

## Licensing-Based Business Models

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### Abstract

This article describes a framework of licence-based business models for technology-driven companies and highlights some of the crucial issues in tailoring licensing agreements to the needs of the chosen business model.

### 1. Introduction

Why license? Well, there are many reasons. Fundamentally, licensing is a way of providing access to technology in exchange for money or other benefits, such as access to other technology (known as cross-licensing).<sup>1</sup> Rather than assigning technology to a seller at an agreed price, licensing allows parties to share success and risk and, in most cases, to avoid having to put a price on the technology, which is often problematic.<sup>2</sup> Due to globalisation and the increasing complexity and convergence of technology, companies are pushed to rely more on open innovation—which includes greater collaboration with external partners to gain access to technology—and to commercialise their technology broadly, thereby sharing success and risk.<sup>3</sup>

This is particularly true for enabling technologies that have many applications across different markets. Thus, it is possible to set up a business model that is built entirely on licensing or, more typically, a business model that combines licensing with the licensor's own R&D and production. In this way, a company may be open to licensing in certain areas and within a certain scope and have licensing as a part of its business model, while also commercialising a part of the technology itself. It is important for technology companies to understand how they can use licensing to improve both the development and commercialisation of their technologies.

### 1. Licence-Based Business Models

The diagram in Figure 1 below provides a simple framework of basic licence-based business models for technology-driven companies. The company is positioned in the context of a value chain with upstream development partners, downstream commercial partners (i.e., vertical market actors) and horizontal competi-

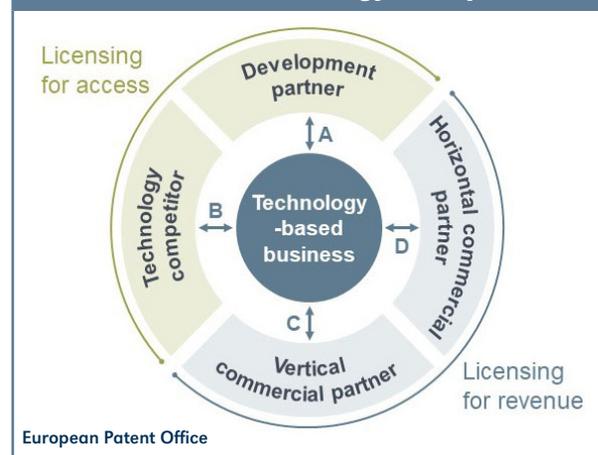
tors and commercial partners. The diagram presents the key potential relationships available to technology companies on the technology market, including two main market interfaces:

- **Development**—this includes the development partners and co-opetitors<sup>4</sup> through which the licensor seeks to gain access to the technology it needs to develop its value proposition. In general, licensing for development/access serves to reduce the cost or increase the speed of development, or to reduce the legal risk for the company via enhanced freedom to operate (FTO).
- **Commercialisation**—this includes the vertical and horizontal partners that will further commercialise the licensor's technology across the main vertical application and markets as well as other, complementary applications and mar-

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Figure 1. Licence-Based Business Models For Technology Companies



1. <https://www.upcounsel.com/cross-licensing-agreement> (accessed 22.03.2022).

2. LESI, IP Valuation Business Briefing, May 2020, <https://www.lesi.org/publications/business-briefings> (accessed 22.03.2022).

3. Wim Vanhaverbeke, *Managing open innovation in SMEs*, Cambridge University Press, 2017, ISBN 9781139680981.

4. A combination of co-operator and competitor used to denote entities that usually engage as competitors but may also co-operate to achieve potential win-win situations.

kets. In general, licensing for commercialisation can help companies generate revenue in areas where direct participation on the market for the product or service concerned is problematic (*e.g.*, due to high entry barriers). It also provides a solution for companies that do not have the capacity to pursue all available options.

The four main licensing-based business models (A-D) shown in Figure 1 are the following:

## A. Access to Technology

In this licensing model, the licensor works with development partners to gain access to key technology resources and/or capabilities that are not present within its own business or are too time-consuming, costly, difficult, or risky to develop internally. Licensing in necessary technologies can help to reduce costs, reduce lead times, and enhance value propositions. This type of licensing is also a primary technology transfer method for university-based start-ups, which often license in IP from their source institutions. There are various technology transfer case studies<sup>5</sup> that focus on this particular aspect. Two examples are the university spin-outs Cubicure (Austria), an additive manufacturing company, and Blubrake (Italy), which develops an anti-lock braking system (ABS) for e-bikes.<sup>6</sup>

