

R&D and Intellectual Property Report 2006

June 2006

Hitachi Ltd.

Table of Contents

TO OUR STAKEHOLDERS	1
I. Introduction	2
II. Hitachi Technology Management	2
1. What Hitachi should be	2
2. Technology management approach	3
2.1 Innovation	3
2.2 Globalization	4
2.3 Synergy	4
III. Intellectual Property and R&D in Main Target Businesses	6
1. High-definition "Wooo" TVs for digital broadcasting	6
2. "Secure client solutions" for offices anywhere	7
3. Global advance of car information and navigation systems	8
IV. Research and Development	10
1. R&D system	10
1.1 Hitachi Group R&D structure	10
1.2 R&D Group	10
2. R&D strategy	10
2.1 R&D structure serving as a hub	11
2.2 MONOZUKURI capability	12
2.3 R&D global development	13
3. Collaboration with industry, academia, and government	13
V. Intellectual Property	15
1. Patents	15
1.1 IP management system and patent portfolio	15
1.2 Patent strategy	17
1.3 Invention reward system	19
2. Brand	21
2.1 Brand management	21
2.2 Brand management system	21
2.3 FY 2005 brand management activities	21
2.4 Measures against counterfeit products	24
3. Trade Secret Management Committee	25
Reference 1. Group Companies for Japan-US Patent Data	26
Reference 2. Main Public Awards	27

TO OUR STAKEHOLDERS

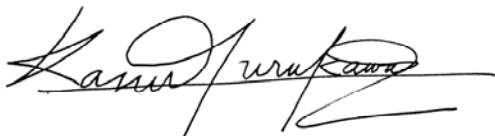
In 2010, Hitachi Ltd. will celebrate its 100th year since establishment. Based on the founding values of “harmony,” “sincerity,” and “pioneering spirit,” in the years to come we will strive to develop our corporate philosophy even further, which is “to contribute to society through technology.” With the approaching centennial, Hitachi will combine the “true collective strengths” of the wide range of technologies and expertise among Group companies to create added value, to meet the expectations of stakeholders including customers and shareholders, and to enhance shareholder value.

The creation of high added value requires research and development (R&D) and intellectual property, which is the fruit of R&D. Our efforts and achievements in these areas are presented here as the third R&D and Intellectual Property Report.

By reading this report, we hope that our diverse stakeholders will gain an understanding of Hitachi’s philosophy and focus on R&D and intellectual property.

June 2006

President and Director

A handwritten signature in black ink, appearing to read "Kanji Furukawa", with a horizontal line extending from the end of the signature.

I. Introduction

The purpose of this report is to provide information about R&D and intellectual property (IP rights and brand), which are the main components of technology management for Hitachi, Ltd. and its affiliates.

This report covers the period from April 1, 2005 to March 31, 2006 (FY 2005), including new measures and organization changes at the start of FY 2006.

II. Hitachi Technology Management

1. What Hitachi should be

We are at the dawn of a new era in which information can be transmitted any time, any place, and between anyone. By making better use of information networks, the barriers among enterprises, communities, and individuals are being broken down to create new values that combine and interconnect in a new “ubiquitous information society.” The Hitachi Group is creating value for the “ubiquitous information society” by combining achievements in various business areas with information technology, and thus helping society to become more affluent. Combining businesses and information technology to create optimal value is the essence of Hitachi “uVALUE.”

The Hitachi Group is an aggregate of businesses that supports people’s lives through social infrastructure, industrial infrastructure, and life infrastructure. Each of these infrastructure businesses is combined with information infrastructure systems to generate synergies, to create optimal “uVALUE” for customers and society, and to put “Inspire the Next” into action. In other words, by freely combining experience, knowledge, and expertise drawn from a broad range of business areas, Hitachi should be a business entity that gives full play to its true collective strengths to create high added value.

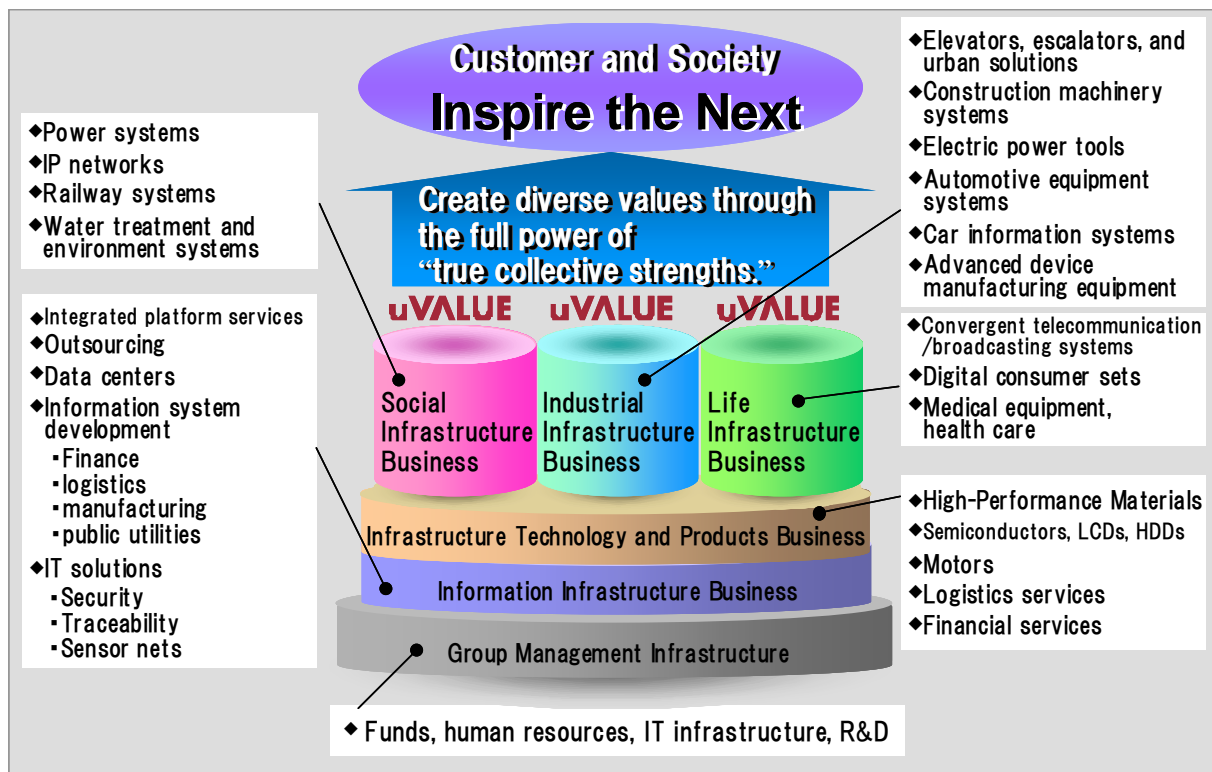


Figure 2.1 Value Creation through “True Collective Strengths”

2. Technology management approach

To leap forward and to give full play to “true collective strengths,” the Hitachi Group must rise to the challenge in “innovation,” “globalization,” and “capturing synergies.”

2.1 Innovation

As the pace of technological progress continues to accelerate, the “power of foresight” becomes essential to know what technology is the right one. Through innovative technologies, Hitachi will develop and market new products and systems that can change our world.

The goal of “Inspire A” is to create core businesses that support the growth of Hitachi Group. Inspire A businesses promote the expansion and development of the entire Group and six business segments, including Information and Telecommunication Systems, Electronic Devices, Power and Industrial Systems, Digital Media and Consumer Products, High Performance Materials and Components, and Logistics Services and Others. From each segment, core businesses are selected as the focus of technology development.

In 2005, Hitachi’s non-contact finger vein authentication system received the Ten Great New Products Award (Nikkan Kogyo Shimbun Ltd.). The system prevents identity fraud by identifying individuals through finger vein patterns. In the ubiquitous information equipment sector, which includes car navigation systems, the sophisticated embedded Entier database made its market debut. In the digital high-definition television sector, the Wooo series released 42V and 37V PDP (plasma-displays panel) TV equipped with the “1080 ALIS Panel,” which has the highest resolution in the world and beautiful picture detail. The PDP TVs are also equipped with a BS/110CS/digital terrestrial tuner. The new Wooo 9000 series also debuted with a 32V LCD (liquid-crystal display) TV equipped with the “IPS Alpha Panel,” which achieves a sharper image for high-motion sporting events. The LCD TV is also equipped with a BS/110CS/digital terrestrial tuner. In addition, “Ecocute” hot-water storage and instantaneous hot-water supply systems, “Beat Wash” washer/dryer, and “Industry Platform Operations” of the joint logistics business received top prize from the 2nd Eco Products Awards sponsored by the Eco Products Awards Promotion Council.

