

Technology Licensing: A Win-Win Solution in the Intellectual Economy

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Received 30 June 2005

In a patent licensing transaction, the licensee receives the legal right to use the technology as described in the patent, generally in exchange for a financial consideration. Most of the know-how related to the patented technology, however, stays with the licensor. But in technology licensing, the transaction between licensor and licensee is of a much wider scope. In such a transaction, the licensor commits to transferring much more than the bare legal right to use the patented technology. In this paper, the author discusses about the difference in the patent licensing and technology licensing. The market for intellectual property has grown so fast that it is time to speak of a real intellectual economy. Now technology licensing is the fastest and the most cost-efficient way to market-introduction of a new product. Thus technology licensing is the need of the hour as it creates win-win forms of cooperation.

Keywords: Technology licensing, patent licensing, open innovation, the intellectual economy

Over the last few years, technology licensing has become an important feature in the general arena of licensing of intellectual property. There are a few important characteristics of technology licensing that enable us to distinguish this form of licensing of technical intellectual property from 'pure' patent licensing.

In a patent licensing transaction, the licensee receives the legal right to use the technology as described in the patent, generally in exchange for a financial consideration. Most of the know-how related to the patented technology, however, stays with the licensor. It is up to the licensee to maximize efficiency in his use of this technology, for example, when the licensee wants to incorporate the technology in a new product he is developing. The licensor does not legally commit to any obligation to assist the licensee in this process.

In technology licensing, the transaction between licensor and licensee is of a much wider scope. In such a transaction, the licensor commits to transferring much more than the bare legal right to use the patented technology. A lot of know-how is transferred, too. The licensor actively assists the licensee in the development and/or implementation of the patented technology. This assistance can and does take many forms. The licensor can provide extra documentation regarding tests and demonstrations of

the patented technology he has executed. He can include software that enables and facilitates its implementation. He can also provide training and education to employees of the licensee, so that they can become better acquainted with the nuts and bolts of the patented technology. He can even temporarily detach some of his own employees to the licensee in order to facilitate optimal use. And he can commit to a 'post-licensing' consulting agreement, whereby he incurs the obligation to make himself available - for a certain period of time from the moment the licensing agreement is signed - to help the licensee to overcome any unexpected difficulties in the implementation of the patented technology.

Imagine that competition on the global market is like an international cricket tournament in India. Licensing a patent is comparable to supplying a team with the mere right to participate in the tournament. Technology licensing, on the contrary, is comparable to offering the team not only the right to participate, but also the schedule for the different matches, the location of the venue, the best way to get there, the weather forecast for the days the tournament will last, the kit most suited for the occasion and - just in case - a clear rule book. This would obviously save the team a great deal of time and effort in its preparation for the tournament. In the same way, technology licensing can save a licensee a lot of time and effort in his endeavor to transform the patented technology into a market-ready product of his own.

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Open Innovation and the Intellectual Economy

Why has technology licensing become so popular over the last few years? To answer this question, we have to take into account the dramatic developments in the markets for technology over the last few decades.

Since 1985, there has been a rise of globalization and the constant demolition of economic barriers between countries and regions. Dazzling progress in IT and the Internet have brought about a revolution in communications. Knowledge and marketing are now the key ingredients of commercial success, whereas production has become a commodity. As a result, intellectual property rights (IPR) have soared, as companies seek to both protect and exploit their knowledge. Lifecycles of products have shortened sharply; time-to-market has become an essential factor deciding the success or failure of an innovative product.

All these developments are having a dramatic effect on the nature and context of R&D activities. In the new setting, every pretension to dominate research areas such as semi-conductors, consumer electronics or medical equipment for an extended period of time is simply naïve. At the same time, the opportunities for companies and institutions that work together have grown enormously.

In this context, it is no wonder that companies are increasingly sharing costs and opportunities by working together in R&D and by looking outside their own laboratories for useful inventions from outsiders. In R&D, open innovation – the cooperation between various companies – is the logical answer to globalization and the digital revolution.

The market for intellectual property has grown so fast that we can now speak of a real ‘intellectual economy’. In these days of open innovation, companies share and trade their knowledge - the fruits of their research efforts and their creativity - in this new intellectual economy. They sell, license, pool and exchange their knowledge in the form of intellectual property, mainly patents and copyrights. Often, a company decides that a promising invention is best further developed or exploited by another company; for example, if the product does not fit into its portfolio, or if they are not well placed to develop the technology or if the company does not want to market the product.

Even if a company decides to develop a technology and market a product itself, it does not necessarily

follow that it wants to do it on its own, maintaining exclusive rights over the technologies involved. Often, it makes sense to share a technology with other companies, who will produce and market their own version of the product based on that technology. Together, these companies may be able to get a critical mass behind a new product, a critical mass that might be difficult to achieve by any one company on its own. Critical mass at the right time is often a vital success factor for a new product; for example, by creating a de facto standard that the market will follow.

