R&D and Intellectual Property Report 2005

Hitachi Ltd.

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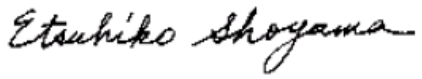
To Our Stakeholders

In the face of intensifying global competition, the Hitachi Group is expanding business through the growth of Hitachi Ltd. and all Group companies. Our goals are to offer customers products and services that provide a competitive edge with high value and to grow even stronger in the coming years. To use diverse management resources within the Group to the fullest, we are committed to pursuing Group synergies. Through review of businesses and restructuring, we are strengthening our competitiveness. Our basic policy is to enhance shareholder value by meeting to the expectations of stakeholders such as customers and shareholders.

In pursuit of our basic policy, we have a midterm management plan called “i.e. Hitachi Plan II.” The objective of this plan is to establish a high-earning system as a base of high profitability.

Like last year, this report provides a review of research and development and intellectual property, which together are the key factors to establish a high-profit base. Through this report, customers, shareholders, investors, and analysts can understand the Hitachi Group’s approach to R&D and intellectual property and what the Group is doing to make the best use of these resources.

January, 2006



Etsuhiko Shoyama
President, Chief Executive Officer and Director

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 the Hitachi, Ltd. and its affiliates.

This report covers the period from April 1, 2004 to March 31, 2005 (FY 2004), including new measures and organization changes at the start of FY 2005.

II. Hitachi Technology Management

The Hitachi Group offers information system services, society infrastructure systems, and the core hardware, software, and high-performance materials related to these services and systems. The goal of management reform has been to become a global supplier of total solutions.

The midterm management plan (2003 to 2005) called “i.e. Hitachi Plan II” further promotes this basic goal of becoming the best solution partner. Hitachi Plan II concentrates on strengthening management resources in two sectors. The first is next-generation lifeline solutions for society infrastructure, including information services and energy systems. The second is advanced technology products for high-growth global markets, including software and hardware in which Hitachi puts its technology and knowledge. By pursuing synergy between these two sectors, Hitachi is striving to harness collective strength and to differentiate the Group from competitors.

Upon achieving the objectives of “i.e. Hitachi Plan II,” Hitachi Group is striving toward further high growth in the mid- and long- term and united technology management. Specifically, Hitachi Group is pursuing execution of group-collaborative R&D, improvement of efficiency in R&D, and development of technology for Inspire A businesses.

The goal of collaborative innovation is to strengthen R&D through Group technology interaction and product development through vertical integration of technology. To achieve this goal, Hitachi Group Frontier / Platform Research was introduced in FY 2004 and Hitachi Group CTO Meeting (Fig. 2.1) was established to implement technology development strategy.

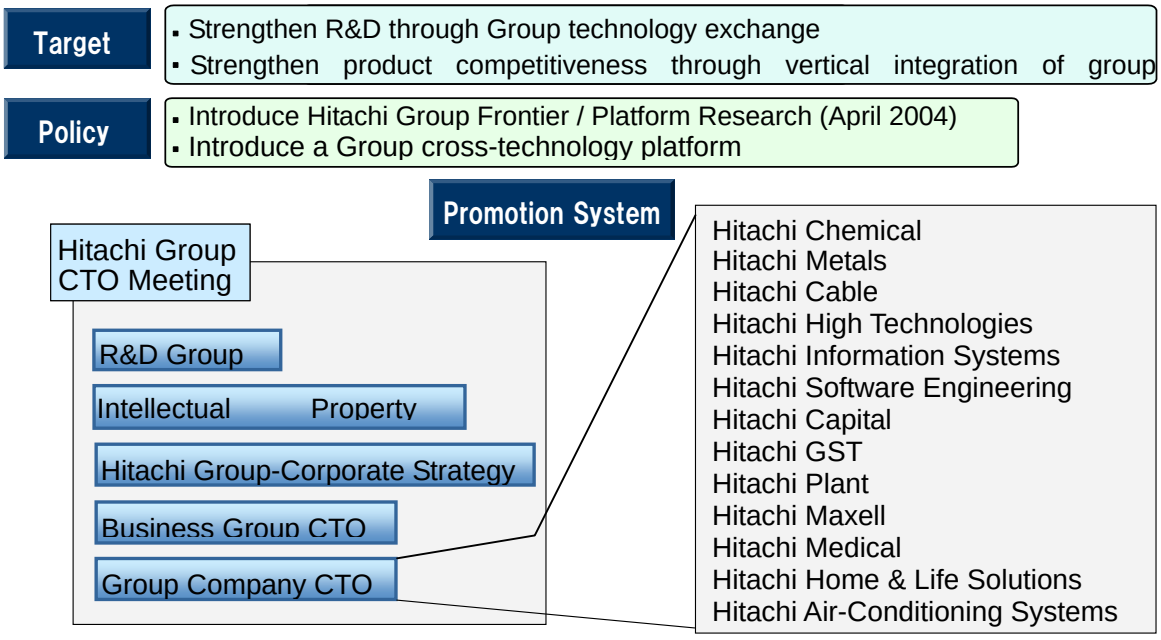


Figure 2.1 Toward a Group Collaborative Innovation System for R&D

In Hitachi Group Frontier Research, Hitachi Group is 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 Platform Research, Hitachi Group is focusing on shortening development periods and improving productivity, reliability, and basic technology.

In order to improve R&D efficiency, Hitachi Group is currently working on the issues of streamlining management and technology development road-maps, concentrating R&D resource on high-priority projects, and developing an open environment for group-wide collaboration. The goals of open R&D is to explore new technology seeds and to accelerate the speed of technology development through full-scale alliances with universities in Japan and overseas. To promote collaborative innovation with China, Hitachi Group established the Asia Elevator Development Center in FY 2004 and Hitachi (China) R&D Holdings Limited in April 2005. The goal is to increase the R&D workforce in China to 1000 people.

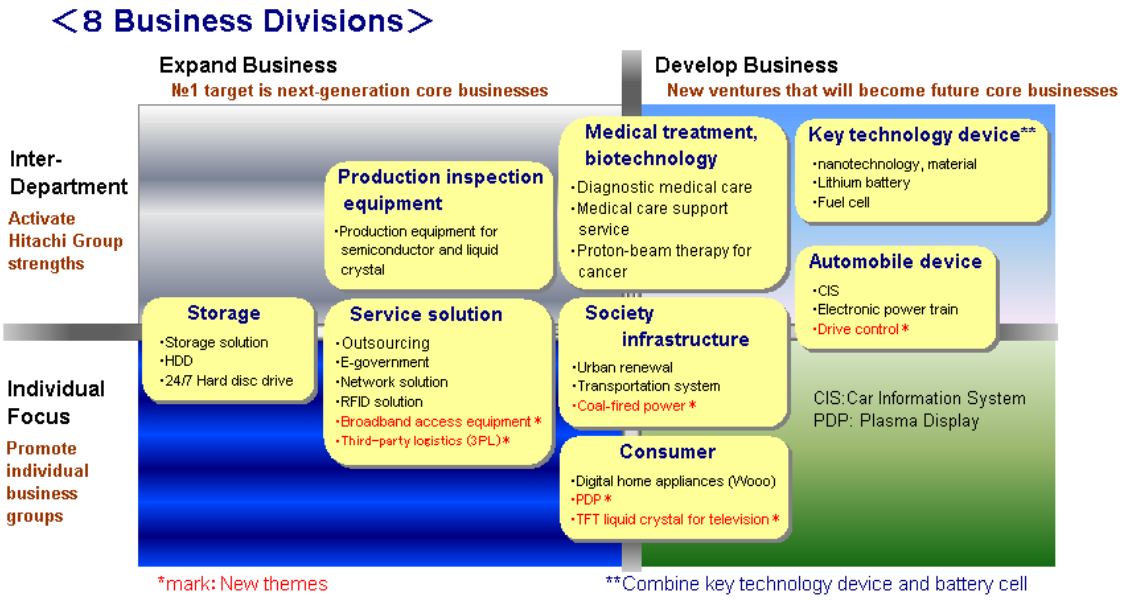


Figure 2.2. Inspire A Businesses

The goal of Inspire A businesses is to create core businesses that support the growth of Hitachi Group by expanding existing businesses and creating new businesses. Inspire A businesses are grouped into eight core sectors from storage to automobile devices. These core sectors are also the focus areas of technology development. Inspire A businesses has achieved some impressive results. In FY 2004, the SUNRISE Universal Storage Platform was announced. This platform is a new large-scale disk array subsystem that incorporates virtualization for the first time in practical disk array systems. In the storage sector, a one-inch micro-drive hard disk was incorporated into a portable music player. In the transportation sector, priority negotiation rights (May 2005) were obtained from CTRL-DS (Channel Tunnel Rail Link - Domestic) of UK to supply next-generation aluminum cars (“A-train”). In the battery sector, Hitachi Vehicle Energy, a new joint venture company was established to strengthen competitiveness in the lithium ion battery business.

