Overview

# Global Deployment of IT Solutions that Contribute to Social Progress

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## SOLUTIONS THAT TIE TOGETHER PEOPLE, IT, AND SOCIAL INFRASTRUCTURE

WHILE the global economy continues its robust growth, societal problems are becoming more severe, including worldwide resource and food shortages, environmental degradation, inadequate social infrastructure in emerging economies, and the aging of social infrastructure in developed economies along with shrinking workforces due to aging populations and low birth rates. With the aim of building sustainable societies, Hitachi operates its Social Innovation Business for solving these societal problems by linking together people, information technology (IT), and social infrastructure while also achieving economic growth.

## SATISFYING GLOBAL NEED FOR SOCIAL INNOVATION

This section gives an overview of global economic trends and market needs, and describes the role that IT can play in bringing about innovation.

### Growing Need for Social Infrastructure and Social Systems

A number of multilateral free trade negotiations are currently in progress around the world. Chief among these are the 12-nation Trans-Pacific Partnership (TPP)(a); the TTIP(b), a free trade agreement (FTA) between the USA and Europe, and the 16-nation RCEP(c) that includes the Association of Southeast Asian Nations (ASEAN), Japan, China, and South Korea. While the progress of these economic partnership negotiations has been mixed, economic activity by corporations from different countries is responding to the trend toward liberalization by becoming more actively international and complex.

Projections by the International Monetary Fund (IMF) estimate annual growth in real gross domestic product (GDP) by developed economies and regions over the next five years at only about 2.5%. Their forecast for emerging economies and regions, on the other hand, is continued growth of more than 5% (see Table 1). If progress can be made on reducing or abolishing non-tariff and other barriers to trade, investment, and services in the future, it is anticipated that this will lead to a further acceleration in the movement of people, goods, money, and information at a global level.

Whereas many companies have in the past established manufacturing facilities in emerging economies, the rise in income levels in these nations as their economies develop means that they are also coming to be seen as new markets. Unfortunately, emerging economies may also suffer from inadequate provision of basic social infrastructure, such as electric power, water, roads, and transportation, and also of social systems such as government, finance, healthcare, and social security, meaning that their continued economic development will require things

(a) TPP
Trans-Pacific Partnership. A multilateral economic partnership with a high level of liberalization between nations in the Asia-Pacific region. It began in May 2006 as a free trade agreement between Singapore, New Zealand, Chile, and Brunei, with the USA, Australia, Peru, and Vietnam joining negotiations in March 2010. With the addition of Malaysia, Canada, Mexico, and Japan, negotiations aimed at agreeing on a new framework are currently in progress by a total of 12 nations.
(b) TTIP
Transatlantic Trade and Investment Partnership. Negotiations aimed at establishing a comprehensive free trade agreement (FTA) between the European Union (EU) and USA commenced in 2013.
(c) RCEP
Regional Comprehensive Economic Partnership. A wide-ranging and comprehensive economic partnership incorporating an FTA between Japan, China, South Korea, India, Australia, New Zealand and the ten ASEAN nations. Proposed by ASEAN in November 2011, official negotiations commenced in November 2012 following meetings by the 16 participants.

TABLE 1. Projected Growth in Real GDP
*The table lists the projected growth rates for real GDP compiled from the October 2013 edition of the World Economic Outlook Database published by the IMF.*

| Nation or region \ Year | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|---|
| **World total** | 2.9 | 3.6 | 4.0 | 4.1 | 4.1 | 4.1 |
| **Developed economies or regions** | 1.2 | 2.0 | 2.5 | 2.6 | 2.6 | 2.5 |
| USA | 1.6 | 2.6 | 3.4 | 3.5 | 3.4 | 3.1 |
| Japan | 2.0 | 1.2 | 1.1 | 1.2 | 1.1 | 1.1 |
| Eurozone | –0.4 | 1.0 | 1.4 | 1.5 | 1.6 | 1.6 |
| UK | 1.4 | 1.9 | 2.0 | 2.0 | 2.1 | 2.3 |
| **Emerging economies or regions** | 4.5 | 5.1 | 5.3 | 5.4 | 5.5 | 5.5 |
| China | 7.6 | 7.3 | 7.0 | 7.0 | 7.0 | 7.0 |
| India | 3.8 | 5.1 | 6.3 | 6.5 | 6.7 | 6.7 |
| Brazil | 2.5 | 2.5 | 3.2 | 3.3 | 3.5 | 3.5 |
| Russia | 1.5 | 3.0 | 3.5 | 3.5 | 3.5 | 3.5 |
| ASEAN | 5.0 | 5.4 | 5.5 | 5.4 | 5.5 | 5.5 |

