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Front-line Researchers

Hiroki Takesue, Senior Distinguished Researcher, NTT Basic Research Laboratories

▼Abstract

As the miniaturization of complementary metal-oxide semiconductor electronic circuits that underpin computer technology approaches its limit, the end of Moore's Law—which suggests that the performance of digital computers increases exponentially over time—has become a reality. Therefore, research on new types of computers that use physical phenomena to efficiently (and at high speed) solve specific problems that digital computers cannot solve easily is being actively carried out. We interviewed Senior Distinguished Researcher Hiroki Takesue, who has published a series of world-leading results in this field of research, about his research achievements and his attitude as a researcher.

Feature Articles
NTT Group's Initiatives for Creating New Value in the Food and Agriculture Sector

NTT's Vision for the Future of Agriculture, Forestry, and Fisheries—Simultaneously Improving Production Capacity and Sustainability

▼Abstract

The NTT Group has set agriculture, forestry, and fisheries as one of its priorities. In particular, we are working to implement Smart Agri—namely, optimizing the entire food value chain from breeding to production, distribution, sales, and consumption by using the Group's cutting-edge technologies, assets, and services and collaborating with forward-thinking partners. In response to growing concern about global environmental issues, we have begun new initiatives that will enable the agricultural industry to coexist in harmony with nature while improving its production capacity. This article describes issues concerning the agriculture, forestry, and fisheries industries and provides an overview of NTT Group's initiatives, specific examples, and future developments related to such industries.
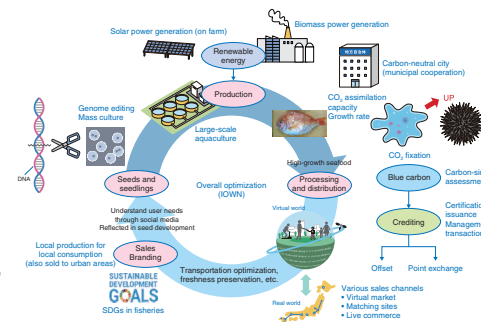
Regular Articles

How ICT Contributes to Carbon Neutrality

▼Abstract

To achieve carbon neutrality, we need to reduce greenhouse gas (GHG) emissions to net-zero at the global level by the middle of the 21st century. In September 2021, the NTT Group announced the new environmental and energy vision "NTT Green Innovation toward 2040," which formulates that the NTT Group will not only aim for carbon neutrality in 2040 but also contribute to reducing the environmental impact of society by simultaneously expanding the adoption of Innovative Optical and Wireless Network (IOWN) technologies and new information and communication technology (ICT) services. This article introduces our estimation model for analyzing the potential contribution of ICT usage to future environmental load reduction and economic growth. By covering the targeted 36 ICT services that are widely used or will spread in the near future in Japan, including those provided by NTT, this model will quantitatively analyze the environmental and economic impact of introducing these ICT services by 2030.