## B. Freedom to Operate

In this licensing model, the licensor seeks to gain access to the IP of potential competitors. Instead of accessing technology, the focus of a Freedom to Operate (FTO) business agreement is typically on licensing IP rights (*e.g.*, patents) to mitigate the risk of infringement or in response to a threat of invalidation of the company's own patents. This is typically a contentious agreement resulting in the exchange of money and/or the mutual cross-licensing of IP rights. If the licence delivers technology resources or knowledge, see model A. If it results in a net payment to the technology company, see model D. For an example of how a *de facto* cross-licensing agreement secured freedom to operate, see the case study on the French digital communication company Webdyn.<sup>7</sup>

## C. Licensing vs. Production/Services

In this licensing model, the licensor seeks to commercialise technology as a primary means of generating revenue in full or in part. The technology company could license its technology exclusively to one other company in return for royalties on the sale of

products/services utilising the technology—a model typical of the life sciences industry. For an example, see the case study on Dermis Pharma, a Turkish company that develops medical products.<sup>8</sup> Other options include granting non-exclusive licences to multiple actors within the same market, as is typical in ICT (a strategy applied, for example, by Spanish telecommunication technology provider Fractus)<sup>9</sup> or granting an exclusive licence to specific actors across different geographies, as many SMEs do, or a specific field of use in the case of platform technologies. As mentioned above, this licensing model can be combined with a technology company's own direct commercialisation on some markets and licensing on others (*i.e.*, a hybrid approach), as practised by the Austrian biotech company Marinomed.<sup>10</sup> Note that the sale of technology components or materials to downstream actors can also benefit from technology licensing covering usage, rights to further development, and associated trade marks.

## D. Complementary Licensing

This model is similar to model C but focuses on generating revenue as a secondary means of commercialising a technology. This can include the licensing of technologies that are non-core to the company or in fields of use that are beyond its projected commercial roadmap. See, for example, the strategy of Swedish technical textiles developer and provider Oxeon.<sup>11</sup> This model can be useful as a means of generating revenue to support growth or of providing proof-of-concept evidence for use on other markets. As an alternative to licensing, a company can also sell non-core IP. For an example, see the case study on German company fos4X.<sup>12</sup>

## 2. Tailoring When Licensing

The cost and complexity of negotiations are widely documented as key obstacles to the collaborative exploitation of new technologies.<sup>13</sup> While master agreements have been published<sup>14</sup> that allow companies

8. See [www.epo.org/technology-transfer-case-studies#dermis](http://www.epo.org/technology-transfer-case-studies#dermis).

9. See [www.epo.org/sme-case-studies#fractus](http://www.epo.org/sme-case-studies#fractus).

10. See [www.epo.org/sme-case-studies#marinomed](http://www.epo.org/sme-case-studies#marinomed).

11. See [www.epo.org/technology-transfer-case-studies#oxeon](http://www.epo.org/technology-transfer-case-studies#oxeon).

12. See [www.epo.org/technology-transfer-case-studies#fos4x](http://www.epo.org/technology-transfer-case-studies#fos4x).

13. See for example EPO (2019) Market success for inventions, Munich, European Patent Office. This study shows that the cost and complexity of negotiations was the second most important challenge in collaborative exploitation of patented inventions for European SMEs.

14. An example is included in the IP Agreement Guide, <https://www.ipag.at/en/model-contracts/>.

5. [www.epo.org/technology-transfer-case-studies](http://www.epo.org/technology-transfer-case-studies).

6. See [www.epo.org/technology-transfer-case-studies#oxeon](http://www.epo.org/technology-transfer-case-studies#oxeon) and [www.epo.org/technology-transfer-case-studies#blubrake](http://www.epo.org/technology-transfer-case-studies#blubrake).

7. See [www.epo.org/sme-case-studies#webdyn](http://www.epo.org/sme-case-studies#webdyn).

to get an understanding of the anatomy of a licensing agreement, in practice licensing agreements are typically tailored to the particular deal supporting the business cases of the parties. The following sections present some initial considerations in the form of example questions that could serve as a basis for checklists facilitating the negotiations.

## 2.1. What Are Your Licensing Objectives?

It is important to clarify your objectives in entering a licensing relationship with a licensee.

### Checklist:

What do you want to achieve or obtain?

- cash
- access to someone else's technology
- further development of the technology
- avoid losing freedom to operate

What are you willing to give up?

- control
- risk distribution (warranties and indemnification, milestone payments, minimum royalties)

What are the risks associated with licensing?

- non-use of the technology
- excessively high or low royalties limiting partners' motivation
- invalidation of patents
- loss of trade secrets

What are the opportunities associated with licensing?

- How can the risks be mitigated and opportunities maximised?

It is equally important that you understand the objectives of your intended licensee.

### Checklist:

- How has your intended licensee built its own internal business case for this licence? Why does the intended licensee want a licence?
- Are you sure you understand the win-win relationship?
- What investments may the licensee have to make and commit?
- What does this mean in relation to the licence terms?
- Which countries are relevant and realistic for the licensee?
  - Markets
  - Production and services
- Which applications are of interest to the intended licensee?

