

# Patent Exploitation in the Information and Communications Sector

## — Using Licensing to Lead the Market —

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### 1 Frequent patent infringement disputes

The Japanese government has been implementing the Intellectual Property Strategic Program since 2003. This program's underlying notion is stated as follows: "In order to increase national wealth through effective use of intellectual property, it is necessary to promote creation of high-quality intellectual property in the R&D sector and contents businesses and promptly protect it legally, thereby maximizing added values in industry" <sup>[1]</sup>. While the program emphasizes creation, protection and exploitation of intellectual property, this article focuses on exploitation alone.

Since the launch of the Intellectual Property Strategic Program, Japanese companies have become more aware of the need for protection of intellectual property, especially patents. An examination of the four Nikkei newspapers has revealed that the annual number of articles on patent infringement, which had hovered at 100 until 2003, doubled to 205 in 2004. This suggests an increased frequency of patent infringement disputes.

Another interesting phenomenon coinciding with this is that the number of articles returned in a search with the keyword "cross-license" doubled from the previous year's average to 64 in 2004. For example, in the plasma panel market, which is a growing sector of the wide flat-screen TV market, Fujitsu filed a patent infringement suit against South Korean firm Samsung in April 2004. Samsung immediately responded with

a countersuit. But, the two parties reached a settlement in June and executed a cross-license agreement. In November of the same year, Matsushita Electric filed a patent infringement suit against LG Electronics of South Korea. The Korean firm filed counterclaims against Matsushita in South Korea. This dispute was also resolved by cross-licensing in April 2005.

Patent infringement suits are filed to protect the patent holder's exclusive right to exploit the invention, which is the essence of the patent system. However, the parties involved in the plasma panel cases did not pursue this right and instead sought early settlement through cross-licensing. In such industrial sectors as electrical, electronics, and information and communications technologies, patents are often licensed to other companies, rather than exclusively exploited by the inventor <sup>[2]</sup>. In fact, many newspaper articles on cross-licensing refer to products in these sectors, including steppers (equipment used in semiconductor manufacturing), flash memory, CPUs, optical disks, blue LEDs, plasma panels, and digital cameras. Why is this?

The Japan Fair Trade Commission (JFTC) announced at the end of June 2005 "Guidelines on Standardization and Patent Pool Arrangements" <sup>[3]</sup>. This document states that "standardization of specifications is not assumed to pose legal issues with the Anti Monopoly Act" unless such activities lead to restricting prices of new products, restricting alternative specification development, unreasonably extending the scope of specifications, or other potential threats to fair competition. This raises another question: Why

did the JFTC release the guidelines at this time?

## 2 Tragedy of anticommons

Companies accumulate the results of their research and development activities. These results can be divided into two types: know-how, which is concealed within the company, and research papers and patents, which are disclosed to the public. In Figure 1, the base area represents the “technical field.” In this field, individual companies occupy their own territories, and papers and patents are like the shell surrounding the core territories. Companies create new products through research and development within their territories. The resulting products appear on the top face, which represents the “product field.” Each company’s new products are assumed to reflect its own accumulated technology.

A company that has provided a product most favored by consumers earns a profit. Accumulated technology is of no use unless it is valued in the marketplace. If a product of Company A succeeds in the market, Company A’s accumulated technology is given value. By contrast, Company B, the loser, faces three problems. First, it has failed to take advantage of its accumulated technology. Second, it needs to conduct additional R&D to meet market demands. Third, Company B is forced to catch up with Company A by developing a product similar to that of A,

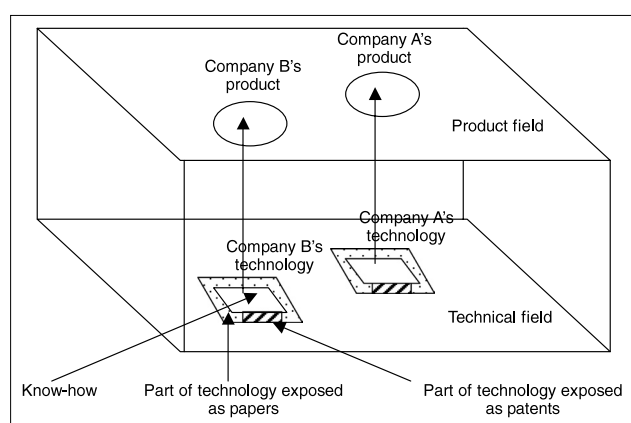
while avoiding using A’s patented technology. Patent as an exclusive right thus protects Company A.

