

## Valuation of patents: science or magic?

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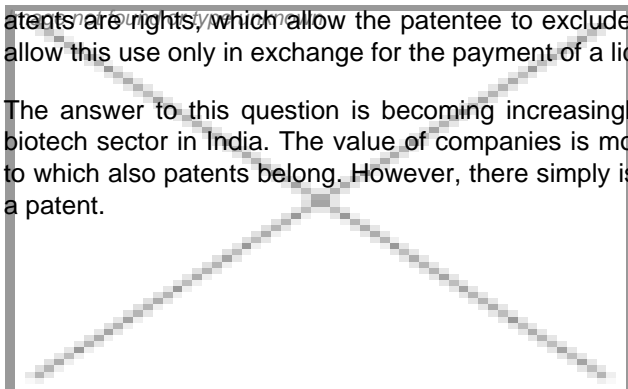


### Valuation of patents: science or magic?

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Patents are rights, which allow the patentee to exclude competitors from the commercial use of the patented technology or to allow this use only in exchange for the payment of a license fee. No doubt patents have a value. But what value is that?

The answer to this question is becoming increasingly important in knowledge-based economies and sectors, such as the biotech sector in India. The value of companies is more and more shifting from material towards so-called immaterial assets to which also patents belong. However, there simply is no commonly accepted method available yet to determine the value of a patent.



The absence of such common methods to determine the value of a patent is making it more difficult for small and medium-sized innovative biotech companies in the founding and growth phase to get the funding they need in order to continue to grow. The value of such companies is often based to a considerable extent on the Intellectual Property (IP), and therefore also on patents and patent applications of the company or its founders. Negotiations with potential investors or other capital providers would certainly be easier if such company could assign a defined value to its patents that has been determined by a commonly accepted method.

In addition, valuation of a portfolio of patents and patent applications can also be important in the M&A business, e.g. if one biotech company wants to acquire another company that has an existing portfolio, which is also to be acquired.

### **No market price for patents**

The value of an economic asset in a free economy is determined by free price generation in the market. If there is a liquid market for a given economical good the determination of its price is continuously happening, which allows participants of the market to determine the value of their own comparable assets. The direct comparability between the corresponding assets is, however, of vital importance for the determination of the value according to market prices that have actually been paid. Such comparability is there for commodities or other mass goods of the daily need. Here, liquid markets exist with a daily price determination, which allow for a rapid determination of the value.

The lower the comparability of the goods and the lower the liquidity of the market, the more difficult is the price determination. Even when offering daily goods such as cars or property, one can have the painful experience that the own view of the price cannot find much interest in the market. It is obvious that patents are unique-even more so than e.g. property. A comparability is hardly there. The market is less liquid and, at the foremost, less transparent. Selling and licensing of patents is happening, but the information on prices actually paid usually stays behind closed doors. Therefore, a determination of the value of a patent by actually paid market prices is usually not possible, or at least very difficult.

### **Plans for standards**

At least in Germany, the valuation of patents is going to be subjected to defined standards. In February 2007, the German Industry Norm DIN PAS1070 "basics of proper patent valuation" has been published. In November 2007, a DIN board was formed to work on the basics and standards for patent valuation. In Germany, patent valuation has therefore made quite a bit of the way from magic to science. A modernization of the German balance law, that is about to take place, is surely going to speed up the further development towards commonly accepted standards for valuating patents.

For Indian biotech companies it is important to remember that patents can be looked at as an important commercial asset, the value of which can be determined. In takeovers or mergers of biotech companies the value of a given patent portfolio somehow needs to be valued. At least in Germany, the standards for determining the value of patents "be it a German national patent or the German part of a European patent (Europe direct or PCT) " are developing in a promising way.

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## Different approaches for valuation

Since reliable market prices as an important indicator for the value of a patent are missing, the daily practice has formed other approaches for the valuation of patents.

**Cost approach:** The cost approach is based on the idea that the costs for the development, the filing and the maintenance of a patent reflect its value. The cost approach comprises direct costs for obtaining the patent as well as indirect costs, such as the R&D costs, which can be quite substantial in the biotech and pharmaceutical sectors. However, the costs for creating the patent are usually not related to its potential future economic benefit that can be gained with the patent. Unfortunately, huge efforts in R&D and patenting do not necessarily guarantee obtaining patents of high commercial value.

**Market approach:** The market approach tries to make an analogy to known transactions of comparable patents that have already been made in the past. The valuation is made according to assumed adequate market prices that have been achieved in transactions of comparable patents between third parties in the market. The market approach is vitally dependent on the reliability of the data on which the comparison is based on. Since there is no active and transparent market for patents, such comparable data can hardly be obtained. An additional problem is that there is simply no general comparability of patents, patent transactions and companies involved in that. In practice, there are attempts to create an almost complete comparability by so-called "indicator models". Here, patent transactions that have been published by the parties are analyzed and various data on the patent that can be looked at statistically are determined, such as the number of the claims and the number of inventors. Subsequently, a correlation is made between these patent indicators and the price that has been paid in the comparable transaction. It is assumed that, in practice, a given patent with similar indicators can achieve a similar price in the market. However, there is no model yet that can be looked at and examined by everybody. In as far as models exist they are simply not published by the developers.

**Profit approach:** The profit approach tries to forecast the future economic benefit of the patent over an adequate period of time and to discount the interest of the thereby generated future cash flows on the current value in cash (Discounted Cash Flow Method). When determining the profit a patent can usually not be looked at in an isolated way. In a first approach, a patent is only a right to exclude third parties from using a protected technology. In order to create from this right a commercial benefit, complementary goods are needed, such as production means, access to a market etc. A potentially valuable patent can have a low profit if it is in the hands of a company that has no or insufficient means to actually use the patent.

The so-called "Value in Use" is determined based on the assumption that the patent to be evaluated is kept and used and commercialized by its current proprietor. The existing complementary goods of this proprietor are known. The "Value in Use" determined in this way can be an important indicator for a potential investor that wants to invest e.g. in a start-up company.

The so-called "Transfer Value" of a patent assumes that the patent is sold and, as the case may be, used by a third party. It can be substantially lower than the "Value in Use" and can be important especially if a patent is to be used as a security for a loan. One advantage of the profit approach is its transparency and its traceability. Moreover, in practice, there is quite a body of experience with the profit approach, such as the determination of damages in a patent litigation trial or the determination of an adequate compensation for an employed inventor.

## About the authors

Dr Ralf D Kirsch studied biology in Konstanz, Germany, and went into research in molecular biology and cellular and molecular immunology at the University of Cambridge, UK, where he did his PhD. After his science period in Cambridge, he did a postdoc at the Max-Delbrueck-Centre for Molecular Medicine in Berlin, Germany, also in the field of cellular and molecular immunology (kirsch@glawe.de).

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Dr Thomas Westphal studied biology in Moscow and spent years in research in genetics, molecular biology and biochemistry at the Lomonossov University in Moscow as well as at the Martin Luther University in Halle, Germany. He is active in the field of patents and trademarks.