

THE TREND TOWARD COLLABORATION ACROSS INDUSTRIES AND REGIONS IN CORPORATE INTELLECTUAL PROPERTY STRATEGY

— THE IMPORTANCE OF INTELLECTUAL PROPERTY COORDINATORS IN STAYING AHEAD OF SOCIAL CHANGE —

Ryusuke Ishiguro

Intellectual Property Dept., Technology & Innovation Studies Div.
Mitsui & Co. Global Strategic Studies Institute

SUMMARY

- It has become difficult for a single company to complete a technological development alone, and the creation of new business requires collaboration across industries and with companies of different sizes. To achieve this, companies need a sophisticated intellectual property (IP) strategy that takes into account various social changes.
- Under such circumstances, patent pools, patent insurance, and trade secret management platforms are becoming trends in IP strategy, alongside the rise in disputes involving patents and trade secrets, as well as potential risks resulting from the fragmentation of the international community.
- Sogo Shosha (global investment and trading companies), which create business through internal and external collaboration, could be involved in the compilation and sharing of IP between companies. Many business opportunities exist in the IP industry, which will change in response to the business environment.

1. INTRODUCTION

Many business domains are seeing the emergence of products and services based on new technologies such as high-speed wireless communications, 3D printers, and VR. Examples include remote surgery in the medical field and automated driving and sharing in the mobility field. For the utilization of these technologies to create new businesses, there is a growing need for joint development and technological partnerships across industries and between companies of different sizes. This raises the significance of strategies for patents and other forms of IP. Companies will be required to consider strategies that allow for the impact of uncertainties caused by various social changes on IP.

2. IMPACT OF CHANGES IN THE BUSINESS ENVIRONMENT ON IP STRATEGY

As needs for products and services change due to technological progress, companies must also change their management strategies, including collaboration with other companies. IP is key to this response. In addition, the advancement of information and communication technology (ICT) has made it possible to collect large amounts of information and data, but the software and AI algorithms required to analyze it are often difficult to protect with patents; thus, it is crucial to protect these as trade secrets. The fragmentation of the world in recent years has also led to risks in cross-national cooperation, and strategies to respond to these risks are necessary.

2-1. Increasing licensing activity across industries and rising dispute risks

ICT has become a factor for differentiating products and services, and has come to be used in a wide range of business domains. Under these circumstances, support for standard essential patents (SEP) is important, as these are indispensable for standards defined by international standardization organizations. In the automotive

industry, technological innovation associated with the trend known as CASE (Connected, Autonomous, Shared, Electric) is progressing. It is estimated that the percentage of new vehicles equipped with modems for the 5G high-speed wireless communication standard will account for 47% in terms of volume and 60% in terms of revenue by 2029.¹ This has led to collaboration with the telecommunications industry, and notable major conflicts as a result (Figure 1). 5G communications are also expected to expand beyond the automotive industry, with some estimates suggesting that by 2035 the sales activity generated by 5G communications will reach \$13.2 trillion worldwide in industries such as manufacturing, information and communications, and wholesale and retail.² An increase is anticipated in ICT licensing transactions that create connections with products and services in other domains and enable new business models. At the same time, it will be necessary to consider measures that address the increased risk of disputes.

Figure 1 Collaborations and disputes between automotive companies and IT & telecommunications companies

Date	Overview of collaborations and disputes
March 2017	Microsoft (US) and Toyota (Japan) conclude patent license agreement related to connected cars
March 2020	Sharp (Japan) sues the Japanese subsidiary of Tesla (US) for infringement of wireless communication-related patents
October 2020	Sharp (Japan) and Daimler (Germany) conclude patent license agreement related to wireless communications
June 2021	Nokia (Finland) and Daimler (Germany) conclude patent license agreement related to wireless communications
July 2021	Huawei (China) and Volkswagen (Germany) conclude patent license agreement related to wireless communications
August 2021	Intellectual Ventures (US) sues Toyota (Japan), Honda (Japan), and GM (US) for patent infringement related to wireless communication
March 2022	Avanci (US) and Volkswagen (Germany) conclude patent license agreement related to wireless communications
May 2022	Avanci (US) concludes patent license agreement related to wireless communications with GM (US) and Ford (US)
August 2022	Avanci (US) concludes patent license agreement related to wireless communications with Hyundai (South Korea) and Kia (South Korea)
September 2022	Avanci (US) concludes patent license agreement related to wireless communications with Honda (Japan), Nissan (Japan), Toyota (Japan), Stellantis (Netherlands), and BMW (Germany)