The intellectual economy allows to share knowledge, transfer it to companies best placed to develop it which is good for society, because this way people will profit from more innovations more quickly.

In the process, intellectual economy allows companies to make a return on their investment in R&D. In the old days, companies would basically take a defensive, inward looking attitude. Intellectual property was essentially there to defend their own rights to their own inventions that they used for their own products. If they could not use an invention or technology covered by an IPR, such an IPR would gather dust on the shelves, without producing any direct benefit to society or to the company. Nowadays, companies with huge R&D budgets - including Philips – cannot afford this defensive attitude. In order to get a return on investments in R&D, the company have to look pro-actively for applications of the fruits of their efforts.

The Hour of Technology Licensing

Obviously, licensing is an integral part of the intellectual economy. Pure patent licensing has increased dramatically over the last few decades, as has the number of patents as such. More and more individual high-tech products nowadays incorporate intellectual property from a large variety of companies and sectors. It would be economically impossible for any one company to create enough intellectual property of its own in each area in order to build such a product on its own, without using anybody else’s intellectual property. Licensing-in this intellectual property is the logical solution.

In this context, technology licensing increasingly becomes an attractive alternative to pure patent licensing. At present, time-to-market has become an essential variable in business. Often, technology

licensing is the fastest and most cost-efficient way to market-introduction of a new product.

If a company wants to share its technology with others in order to achieve a critical mass for a new product, it is often in the company's own interest to not just make the patented technology legally available to third parties through patent licensing, but to offer these third parties a technology licensing deal, so that the collective momentum behind the new technology and product(s) can be built up quickly.

Technology licensing creates win-win forms of cooperation. The licensor benefits, because he receives a financial return on his research effort – and sometimes the added advantage of extra market momentum behind one of his own inventions and the creation of a de facto standard around his technology. The licensee benefits, because he gets a head-start on a fast track to market introduction of a new product. And - last but not least – society at large and consumers benefit, because technology licensing ensures that new technologies find their way efficiently to those best placed to transform these new technologies quickly in useful new products.

Philips and Technology Licensing

Intellectual property and licensing are important issues for Philips, a high-tech company active in healthcare, lifestyle and technology. Philips has five product divisions: medical systems, consumer electronics, domestic appliances, lighting and semiconductors. In each of these five areas, Philips is known for its state-of-the-art technology, the result of the excellent work of the company's large Philips Research organization. The work of Philips Research is complemented by the superb development within the product divisions themselves. Philips invests billions of dollars every year in R&D and produces about seven thousand documented new ideas and inventions annually, that's the equivalent of roughly thirty discoveries every working day. This creative output generates 3000 patents a year, as well as 800 scientific articles. Philips currently has a portfolio of more than 100,000 patents.

One of the reasons Philips is so successful in research is because the company has embraced the spirit of open innovation and cooperates a lot with outsiders. The company shares its ideas with others and others share their ideas with it. Philips looks outside the organization for new ideas and research expertise and combines R&D efforts with other companies, to the benefit of all partners involved.

Philips was one of the first major high-tech companies to engage pro-actively in patent licensing. The company is well known for its licensing of technologies related to – among many others - CD's, DVD's, MP3 players, UHP-lamps and digital interconnectivity. Since 2003, the company has seriously pursued technology licensing deals as a separate licensing class.

Apart from the five product divisions, Philips has a sixth division, Corporate Technologies. Philips Research, Philips Applied Technologies and Philips Intellectual Property & Standards all form part of this division.

Philips Intellectual Property & Standards (Philips IP&S – a business unit with hundreds of employees scattered all over the globe) has formed a special group dedicated exclusively to technology licensing. The role of Philips IP&S technology licensing group is basically that of a sales & marketing organization for Philips' technologies. They are obviously well-prepared in the various technological fields that Philips covers, but they have also built up a strong global network of contacts which allows them to see value in technologies where other insiders would not necessarily see it.

The technology licensing group has established strong ties with R&D labs in all five product divisions, and – within the division, Corporate Technologies - with Philips Research and Philips Applied Technologies. In each division, the technology licensing group and the people from the labs jointly analyse which technologies are most suited for technology licensing and to what partner.

Almost inevitably, many high-quality researchers and developers combine a brilliant vision, the vision that allows them to be inventors, with a double blindness. On the one hand, they get so used to state-of-the-art, non-public technologies in their daily professional life that they forget how valuable these technologies might be to third parties that have not seen them yet. On the other hand, they are often so involved in improving a technology to solve a specific problem in their field of research that they do not realise how valuable such a technology might be for other applications.

