

# Hitachi's IT Solutions for the Age of Globalization

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## TAKING IT SOLUTIONS TO GLOBAL MARKET

AS the advance of social and economic globalization extends beyond Europe and America to encompass China and other Asian economies, a new wave of globalization is accelerating in the area of corporate activity. Accordingly, Hitachi is orienting itself toward a growth strategy for the global market based on its Social Innovation Business. Social infrastructure businesses such as power and transport have been at the forefront of Hitachi's aim to operate globally, and the company is now stepping up efforts to accelerate this strategy in the information and telecommunication systems sector.

Although consulting services along with platform products such as storage and ATMs (automatic teller machines) have taken the leading role in the information and telecommunication sector, Hitachi also aims to expand its IT (information technology) solutions business.

This article defines what Hitachi means by "IT solutions," which is a general term for ways of resolving issues through the application of IT (hardware,

software, and systems). It also includes services such as systems integration, operation, and maintenance.

The core strategy for the global operation of Hitachi's IT solutions business is to expand along with the global expansion of its Japanese customers, deploy advanced solutions from Japan in the Chinese market, and strengthen its ability to operate outside Japan by working with local partners or overseas bases with a good understanding of local conditions.

The following section considers what is meant by "IT solutions for the age of globalization" by looking at examples of Hitachi's activities from the perspective of IT solutions for the new age of globalization.

## IT SOLUTIONS FOR THE AGE OF GLOBALIZATION

When considering what it means and the ways in which it can be interpreted, "IT solutions for the age of globalization" can be broadly divided into two questions. The first is "what are IT solutions for global corporations?" and the second is "what IT solutions meet the needs of the global market?" (see Fig. 1).

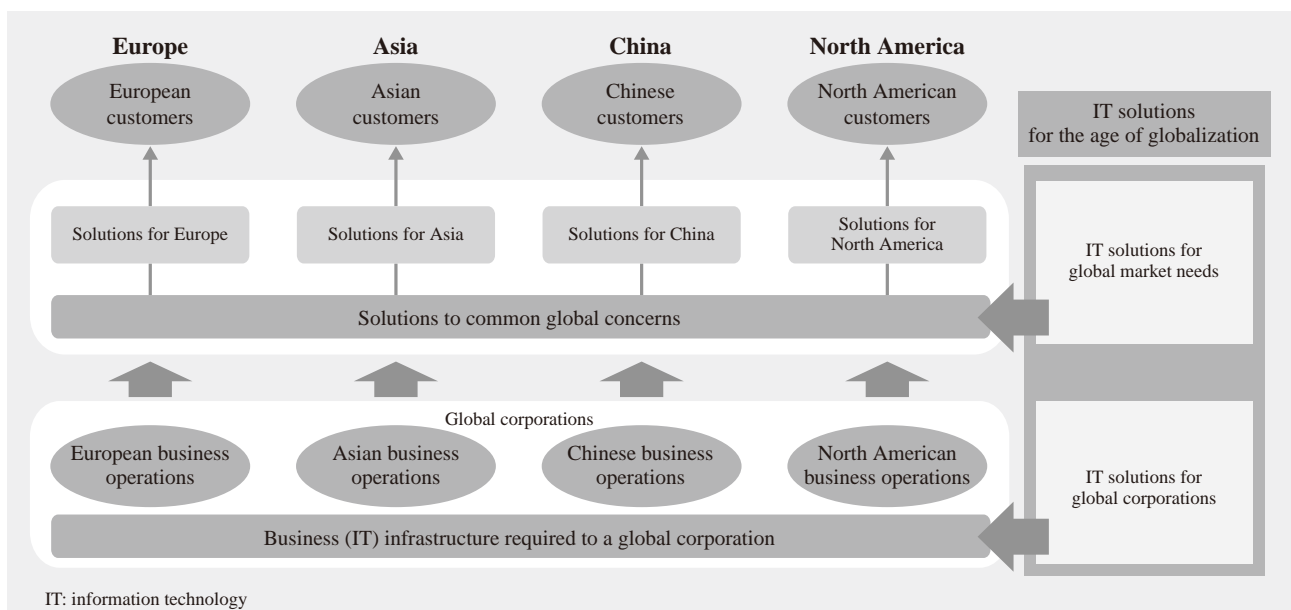


Fig. 1—What is Meant by IT Solutions for the Age of Globalization.

"Global" can refer both to the global market and to the corporations that seek to succeed in the global market. The two ways of looking at IT solutions for the age of globalization are in terms of "business (IT) infrastructure required to be a global corporation" and "solutions to common global concerns."