Source: Compiled by MGSSI based on information from various sources

2-2. Importance of trade secret management and protection

Information and data are not subject to protection by patent. In addition, as noted above, inventions related to software and AI algorithms that process information and data are often kept secret without filing a patent application. This is because even if a patent is obtained, protection is challenging; for instance, infringement by others is difficult to prove. Therefore, it is important to properly protect trade secrets as IP in order to comprehensively protect products and services using information and data.

A trade secret consists of the three requirements shown in Figure 2, and if these requirements are met, information and know-how for which it is difficult to obtain rights can be protected. Unlike patent rights, there is no expiration date to a trade secret. If the information or know-how remains secret, it can be monopolized on a semi-permanent basis. However, once it is leaked, it allows competitors to access to it, resulting in damages. In Japan, two separate arrests have recently made headlines, involving individuals who illegally took data from their previous companies. One of them is a former president of a major restaurant chain operator, while the other is a former employee of a large general trading company. Throughout the world, there are many lawsuits seeking large damages and settlements for the leakage of trade secrets (Figure 3).

To protect their business, companies should focus on the management and protection of trade secrets in addition to the preservation of rights through patents and other means. However, as the economy becomes increasingly globalized and human resources become more mobile, companies should be mindful not only of information leaks by employees who move to competitors, but also of the legal implications of bringing in information when hiring new staff.

¹ 5G Connected Cars: A Transformative Value Proposition, Techinsights
(Last accessed: November 29, 2023. Same applies to all other links)

² The 5G Economy, How 5G will contribute to the global economy, IHS Markit

Figure 2 The three requirements for a trade secret

Requirement	Description
Confidentiality	The information must be managed as confidential. It is not enough to simply designate a document as “confidential” etc.; it is generally necessary to restrict access and take other measures to ensure that when the information is accessed, it is known to be confidential.
Usefulness	The information must be useful for business activities. The information must be technical or sales information, such as blueprints, manufacturing methods, manufacturing know-how, customer lists, supplier lists, sales manuals, etc.
Non-public knowledge	The information must not be known to the public. The information must not be known or readily available to general consumers, business partners, etc.

Source: Compiled by MGSSI from various sources

Figure 3 Recent cases and lawsuits related to trade secrets

Year	Summary of case or lawsuit
2014	Former employee of SanDisk (US), a partner company of Toshiba (Japan), arrested for leaking research data on Toshiba’s (Japan) semiconductor memory to SK hynix.
2017	Waymo (US) sues Uber (US) and its subsidiary Otto (US) for violation of trade secret protection law and patent infringement. Uber settles to pay for approximately \$245 million.
2019	Former employee arrested for illegally taking product data from ASICS (Japan). (Employee moved to another company in the same industry.)
2020	Motorola (US) sues Hytera Communications (China) for violation of trade secret protection law and copyright infringement. The judgment ordered Hytera to pay approximately \$760 million.
2020	Former employee of Sekisui Chemical (Japan) referred to prosecutors for leaking confidential information to the Chaozhou Three-Circle Group (China).
2021	Former employee arrested for illegally taking technical information on 5G from SoftBank (Japan). (Employee moved to Rakuten Mobile (Japan).)
2021	SK Innovation (South Korea) paid for approximately \$1.8 billion to settle a lawsuit filed by LG Chem (South Korea) in 2019 for trade secret infringement.
2022	Former president of Kappa Create (Japan) (operator of Kappa Sushi) arrested for illegally taking data from Zensho Holdings (Japan) (parent company of Hamazushi).
2022	Pegasystems (US) paid for approximately \$2.036 billion to settle a lawsuit filed by Appian (US) for misappropriation of trade secrets.
2023	Former employee of Sojitz (Japan) arrested for illegally taking data from Kanematsu (Japan), the previous employer.