- Is it important for the licensee to have the right to extend protection, *i.e.*, for a PCT application in the national phase, or to have the right to have a patent assigned in case the licensor chooses not to maintain a patent?
- Does the licensee want to have the right to enforce the patent if the licensor chooses not to?

Licensing agreements often result in complex and long-term contractual relationships and may require quite close collaboration at times, especially if know-how or trade secrets are licensed. It is crucial, therefore, to establish a high level of trust between yourself and the licensee and carefully consider if you and the licensee are a good fit.

### Checklist:

- Will the licence create more value for both of you than either of you could create on your own? Increase the "size of the cake" to be shared by looking for synergies.
- How are you and the licensee related in the value chain?
- Can you trust the licensee?
- What measures have been taken to ensure permanent mutual trust (regular meetings, progress reviews, etc.)?

## 2.2. What Exactly Are You Licensing?

It is important to clearly define the licensed object, *i.e.*, formulate exactly what the licensee obtains access to. From a technology perspective, the licensed object may primarily consist of a patent or a patent application (in full or in part; we will discuss this in more detail in Section 2.3, Scope) and technical know-how not included in the patent or patent application. These items will be our main focus. Additionally, the licensed object may consist of copyrights, software, databases, design rights, trade marks, biological materials, etc.

The licensed object should be matched to the technology and market situation. It is not at all self-evident that a company should license its entire patent portfolio, or even an entire patent family, so these decisions require serious thought. For example, if one patent from a package is not technologically relevant for the licensee, it does not make much sense to provide access to it. Nor is it necessarily a good idea to grant a licence to patents covering geographical markets where the licensee does not have any kind of activity. However, know-how is less bound to specific geographical areas.

Patents and patent applications are fairly easy to refer to, since they have official numbers that may be cited. Know-how is more difficult to cover in the form of a patent claim. In our experience, there are two

main ways of handling know-how: a) make a list of documents containing know-how in an appendix, or b) define know-how by reference to its subject matter. For example, all know-how necessary to optimise the technology package. This should ideally involve collaboration between a technical expert and a lawyer. Also note that while the licensee might well be able to create the know-how itself, it is often more cost-efficient and time-efficient to obtain a licence, enabling both companies to benefit from the research already done. The licence might also include an R&D co-operation component regulating technology transfer and further development.

Licensing know-how additionally requires a high level of trust between the licensor and licensee since the know-how may well constitute a trade secret of the licensor. Violation of the confidentiality provision in the licensing agreement could result in the know-how losing its status as trade secret—with potential consequences for the licensor's business. There are also various reasons to keep a patent application secret until it is mandatory to publish it, so confidentiality is also important in the preliminary phase. Below are several key recommendations regarding the licensed object.

## Checklist:

- Be very specific about what the licensed object includes (and what it does not include). While it may be tempting to include all intellectual property and all intellectual assets you own, this may not be the best option; Also, the more you include, the fewer alternatives remain open. This is not to say that one should always be on the look-out for another licensee, but rather that options should be excluded for a reason and not by oversight.
- Identify any technical assistance that may be required for any transfer of know-how, or any optimisation of a patent.
- Consider the geographical limitations of the licensed object. For example, if you own a patent in one country, you cannot automatically also license it outside that country. However, you may be able to license attached know-how more broadly.
- If you intend to license trade secrets, first make sure to establish a high level of trust between you and the licensee. Furthermore, impose a standard procedure that includes good practices to ensure that the know-how remains secret and make sure there are also sufficient incentives for the licensee to keep it secret. Trade secrets have the potential to keep the licence alive after the

patents have expired or if patents are not granted or invalidated—of course typically at lower royalties than with valid patents.

- Consider further developments. Should they be included in your definition of the licensed object?
- Also consider further developments effected by the licensee. In the case of a non-exclusive licence, this might involve a back-licence so that subsequent improvements can be made available to the licensor and other licensees.

## 2.3. What Should the Scope of the Licence Be?

Experience has shown that merely distinguishing between exclusive and non-exclusive licences is too simplistic a model. Whether or not a licence should be granted exclusively or non-exclusively depends on many factors, such as the sector, the technology concerned, etc. For example, a licence as a part of a technical standard package in the telecommunications industry (where the entire patent package is licensed, on pre-defined terms) is very different from a one-off licence for a specific patent. Nevertheless, the scope of the licence can be limited in many different ways so that even if a licence provides exclusivity, this may still result in a narrower scope than a broad non-exclusive licence. Several parameters can be combined in different ways to add up to the scope.

