



EU-Japan Centre for Industrial Cooperation

**An assessment of the opportunities, and demands related to
Japan-EU technology transfer services**

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Executive Summary

Summary of the Report

The results presented in this report are part of a process of a consultation that was conducted by the EU-Japan Centre for Industrial Cooperation by engaging EU SMEs with the aim of understanding whether Japanese technologies stemming from universities and research centers could be interesting to EU SMEs, especially as far as licensing deals are concerned. The consultation and the project in its entirety were triggered by the results of a prior study conducted between 2014 and 2015 that led to the conclusion that there was indeed a general interest on the Japanese side (from universities and research centres) to make their available technologies and patent portfolios more known and visible to a foreign audience.

The consultation has been officially conducted between 3 August and 12 December 2015 (with the integration of few additional answers in February 2016). The analysis of the gathered data is presented in the report. The number of the eligible respondents, 61, is satisfactory, considering the specificity of the questions and especially the limited channels being used to reach out to EU SMEs. A proper statistical analysis of the answers is not possible but the following considerations may be drawn:

- the majority of the respondents considered the possibility to find a technology for their company originating from Japan even though they declared to no very little or nothing about tech transfer opportunities from Japanese research institutions;
- the majority of the respondents declared that they would be interested in licensing an available technology rather than buying it;
- ICT, engineering, physical sciences and life sciences were the most interesting technology areas as far as the interest of the respondents was concerned;
- the majority of the respondents declared that they would mostly utilize the licensed technologies to either start a research collaboration with a prestigious institution or embed the technology in future products or services;
- the majority of the respondents considered that the most likely obstacles when trying to negotiate a contract with a Japanese institution would be related to the language barriers, cultural differences, and difficulties in crafting an agreement;
- the majority of the respondents answered that the most important features on a website offering tech transfer opportunities would be explanatory videos of the technologies and advanced research methods to find the available resources.

Current status of the Helpdesk and further development

In parallel with the analysis of the results of the survey, the EU-Japan Centre for Industrial Cooperation developed and launched on 15 February 2016 the "EU-Japan Technology Transfer Helpdesk" ("Helpdesk" – www.eu-jp-tthelpdesk.eu), a new service aimed at supporting EU and Japanese universities and research organizations, companies and individuals in their steps to search for technologies and understand the mechanics of tech transfer transactions, as well as bridging the knowledge gap about current available technologies from both Japan and the EU. The original survey regarded only the service with regard to EU SMEs and Japanese universities and research centres, but later on the project was broadened to include a two-way approach. Therefore, from its official launch, the services offered by the Helpdesk are now dedicated to:

- European companies (with particular attention to SMEs), universities, and research institutions;
- Japanese companies (with particular attention to SMEs), universities, and research institutions;
- Japanese and European individuals working for the above entities.

Currently, the three pillars of the Helpdesk are basically consisting of:

- An integrated database for available technologies from EU and Japanese universities and research centres;
- A repository of tech transfer-related materials; and
- A series of informational/training activities (e.g. webinars, seminars organized also in conjunction with the Helpdesk's partners) related to tech transfer and IP management with a focus on the EU and Japan.

Several materials (articles, reports, videos) have already been posted on the website of the Helpdesk. From its inception, one webinar has been organized, and the second is scheduled for March 15th, 2016. As far as physical events are concerned, the first seminar on the future EU Directive on trade secrets is scheduled to occur on March 11th, 2016.

As far as the future development of the Helpdesk is concerned (i.e. in FY 2016), it is envisaged that:

- The section on the technology showcase will contain technologies in all of the macro-areas indicated on the website from both the EU and Japan;
- The section on the informational materials will grow substantially also thanks to the work of several professionals and scholars interested in providing their contribution;
- The number of the events will be scheduled on a regular basis. For example, webinars are expected to be ideally organized once a month, and seminars every 3/4 months.

1. Background Information and Content Description

The on-line questionnaire was launched on-line on 3 August 2015 and officially closed on 12 December 2015.

In total 67 respondents answered the questions, but six companies were based outside of Europe. Twenty respondents did not fill out one open-ended question, and most of the respondents answered the questions allowing a multiple choice.

To facilitate the comprehension of the results of the survey and provide a comprehensive view of the general context, the present report includes a section on the performance-related data of the Japanese tech transfer system (as far as universities, and research centers are concerned) and main conclusions stemming from the previous report published in March 2015 by the EU-Japan Centre for Industrial Cooperation titled *Japan's Technology Transfer System: Challenges and Opportunities for European SMEs*.

The survey results in the report are then presented following the structure of the on-line questionnaire, which was composed of 10 questions. Finally, Appendix 1 contains the full text of the questionnaire sent out to the stakeholders.

2. Considerations about the Japanese Technology Transfer System

In March 2015 the EU-Japan Centre for Industrial Cooperation published a report titled “Japan’s Technology Transfer System: Challenges and Opportunities for European SMEs” (“Report”). The Report concluded that the Japanese tech transfer system as a whole may be on the right track to potentially achieve in the medium term (i.e. 5-10 years) results (especially in terms of licensing revenues) that could be in line with those reported by the U.S. only if the international licensing activity, and a tendency to license-out technologies to spin-off companies will be further developed. The entire ecosystem covering the generation of potential innovations is quite unique as the assistance and services offered by governmental entities in Japan cannot be found anywhere else in the world. Any company or research institution in Japan can benefit from an unparalleled spectrum of services and wealth of information (in some cases even in English), which is second to none. It is clear, though, that in terms of licensing activities, domestic partners are still privileged, and they constitute the major source of the generated licensing revenues. What also appeared clear from most of the interviews is that there is an absolute willingness to operate internationally to find potential licensees or assignees for the existing available technologies, but marketing efforts and techniques should probably be honed to widen the current outreach.

The analysis of the challenges and opportunities showed that in both cases these exogenous elements related to the quantity, and quality of information being communicated and to the means used to communicate it. Therefore, an external, centralized repository of information (in English) related to available technologies of universities and research centers might have been a viable solution to tackle part of the existing challenges, and to create a smoother and streamlined procedure for favoring tech transfer activities at the international level.

Recommendations for European SMEs in the Report concerned a suggested change of approach when looking for available technologies by turning a general passive approach into a more proactive one. Finally, recommendations for Japanese universities and research centers regarded the quality of information being displayed to the public that should probably be more easily retrievable (and maybe more visually appealing), and as much as possible available in English.

3. Performance-related Data of the Japanese Tech Transfer System

As it happens in almost every highly industrialized country/region of the world, Japan is no exception as it also features an organization in charge of monitoring the tech transfer system and its national network. This entity, called University Network for Innovation and Technology Transfer (“UNITT”), was established with the idea promoting potential partnerships between academia and industry and *“through these activities, UNITT also aims to contribute to the development of Japanese academia, the advancement of technology in Japan, and the development of Japanese industry”*.¹

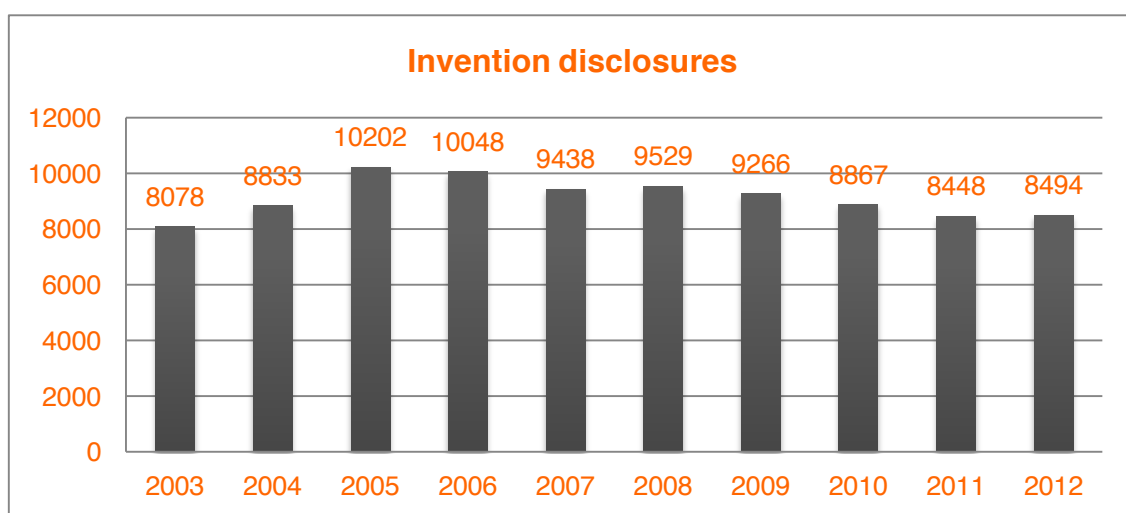


Figure 1 - Number of Invention Disclosures - Source - MEXT

The charts above and below provide² figures as to the number of invention disclosures, and patent applications filed³ by the surveyed sample by the Ministry of Education, Sports, Science and Technology (“MEXT”) in the period 2003-2012. From a comparison with the U.S., it has been noted⁴ that the ratio between the invention disclosures and subsequent filing of patent applications (i.e. the filing ratio) is close to 76% in Japan⁵ as opposed to ca. 60% in the U.S.

¹ See UNITT’s general presentation at <http://unitt.jp/en/about> (Last visited, 28 February 2016).