Source: Compiled by MGSSI from various sources

2-3. Shift in China’s IP strategy due to US-China conflict

Since the US government banned the import and sale of telecommunications and other equipment from Chinese companies such as Huawei for security reasons, Chinese companies have found it difficult to sell their products in Western countries and have begun demanding patent licensing fees from companies in other countries and regions to secure revenue instead of product sales. Huawei, which owns many SEPs, had a revenue of approximately \$560 million from patent licensing in 2022.³ The company also reportedly demanded patent license fees from about 30 small and medium-sized Japanese companies.⁴ China is already the world leader in terms of the number of patents, and has set specific targets for achievement related to IP for 2025. The

³ Huawei “Huawei announces royalty rates for its patent license programs”

⁴ Nikkei, “Huawei Demands Patent Fees from Small and Medium-Sized Japanese Companies in Aftermath of US-China Conflict” [in Japanese] (June 17, 2023)

targets cover obtaining patents related to strategic emerging industries (energy conservation and environment, next-generation communication technologies, etc.), foreign patents, and international IP royalties (total of revenues and expenses). This will further increase the patent licensing activities of Huawei and other companies in the country and affect many business domains.

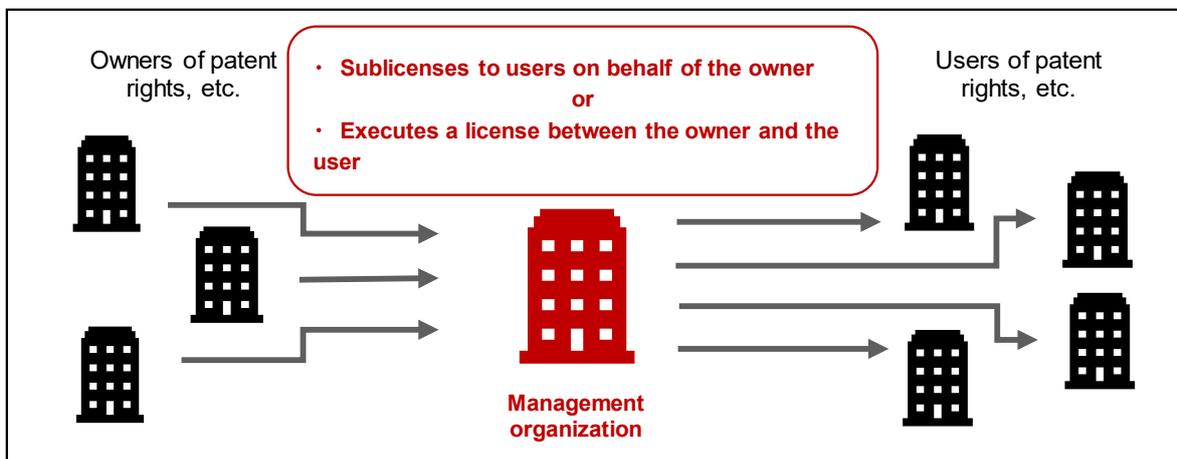
3. IP STRATEGIES REQUIRED MOVING FORWARD

3-1. Support for cross-industry licensing activities

3-1-1. Improved operational efficiency through patent pooling and patent NFTs

The use of patent pools (Figure 4), which provide licenses for patents through a specified management organization, is widespread, particularly for technical standards. Companies that offer licenses can efficiently collect license fees from multiple companies by delegating operations to patent pools. Licensees can receive licenses in a batch, resulting in greater operational efficiency for both parties.