## Checklist:

- **Exclusivity:** What degree of exclusivity is provided? Is it a non-exclusive licence, an exclusive licence, or a sole licence?
- **Actions:** What should the licensee have the right to do with the licensed object (e.g., manufacture it, sell and distribute it, etc.)?
- **Geography:** What geographical territory is the licensor providing access to?
- **Application:** What applications and/or fields of use does the licence cover? For example, you may have a patent that can be used both for pets and for humans, but the licensee might be focused on one only.

So, for example, if a licensor suggests “a non-exclusive licence to use patent X worldwide,” this is problematic for different reasons. For one thing, it fails to define exactly what the licensee can do with the licence or which applications it covers.

Compare this with “an exclusive licence to patent X to manufacture Y products intended for pets in country Z.”

Below are several key recommendations regarding the scope of licensing:

- Be very specific about the scope of the licence. Consider all alternatives with an open mind—do not assume that a non-exclusive licence is necessarily best suited to your situation, or the most attractive to the licensee. For example, a non-exclusive license may not be attractive enough if the licensee needs to make further investments. Also, keep in mind that once you grant a non-exclusive licence, you limit your opportunities to grant an exclusive license. Consider what the licensee needs for its internal business case.
- An exclusive licence should ideally be tied to milestones of some sort, such as a certain number of products sold. If the milestones are not met within a certain time frame, then either the licence should be turned into a non-exclusive licence, or the licensor should have the possibility of terminating it altogether. Another option is to define incremental minimum royalties to be paid.
- If exclusivity is granted, it is wise to consider competition law issues, in particular when the licence could result in a relatively large market share.

## Conclusion

Technology owners have several options to develop business models that benefit from licensing opportunities. This is facilitated by the diversity of means to set up tailored contractual arrangements allowing them to create win-win relationships. However, specific challenges may arise, for example when innovative technologies have no ready-made market as they themselves create new business opportunities. An additional effort is required to achieve the intended commercial impact while the technology itself is being further developed and refined. This applies in particular to platforms or enabling technologies with multiple applications.

To give a concrete example, a company called WoodWelding<sup>15</sup> had invented a method for using ultrasonic waves to infuse thermoplastics into wood and other porous materials. The technology created a near-instant, very stable bond that could be used to attach hardware or fuse pieces of an assembly without using adhesives or fasteners. So, while the inventors had come up with an intriguing technology, they had trouble positioning it in the market due to the numerous potential fields of use.

The typical advice in such a situation is to find the “killer application” in an industry with low entry barriers, focus on that application and then reinvest the earnings to explore other options. In line with that,

15. Gerhard Plasonig, Pernilla Kvist, Martina Serafini & Evan LaBuzetta, “Collaborating For Growth: The Novel Cross-Licensing Model That WoodWelding SA Used To Break Into New Markets Globally,” *les Nouvelles* 107-110 (2015), June issue.

the most market-ready applications must be identified. In addition, in order to determine where the technology can be applied first you need to understand the market: what are its size and growth potential, who are your potential partners, is the market ready to take up new technologies, what is the potential for market penetration?

The company Oxeon, already mentioned above, followed exactly that route, and combined selling its own products with licensing them for non-competing applications (model D). In contrast, WoodWelding focused on licensing (model C) and, for each selected field of use, decided to grant an exclusive licence to a single player in order to motivate that partner to invest in the co-development of market-ready solutions. This model requires a unique field of use to be defined for each licensee.

Since each improvement to the platform technology can potentially benefit licensees in multiple fields, it was decided to include a kind of cross- or back-licence. As a result, each co-development agreement had the potential to improve the situation for each licensee but also avoided potential future freedom-to-operate challenges from new inventions down the value chain.

Because this licensing model provided multiple revenue streams early in the company’s life, it supported bootstrapping. In other words, it enabled the licensor to finance further R&D efforts, IP portfolio management, and the acquisition of new licensees with the revenues it generated rather than with third-party risk capital.

Many companies and technology transfer offices struggle with similar problems. A licensing approach like the one applied by WoodWelding makes it possible to unlock untapped value. A prerequisite for such an approach is to establish and maintain a strong IP portfolio based on the initial invention and to add patents that protect follow-on inventions, different fields of use, and related technical developments. A key business asset in such an approach, moreover, is broad geographical protection that covers all key markets and production sites. ■

Available at Social Science Research Network (SSRN): <https://ssrn.com/abstract=4099753>

## Disclaimer

Any opinions expressed in this article are those of the authors and not necessarily those of the European Patent Office.

Tailored licensing agreements can be complex as many different, non-obvious options must be considered and compliance with national and international regulations is crucial. Therefore, experiences described in this article should not be interpreted as legal advice. We recommend involving specialised lawyers in the implementation of an intended licence transaction.