In addition to the promotion of Inspire A businesses and the creation of new businesses, Hitachi Group is also strengthening its mid- and long- term technology strategy and its technology

development platform (generation of intellectual property, improvement of productivity, etc.).

Three activities have been initialized to strengthen mid- and long- term technology strategies: 1) development of Technology trend forecasts and long-term technology development plans by R&D divisions and labs; 2) development of business strategy roadmaps by business divisions based on the long-term technology development plans; and 3) achieving consistency between technology development plans and business roadmaps in the long term through discussions between R&D and business divisions. In particular, these activities are designed to improve efficiency in R&D projects that are directly related to business.

For strengthening the technology development platform, group-wide activities related to intellectual property (section V) and productivity in product development (the “HiSPEED/Next” activity) are ongoing. The productivity in engineering and manufacturing has been and will be improved continuously.

Intellectual property, which result from R&D, sustain the profitability of Group businesses. To pursue group synergy, Hitachi, Ltd. and the main group companies share common intellectual property strategies such as globalization of patent applications, and also share overseas offices of the Intellectual Property Group, and intellectual property specialists. In FY 2004, the incentive system for inventors in Hitachi Group was reviewed. Additionally, patents that were held separately by group companies were unified into a single patent portfolio. It is expected that taking such measures will deepen the collaboration among group companies in terms of intellectual property strategy.

In addition, the Hitachi brand itself is an important management resource and intellectual property. In April 2000, a brand management strengthening campaign was launched across the entire Group to raise the consolidated enterprise value to that of the leading enterprise groups of the 21st century. In April 2002, Corporate Brand Management office was established to incorporate the “brand viewpoint” into management and business decision processes, and to provide education in the importance of brand value to the employees. The Corporate Brand Management office will also contribute to the development of management and business strategies.

In addition to the value related to reliability and technology, the Corporate Brand Management office is developing the “Inspire the Next” platform and running related projects to enhance the Hitachi brand value. In R&D, sales, and communications activities, Hitachi Group is delivering a unified message and a standardized web design to the customers by strengthening contents management.

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

1. A-train Aluminum Cars for the 21st Century

With technological innovation advancing at an amazing speed, railway car structure and manufacturing methods must keep up with the pace of change and the demands of each new generation. In recent years, aluminum has begun to be used in the body of bullet trains, express trains, and even commuter trains. Hitachi has developed a double-skin body structure using frameless, aluminum hollow extrusion material. The manufacturing method involves a switch from welding a frame to a single-skin body to an innovative, new, automatic method based on friction-stir welding[1] of aluminum hollow extrusion material. The new welding process marks a major change in manufacturing method from reliance on manual labor to automated equipment. The new process enables a much higher degree of precision in the body structure. Only a few hundred modular parts are now required compared to tens of thousands previously. Safety, freedom of design, and passenger comfort are all enhanced; and maintainability is greatly improved. As the first company to use friction-stir welding in train-car assembly, Hitachi has become a leading innovator in train-car structure and manufacturing. The new manufacturing method that meets the needs of the 21st century is called “A-train.”

Figure 3.1 British CTRL-DS Railcar

The road to make A-train into a product began in 1997 in Japan with customers such as Japan Railways, private railway companies, and Tokyo Metro Company, delivering 815 cars to date. A-train is also in use overseas. Hitachi has received an order from the British Strategic Railway Authority and HSBC Rail UK Ltd. (who lease) to supply and maintain 168 cars in 28 trains for the Channel Tunnel Rail Link Domestic Services (CTRL-DS) line. Capturing this order is a reflection of excellent performance through the years and the high reputation that Hitachi’s manufacturing technology receives. Hitachi is now trying to make its brand name pervasive in the railway sector, not only in the British market but in markets throughout the entire European community.

Intellectual property activity in this area in 2004 resulted in 280 patent applications in Japan and 80 in Europe. The “picket-fence” patent applications around friction-stir welding, which Hitachi considers a differentiated technology, will help Hitachi create a global patent portfolio, and, through the exploitation of IP rights, will help Hitachi get new orders and expand global business.

2. Finger Vein Authentication Device for Financial System Security

Illigal withdrawals using fake or stolen cash cards have become a problem in society. There is a strong need among financial institutions for appropriate security measures to safeguard users from “sophisticated crime technology”. On February 22, 2005, the Financial Service Agency of Japan requested financial institutions to prepare measures to combat fake cash cards.

[1] Friction-stir welding was invented by The Welding Institute in England. Hitachi is the first company to successfully apply the technique to train cars.

Hitachi Central Research Laboratory has been developing a personal authentication system that uses finger vein patterns since 1997. Since finger vein authentication uses internal information of the human body that cannot be seen, it is difficult to steal or to damage the information used for authentication. Hitachi-Omron Terminal Solutions Corp. is marketing a product that combines a finger vein authentication device with its own ATM to provide a high-security cash machine system. In order to avoid illegal use of biometric information, the finger vein authentication device does not keep the finger vein information in its internal storage after completing the authentication process. Additionally the biometric and authentication information is encrypted when it is transmitted to other external devices. Hitachi-Omron has developed a new open-type finger vein authentication device in which a person only needs to put one finger on the device. This simple and natural human interface allows anyone to use this authentication device, which is small enough to easily fit on an ATM. The design enables a customer in a wheelchair or a customer with visual disability to operate the device easily. High-speed image processing ensures that a customer does not need to wait for a long time to be authenticated.

Figure 3.2
High-security ATM

Major financial institutions are beginning to deploy ATMs with finger vein authentication functionality throughout Japan. The device features high-reliability, ease of use, and versatility. It is expected to be used in ATMs and bank-counters where high-security is essential, at companies and apartment buildings to manage entering and exiting, and with personal computers. Hitachi is currently developing a plan to shift this technology from a Japanese standard to a global standard.

Since the beginning of the R&D activity for finger vein authentication, the goal of the intellectual property activity related to this technology has been to build the world's strongest patent portfolio by applying for patents in Japan and overseas. So far, 100 patent applications, mostly on basic inventions, have been filed and six of them have already been patented. Currently, the main focus is on further increasing the number of patents. Finger vein authentication is an original technology of Hitachi Group. The ATMs with finger vein authentication functionality are supplied to customers with is technology hidden in a black box for keeping high-security. Hitachi Group is making every effort to promote its widespread use.

Figure 3.3
Finger Vein Authentication Device

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 department 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 FY 2004, the Group has a consolidated total of 5,995 people working in research and development.

The consolidated R&D budget for FY 2004 was 388.6 billion yen, which equals 4.3% of sales. The R&D budget for FY 2005 will be 404 billion yen, 4% higher than FY 2004.

1.2. R&D Headquarters

The structure of corporate R&D Headquarters includes six corporate research laboratories with 2,950 employees (See Fig. 4.1). In FY 2004, the R&D budget was 64.2 billion yen.

