
ARTICLES

Cooperative Research Agreements between National Universities and Industry*

The Third Subcommittee,
License Committee

(Abstract)

In this report, we present what should be kept in mind when private companies draw up terms of cooperative research agreements and sponsored research agreements with national universities. We focus on six major issues that will be discussed in agreement negotiations: (i) attribution and transfer of research achievements; (ii) costs for filing patent applications and maintaining patent rights; (iii) treatment of **patent right jointly owned by national universities and private companies** (exclusive license, licensing to a third party, payment of license fee); (iv) treatment of **patent right solely owned by national universities** (exclusive license, licensing to a third party, payment of license fee); (v) use of designated technology licensing organizations; and (vi) disclosure and confidentiality of research achievements.

This report addresses the discussion in FY2003, before national universities are incorporated.

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1. Introduction

National universities, which have been treated as kind of governmental organizations, will become incorporated bodies in April 2004.

Industry-university cooperation so far has been based on the “relationship between university teachers and private companies,” or “relationship between individuals and organizations.” However, through the institutional improvements in universities upon incorporation, such as the establishment of intellectual property headquarters in universities and the attribution of patents to universities, the future cooperation between industries and universities will be based on the “relationship between universities and companies,” or “relationship between organizations and organizations.” Conventionally, all national universities, as governmental organizations, have applied almost the same method for handling intellectual property, including research achievements arising from industry-university cooperation, whereas in the future, as a result of

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incorporation, individual national universities will have their original philosophy for handling intellectual property and publish their own intellectual property policy. Along with such changes in the circumstances, agreements to be made between companies and universities regarding the treatment of research achievements arising from industry-university cooperation, such as cooperative research agreements and sponsored research agreements, will be increasingly important, and whether or not companies and universities can build a win-win relationship will depend on the terms of such agreements.

In order to make industry-university cooperation productive, private companies need to secure their discretion to use research achievements arising from industry-university cooperation so that they will be able to use such achievements for their own business strategies. To this end, they should make flexible agreements with universities, setting terms of agreements through negotiations in light of specific circumstances.

However, cooperative research agreements and sponsored research agreements made between private companies and national universities so far have been rather pigeonholed by sample forms of the agreements provided by notifications of the Ministry of Education, Culture, Sports, Science and Technology (MEXT). Consequently, private companies have rarely succeeded in revising terms of agreements through negotiation as they desire, and in most cases, they have had no option but to draw up agreements according to such sample forms.

Today, with the incorporation of national universities close at hand, private companies seem to be very interested in concluding cooperative research agreements and sponsored research agreements with incorporated national universities, especially in terms of how to draw up terms of agreements on intellectual property and what companies can demand in agreement negotiations. Prior to starting negotiations with national universities, private companies need to develop their own policies on these issues.

With the aim of helping private companies negotiate and handle agreements with national universities, we discussed points of note when drawing up terms of agreements on intellectual property through agreement negotiation with national universities. In this report, we pre-

sent what should be kept in mind on such occasions.

In the course of the discussion, we conducted a survey on circumstances affecting national universities, including the scheme for independent administrative institutions, history of discussion on incorporation of national universities, and treatment of intellectual property by incorporated national universities. The survey results are presented in Chapter 2.

Next, using sample forms of the cooperative research agreement and sponsored research agreement (available on the website) proposed by the National Institute of Advanced Industrial Science and Technology (AIST), which had acquired the status of independent administrative institution prior to the incorporation of national universities, we analyzed and discussed terms of agreements on intellectual property, from the perspectives of why such terms of agreements were set and what problems they would cause to private companies. As a result of this analysis and discussion, we found six major issues that would be discussed in negotiations with national universities: (i) attribution and transfer of research achievements; (ii) costs for filing patent applications and maintaining patent rights; (iii) treatment of patents owned jointly with national universities (exclusive license, licensing to a third party, payment of license fee); (iv) treatment of patents owned by national universities independently (exclusive license, licensing to a third party, payment of license fee); (v) use of designated technology licensing organizations; and (vi) disclosure and confidentiality of research achievements. Based on our examination on these issues, we present what should be kept in mind upon negotiation in Chapter 3.

This report provides the outcome of the discussion at the Third Subcommittee, License Committee in FY2003, before the incorporation of national universities. It is written by the members of the Subcommittee: Shin'ichi MATSUMOTO (Nippon Telegraph and Telephone Corporation), Tomoyasu UCHIYAMA (DAINIPPON PRINTING CO., LTD.), Tatsuya KAWAJIRI (NIPPON SHOKUBAI CO., LTD.), Osamu KOIKE (Fuji Photo Film Co., Ltd.), Yasukazu SHIINA (The Furukawa Electric Co., Ltd.), Hideaki TORII (TOYOTA INDUSTRIES CORPORATION), Masahiro MINAMIGUCHI (Takeda Pharmaceutical Company Limited),

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2. National Universities

2.1 Independent administrative institution

One possible measure to reduce the volume and increase the efficiency of administrative functions is to entrust the private sector with such functions. However, because of their nature, some administrative services may not be suitable for being operated by private companies whose primary objective is to engage in economic activities under the principle of free competition. Independent administrative institutions are established as organizations engaging in providing “administrative services that need not necessarily be provided by the government but should be provided by exclusive or reliable entities so that

people’s living or other public interests will not be disturbed.” The objective of the scheme for independent administrative institutions is to encourage organizations engaging in providing such administrative services to voluntarily increase the efficiency and improve the quality of their services, and more specifically, to (i) achieve flexible financial management, (ii) achieve active and flexible organizational/ personnel management, (iii) set business goals and evaluate achievements thereof, and (iv) assure transparency through disclosure of business contents and operations.