## IT Solutions for Global Corporations

As Japanese companies have grown, they have advanced from closed domestic operations toward shifting some functions (such as manufacturing and procurement) offshore to achieve lower costs. There has also been an increasing trend toward seeking new opportunities overseas in response to the saturation of the domestic market in recent years and there is a growing movement toward treating the world outside Japan, including emerging economies, as a potential market. In other words, a new type of globalization of corporate activity is accelerating.

One area that has attracted attention along with this growth in global corporate activity has been the question of what form IT should take when conducting business globally. This means looking at the IT used in corporations from a global perspective and seeking to establish the business (IT) infrastructure required to be a global corporation. Put another way, this is about how to maximize business efficiency while minimizing the costs and risks of IT through an IT management regime that covers all global operations.

In the past, IT infrastructure has tended to be established separately at each overseas site as business operations have become more global. Although there were imperatives that applied at the time these systems were adopted, using different IT platforms at each site can be inadequate for achieving further improvement in business efficiency. As a result, there is an emerging trend toward restructuring IT within companies with an emphasis on concepts such as establishing a global IT strategy or designing a global IT architecture. Underlying this is a shift toward global business management (such as the establishment of global supply chains or centralized management of purchasing) and strong momentum behind the trend toward assessing companies on a globally consolidated basis including the adoption of internal controls and international accounting standards. This applies not only to Japanese companies with global operations but also to foreign multinational corporations.

One of the requirements of “IT solutions for the age of globalization” is that they establish the skills and organization able to deal with these trends.

## IT Solutions for Global Market Needs

In operating an IT solutions business in the global market, it is important to focus on IT solutions to common global concerns in terms of their marketability and growth prospects. Typical examples include the environment, the provision of social infrastructure in

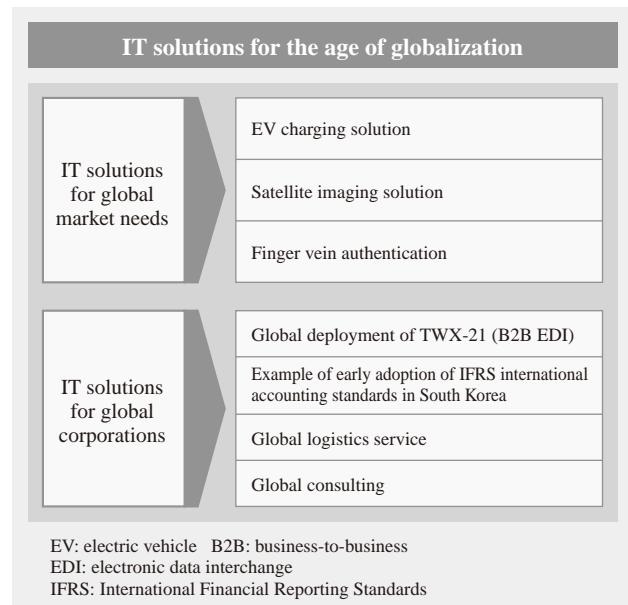


Fig. 2—Examples of Hitachi's Global IT Solutions.  
 These are examples of Hitachi's global IT solutions.

emerging economies, and improving security. More specific examples relating to the environment include CO<sub>2</sub> (carbon dioxide) management, management of restricted chemical substances, energy management, and resource management on a global scale. The recent interest in smart cities, particularly in emerging economies, can also be seen as belonging to this list.

Another requirement for “IT solutions for the age of globalization” is the timely provision of IT-based solutions for these common global concerns and market needs.

## EXAMPLES OF GOOD GLOBAL ACTIVITIES IN IT SOLUTIONS FIELD

Hitachi is undertaking initiatives in a range of areas with the aim of supplying the “IT solutions for the age of globalization” described above. The following sections describe some examples of these activities (see Fig. 2 and Fig. 3).

As these show, Hitachi is involved in a wide range of activities covering both “IT solutions for global market needs” and “IT solutions for global corporations.”

### Global Deployment of TWX-21

This is an example of an IT solution for global corporations.