■ Creating core businesses that support the growth of Hitachi Group

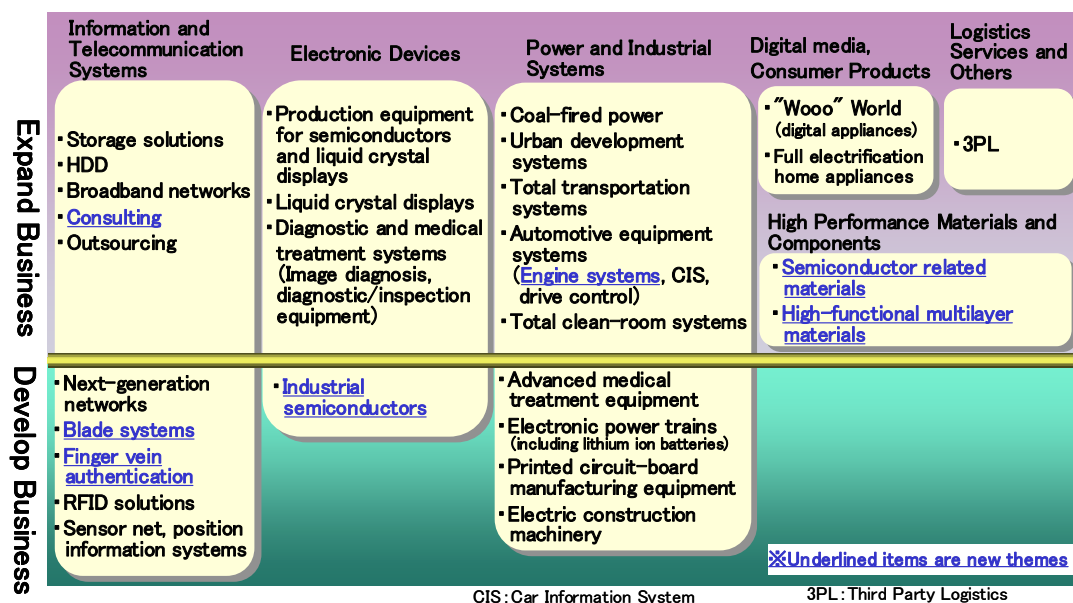


Figure 2.2 “Inspire A” Business Promotion

2.2 Globalization

For our globalization drive to keep pace with markets, the Hitachi Group is promoting collaboration with universities and other institutions and deploying dominant technologies worldwide.

As described in Chapter 4, Section 2.3 “R&D global development,” Hitachi is continually striving to strengthen research laboratories in North America, Europe, and Asia. In collaboration with universities and research institutes overseas, In 2005 Hitachi established the Hitachi Storage Mechanics Laboratory (HSTM) at the Data Storage Institute (DSI: national research laboratory) in Singapore. HSTM promotes joint research projects in the hard disk drive sector between Hitachi and DSI. In China, an R&D division was established as the independent Hitachi (China) Research and Development Corporation to focus research on information and telecommunication systems, open source software, digital appliances, and advanced materials. An agreement was also reached with Fudan University to focus joint research on advanced software technology. To boost joint research, the Fudan-Hitachi Innovative Software Technology Joint Laboratory was established at Fudan University. Through these activities, an estimated 1000 people will be working on projects, design, and development within the Hitachi-China R&D system.

In activities to deploy dominant technologies worldwide, in 2005 Hitachi strengthened the mid-range SANRISE series, a disk array subsystem that supports data life-cycle management (DLCM: a universal storage solution). The new lineup was released worldwide in July 2005. The SANRISE Network Storage Controller (NSC55) implements the world's first virtualization technology by disc array in the mid-range class. With a total of four models, the NSC55 can meet the diverse storage needs of organizations worldwide.

In addition, the Hitachi “DS-110E-W” plastic explosives instant trace detection system received certification from the U.S. Transportation Security Administration (TSA), a leading authority in the evaluation of security systems. This makes Hitachi the first company outside the U.S. to obtain TSA certification. Hitachi has developed an extensive lineup of physical security products, such as conventional X-ray inspection systems, to meet a broad spectrum of market needs.



Figure 2.3 SANRISE Series

2.3 Synergy

Hitachi is setting up a Group management infrastructure to take advantage of scale and to promote the optimal use of resources such as funds, manpower, purchasing power, and IT infrastructure. With a view to high growth in the mid- to long- term, Hitachi is also engaged in the integration of Group technology management.

In particular, Hitachi is promoting (1) Group collaborative innovation in R&D, (2) low cost, high-quality, and manufacturing technology, and (3) improvement of R&D efficiency. The goal of collaborative innovation in R&D is to strengthen research and development through Group technology interaction and product development via vertical integration of technology. To achieve this goal, Hitachi Group Frontier / Platform Research were introduced in 2004 and a CTO Meeting (Fig. 2.4) was established to implement technology development strategy.

In Hitachi Group Frontier Research, we are developing future core businesses that move beyond the borders of current business sectors as well as developing new paradigm-shift

technologies, business models, and intellectual property. In Group Platform Research, our focus is on shortening development periods and improving productivity, reliability, and manufacturing infrastructure technology. To combine and strengthen common, Group-wide, core technologies and to develop human resources, Hitachi is currently building a Group-wide technology platform that spans several sectors such as machinery and electrical systems, electronics systems, and information systems.

To achieve low cost, high-quality manufacturing technology, Hitachi is strengthening infrastructure technologies related to new materials development and simulation systems. Further, to improve productivity and to build up manufacturing infrastructure capability, Hitachi is active Group-wide with embedded system reforms and HiSPEED/One, which engages in development, design, and process reforms.

To improve R&D efficiency, Hitachi Group is streamlining management and technology development road-maps, concentrating R&D resources on high-priority projects, and developing an open environment for Group-wide collaboration. The goal of open R&D is to explore new technology seeds and to promote more efficient technology development through full-scale collaboration with universities in Japan and overseas.

■ Based on Group synergies, promote R&D as an engine to expand business and to create new business

Target

- Strengthen R&D through Group technology exchange
- Strengthen product competitiveness through vertical integration of Group technology

Policy

- Introduce Hitachi Group Frontier / Platform Research system
- Introduce Group-wide Technology Platform

Promotion organization

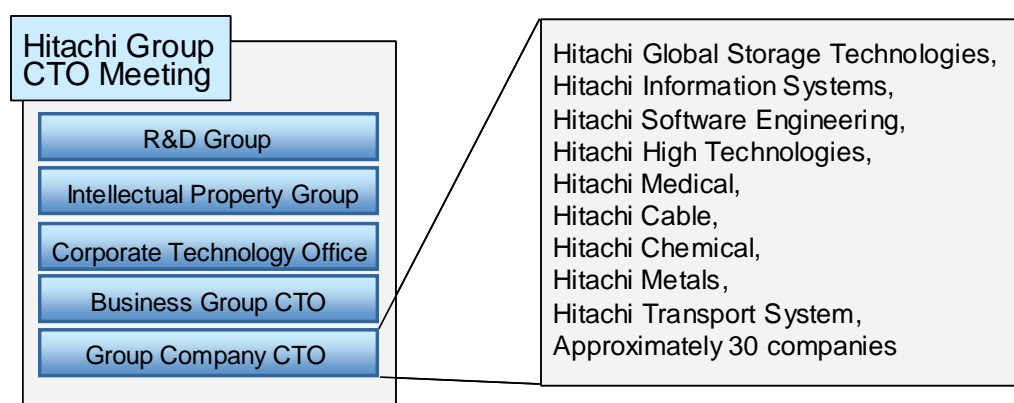


Figure 2.4 Group Collaborative Innovation R&D System

III. Intellectual Property and R&D in Main Target Businesses

1. High-definition "Wooo" TVs for digital broadcasting

By December 2006, digital terrestrial TV broadcasting will be available in the main cities in Japan. For the domestic television market, this will mark the start of the digital high-definition era of large flat-panel displays. 2006 is also Hitachi's 50th year of activity in the TV business. Since selling the first TVs in 1956, Hitachi has been developing TVs with the latest technologies to build large-screen with higher resolution. In 2001, Hitachi marketed the world's first 32V high-definition PDP (plasma-display panel) TV to enjoy the digital high-definition experience more fully. In 2003 Hitachi created a new market in household flat-panel TVs with the launch of the Wooo brand, which included a flat-panel TV equipped with an HDD (hard disk drive).

On April 29, 2006, the Wooo brand released a new series (the 9000 series) of digital high-definition PDP TVs (42V and 37V) and digital high-definition LCD (liquid-crystal display) TVs (32V) made up of six models.



Figure 3.1 Wooo 9000 Series of High Definition TVs

The PDP TVs incorporate "Picture Master HD" technology, a newly developed engine that performs image analysis and conversion processing. The "Picture Master" processor combined with the "1080 ALIS Panel (1,080 vertical lines of resolution)" made by Fujitsu Hitachi Plasma Display, Ltd. (FHP), enables vivid colors such as reds to be reproduced on screen as they really are. The LCD TVs combine the above-mentioned "Picture Master" engine with a newly developed "Super Impulse Driving Method" that achieves superior moving-image display performance and the wide-viewing angle "IPS Alpha Panel" made by IPS Alpha Technology, Ltd., enable high-motion sports events to be viewed in more vivid detail.

Each of the three models in the PDP TVs and the LCD TVs has a built-in 250 gigabyte HDD made by Hitachi Global Storage Technologies. These models can record 50 hours (equivalent to 500 gigabytes) of digital high-definition programming through the use of high compression technology and Hitachi's proprietary hard disk controller technology. In addition, each model is combined with two digital tuners made by Hitachi Media Electronics Co., Ltd., which enables viewers to watch one program while conveniently recording another program on a different channel.

Looking ahead to next-generation models, FHP has developed the world's first module for 42V plasma display panels that has the same number of pixels (1,920H × 1,080V) as digital high-definition broadcasting. The module refines even further the superiority of the ALIS method,

which has super-fine detail even on small screen sizes. The result is a display with high-brightness, high contrast, and a high-density cell structure.

Hitachi is combining the collective Group strengths of each company to develop high-definition "Wooo" TVs. With the launch of digital broadcasting in the U.S., Europe, and China, global markets for digital high-definition TVs will continue to grow. Based on platforms comprising infrastructure hardware and software developed through the above-mentioned period, Hitachi will expand business abroad by making efficient use of global R&D facilities and by accelerating the development of high-definition TVs in line with regional specifications and needs.