While Figure 1 assumes that the R&D area of Company A does not overlap with that of Company B, this is not realistic. In the real world, there are frequent overlaps between individual companies’ R&D areas because companies always monitor market trends carefully and sometimes need to adopt the same technology to ensure interoperability between modules for products incorporating a lot of modules.

This state is illustrated in Figure 2. In this chart, there is some overlap between the know-how of Companies A, B and C. This is a result of each company having conducted R&D independently but having discovered and accumulated the same know-how by accident. The three companies have individually filed patent applications, which have been examined and granted separately. These patents take up completely separate areas in the technical field because there should be no overlap between patent rights. Similarly, since every paper must be novel, papers of the three companies occupy separate areas in Figure 2.

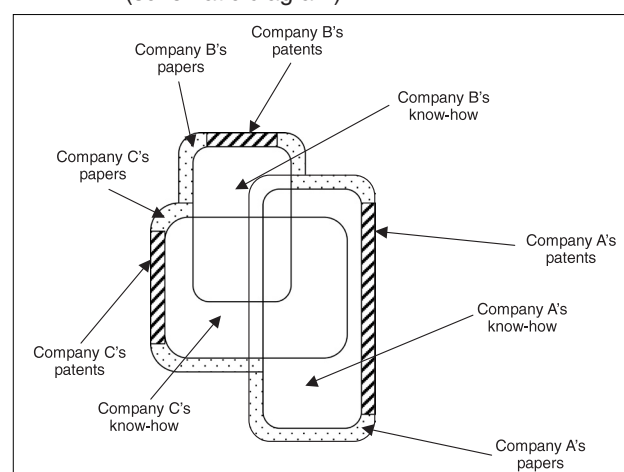
In such a situation, suppose that a new product requires technologies from all three companies. If any of the three refuses to license its patented technology to the other parties, the entire set of accumulated technologies becomes useless. This is what is called the “tragedy of anticommons.” It occurs when a number of individuals claim rights

**Figure 1 :** Relative relationships between companies in technical and product fields (schematic diagram)



Source: Prepared by the author

**Figure 2 :** Relationships in technical field between three companies engaged in similar R&D (schematic diagram)



Source: Prepared by the author

to a single land property and eventually make it unavailable. This phenomenon contrasts with the “tragedy of commons,” which is an economic term that refers to a situation in which the yield is reduced as a result of the overuse of common land by individuals.

The Japan Patent Office released in March 2005 a report on the trends in patent applications related to plasma panels <sup>[4]</sup>. The report shows that, when grouped by applicant nationality, plasma panel patent applications filed to the JPO are split between Japan and South Korea. The first peak of applications was in 1998 to 1999, when Japanese organizations filed some 700 applications, while South Korean organizations filed about 400. The number of applications began to increase again in 2002, suggesting that “fierce competition will highly likely continue between Japanese applicants and their Korean counterparts for the present,” according to the report. A continued application battle will make it increasingly difficult for any company to produce new products based only on its own patents.

Japanese mobile phone users are able to watch digital TV on their handsets. This is enabled by a video coding technology known as H.264, which has been standardized as an international standard in the ITU-T. When the organization began accepting licensing offers from related patent holders in its standardization process, it received as many as 169 offers.

To produce DVD products, such as players and disks, manufacturers need to be granted licenses from the owners of essential patents. To provide a centralized licensing process for DVD manufacturers, a patent pool called the DVD 6C Licensing Agency (hereinafter DVD6C) has been formed, as described later in “4 Patent Pools.” Nine companies participate in this group: Toshiba, Hitachi, Matsushita Electric, Mitsubishi Electric, Time Warner, Victor, IBM, Sanyo Electric, and Sharp. DVD6C licenses 760 patents owned by these companies.

In the information and communications sector, scores of companies around the world perform R&D in similar areas. As a result of equally competent researchers pursuing inventions in overlapping research areas, patents related to the same technology are owned by many different

companies. However, marketable products and services in this sector usually combine a multitude of components and subsystems that involve multiple patents. This characteristic often causes the tragedy of anticommons.