The scheme for independent administrative institutions is established in accordance with the Basic Law on the Administrative Reform of the Central Government promulgated on June 12, 1998 (see Table 1 for the history of the discussion on the scheme), and independent administrative institutions are founded under the following relevant laws enacted thereafter (See Figure 1):

Table 1 History of the discussion on the scheme for independent administrative institutions

Date	Contents
1996	The establishment of a scheme for independent administrative institutions was proposed in the course of discussion at the Administrative Reform Council on how to reduce the volume and increase the efficiency of administrative functions.
June 1998	The policy for introducing the scheme for independent administrative institutions was adopted under the Basic Law on the Administrative Reform of the Central Government.
April 1999	The Policy for Promoting the Administrative Reform of the Central Government was adopted, and an overall framework of the scheme was decided under the General Law for Independent Administrative Institutions.
April 2001	57 independent administrative institutions were inaugurated (as of October 2003, there were 92 independent administrative institutions).

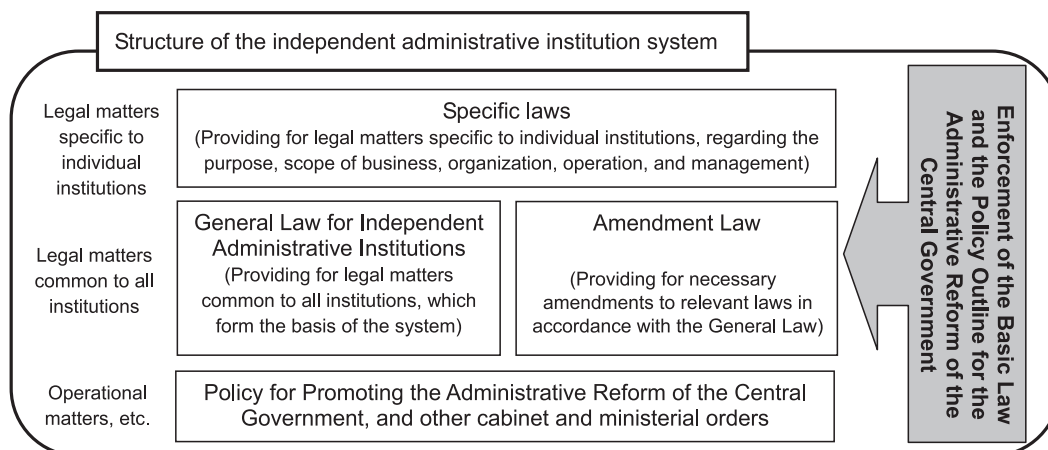


Figure 1 Structure of the scheme for independent administrative institutions

(i) the General Law for Independent Administrative Institutions, providing for operational matters and other matters common to all independent administrative institutions, which form the basis of the scheme;

(ii) specific laws, providing for matters specific to individual independent administrative institutions; and

(iii) the Policy for Promoting the Administrative Reform of the Central Government, and other cabinet and ministerial orders, providing for the outline and operational policy of the scheme for independent administrative institutions.

2.2 Incorporation of national universities

(1) Scheme for incorporated national universities

The incorporation of national universities is governed by the “Law for the Incorporation of National Universities,” which was enacted separately from the General Law for Independent Administrative Institutions, focusing on the nature of national universities. However, the provisions of the General Law apply *mutatis mutandis* to the basic framework of the scheme for incorporated national universities (Article 35 of the Law for Incorporation of National Universities).

Incorporated national universities are different from independent administrative institutions under the General Law, in the following respects.

(i) Incorporated national universities shall have external directors who participate in the management.

(ii) Individual universities may have an objective and reliable evaluation system of their own.

(iii) Consideration shall be paid to individuality and independence of universities when selecting their principals and setting medium-term goals.

The Law for the Incorporation of National Universities was promulgated on July 16, and put into force on October 1, 2003 (see Table 2 for the history of the discussion on the incorporation). This law has enabled individual universities to handle intellectual property more flexibly than before through independent management.

The outline of the law is as follows.

(i) National universities will obtain the status of juristic person (Article 6 of the Law for the Incorporation of National Universities), and become entitled to own research achievements.

(ii) The decision of whether or not to allow dual employment will be left to the discretion of universities.

(iii) Promotion of the utilization of research achievements will be explicitly included in the duties of national universities (Article 22(1) of the said law), enabling universities to actively engage in technology licensing activities in the course of performing their duties.

(iv) Equity participation in technology licensing organizations (TLOs) will also be regarded as one of the duties of national universities (Article 22(1)(vi) of the said law), encouraging universities to take flexible measures for technology licensing.

After the incorporation of national univer-

Table 2 History of the discussion on the scheme for incorporated national universities

Date	Contents
April 1999	Cabinet decision was made to discuss incorporation of national universities as independent administrative institutions, in the course of university reforms.
July 2000	The expert working group started discussion, including university officials as members.
March 2002	The expert working group compiled a report titled “Picture of Incorporated National Universities.”
November 2002	Cabinet decision was made to promote structural reforms of universities through incorporation.
February 2003	Six relevant bills were submitted to the Diet, including the bill for the incorporation of national universities.
July 2003	The Law for the Incorporation of National Universities was enacted (put into force in October).
April 2004	National universities will be incorporated.

sities, rights and obligations relating to national universities, which are currently held by the government, will be transferred to incorporated national universities (Article 9 of the Supplementary Provisions). Furthermore, adjustments for the institutional transition will be made under the Law for Amendments to Relevant Laws upon the Enforcement of the Law for the Incorporation of National Universities (promulgated on July 16, 2003, and put into force on April 1, 2004).

(2) Treatment of intellectual property by incorporated national universities

As mentioned above, the incorporation of national universities will bring notable results in terms of industry-university cooperation and treatment of intellectual property, i.e. attribution of intellectual property to universities, universities' discretion to allow dual employment (Article 22(1)(iii) of the Law for the Incorporation of National Universities), promotion of the utilization of research achievements regarded as one of the universities' duties (Article 22(1)(v) of the Law for the Incorporation of National Universities), universities' equity participation in TLOs (Article 22(1)(iv) of the Law for the Incorporation of National Universities), and establishment of university intellectual property headquarters. These results will impact the following factors.