Hitachi is actively engaged in intellectual property activities to create and develop patents under a strategy that integrates business and research objectives. The aim of the integrated IP strategy is to form a network of patents that can withstand international competition. By the end of 2005, Hitachi had 1,230 registered patents in Japan and overseas related to high-definition TV technology. In the future, we want to increase the number of patent registrations. To do so, Hitachi will further strengthen activities related to patent creation and development.

2. "Secure client solutions" for offices anywhere

The Privacy Protection Law, which took effect in April 2004, highlights the real need of companies in the IT age to safeguard individual privacy. However, even with the new law, incidents of private information leaks are still being reported the same as before. According to a survey by the Japan Network Security Association (JNSA), the average amount of damages per case related to the leak of private information in Japan was 1.38897 billion yen in 2004. In addition to individual damages, information leakage can harm the good name of an enterprise, which is a matter of vital importance.

To deal with the threat of private information leakage, Hitachi continues to promote ubiquitous access while offering a "secure client solution" (SCS) that prevents leaking of information, resulting from theft or loss of a personal computer. In a secure client solution, a user operates a "security PC" that has no hard disk. The security PC communicates with the office PC or server through keyboard and mouse operations. All applications and business data are processed in a management center, therefore no information and data is actually stored on the security PC.



Figure 3.2 Secure Client Solution

Based on this remote access, it is possible to prevent the leaking of information if the security PC is lost or stolen. Adding the "KeyMobile" authentication device and digital certificates safeguard against identity fraud, and enables a user to work in his familiar computing environment from any security PC. For the central system, a "client blade" was developed where multiple PCs can be consolidated with few restrictions on application use.

The secure client solution makes it possible to consolidate

information management, to access a remote office environment, to prevent information from leaking, and to create a flexible mobile work style. A universal environment inside the office transforms the fixed seating boundaries of the conventional office into a dynamic boundary less space where teams and projects can freely organize and change composition.

Hitachi is promoting the use of security PCs within the Group. Already over 10,000 employees are using the system for everyday work. With so many in-house users, Hitachi has implemented a feedback system to help improve usability, operability, and manageability. The secure client solution is made possible through the melding of technologies such as authentication, encryption, and hardware that were developed in various Group companies. In the future, Hitachi will accelerate business development by giving full play to these collective strengths. In related intellectual property activity, Hitachi has already filed over 100 patent applications in Japan and overseas. Combining expertise from in-house use of the secure PC and a Group security business based on preventing information leakage, Hitachi will strive to increase market share as the leader in the ubiquitous office environment sector.

3. Global advance of car information and navigation systems

To develop car information systems (CIS), in April 2005 Hitachi established the CIS Division, which consists of a systems solution business and a product solution business. The systems solution business is giving full play to the collective strengths of the Hitachi Group to build up CIS service and support operations. By 2008, the product solutions business aims to market products related to new navigation equipment, car electronic control, and outside network access, which are all necessary for success in the CIS business.

The product solution business is jointly developed and advanced by the CIS Division, Xanavi Informatics Co., Ltd., and HCX Co., Ltd. Xanavi Informatics has been active in navigation system development since 1991. In 1995, Xanavi introduced the world's first "Birdview" navigation system, which displays topological features from a "bird's eye view." Also in 1995, Xanavi received the Good Design Interface Award (Ministry of International Trade and Industry) for the "Birdview Navi." After that, Xanavi



Figure 3.3 Nissan Motor Navigation System

began to expand into North America, Europe, Korea, and China, gaining recognition from car manufacturers worldwide. In 2004 Xanavi developed a new navigation system for Nissan Motors for markets in Japan, Europe and North America. The navigation system has a Nissan-Xanavi product concept that establishes a dual brand identity in the design of operation switches and screen display. Further, Hitachi has given full play to collective Group strengths in developing a traffic information system. The system is full of cutting-edge technologies and platform technologies, such as the industry's first Bluetooth functionality, a precise route guide, a screen display with excellent visibility, and other cutting-edge infrastructure technologies. In 2005 the traffic information system received the Global Innovation Award from Nissan Motors. Currently,

Hitachi is actively working on combining the navigation system with car operations such as moving, stopping, and turning to reach a new level of sophistication. A series of new products will start appearing soon. "Fighting patent" activity to obtain a portfolio of related patents began the moment Hitachi started to develop navigation systems. Hitachi has 780 patents (including patents pending) in Japan and 240 patents overseas (including patents pending). Hitachi will continue to obtain strong patents worldwide and strive to expand business. In particular, Hitachi is focusing patent applications on "Birdview" display technology, a traffic information service that can accurately predict delay and arrival times, and a map update delivery service. By building and making use of a "picket fence" patent portfolio around these strong technologies, Hitachi is striving to establish a high-earning system and to expand market share.

IV. Research and Development

1. R&D system

1.1 Hitachi Group R&D structure

Within Hitachi, each business group and Group company has a division directly responsible for product development based on individual business strategy. The Hitachi Group has a total of 30 research laboratories, with some Group companies having their own independent research laboratory and structure. As of April 2006, the Group has a consolidated total of 5,891 people working in research and development.

The consolidated R&D budget for FY 2005 was 405 billion yen, which equals 4.3% of sales. The R&D budget for FY 2006 is 430 billion yen, 6% higher than 2005.

1.2 R&D Group

The corporate R&D Headquarters includes six corporate research laboratories with 2,950 employees (See Fig. 4.1). In 2005, the R&D budget was 66.5 billion yen.

To strengthen collaboration between corporate R&D and Group company R&D, Hitachi is promoting Group integrated management of common technologies.

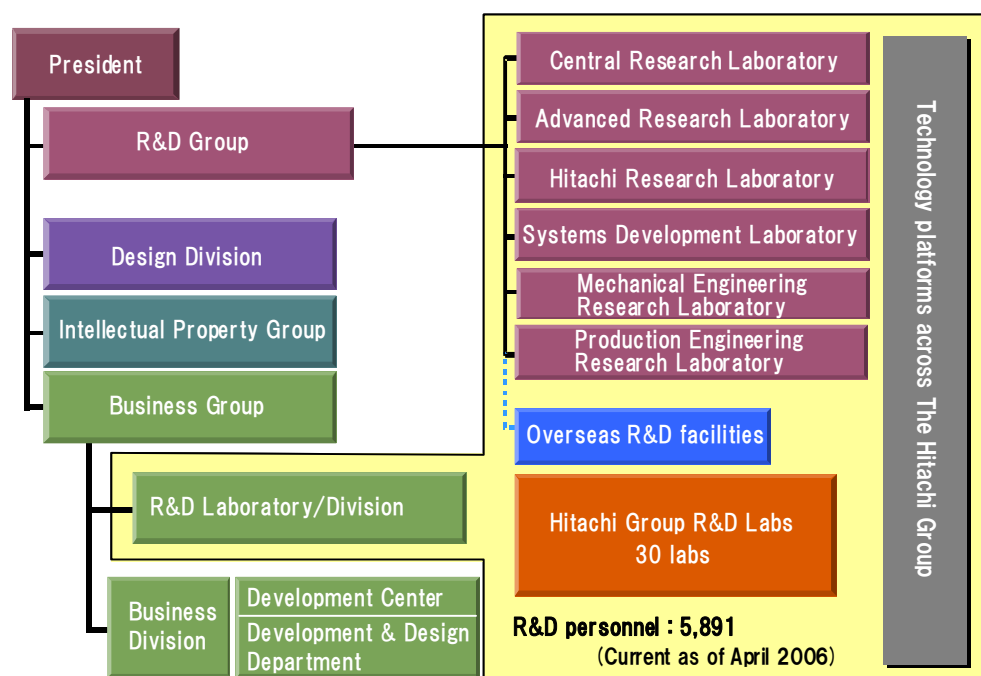


Figure 4.1 Hitachi R&D Structure

2. R&D strategy

Hitachi R&D is based on technology and collaborative innovation. The aim of R&D is to satisfy customers, to contribute to the peace and prosperity of society, and at the same time to stimulate new growth within the Hitachi Group as the world's leader in technology. Through an original approach and a clear grasp of dynamic trends in society, Hitachi R&D is contributing to a paradigm shift in industrial technology. To improve Group competitiveness through R&D, Hitachi is advancing three important measures in close cooperation with each Group company.

The first measure is to strengthen the role of R&D as the central hub of activity for the Hitachi Group. Towards that purpose, Hitachi is building a Technology platform across the Hitachi Group and strengthening rotation between corporate laboratories and business divisions/Group companies.

The second measure is to strengthen manufacturing technology to lower costs. To lower costs, Hitachi must build a supply chain management (SCM) system for a global business environment. At the same time, Hitachi needs to strengthen manufacturing infrastructure technology and promote vertical collaboration within the Group.