Businesses are facing a changing environment, which includes rapid advances in IT, the specialization of corporate activity taking place both in Japan and overseas, and the need to deal with environmental regulations and more stringent compliance

Example	Summary
1. Global deployment of TWX-21 (B2B EDI)	<ul style="list-style-type: none"> <li>• B2B EDI, total membership is approximately 43,500 companies.</li> <li>• Used by approximately 2,400 companies in 20 countries or regions</li> </ul>
2. Example of early adoption of IFRS international accounting standards in South Korea	<ul style="list-style-type: none"> <li>• Early adoption of IFRS in South Korea when it having become mandatory in 2011</li> <li>• Japanese-Korean corporate tie-up involving Hitachi</li> </ul>
3. EV charging solution	<ul style="list-style-type: none"> <li>• Action on global environmental needs</li> <li>• Part of smart city infrastructure</li> </ul>
4. Global logistics service	<ul style="list-style-type: none"> <li>• Supports SCM optimization for companies with international operations.</li> <li>• Rebuilding of Hitachi Transport System, Ltd.'s global logistics information system</li> </ul>
5. Satellite imaging solution	<ul style="list-style-type: none"> <li>• Utilizes know-how from Hitachi, Ltd.'s Defense Systems Company.</li> <li>• Uses satellite images (resource management on global scale).</li> </ul>
6. Finger vein authentication	<ul style="list-style-type: none"> <li>• Already widely used in ATMs of Japanese financial institutions</li> <li>• Already in use in Europe, America, Australia, China, and Southeast Asia</li> </ul>
7. Global consulting	<ul style="list-style-type: none"> <li>• North America, Europe, China, Southeast Asia, and India</li> <li>• Operated to suit local conditions, supports global management.</li> </ul>

SCM: supply chain management    ATM: automatic teller machine

Fig. 3—Overview of Some of Hitachi's Global IT Solutions.

These are some examples of Hitachi's solutions designed with global applications in mind.

requirements. This makes it essential that links between businesses be strengthened.

The TWX-21 B2B (business-to-business) media service is the largest business-related SaaS<sup>(a)</sup> solution in Japan with a membership of around 43,500 companies. TWX-21 provides a range of business applications associated with B2B activities to its corporate members as an Internet-based business SaaS service. Services in the English and Chinese languages are currently being added and the solution is becoming increasingly globalized, being used by approximately 2,400 companies in 20 different countries or regions.

The fine-grained set of applications (business SaaS services) associated with B2B activities are provided on the TWX-21 service platform to suit different businesses, different roles, and different users.

Interactions between businesses in areas such as design, procurement, production, and sales are available via the Internet to users, both in Japan and overseas, using only a browser.

#### Example of Early Adoption of IFRS International Accounting Standards in South Korea

This is an example of an IT solution for global corporations.

Hitachi has taken advantage of a project to adopt

IFRS<sup>(b)</sup> (which became mandatory in South Korea in 2011) to enhance its Hitachi IFRS Solution. This project provides support for the speedy introduction of IFRS from concept formulation to implementation and maintenance. This was made possible by acquiring and applying know-how in the adoption of IFRS using the SAP\* system at global companies such as the LG Group, which was undertaken by LG CNS Co., Ltd., a supplier of a broad range of IT solutions in South Korea.

#### EV Charging Solution

This is an example of an IT solution for satisfying global market needs.

Smart cities seek to optimize energy and other infrastructural systems in specific geographical areas, and the worldwide trend toward greater environmental awareness is leading to increasing interest in their role in defining the form to be taken by the next generation of cities. EVs (electric vehicles) are an important element of the urban functions that make up a smart city.

Currently, this solution has been chosen for use in the Yokohama Smart City Project and a smart community project in Spain [New Energy and Industrial Technology Development Organization (NEDO)], and work is in progress on adapting the solution for application in trials.

(a) SaaS

Abbreviation of "software as a service." A service that provides an application via a network so that it is available to a number of users. Users are able to use only those functions they require, as they need them. In addition to speeding up system installation, potential benefits include reducing the cost and effort of software management.

(b) IFRS

Abbreviation of "International Financial Reporting Standards" and the

general term for the common international accounting standards set by the International Accounting Standards Board (IASB). The standards have been adopted by more than 100 countries around the world, including in the European Union (EU) where all listed companies have been obliged to present their financial reports in accordance with IFRS since 2005.

\* SAP is a registered trademark of SAP AG in Germany and in several other countries.

## Global Logistics Service

This is an example of an IT solution for global corporations.

Cost competition and new market development are both becoming more intense as the globalization of corporate activity accelerates. Unified management of procurement, production, inventory, and progress through each stage of the production process at manufacturing sites spread around the world is an important consideration for global corporations, as is the availability of information about these. For global corporations to optimize their SCM (supply chain management), it is essential to be able to identify bottlenecks in the manufacturing lifecycle, including the progress of deliveries from overseas suppliers together with production, sales, and other status information. The key to success is to build a logistics network that can ensure short lead times and reduce logistics costs such as the cost of storing and transporting materials, and acquiring the logistics information required to achieve this is essential.