Figure 4 Conceptual diagram of a patent pool



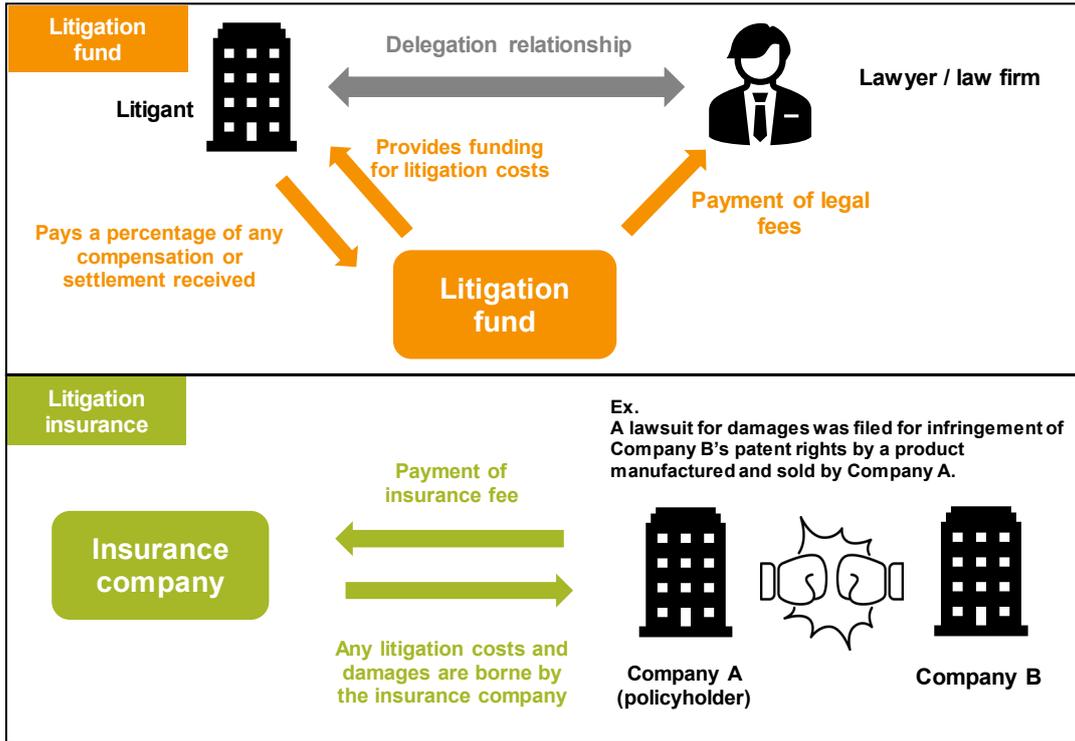
Source: Compiled by MGSSI from various sources

Business efficiency could also be improved through the use of non-fungible tokens (NFTs) or the like. NFTs are digital data with certificates of ownership and other rights managed on a blockchain. So far, they have been used mostly in the art and gaming industries. IPwe (US) is collaborating with IBM (US), Figure Technologies (US), and other partners to develop patent NFTs, build a trading platform, and offer related services. Such a mechanism is expected to facilitate the collection of information by disclosing transaction histories and other data, and increase the liquidity of patents through licensing, purchase and sales, and other transactions between companies. It is expected that the number of licensing agreements will increase not only between large companies, but also between small and medium-sized companies and between large and smaller companies, thereby promoting the use of such platforms in the future.

3-1-2. Use of patent litigation funds and litigation insurance

Patent litigation funds and litigation insurance (Figure 5) are used in developed countries, where legal fees and damages in the event of a loss are expensive. This reduces the risk of cost burdens and enables an aggressive litigation strategy. On the other hand, this mechanism will also enable small and medium-sized companies with limited financial resources to adopt an aggressive litigation strategy, which may lead to an increase in patent licensing negotiations and lawsuits. Companies will need to consider their strategies in light of this situation.