² From the power point presentation titled “Technology Transfer Activity of Universities and TLOs in Japan” of June 6th, 2014, referring to all Japanese universities, handed out during the interview at UNITT.

³ See *supra* note 2, slide 24.

⁴ *Ibidem*, slide 24.

⁵ This number refers to all Japanese universities, but the average of the sample surveyed by UNITT scored 83.6%.

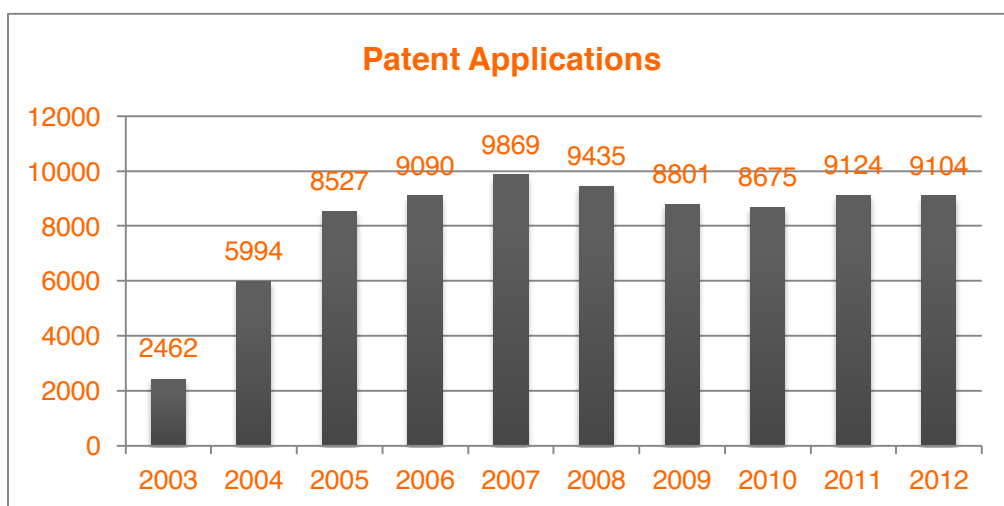


Figure 2 - Total number of patent applications (national and international) - Source: MEXT

As to the total number of issued patents, UNITT reports from its 2012 survey that the number peaked 4831 units, therefore extremely close to the U.S. performance (as shown later in this section). The main highlights of UNITT's survey⁶ for FY2012 are the following:

- 100 respondents
- 7619 invention disclosures
- 6368 new patent applications filed
- 4831 issued patents
- 2298 licenses executed
- 6883 active licenses
- 21 startup companies formed
- JPY 2.28 billions⁷ in licensing revenues

To make a comparison, and assess the magnitude of the research output and commercialization results of universities, it can be extremely worthwhile to consult the Association of University Technology Managers' ("AUTM") annual surveys. For example, in the 2013 Licensing Survey, AUTM reported the following:⁸

⁶ Which regards a much smaller sample: 100 respondents, 13 TLOs, 86 universities, and 4 public research organizations.

⁷ Around \$20 million as of February 2016.

⁸ Full survey available at: http://www.autm.net/FY_2013_Licensing_Activity_Survey/14317.htm (Last visited, 29 February 2016).

- 186 respondents
- 24,555 total U.S. patent applications filed
- 14,995 new patent applications filed
- 5,714 issued U.S. patents
- 5,198 licenses executed
- 1,356 options executed
- 469 executed licenses containing equity
- \$63.7 billion total sponsored research expenditure (FY2012)
- 818 startup companies formed
- 4,206 startups still operating as of the end of FY2013
- USD 2.6 billion in licensing revenues (FY2012)

Comparing the performance of the US with Japan by looking at some of these numbers might not give justice to the work performed by the universities and their tech transfer offices (“TLOs”), (in the U.S. the number of patents issued to universities in the last 50 years showed almost a sixty-fold increase)⁹ even though in some cases they compete head to head like for the number of domestic patents issued in which Japan ranks first for having more patents issued per single institution compared to the U.S. sample (100 respondents v. 186). Two major observations should be made at this point looking at the figures. First, in terms of entrepreneurial activity of faculty members, it’s no surprise that the US features 818 new startups being the “capital” of entrepreneurship as opposed to Japan, which is way more conservative in this regard.¹⁰

Second, probably the most interesting comparison is the one referring to the revenues generated by the universities. In this regard, the JPY 2.28 billion reported by UNITT’s 2012 survey, constitute less than 0.75% of the revenues reported in the AUTM’s 2012 survey. It has to be noted, though, that remarkable improvements in the licensing performance has been made in Japan where the licensing ratio (i.e. the number of license/option agreements vs. the number of patents/applications in the portfolio) rose from

⁹ Comparing two systems (and their performance) that are very far apart in terms of implementation dates, and practice might be misleading. In fact, the US underwent an astonishing growth in the last 50 years and universities were able to create a much larger portfolio of technologies, and execute way more license agreements than the Japanese ones because they started owning IPRs only from 2004.

¹⁰ In fact, according to the mentioned UNITT’s survey, just 16.9% of the surveyed sample spun off new ventures from technologies developed within the university as opposed to 75.9% of U.S. universities.

15.3% of 2006 to 30.2% in 2012¹¹. Moreover, the number of active licenses is proportional to the licensing income as well, and according to the mentioned UNITT's survey,¹² in the US, a sample of 186 universities reported in 2011 that the number of active licenses in their portfolio was equal to 38,600, therefore, around 6 times the number reported by Japanese TLOs (i.e. 6,883, in 2012). Since (national) universities in Japan started managing IPRs in full from 2004, it might be safe to say that there is still room for the whole tech transfer ecosystem to improve its performance in terms of licensing revenues in the next 5-10 years and near the results of U.S. universities, especially if international licensing activities and spin-off creation will be further developed. The following charts provide some performance results of the Japanese tech transfer system, from 2012 back to 2008. UNITT's surveys are the result of data, directly collected by UNITT, and the 100 respondents of the 2012 survey were divided into public research institutions (4), TLOs (13), and universities (83). The overall number of existing universities in Japan is around 1,000, but the 100 respondents surveyed by UNITT account for almost 75% of the national output in terms of IP output according to UNITT.¹³

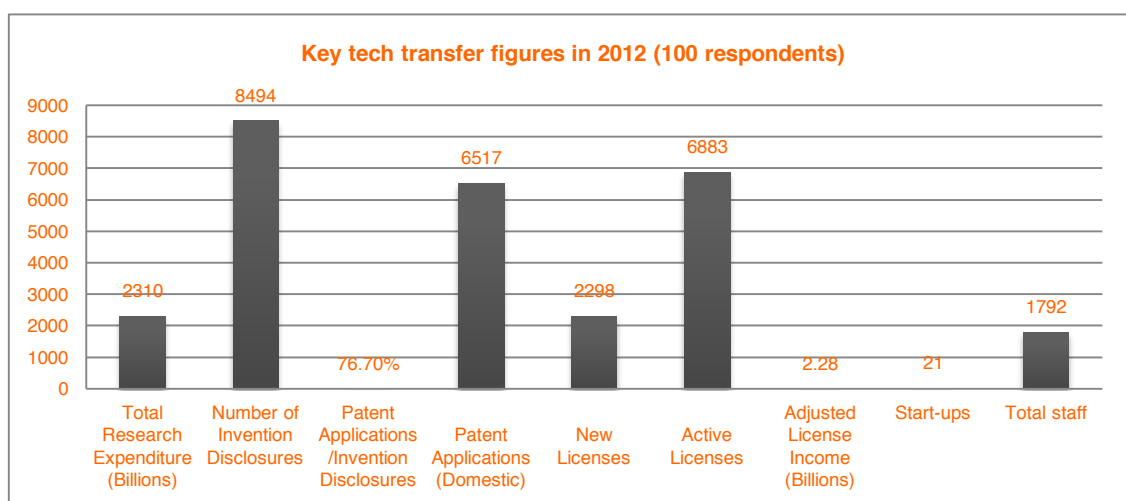


Figure 3 - Key tech transfer figures in 2012 – Source: UNITT

By looking at the previous¹⁴ and following charts,¹⁵ it can be observed that in

¹¹ See *supra* note 2, slide 28.

¹² *Id.*, slide 37.

¹³ Most of the information regarding UNITT has been acquired from the interview had with Mr. Fukuda, Secretary General of UNITT, on 7 October 2014.

¹⁴ See *supra* note 2, slide 38.

¹⁵ *Ibidem.*

terms of research expenditure, its magnitude stays pretty constant, which is also a sign of the stagnant past years for the Japanese economy on top of the general economic downturn.

