The Last 50 years and Outlook for 2050

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Hitachi Research Institute (HRI) is celebrating its 50th anniversary since its establishment in 1973. I would like to take this opportunity to express my sincere gratitude for the support of past and present executives of Hitachi, Ltd. and the efforts of our senior members and predecessors. In commemoration of HRI's 50th anniversary, we have published a special issue entitled "The Last 50 Years of the World and Prospects for 2050."

The Hitachi Group is committed to creating a society in which each and every person can lead an active and enjoyable life through Green, Digital and Innovations. It is also our goal to "support people's quality of life with data and technology that foster a sustainable society," while protecting the planet. With Hitachi Energy and GlobalLogic joining our ranks, our solution and delivery capabilities for OT, IT, and products have been greatly enhanced. Combining Lumada* solutions with cutting-edge technology and OT know-how, we provide one-stop solutions to solve customer issues globally.

The current global situation, however, points to worsening geopolitical risks and an increasingly divided world—the U.S.-China friction, the Russian invasion of Ukraine, the situation in the Middle East, among other pressing global issues. In Japan, with the aim of realizing Society 5.0, efforts are being made to address challenges presented by the decreasing birthrate and aging population, the stagnation of economic growth, and the regional decline. In response to such rapid changes in the external environment, societal, industrial, and individual behavior transformations are accelerating through digitalization. As countries are increasingly transitioning to carbon-neutral and circular economies, initiatives to make carbon emissions visible and transparent throughout the supply chain are advancing. Also, in the industrial structure, value chains are being reconstructed in response to pandemics and geopolitical risks, and token economies are being formed and utilized for electronic transactions. Even in our daily lives, along with the growth in consumption brought about by e-commerce, economic activities in the virtual space through the metaverse are making headway. Further, the advent of generative AI is expected to bring about revolutionary improvements in white-collar productivity. This will take place through the partial automation of tasks and improvement of worker competency. Its potential economic value is estimated to be between 2.6 and 4.4 trillion dollars. (estimated by McKinsey)

In retrospect, HRI was established in 1973 as a think tank of Hitachi Group with the aim of establishing a soft science that integrates economy, society, management, technology, and other fields to address not only long-term and fundamental problems within the Hitachi Group, but also to widely

respond to the needs of the nation, government agencies, and other companies. This was in response to the reconstruction of the world economic order triggered by the turmoil caused by the Nixon shock, the emergence of the Club of Rome's theory of finite resources, and the heightened uncertainty about the future caused by the first oil crisis. After recognizing and verifying the basic global issues confronting the world as facts, HRI identifies the essence of the problems. It then conducts research to seek fundamental solutions to these problems. In other words, it has faithfully passed on its mission of "seeking out the truth." I believe that by remaining undaunted in the face of harsh realities and difficulties and working tirelessly to come up with solutions, we can help usher in a new era and enable the creation of new businesses. The time has come for HRI to once again take on a focal role in the midst of a major turning point in history, just as we did at the time of our foundation.

As it aims to become a global leader, Hitachi must strengthen the Group's business intelligence to achieve business growth in a rapidly changing market environment. The Hitachi Group needs to work together to analyze business opportunities and risks, and formulate and advocate policies and rules to resolve social issues. And we aim to create new businesses and engage in front-line activities as across multiple countries, regions, and business units in line with the One-Hitachi in accordance with respective regional strategies. In this context, HRI will contribute to Hitachi's global business growth by proposing and supporting the implementation of growth strategies. HRI will do this by accurately understanding macro trends in the global society and analyzing the latest trends in the economy, society, management, technology, and customers through progressive research.

Looking ahead to 2050, in the midst of the drastic shift toward a digital society, HRI will analyze and discern risks with a firm grasp of the changes in the industrial structure to address fundamental social issues, such as the correction of disparities. Likewise, we will continue to engage in making recommendations that contribute to the transformation of the Hitachi Group's business portfolio. I will endeavor to lead HRI in delving into the essence of digital transformation with the "determination and resolve" of our predecessors to overcome the difficulties of the past. I will do so by fully leveraging my seven-year experience serving as CTO and General Manager of the Research and Development Group at Hitachi, Ltd.

In this special issue, entitled "The Last 50 Years of the World and Prospects for 2050," we look back at the global trends of the last 50 years from HRI's perspective, along with the views of experts from various fields on their outlook for 2050. I sincerely hope that this special issue will prove to be beneficial to each and every one of you.

I look forward to your continued support and cooperation.

* Lumada: A collective name for solutions, services, and technologies that use Hitachi has developed utilizing its advanced digital technologies to create value from customer's data and accelerate digital innovation.