GDP: gross domestic product IMF: International Monetary Fund ASEAN: Association of Southeast Asian Nations

like financial aid from international agencies and investment or know-how from developed economies. It is anticipated that total global investment in social infrastructure will grow at an average annual rate of 5% over the 15 years from 2010 to 2025, with the bulk of this to occur in emerging economies (see Fig. 1).

## Leading Role for Use of Information in Social Innovation

Modern society seeks to resolve social issues and achieve economic growth in ways that are conscious of the environment. Innovation is what makes this possible, and the key to innovation lies in the use of information.

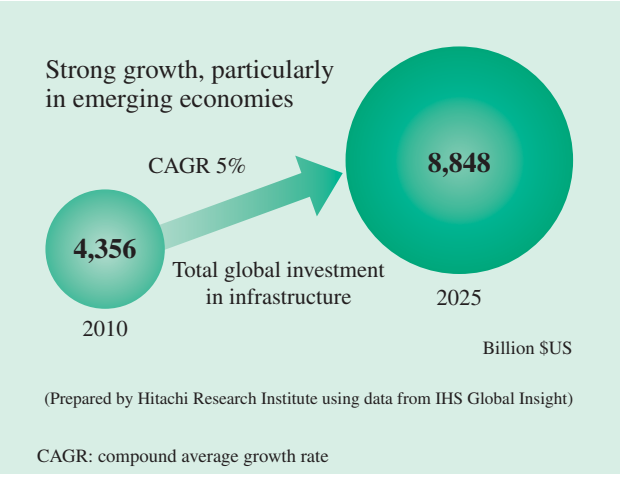


*Fig. 1—Growth in Social Infrastructure Investment. It is anticipated that investment will grow at an average annual rate of 5% over the 15 years from 2010 to 2025, with particularly strong growth in emerging economies.*

Advances in IT mean it is becoming increasingly feasible to collect and analyze large quantities of different types of data in realtime. This "big data" encompasses not only e-mail, office documents, business data, and other conventional forms of information, but also information generated by people, including video, images, audio, and social networking service (SNS) usage data; information generated by machines, such as equipment monitoring and operation logs; and environmental and weather data. By creating new value through the use of the latest IT to collect, search, and analyze this data, and to make predictions, it is possible to deliver social infrastructure innovations, business growth, and a safe, secure lifestyle.

Hitachi aims to contribute to growth in Japan and internationally by using information as a resource to work together with society and customers to identify the issues they face, and to bring all parts of Hitachi together to work on resolving them. To achieve these social innovations, Hitachi supplies IT platform services for putting information to use, consulting services, and industry-specific services.

The next section describes activities by Hitachi in its Social Innovation Business for the information and telecommunication systems sector, and the specific measures being adopted.

## GLOBAL OPERATIONS IN INFORMATION AND TELECOMMUNICATION SYSTEMS SECTOR

Along with changes in the market and business environments associated with ongoing globalization

and the growing severity of societal problems, the issues faced by society and customers are becoming more complex. Recognizing these changes in the state of society, Hitachi operates its Social Innovation Business that supplies new customer value by combining a wide range of products and services and making full use of IT. As part of this, by understanding the issues faced by society and customers, offering solutions, and putting these solutions into practice, Hitachi's information and telecommunication systems business has an important role as a driver of its Social Innovation Business.

### Responding to Globalization of Customers

With aims that include establishing the capability to supply solutions and services worldwide in response to the globalization of its customers, and expanding its support organization to work more closely with customers, Hitachi is working to establish the infrastructure for supplying total solutions that extend from consulting to system development, maintenance, and operation.