Figure 5 Structure of litigation fund/insurance

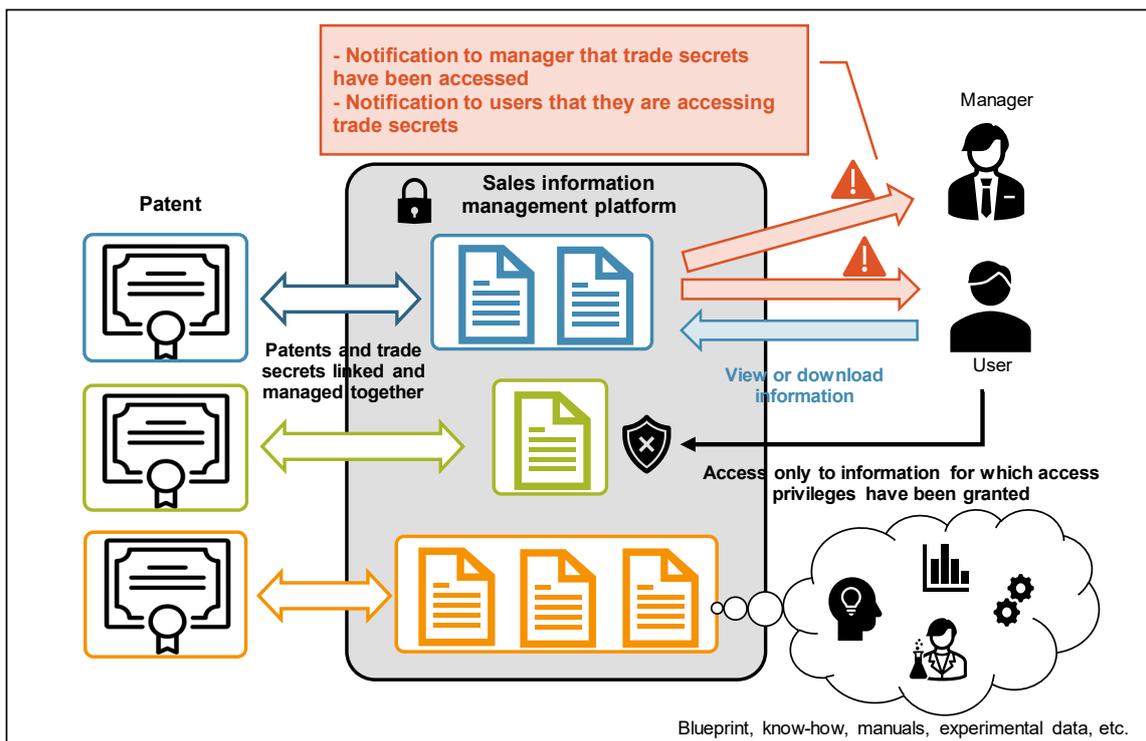


Source: Compiled by MGSSI from various sources

3-2. Trade secret management platform

As the importance of trade secrets grows, the management of such assets and preparation for disputes will be required moving forward. Tangibly (US) has launched a platform that enables the management of trade secrets such as contracts and confidential information. As shown in Figure 6, companies can protect both technical monopoly rights, such as patent rights, and trade secrets, which conceal know-how that is difficult to obtain rights for, by using such a management system. It leads to preventing other companies from imitating them and results in securing their business and technologies comprehensively. This strategy can be assumed to function

