Patents and Utility Models

by Dr. Daniel Alge, July 1999

Biotechnology is right now among the most innovative technological fields. This also registers in the fact that a vast array of patents is filed and granted in the sector of biotechnology. Filing, obtaining and maintaining a patent incurs significant costs. Still the total amount of annual patent applications is growing, and in the field of biotechnology even disproportionately so. Especially in biotechnology the value of a company is largely determined by its technology, know-how and patents and not so much by the number of employees, turnover or fixed assets. This short article is to explain why this is the case and why companies invest a lot of money in intellectual property rights such as patents and utility models (intellectual property rights closely related to the patent with shortened validity).

From the idea to innovation – a long way

The process of innovation is protracted and full of effort. It takes a lot of time, work and money until an innovative idea becomes a marketable product and a success. Once the innovative product is on the market, it is in danger of being easily imitated by a competitor. Of course the copy of a product can be sold at a much lower price, since – in contrast to the original development – the entire research and development costs (including start-up difficulties, lengthy product optimization, expensive failures, etc.) do not have to be considered in calculating the sales price. In general the costs for imitating innovative products only amount to between one tenth and one hundredth of the costs of the original development, since the optimized market product serves as a basis. In principle imitating is allowed in business – with the exceptions of the regulations laid down by competition law. Those, however, only protect against imitations that are closely modelled after the original. Eventually, no profit-oriented company would embark on an innovation process if it did not have use of a really efficient protective instrument against imitations – the patenting of inventions.

What is a patent?

In fact, patents are almost the only possibility to effectively keep or drive imitators of inventions out of the market, since patents or utility models can protect the general innovative idea and not only a particular developed product (or process).

A patent issued for an invention gives the patent holder the right to exclude others from commercially utilizing this invention. This means that a third party interested in the commercial exploitation of an invention protected by a patent must first get the patent owner´s permission to do so. In many cases this permission is specified in a contract, the so-called license contract. In this contract the licensor (patent owner) grants permission to the licensee to utilize the protected invention under certain conditions. In exchange the licensee in general has to pay a license fee to the patent owner, e.g. a certain percentage of the price of the patented product.

If, however, a competitor imitates an invention and tries to exploit it commercially without having been granted permission to do so by the patent owner, legal steps may be taken against the competitor for infringement of a patent. The competitor may be legally forced by the patent owner to cease from trespassing on the patent. In addition, the patent owner may demand adequate financial compensation for the illicit patent exploitation as well as claim damages from the infringing party. Termination of a patent infringement may be enforced by an injunction or also through shortened court proceedings (provisional court of law). This is essential since patent infringement proceedings may take a long time, the infringing party, however, must be driven out of the market rather quickly.

Not only the mentioned long durations but also the very high costs of patent infringement proceedings are the reason why the litigant parties usually arrive at a private settlement during the legal proceedings, even before the court has given a condign verdict.

The essential components of a patent

Essentially a patent consists of patent claims and patent description. The patent claims define the area of protection of a patent. By means of the patent claims a court determines whether a certain object or action infringes a patent or not. Thus the claims are the most essential part of the patent and – due to their legal character and the necessity for comprehensive protection of the invention – must often be drafted in a very complex way. Generally speaking, an object to be examined that has been marketed without the consent of the patent owner and has all characteristics stated in the patent claim of the patented object is regarded as infringing the patent. If, however, the object to be examined differs in one or even several characteristics from the object covered by the claim, we do not, in general, speak of patent infringement (with the exception of the so-called "equivalent forms of design", which are not to be discussed here).

The patent description must present the claimed invention in a way that allows an expert to copy this invention. This means that the patent description must enable an expert to reconstruct the invention in the entire extent claimed. If, for instance, a patent description lacks an essential step in a production process, making a reproduction impossible (unless the expert makes an invention himself), the patent could even be declared invalid (in opposition or even nullity proceedings).

Patentability requirements

In addition to a sufficient disclosure of an invention in the patent description, a patentable invention must fulfill three essential criteria of patentability: it must be new, based on inventive activities and commercially applicable.