(i) Evaluation of universities: Universities will be evaluated strictly on the basis of the number of patent applications and the management and evaluation of licensing income.

(ii) Disclosure of achievements: Research achievements will be disclosed at an early stage.

(iii) Relationship between university intellectual property headquarters and TLOs: The relationship and role-sharing between them will be required to be clarified.

As for the impact on patent fees, universities should prepare for the possibility that the partial amendment of the Patent Law, etc. (regarding reduction and exemption of annual fees, etc.) will increase their patent-related costs.

Conventionally, national universities have been regarded as governmental organizations and therefore exempted from paying annual fees, etc. (Section 107(2) to (4) of the Patent Law before amendment). However, in accordance with the Law for Partial Amendment of the Patent

Law, Etc. (Law No. 47 of 2003; put into force on April 1, 2004), incorporated national universities will be subject to a uniform system for reduction and exemption of annual fees, etc. under the Law for Strengthening Industrial Technological Capabilities, which applies to R&D-related independent administrative institutes and public research institutes.

Under the new uniform system, the following measures shall be taken for reduction and exemption of fees.

(i) Annual patent fees (from the first to third year) and fees for request for examination shall be reduced by half respectively (Article 16 of the Law for Strengthening Industrial Technological Capabilities).

(ii) In the case where two or more persons jointly own a patent right and one of them is entitled to reduction and exemption of annual fees, all such persons shall be entitled to reduction and exemption according to such entitled person's share of the right (Section 107(3) of the Patent Law).

As a measure for the transition to the new system, the provisions on exemption under the old system shall continue to be applicable to patent applications filed by March 31, 2007 (Article 3 of the Law for Strengthening Industrial Technological Capabilities).

3. Term of Agreements with National Universities

3.1 Attribution and transfer of research achievements

(1) Agreements made with national universities prior to incorporation

i) Cooperative research projects

Prior to incorporation, a national university's share of an intellectual property right arising from a cooperative research project has been attributed to the government (the national university) or researchers (inventors) who belong to the national university. The government has been entitled to own inventions created as a result of research projects funded by the government and those created as a result of research projects conducted by using special large research facilities that are established by the government for special research purposes,

such as nuclear reactors, nuclear fusion reactors, nuclear accelerators.

In the conventional sample form of the cooperative research agreement provided by MEXT, where an application is filed to obtain an intellectual property right for an achievement made in a cooperative research project, the relevant procedures shall be performed as follows.

(i) If a researcher who belongs to the national university or private company has made the invention independently, the researcher shall own the invention independently, and may, with prior consent of the other party to the project, file a patent application and perform other procedures independently. (ii) If a researcher who belongs to the national university and another researcher who belongs to the private company have jointly made the invention, they shall file a patent application and perform other procedures jointly, through consultation on the shares between the owners of the intellectual property right, i.e. the government (the national university) or the researcher who belongs to the national university, and the private company, and in accordance with a joint application agreement made separately.

As for the transfer of share, the government (the national university) may transfer its share of the right to obtain a patent or jointly-owned patent right or grant an exclusive license thereon, to the other party to the project (the private company) or any other person designated through consultation between the parties.

ii) Sponsored research projects

In the conventional sample form of sponsored research agreement provided by MEXT, research achievements made in a sponsored research project undertaken by the government (the national university) shall be attributed to the national university as the undertaking party or researcher concerned who belongs to the national university. If research achievements are attributed to the government, the government may transfer up to a half of its share of the right to the other party (private company). If research achievements are attributed to the researcher, the researcher may also transfer his right to the private company.

Research achievements that can be regarded as know-how shall be designated immediately and kept confidential for a specified period.

(2) When making agreements with national universities

It is important for private companies to acquire research achievements and rights arising therefrom that can cover research costs they have invested, and they choose cooperative research or sponsored research depending on such cost effect.

In the case of a sponsored research project undertaken by a national university, if the principle of the Patent Law were applied, all rights arising from the research project would be attributed to the researchers or the national university as the undertaking party. However, consideration should be given to the private company that has made financial contributions (paid research costs), in the form of the transfer of a patent right or granting of an exclusive license thereon to the company at a reasonable price.

When a private company intends to commercialize research achievements, the company also needs to obtain patent rights overseas. Depending on the nature of the invention, applications should be filed in more than ten countries, requiring a large amount of costs for filing foreign applications and maintaining foreign patents. In such case, it would be difficult for the national university (the undertaking party) to pay such large costs to obtain and maintain patent rights in many countries on behalf of the private company (the sponsor). One practically possible measure may be to lay down a flexible agreement under which the national university will positively transfer its rights to the private company on the condition that the company shall pay all costs for filing foreign patent applications and obtaining and maintaining foreign patent rights.

In the case of a cooperative research project, in particular, the parties should have enough of a discussion in advance on the scope of research to be conducted independently by each party and the scope of research to be conducted jointly by both parties, and come to an agreement not only on each party's share of jointly-made research achievements according to the party's contribution thereto, but also on the sharing or transfer of rights in respect of research achievements to be made independently by each party by using information or knowledge obtained from the other party, while giving consideration to the duty of confidentiality.

Practices relating to the attribution or ownership of intellectual property rights are being established, whereas raw research materials such as research data and test samples, from which intellectual property rights are created, are often placed under the control of the researchers concerned. In order to promote effective utilization of research achievements, it will be necessary to clarify the management and attribution of such research materials.

3.2 Costs for filing applications and maintaining rights

Basically, the burden of procedures and costs for filing patent applications and maintaining patent rights should be paid by those who are entitled to own the patent rights. This section focuses on cases where patents are jointly owned by a national university and a private company and conflicts may occur in terms of burden-sharing.