Figure 6 Example of trade secret management



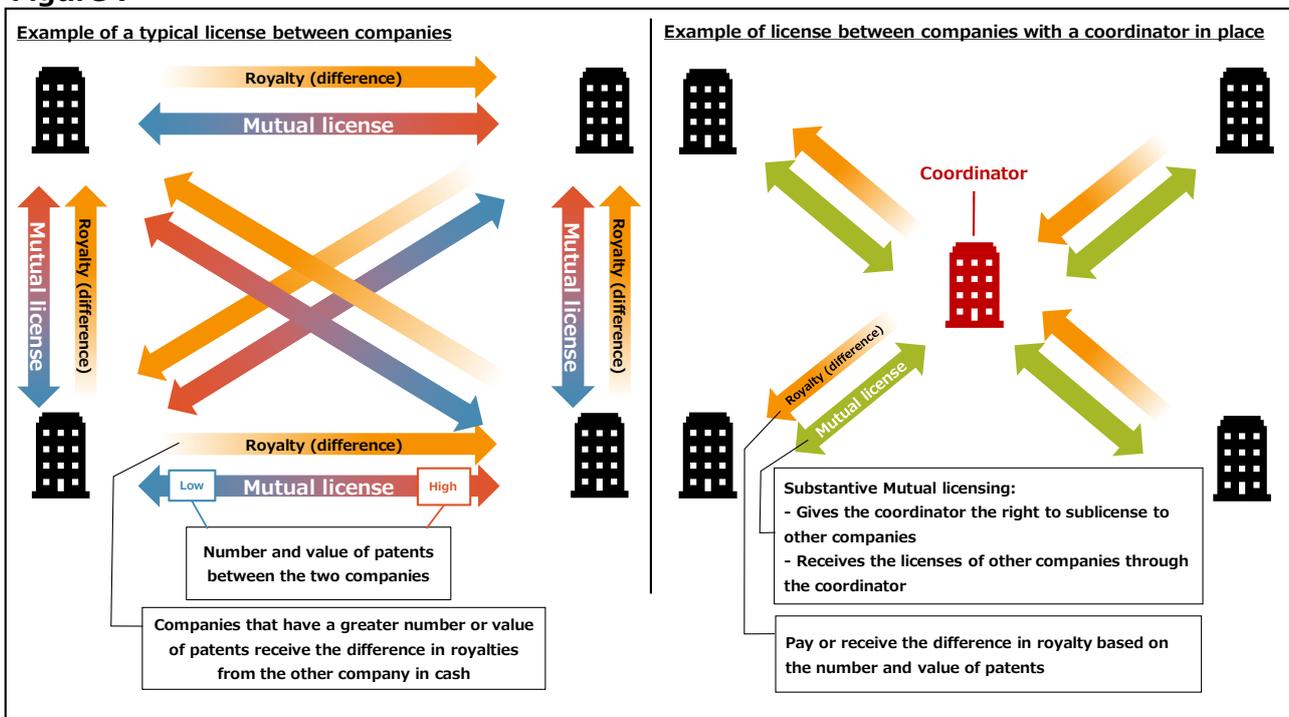
Source: Compiled by MGSSI from various sources

in countries where patent systems are not well developed and can be effective for companies in many countries and regions.

3-3. License agreements between multiple companies with coordinators in place

For technologies that are used universally, such as standardized technologies, the patent pools described above could improve operational efficiency. However, it is not only standardized technologies that require license agreements among multiple companies. Improvement of efficiency is also required for conventional license agreements negotiated between companies (Figure 7, left panel) for other technologies. The license agreement⁵ reported in January 2023 between Xiaomi (China), IP Bridge (Japan), Orange (France), and Siemens (Germany) streamlines negotiations between multiple companies through a coordinating company as shown in the right of Figure 7. This is a promising form of multi-company licensing, but in addition to having a presence in each technology and business area, the coordinator, who plays a central role, must have the ability to identify the essentials of new technologies used in multiple countries and the IP expertise to define licensing terms.

Figure 7



Source: Compiled by MGSSI from various sources

4. CONCLUSION

Companies are finding it increasingly difficult to complete technological developments on their own, and as a result, inter-company collaboration and disputes related to patents and trade secrets are increasing. In recent years, the potential risks in collaborating with companies in other countries have also increased due to the fragmentation of the world. Major changes are currently taking place that will impact corporate IP strategy, making it necessary to proactively utilize the corresponding IP business structure.

Expectations are high for players that are broadly involved in the supply chain to promote greater inter-company collaboration across countries and industries, and with partners of different sizes. Sogo Shosha, which creates business through internal and external collaboration, could be involved in the compilation of trade secrets and

⁵ CISION PR Newswire “Multiple Companies Join Together with Xiaomi to Resolve Patent Disputes Simultaneously and Allow Continued Innovation, Across Multiple Technologies”

other IPs of supply chain companies and the efficient sharing of such information. Outside of the supply chain, these global investment and trading companies could serve as licensing coordinators utilizing patent litigation funds and insurance. The IP industry offers numerous business opportunities that may evolve in response to the business environment.

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