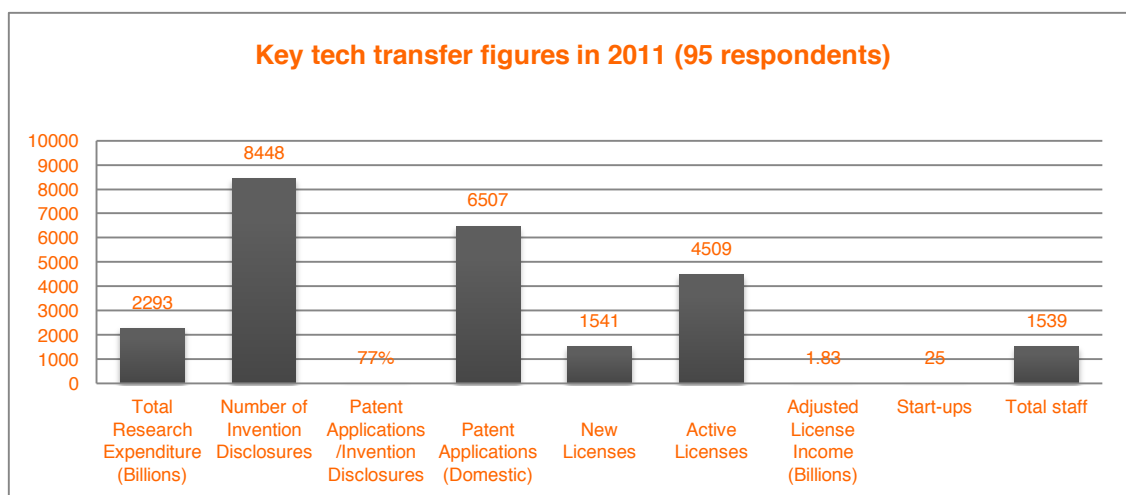


Figure 4 - Key tech transfer figures in 2011 - Source: UNITT

On the other hand, it is interesting to note that the number of invention disclosures declined from 2008. This decrease in the “production” of innovative ideas though has to be considered in conjunction with the next performance indicator in the charts, that is, the ratio between submitted invention disclosures and filed patent applications. It is clearly inferable from the charts that this number increased steadily up to the outstanding 76.7% ratio, which means that out of 100 claimed inventions reported by researchers to the competent office, in almost 77 cases, the relevant institution has applied for a patent.

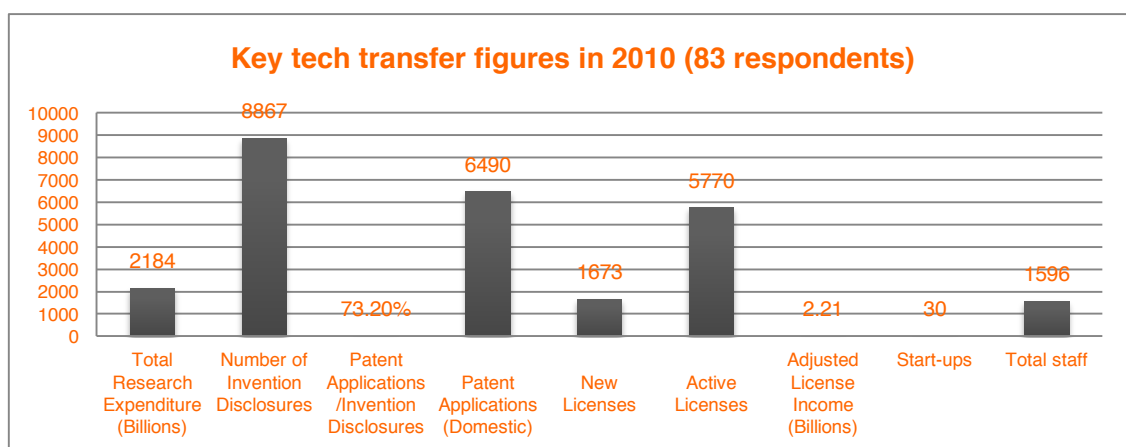


Figure 5 - Key tech transfer figures in 2010 - Source: UNITT¹⁶

¹⁶

Ibidem.

In terms of filed patent applications, the figures are also pretty stable, regardless of the decreased number of disclosures, and this, as it has been mentioned, is due to higher filing ratio of the last years.

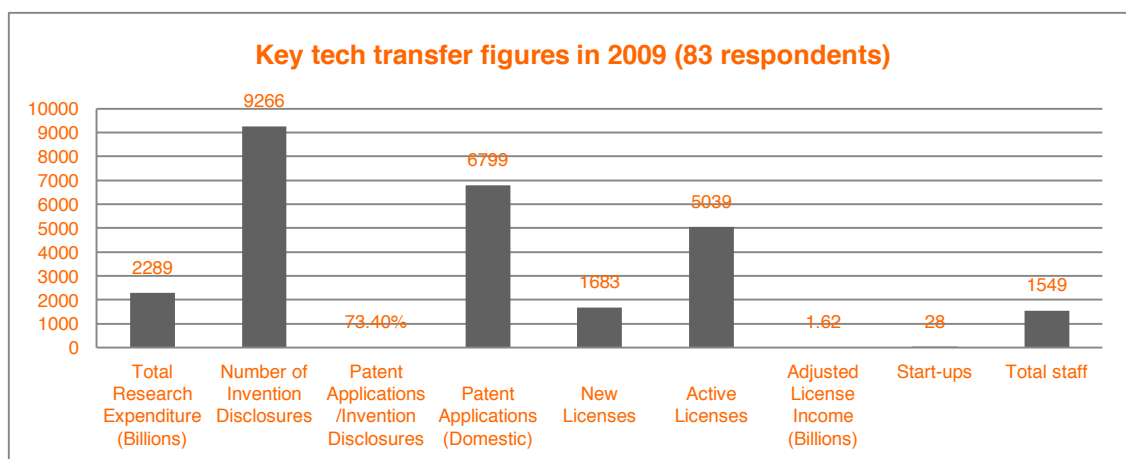


Figure 6 - Key tech transfer figures in 2009 - Source: UNITT¹⁷

In terms of executed licenses, there has been an important increase in terms of performance from 2011 to 2012 and this might be due to the honed skills of the officers involved in tech transfer operations, that are becoming more and more acquainted with tech transfer practices. As to the number of active licenses and income, there is also an evident increase due to the enlargement of the patent portfolios, and therefore offering for potential licensees. The average income of a single license (in 2012) was roughly JPY 330,000 (i.e. roughly equal to ca. \$ 2900),¹⁸ therefore not too high, but it might well be that most of the license agreements executed in the last years were still in a phase in which the relevant technologies were not still marketed and therefore generating additional royalties.¹⁹ In the U.S., in 2011, a license, according to the AUTM survey, was averaging ca. USD 65,000 in terms of licensing income (i.e. 38,600 active licenses and USD 2.5 billion in revenues).

¹⁷ *Ibidem.*

¹⁸ By using the currency exchange rate of February 29th, 2016

¹⁹ These are considerations not taking into account several factors, like, the income generated by the companies spun out of universities that are using university-developed technologies, and other technologies that are co-owned or that have been sold.

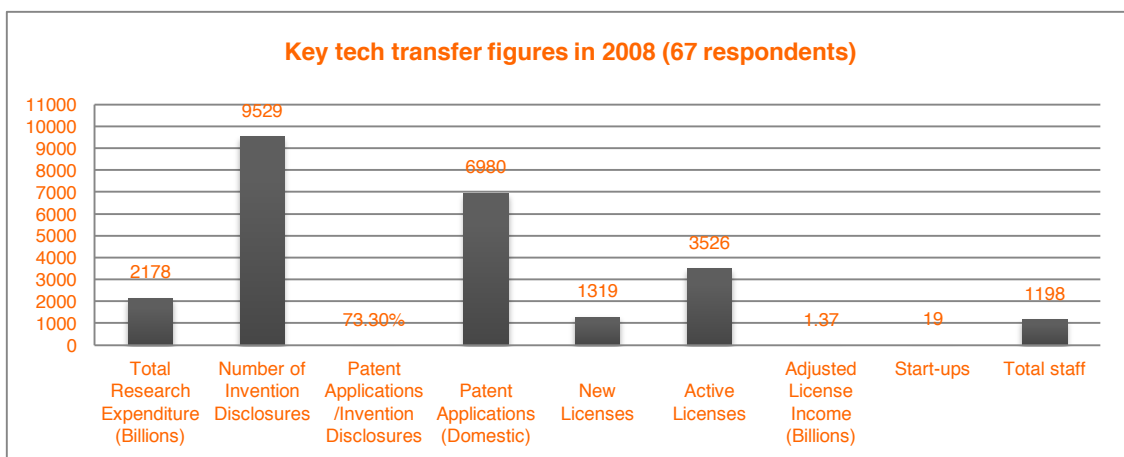


Figure 7 - Key tech transfer figures in 2008 - Source: UNITT²⁰

Additionally, in terms of start-up generation thanks to technologies conceived within the research institutions, the numbers show a slight increase and then a return to the original figures with 21 start-ups generated in 2012, which means an average of 0,21 companies per respondent, which is less than 5% of the US output (818 start-ups in 2013).

Lastly, the number of total staff employed by the respondents is growing, but only because the number of respondents to each survey increased overtime. Nevertheless, 1792 professionals reported in 2012 working for 100 institutions (i.e. 17.9 people per institution) constitute a very important indicator (and a way greater number if compared to the average European university/research institution).

MEXT also publishes an annual report on tech transfer and research statistics, which contains some interesting data in terms of tech university performance. From the report (available only in Japanese),²¹ it is possible to examine data in terms of university rankings by licensing income, and other indicators. FY 2013, for example, has been a record year for the University of Tokyo, which ranked first overall in terms of licensing revenues with ca. JPY 660 million.

²⁰ See *supra* note 2, slide 38.

²¹ See http://www.mext.go.jp/a_menu/shinkou/sangaku/1353580.htm (Last visited, February 29, 2016).