When discussing how to share the burden of procedures and costs for filing patent applications and maintaining patent rights between the national university and the private company, the following points should be taken into consideration:

(i) Whether or not the national university has enough experience and money in their budget for filing patent applications and performing other procedures;

(ii) Whether or not the private company's standards for determining the necessity to file patent applications and obtain and maintain patent rights are different from those of the national university (the private company is likely to deny the necessity to file patent applications or obtain or maintain patent rights for inventions that are not related to its business or will not make much profit; in such case, the question is whether or not the national university determines the necessity to file patent applications and obtain and maintain patent rights in consideration of the company's benefit);

(iii) What benefits the private company can enjoy in exchange for paying all costs (this issue should be considered in light of not only the amount of costs but also the balance between rights and obligations and future benefits under the agreement).

A detailed discussion on these issues is

presented below.

(1) Persons in charge of filing applications and obtaining rights

Recently, universities have established their own intellectual property departments or developed cooperation with TLOs and other external organizations for the purpose of ensuring the management and enforcement of patent rights. They will hope to perform procedures for filing applications and obtaining and maintaining rights by themselves. However, when national universities perform such procedures, concerns would be raised as to whether or not they will perform the procedures as appropriate, successfully obtain rights as expected, and give consideration to the benefits of private companies in the course of obtaining and maintaining rights (e.g. making amendments to patent claims). Private companies should make arrangements in advance so that they will be able to participate in each phase of the procedures as necessary, by requiring prior or ex-post notice from national universities or retaining veto power. It is also recommended that private companies examine the contents of patent specifications before filing applications, if possible, so that they can obtain more useful patent rights. Especially when filing applications in foreign countries, it is necessary to select and use patent firms that are well versed in the procedures in individual countries. Therefore, in order to achieve satisfactory results, private companies should actively take part in the selection process.

(2) In the case where private companies pay all costs for filing applications and obtaining and maintaining rights

In principle, costs for filing applications and obtaining and maintaining rights shall be paid by the owners of the patent rights according to their shares. There are no special reasons to oppose this principle. In cases where a national university and a private company jointly own a patent right, the company shall also be entitled to reduction and exemption of fees, and therefore shall have to pay only half of the ordinary amount of fees (See 2.2(2)).

However, if the national university cannot afford to pay its share of costs, the private company might be requested to pay all costs, irrespective of the rate of share of the right. Such re-

quest cannot always be deemed to be disadvantageous to the private company if the company can enjoy other benefits in exchange for paying all costs. More specifically, the company may enjoy the following benefits:

(i) receiving more license fees from third parties along with the increase in the company's share of the right;

(ii) restricting the national university's power of licensing;

(iii) obtaining an exclusive license under more favorable conditions;

(iv) being exempt from paying compensation for non-working or other fees to the national university.

For details of individual benefits mentioned above, see the corresponding sections in this report. It should be noted that it is inappropriate to treat foreign applications in the same manner as treating domestic applications, because the amount of costs for foreign procedures is often several times larger than that for domestic procedures. Because of expectations for earning income from license fees, national universities often do not consider, as carefully as private companies do, what benefits will arise from obtaining patent rights. In the case where the private company is to pay all costs for filing applications and obtaining and maintaining rights, the national university will be more likely to earn income from license fees as more patent applications are filed, without paying such costs, part of the few costs that should have been required of the national university. Therefore, the private company should, even if it has agreed to pay all costs for domestic procedures, carefully determine whether to pay all costs for foreign procedures as well or to take different measures for foreign applications, having considered whether the company is authorized to decide the country where patent application will be filed and in what manner such decision will be made.

3.3 Patent right jointly owned by national universities and private companies

(1) Exclusive license

For a long time, universities seemed to have been careful about granting an exclusive license on their patents to particular private companies that are joint owners of such patents. However, on June 27, 2002, amendment was

made to the "Guidelines for Implementation of Specified Projects for Technology Licensing from Universities to the Private Sector" (provided by MEXT), encouraging universities to "actively transfer their rights and grant an exclusive license thereon," and the incorporation of national universities will accelerate this trend and promote the granting of exclusive license. Furthermore, under Article 30 of the Law on Special Measures for Industrial Revitalization (Japanese version of Bayh-Dole provision), the government shall not be entitled to own patent rights arising from government-funded research projects so that the private companies shall own such rights. In this respect, there seem to be no reasonable grounds to prevent national universities from granting an exclusive license on their patents to the private companies that are joint owners of such patents, as long as the granting of such license would not impair public interest.

However, national universities would still be careful about granting an exclusive license instead of a non-exclusive license because they hope to provide their research achievements to society as a whole through licensing. Consequently, national universities are likely to set certain conditions when making agreements for granting an exclusive license based on patents that they own jointly. For instance, the sample form of the cooperative research agreement proposed by AIST includes the following provision on the cancellation of an exclusive license: the granting of an exclusive license shall be cancelled if "the licensee fails to work the licensed invention during the period of exclusive license or fails to submit a specific plan for commercially working the licensed invention before the expiration of such period." However, as is often the case, it takes more than ten years to achieve commercialization of the licensed invention, so it is not always possible to work the licensed invention within the period that the exclusive license was initially designated. In this respect, due consideration should be given to the cancellation of the granting of an exclusive license under such circumstances.

(2) Licensing to a third party

Conflicts may occur between the national university and the private company involved in a cooperative research project, regarding whether or not to grant a license to a third party. For in-

stance, the sample form of the cooperative research agreement proposed by AIST includes the following provision: where a third party makes a request for the granting of a non-exclusive license, consent shall be given in writing for the granting of license unless there are reasonable grounds (on the part of the private company) to reject such request. In this case, it is necessary to clarify whether or not such “reasonable grounds” include the company’s market strategy or business interest.

(3) Payment of license fees for jointly-owned patents

In the sample form of the cooperative research agreement provided by MEXT, where a national university and a private company jointly own a patent right and the company independently works the patented invention, the company shall pay license fees or compensation for non-working to the university. The notification given by MEXT also states that where the government and a private entity jointly own a patent right and the private entity independently works the patented invention, a licensing agreement shall be made and license fees shall be collected from the private entity. If, upon incorporation, national universities are more strictly required to make achievements, they will strongly demand license fees from private companies in respect of patents owned jointly with such companies, with the aim of raising more research

funds or giving more incentives to researchers. Nevertheless, if national universities and private companies can develop collaborative relationships based on more flexible ideas, without being constrained by a uniform terms of agreement, they will be able to come to agreements that are more satisfactory for both parties.