R&D Organization (as at 1st April 2005)

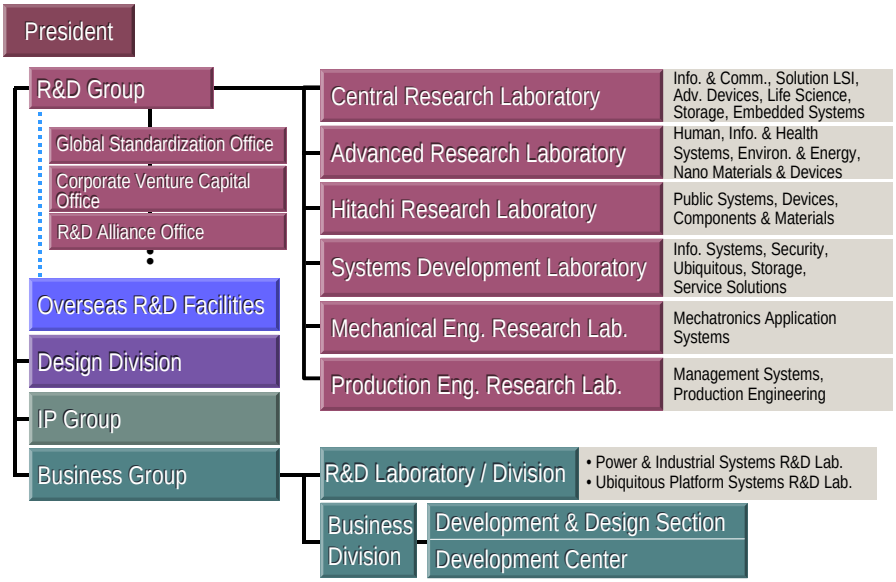


Figure 4.1 Hitachi R&D Structure

1.3. R&D Global Development

In 1989 Hitachi established R&D bases in the US and Europe to support global business development and the creation of new business in the global marketplace. In the US, research centers were established in San Jose, Santa Clara, and Detroit. In Europe, centers were established in Cambridge, England; Sophia Antipolis, France; Dublin, Ireland; and Milan, Italy. In 2000 an R&D center was established inside Hitachi (China) Investment Ltd. Based on technology surveys, Hitachi R&D activity in China has started with development of air-conditioning equipment for the Chinese market and technology research related to IT. In October 2002, a laboratory was established at Tsing Hua University to perform joint research related to ubiquitous IP network technology. In 2004 Hitachi established a laboratory in Shanghai to perform joint research with Fudan University. Shanghai Jiao Tong University and other institutions. In April 2004, an office was established in Singapore, which strengthen the formation of Hitachi's worldwide R&D Structure.

April 2005 saw the opening of a laboratory in Singapore. The laboratory will focus research on the storage sector in collaboration with a local Research Institute and universities. (See Figure 4.2)

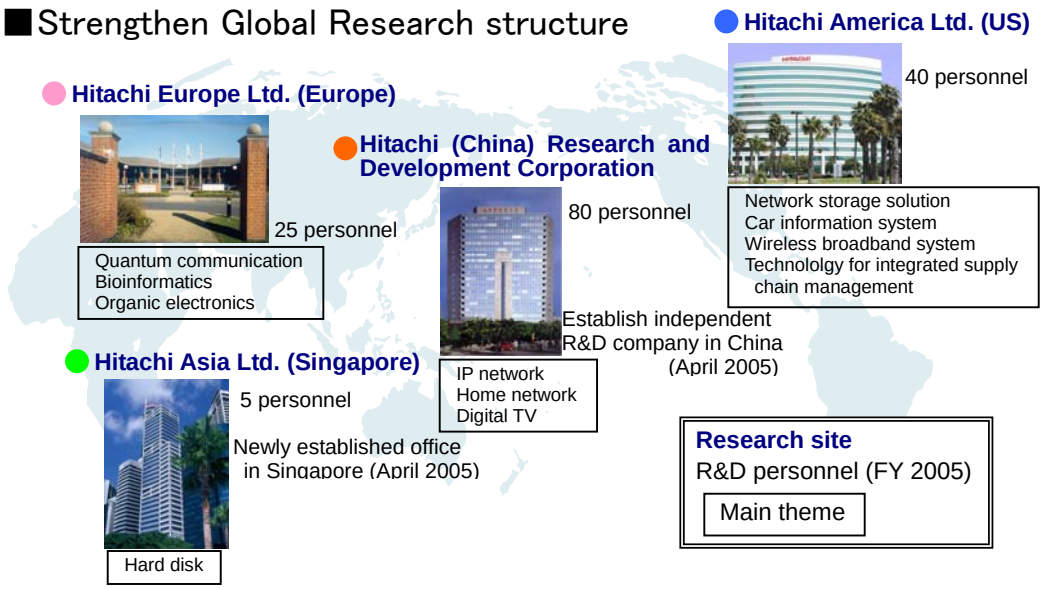


Figure 4.2 Global R&D

2. R&D Strategy

The Research and Development Group is concentrating research staff in main target business sectors based on a management strategy called “i.e. Hitachi Plan II.” The Plan calls for the development of powerful technology to support advanced global products and the promotion of direct market R&D to create solutions that support the lifelines of tomorrow. (See Figure 4.3)

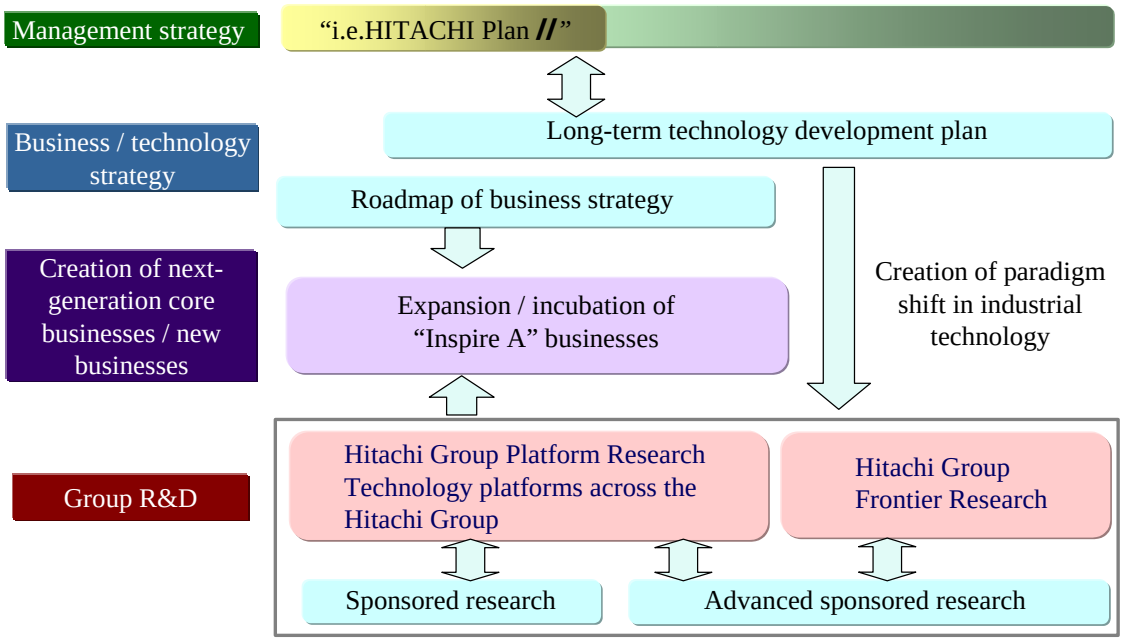


Figure 4.3 R&D Program

The R&D Group is aware of the need to understand the influence R&D has on the environment. A top priority is given to harmony between R&D and the environment. To work towards harmony, The R&D Group has established an environment management system in which all employees participate to advance a recycle-oriented society and environmental preservation and improvement. In addition to a lower environmental burden for R&D activities, Hitachi is working on solutions to environmental problems like lead-free soldering, fuel cells, and drive systems for hybrid automobiles. Through products that lower the environmental burden and promote preservation, Hitachi is making an important contribution to a more recycle-oriented society.

The main mission of the R&D Group is to create new businesses. In recent years, a number of organizations have been formed as main research targets for new business creation. In the future, the R&D Group will continue to take positive steps to promote such venture companies founded by Hitachi.