The invention is regarded as new if it has not been in the public domain anywhere in the world and in any way, i.e. prior to the day of application the invention must not have been published in writing (e.g. in a scientific article, abstract or poster, etc.), orally (e.g. at a public lecture, workshop or discussion, etc.) or electronically (e.g. on TV, in a public Internet newsgroup, etc.). This is also – and especially – valid for

publications of the inventor, since a one-year "period of grace" for publications of the inventor exists, with the exception of the U.S.A., only in very few states in the world. Especially in European countries such a period of grace for novelties does not exist.

An invention is based on inventive activities if it does not obviously result from the state of the art. State of the art – in contrast to novelty – is everything that has been in the public domain prior to the day of application of the invention. An invention is regarded as inventive if it does not represent an obvious further development of existing products or processes, i.e. if it boasts a certain inventive "knack" or a surprising result.

In general, the third patentability requirement, commercial value, can be easily fulfilled. It is sufficient if commercial exploitability is plausible. Technical progress is not even required (any more).

How to obtain a patent?

First of all a patent application must be drafted, which clearly defines the invention and claimes adequate areas of protection. Then the patent application must be submitted to the patent office. The day of application determines the time range of the invention. Then the patent application is examined by the patent office, with a formal investigation in many countries being followed by a material examination in order to check the fulfillment of the criteria of patentability. If the patent office discovers any flaws, it issues an official notice, which must be answered by the applicant within a given period of time by correcting the flaws (or by convincingly explaining why the objection by the patent office is not justified). In many countries (also at the European Patent Office) the submitted application will be published after a certain period of time, so that potential competitors may learn about this application. If the patent office finally approves of the application, the patent issues and a patent specification is published (in Austria, the application is made public only at this junction). Then follows a period for entering an opposition, during which any third party may enter an opposition. The opposition statement must contain the reasons why the patent was wrongfully granted. These reasons are then examined before the patent office in bilateral (patent owner – opposer) opposition proceedings with regard to their justification, the patent being finally either maintained in unchanged or amended form or revoked. In order to maintain a patent, annual fees have to be paid. Maximum duration of protection of a patent is 20 years as of the day of application.

In order to also obtain patent protection abroad, it is necessary to file patent applications in the countries where the protection is to be gained. In order to claim the time range of an Austrian application also for applications in other countries, it is necessary to file these applications at the various patent offices abroad within a year (the so-called priority year) after the day of application in Austria. Since this incurs high costs already at a very early stage of the invention – translation, official charges, fees for foreign (patent) attorneys – the submission of an "international application" (also called PCT (Patent Cooperation Treaty) application) is recommendable in many cases. By means of a PCT application the applicant can secure the option to be granted patent protection in about 100 countries (the signatory states of the Patent Cooperation Treaty) without having to submit applications in all states within the

priority year. The applicant is granted a total of 30 months as of the day of application in Austria to decide in which countries patent protection is actually to be applied for. Within these 30 months the applicant receives an investigation report as well as an expert opinion on the patentability of the invention, which are extremely helpful in evaluating the invention.

What can be protected by a patent?

Actually almost everything can be protected by a patent. Patent law only states a few exceptions to patentability, so that protection of inventions through patents may be obtained in all sectors of technology. The term "technology" is on purpose used in a very broad sense so that also fields like agriculture or medicine are regarded as "technological". The exceptions mentioned before, however, are relevant especially in the field of biotechnology. Therefore it is essential not to get in conflict with these exceptions by correctly formulating patent claims. Among these exceptions are therapeutic, surgical and diagnostic procedures on man and animal. Also excepted from patent protection are – apart from inventions that offend public order and good manners – inventions concerning new types of plants or animal breeds. These regulations on exceptions are defined in more detail in the EU Patenting Guideline on Biotechnology.

Otherwise the same patenting rules apply for biotechnology as for all other fields of technology. However, the practical application of these rules on biotechnological inventions has not yet been definitely determined with regard to many specific issues. Compared to other fields of technology, so far there have only been few court decisions to clarify these issues.