In the case where a university and a company come to an agreement with each other, losses and gains of each party should be balanced in a manner that is satisfactory for both parties. For better understanding, the measures for commercialization (investments) are shown in Table 3, and each party’s expectations for collaborative relationship (returns) are shown in Table 4.

In terms of investments (Table 3), the university and the company may have different views depending on which party is considered by each party to bear larger costs for each phase or for the overall process. In terms of returns, both parties have common interests in conducting new research projects and using research achievements for new businesses. However, there is a mismatch in respect of license fees, because the university expects to receive license fees from the company whereas the company hopes to avoid paying license fees in order to reduce costs. Another mismatch can be seen in respect of the utilization of research achievements, because the university intends to disclose achievements so that they will be widely used in

Table 3 Measures for commercialization (investments)

Phase	National universities	Private companies	Note
1st	Basic research	Marketing for commercialization	Each party takes measures based on its own decision and at its own expense.
2nd	Cooperative research	Cooperative research	Both parties share expenses equally.
3rd		Commercialization	Companies take risk for commercialization.

Table 4 Expectations for collaborative relationship (returns) (and measures to be taken therefor)

National universities	Private companies
- Provide achievements to society as a whole ⇒ Provide achievements to society through activities of private companies	- Launch new businesses ⇒ Acquire innovative technologies
- Receive higher evaluation through creative research activities ⇒ Disclose achievements through presentation of research papers for public appraisal	- Create a more favorable environment for their businesses ⇒ Gain an advantage over competitors and reduce business costs
- Reduce research costs ⇒ Receive research funds and license fees from private companies	- Reduce research costs ⇒ Reduce costs through cooperation with universities

society whereas the company desires to exclude competitors from using achievements so as to create a more favorable environment for its business. In light of the positions of both parties, the following arguments may be made regarding payment of license fees.

National universities may argue that they pay a large amount of research costs in the phase of basic research on behalf of private companies. Since national universities raise research funds from taxes, they are responsible for providing research achievements to society as a whole by enabling as many private companies as possible to work the licensed inventions. In this respect, it is reasonable for the universities to collect returns from the companies in some way, because the companies make profits by working the inventions created in tax-supported basic research projects. National universities may also argue that, considering that only particular private companies that exclusively use research achievements can exclusively make profits, it is still more reasonable for universities that do not use the achievements to require license fees from such companies. From another perspective, national universities seem to expect to pay incentives to their researchers from licensing income so as to promote creative research activities.

On the other hand, private companies show strong resistance to paying license fees for patents that they own jointly. This is a very important point, but we proceed without further discussing this point because we will not be able to reach a conclusion. Basically, it may be reasonable for national universities and private companies to share returns according to their risk sharing. When research projects are completed, universities gain some research achievements such as research papers, irrespective of whether such achievements will lead to commercialization, whereas companies do not benefit from research projects unless research achievements lead to commercialization and profits. Especially in the case of developing products with the use of new technologies, companies often cannot commercialize the products or collect returns from accumulative investments. Even if they finally succeed in commercialization, they usually have to go through the loss-making period until their business turns profitable. In light of such commercialization process, it can be said that companies are required to take

too much risk by paying license fees irrespective of whether or not commercialization succeeds. In any event, there is no doubt that if companies pay license fees before collecting returns from accumulative investments, such payment will further put pressure on their profits and adversely affect the commercialization process. Universities argue that they also take risks in the phase of basic research. Although this argument is understandable, it should be taken into consideration that universities could independently obtain patents for research achievements and independently earn income from license fees for such patents. If patents cannot be obtained, it means that the universities cannot explain the purposes for which the inventions are intended and underestimate the value of information provided by the companies.

In order to draw a constructive conclusion for such conflict of opinions between universities and companies, each party should relinquish part of its claims instead of attempting to make the other party accept all its claims. Companies expect universities to understand that they need to collect returns from accumulative investments and they take much risk for commercialization. On the other hand, companies should consider providing universities with part of the profits earned from accumulative investments. There may be various terms of agreement and it is possible to combine such terms. Typical examples of terms of agreement are shown below.

[Example 1] The private company shall not be required to pay license fees for the patent right that it owns jointly with the national university, but shall be required to pay all costs for obtaining rights.

The most desirable term for the company is that it is exempted from paying license fees. Exemption from license fees will encourage the company to have a collaborative relationship with the university. This will ultimately achieve the primary goal of the university, i.e. providing research achievements to society. If it were necessary to lay down an agreement that seems to be more advantageous for the university, a possible measure would be to require the company to pay all costs for obtaining rights.

[Example 2] The private company shall not be required to pay license fees for the patent

right that it owns jointly with the national university, and the national university shall have discretion to disclose research achievements.

Under this term, the university can accomplish its mission of disclosing research achievements whereas the company can make profits easily because of exemption from license fees. If patent applications are to be filed prior to disclosure, the company will be required to pay all costs for obtaining rights as in Example 1.

[Example 3] The private company shall not be required to pay license fees for the patent right that it owns jointly with the national university, and each party may grant a license to a third party.

Each party may grant a license to a third party at its own discretion after the expiration of a certain period. By the end of the designated period, the company can collect enough returns from investments to cover their risks, and after the expiration of the period, both parties can earn income from license fees according to their shares of the right. Research achievements can be provided to society as a whole if they are made available to a third party.

[Example 4] The private company shall be required to pay license fees for the patent right that it owns jointly with the national university, according to the changing rate of fees.