- Life Science Group (established in October 1999)
- Mu-Solutions Venture Company (established in July 2001, becoming Mu-Solutions Division in January 2004)
- Personal Health Care Venture Company (established in September 2002)
- Wireless Info Venture Company (established in January 2004)

3. Group R&D Strengthening

Currently corporate research laboratories employee about 2,400 researchers and about half of all researchers work for Group companies.

To strengthen Group R&D further, Hitachi introduced a Group system for Hitachi Group 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. This R&D system will contribute to future core business development and enhance manufacturing strength through new business models, the addition of intellectual property, and new, paradigm-shift technologies. Patents that result from Group Frontier / Platform Research are managed by the Hitachi Group. Each Group company that participates in the R&D system will be entitled to use any relevant patent royalty free. The CTO Meeting is convened to decide Group Frontier / Platform Research operations of the Group as well as to formulate research themes and evaluate results. Chief technology officers from 30 Group companies participate in the CTO Meeting.

The core organization to promote Group Frontier research is the Advanced Research Laboratory. Based on collaboration with industry, academia, and government, the Hitachi Group is taking positive steps to cooperate with outside research institutions. Projects are allocated to the appropriate laboratory, including the Central Research Laboratory, based on R&D content.

The objective of Group Platform Research is to strengthen manufacturing R&D at mainly the Production Engineering Research Laboratory**,** the Hitachi Research Laboratory, the Mechanical Research Laboratory, and the System Development Laboratory. In addition to manufacturing technology, a wide-range of R&D is conducted in product and service productivity from upstream processes (plan and design) to software development. The manufacturing technology divisions (MONOZUKURI Engineering Division) also support the Hitachi Group to utilize accomplishments of Group Platform research and to enhance product competitiveness.

In April 2004, to assemble concentrations of researchers and to utilize resources to the fullest, the Hitachi Group established the Materials Research Laboratory, the Embedded Systems Platform Technology Laboratory, the Advanced Measurement and Analysis Center, and the Advanced Simulation Center as a Technology Platform Across the Hitachi Group. In March 2005, the Mechanical Engineering Research Laboratory moved to Hitachi-Naka City, Ibaraki Prefecture. At this time a new Mechanical Innovation Center was erected. The facility provides a place where researchers, staff from relevant business departments, and customers assemble to work on basic R&D and technology development.

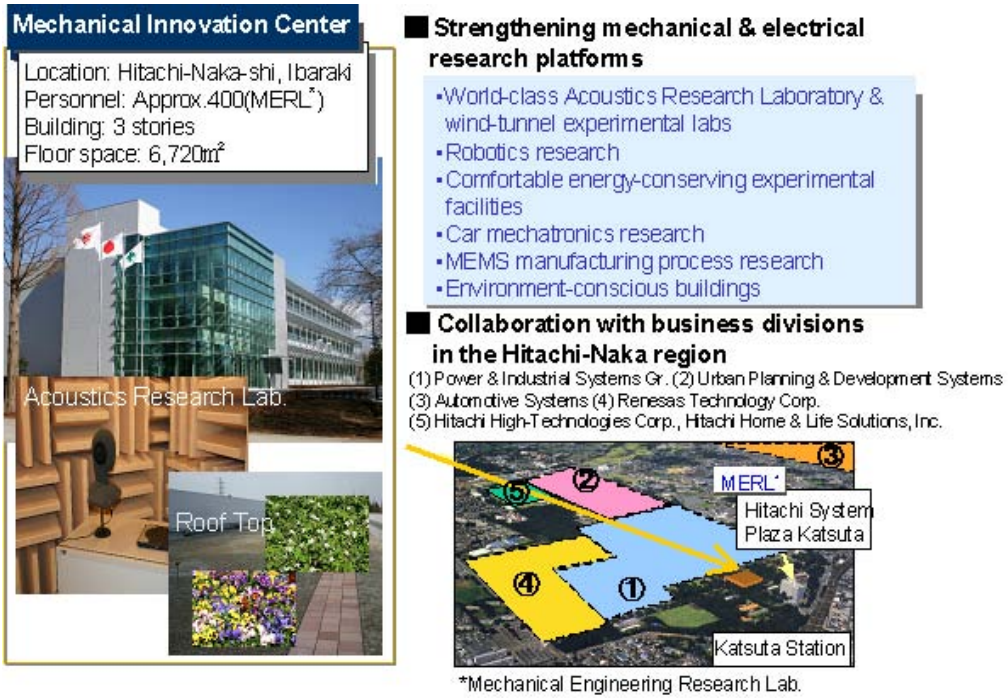


Figure 4.4 Mechanical Innovation Center

4. Industry-Academia Collaboration

To accelerate the speed of R&D and new business creation, the Hitachi Group is taking the initiative to collaborate with institutions from government and academia. The effective use of outside resources is more important than going it alone. In particular, the Hitachi Group takes a strategic approach to budding technologies to turn them into business opportunities, creating new products and services through the merger of technologies from multiple areas, and increasing its business portfolio.

In the past, collaboration with Japanese academia was based on cooperation with individual university professors. Now that national universities have become corporate entities, the Hitachi Group can collaborate with a university institution on a contract basis. Hitachi is taking the initiative to collaborate with universities by forging comprehensive collaborative

■Basic Policy

1. ◆ Promote comprehensive collaboration with academic and government institutions.
   ◆ Level up individual-based cooperation to team efforts.
2. ◆ Incorporate collaboration results into business portfolios.
   ◆ Introduce a manifest-type joint-research model.
3. ◆ Cooperate on raising MOT expert.
   ◆ Evolve into a collaborative innovation society.
   ◆ Build up a win-win collaboration system based on intellectual property.

Comprehensive Collaboration	Business Portfolio
Kyoto Uni. University of Electro-Communications Hokkaido Uni. Keio Uni. Tsukuba Uni. University of Tokyo (2 divisions) Ritsumeikan Uni. Waseda uni. Osaka Uni.	Tohoku Uni. : perpendicular magnetic recording University of Tokyo and others: SH Forum Kyoto Uni.: Develop organic electronics through collaboration with different types of business.

Figure 4.5 Collaboration between Industry and Academia

agreements.

Hitachi considers comprehensive collaborative agreements a quick and efficient method to collaborate with outside institutions to complete mutual tasks and projects. Already the Hitachi Group has collaborative agreements with Kyoto University, University of Electro-Communications, Hokkaido University, Keio University, Tsukuba University, University of Tokyo, Ritsumeikan University, Waseda University, Osaka University, Yokohama National University, Kyushu University, and Tohoku University in Japan after August 2002 as well as brilliant institutions outside Japan. Exploiting the value of intellectual property created through industry-academia collaboration, we will build up a win-win partnership with each institution.

V. Intellectual Property

1. Patents

1.1. IP Management System and Portfolio

1.1.1. Intellectual Property Group

Intellectual Property Group's motto is to create intellectual property value. Our activity-goal is to contribute to business growth. The IP Group is made up of an IP Development & Management Division, an IP Business Division, and Headquarter Staff. IP Development & Management Division consists of nine product technology sections at six offices. (See Figure 5.1) The offices take charge of obtaining patent and design rights.

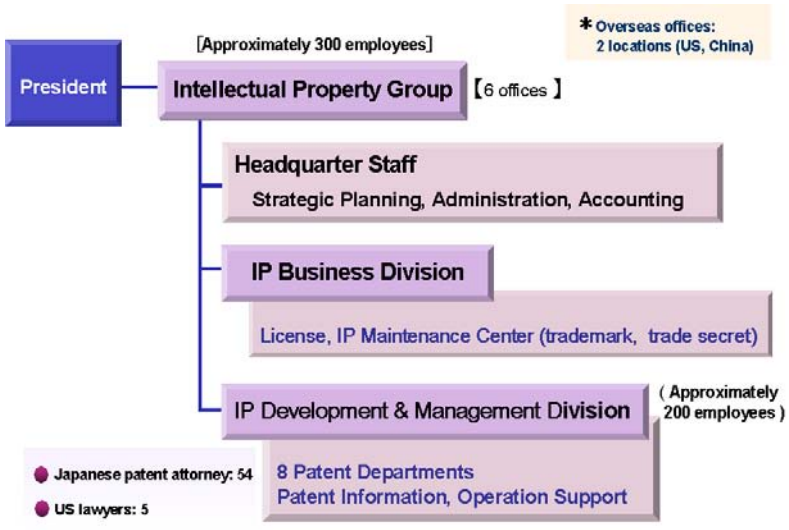


Figure 5.1 Organization of Intellectual Property Group

IP Business Division consists of licensing, trademark, and copyright sections. In Asia it is particularly important to strengthen brand protection and to manage trade secrets. So on April 1, Hitachi established the Intellectual Property Maintenance Center, which brings together trademark rights, Measures against Counterfeit Products, and trade secret management under one organization.