The third measure is to bring R&D in line with global markets. Hitachi must promote and strengthen overseas R&D laboratories and deploy dominant technologies worldwide. (See Fig. 4.2)

◆ R&D for increased competitiveness

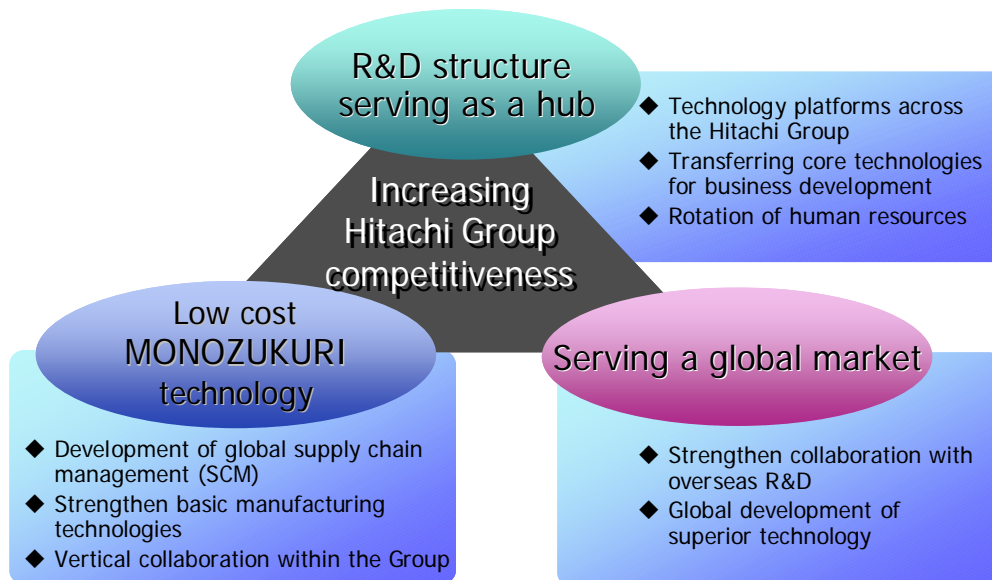


Figure 4.2 R&D Program

2.1 R&D structure serving as a hub

Currently corporate research laboratories employ 2,450 researchers, with nearly half of them working for Group companies.

To strengthen Group R&D further, Hitachi introduced a Group system for Frontier / Platform Research in April 2004. This system strengthens joint Group technology (Group Platform Research) and future Group business development (Group Frontier Research) by splitting the R&D cost evenly among each Group company. Hitachi now has nearly 300 researchers participating in this system. The CTO Meeting was convened to promote Group Frontier and Platform Research operations as well as to refine research themes and evaluate results. Chief technology officers from 30 Group companies participate in the CTO Meeting. To strengthen R&D cooperation among the 30 Group companies, the Hitachi R&D division will act as the hub of activity.

To coordinate researchers and to maximize resources, a "Technology platform across the Hitachi Group" was established in 2004, comprising the Materials Research Laboratory, the Advanced Measurement and Analysis Center, and the Advanced Simulation Center. In 2005, when the Mechanical Engineering Research Laboratory moved to Hitachinaka City in Ibaraki Prefecture, a Mechanical Innovation Center was created. In addition, Hitachi established the Embedded Systems Platform Technology Laboratory, the Motor Innovation Center, the Inverter Innovation Center, and the uVALUE Innovation Center. The infrastructure now in place provides a forum where researchers, staff from relevant business departments, and customers can assemble to

work on R&D and technology development. (See Fig. 4.3)

◆ **Allocate platforms for core technologies in three areas**

	Mechanical & Electrical		Electronics	Information
Purpose	Fostering No.1 technology Improve business competitiveness		Improve product competitiveness Improve productivity	Development of service businesses Reform of solution operations
Details	Materials	Digital Engineering	Embedded Systems	Service Science
	Electronics Environment & Energy New materials Medical & Biotechnology Nanotechnology	Electron beam-based measurement Non-destructive measurement Product design support Optimal motor development	Solution LSIs Efficient systems developmt. Platforming Project management Optimal inverter development	Outsourcing EA*/SoA**/Initial stage consulting Application of advantage technology and devices New Service Methodologies *EA: Enterprise Architecture **SoA: Service Oriented Architecture
Technology Platform	Materials Research Laboratory	Advanced Simulation Center	Adv. Measurement & Analysis Center	Cooperative Creation with Customers (Lab. Open-Days)
	March 2004	April 2004	April 2004	From 2002
	Mechanical Innovation Center	Motor Innovation Center	Inverter Innovation Center	uVALUE Innovation Center
	March 2005	Oct 2005	April 2006	Oct 2005
			Embedded Systems Platform Technology Laboratory	
			April 2005	

Figure 4.3 Technology Platform across the Hitachi Group

2.2 MONOZUKURI capability

To strengthen MONOZUKURI capability ("the art of making things"), the corporate division that leads reform activities for the Hitachi Group and research laboratories are cooperating in various ways. Research laboratories are promoting three development strategies to strengthen MONOZUKURI. The first strategy is to develop manufacturing technology superior to other companies and thereby to produce No.1 products on the market. In particular, Hitachi is deploying vertical startup technology for new production lines and yield improvement technology. The second strategy is to strengthen global business infrastructure in a worldwide total supply chain management (WW-TSCM) system, which currently supports the storage business and the flat-panel business. The third strategy is to promote advance development in infrastructure technologies such as processing, packaging, materials, measurement, and simulation, which in turn strengthen the MONOZUKURI platform technology of the Hitachi Group. The aim of these strategies is to give full play to the collective strengths of the Hitachi Group in manufacturing products with high quality at a low cost.

In Group Platform Research, led by the Production Engineering Research Laboratory (PERL), several laboratories (including Hitachi Research Laboratory, Mechanical Engineering Research Laboratory, Systems Development Laboratory, and others) are working to strengthen manufacturing capability. In cooperation with the MONOZUKURI Engineering Division, which is in charge of technology related to "the art of making things" (*monozukuri*), the Hitachi Group is striving to bolster product competitiveness through the achievements of Group Platform Research.



Figure 4.4 MONOZUKURI Concept & Policies

2.3 R&D global development

In 1989 Hitachi established R&D bases in the U.S. and Europe to support global business development and the creation of new business in the global marketplace. In the U.S., research centers were established in San Jose, Santa Clara, and Detroit. In Europe, centers were established in Cambridge in England, Sophia Antipolis in France, Dublin in Ireland, and Milan in Italy. In 2000

an R&D center was established inside Hitachi (China) Investment Ltd. Hitachi R&D activity in China began with the development of air-conditioning equipment for the Chinese market and the technology research related to mobile communications. In October 2002, a laboratory was established on the campus of Tsing Hua University to perform joint research related to ubiquitous information technology. In 2004 Hitachi established a laboratory in Shanghai to perform joint research with Fudan University and other institutions. In April 2005, in anticipation of substantial growth in the Chinese market, Hitachi strengthened the R&D organization by establishing Hitachi (China) Research and Development Corporation. April 2005 saw the opening of a laboratory in Singapore. The laboratory focuses research on the storage sector in collaboration with local research institutions. In Europe in October 2005, Hitachi opened a new automotive laboratory in Germany and France to strengthen research directly related to business. In the U.S., cooperation was strengthened with Hitachi Global Storage Technologies Inc. in San Jose to focus on R&D related to next-generation hard disk drives.

◆ R&D formation & fortified alliances for expanding global business



Figure 4.5 Global R&D

3. Collaboration with industry, academia, and government

To accelerate the speed of R&D and new business creation, the Hitachi Group will take the initiative to collaborate with institutions in government and academia. In particular, to improve competitiveness among core businesses, Hitachi is focusing on infrastructure technologies, the creation of new products and services through the merger of technologies from multiple areas, the discovery of disruptive technologies that will cause paradigm shifts, and the conversion of disruptive technologies into business opportunities. In addition, Hitachi is actively grooming talented technologists who can make an immediate contribution to business growth.

To promote efficient collaboration among industry, academia, and government, Hitachi has already made collaboration agreements with 13 universities. The collaboration ranges from planning, promotion, and evaluation to resolving problems. Currently, Hitachi collaborates with Kyoto University, University of Electro-Communications, Hokkaido University, Keio University, Tsukuba University, Tokyo University (three faculties), Ritsumeikan University, Waseda University, Osaka University, Yokohama National University, Kyushu University, Tohoku University, and Tokyo University of Agriculture and Technology. Each partnership sets its own technology focus, human resource training program, and other arrangements, so each partnership can offer its own

strengths.

In 2005 the long partnership with Tohoku University resulted in the development of perpendicular magnetic recording technology, which received the Minister of Economy, Trade, and Industry Award from the Academia-Industry-Government Collaboration Promotion Council. Other results include collaboration with Tsukuba University in the development of the Aichi Expo Robot, collaboration with Kyoto University on comprehensive patent creation from materials to devices in the organic electronics sector, and an academic presentation with Cambridge University in the U.K. The presentation introduced the discovery of specific properties of a catalyst used in metallic nanoclusters. In the future, Hitachi will strive to improve enterprise competitiveness through academia-industry-government collaboration, engage in national initiatives, and help Japan to lead as a nation based on innovation in science and technology.

V. Intellectual Property

1. Patents

1.1 IP management system and patent portfolio

1.1.1 Intellectual Property Group

The Hitachi IP Group comprises an IP Development & Management Division, an IP Business Division, and Headquarter Staff. The IP Development & Management Division is divided into 10 product technology sectors at six offices (See Figure 5.1). The offices are in charge of patent and design rights acquisition. The IP Business Division has a License Department, and an IP Protection Center that handles trademark rights, anti-counterfeit measures, trade secret management, and copyrights.

