

BASIC NOTIONS ON TECHNOLOGY PROTECTION AND TECHNOLOGY TRANSFER

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A desirable yet rare case history in Spain features DNA polymerase Phi 29, an enzyme that facilitates DNA replication, discovered and patented (WO9116446) by researcher Margarita Salas of the Spanish National Research Council (CSIC). The licence of this patent to Amersham Bioscience, a company later acquired by GE Healthcare, has been one of the most profitable in Spanish public research.

Achieving success of this magnitude requires not only the development of quality science, but also steps to identify the commercial potential of the invention, to obtain adequate protection, to identify interested and interesting licensees, and to negotiate with them to obtain a good deal. In the following, I will try to explain the different steps that, with luck, as this also influences the process, will lead to successful technology transfer and commercial exploitation.

The process usually starts with an assessment of the economic potential of the inventions. Not all scientific breakthroughs have an industrial application. Therefore, the first step for efficient technology transfer is to select the most commercially suitable projects. Indiscriminate offering of technology to potential buyers weakens the credibility of the institution and thus, instead of favouring a possible success, even hinders the transfer of other projects of greater interest.

The scope and strength of the IP associated with the project should also be assessed. It should be stressed that the real asset being transferred is the IP rights, be they patents or trade secrets. Unfortunately, it is common that a good project cannot be made profitable because of poor protection. The quality of the IP depends not only on the invention and the prior art background, but also on the professionalism of the expert in charge of its protection, as well as the involvement of the inventors. Thus, the assessment of the IP allows, if necessary, and possible, to improve the protection to overcome the possible due diligence that the buyer will most likely carry out.

The next step is to establish the transfer strategy. Not all projects can be managed in the same way. The strategy should basically be defined according to the technology area and the time and money requirements for the development of the commercial product. In some situations, it will be possible to transfer the technology directly to the operating company, in others it will be necessary to create a start-up to further develop the product to a stage where it is attractive to the final buyer. In projects where the expected R&D costs to market are high, such as developments in biomedicine, the involvement of start-ups in the valorisation of projects is becoming increasingly important.

The search for potential investors or buyers should start once a suitable profile has been determined. This should preferably be done in a staggered manner. In this way, feedback from the first investors or buyers can be used to improve the presentations to new candidates. This feedback is very important since researchers, despite having a great scientific background, are often unaware of essential aspects for the industrialisation or commercialisation of a product or service.

Once interest has been established, the conditions of the transfer must be negotiated. The most effective strategy usually has two stages. The first stage involves reaching an agreement on the most important aspects of the negotiation, which should preferably be set out in a term sheet. The second stage, based on the agreed term sheet, is the preparation of a contract reflecting those terms and the other conditions necessary for a successful transfer. Attempting to agree directly on a contract can get the negotiation bogged down in collateral and less important issues, which can make it very difficult to reach an agreement.

Negotiations should, at least initially, ask for trade-offs based on well-established elements. Thereafter, flexibility is needed to determine which aspects are essential for the other party, on which it will not give way, in order to obtain compensation on those aspects on which it can offer more than expected. Thus, the licensor should include at least these elements of remuneration in its request to start a negotiation:

- Upfront payment
- Milestone payments
- Payment of IP expenses
- Payment of royalties on the final product sales price
- Minimum annual payment or possibility of reversion of the licence
- Payment of a percentage of the revenues from possible sub-licences
- Possible participation in the start-up in case it is set up

The drafting of the contracts involved in the transfer process is crucial. Contracts are generally only looked at in depth when there are disputes, and in such cases any small mistake can result in a completely unfavourable situation vis-à-vis the other party. Reaching an agreement on the terms of the term sheet is complex, but the work is not over until a final contract has been agreed by both parties.

Finally, it is important to point out that the financial and management conditions demanded by the licensing institution must be reasonable. If the institution obtains non-market conditions for the transfer of its technology to the start-up, especially if the latter will need a strong economic investment, this may lead to the company's non-viability. This is due to the more than possible lack of interest from investors who must participate in the following financing rounds in the face of reduced profit expectations. Taking advantage of the inexperience in negotiation of the start-up's researcher-promoters to obtain unrealistic licensing conditions can be a serious problem in the future. Sometimes the problem arises simply because of inexperience in negotiation on both sides (institution and researchers). It is not always the best deal to get the best conditions.