With a presence in about 100 countries or regions already, Hitachi's information and telecommunication systems business now intends to proceed with its Social Innovation Business by contributing to advances in social infrastructure such as electric power, railways, and water treatment, while also supporting the globalization by its customers of manufacturing, logistics, finance, and other activities.

Specifically, it is planning to operate globally based around an IT platform business centered on the storage solutions of Hitachi Data Systems Corporation, and around the consulting business of Hitachi Consulting Corporation.

In addition to IT platform solutions based on the storage solutions that have been a mainstay of the company, Hitachi Data Systems Corporation is also strengthening and expanding its software services business. Also, based on its "Big Data for Tomorrow" business vision for FY2015, Hitachi is expanding its solutions for using big data (which has an important role in its Social Innovation Business) to include not only the collection and management of data but also the supply of solutions with greater added value, including applications designed for its customers' specific industries or business sectors.

Hitachi Consulting Corporation supplies management, IT, and other consulting services worldwide. In the future, it intends to strengthen its business portfolio by (1) expanding the range of solutions it offers, and (2) extending the geographical coverage of its services through mergers and acquisitions (M&A) and other measures. Hitachi Consulting Corporation has also been seeking to strengthen its management consulting through the acquisition in December 2012 of Celerant Consulting of the UK, which has customers in a wide range of industries, primarily in the social infrastructure sector, and extensive project experience. In the future, Hitachi intends to contribute to social innovation by strengthening its consulting in the social infrastructure sector.

### Achieving Greater Social Innovation

Hitachi set up the Hitachi Global Center for Innovative Analytics (HGC-IA) in June 2013 to accelerate the global deployment of uses for big data. HGC-IA aims to make innovations in collaboration with customers throughout the world. With a focus on the healthcare, communications and media, energy, transportation, and mining sectors in particular, it is delivering services in the form of solutions and developing innovative applications for customers' specific industries by consolidating the development of big data solutions and building up experience through demonstration projects and other activities aimed at solving problems. Based around its operations in America, Europe, Japan, and elsewhere, HGC-IA intends to contribute through the use of big data to business innovation by working closely with customers' business operations.

## LATEST EXAMPLES OF MAKING SOCIAL INNOVATIONS

The social infrastructure essential to our daily lives includes energy, water, urban development, logistics, transportation, healthcare, and finance. Hitachi is seeking to deliver "social infrastructure innovations," "business growth," and "safe, secure lifestyles" by using IT for optimization and to link people and social infrastructure. That is, through social innovations that use IT to solve issues faced by customers and society. To this end, Hitachi intends to combine the products, technologies, and know-how it has built up over time to identify the issues faced by society and customers, and to proceed with implementing solutions to customers' problems (see Fig. 2).

Hitachi's information and telecommunication systems business uses IT to drive social innovation. The following sections introduce the articles in this issue of *Hitachi Review* that describe what Hitachi is doing in this field, grouping the articles into the above three categories.

