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From the Editor

The social system challenges that have come to prominence in recent years include global warming, insufficient maintenance of aging infrastructure, a low birth rate, and an aging population. Meanwhile, the Internet of things (IoT), which connects numerous devices to networks, has made rapid advances that are giving rise to a trend toward its use in the creation of new societies, markets, and ecosystems. Examples include initiatives aimed at new forms of manufacturing, with the announcement in November 2011 of Industrie 4.0, a joint strategic initiative by industry, academia, and government that is led by the German government. The Industrial Internet Consortium launched by General Electric Company of the USA and four other companies in March 2014 now has more than 200 member companies, and is developing new products, processes, and services through demonstration projects called "testbeds." Japan, too, has seen considerable activity aimed at achieving new growth through open innovation with the establishment of such organizations as the Robot Revolution Initiative and the IoT Acceleration Consortium.

Hitachi has a track record of developing information and control systems for important social platforms intended to maintain a sustainable global and social environment. We build safe and secure products and systems, placing top priority on ensuring reliability. We are also working on the development of systems based on the symbiotic autonomous decentralization concept first announced by this journal in May 2012 to utilize the advances achieved by the IoT to create the social infrastructure of the future. Through collaborative creation, whereby we share challenges with customers and other partners and work together to create new services and other businesses, we intend to combine business growth with solutions for the problems facing society. While this is a major challenge for Hitachi, too, we are pursuing our Social Innovation Business to contribute to the progress of society in many different ways.

This issue of *Hitachi Review* describes the work Hitachi is doing to utilize the IoT for the efficient control of the important systems that underpin society and that are closely associated with daily life, including electric power, transportation, water and sewage, steel manufacturing, and industry, and also the core technologies that support these systems. In this issue's Expert Insights, Prof. Dr. Henning Kagermann, a President of Germany's National Academy of Science and Engineering (acatech), which is playing a leading role in such initiatives as Industrie 4.0 and Smart Service Welt, contributes an article about the fourth industrial revolution as a social innovation in the digital world. In Technotalk, we invited Hidehiko Tanaka, Dr. Eng., President of the Institute of Information Security, for a discussion with staff from Hitachi who are directly involved in its business.

I hope this issue of *Hitachi Review* will leave you with a better understanding of Hitachi's activities and will provide opportunities for the collaborative creation of new value in your businesses and in society at large.

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