the future" of energy based on carbon-neutrality.

In the mobility field, a once-in-a-century major innovative change called CASE (Connected, Autonomous/Automated, Shared, Electric) is causing a major tectonic revolution. By fusing Furukawa Electric Group's core technologies of metals and polymers, we will create lightweight and eco-friendly technologies with built-in high quality and originality, also we will create sensing technologies applying photonics and high-frequency technologies. In addition, in further collaboration with infrastructure technologies, we are also developing technologies on the infrastructure side by expanding wireless technologies such as MaaS (Mobility as a Service) and V2X (Vehicle to everything).

Regarding new domain, in life science, maintaining social infrastructure, expansion of our technologies in the field of aerospace, and others, we are promoting technological developments based on equipment development and also service provision. In addition, we are promoting innovative changes through a wide range of digital transformation (DX) and design in order to support business developments and technology expansion.

Drawing on more than a century of expertise, our research and development, has supported the Sustainability Transformation (SX) of our business. While keep supporting social infrastructures where safety and security are required to provide a very long service life cycle and stability as top priorities, we believe that our greatest mission is to continue to change ourselves in order to solve the changing social issues, and we are actively promoting our research and development. We will continue to promote this contradictory ambidextrous development, that seems to be in conflict, while enjoying ourselves.

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