1.1.2. Group Intellectual Property scheme

From April 2004, a Group intellectual property scheme was established to strengthen Group businesses and the technology base. The scheme bundles the patent rights of the Hitachi Ltd. with the patent rights of each Group company as a means of joint enforcement to third parties and defense against third party attack.

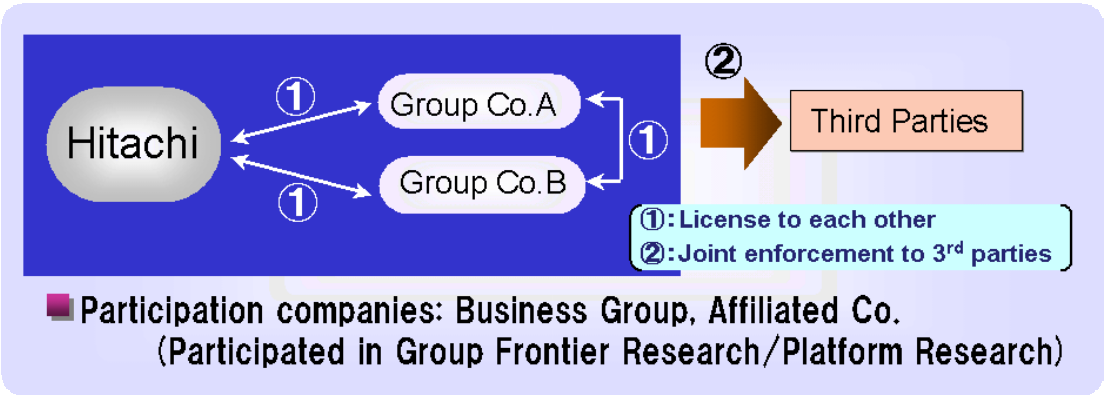


Fig.5.2 Group IP Hitachi

1.1.3. Patent Portfolio

The Hitachi Group ranks second among companies in US patent registrations as of 2004 (See Table 5.1 based on US IPO[1] data). Due to business restructuring in which patents became registered under the Group name, the total number of patents under the name of Hitachi Ltd. registrations was down in 2004. Hitachi is making every effort to gain the top rank. Table 5.2 shows the number of laid-open patents in Japan and Table 5.3[2] shows the number of US patent registrations for 2004.

Table 5.1 US Patent Registrations Ranking

Rank	Company Name	US Patent Registrations
1	IBM	3,248
2	Hitachi	1,993
3	Matsushita Electric	1,986
4	Canon	1,867
5	HP	1,783

Table 5.2 Laid-open patents in Japan (2003, 2004)

	Laid-open patents in Japan for 2003			Laid-open patents in Japan for 2004		
Category	Hitachi Ltd.	Group Company	Subtotal	Hitachi Ltd.	Group Company	Subtotal
Information and Telecommunication Systems	1,852	784	2,636	1,916	891	2,807
Electronic Device	1,147	751	1,898	1,024	958	1,982
Power and Industrial Systems	1,540	2,050	3,590	1,702	1,650	3,352
Digital Media and Consumer Equipment	909	1,130	2,039	717	1,329	2,046
High-Performance Materials	159	1,908	2,067	124	2,021	2,145
Logistics and Services	109	6	115	79	10	89
Financial Service	58	9	67	42	7	49
Total	5,774	6,638	12,412	5,604	6,865	12,469

[1] IPO is the Intellectual Properties Owners Association which has members form major enterprises. http://www.ipo.org

[2] Hitachi gathered information from the databases listed below. The survey periods were from January to December in both 2003 and 2004. Refer to Reference 1 at the end of this report for survey targets that are Group companies. Tables for the Hitachi Ltd. and Group Companies 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 counted double, except when Hitachi Ltd. is an applicant.

Database Search

Laid-open patents in Japan: PATOLIS search on April 22, 2005. (PATOLIS is a trademark of PATOLIS Corporation.)
US patent registrations: Questel Orbit search on April 26, 2005. (Questel Orbit is a trademark of Questel S.A.)

Table 5.3 US Patent Registrations (2003, 2004)

	US Patent Registrations for 2003			US Patent Registrations for 2004		
Category	Hitachi Ltd.	Group Company	Subtotal	Hitachi Ltd.	Group Company	Subtotal
Information and Telecommunication System	543	85	628	492	193	685
Electronic Device	744	54	798	518	122	640
Power and Industrial Systems	356	139	495	283	148	431
Digital Media and Consumer Equipment	221	39	260	195	46	241
High-Performance Materials	41	79	120	46	97	143
Logistics and Services	2	12	14	0	3	3
Financial Service	2	0	2	0	1	1
Total	1,909	408	2,317	1,534	610	2,144

1.2. Patent Strategy

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

Specifically, through obtaining core and peripheral patents of differentiated products and technologies and utilizing the patents, we will be able to increase profits and gain market share.

1.2.1 Obtaining Patents

The IP Group creates value-added IP to brush up the inventions coming from R&D Headquarters and each business group; and its operations contribute to business activities.

Operations include stage 1) creating invention and stage 2) Nurturing invention. Strong technology and differentiated technology are built into unrivalled patent portfolios through flagship patent activity and patent portfolio management activity. (See Fig. 5.3)

One of our activity examples is in a five fighting patent (5FP) activity, which is to obtain at least five patents which together can stand up to patent infringement claims. Another activity examples is Strategic Patent Activity which is to designates gold, silver, and bronze flags to obtain basic and essential patent related to main technologies both current and future.

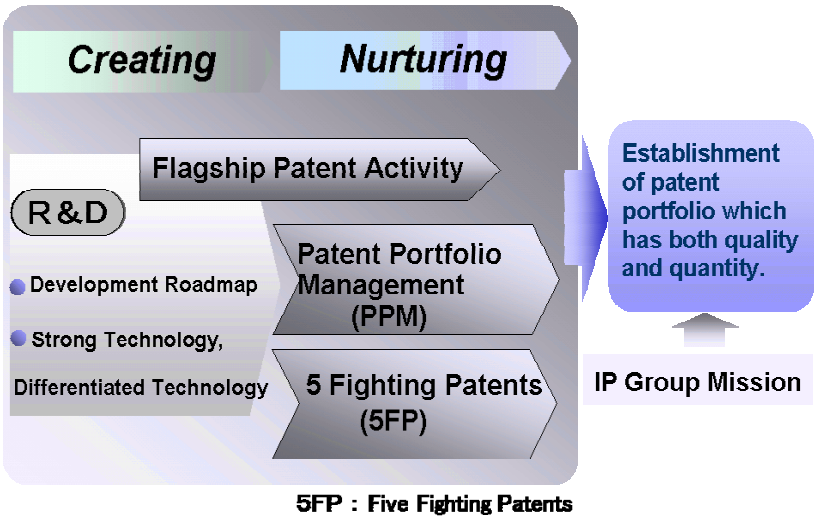


Figure 5.3 Patent Portfolio Creation

1.2.2. Patent Utilization

Multiple patent utilization in agreement with business strategy includes 1) patent royalty income, 2) cross licensing, and 3) strategic exploitation (contributions to new orders and alliance support). (See Fig. 5.4)

For a mature product sector, Hitachi works to create a strong patent portfolio to protect differentiated products produced by a relevant business division. We contribute to realization of high sales amount and business interests by multiple patent utilization.