The rate of license fees is set at a low level at the beginning of the business and it will be changed as time goes by. Another possible measure is to change the rate of fees depending on the sales volume instead of time (e.g. the rate is set at a low level when the sales volume is small, and it will be raised as the sales volume increases). The company initially minimizes the impact of license fees on its business and subsequently increases the amount of profits to be provided to the university, as the business turns stable and profitable. In light of the recent business environment where low-profitability businesses are discontinued at an early stage, it seems to be effective in terms of commercialization to set the initial rate of license fees at 0%, though this may be accepted only in special cases.

[Example 5] The private company shall be or shall not be required to pay license fees for the patent right that it owns jointly with the national university, depending on conditions.

The company shall be required to pay license fees if it is granted an exclusive license, and shall be exempted from license fees if a license is granted to a third party. Where an exclusive license is granted to the company, the university can receive license fees from the company. Where a license is granted to a third party, the university can receive license fees from such third party, and therefore the company will not be required to pay license fees.

In relation to the typical examples of terms of agreement mentioned above, the following points should also be taken into consideration when the company seeks to relinquish the patent right that it owns jointly with the national university.

Even though a private company currently works the invention relating to a patent right that it owns jointly with a national university or will surely work such invention in the future, the company may seek to withdraw the patent application or relinquish the patent right from the perspective of cost effectiveness. In such case, however, the patent application or the patent right continues to exist if the national university seeks to maintain it, which will raise a problem when the company continues to work the invention. If the university adopts the policy of requiring license fees from a company in respect of the patent right owned jointly with such company, the university is likely to require license fees even in the case where the company withdraws the patent application or relinquishes the patent right from the perspective of cost effectiveness. In other words, once the private company agrees to file a patent application, the company would have no choice but to follow the national university until the university decides to withdraw the application or relinquish the patent right. Consequently, while negotiating with national universities on the payment of license fees, companies should also deliberately consider terms of agreement so that they can retain discretion to decide to withdraw patent applications or relinquish patent rights upon the filing of applications, and to acquire the right to work patented inventions

free of charge or the guarantee for non-enforcement of patent rights in the case where they seek withdrawal or relinquishment.

3.4 Patent right solely owned by national universities

This section addresses cases where national universities own patents independently for research achievements made in sponsored research projects sponsored by private companies.

(1) Exclusive license

In the sample form of sponsored research agreement provided by MEXT, in cases where a private company sponsored a research project and a national university undertook the project, the company was conventionally given priority for working the invention that was made in the research project and for which the national university owned a patent independently. Recently, however, it has become possible for the national university to grant an exclusive license to the private company if the company seeks to obtain it and no problems would be caused.

In the future, with the aim of increasing licensing income, national universities will deliberately consider whether to grant an exclusive license to private companies or to retain the option of granting license to a third party.

For instance, in the sample form of sponsored research agreement proposed by AIST, the national university may grant an exclusive license to the private company, but in cases where the company fails to work the patented invention without good reasons or the granting of an exclusive license would impair public interest, the national university may cancel the granting of the exclusive license and grant a license to a third party.

It is understandable for national universities, which usually serve as public bodies, to consider whether or not the granting of an exclusive license will contribute to public interest, and it is also understandable for them to hope to earn licensing income as expected if they are to be evaluated as corporations in terms of profitability. The issue of profitability is also taken into consideration in the case where a private company grants an exclusive license to another private company. In this case, the licensor often obliges the licensee to make efforts to promote

development and maximize sales, and in the event of breach of obligation, the licensor changes the exclusive license to a non-exclusive license.

On the other hand, as private companies sponsor research projects with the intention of obtaining an exclusive license on research achievements, they cannot significantly benefit from sponsorship if a license is granted to a third party.

In conclusion, although it is inevitable for an exclusive license to be granted under certain conditions and it cannot be granted in some cases, it is necessary to clarify in what cases an exclusive license cannot be granted to the extent that private companies can predict such cases. In this respect, a possible measure would be to enable the private company to retain the exclusive license as long as it pays a minimum royalty, or to require the national university to provide sufficient proof that the granting of an exclusive license would impair public interest.

(2) License to a third party

See (1) above for the problems that may occur in cases where the national university grants a license to a third party, without granting an exclusive license to the private company.

Where a national university grants a third party a license on a patent right that the university independently owns, it would be difficult for the private company that sponsored the research project to demand that the university obtain prior consent from the company or share licensing income with the company. The sample form of sponsored research agreement proposed by AIST does not include provisions based on which the company can make such demand.

However, the private company cannot significantly benefit from sponsorship, if the national university grants an exclusive license to a third party instead of the private company because the company initially did not request it, making the company no longer able to obtain it, or if the private company can obtain a license only under unfavorable conditions compared to the third party licensee.

Even though it is impossible to completely preclude the possibility that the national university will grant a license to a third party, if the private company seeks to obtain a license, measures should be taken to ensure at least that

the conditions for granting a license to the company will not be unfavorable compared to those for granting a license to a third party.

(3) Payment of license fees

In the sample form of sponsored research agreement provided by MEXT, in cases where the private company works the invention relating to the patent right owned independently by the national university, the company shall pay "license fees as provided separately by a license agreement."

National universities have started developing schemes for making profits through the management and enforcement of patent rights that will be basically attributed to the universities upon incorporation. Therefore, the provision on the payment of license fees mentioned above will possibly become more important but will never be deleted.

The sample form of sponsored research agreement proposed by AIST also includes a provision that license fees shall be paid in accordance with a license agreement.

It seems reasonable for the private company to pay license fees for a patent right that is owned independently by the national university. However, there have been arguments against such provision on the payment of license fees, e.g. it is questionable to require the company that sponsored a research project to pay license fees for a patent arising from the project.

The national university requires license fees from the private company for the following reasons. (A) If research achievements can generate returns in the form of license fees, it would encourage researchers to make further achievements. (B) The university can earn licensing income by managing its technological assets and use such income as funds for conducting further research projects and making more achievements or at least for covering costs for obtaining or maintaining patents. (C) In the course of making research achievements, it is indeed that the company has made financial contributions, but intellectual assets that the university accumulated in the past have also made great contributions.

