

IT Underpinning Paradigm Shift in Social Infrastructure



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RAPID regional population growth, particularly in emerging economies, is prompting concerns about resource shortages and damage to the environment. Meanwhile, aging social infrastructure has been recognized as a tangible problem in developed economies especially. To overcome the various issues we currently face and build sustainable societies, work is being undertaken around the world on smart grids, smart cities, and other new social infrastructure with the aims of diversifying and making effective use of resources, and optimizing the operation of urban infrastructure.

This new social infrastructure is giving consumers a more important role than they have had in the past. Smart grids, for example, allow consumers to also act as suppliers by generating electric power from renewable or other energy sources, and may also require demand to be adjusted to match supply. In response to this paradigm shift in social infrastructure, it is necessary to come up with solutions that achieve system-wide optimization to satisfy the wants and needs of different stakeholders, including both suppliers and consumers. Hitachi believes that the sophisticated application of information technology (IT) is essential to achieving this goal.

Hitachi has for many years been involved in the provision of information and control systems for social infrastructure such as energy, water, and

transportation. Based on this experience, our Social Innovation Business in recent years has involved converged systems that combine information and control. That is, the objective of our work has been the “global supply of safe and secure social infrastructure enhanced by the use of IT.”

This issue of *Hitachi Review* describes initiatives involving systems that converge information and control and use advanced IT to underpin this paradigm shift in social infrastructure. It also features a special contribution by Leon R. Roose from the University of Hawaii, entitled “Securing Paradise in Hawaii,” that describes a smart grid demonstration project underway in Hawaii. Other articles describe Hitachi’s latest work on solution development in the fields of energy, water, operation and maintenance services and the software platforms that provide the foundations for these initiatives, including simulation, data analysis techniques, and security technology. Another article looks at Hitachi’s involvement in international standardization.

Through this issue of *Hitachi Review*, it is my hope that you will be able to learn something of Hitachi’s activities targeted at our Social Innovation Business, and that our platform technologies and other solutions prove useful to your business or in social infrastructure innovation.