The only solution to the tragedy of anticommons is cross-licensing the related patents. This fact has led companies to deny the core concept of the patent system, patents as exclusive rights. In this regard, both international standardization activities and patent pools are attempts to solve the tragedy of anticommons through patent licensing.

### 3 International standardization and patents

There are two types of international standardization activities: public activities supported by governments and voluntary forums comprised of private enterprises. The first-type activities are typically conducted by ISO, IEC and ITU. The second-type or forum activities usually involve a group of leading companies that share the same interest. Either type of organization follows a democratic process for defining standards and releases the results for public use.

The international standardization for DVD technology has been promoted by the DVD Forum. Wireless LAN standards have been discussed by the IEEE 802 Committee. International standards for the Internet have been developed by the IETF. Table 1 lists standardization forums existing in the global information and communications sector. The extraordinary length of the list demonstrates how vital standardization is in this sector.

Both public and private standardization organizations have their own policies on how to deal with patents associated with their standards. These policies closely resemble each other because they are modeled on the same text that was first created in 1985 by the American standardization body, ANSI, and has been reviewed continuously by the ITU.

The policy essentially consists of the two principles described in Table 2. According to them, if a patent is found to be essential to a standard, its holder is expected to license the

**Table 1** : Forums in the information and communications sector

1394TA	ADSL	AIM	AMIC	ASN.1
ATMF	BCDF	Bluetooth	Cable Modems	CBOP
CDG	CIDf	CELF	CommerceNet	CTFJ
DECT Forum	DHF	DHWG	DOPG	DSL
ECHONET	ECOM	EDIFICE	EIDX	EJF
ELC	EMA	EMF	ENUM, ERTICO	FCIA
FIPA	FSAN	GGF	GlobalPlatform	GSA
GSM Association	H2GF	HAVi	HomePNA	ICANN
IDB Forum	IDF	IMTC	IPv6	IrDA
ISC	ISOC	ITS America	ITS Forum	ITS UK
JPNIC ENUM	JICSAP	JIF, JIPPA	LAP	LONMARK
M4IF	MBA	MCPC	MEF	MeT
MITF	MOPASS	MPLS Forum	MSF	OASIS
OGC	OIF	OMA	OMG	OSDL
OSGi	PCCA	PCISIG	PCMCIA	PHS MoU
PICMG	POF	RPRA	Salutation	SCA
SDR	SSIPG	STA	T-E	TMForum
TOG	TVAnytime Forum	UbiqNet	UMTS	UpnP
USBIF	W3C, Web 3D	WfMC	WiMAX	WiMedia
WS-I	ZigBee			

Source: Telecommunication Technology Committee

**Table 2** : Typical policy regarding patent handling in international standardization bodies

- Standardization organization should inquire of its members about ownership of patents related to each draft standard, and approve the standard if the patent holders agree to declare their intention to grant “free licenses on a non-discriminatory basis” or “licenses on reasonable and non-discriminatory terms and conditions.”
- If any of the patent holders “declares its intention to place any other additional terms and/or conditions,” no standard will be established.

Source: Prepared by the author

patent without discrimination. There is no notion of exclusive right. There are more drastic examples. Some companies have gone so far as to declare through an international standardization body that if their proposals are incorporated into a standard, they will license all of their related patents without discrimination.

The ITU-T, which coordinates standardization for telecommunications under the umbrella of the ITU, makes available a database of declarations by patent holders <sup>[5]</sup>. As of August 10, 2005, the database contained 95 declarations to “grant a free license on a non-discriminatory basis” and 1308 to “grant a license on reasonable and non-discriminatory terms and conditions.” On the other hand, 26 companies declared that if their proposals were incorporated into a standard, they would license any of their patents that were related to the standard without discrimination.

## 4 Patent pools

A single international standard can be associated with patents owned by several different companies. A manufacturer wishing

to create a product that supports such a standard needs to be granted a license from each respective owner of the related patents. To simplify this process and set a reasonable aggregate royalty for a package of relevant patents, patent holders sometimes choose to form a group called a “patent pool.”

### 4-1 MPEG-2

A notable example of patent pools is the one regarding MPEG-2, a video coding standard. In 1997, a patent pool for MPEG-2 was formed by Columbia University, Fujitsu, General Instrument, Lucent Technologies, Matsushita, Mitsubishi, Philips, Scientific-Atlanta, and Sony. Under this mechanism, relevant patents of these entities are pooled through an independent agency that was appointed to provide licensing and royalty collection services. Collected royalties are shared among the patent pool participants.