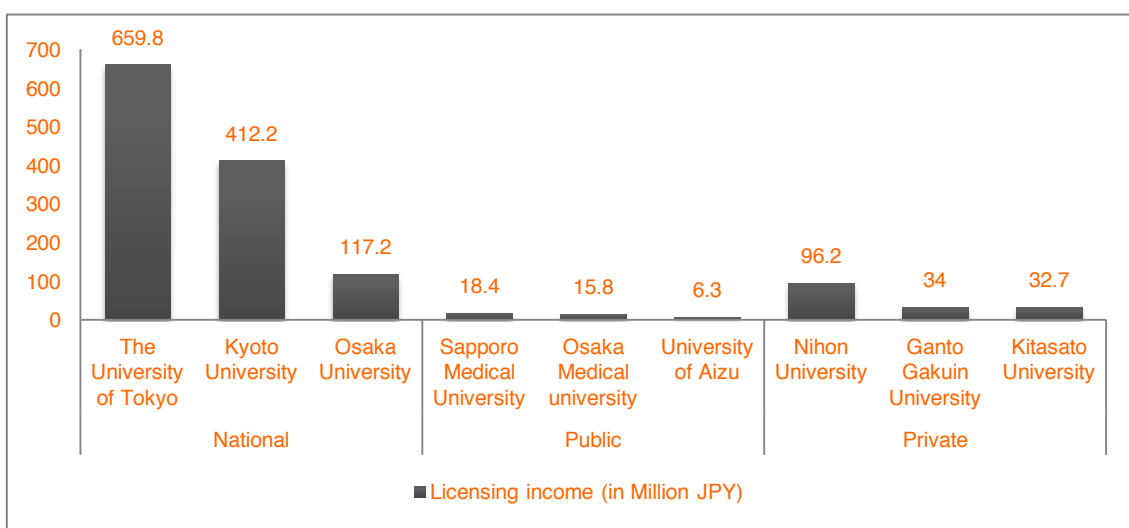


Figure 8 - University rankings (Top 3 per category) by licensing revenues - Source: MEXT

The number of respondents to MEXT's survey was quite impressive. In fact, out of the 1,012 questionnaires sent out to Japanese universities, 100% of the national (i.e. 86), and public (i.e. 94) universities replied whereas 93.5% of private universities (i.e. 778 out of 832) completed the survey. From that report other data can be extrapolated for evaluating other performance indicators in terms of tech transfer activities like the number of invention disclosures, domestic and foreign applications.

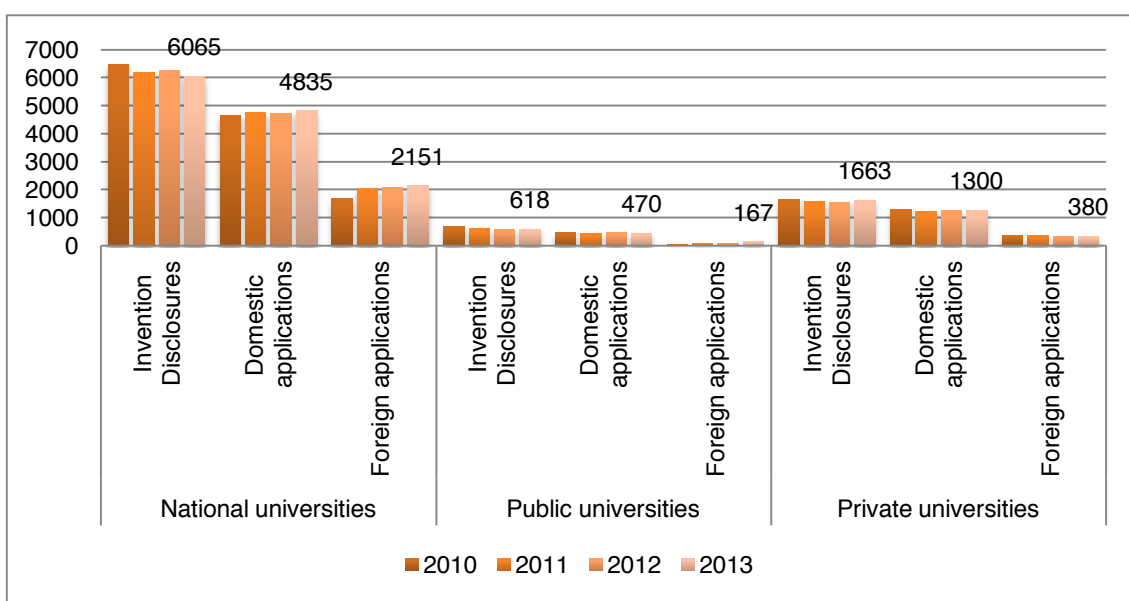


Figure 9 - University performance indicators - Source: MEXT

In terms of licensing revenues (figure below), MEXT reported different figures according to the source of income, which show a rapid progress in terms of licensing

performance. The number of licenses in 2013 were almost 100% more than those reported in 2011 and the total income generated by IPRs was equal to more than 2.7 billion JPY in 2013, which did not result in a remarkable improvement compared to previous years though. In fact, the total income reported by MEXT in 2008, for example, was almost 2.4 billion JPY.

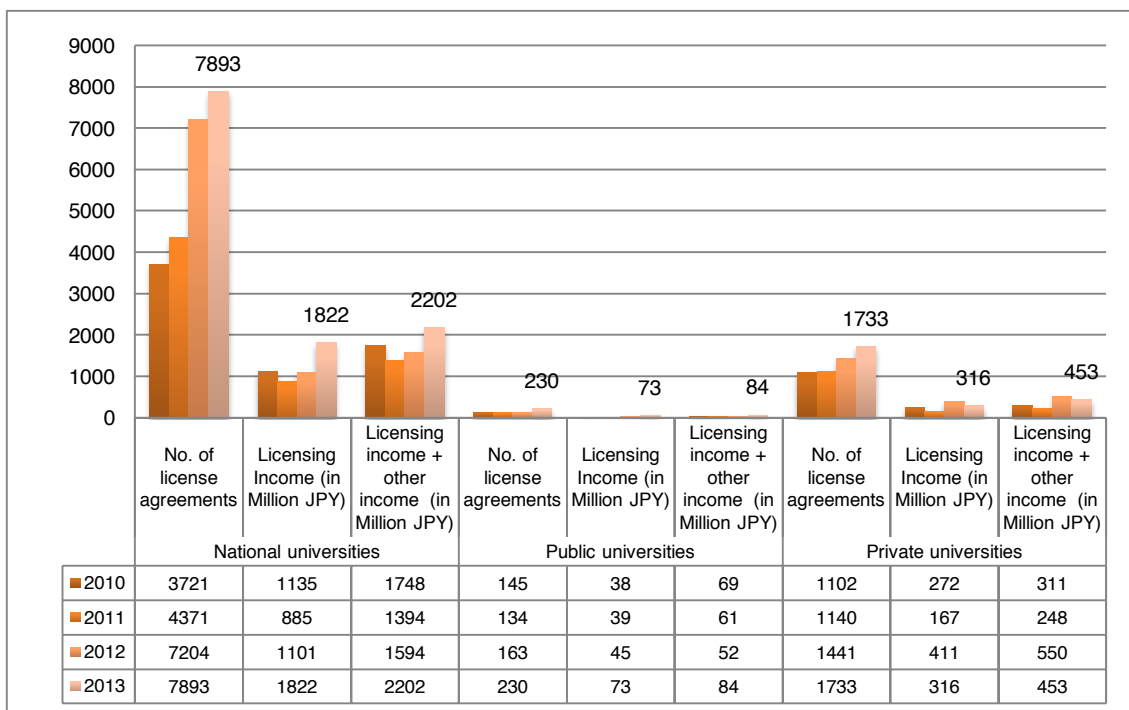


Figure 10 - University performance by revenues - Source: MEXT

Lastly, even though there is no direct information in MEXT's report (FY 2013) as to international licensing activities of universities, it can be noted²² that The University of Tokyo, Tohoku University and Tokyo Institute of Technology are the institutions with the higher number of international partners in collaborative projects. In general, all the interviewed institutions in the Report declared to have less than 10% of international licenses in their portfolio of active licenses, and they were not in the position of providing further details for confidentiality obligations.

²² Please note that only the first row concerning the number of collaborative projects is reflecting the actual ranking.