It is one of the tasks of the technology licensing group of Philips IP&S to shed light where this blindness might be present. Even when people have 'bought in' to the idea of technology licensing and want to participate enthusiastically, it is still important

that the people of our technology licensing group of Philips go through the different technologies in a structured way. In technology, as in other areas of business and life, 'from the inside looking out' is not the same as 'from the outside looking in'.

Together, people from the divisions and the technology licensing group define a list of technologies suitable for technology licensing, with priority for some technologies over others. Possible use of the technology both inside and outside Philips' own field of activities is considered. Criteria that determine the inclusion and spot of a technology on the 'technology licensing list' include the possible value for the licensee, the attractiveness of the market, the time and effort involved for Philips in transferring the technology and the strategic interest Philips might have in a technology licensing deal.

Once this list is established, the business-cases are clearly defined and the professionals from the technology licensing group market these technologies to the most suitable candidates. These candidates might be multinational companies, but Philips has also struck technology licensing deals with small start-up companies.

It is clear, therefore, that Philips takes a very proactive 'push'-approach to technology licensing: the company makes a big effort to select and present technology licensing deals to the wider market. At the same time, however, Philips is open to a 'pull'-approach and is more than willing to consider any proposals from third parties that come to the company with a proposal to license any of its technologies.

Philips Technology Licensing Deals

Philips offers a broad spectrum of technologies including process know-how, software and product-related technology in all its areas of activity. Obviously, Philips cannot publish all its technology licensing deals. Often, partners prefer not to inform the wider public of a deal. They have plans to incorporate the licensed technology in future products and this can be confidential information for competitive reasons.

One example of successful technology licensing by Philips is the CoolFlux DSP Core. This DSP (digital signal processing) technology provides a standard chip platform allowing for increased audio-quality in applications with ultra-low power consumption in the audio-industry. As a programmable building block for the design of audio chips, the CoolFlux DSP Core is therefore

extremely well suited for applications such as hearing instruments, MP3 players and headsets.

The CoolFlux DSP technology is based on years of research and product experience in the field of digital audio and ultra-low power technologies at the Philips Digital Systems Labs (PDSL) in Leuven (Belgium). PDSL is one of the founding members of DSP Valley, a technology networking organization with more than 1800 DSP engineers, also headquartered in Leuven (Belgium). CoolFlux DSP Core is easily programmable with development tools provided by DSP Valley partner Target Compiler Technologies.

Philips has the intention to use the technology in its own products, but not exclusively; it has already licensed the CoolFlux DSP Core to four partners. In May 2004, Philips closed the first technology licensing contract for the transfer of the CoolFlux DSP Core. The technology was licensed to Dspfactory, a Canadian-based semiconductor company that is a leading supplier of ultra-miniaturized DSP technology. Dspfactory wanted CoolFlux DSP Core to implement it in its future generations of products for digital hearing instruments and other audio devices, offering customers a platform that is ultra-low power, feature-rich and extremely flexible. Since then, Philips has licensed the CoolFlux DSP Core to another three companies: two in China and one in South Korea.

In April 2005, Philips announced a technology licensing agreement with US-based Radiant Imaging Inc for the use of Philips' Parousiameter technology. The Parousiameter is an innovative instrument to measure the appearance of surfaces, characterizing features such as texture, gloss and flip-flop effects that often co-determine the quality and appearance of a product. The Parousiameter offers significant benefits in costs and speed of measurement compared to the scatterometers traditionally used for this task.

The development of the Parousiameter started ten years ago in Philips' laboratories. Philips has used and will continue to use the technology when checking its own products such as televisions and luminaries, but it decided the Parousiameter technology could be shared with third parties. Radiant was an excellent candidate, because of their technical expertise, market knowledge and worldwide sales and distribution network in this area. Radiant Imaging is the worldwide leader in imaging systems for light and color measurement, and for illumination engineering tools and services.

Radiant will build, further develop and sell the Parousiameter devices. The Parousiameter enables Radiant to offer the same benefits of ease-of-use, high measurement accuracy and low cost of ownership to surface inspection applications that the company has already established in imaging measurement systems in the display industry. The data acquisition and processing software to be developed by Radiant will be licensed back to Philips. At the same time, Philips expects to license the basic Parousiameter technology to other partners, too.

Conclusion

These two examples illustrate how technology licensing is a very appropriate form of licensing in this age of open innovation with its global markets, its essential importance of time-to-market and the necessity for innovative companies such as Philips to find creative ways - that are at the same time attractive to prospective partners - to earn a return on its high investments in R&D. Society at large profits, too, because technology licensing facilitates the fast and efficient introduction of new products. Therefore, technology licensing is truly a win-win proposition.