Before the creation of the MPEG-2 patent pool, its members asked the U.S. Federal Government to verify that their conduct would not violate the federal antitrust laws. The Department of Justice responded by issuing a document confirming

that this patent pool would not conflict with the antitrust laws as long as it licensed only the essential patents on a non-discriminatory basis and involved no price-fixing or similar agreements. Thus, this form of patent pooling was officially approved by the U.S. Department of Justice.

#### 4-2 DVD

International standards for DVD technology have been established by the DVD Forum. DVD6C is a patent pool set up in 1999 for DVD patent licensing. DVD6C makes available basic information on royalties. For example, a licensee of DVD video player patents must pay per product unit either 4 percent of the net selling price or \$3.00, whichever is greater. A licensee of DVD disk patents is required to pay \$0.045 per disk.

Outside of the patents managed by DVD6C, there are other essential DVD patents owned by Philips, Pioneer and Sony. These three firms have formed their own patent pool called DVD3C. A company that intends to enter the DVD market needs to seek licenses from both patent pools. However, the members of DVD6C and those of DVD3C have cross-licensed their patents so that both sides can be assured of access to the market.

#### 4-3 Third-generation mobile telephony

Third-generation (3G) mobile telephone standards entail a huge number of patents. A report<sup>[6]</sup> submitted by the Ministry of Internal Affairs and Communications to a task force in the Council for Science and Technology Policy states that essential patent declarations submitted regarding W-CDMA and CDMA2000, the two major technologies constituting 3G mobile telephony, number 352 and 235, respectively. Of the declarations on W-CDMA, 117 are from Japan, followed by 102 from the U.S. and 68 from Europe.

To license a great many patents related to 3G mobile communications technology, the 3G Patent Platform (3G3P) was established in 2002 as a patent pool. It provides licensing services through the subgroups dedicated to different technologies, including W-CDMA and CDMA2000. However, the 3G3P is not highly regarded in the industry because it has failed to

include Qualcomm, the largest patent holder in 3G mobile telephony.

#### 4-4 Reluctance to create a patent pool

There have been only a limited number of patent pools formed so far. The greatest inhibitor is the cost of organizing a patent pool. Decisions on which patents are essential require the involvement of impartial experts, and such a process is inevitably expensive. When expected earnings from royalties are unlikely to justify the assumed expenses, companies hesitate to create a patent pool.

### 5

## Relationships between patent pools and the Anti-Monopoly Act

The Japan Fair Trade Commission released at the end of June 2005 “Guidelines on Standardization and Patent Pool Arrangements.” No other guidelines of any country have addressed this issue so comprehensively. This document states that “standardization of specifications is not assumed to pose legal issues with respect to the Anti-Monopoly Act,” but it also defines that “if a patent holder has taken part in the standardization activities and is endeavoring to have its patented technologies adopted in the specifications, refusing to grant a license without rational reason after the specifications have been established and widely adopted poses a legal problem with respect to the Act.” This can be interpreted as meaning that no conflict with the Act occurs as long as patent holders observe the patent policy explained in the earlier chapter, “3 International Standardization and Patents.”

At the same time, the guidelines present JFTC’s perspective on patent pools as follows: “If the patents being pooled are only those essential for adopting functions and utilities in compliance with the specifications, the act of pooling patents does not restrict competition among the patented technologies, thus posing no problems under the Act.” This is the same stance as was taken by the U.S. Department of Justice on the case described earlier in “4 Patent Pools.”

The JFTC’s guidelines are also noteworthy in



that they demonstrate a positive view on patent pools, stating: “It does not generally pose legal problems under the Act if the parties developing specifications decide, in advance, to pool and license their patents for the specifications that they will obtain, when the patents that will be pooled are limited to essential patents and there are no other restrictions on their use.” This statement is a response from the JFTC to a requirement defined in the “Intellectual Property Strategic Program 2005<sup>[7]</sup>,” the latest version of the series. The Program assigned the task to the JFTC, stating: “The formation and operation of patent pools are likely to raise the issue of violation of the Anti-Monopoly Act. For this reason, the Government of Japan will develop guidelines under the Anti-Monopoly Act by the end of FY2005.” Yet another point to note about the guidelines is their user-friendliness, including the provision of nine specific examples.