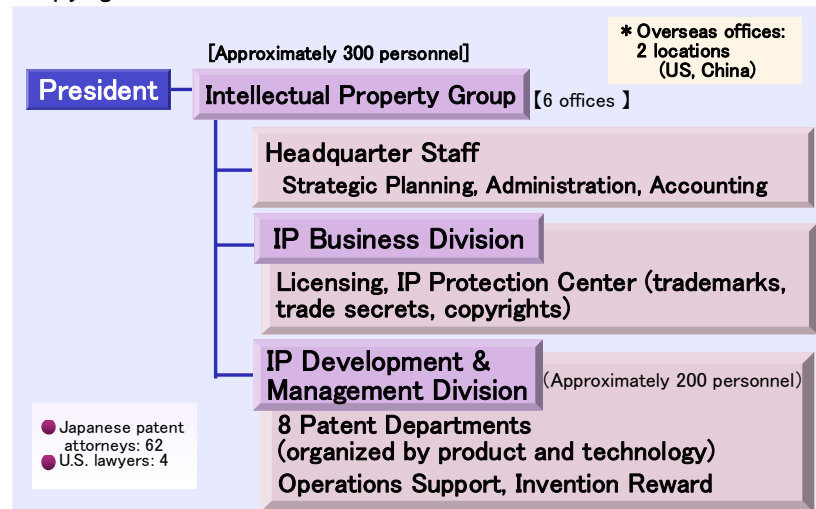


Figure 5.1 Activity Structure Closely Linked to R&D

1.1.2 Patent portfolio

The Hitachi Group as a whole ranks second among companies in U.S. patent registrations as of 2005 (see Table 5.1 based on U.S. IPO¹ data). Due to business restructuring in which many patents became registered under the Group name, the total number of patent registrations under the name of Hitachi Ltd. was down. Hitachi expects to gain the top rank in the future. Table 5.2² shows the number of laid-open patents in Japan and Table 5.3² shows the number of U.S. patent registrations for 2005.

¹ IPO is the Intellectual Properties Owners Association which has members from major enterprises. See <http://www.ipo.org>

² Hitachi gathered information from the databases listed below. The survey periods were from January to December in both 2004 and 2005. Refer to Reference 1 at the end of this report for survey targets that are Group companies. Figures for Hitachi Ltd. are from each business division based on international patent classifications. Joint applications by Hitachi Ltd. and Group companies are totaled under Hitachi Ltd. Joint applications between Group companies may be double counted, except when Hitachi Ltd. is an applicant.

<Database search>

- Laid-open patents in Japan: PATOLIS search on May 12, 2006. (PATOLIS is a trademark of PATOLIS Corporation.)
- U.S. patent registrations: Questel Orbit search on May 12, 2006. (Questel Orbit is a trademark of Questel S.A.)

Table 5.1 US Patent Registration Ranking 2005

Rank	Company name	U.S. patent registrations
1	IBM	2,941
2	Hitachi	1,918
3	Canon	1,875
4	Matsushita Electric	1,813
5	HP	1,808

Table 5.2 Laid-Open Patents in Japan (2004, 2005)

Category	Laid-open patent in Japan for 2004			Laid-open patent in Japan for 2005		
	Hitachi Ltd.	Group Company	Subtotal	Hitachi Ltd.	Group Company	Subtotal
Information and Telecommunication Systems	1,916	891	2,807	1,718	944	2,662
Electronic Devices	1,024	958	1,982	823	1,007	1,830
Power and Industrial Systems	1,702	1,650	3,352	1,587	1,697	3,284
Digital Media and Consumer Products	717	1,329	2,046	653	1,169	1,822
High Functional Materials and Components	124	2,021	2,145	110	2,001	2,111
Logistics, Services and Others	79	10	89	69	11	80
Financial Services	42	7	49	21	0	21
Total	5,604	6,866	12,470	4,981	6,829	11,810

Table 5.3 U.S. Patent Registrations (2004, 2005)

Category	U.S. patent registrations for 2004			U.S. patent registrations for 2005		
	Hitachi Ltd.	Group Company	Subtotal	Hitachi Ltd.	Group Company	Subtotal
Information and Telecommunication Systems	492	193	685	450	274	724
Electronic Devices	518	122	640	407	144	551
Power and Industrial Systems	283	148	431	265	73	338
Digital Media and Consumer Products	195	46	241	163	52	215
High Functional Materials and Components	46	97	143	33	110	143
Logistics, Services and Others	0	3	3	1	1	2
Financial Services	0	1	1	1	0	1
Total	1,534	610	2,144	1,320	654	1,974

1.2 Patent strategy

In response to a national policy to become a nation based on intellectual property, Hitachi's IP strategy aims to develop businesses that are internationally competitive. The road to international competitive strength runs through R&D that yields diverse products and technologies.

1.2.1 Globalization of patent applications

Globalizing patent applications is a Group intellectual property objective as Hitachi approaches the centennial in 2010. To achieve this objective, Hitachi is increasing patent application activities overseas so that by the year 2010, the number of overseas applications will surpass domestic applications. Each business that focuses on overseas markets will also step up their overseas patent application activities.

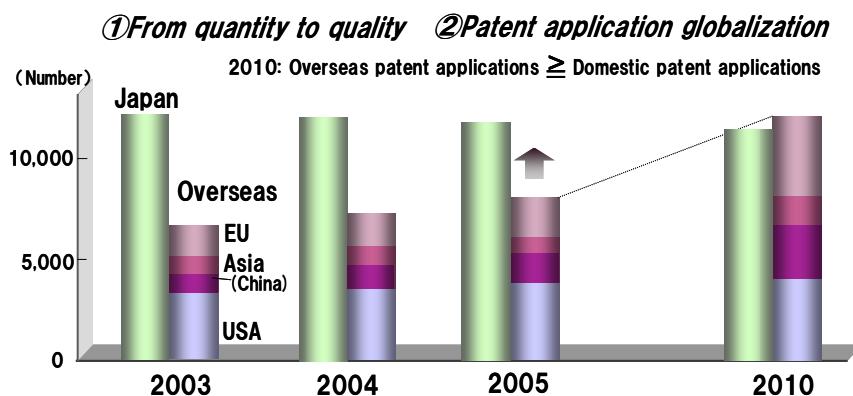


Figure 5.2 Domestic/Overseas Patent Applications for Hitachi Group

1.2.2 Patent portfolios in main business sectors

In intellectual property activities, Hitachi aims to reach a certain number of patent applications by 2010, both domestic and overseas. In addition, in the main business sectors, Hitachi must build patent portfolios that are internationally competitive. Towards that end, Hitachi is establishing business and intellectual property themes that will produce winning products. At the same time, each theme must have a clear patent application strategy as we work to create invention for strong, diverse technologies and increase global patent applications. An evaluation system to assess whether IP strength clears objectives and a feedback system to discuss evaluation results enable Hitachi to revise theme objectives and strategies as needed. In this way, Hitachi is building patent portfolios that can withstand international competition in 2010.

1.2.3 Patent portfolio example

To build an internationally competitive patent portfolio, Hitachi is promoting flagship patent activities (creating invention) and patent portfolio management (nurturing patent). Figure 5.3 shows patent activity themes related to storage systems, security systems such as finger vein authentication and security PC, proton-beam therapy for cancer, and digital home appliances.

– FS and PPM Themes –	
Theme	Business segment
Storage systems (SAN/NAS solution, high-density recording HDD)	Information and telecommunication systems
Security systems (Finger vein authentication, security PC, μ -chip)	Information and telecommunication systems
Proton-beam therapy for cancer	Power and industrial systems
Digital home appliances (Wooo)	Digital media and consumer products

Figure 5.3
Example for Strong Patent
Portfolio Activities

1.2.4 Patent utilization

In 1970 Hitachi introduced a policy to open all patents for licensing. In 1994 a policy to close some patents for licensing was implemented. Today, Hitachi has a multiple exploitation policy for patents. The patent multiple exploitation has four aspects: (1) patent royalty income that

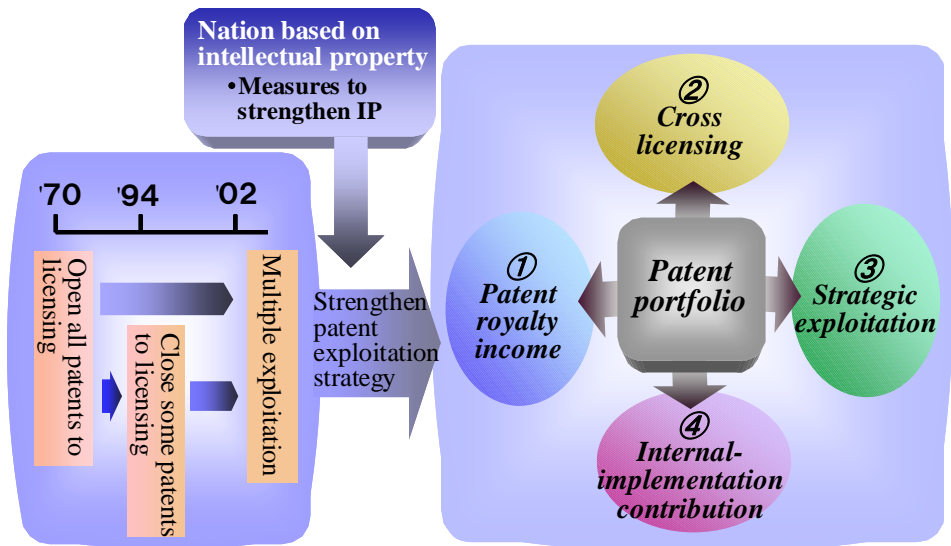


Figure 5.4 Multiple Exploitation of Patent

contributes to business earnings, (2) cross-licensing that enables design freedom, (3) strategic exploitation that supports alliances and business, and (4) internal-implementation that contributes to business growth.

Patents should protect business and contribute to growth. The type of patent exploitation depends on the business strategy. And strategy is based on product and business conditions.

1.2.5 Patent exploitation index

Hitachi has developed a patent exploitation index as an in-house management tool to monitor patent activity.