In response to the challenges that its customers who operate globally face, Hitachi Transport System, Ltd. has, since 2008, been rebuilding its global logistics information system which it developed and deployed itself in order to rationalize its own internal operations as well as enhancing SCM support functions for customers, which include distribution information, and extending its range of systems. This can provide the logistics information required by customers to implement SCM in a timely manner.

## Satellite Imaging Solution

This is an example of an IT solution for satisfying global market needs.

Since the 1970s, Hitachi, Ltd.'s Defense Systems Company and its predecessor organizations have had extensive involvement in the development and supply of ground stations for Earth observation satellites and also systems for using satellite images, particularly for defense users. The company also plans to supply new solutions that utilize its know-how about these systems for using satellite images.

Articles appear regularly in daily newspapers on topics such as forests, which are hoped to reduce CO<sub>2</sub> emissions and rare earth metals, which are essential for boosting the performance of electronics, including batteries, light-emitting diodes, and magnets. Natural resources include minerals, forests, living organisms, farmland, water, and oceans. Because these resources are so widely distributed around the world, the limited

range of terrestrial sensors makes their use for tasks such as resource exploration and monitoring difficult.

Accordingly, high hopes are placed on the use of Earth observation satellites, which orbit above the Earth and are able to observe large areas of the globe.

Based on the knowledge it has acquired in the development and supply of systems for using satellite images and with an eye to global applications, Hitachi is working on monitoring solutions that use satellite images of natural resources.

## Finger Vein Authentication

This is an example of an IT solution for satisfying global market needs.

Finger vein authentication<sup>(c)</sup> features a high level of security, authentication accuracy, and ease-of-use and is already in wide use, particularly in the ATMs of Japanese financial institutions. Taking advantage of these features, the technology is now being more widely adopted with the aim of enhancing security and providing more rigorous personal identification at companies or public sector organizations.

In Europe, America, and Australia, finger vein authentication is being used by public institutions, companies, and other organizations for a wide range of applications where it can provide added convenience as well as security, including system login authentication, physical access control, personal identification at reception gates, and attendance management. Hitachi is also installing access control solutions for customers such as private-sector corporations and publicly owned financial institutions in China, Southeast Asia, and elsewhere. In another example, a manufacturer of access control equipment from France and the USA has incorporated the finger vein authentication technology into its own products which it markets primarily in Europe and the USA.

For the future, Hitachi intends to deepen its collaboration with overseas partners from a wide range of different sectors to deploy more widely finger vein authentication solutions that suit the lifestyles, commercial practices, and other characteristics of each country or region.

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(c) Finger vein authentication

A technology for personal identification that shines near-infrared light through a person's finger to obtain an image of the pattern of veins. The system uses the finger vein image to detect the distinct structural pattern of the veins and determines the identity of the person by matching this against an existing database of structural patterns. Because it performs identification based on the pattern of veins inside the person's body, it is not affected by cracked or dry skin and is very difficult to counterfeit. This makes it a highly accurate form of authentication.



## Global Consulting

This is an example of an IT solution for global corporations.

The acquiring of businesses through M&A (mergers and acquisitions) and the operation of overseas R&D (research and development), sales, and production activities with the aim of expanding sales and market share in the global market are areas where activity levels are high, particularly in the manufacturing industry. The move to a global management structure that treats sites in different countries as a single organization and the strengthening of this structure are essential steps for corporations with overseas operations.

In addition to its existing operations in Japan, Hitachi works with its offices in North America, Europe, China, Southeast Asia, India, and elsewhere, supplying not only consulting but also an optimum mix of IT solutions together with integrated support through all steps in the customer's operations from upstream to downstream to satisfy customer needs, which are becoming more diverse and sophisticated. Hitachi is strengthening its cost competitiveness and enhancing its global support organization, including the acquisition in January 2011 of US company Sierra Atlantic, Inc., which has approximately 2,400 staff worldwide. Outside of manufacturing, Hitachi is also undertaking similar measures for a wide range of other industries including logistics, finance, and public services.

## SUPPLY OF IT SOLUTIONS FOR THE CHINESE MARKET

As described above, Hitachi is undertaking a range of initiatives in the IT solutions sector that take account of global considerations. Given this business environment, Hitachi aims to supply IT solutions for the rapidly growing Chinese market, not only to Japanese corporations but also to local Chinese businesses.

### IT Subsidiaries in China

Hitachi first entered China in 1981 and has been operating businesses there ever since. Although Hitachi took steps to satisfy the Chinese market during the age of mainframe computer, the basis of its current operations in the information systems field has been built up since the establishment of an offshore development facility in 1992. For IT solutions, its operations did not really get started until the 2000s.