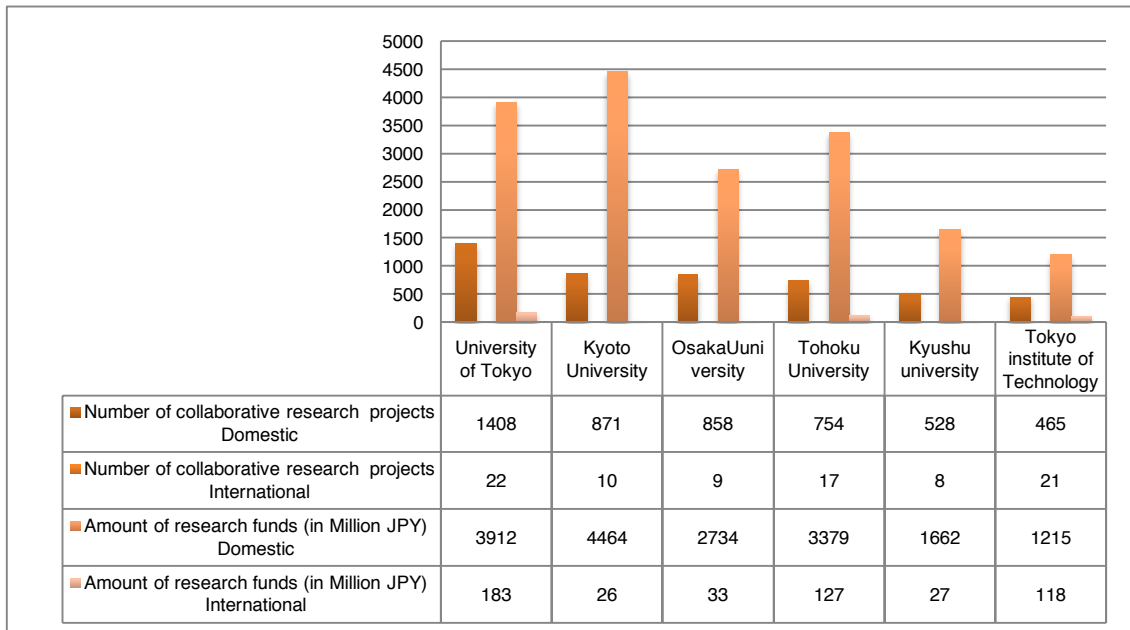


Figure 11 - International collaborative projects and funding - Source: MEXT

4. Challenges and Opportunities for European SMEs Interested in Acquiring or Licensing Japanese Technologies

Challenges and opportunities are exogenous elements that may influence the successful pathway of a company, and therefore they have to be known in advance. Their number and nature have also been discussed during the presentation of the research results of the Report on 19 March 2015, in Tokyo, in front of an audience of technology transfer professionals that have been interviewed during the course of the research performed to write the Report, with a general consensus as to the major challenges, that have been identified as follows:

- Language barrier. When dealing with the tech transfer ecosystem as a whole, language barriers can still pose a problem;
- Lack of an easy-to-find repository with available contacts. It would be very useful to have a unique, easily-accessible, virtual venue (i.e. a website) where to find contact information of all the stakeholders;
- Distance between the parties. It seems that especially as far as European companies are concerned, distance still constitutes a real obstacle between the parties;
- Little attractiveness due to a general lack of visual representations. It would be highly recommended to adopt a new approach to advertise

available technologies through novel media to better entice potential licensees/assignees;

- Quantity of available info in English v. Japanese. Japanese governmental websites have more information in Japanese than in English as the cost of the translations would be too high to manage, and it is not a priority being the domestic market the first target.

Whereas the major opportunities were summarized as follows:

- No domestic preference by law (i.e. the Japanese Bayh-Dole Act) as far as licensing activities are concerned;
- Licensing agreements can be executed remotely, there is no real need to meet in person nowadays;
- Presence of qualified personnel in several institutions able to negotiate in English. All the major universities and research institutions have qualified personnel able to negotiate tech transfer agreements in English;
- Great wealth of advanced technologies available for licensing.

Apparently, the mentioned challenges and opportunities may not be necessarily related to European SMEs, as they could be applied indiscriminately to all companies coming from outside of Japan, nevertheless, most of the interviewees, mentioned²³ how different is the approach of European companies as opposed to U.S. ones, for example. In fact, it seems, that the proactive approach of European researches when dealing with Japanese research partners is not comparable to the one showed by European companies engaged in licensing agreements that, reportedly, are not that easy to deal with as the corporate hierarchy is way more complex to manage than the US one. Therefore, from the Japanese side, there is a challenge that should definitely be overcome when dealing with European businesses. Luckily though, smaller entities like SMEs may be more prone to adopt a much quicker and less bureaucratic approach when dealing with potential Japanese universities and research institutions due to their very nature that could make them more agile in negotiations as opposed to large corporations. Lastly, during the presentation of the research results, the interviewees have been asked whether an external repository, with the purpose of promoting an international exposure of technologies showing what Japanese

²³ During the presentation of the research results at the EU-Japan Center for Industrial Cooperation occurred on 19 March 2015.

universities and research organizations might be willing to license-out or assign would be appreciated, and the response has been generally positive with the representatives showing their sincere interest in such a proposition.

In light of said results, the the EU-Japan Centre for Industrial Cooperation started considering the opportunity to establish a Helpdesk to favor technology transfer practices by leveraging the results of the Report. In August 2015 the on-line questionnaire (see Annex 1) has been sent out to gauge the nature of the interest of European SMEs about the possibility of having access to resources related to technologies stemming form Japanese universities and research centres. The following sections of this work describe the nature of the questions contained in the questionnaire and the relevant results.

5. Information about Respondents' Profile

The questionnaire provided two questions about the profile of the respondents in terms of country of origin and size. The distribution of the respondents covered most of the EU countries with some peaks in three of them (see figure below). Germany, with 14.7%, Italy and Lithuania with 13.1%.

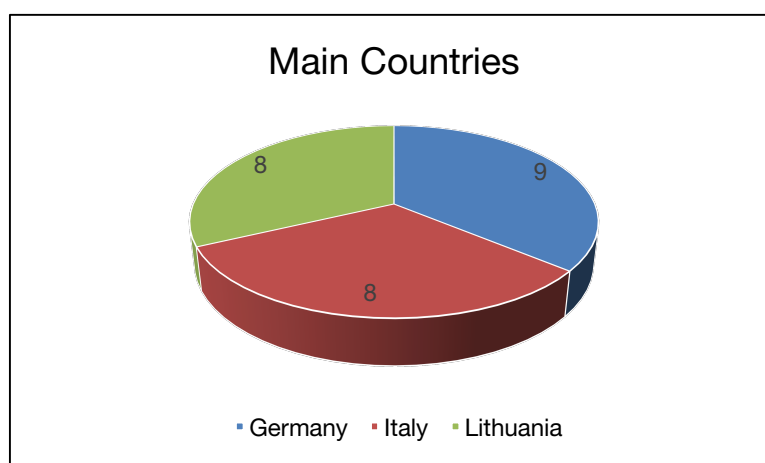


Figure 12 – Countries of origin of the respondents

As to the company size of the respondents (see figure below), there is basically no difference among the various types with 37.8% of the respondents belonging to micro companies, 34.4% to small companies, and 27.8% to medium companies.

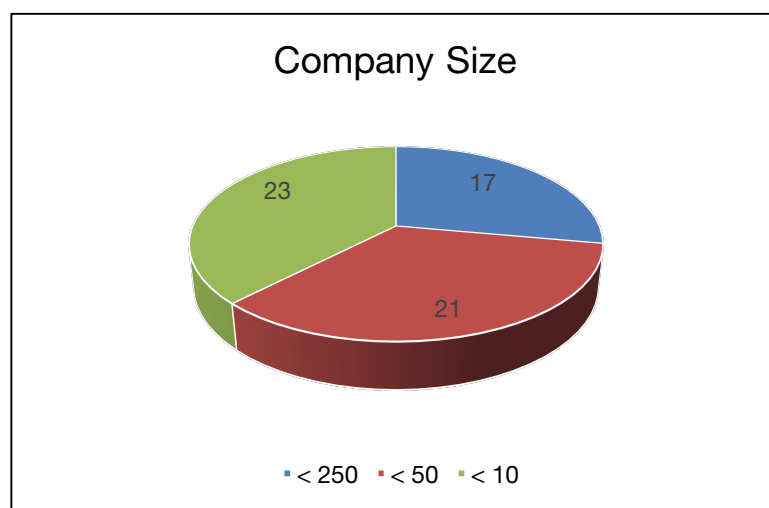


Figure 13 – SME participation by number of respondents

6. Interest of the Respondents

In terms of interest of the respondents as to available technologies from Japan, the questionnaire contained two questions.

1. How much do you know about tech transfer opportunities coming from Japan and more specifically from Japanese universities and research centres?

The suggested answers to the previous question were:

- *A lot*
- *Not that much*
- *Nothing*
- *Other*

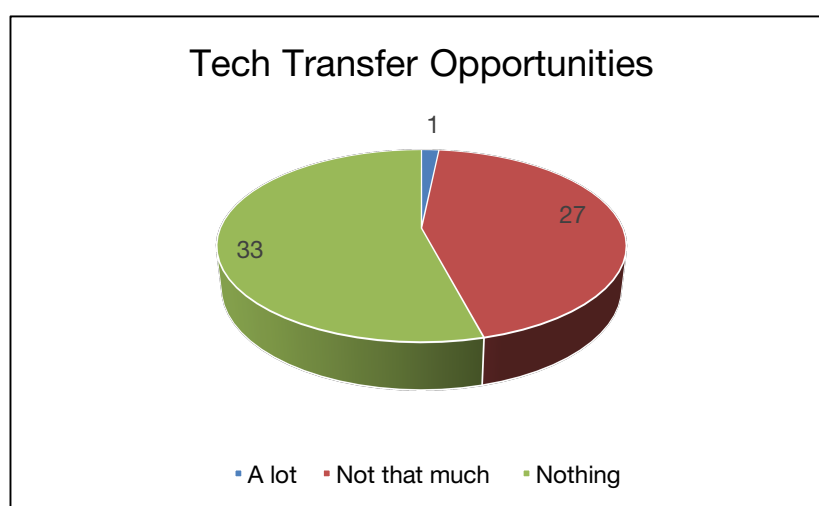


Figure 14 – Knowledge about potential opportunities by number of respondents

In this case (see figure above), 54% of the respondents declared to know nothing about tech transfer opportunities coming from Japan, 44.3% answered “not that much”, and 1.7% (one company) declared to know a lot.