The index shows how much a patent has contributed to business compared to the investment expense in intellectual property. Specifically, the royalty income, the cross-licensing monetary effect, the contribution to orders, other monetary contributions from strategic exploitation, and the Internal-implementation monetary effect are summed up. This total monetary contribution is then divided by the expenses related to intellectual property to calculate a patent exploitation index. This index and related trend analysis are used as an in-house management tool to verify whether patent rights are being sufficiently utilized by each business. In other words, the index is like a compass that indicates whether intellectual property activity should be maintained at the same level or improved.

■ Approach

$$\text{Patent exploitation index} = \frac{\begin{array}{l} \text{① Patent royalty income} \\ + \text{② Cross licensing monetary effect} \\ + \text{③ Monetary contributions from strategic exploitation *} \\ + \text{④ Internal-implementation monetary effect} \end{array}}{\text{⑤ Expense related to intellectual property}}$$

* : Contribution to orders, limited licensing, and alliances

The patent exploitation index and trend analysis are an in-house management tool to help improve the level of contribution of patents to Hitachi Group businesses.

Figure 5.5 Patent Exploitation Index

1.3 Invention reward system

1.3.1 Transparency and trustworthiness

In line with revision to Article 35 of the Patent Law (effective April 2005), Hitachi established an Invention Management Division in March 2004 to address Patent Law revisions, to promote effective R&D, and to stimulate invention-creation activities. In April 2005, the invention reward system was revised. The revisions are designed to promote a spirit of invention-creation among employees working on the front lines of technology development and to help create and nurture many high-quality patents that can be actively used by Hitachi Group businesses.

Inventors now receive rewards at various stages in a patent's lifecycle, including application stage, registration stage, and performance stage. Performance is linked to in-house patent use and royalty income from licensing. These revisions, especially the performance reward, mark a major improvement in the invention reward system. Specifically, the revisions improve evaluation objectivity related to contributions from in-house use, and they improve the reward mechanism related to patents that make an outstanding contribution to business orders. The performance reward for contribution to royalty income has also been revised.

To improve the transparency and trustworthiness of the reward system and the amount of compensation, Hitachi listened to the opinion of inventors and established an invention reward committee to respond to their concerns. In addition, Hitachi has established an "invention information system" to inspire innovation and to promote communication between inventors and business divisions that use their patents.

The patent information system has unique features to enable over 21,000 patents held Group-wide to be shared. (See Figure 5.6)

① Patent information network (Inside Hitachi Group)

If an inventor believes his patent is being used in a Group product, the inventor can contact the relevant business division through his manager using email, request a detailed examination, and receive a response. Opening direct lines of communication between research and business divisions will help generate a sense of solidarity between invention and business and stimulate the creation and development of patents that will be used by Group businesses. Regardless of whether an inventor initiates contact as mentioned above, a Group company still has the responsibility to perform a patent implementation investigation as before.

② Patent information network (Outside Hitachi Group)

If an inventor believes his patent is being used in a product outside the Hitachi Group, the inventor can contact the relevant business division through his manager using email. Quickly gathering information from the inventor can strengthen patent licensing activities and help meet the expectations of the inventor, who would like to see his patent used for commercial business purposes.

③ Calculation of performance reward

In December 2005, Hitachi paid the first performance reward under the new system. Using the invention information system, online information can be accessed anytime to see the evaluation standard used to calculate the performance reward of one's own patent. Previously, to obtain this information, an inventor had to inquire with the intellectual property division.

1.3.2 Encouraging innovation

In addition to reward money, three measures were launched in 2005 to encourage the will to invent.

- ① To recognize great achievement, the names of the top 100 inventors were published internally Group-wide. In addition, each inventor received a President's Certificate of Excellence. Inventors appreciate this recognition for significant contribution to business. At the same time, colleagues who witness the joy of invention are inspired to create their own.
- ② To encourage even better results, after verifying the performance of a patent/invention with a relevant manager, the inventor is issued a performance reward payment notice, which enhances the sense of achievement.
- ③ For U.S. patent registrations, the inventor is issued a special certificate.

To maintain transparency and trustworthiness, the invention reward system will continue to be reviewed and effectively used. The system will (1) encourage the will to invent among employees working on the front lines of R&D, (2) form a triad of business, research, and intellectual property, (3) be useful to business divisions, and (4) help create many inventions of even higher quality.

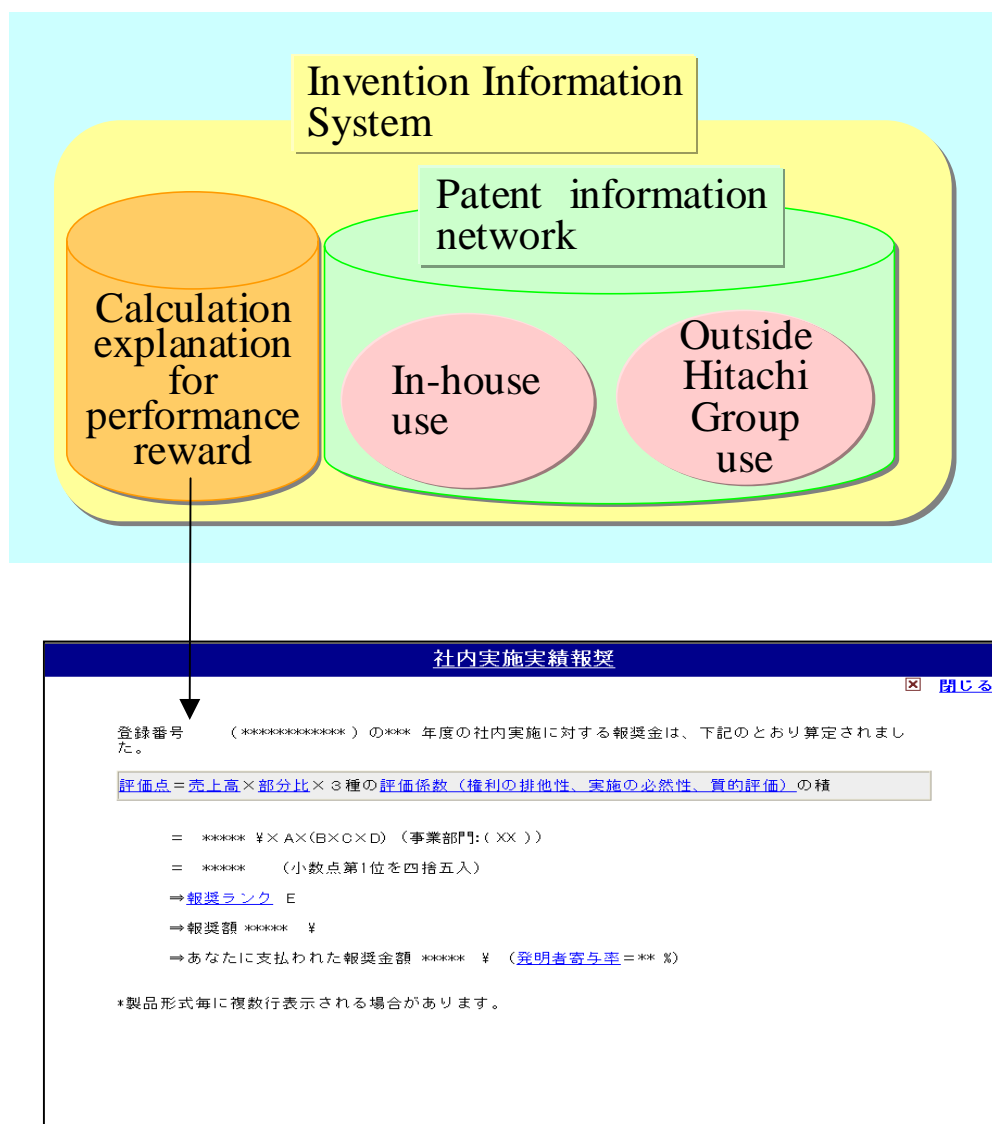


Figure 5.6 Invention Information System

2. Brand

2.1 Brand management

In a business environment that is attaching more importance to consolidated management, the Hitachi Group has positioned the Hitachi brand, which is a common Group asset, as an important management resource to support competitive strength. To bolster brand strength, Hitachi has been promoting brand management since April 2000. The Hitachi Group corporate statement, "Inspire the Next," means to offer products, systems, and services that are sensitive to the needs of the times and thereby "breathe new life into the next era." "Inspire the Next" is a platform upon which to develop brand management and policy for the entire Group.

2.2 Brand management system

Hitachi Group brand management is supervised by the Brand Management Department of the Corporate Communications Division at Hitachi Ltd. Each brand policy is developed through close cooperation between the brand managers of each business group and each Group company and the Brand Management Department via domestic and overseas brand promotion meetings.

Through this system, the Brand Management Department and the Intellectual Property Group supervise the acquisition and protection of brand rights. Specifically, permission to use the Hitachi corporate brand logo "**HITACHI**," the corporate statement logo "**HITACHI** Inspire the Next", the Hitachi mark "Ⓜ," and the trade name "Hitachi" is controlled by the Brand Management Department. The acquisition and protection of trademark rights related to worldwide corporate brands are controlled by the Intellectual Property Group. (Hitachi Group companies have over 7,000 trademarks registered for products and services in 200 countries/regions worldwide.) The acquisition and protection of trademark rights for other product brand is supervised by the IP division of each Group company.