For a new product sector, Hitachi implements a strategy to create a strong patent portfolio for the best or only product in the sector. For a product sector in which Hitachi has already withdrawn, Hitachi's aim is to gain patent royalty income to support new investment.

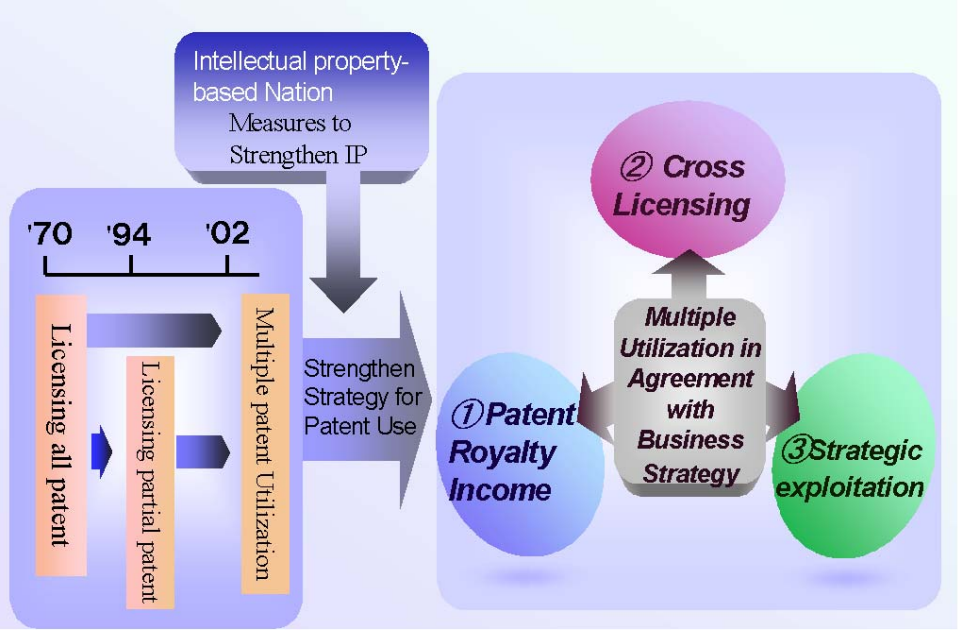


Figure 5.4 Patent Use Strategy

The results of intellectual asset activities are often weighted heavily by patent royalty income performance. At Hitachi, patent royalty income is considered only one out of the many types of intellectual asset activity that contribute to business success.

1.3 Employee Invention System Revision

Hitachi aims to stimulate R&D further and to continue to create outstanding inventions. Starting in April the Group has a revised invention reward system that is more transparent and attractive to inventors. These revisions are in line with revisions to Article 35 of the Japanese Patent Law. To clarify the system to inventors, nearly 200 explanatory meetings were held. At the meeting, we received opinions and request of the invention reward system. An invention award committee was set up to hear opinions and to handle uncertainty about invention rewards. An invention information system was introduced to manage internal use and other information related to inventions. In the future, information related to invention reward evaluations will be released to inventors and a list of the top 100 rewards for patents and inventors will be published within the company. In this way, Hitachi is working to strengthen its invention incentives.

2. Brand

2.1. Brand Management System

The Corporate Brand Management Office of the Hitachi Group Headquarters supervises brand management. Each business group and Group Company assigns a person to closely work with the Corporate Brand Management Office.

The Intellectual Property Group is responsible for integrated management for the acquisition and protection of global trademarks such as the Hitachi logo "HITACHI" and the Hitachi mark "  ." Hitachi has approximately 7,000 trademarks registered for Group products and services in over 200 countries. The intellectual property departments of each Group Company manage the acquisition and protection of their product trademarks.

2.2. Brand Strategy

The source of competitiveness is shifting from tangible to intangible assets. Hitachi considers its brand to be the highest important asset. As such, brand management has been an important activity since April 2000. The slogan, "Inspire the Next" expresses Hitachi's intention and value to offer the world, superior products, services, and systems. The slogan also expresses Hitachi's desire to continually breathe vitality into succeeding generations. To be worthy of the slogan "Inspire the Next," the Hitachi Group is promoting various strategies. The main promotion activities in 2004 are outlined below.

2.2.1. Activities to Enhance Brand Image in the Youth Sector

In recent years, the Hitachi brand image among the youth sector (university age) has continued to weaken. To enhance brand image in the youth sector, young employees are directly conveying the message to university students about Hitachi activities in venture enterprises, Hitachi history, cutting-edge technology, and other current business content. These activities will help recruit superior talent and help build better relations with future Hitachi stakeholders. Publishing messages to university students through newspaper advertisements and employing the use of celebrity images in direct mail campaigns are just a few of the activities designed to enhance popular awareness of Hitachi. In addition, Hitachi holds seminars to educate young people about its founding philosophy, brand principle, business content, and workforce pride. Direct contact with young people through Hitachi's young employees is especially effective in conveying the vitality, founding principle, and spirit of "Inspire the Next." According to a jobseeker ranking published by the Nihon Keizai Shimbun in February 2005, Hitachi was ranked 14th among young men and women from the science and humanities backgrounds. In 2004, Hitachi ranked 72nd. In a Recruit ranking, Hitachi ranked 10th in 2005 and 85th in 2004.

2.2.2. 2004 Hitachi-China Exhibition

Starting in October 2004, the Hitachi Group hosted the Hitachi Exhibition-China in three major cities: Beijing, Shanghai, and Guangzhou. With a theme of urban space creation for vitality, Hitachi displayed products related to social infrastructure and promoted its technology strength and collective Group strength. Over 14,000 people visited the three exhibit sites and 4,000 people attended related seminars. Hitachi employees had many opportunities to meet with government representatives, customers, and partners. The exhibit provided a medium for Hitachi to strengthen its base in China and to establish many important business contacts. In the future, Hitachi hopes to turn these important contacts into new business orders.

2.2.3. Hitachi Pavilion at 2005 World Exposition, Aichi, Japan

The 2005 World Expo in Aichi opened in March in the Nagoya Eastern Hills (Nagakute Town, Toyota City, and Seto City). The Hitachi Group hosted its own pavilion called “Nature Contact-Hitachi Group Pavilion’s Ubiquitous Entertainment Ride.” Through contact with rare animals, visitors experienced the importance and splendor of nature along with the dawning of a 24/7 network society based on advanced information technology that the Hitachi Group is striving to achieve. The goal of the exhibit was to give visitors a taste of entertainment in the future.

2.2.4. Award System: Inspiration of the Year Award

The Hitachi Group has introduced an award system called Inspiration of the Year. This system honors Hitachi employees and groups that have enhanced Hitachi brand value, and, is linked to stock price. In 2004 a total of 106 award applications were submitted from Japan and overseas.

2004 Inspiration of the Year Award (2 Cases)

(1) Hitachi brand value enhancement through consumer service product improvement in the US

This case is cited for its steady effort over 10 years to integrate production and sales and to enhance brand presence focusing on plasma and projection televisions. These efforts are responsible for capturing the top share of projection and plasma televisions at Sears’ retailers in the US and for enhancing the Hitachi brand image.

(2) Hitachi brand value enhancement by winning the gold medal at the 37th International Skills Festival

In this case, Hitachi was the only electronics manufacturer to capture one of the six gold medals awarded to Japanese companies at the International Skills Festival. The gold medal award clearly demonstrates to the world Hitachi’s manufacturing strength and skill and contributes to enhancing the Hitachi brand image.

At the 38th Festival, Hitachi captured two of the five gold medals awarded to Japanese companies.

In addition, Hitachi’s trademark section awards an intellectual property right prize for product brand excellence related to good ideas, application, and development.

2.2.5. Action Plan to Enhance Hitachi Brand Value

The brand enhancements Action Plan concretely shape to the “Inspire the Next” slogan. The Action Plan started with projects in Europe in 2002 and Hitachi Construction Machinery Co., Ltd. in 2004. The projects are planned to expand into other group companies. Each project involves interviewing customers and senior management. The interview results are used to customize the Hitachi brand to fit regional and market characteristics. The goal of the Action Plan is to enhance brand value by filling the gap (through insight and analysis) between actual and ideal customer experience.