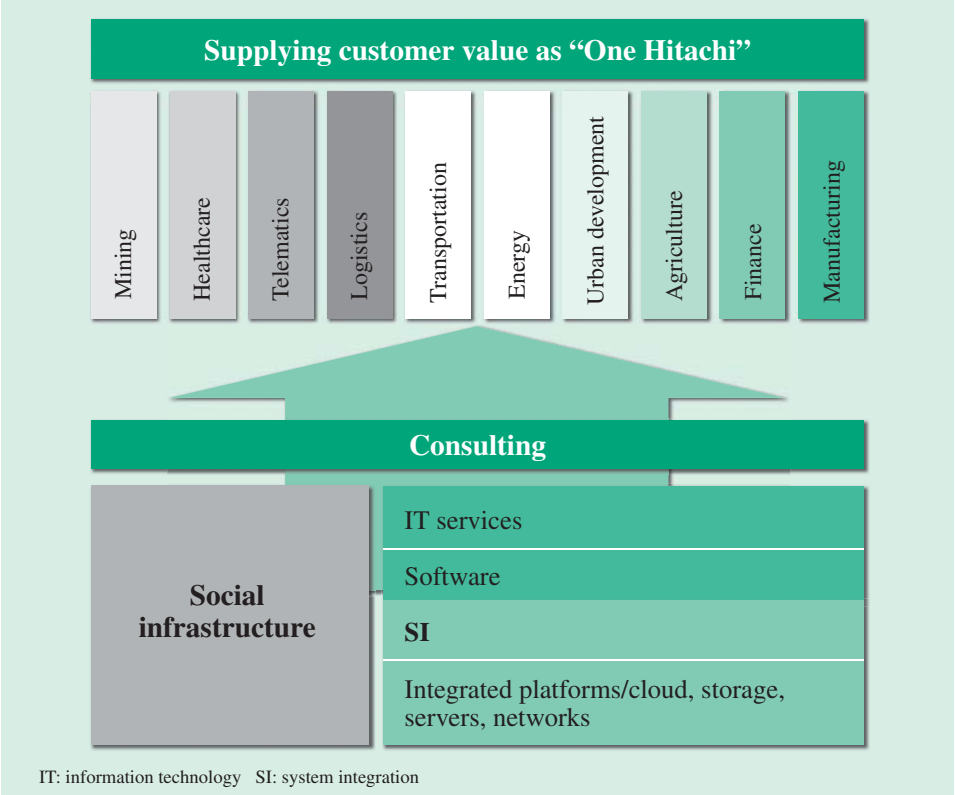


*Fig. 2—Overview of Social Innovation Business Activities. Hitachi is achieving social innovation by supplying customer value as "One Hitachi."*

## Social Infrastructure Innovations

The first article (p. 18) looks at the platform solutions that have an important role in using IT to underpin social infrastructure.

Subsequent articles describe the global deployment of Intelligent Operations(d), which utilizes information for innovation in social infrastructure (p. 22), and case studies of the overseas deployment of solutions for using geospatial information systems to manage energy, agriculture, and other forms of social infrastructure (p. 27).

Another article (p. 31) describes the work of HGC-IA, which is developing big data applications and solutions throughout the world.

## Business Growth

The information and telecommunication systems business works with customers to identify the business issues they face in all areas of operation, including manufacturing, logistics, finance, and telecommunications, and contributes to customers' business growth by supplying solutions that combine products, services, and IT.

One example (p. 38) describes enterprise solutions that support the accelerating globalization of Japanese multinational companies, including enterprise resource planning (ERP) and leading examples of work in the automotive industry, while another article (p. 42) looks at examples of the deployment of IT solutions in China and Southeast Asia that draw on know-how built up in Japan.

Next is a case study (p. 47) of the deployment in Asia of solutions for the finance industry that can reduce exchange rate risk and cut fees.

Another article (p. 53) describes a consulting project that enabled a North American customer to save energy.

## Safe, Secure Lifestyles

An article (p. 57) describes the use of probe technology(e) for road traffic management to help achieve "safe, secure lifestyles" in emerging economies, and the implementation of a smart mobility solution based around a probe information system.

Another (p. 62) describes the technology and global deployment of cash management solutions based around banknote-recycling automated teller machines (ATMs) that make life in society safer and more convenient and trouble-free.

(d) Intelligent Operations
Hitachi's name for its consulting, services, and other products (platforms and technology) that accelerate the adoption of smart practices by society, companies, and customers through the use of big data and other leading-edge IT.

(e) Probe technology
Technology for the generation of road traffic information by collecting position, velocity, and other actual driving information from vehicles.

## DRAWING ON COMPREHENSIVE CAPABILITIES TO USE IT TO DRIVE SOCIAL INNOVATION

This article has described the global operations of the information and telecommunication systems business as it responds to changing market conditions. This issue of *Hitachi Review* provides some examples of what the information and telecommunication systems business is doing to use IT to drive social innovation.

As it looks forward to its next 100 years, Hitachi intends to contribute to the creation of sustainable societies by making social innovations in numerous countries and regions, and in various industries.

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