## 6 Incentives to license patents

Why do companies license their patents? As explained in the chapter, “2 Tragedy of Anticommons,” they cannot do business without licensing. But, this is not the only reason. Companies are driven in the short term by the hope of reaping economic benefits, and in the long term by the strategic value of exerting an influence on market trends and maintaining competitiveness.

### 6-1 Short-term value of licensing

#### (1) Expectation of earnings from royalties

Suppose that a product can be produced using patented technologies separately owned by Companies A, B and C. Company A licenses its patented technology to Companies B and C in exchange for licenses from them. Royalties that the three parties pay to one another are offset by the payments they receive. In other words, each of the three is using the other two's patented technologies, free of charge. This relationship is shown in Table 3.

If a company owns patents, it can exchange them with other companies' patents. In Table 3, each party is using three patents by offering one patent. The economic value of this is equivalent

**Table 3** : Effective royalties required for product sales (simplified example)

Payer \ Receiver	A	B	C
A	0%	0%	0%
B	0%	0%	0%
C	0%	0%	0%
D and others with no patents	1%	1%	1%

Source: Prepared by the author

to a three-fold improvement in R&D efficiency.

On the other hand, Company D and others without patents must pay a 1% royalty to each of the three patent owners. When a company tries to produce a product that meets consumer demands, such as satisfying the desire for a single drive capable of playing DVDs and CDs, it needs to adopt additional patented technologies, resulting in an increase in royalty payments. These payments add to the product cost and put the company at a disadvantage in market competition.

The royalties from Company D and others are divided among Companies A, B and C. The total amount can be exceptionally large. For example, the aggregate amount of royalties received by the DVD6C member companies can be roughly estimated as follows: The Japan Electronics and Information Technology Industries Association reported that the size of the global optical disk equipment market was 243.51 million units for 2004<sup>[8]</sup>. On the assumption that the market is split 50/50 between CD and DVD equipment and a \$3.00 royalty is charged per unit, the DVD patent holders could collect as much as ¥40 billion in total. Furthermore, the Japan Recording-Media Industries Association forecasts that the global recordable DVD market will reach 2.4 billion disks in 2005<sup>[9]</sup>. This number multiplied by the royalty of \$0.045 per disk equals ¥12 billion. The sum of the royalties for equipment and disks, ¥52 billion, is shared among the DVD6C members. Each member company could receive something in the order of over ¥5 billion.

#### (2) Ease of establishing patent infringement

Establishing patent infringement, from gathering evidence to paying litigation expenses, is usually a very costly process, because the

suspected party always denies the allegation. However, this is not the case with DVD technology. Companies selling products that comply with the international DVD standards cannot deny their use of patented technologies and therefore have no other choice but to pay royalties. This way, the owners of the patents essential to adoption of the standard can efficiently earn enormous amounts of money without waiting for the outcome of infringement litigation.

## 6-2 *Strategic value of licensing*

### (1) **Compatibility/interoperability and network externality**

A common characteristic of MPEG-2, DVD and 3G mobile communications technologies is the importance of ensuring compatibility and interoperability between hardware products and between hardware and software. This also applies to such technologies as wireless LAN and the Internet.

A technology is worthless if hardware and software products incorporating it cannot communicate with one another for interoperation. Since no single company can provide all related hardware and software exclusively, the only choice for companies is to take steps to develop commonly shared technical specifications with others. This is the primary reason that international standardization is so vigorously pursued in such sectors as electrical, electronics, and information and communications technologies.

Ensured compatibility expands the market. The DVD market could not have grown so large if the compatible media had varied from player to player. Likewise, the wireless LAN market continues to expand despite the existence of different standards: 802.11a, 11b and 11g. Consumers do not have to worry about choosing a particular standard when purchasing a wireless LAN product, because all hardware is designed to support all three standards by automatically switching from one to another.

When the user benefit increases nonlinearly with growth in the number of available hardware and software products, the phenomenon can be described as having "network externality." Patent

holders are forced to make a choice between two options. The first option is using the patent exclusively but restricting market growth; the second is licensing the patent to other companies in the hope of benefiting from market expansion based on network externality. Most patent holders choose the second option.

