

MESSAGE

Hitachi's Research and Development Creating New Value

Transforming for Global Innovation

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The global spread of infection by the novel coronavirus (COVID-19) has led to major changes in societies, economies, and people's daily lives. While the pandemic has restricted the movement of people and goods, and significantly impacted economies, it has also triggered a shift toward a new social order, such as can be seen in the development and production of vaccines to prevent infection, and accelerated digitalization of societal systems in ways that present new business opportunities. In relation to environmental issues that pose a global challenge to society, activities to realize carbon neutrality are increasing as actions for the Paris Agreement begin in earnest. In Japan, the "Green Growth Strategy towards 2050 Carbon Neutrality," was drawn up in December 2020, and there is increasing expectation on corporate activity contributing through decarbonization initiatives.

Hitachi is expanding its Social Innovation Business to deliver greater social, environmental, and economic value. By supporting the transformation to an advanced and intelligent society by applying digital technology to societal and industrial infrastructure, it is Hitachi's goal to contribute to improving people's quality of life (QoL) and increasing the corporate value of its customers. To realize

this, the Research & Development Group has adopted a basic policy to “create value at the frontline” and “become a technology leader,” and is promoting a transformation to a value-providing organization for global innovation.

To “create value at the frontline,” Hitachi is pursuing collaborative creation (co-creation) whereby Hitachi works with various partners to identify and share the challenges and together develop solutions that create social, environmental, and economic value. To enhance its activities to resolve societal issues and support growth areas in each region, Hitachi launched *Kyōsō-no-Mori* in April 2019, followed by an open co-creation base in Santa Clara, USA in May, and began discussions in October of the same year to establish a *Kyōsō* Centre in partnership with the New South Wales state government in Australia (scheduled to open in 2023). Further, the company also set up the Lumada Data Science Laboratory as part of *Kyōsō-no-Mori* in April 2020. By bringing together leading data scientists, Hitachi plans to further enhance value through digital solutions. Future societal challenges are being addressed by deepening discussions with industry, academia, and government through the Hitachi-UTokyo Laboratory, Hitachi Kyoto University Laboratory, Hitachi Hokkaido University Laboratory, and so on, as well as investigating zero-carbon scenarios at the Hitachi-UTokyo Laboratory, and initiating projects based on regional issues with Chulalongkorn University in Thailand and Tsinghua University in China.

The values being sought are also changing, influenced by different factors such as climate change, COVID-19, and the aging demographics of developed nations. The Research & Development Group is strengthening its efforts to globally drive innovation and create value. To do so, it needs to bring together the combined strengths of different sectors, build ecosystems, and deliver differentiating technology.

To “become a technology leader,” Hitachi needs to drive innovation through co-creation as well as build-up world-leading technologies. The strength of Hitachi’s research and development lies in being the repository of technology platforms and know-how underlying the Hitachi Group’s operational technology (OT), IT, and products, pursuing

technology development through co-creation and accumulating that know-how in an established value creation cycle. Hitachi is not only materializing solutions that deliver value to customers, but by sharing this within the Hitachi Group, the company is also significantly increasing research and development efficiency. The technology platforms need to adapt to changes in the business portfolio, and thus it is necessary to review and renew, strengthening them in readiness for growth areas. The technology platforms were reinforced by business integration in the areas of energy, automotive products, and robot system integration. For the next growth, Hitachi will be reinforcing areas that provide core technologies for Lumada such as “AI,” “trust,” “Beyond 5G/6G,” “robotics,” and “electrification,” as well as potential future disruptive technologies such as “quantum computing,” “regenerative medicine,” and “environment-related technologies”

In April 2019, Hitachi also established a Corporate Venturing Office to reinforce initiatives pursuing disruptive technologies and business models by participating in innovation ecosystems around the world. Through the seven startup businesses in which it has already invested, Hitachi is accelerating the creation of new value in fields such as life science, next-generation trust platforms, and computing. Further, Happiness Planet Ltd. was launched in July 2020 to support corporate management and create a new industry by using smartphones and other wearable devices to measure people’s happiness and quantify the level of activity in organizations. Through such initiatives, Hitachi is agilely generating new businesses that capture changes in society and needs.

On a final note, in 2020, Hitachi, Ltd. celebrated the 110th anniversary of its founding. Hitachi will continue to drive innovation that leads to the future by executing its corporate mission and the wish of its founder, Namihei Odaira, to “contribute to society through the development of superior, original technology and products,” and to pursue cutting-edge technology development. I hope that through this issue of *Hitachi Review*, readers will gain an insight of the frontline of research and development in Hitachi’s new challenges.