2.3 FY 2005 brand management activities

2.3.1 Outside activities

(1) Hitachi Group Pavilion at Aichi World Exposition

The 2005 World Expo in Aichi opened in the Nagoya Eastern Hills (Nagakute Town, Toyota City, and Seto City) from March 25 to September 25. The Hitachi Group hosted its own pavilion called "Nature Contact: Hitachi Group Pavilion's Ubiquitous Entertainment Ride." With the aid of the latest information technology, the main show featured an encounter with rare, endangered animals brought back to life in a totally unique entertainment experience. The entrance ticket to the Aichi World Expo was embedded with a Hitachi's "mu-chip," which enabled personalized interactive entertainment for each visitor.

A total of 1,702,937 people visited the Hitachi Group Pavilion spanning 185 days; and the news media evaluated the Pavilion as the number one attraction at the Expo. The Pavilion received high marks from Expo visitors as well. For entertainment content, 96% were "very satisfied" or "satisfied." For the impression upon exiting the attraction, 93% felt Hitachi had "achieved new grounds;" and 89% believed Hitachi was "contributing to society through the latest IT." This overwhelmingly positive response to the Hitachi Group Pavilion has contributed greatly to Hitachi brand value.

Among the millions to visit were Japanese Prime Minister Junichiro Koizumi and a number of other dignitaries, both domestic and foreign. The Aichi World Expo was a wonderful opportunity for the Hitachi Group and the Hitachi brand to obtain worldwide recognition and to forge even stronger ties with our stakeholders.



Figure 5.7 Hitachi Group Pavilion at Aichi World Expo

(2) Brand image activities targeted at the youth sector

① Activities targeted at university students

Since 2004 the Hitachi Group has been working on improving the Hitachi brand image in the youth sector with a focus on university students. Specific activities include young employees who meet face-to-face with university students. The employees express their pride and passion for work and convey to students the spirit and the founding principle of “Inspire the Next.” In 2005, 2,000 young employees met with over 100,000 students in business seminars and campus seminars. The results of these activities become apparent in the Nikkei Shimbun Employment Ranking (2006/2) where Hitachi is ranked 13th overall (2nd in science and 22nd in humanities) among job seekers. In the Recruit Employment Ranking, Hitachi is ranked 4th overall. Over the past two years, Hitachi’s ranking has improved significantly.

Nikkei Shimbun Employment Ranking	
1	Suntory
2	ANA
3	Toyota
4	Shiseido
5	JTB
:	
13	Hitachi (72)

Recruit Employment Ranking	
1	ANA
2	JTB
2	Toyota
4	Hitachi (85)
5	Dentsu

※Numbers in () indicate Hitachi’s ranking in 2004.

Figure 5.8 Most Popular Companies for Job Seekers in 2006

② Activities targeted at middle school and high school students

To promote the Hitachi brand image among middle school and high school students, Hitachi has been cooperating in a program sponsored by Educa & Quest, Inc. since April 2004. The program is based on the policy of “general learning time” (Ministry of Education, Culture, Sports, Science and Technology). The course, which is held at school during class hours, introduces students to each company, from work content and roles in society to corporate culture. At the end of the course, students are given a task to work on by a company. Each task team then gives a presentation. In 2005, 5,272 students from 58 schools nationwide completed the program. Students in the Hitachi task team worked on “an electric product proposal to energize Japan in 2010.” In February 2006, the best task teams among middle and high schools nationwide assembled in one hall to present their proposals before a panel of company managers.

(3) Expanding “Hitachi Tree” activities

The “Hitachi Tree” has been a valuable Group symbol used in advertisements for over 30 years. (See Fig. 5.9) As a moving spirit of corporate communications, the “Hitachi Tree” should be actively used to promote brand image in addition to its role in advertisements.



Figure 5.9 The Hitachi Tree

Besides television commercials, in 2005 the “tree” theme was used in a contest called “What kind of tree is this?” to solicit photographs and picture books from customers. In this way, a fresh interactive network was established with customers. In this contest, customers submitted 1,440 photographs and 320 picture books. A survey taken during the contest showed customers had a more favorable opinion towards the Hitachi Group. Brand image related to reliability, breadth of business, collective strength, and stability also improved.

(4) Web management

① Global strategy

Because the Web can be accessed from anywhere in the world, it is important to make Hitachi Group websites easy to navigate from a global perspective. One activity towards that end is to keep the website structure of the entire Hitachi Group in good condition. Specifically, the primary gateway “hitachi.com” sits at the top of the global website hierarchy. Underneath are secondary gateways such as Europe, North America, Asia, Oceania, and other regions. The tertiary level includes countries such as Germany, Italy, France, and Thailand, who all have individual portal sites with links to Group companies and business divisions. (See Fig. 5.10)

In 2005, Hitachi opened 30 gateways and portals, which ushered in a flood of visitors to the websites of Group companies. In 2006, individual portals for Russia, Portugal, and Eastern European countries will open, in addition to other regional gateways and national portals where the Hitachi Group engages in business. This network of gateways and portals makes it easier to navigate the Hitachi domain and easier for customers to access products from websites in each region.



Figure 5.10 Gateways by Region and Portals by Country

② Content strategy

The most important task of a website is to provide quick and accurate access to information that customers want and need. Towards that end, it is important to constantly update content to meet the needs of customers. To meet the needs of customers, information content is divided into three categories: Product and support, company, and important notices to customers. The Hitachi Group updates content daily and continually strives to improve the accessibility and quality of websites. To introduce more customers to Hitachi, websites for grasping the depth of the Hitachi Group and the breadth of business activities are kept up-to-date. (See Fig. 5.11)



Figure 5.11 Websites for Understanding Depth of Hitachi Group and Breadth of Business Activities

2.3.2 In-house activities

(1) Inspiration of the Year Award

In 2004 and 2005, Hitachi implemented an award system called “Inspiration of the Year Award” for Group employees and organizations that have contributed to the value of the Hitachi brand. A total of 138 award applications were submitted from Group companies in Japan and overseas. Thirteen awards have been given based on the results of online voting by company employees and screening by company executives. One award was given to the sponsors of the “2004 Hitachi-China Exhibition.” This exhibit was independently organized by 30 Group companies to spotlight advanced technology and business strategy in China. Another award was given to the sponsors of “Preserving the Tatara Ironworking Tradition.” The two sponsors for this activity are the Society for Preservation of Japanese Art Swords and the Yasugi Works of Hitachi Metals, Ltd., who contribute to regional culture activities and regional development.

(2) Domestic and overseas training tools

Improving brand value does not end with PR and advertising activities. Each employee can be mobilized to achieve impressive results. Many educational activities are implemented to promote brand understanding among Hitachi Group employees. Each month nearly 20 general managers from Hitachi Group companies participate in training courses to deepen their understanding of brand value through lectures and discussions. Overseas affiliates also conduct the same training courses for managers. In addition, local employees can participate in e-learning and online video presentations that promote understanding of the Hitachi brand. Thus far nearly 100,000 local Group employees have participated in training through the Internet.

2.4 Measures against counterfeit products

The Hitachi Group is taking the initiative to protect its brand name against counterfeit products (e.g., home appliances, automobile components, electronic components, and power tools) in China, other Asian countries, and the Middle East. Especially in China where many counterfeit incidents occur, Hitachi cooperates with local affiliates, participates in lobbying visits to China with the International Intellectual Property Protection Forum, and assiduously promotes effective measures to expose counterfeit activity.

In December 2004, Chinese authorities relaxed the criminal prosecution standard for intellectual property rights infringement. At the same time, authorities decreased the number of seizures as much as possible in a policy designed to avoid indictments. Because the prevailing administrative punishment has a weak deterrent effect that leads to repeat offenses, Hitachi has a policy to cooperate with other companies to expose businesses that violate the rights of multiple brands and to seek criminal prosecution.

In Hong Kong, Hitachi filed suits against companies that had illegally registered “HITATCHI” in Chinese characters and in English as a trade name. The court issued a registration cancellation order. However, under Hong Kong’s company registration system, once a company has registered, the cancellation procedures are very difficult to complete. Shortly after that, Hitachi worked with other companies facing the same problem. Together a claim was filed with the Ministry of the Economy, Trade and Industry based on the “overseas infringement investigation system for intellectual property rights.” The claim described the infringement conditions and the limitations of applicable legal provisions. After receiving the claim, Japanese authorities held talks with Hong Kong authorities in November 2005 and requested Hong Kong to revise its legal system and

infringement management system.

As the international distribution of counterfeit products increases, Hitachi is also promoting measures aimed at export destinations and export countries/regions. Specific measures include (1) performing parallel investigations in the Middle East and China, (2) cracking down on counterfeits at customs in each Middle East country, (3) Uncovering counterfeits in the markets of each country, (4) using investigative information to search for related infringers, and (5) capturing a clear picture of counterfeit networks. To promote these measures, Hitachi is taking the initiative to cooperate with relevant authorities and to exchange information.

3. Trade Secret Management Committee

The Hitachi Group has been actively managing its trade secrets for a number of years. Upon law revisions (Unfair Competition Prevention Law) in 1990, Hitachi felt it was time to strengthen protections for trade secrets, establishing the “Hitachi trade secret management regulations” and the “trade secret handling rule for other companies.” With the arrival of digital information and networks, Hitachi upgraded company regulations and the management system to handle trade secrets smoothly. To deal with personnel mobility and the risk of unintended technology information outflow from technology transfers to China and other regions, Hitachi is enforcing measures Group-wide based on the cross-sectional Trade Secret Management Committee. (The chairman is vice president for R&D and new business and the secretariat is the Intellectual Property Group.) Below are the main measures examined and implemented in 2005:

- (1) Implement exhaustive measures to prevent the outflow of trade secrets through a “person.” Measures to make confidentiality stricter include (a) professional confidentiality clauses in labor contracts, (b) collective labor agreements, (c) written pledges at the time of retirement, and (d) a cautionary notice (on a case by case basis) to a company that hires a former Hitachi employee.
- (2) To protect trade secrets for use by Group companies in China, prepare collective labor agreements, formal work regulations, trade secret management regulations, and educational materials.
- (3) To prevent technology information outflow through technology transfer to China, prepare a model confidentiality agreement for technology transfer destinations and an outflow protection checklist for use by business divisions.
- (4) Revise the “trade secret management policy” used by managers and produce self-training programs such as e-learning on the Internet using a computer.