### (2) **Weakening competitors' motivation for R&D**

As described in "2 Tragedy of Anticommons," if Company A's technology, which is highly valued in the market, is patented, Company B as a follower must avoid that patented technology. However, Company B still has a chance of challenging Company A's dominance by creating a more attractive product through R&D in a different direction. Taking account of such a possibility, Company A should adopt a strategy for minimizing the risk of losing its current dominance and maintaining market leadership over the long term.

One way for Company A to weaken Company B's motivation for R&D is to promise to license the patented technologies. This can relieve Company B of the need to develop alternative technologies. Once such a partnership is established, Company A can always be the first to introduce a new product onto the market, while having Company B follow suit after a given delay. If this situation continues, Company B becomes a "good follower" for Company A.

American companies, such as IBM, Cisco Systems and Microsoft, have expressed their willingness to grant their licenses to others on a non-discriminatory basis. In particular, Microsoft has begun entering into cross-license agreements with many Japanese firms. These trends can be regarded as strategies for creating good followers.

Similar strategies have been adopted by Japanese companies. The DVD6C and DVD3C members, most of which are Japanese, signed license agreements with Chinese DVD player manufacturers in 2002. This can be seen as an attempt to make Chinese manufacturers good followers and secure profits.

The product life cycle is short in the electrical, electronics, and information and communications technology industries. The first mover can

establish its brand name in the market, and the latecomer faces an uphill battle. Under this principle, companies can buy the time to enjoy first-mover advantage by granting licenses to others, even though this act may appear at first glance to benefit the rivals.

## 7 | Coping with outsiders

Sometimes, following proliferation of a technology, an enterprise or individual outside the international standardization activity for the given technology may file a patent infringement suit against the technology adopters to demand royalty payments. This situation is known as the “outsider problem.” The ultimate purpose of such outsiders is not to prohibit manufacture and sale of the applicable product. They are motivated by the economic benefit explained in “6 Incentives to License Patents.”

It would be ideal if a standardization organization could identify all related patents in the standard development stage. However, this is virtually impossible because patents are managed separately on a country basis, and thus the outsider problem persists. What measures should be taken to address this issue?

The best solution is involving as many organizations as possible in international standardization activities so that the number of patents left outside the framework can be minimized.

Attracting a significant number of participants in forums is not an easy task when dozens of forums are operated concurrently for the international standardization of mutually competing technologies. For market leaders, political skills in resolving such complex situations and organizing many others are essential. When interviewed about the outsider problem, an MPEG standardization member answered that, if an outsider emerged, they would take the aggressive stance of discussing among members the possibility of diminishing the influence of the outsider's patent. They can act aggressively because many leaders in video coding technology take part in MPEG activities. If a standardization group has a majority of the

related patents under its control, outsiders' patents are undermined, and the group will hold the advantage in negotiating with outsiders.

It takes political competence for a company to organize a large forum. The company must be able to negotiate with world leaders in the industry, boldly adopt other forum members' technologies outside its own core technology area, and even initiate prenegotiations with associated parties, e.g. winning endorsement from content providers in the case of DVD technology. Even after such a forum is successfully established, the company needs to maintain its involvement as the forum founder through such activities as convening meetings and serving as chair.

On the other hand, outsiders also have rights that are protected by the Patent Law, and their demands for royalties on reasonable grounds cannot be ignored. The JFTC's guidelines refer to this point, stating: “refusal by a patent holder to grant a license generally does not pose a problem under the Anti-Monopoly Act if the patent holder is not involved in specification development activities.” When even refusal is not a problem, no one can stop outsiders from demanding licensing fees.

Outsiders usually do not manufacture or sell hardware and/or software incorporating their patented technologies; that is to say, their patents are not for self-exploitation. This is why they are hardly visible and emerge so abruptly. If the inventor does exploit patents for itself, it can benefit from both exploitation results and royalties. This is not the case with outsiders because they can benefit only from royalties, a fact that drives them to set higher royalty rates. In industry-academia joint research projects, participants from academia usually demand from business participants compensation for non-exploitation. In such projects, participating universities usually do not commercially utilize the resulting patents. If project members from industry exploit the result, academic members are more likely to seek payment of a kind of royalty known as non-exploitation compensation, although this notion is not applicable to joint research between private enterprises. Outsiders'



demands for higher royalties are analogous to this practice and are not unreasonable.