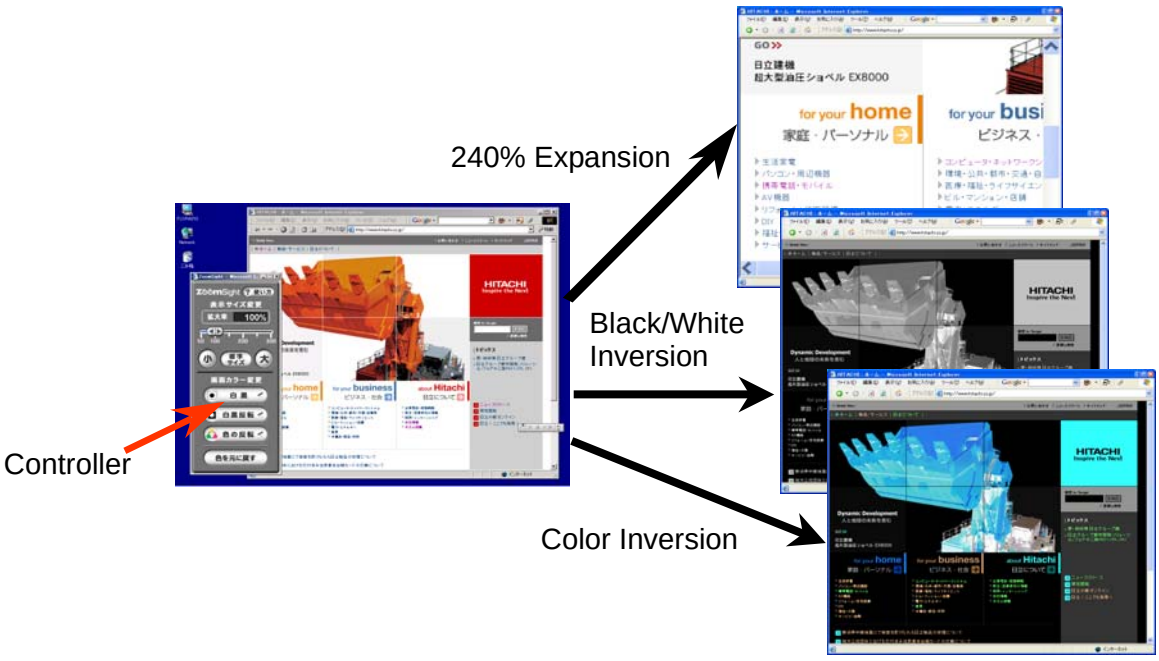
2.2.6. Web Management

(1) Enhance web quality in line with new laws (Personal Data Protection Law and Web Accessibility JIS).

The Personal Data Protection Law became effective in April 2005. This Law sets standards to protect the private information of users and customers on the Internet. The Hitachi Group is promoting website design that is safe to access. At the same time, the Group is introducing measures against illegal access and enhancing the reliability of its websites.

Japanese Industrial Standards (JIS) related to web accessibility (JIS X 8341-3) aim to enable

anybody to easily browse the Internet. The Hitachi Group is upgrading its Internet guidelines and building high-quality websites that all customers can easily access. Hitachi websites also provide various tools to support accessibility such as adjustable text size and color and a text-to-speech function.



(2) Activate Group strength through information sharing.

Hitachi has created a Group information sharing website that is password protected. The site publishes information related to brands, web, advertisements, and public relations; it promotes a Group feeling of unity and global information sharing about brands among Group companies.

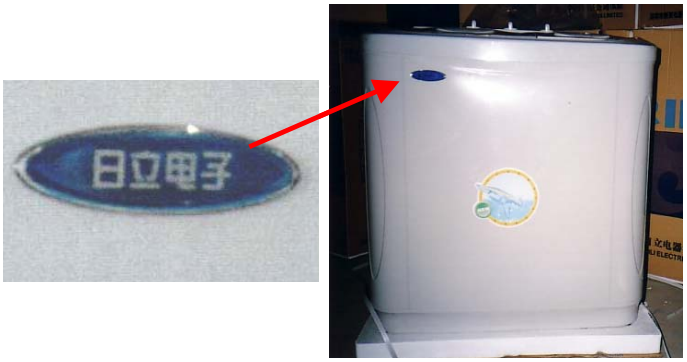
The original Hitachi intranet system is being repositioned as a Group information site and the interface is being updated. The upgraded site will promote information sharing within the Group and Group companies will be able to easily publish their content. The changes will increase information exchange. Compared to the previous intranet system, access to the revamped site is up by threefold. The increase in mutual information exchange will enhance collective Group strength and create synergies.

2.3. Measures against Counterfeit Products

The Hitachi Group has been taking strong action against counterfeit products (e.g., home appliances, automobile components, electronic components, power tools) to protect Hitachi brand especially in China, other Asian countries, and the Middle East. Especially, in China where we face a lot of counterfeits, Hitachi has many raids carried out, and tackled counterfeits even in foreign markets exported from China through cooperation with local affiliate companies. Also, Hitachi participated in a mission dispatched to China under the International Intellectual Property Protection Forum to lobby Chinese authorities for the better protection of prestigious brands..

Recently, we have faced many cases where infringers established corporations to advance their illegal activities, even registering trademarks and company names that are confusingly similar to ”HITACHI” both in English and Chinese characters.

For example, in 2004, a third party in Hong Kong registered a trade name that contained “Hitachi” in Chinese characters. The purpose was to pretend to be Hitachi group company and to have factories on mainland China manufacture washing machines and refrigerators under the fake “Hitachi” brand. The manufactured products were then sold in Anhui, Shangdong, and Sichuan Provinces. Hitachi filed a complaint in a Hong Kong court for illegal use of registered trade name, and obtained the favorable court order. Then, Hitachi commenced an extensive investigation on the Chinese mainland, and confiscated many counterfeits from the various regions. The Chinese authorities also issued a fine payment order and confiscation order for illegal profiting. Finally, the guilty party was stripped of its business license.



Hitachi has taken other legal actions to stop illegal use of its trade name. At the same time, Hitachi has been cooperating with other companies in the industry to request, through the Ministry of Economy, Trade, and Industry, the authorities in Hong Kong and China to protect trademark rights.

3. Trade Secrets

The Hitachi Group has been actively managing its trade secrets for a number of years. Upon the law revisions related to strengthening trade secret protections in 1990, Hitachi revised newly set a rule to further protect its own trade secrets etc.

Since then with the advent of era of digital information and networks, Hitachi upgraded its rules to manage trade secrets not to give rise to trouble.

Further to respond effectively to personnel mobility and to risks of unintended technology information outflow due to recent technology transfers to China and other regions, Hitachi is enforcing policies group-wide with the cross-sectional Trade Secret Management Committee as the central figure.

The committee is made up by:

・chairman : the Vice President for R&D and new business

・members : such as in Figure 5.3

・secretariat : the IP Protection Center.