2. Have you ever thought to find available technologies coming from Japan for your company?

The suggested answers to the previous question were:

- *Yes*
- *No*
- *Other*

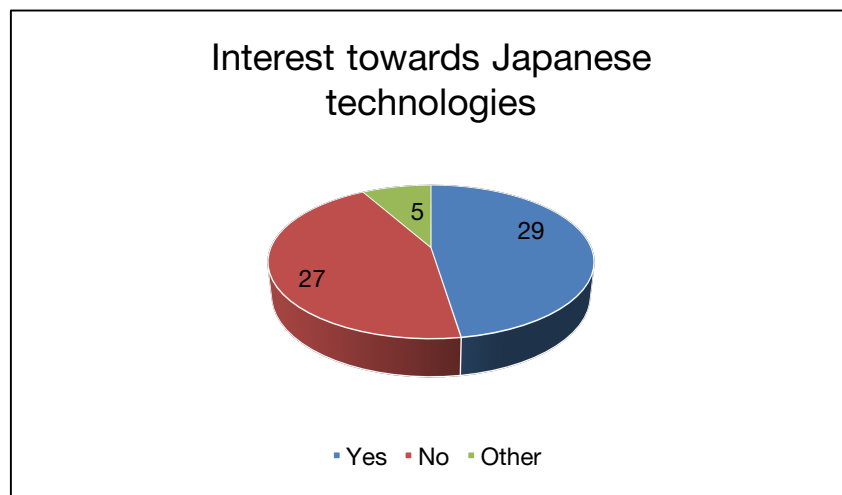


Figure 15 – Interest in Japanese technologies by number of respondents

In this second, and more specific question, (see figure above) almost half of the respondents, 47.5%, declared to have considered the opportunity to find available technologies from Japan, 44.2% answered “no”, and 8.3% provided a more detailed answer by generally expressing an interest towards Japanese technologies. Therefore, more than half of the respondents were in favor of potentially evaluating technologies of Japanese origin.

7. Preferred Technology Areas and Potential Use

In terms of preferred technology areas of the available technologies and their likely use if licensed, the questionnaire contained other three questions.

1. Would you prefer to buy or license a technology from a University/research center?

The suggested answers to the previous question were:

- *Buy*
- *License*
- *Don't know*
- *Other*

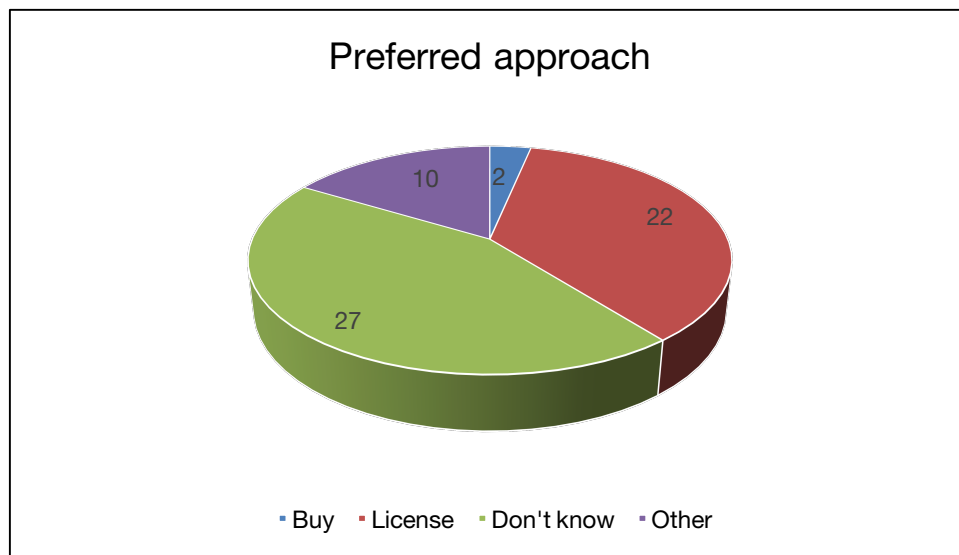


Figure 16 – Preferred approach by number of respondents

The question related to preferred nature of the relationship to acquire the technologies basically showed (see figure above) a prevailing interest of the respondents towards licensing schemes (36%), with only 3.3% of them declaring to be interested in buying, and 44.3% responded not to have a clear idea in this regard, being potentially open to any kind of opportunity. A small portion of the respondents, 16.4%, declared to be interested in more complex schemes involving collaborations also depending on the market potential of the technologies in question.

2. As far as licensing opportunities are concerned, do you have any specific tech area are you interested in among the following?

The suggested answers (allowing a multiple choice) to the previous question were:

- *ICT*
- *Engineering*
- *Design*

- *Agriculture*
- *Life sciences*
- *Physical sciences*
- *Other*

In this case, 59 answers were submitted by showing (see figure below) a prevailing interest towards engineering (26 responses), ICT (21 responses), life sciences (19 responses), and physical sciences (21 responses). Additional sub-areas introduced by the respondents included 3D-printing, nanotechnology, biotechnology and textiles.

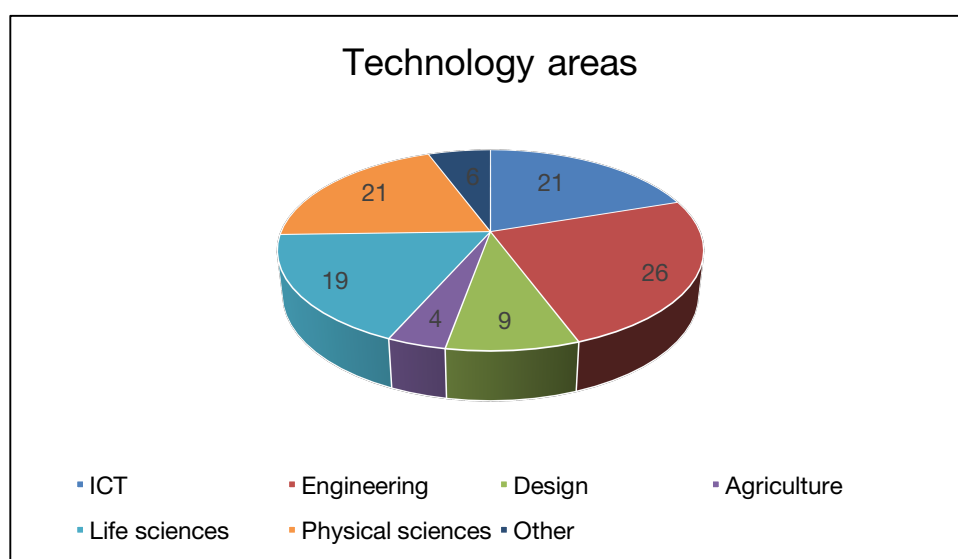


Figure 16 – Preferred technology areas

3. Do you think you would use licensed or purchased IP from Japanese research institutions mostly to?

The suggested answers (allowing a multiple choice) to the previous question were:

- *Sublicense/assign them to other companies;*
- *Embed the technology in future products and try to market them:*
- *Implement a defensive strategy*
- *Potentially start a research collaboration with a prestigious organization:*
- *Other*

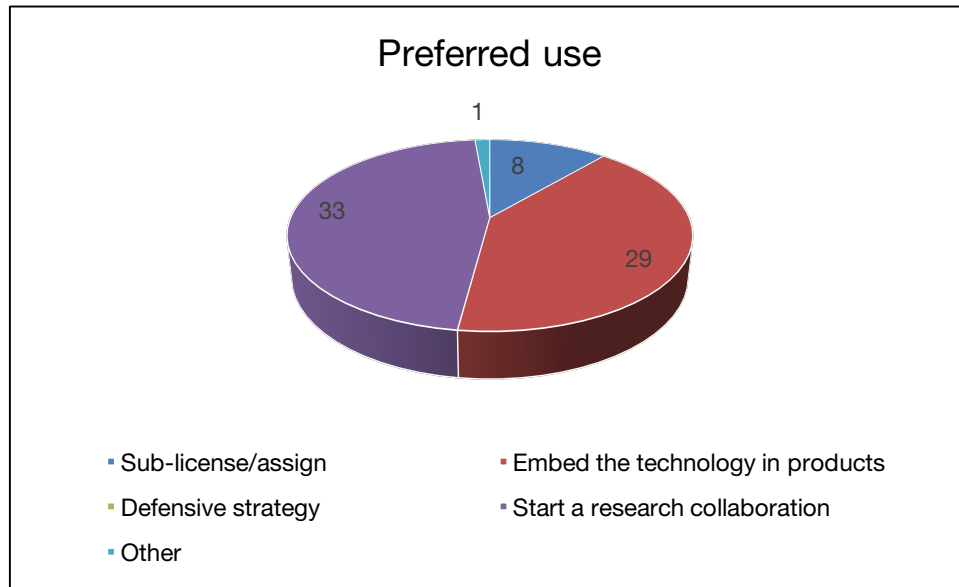


Figure 17 – Preferred use of the acquired technologies by number of responses

In this case 58 responses were collected, and, interestingly enough, the respondents showed (see figure above) a clear interest towards the possibility to start a collaboration with a prestigious organization (33 responses), followed by the opportunity to embed the licensed technology in future products and services (29 responses). Eight respondents considered also the additional opportunity to sub-license or assign the technologies and only one respondent declared to be interested in utilizing the available technologies to start new ventures.