Reference 1. Group Companies for Japan-US Patent Data

Category	Company Name
Information and Telecommunication Systems	Alaxala Networks Corp., Hitachi Communications Technologies Ltd., Hitachi Electronics Services Co., Ltd., Hitachi Government & Public Corporation System Engineering Ltd., Hitachi Information and Control Systems Inc., Hitachi Hybrid Network Co., Ltd., Hitachi Information Systems Ltd., Hitachi Information Technology Co., Ltd., Hitachi-Omron Terminal Solutions Corp., Hitachi Software Engineering Co., Ltd., Hitachi Systems and Services Ltd., Hitachi Data Systems Holding Corp., Hitachi Global Storage Technologies, OPNEXT Inc.
Electronic Devices	Akita Electronics Systems Co., Ltd., Hitachi Displays Ltd., Hitachi High-Tech Electronics Engineering Co., Ltd., Hitachi High Technologies Corp., Hitachi Medical Corp., Hitachi Science Systems Ltd., Hitachi ULSI Systems Co., Ltd.
Power and Industrial Systems	Babcock-Hitachi K.K., HCX Co., Ltd., Hitachi Air-Conditioning Systems Co., Ltd., Hitachi Building Systems Co., Ltd., Hitachi Car Engineering Co., Ltd., Hitachi Construction Machinery Co., Ltd., Hitachi Engineering Co., Ltd., Hitachi Engineering and Services Co., Ltd., Hitachi Industrial Equipment Systems Co., Ltd., Hitachi Industries Co., Ltd., Hitachi Kasado Engineering Co., Ltd., Hitachi Kiden Kogyo Ltd., Hitachi Mito Engineering Co., Ltd., Hitachi Plant Engineering and Construction Co., Ltd., Hitachi Via Mechanics Ltd., Japan Servo Co., Ltd., Xanavi Informatics Co., Ltd.
Digital Media and Consumer Products	Fujitsu-Hitachi Plasma Display Ltd., Hitachi Advanced Digital Inc., Hitachi Home and Life Solutions Inc., Hitachi LG Data Storage Inc., Hitachi Lighting Ltd., Hitachi Maxell Ltd., Hitachi Media Electronics Co., Ltd., Hitachi Taga Technology Ltd.
High Functional Materials and Components	Hitachi Cable Ltd., Hitachi Chemical Co., Ltd., Hitachi Metals Ltd., Hitachi Metals Techno, Ltd., Hitachi Powered Metals Co., Ltd., Hitachi Tool Engineering, Ltd., NEOMAX Co., Ltd., Shin-Kobe Electric Machinery Co., Ltd.
Logistics, Services and Others	Hitachi Mobile Co., Ltd., Hitachi Transport System Ltd., HITACHI AMERICA, LTD.
Financial Services	Hitachi Capital Corp.,

Current as of March 31, 2006 (58 Group Companies)

Reorganization of companies on April 1, 2006:

- Hitachi Plant Engineering and Construction Co., Ltd. took over a part of the electric-appliance group from Hitachi Ltd. through a corporate split-up. At the same time, Hitachi Plant merged with Hitachi Kiden Kogyo Ltd. and Hitachi Industries Co., Ltd. to form a new company named Hitachi Plant Technologies Co., Ltd.
- Hitachi Air-Conditioning Systems Co., Ltd. and Hitachi Home and Life Solutions Inc. to form a new company named Hitachi Appliances, Inc.
- Hitachi Engineering and Services Co., Ltd. took over the electric power division of Hitachi Engineering Co., Ltd. through a corporate split up and changed its name to Hitachi Engineering & Services Co., Ltd. On the same day, Hitachi Engineering and Services Co. Ltd. merged with Hitachi Information & Control Solutions, Ltd.

Reference 2. Main Public Awards

Main awards from outside Hitachi Group

2005 Minister of MEXT Award (Ministry of Education, Culture, Sports, Science and Technology (MEXT))

Science and Technology Award (Development Division): Development of an IPS liquid crystal display that achieves a super-wide viewing angle

Hitachi Ltd.

61st Electrical Engineering Promotion Award (Institute of Electrical Engineers of Japan)

- Progress Award: Cordless cleaner equipped with position/current sensor-less motor drive technology

Hitachi Ltd. and Hitachi Home and Life Solutions Inc. (awarded jointly)

- Progress Award: New railway train control system based on digital code rail transmission and an onboard database

Hitachi Ltd. and East Japan Railway Company (awarded jointly)

32nd Environment Prize (Hitachi Environment Foundation and Nikkan Kogyo Shimbun Ltd.)

Minister of the Environment/Merit Award: Development of high-temperature, lead-free soldering materials

Hitachi Ltd. and Senju Metal Industry Co., Ltd. (awarded jointly)

2005 Distinguished Service Award in Academia-Industry-Government Collaboration (Academia-Industry-Government Collaboration Promotion Council)

Minister of Economy, Trade, and Industry Award: R&D and applications in super-high density magnetic recording technology

Hitachi Global Storage Technologies and Tohoku University (awarded jointly)

2005 Japan Invention Award (Japan Institute of Invention and Innovation (JIII))

Invention Award: Enterprise server design (design registration no. 1144193)

Hitachi Ltd. and Hitachi Information Technology Co., Ltd. (awarded jointly)

35th Machine Industry Design Award (Nikkan Kogyo Shimbun Ltd.)

First Prize, Minister of Economy, Trade and Industry Award: Series 3000 linear-motor driven subway train

Hitachi Ltd. and Fukuoka City Transportation Bureau (awarded jointly)

5th Yamazaki Teiichi Prize (Foundation for Promotion of Material Science and Technology in Japan)

Semiconductor and Semiconductor Device: Development of an ultra-small chip for IC tags and related technology

Hitachi Ltd.

2nd Eco Products Awards (Eco Products Awards Promotion Council)

- Minister of Economy, Trade, and Industry Award: ESCO business (Hitachi energy solutions)
Hitachi Ltd.
- Minister of Economy, Trade, and Industry Award: Hot-water storage and instantaneous hot-water supply system
Hitachi Home and Life Solutions Inc.
- Eco Products Chairman's Award (Merit Award): "Beat Wash" washer/dryer
Hitachi Home and Life Solutions Inc.
- Eco Products Chairman's Award (Merit Award): "Industry Platform Operations" (joint logistics)
Hitachi Transport System Ltd.

48th Ten Great New Products Award (Nikkan Kogyo Shimbun Ltd.)

Japanese Brand Award: Finger vein authentication device

Hitachi Ltd., Hitachi-Omron Terminal Solutions Corp., Hitachi Software Engineering Co., Ltd., and Hitachi Engineering Co., Ltd. (awarded jointly)

16th Energy-Saving Grand Prize (Japan Energy Conservation Center)

Minister of Economy, Trade, and Industry Award: "Hi-Inverter IVX," a package air-conditioner-type inverter for stores with an omni-directional heater-less system

Hitachi Air-Conditioning Systems Co., Ltd.

2005 JSME Award (Japan Society of Mechanical Engineers)

Technology: Development of a highly efficient room air-conditioner that uses a two-stage compression gas injection cycle

Hitachi Ltd. and Hitachi Home and Life Solutions Inc. (awarded jointly)

35th Japan Industrial Technology Grand Prize (Nikkan Kogyo Shimbun Ltd.)

- Minister of MEXT Award: Development of superconducting motor that uses liquid nitrogen cooling
Hitachi Ltd., Ishikawajima-Harima Heavy Industries Co., Ltd., Sumitomo Electric Industries, Ltd., Taiyo Nippon Sanso Corporation, Nakashima Propeller Co., Ltd., Niigata Power Systems Co., Ltd., Hidehiko Sugimoto (Professor, Fukui University), Fuji Electric Systems Co., Ltd.
- Special Screening Committee Award: Control system "SAINT" for new bullet train
Hitachi Ltd. and East Japan Railway Company

Corporate Data (Current as of March 31, 2006)

Corporate Name: Hitachi Ltd.

Date of Establishment: February 1, 1920 (Founded 1910)

Principal Office: 6-6, Marunouchi 1-chome, Chiyoda-ku, Tokyo, 100-8280 Japan

Financial Data

	Fiscal March 2006 (Consolidated)	Same period of previous year
Revenues	9.4648 trillion yen	105%
Operating income	256 billion yen	92%
Current net income before tax	274.8 billion yen	104%
Income before deduction of minority stockholders' equity	120.5 billion yen	105%
Current net income	37.3 billion yen	72%

Domestic and Overseas Sales

	Fiscal March 2006 (Consolidated)	Same period of previous year
Domestic sales	5.8251 trillion yen	101%
Overseas sales	3.6396 trillion yen	111%
Asia	1.6192 trillion yen	115%
North America	968.9 billion yen	107%
Europe	748.4 billion yen	105%
Other regions	302.9 billion yen	117%

HITACHI

Inspire the Next

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