

## 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.

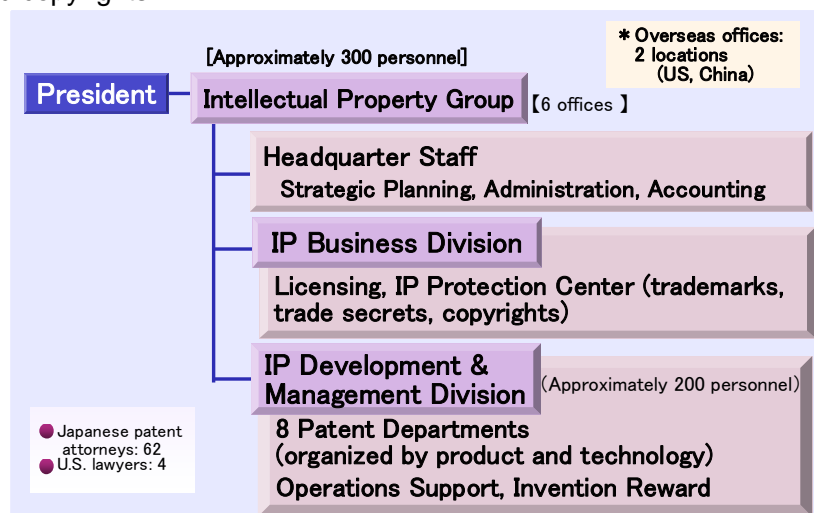


Figure 5.1 Activity Structure Closely Linked to R&D

##### 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. IPO<sup>1</sup> 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 5.2<sup>2</sup> shows the number of laid-open patents in Japan and Table 5.3<sup>2</sup> shows the number of U.S. patent registrations for 2005.

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

<sup>2</sup> 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.

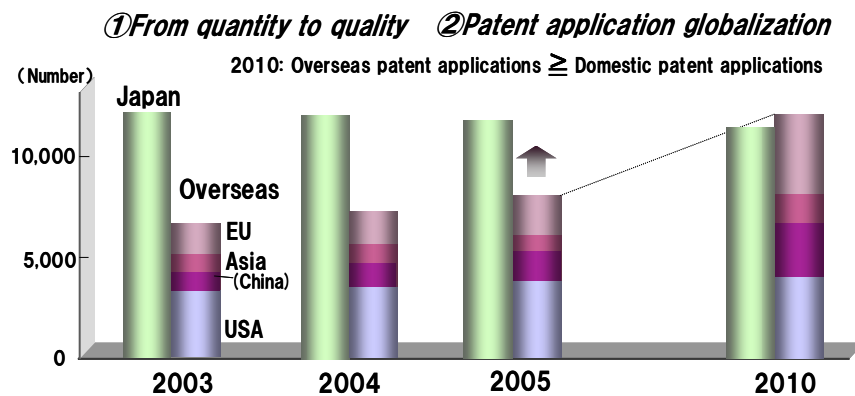


Figure 5.2 Domestic/Overseas Patent Applications for Hitachi Group

### 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, $\mu$ -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

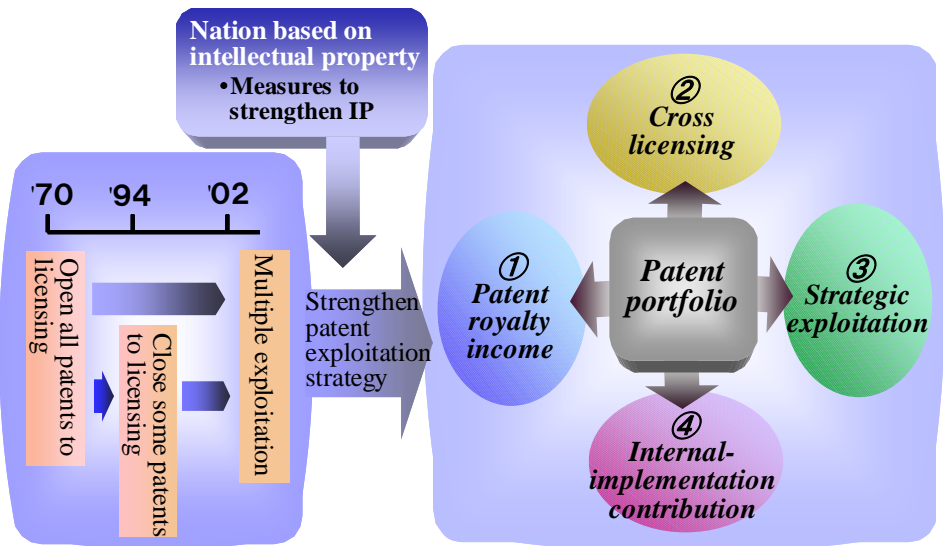


Figure 5.4 Multiple Exploitation of Patent

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

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

\* : 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.