8. Preferred Features of a Tech Transfer Helpdesk

In terms of preferred features of a technology transfer helpdesk's website to be established, the questionnaire contained two questions to gauge the interest of the respondents.

1. If you had the opportunity to find the most promising Japanese technologies available for licensing on a single website, what would be the most valuable feature for you?

The suggested answers to the previous question were:

- *Advanced search methods*
- *Explanatory videos of the technologies*
- *I do not know*
- *Other:*

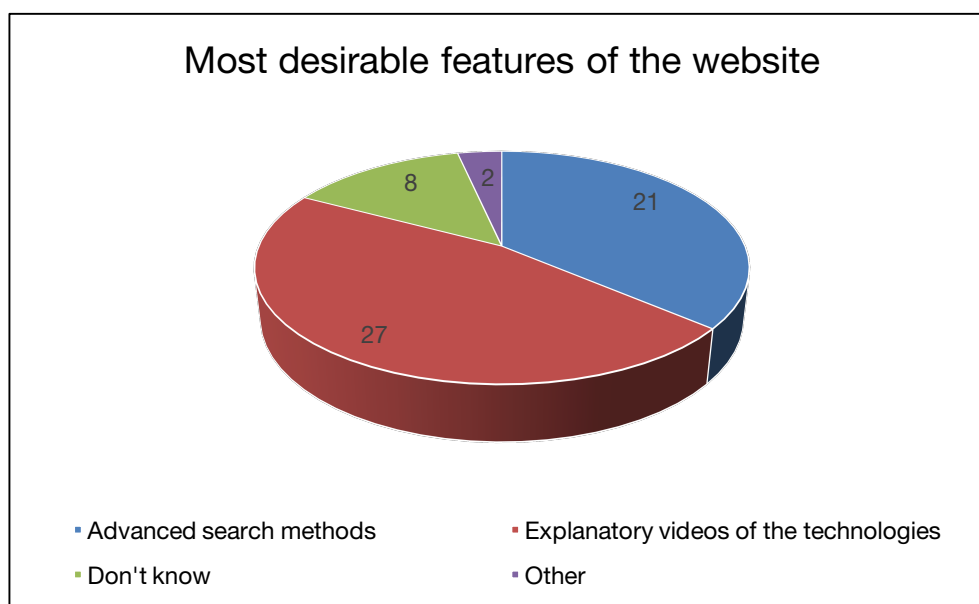


Figure 18 – Preferred feature for the website by number of respondents

In this case 58 answers were submitted, and the respondents showed (see figure above) to know pretty clearly what they were looking for in a potential new repository of available technologies. In fact, 46.6% declared to be interested in seeing explanatory videos of the technologies, 36.2% answered to be mainly looking for advanced search methods. Only 13.8% declared not to have a clear idea about the topic, and 3.4% suggested to limit the scope to the repository to few specific technology areas and to provide the contact details of the organizations posting the available technologies.

2. If you had the chance to watch free webinars concerning IP-related practices from industry experts, what would be the topics you would like to learn more about among:

The suggested answers (allowing a multiple choice) to the previous question were (

- Trademarks 20
- Copyright 19
- Patents - 38
- Design - 18
- Trade secrets
- Other

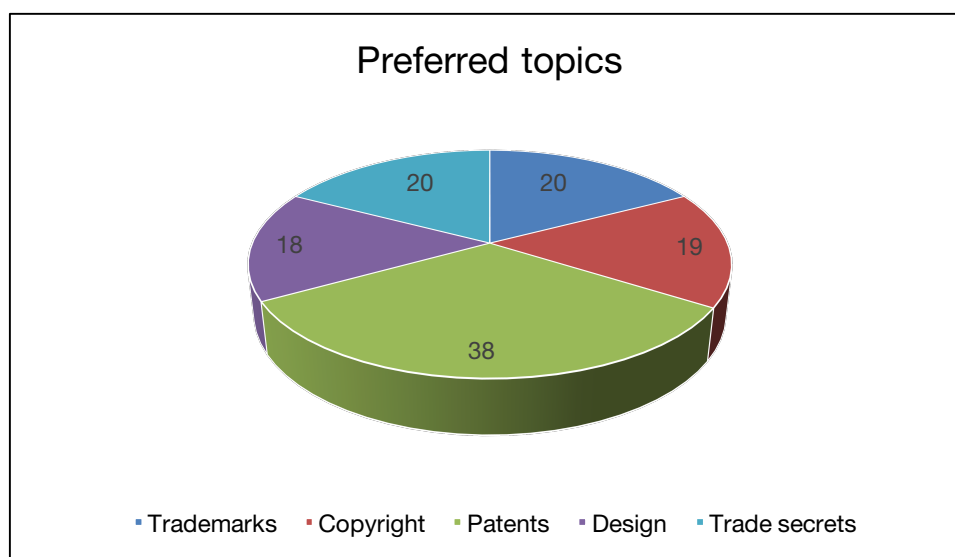


Figure 19 – Preferred topics by number of responses

In this case 55 responses were submitted by the respondents, and despite all of the topics seemed to be of interest (see figure above), the prevailing choice indicated that the area of patents (38 responses) was definitely the most interesting to be explored and dealt with.

9. Perceived challenges concerning tech transfer transactions with Japan

In terms of perceived potential challenges by the respondents concerning tech transfer operations with a Japanese institution, the questionnaire contained one open-ended question.

1. What do you think would be the most difficult part of a potential tech transfer deal negotiation with a Japanese counterparty when licensing a technology from a Japanese university/research institution?

In this case 41 responses were submitted because it was the only open-ended question and less respondents decided to write their answer. Overall, there are four main obstacles that can be identified from an analysis of the results. The most quoted one is related to language barriers and cultural differences, followed by the difficulties potentially encountered to draft an agreement between the parties, the distance between Europe and Japan and costs associated to this kind of transactions.

10. Overall considerations

With regard to the Japanese tech transfer system as a whole, the mentioned Report concluded that it may be on the right track to potentially achieve in the medium term (i.e. 5-10 years) results (especially in terms of licensing revenues) that could be in line with those reported by the U.S. only if the international licensing activity, and a tendency to license-out technologies to spin-off companies will be further developed. Any company or research institution in Japan can benefit from an unparalleled spectrum of services and wealth of information (in some cases even in English), which is second to none. It is clear, though, that in terms of licensing activities, domestic partners are still privileged, and they constitute the major source of the generated licensing revenues for universities and research centers.

The Report also highlighted that all of the interviewed entities were capable to enter into negotiations in Japanese and English, therefore lowering the major barrier that foreign entities may fear when dealing with a Japanese counterparty, as shown from the results of the survey. In fact, at the time of the Report some interviewees reported to have conducted negotiations and signed license agreements remotely without meeting in person.

The survey conducted by the EU-Japan Centre gauged the interest of the other side of the potential tech transfer deals, and proved that there is indeed a positive interest on the EU side towards Japanese technologies, and the tools of the proposed Helpdesk may be indeed conducive to the realization of future deals and partnerships.

From the results of the survey, some encouraging considerations may be drawn:

- the majority of the respondents considered the possibility to find a technology for their company originating from Japan even though they declared to know very little or nothing about tech transfer opportunities with a Japanese research institution, therefore proving an interest towards Japanese universities and research centers;
- the majority of the respondents declared that they would be interested in licensing an available technology rather than buying it, which is the most common practice followed by research institution to monetize their IPRs;
- ICT, engineering, physical sciences and life sciences were the most interesting technology areas as far as the interest of the respondents was concerned, fields in which Japan features outstanding achievements;

- the majority of the respondents declared that they would mostly utilize the licensed technologies to either start a research collaboration with a prestigious institution or embed the technology in future products or services;
- the majority of the respondents considered that the most likely obstacles when trying to negotiate a contract with a Japanese institution would be related to the language barriers, cultural differences and difficulties in crafting an agreement, which can be indeed overcome by offering a repository of technologies in a neutral language (i.e. English) and standardized agreements;
- the majority of the respondents answered that the most important features on a website offering tech transfer opportunities would be explanatory videos of the technologies and advanced research methods of the available resources, which are features currently offered by the novel EU-Japan Technology Transfer Helpdesk (as shown in the next section).

11. The launch of the EU-Japan Technology Transfer Helpdesk

In parallel with the analysis of the results of the survey, the EU-Japan Centre for Industrial Cooperation developed and launched on 15 February 2016 the "EU-Japan Technology Transfer Helpdesk" ("Helpdesk"), a new service aimed at supporting EU and Japanese universities and research organizations, companies and individuals in their steps to search for technologies and understand the mechanics of tech transfer transactions, as well as bridging the knowledge gap about current available technologies from both Japan and the EU. The original survey regarded only the service with regard to EU SMEs and Japanese universities and research centres, but later on the project was broadened to include a two-way approach. Therefore, from its official launch, the services offered by the Helpdesk are now dedicated to:

- European companies (with particular attention to SMEs), universities, and research institutions;
- Japanese companies (with particular attention to SMEs), universities, and research institutions;
- Japanese and European individuals working for the above entities.

11.1. The portal and services of the EU-Japan Technology Transfer Helpdesk

The new Helpdesk operates mainly through a novel portal (www.eu-jp-tthelpdesk.eu) that is open and available for consultation. The new service

features various resources mostly providing the following:

- Showcase of available technologies from EU and Japanese universities and research institutions;
- Organization of seminars and webinars on topics related to innovation and tech transfer with a focus on the EU and Japan;
- Access to resources (reports, presentations, etc.) related to tech transfer and innovation with a focus on the EU and Japan.