Hitachi's current Chinese subsidiaries in the IT solutions field (as of March 2011) are listed in Fig. 4.

To cope with the rapid future growth in the Chinese market, Hitachi is currently embarking on further measures to strengthen its business operations based on this framework.

### IT Solutions Business

The main pillars of Hitachi's information systems business in China are its storage business and the

Hitachi (China) Ltd. Information and Telecommunications Division	<ul style="list-style-type: none"> <li>• Coordination of information and telecommunication business in China</li> <li>• Sales and support of telecommunication networks, financial terminals, and other products</li> </ul>
Hitachi Consulting (China) Co., Ltd. Established July 2010.	<ul style="list-style-type: none"> <li>• Consulting in China</li> </ul>
Hitachi Information Systems (Shanghai) Co., Ltd. Established February 2002. Shanghai headquarters <ul style="list-style-type: none"> <li>— Beijing subsidiary, Guangzhou subsidiary</li> <li>— Suzhou office, Shenzhen subsidiary</li> <li>— Huizhou office, Dalian office</li> </ul>	<ul style="list-style-type: none"> <li>• Provision of IT infrastructure configuration and SI, production management and other solutions, and IT services, primarily for Japanese manufacturers</li> <li>• Operation of integrated system operation and administration (Job Management Partner 1)</li> </ul>
Hitachi Beijing Tech Information Systems Co., Ltd. Established September 2003.	<ul style="list-style-type: none"> <li>• Solutions for education industry</li> <li>• e-learning (including for companies), medical and patent searches, etc.</li> <li>• Development of public sector software for Japan</li> </ul>
Beijing Hitachi Huasun Information Systems Co., Ltd. Established July 1992.	<ul style="list-style-type: none"> <li>• Software development for Japan (offshore development)</li> </ul>
Hitachi Sakura Information System (Shanghai) Co., Ltd. Established August 2001.	<ul style="list-style-type: none"> <li>• Software development for Japan</li> </ul>

SI: system integration

*Fig. 4—Hitachi's Chinese Subsidiaries in IT Solutions Field.*

*The figure lists Hitachi's Chinese subsidiaries in the IT solutions field (as of March 2011).*

supply of ATMs to Chinese financial institutions. In the IT solutions field, its main Chinese subsidiaries are Hitachi Information Systems (Shanghai) Co., Ltd. and Hitachi Beijing Tech Information Systems Co., Ltd.

The main business of the Shanghai company is the supply of IT solutions, particularly to Japanese manufacturing companies. This includes production management and other ERP (enterprise resource planning) systems, support for installing IT infrastructure, and operational management software. Recently, the company has also become involved in the data center business and solutions for financial institutions, primarily in the form of applications.

The main businesses of the Beijing company include electronic whiteboards, e-learning, and other products for the education sector, and IT solutions for the ITS (intelligent transport system) industry. It has also recently started to look at new fields including a patent search service and solutions for healthcare institutions. A feature of the company is that it is taking advantage of being a joint venture company with the Beijing University of Technology to establish business links and enter into collaboration with other local Chinese companies.

In addition to business collaboration with local Chinese companies, the company is also embarking on a new IT solutions venture, which involves working with Hitachi Consulting (China) Co., Ltd., Hitachi's Chinese consulting division, and Hitachi (China) Research & Development Corporation, its research and development division, on the development and enhancement of new solutions.

### Future Activities in China

The 2011 fiscal year is the first year of the 12th five-year plan. This involves starting out on ways of dealing with an advanced society based on comprehensive use of IT in fast-growing China. It is easy to imagine advances in the use of IT in fields such as power, transport, healthcare, and education.

There is also strong interest in utilizing cloud computing and China's "Internet of things" concept of ubiquitous technology.

Given this situation in Chinese society, the information and telecommunication systems divisions of Hitachi intend to combine their collective strengths to keep pace with the growth of the Chinese IT market by strengthening their business framework including building links with the business community in Japan without limiting themselves to the previous arrangement of local subsidiaries, and by taking

vigorous steps with an eye to working with large Chinese system integrators.

## IT SOLUTIONS BASED ON A SPIRIT OF COLLABORATION

In the information and telecommunication systems industry, as in many other industries, looking toward overseas markets as well as domestic ones is no longer an option that can be dismissed. Hitachi's information and telecommunication systems business also aims to strengthen further its global growth strategy in line with this trend toward globalization.

Regarding innovations aimed at bringing about an information society, Hitachi has conducted its business based on a spirit of collaboration with its customers. In deploying system solutions for the new age of globalization, Hitachi believes it will be able to offer support through its dependable technologies and an approach that understands its customers' workplaces based on this spirit of collaboration.

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