On the other hand, the private company intends to commercially use research achievements according to its own business strategies. Therefore, although the sample form provided

by MEXT is favorable in that it clearly provides that the company shall be entitled to use research achievements (under a licensing agreement), the company may argue as follows. (i) It is unreasonable to require the company to pay license fees in addition to research funds under sponsorship. (ii) The company cannot decide whether or not to sponsor research projects if it cannot estimate the amount of license fees, should license fees be required at all. (iii) If the amount of license fees required from the company is as large as that required from a third party, it would significantly discourage the company from sponsoring research projects.

In light of the circumstances and needs of both parties, we would like to propose the following scheme for determining whether or not to require licensing fees from the private company. Where intellectual assets that the university accumulated prior to the research project have made contributions to making research achievements, the private company shall pay license fees at a certain rate, which satisfies the condition mentioned in the next paragraph. Where there are no such circumstances, the private company shall not be required to pay license fees on the condition that the company should pay part or all of the costs for maintaining the patent concerned. As mentioned in (C) above, it can be deemed to be reasonable to require the private company to pay license fees where the university's intellectual assets have made contributions to making research achievements. On the other hand, if there are no such circumstances, the private company shall not be required to pay license fees, as mentioned in (i) above. Such exemption from license fees seems to be acceptable for the university, because the university can accomplish its goal of making social contributions by providing research achievements for commercialization, and the private company shall pay at least part of the costs for maintaining the patent concerned, which satisfies the university's need mentioned in (B) above.

However, in light of the private company's needs mentioned in (ii) and (iii) above, it is recommended to indicate the method for calculating the rate applicable to an ordinary licensee¹⁾, and clearly set the rate of license fees under the proposed scheme so as to satisfy the condition that the rate applicable to the private

company should be lower than, or more specifically, half of such rate applicable to an ordinary licensee²⁾. Because flexible arrangements are desired depending on circumstances to deal with the issue of license fees, it is impossible to propose other terms of agreement relating to license fees that can be uniformly applicable. Nevertheless, the following measures may be applicable in some cases. (1) Where the product to be commercialized is an innovative product, the profit rate tends to be low at the initial phase of commercialization due to huge investment costs; in such case, it would be appropriate to set a variable royalty rate that will rise along with the increase in sales volume. (2) Where the company seeks to have an exclusive license, the university requires the company to pay not only license fees at a rate higher than the rate for non-exclusive license, but also a certain amount of minimum royalty or costs for maintaining the patent concerned. (3) Unless both parties agree that license fees will be paid as an initial payment, such fees should be generally paid as a running royalty under the principle of "paying fees for the working of the patented invention under the license." However, where the university has to bear a large amount of costs for filing foreign applications at the request of the private company, the university can require such costs as an initial payment and further require license fees as a running royalty.

3.5 Designated technology licensing organizations

In the conventional sample form of the cooperative research agreement provided by MEXT, where a national university and a private company jointly own a patent right, the university may transfer its share of the right or grant an exclusive license thereon to the company or a person designated by both parties through consultation. Technology licensing organizations (TLOs) are considered to fall under the category of such "person designated by both parties through consultation," but the conventional sample form does not include other provisions that directly refer to TLOs.

Upon incorporation, national universities will become entitled to own intellectual property such as patents arising from cooperative research projects, and therefore they will have to

deal with more patents than before. National universities will also have to manage costs for filing patent applications and maintaining patent rights, which have conventionally been managed by the government. Furthermore, as individual universities will be evaluated in terms of their efforts to diffuse research achievements, they will actively engage in licensing of their intellectual property. In the future, while national universities will deal with the affairs for the management and utilization of intellectual property through their intellectual property headquarters, they will also entrust TLOs with such affairs more frequently. In this case, when carrying out negotiations for cooperative research agreements with private companies, national universities may request prior consent for the use of TLOs from the companies.

For instance, the sample form of the cooperative research agreement proposed by AIST includes the following provision on the use of a designated TLO for the management of intellectual property rights owned jointly between AIST and a private company: The company shall, at the request of AIST,...agree to AIST using the designated TLO, and AIST and the company shall agree in writing to AIST and the company granting an exclusive license or non-exclusive license on the right or transferring of part or all of AIST's share of the right to the designated TLO.

AIST uses AIST Innovations, a certified TLO, for licensing. AIST seems to have included the provision shown above in the sample form with the intention of reaching an agreement with the company for the use of the designated TLO in the phase of concluding a cooperative research agreement. When entrusting the designated TLO with the utilization of an intellectual property right, AIST shall consult with the company to choose to grant an exclusive license or non-exclusive license on the right or transfer AIST's share of the right to the TLO.

Private companies will be concerned about the change of the other party to license agreements relating to patents, from the national universities with which they have engaged in cooperative research projects and own the patents jointly, to TLOs. However, they will more frequently allow national universities to use designated TLOs for negotiating license agreements.

In the case where a national university

and a private company intend to grant a license on their jointly-owned patent to a third party, various circumstances will decide which joint owner will take the initiative in the license negotiation. For instance, if the company desires strategic licensing with the aim of expanding its market share and has already chosen the licensee, the company may seek to directly carry out the licensing negotiation. On the other hand, if there is the need to find an appropriate licensee for the purpose of promoting the utilization of the patented invention, it will be more effective to entrust a TLO with the licensing negotiation. Where the national university intends to grant a license on the jointly-owned patent right together with another patent right owned by the university independently, the university may entrust a TLO with the licensing negotiation. On the other hand, in the case where the licensing involves a patent right owned by the company independently, the company may carry out the negotiation. The TLO will be entrusted with the licensing negotiation for different purposes (grant an exclusive license or non-exclusive license on the jointly-owned patent right or transfer the university's share of the right) depending on the circumstances. The objective or importance of the ownership of the patent right for both parties and the intention of working the patented invention will also affect the use of a TLO.