Article 93 of the Japanese Patent Law refers to “a ruling on granting of non-exclusive licenses in the public interest.” Application of this article is mentioned in the report<sup>[10]</sup> released in November 2004 by the Working Group on Patent Strategic Plan of the Industrial Structure Council (“Issues Concerning the Smooth Exploitation of Patented Inventions”). The report states that Article 93 shall apply when such licensing is “particularly necessary in areas directly related to people’s lives, including the protection of human life and property and the construction of public facilities,” or when “the non-granting of a non-exclusive license for a given patented invention impedes sound overall development of the related industry and subsequently has seriously adverse effects on people’s lives.” It is unlikely that inability to adopt a standard poses a threat to people’s lives and safety in such sectors as electrical, electronics, and information and communications technologies. Therefore, no one can usurp the rights of outsiders.

## 8 | Conclusions and proposals

This article has so far explained that the exploitation of patents as licenses is becoming more common in electrical, electronics, and information and communications technology industries. Since establishment of the Intellectual Property Policy Headquarters, Japan has been paying growing attention to standardization activities and patent pools as approaches to the effective utilization of intellectual property. This is the right direction for a country that aims to become an intellectual property-based nation. The next goal of the Japanese government is to intensify its efforts to exploit intellectual property with emphasis on the following two aspects:

### **(1) Underscoring patent exploitation through the Intellectual Property Strategic Program**

While the Intellectual Property Strategic Program is aimed at underlining creation,

protection and exploitation of intellectual property, it does not mention exploitation as frequently as creation and protection. More emphasis should be placed on the significance of exploitation, including the aspects discussed in this article.

### **(2) Improving the patent system**

When a standard is associated with numerous patents, its advocates face tough hurdles that must be surmounted before they can have it widely adopted. For example, their standardization activity can be hindered by both the need to form a patent pool, for which the negotiation of an agreement among patent holders is usually a cumbersome process, and the emergence of outsiders. What makes these problems more complex is that each country has its own patent system, and examines and assesses patent applications in line with that system. An ideal solution from the viewpoint of promoting standardization is to improve the current scheme toward unifying patent examination organizations worldwide and introducing more rigorous assessment criteria to prevent too-easy approval of patents. Although this should be treated as a long-term political goal, it is worth considering.

Many other national governments are increasing their emphasis on intellectual property. They should also be aware of the particular importance of exploitation of intellectual property.

Government efforts are meaningless without due response from the private sector. Companies should take the following measures:

### **(1) Strategically exploiting patents as licenses**

For a company that owns powerful patents, licensing them to others rather than using them exclusively, may seem to conflict with its own interest; in fact, this approach has strategic value. Japanese companies should take a serious step toward leading the market through the exploitation of patents as licenses. Stepping up efforts to acquire more patents is a prerequisite to achieving this goal.

## (2) Taking advantage of international standardization activities as political negotiations

International standardization activities can be a negotiation tool, but simply participating in such activities is not enough. Japanese companies should move proactively to make more friends and partners and have their patented and non-patented technologies incorporated in standards. The draft of the JFTC's guidelines stated that it poses a problem if "some of the participants guide the content of the specifications in their favor (or against the interests of specific parties) by unfairly taking advantage of the specification development procedures." However, the expression "in their favor" has been deleted as a result of public review, in response to a trade group's comment pointing out that "it was natural for any participants in standardization activities to try to have their proprietary technologies adopted in the specifications."

International standardization activities are political negotiations, and not a forum for assessing which technologies excel over others. Therefore, companies should delegate skilled negotiators to participate in such activities. They should also provide their employees with educational opportunities to improve negotiation skills<sup>[11]</sup>.

## (3) Exploring the possibility of forming patent pools

Since the formation of a patent pool involves significant coordination costs, companies should not place too great an expectation on this approach. However, if the participants in a standardization activity come to recognize a patent pool as a future option, coordination may become easier. Companies should initiate negotiations with others for the creation of a patent pool if their future visions require such a facility.

### Abbreviations

•ANSI	American National Standards Institute
•CDMA	Code Division Multiple Access

•DVD	Digital Versatile Disc
•IEC	International Electrotechnical Commission
•IETF	Internet Engineering Task Force
•ISO	International Organization for Standardization
•ITU-T	International Telecommunication Union Telecommunication Standardization Sector
•MPEG	Moving Picture Experts Group

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