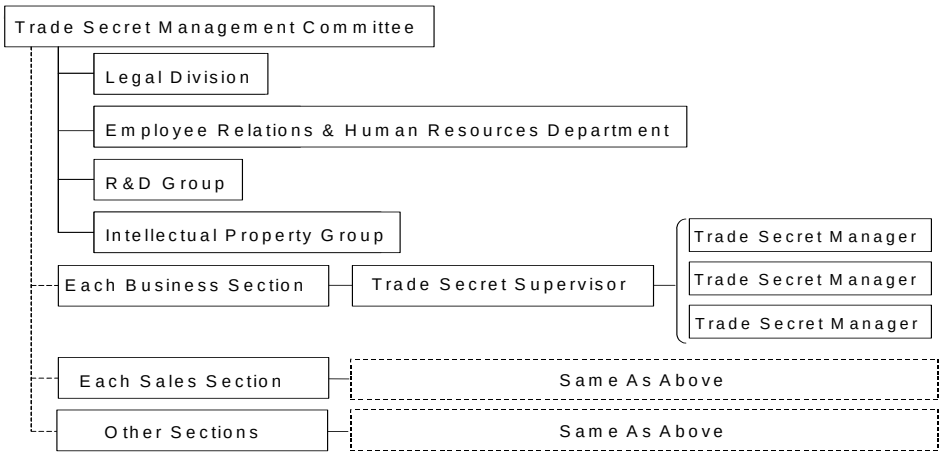


Figure 5.3 Trade Secret Management System

1) Hitachi, through issue of the "Guidelines on Management of Trade (including how to prevent technology outflow overseas)" in line with the guidelines of Ministry of Economy, Trade, and Industry, is taking the following measures.
   (1) Basic guideline for technology outflow prevention
      Clarify the content and range of technology transfer and formulate a technology transfer strategy.
   (2) Maintenance of organization
      Formulate an overall plan and clarify roles and responsibilities to determine whether a certain technology is transferable.
   (3) Execution of technology outflow prevention plan
      Conduct preliminary studies by specialists, make thorough non-disclosure agreements, and perform follow-up checks.
2) Response to personnel mobility
   (1) Make professional confidentiality clauses stricter in labor contracts, collective labor agreements, and written retirement pledges.
   (2) Issue (on a case by case basis) a letter to a company that hires a former Hitachi employee.

Reference 1. Group Companies for Japan-US Patent Data

Category	Company Name
Information and Telecommunication Systems	Hitachi Communications Technologies Ltd., Hitachi Electronics Services Co., Ltd., Hitachi Information Systems Ltd., Hitachi Software Engineering Co., Ltd., Hitachi Systems and Services Ltd., OPNEXT Inc., Hitachi Information and Control Systems Inc., Hitachi Government & Public Corporation System Engineering Ltd., Hitachi Hybrid Network Co., Ltd., Hitachi Information Technology Co., Ltd., Alaxala Networks Corp., Hitachi-Omron Terminal Solutions Corp., Hitachi Global Storage Technologies, Inc., Hitachi Data Systems Holding Corp.
Electronic Device	Hitachi Displays Ltd., Hitachi High Technologies Corp., Hitachi High-Tech Electronics Engineering Co., Ltd., Hitachi Medical Corp., Hitachi ULSI Systems Co., Ltd., Akita Electronics Systems Co., Ltd., Hitachi Science Systems Ltd.
Power and Industrial Systems	Babcock-Hitachi K.K., Hitachi Air-Conditioning Systems Co., Ltd., Hitachi Building Systems 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 Kiden Kogyo Ltd., Hitachi Plant Engineering and Construction Co., Ltd., Hitachi Via Mechanics Ltd., Japan Servo Co., Ltd., Hitachi Kasado Engineering Co., Ltd., Hitachi Mito Engineering Co., Ltd., Hitachi Car Engineering Co., Ltd., Xanavi Informatics Co., Ltd., HCX Co., Ltd. Hitachi Unisia Automotive Ltd. and Tokico Co., Ltd. are being integrated into Hitachi Ltd.
Digital Media and Consumer Equipment	Hitachi Home and Life Solutions Inc., Hitachi Maxell Ltd., Hitachi Media Electronics Co., Ltd., Hitachi Advanced Digital Inc., Hitachi LG Data Storage Inc., Hitachi Hometec Ltd., Hitachi Lighting Ltd., Hitachi Taga Technology Ltd., Fujitsu-Hitachi Plasma Display Ltd.
High-Performance Materials	Hitachi Cable Ltd., Hitachi Chemical Co., Ltd., Shin-Kobe Electric Machinery Co., Ltd., Hitachi Metals Ltd., Hitachi Powdered Metals Co., Ltd.
Logistics and Services	Hitachi Mobile Co., Ltd., Hitachi Transport System Ltd., Hitachi America Ltd.
Financial Service	Hitachi Capital Corp.

（56 Group Companies）

Reference 2. Main Public Awards

47th Ten Great New Products Award (Nikkan Kogyo Shimbun Ltd.)

Japanese Brand Award: Magnetocardiograph (MGC) System

Hitachi Ltd. and Hitachi High Technologies Corp. (awarded jointly)

36th Ichimura Industry Award (New Technology Development Foundation)

Contribution Award: SR8000 supercomputer technology that incorporates hybrid vector-scalar architecture

Hitachi Ltd. and the Information Technology Center at Tokyo University (awarded jointly)

53rd Electrical Machinery and Technology Achievement Award (Japan Electrical Manufacturers' Association (JEMA))

Chairman's Award: Direct, high-pressure inverter for high-torque machine

Hitachi Ltd.

2004 Japan Invention Award (Japan Institute of Invention and Innovation (JIII))

- Patent Office Director's Award: Particle-beam treatment system (Patent No. 2596292)
  Hitachi Ltd.
- Invention Award: Design of a permanent-magnet-type magnetic-resonance imaging device (Design Registration No. 1172330)
  Hitachi Ltd. and Hitachi Medical (awarded jointly)
- 21st Century Encouragement Award: Brain function measurement method using light (Patent No. 3359756)
  Hitachi Ltd. and Hitachi Medical (awarded jointly)

2004 Nikkei BP Technology Award (Nikkei BP)

Grand Prize: R&D of methods to measure brain activity state using light topography

Hitachi Ltd. and Hitachi Medical (awarded jointly)

2004 Purple Ribbon Medal

Kunio Uchiyama, Chief Research Supervisor, Hitachi Ltd.

High-performance, low-energy microprocessor for digital public welfare equipment

2nd New Machine Promotion Award (Japan Society for the Promotion of Machine Industry)

Minister of Economy, Trade and Industry Award: Liquid crystal vacuum filling system

Hitachi Industries Co., Ltd.

2004 Excellent Energy-Saving Equipment Award (Japan Machinery Federation)

Chairman's Award: Refrigerating machine that effectively uses low-temperature cooling water
Hitachi Air-Conditioning Systems Co., Ltd.

2004 Good Design Award (Japan Industrial Design Promotion Organization (JIDPO))

Interactive Design Award: μ chip
Hitachi Ltd.

15th Energy-Saving Grand Prize (Japan Energy Conservation Center)

Energy Conservation Center Chairman's Award: PAM air-conditioner Shiro-Kuma-kun, a household system for cooling, heating, and dehumidifying
Hitachi Home and Life Solutions Inc.

1st Component Manufacturing Award (Nikkan Kogyo Shimbun Ltd.)

Component Award: Epoch Pencil Deep Ball, an end mill for ultra-deep machining of metals
Hitachi Tool Engineering Ltd.

Corporate Data (Current as of March 31, 2005)

Corporate Name: Hitachi Ltd.

Funded: February 1, 1920 (Founded in 1910)

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

Representative: Etsuhiko Shoyama, President, Chief Executive Officer and Director

Financial Data

	Fiscal March 2005 (Consolidated)	Same period of previous year
Revenues	9.027 trillion yen	105%
Operating income	279 billion yen	151%
Current Net income before tax	264.5 billion yen	112%
Income before deduction of minority stockholders' equity	114.5 billion yen	297%
Current net income	51.4 billion yen	324%

Domestic and Overseas Sales

	Fiscal March 2005 (Consolidated)	Same period of previous year
Domestic Sales	5.7496 trillion yen	102%
Overseas Sales	3.2774 trillion yen	110%
Asia	1.4068 trillion yen	116%
North America	901.8 billion yen	103%
Europe	709.7 billion yen	108%
Other Regions	258.9 billion yen	110%

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Neither the validity of these assumptions nor the probability of their occurring at any time in the future is guaranteed. This report does not contain content Hitachi has judged inappropriate to management strategy and content judged highly uncertain to the future. The content herein does not necessarily reflect the most up-to-date information.

Hitachi, Ltd.
Intellectual Property Group
6-1, Marunouchi 1-chome, Chiyoda-ku, Tokyo, 100-8220 Japan
Tel: 03-3258-1111
Fax: 03-3214-3110