Consequently, if the national university seeks to use a designated TLO, the private company should make flexible arrangements so as to retain discretion for the utilization of the right, rather than deciding, in the phase of concluding a cooperative research agreement, whether or not to entrust the TLO with the management of the company's share of the right.

In the case of using a TLO, it will be necessary to clearly provide for the handling of confidential information by the TLO under a cooperative research agreement.

3.6 Disclosure and confidentiality of research achievements

The final topic is how to lay down provisions on confidentiality. Cooperative research agreements and sponsored research agreements include confidentiality provisions regarding (i) the management of information disclosed by the

other party and (ii) disclosure of research achievements. As for (i), both private companies and national universities basically recognize the necessity of information management, and this issue has rarely been discussed in agreement negotiations, though adjustments have been required with regard to specific management methods. However, as TLOs are more frequently used for negotiations, conflicts are expected to occur with regard to the methods of providing and receiving confidential information, the scope of information to be disclosed to TLOs, and the person responsible for the management of confidential information.

On the other hand, as for (ii), private companies and national universities basically have different views, and therefore this has frequently become a point of issue. Private companies, regarding research achievements as seeds of business, consider that they should be disclosed at an appropriate time and within an appropriate range according to commercialization plans, whereas national universities consider that they should perform their duty of disclosing and diffusing research achievements to society at an early stage. Promotion of the utilization of research achievements will be explicitly included in the duties of incorporate national universities (Article 22(1)(v) of the Law for the Incorporation of National Universities), and also included in the scope of affairs to be evaluated by the evaluation committee. In the future, national universities will request early disclosure of research achievements more strongly than ever.

In this respect, the National Institute of Advanced Industrial Science and Technology (AIST), which is established for the purpose of diffusing research achievements as national universities and has already become an independent administrative institution, may be a useful example. In the sample form of sponsored research agreement proposed by AIST, research achievements should be disclosed in principle, unless the disclosure would cause problems to the sponsor's business. On the other hand, in the sample form of agreement provided by MEXT, which has conventionally been used by national universities, research achievements shall not be disclosed unless the duty of confidentiality is observed, and the party that seeks to disclose research achievements shall give prior notice to the other party for consultation as to whether or

not the disclosure would impair the other party's interest. Comparing these two sample forms, AIST seems to request disclosure more strongly.

In response to such strong request from the national university for disclosure, what measures would it be possible for the private company to take? By clearly providing for a specific disclosure process under an agreement, the company would be able to satisfy the university's request for early disclosure while satisfying its own needs for disclosure at an appropriate time. For example, when the national university makes a request for disclosure, the company replies within one month, while specifying (i) the achievements that the company agrees to disclose, (ii) the achievements that the company agrees to disclose after filing patent applications and taking other necessary measures, and (iii) the achievements that the company cannot agree to disclose, such as know-how. Furthermore, another possible measure for the company is to designate the time for disclosure of the achievements mentioned in (ii), e.g. agree to disclose if necessary measures are taken within three months from the request. However, in the case where the private company seeks to include such time schedule in the agreement, the company should clearly indicate its commercialization policy for the research achievements so as to satisfy the national university's request for disclosure.

Upon incorporation of national universities, it will be possible to lay down terms of agreement more freely. National universities and private companies will be able to conclude confidential agreements that will be more satisfactory for both of them by making more efforts to respect each other's needs and meet halfway.

4. Conclusion

We have discussed what should be kept in mind when private companies and national universities lay down research agreements.

When concluding agreements with national universities, private companies give importance to laying down terms of agreement under which they can retain discretion so as to use achievements arising from industry-university cooperation for the purpose of improving their competitiveness.

On the other hand, with their duty to provide research achievements to society as a whole, national universities will face various challenges, as they will be evaluated in terms of their efforts to diffuse research achievements on the basis of the number of patent applications and the amount of licensing income, and will have to pay more patent fees upon the amendment of the Patent Law. Consequently, universities will seek to (i) disclose research achievements arising from industry-university cooperation at an early stage, (ii) encourage private companies in collaborative relationships to use research achievements, with the aim of receiving licensing income from the companies and allocating such income for research funds and costs for filing patent applications, and (iii) actively engage in licensing of research achievements arising from industry-university cooperation to third parties. However, if these points are included in the terms of agreements, they are likely to restrict private companies from actively using research achievements arising from industry-university cooperation for the purpose of improving their competitiveness.

In order for private companies and national universities that have different viewpoints to build a win-win relationship, it is necessary to make allowance for agreement negotiations and conclude flexible terms of agreements by selecting appropriate terms, through consultation, from various sample forms of cooperative research agreements or sponsored research agreements, rather than adhering to a single sample form provided by MEXT.

Private companies should delegate enough authority to the persons in charge of agreement negotiations, enabling such persons to use their experience and discretion to reach an agreement under appropriate conditions. Individual companies should not accept terms of agreements proposed by universities as they are, but should design industry-university cooperation so that they can go halfway to meet universities when laying down terms of agreement while maintaining returns from such cooperation.

We hope that this report will help private companies negotiating research agreements with national universities.

Notes:

- 1) According to the theory of profit tripartition or the 25 percent rule, the rate applicable to an ordinary licensee shall be basically calculated by multiplying the operating profit margin by 33% or 25% (the calculation method of applying 25% is advocated by Goldscheider, Jarosz & Mulhern, *Use of the 25 Percent Rule in Valuing IP*, Les Nouvelles, December 2002). Another possible calculation method is to multiply the formula mentioned above by the contributing ratio (operating profit margin x 25% to 33% x contributing ratio), because the patented invention is not based on the whole part of the research achievements.
- 2) There are no special grounds to apply a rate that is half of the rate applicable to an ordinary licensee, but this percentage seems to be acceptable because of its analogy with the provision of Article 7 of the Research and Development Cooperation Promotion Law and Article 5 of the Enforcement Law of the Research and Development Cooperation Promotion Law: research achievements created under a sponsored research agreement with a national university and attributed to the university may be jointly owned by the private entity “if the university’s share in the achievements falls below half.”

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