Showcase of available technologies from the EU and Japan

EU and Japanese universities and research centres are able, after contacting the Helpdesk, to post their available and most promising technologies to potentially find a licensee, buyer, or partner. The process also provides for an integration with the Enterprise Europe Network (“EEN”) database. In fact, after completing a submission of a technology, the system allows the possibility to fill out an EEN form to be included in the EEN database as well. The screenshot here below shows the way technologies are categorized on the portal.

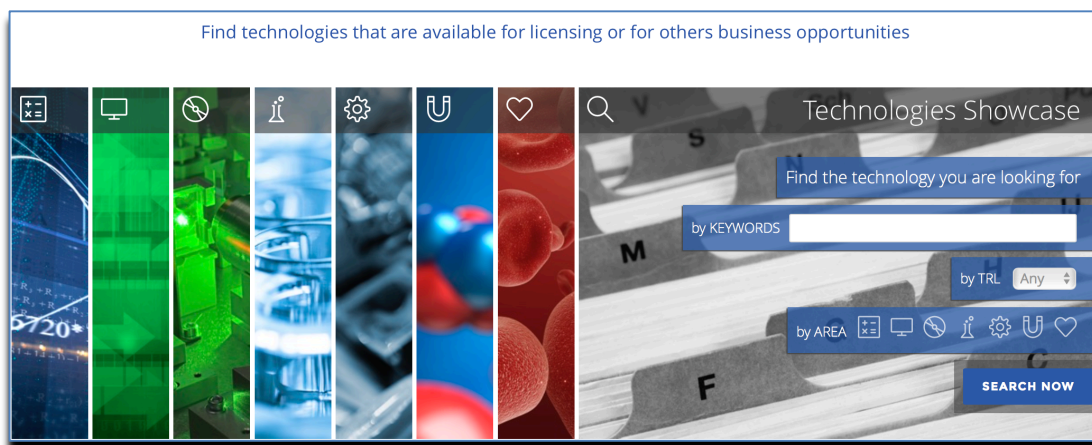


Figure 20 – Screenshot of the tech database

Available technologies are divided in seven main categories: applied mathematics, computer science, applied physics, medicine, engineering, physical sciences, and life sciences. Technologies can be searched by keywords, Technology Readiness Level (“TRL”) or by area. The submission of the technologies cannot be done automatically as there must be a communication with the Helpdesk to select the technologies to be showcased. The submission form offers the opportunity to watch also a video tutorial that guides the tech transfer officers to properly fill out the form that will ultimately be published. Each technology

is displayed in a standardized manner by allowing the viewer to see a description of the invention, benefits, limitations and potential applications (with the possibility to upload pictures, charts, videos, etc.) by also showing a dashboard in which information about the IP status of the technology is described together with some useful info about the entity posting the technology.

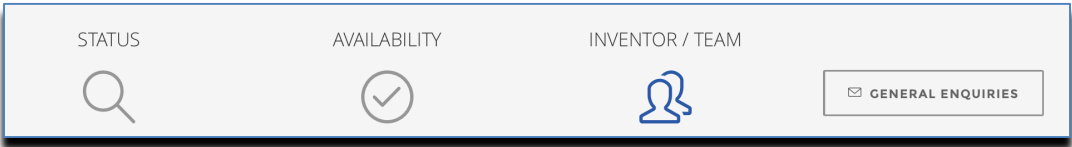


Figure 21 – IPR status dashboard

The image below represents a description of a technology together with a reference to the portfolio of the entity that posted several technologies under the same name. In this case, for example, the image shows that the technology in question belongs to the fields of medicine and life sciences, the TRL is 2 (i.e. technology concept formulated) and the entity in question has a portfolio of three technologies posted on the website with three different TRLs.

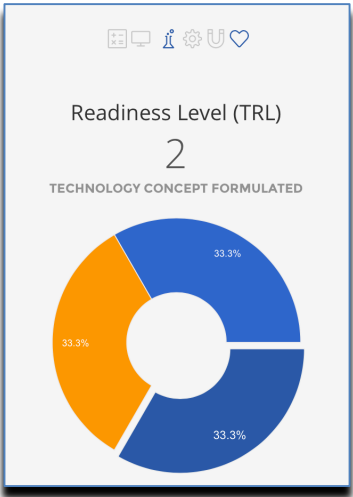


Figure 22 – TRL and portfolio window

The Helpdesk allows each tech transfer officer to be directly contacted by sending an inquiry from the website. Assistance in establishing further contacts between the parties will also be provided by the Helpdesk as the interest develops.

Organization of seminars and webinars on topics related to innovation and tech transfer with a focus on the EU and Japan

Another important pillar of the Helpdesk is the organization of physical (i.e. seminars) and virtual (i.e. webinars) events on topics covering tech transfer and innovation with a focus on the EU and Japan. The relevant materials, like videos and presentations will also be available for consultation on the website. Speakers from industry, and academia will offer their views on important topics regarding technology transfer in a broader sense, that already generated interest among the stakeholders. In fact, the first webinar (see figure below) of the Helpdesk held on 2 February 2016 attracted an unprecedented number of registrations and all of the attendees (i.e. 70) participated for the entire duration of the event therefore proving the relevance of the topic, and quality of the speaker as well.



Figure 23 – Screenshot from the first webinar

Access to resources (reports, presentations, etc.) related to tech transfer and innovation with a focus on the EU and Japan

The last and by no means less important section of the Helpdesk is dedicated to the available materials. The website features a list of available materials like reports, slide decks from presentations, webinars, articles and alike (see figure below).

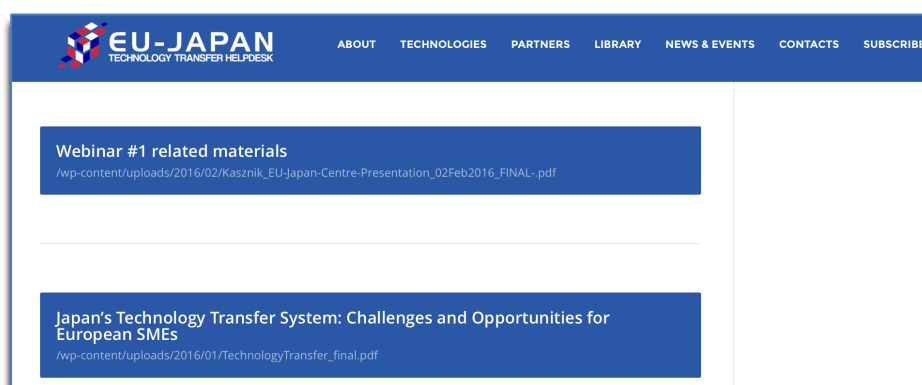


Figure 24 – Screenshot of the library section of the Helpdesk's website

This section of the website will ensure that the stakeholders will be always updated as to the activities run by the Helpdesk, and able to download the materials that are posted on-line for consultation. The Helpdesk is intended to promote open innovation and more in general the possibility to have access to valuable resources in the field of IPRs, technology transfer, and more generally, innovation. Therefore, representatives of industry and academia, and professionals are encouraged to submit articles, presentations for the benefit of the entire community.

Appendix 1 - Questionnaire

Survey on Japan Tech Transfer Opportunities for EU SMEs

The present survey is being carried out on behalf of a recent new service of the EU-Japan Centre for Industrial Cooperation named Japan Technology Transfer Helpdesk. The Helpdesk will help primarily EU SMEs find promising technologies originating from Japanese universities and research centers. The survey will help the Centre offer a more tailored service once the platform will be up and running. The present survey is directed to SMEs.

* Required

Where is your company located? *

Country

How many employees does your company have? *

< 10

< 50

< 250

How much do you know about tech transfer opportunities coming from Japan and more specifically from Japanese universities and research centres?

A lot

Not that much

Nothing

Other:

Would you prefer to buy or license a technology from a University/research center?

Buy

License

Don't know

Other:

As far as licensing opportunities are concerned, do you have any specific tech area are you interested in among the following

ICT

Engineering

Design

Agriculture
Life sciences
Physical sciences
Other:

Do you think you would use licensed or purchased IP from Japanese research institutions mostly to:

Sublicense/assign them to other companies;
Embed the technology in future products and try to market them
Implement a defensive strategy
Potentially start a research collaboration with a prestigious organization
Other:

Have you ever thought to find available technologies coming from Japan for your company?

Yes
No
Other:

What do you think would be the most difficult part of a potential tech transfer deal negotiation with a Japanese counterparty when licensing a technology from a Japanese university/research institution?

Open-ended question

If you had the opportunity to find the most promising Japanese technologies available for licensing on a single website, what would be the most valuable feature for you?

Advanced search methods
Explanatory videos of the technologies
I do not know
Other:

If you had the chance to watch free webinars concerning IP-related practices from industry experts, what would be the topics you would like to learn more about among:

Trademarks
Copyright
Patents

Design

Trade secrets

Other:

Provide your e-mail account if you want to be among the first ones to receive the report containing the results of the survey

A first draft report will be sent before the official publication to those providing their e-mail account in the present survey.

Do you wish to receive our EU-Japan quarterly newsletter?

Please note that if you wish to receive our newsletter you should provide your e-mail account (see previous question).

Yes

No