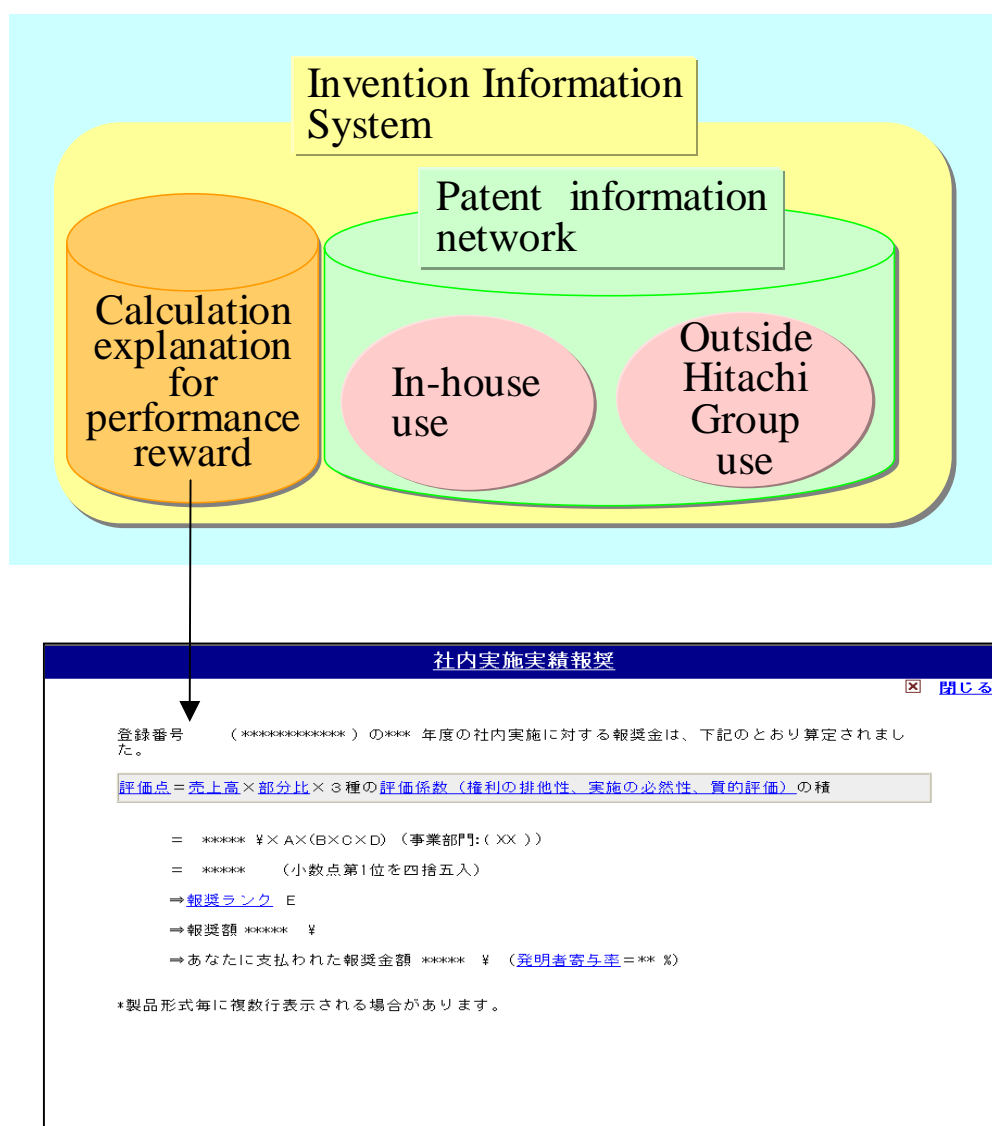


Figure 5.6 Invention Information System

## **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.