Workshop on Intellectual Property Issues Affecting Industry-University Partnerships

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- DuPont is committed to the concept of the open innovation model for research and development. A key to the open innovation model is the partnerships between industry and universities.

- I am very pleased to be invited to share some perspectives on these partnerships. While I am here to express my views and opinions about these partnerships, I am also in a listening mode and look forward to hearing views and opinions from the university side.

- While many partnerships with universities work well, others are not as successful. Based upon the partnerships that are not as successful, as well as those that do work well, I have the following general observations.

  1. The transactional costs for entering into research collaboration agreements with universities are generally too high. Agreements are too complex and take too long to negotiate. This is driven in part by the wide variety of terms and conditions we encounter when negotiating agreements with universities. Of course, universities can say the same thing about private industry, but overall I would say that the terms and conditions for “standard" items such as confidentiality, etc., are more uniform across private industry.

  2. There are unrealistic expectations about the value of inventions that may be made as a result of these research collaborations. I'll have more to say about this later, but in general it seems that the value capture desired by a university for work under a collaboration agreement fails to take into account the "D" part of research and development. Once an invention has been made, the road to commercialization has just started, and there are many additional risks that need to be taken; there is more investment that needs to be made; there are more regulatory hurdles that need to be surpassed, etc., before an invention can see the light of day as a commercial product. All these factors need to be taken into account in determining compensation to a university for their contribution to an invention, just as they would be taken into account in an arms-length negotiation between two companies.

3. In general, it costs industry 5-100 times the cost of R&D to commercialize an invention, depending on the type of technology and the industry it serves, as well as the starting point for the research. Liabilities associated with commercialization can be of the order of 2-3 times the cost of R&D and the time it takes to break even, based on cumulative R&D cost, can be on the order of 10-15 years, again depending on the type of invention and type of industry. Benchmarks on these issues for specific industries and technologies can be undertaken before R&D begins and should be part of the negotiation on industry vs. university rights on one-time up-front payments and/or on royalties for licensing the invention.

- The following are, in my view, the most important elements of research collaboration agreements with universities. I'll go through each element and what it includes, problems I see or have seen with university agreements on these issues, and some suggested paths for resolution or further discussion.

License type.

- Most university agreements provide that the industry partner receives a royalty-free, nonexclusive license to results of any research funded with the university as part of the collaboration. This is a fair trade. However, more and more, we see agreements from universities where the industry partner receives no rights with respect to the funded research; rather, the industry partner is granted an option to negotiate a nonexclusive license.

- A core principle for us is that intellectual property developed by a university partner, as a result of DuPont funding, should not be asserted against us. From our point of view, it is unreasonable that we would not obtain a nonexclusive license or non-assert of any intellectual property developed as a result of our partnership with a university. Under such a proposal, if a nonexclusive license were not consummated, it would result in a situation where intellectual property rights that were funded in part by DuPont could be acquired by a third party and asserted against us. Such an outcome would be unacceptable.

- Another potentially difficult issue is access to background rights, particularly university owned background rights. We understand the university cannot always grant broad freedom to operate (FTO) to an industry partner on other university background intellectual property (IP), since other faculty members' expectations for a share of royalty income would be frustrated. Such a grant could prevent future licensing of the IP, or reduce its value, and the IP may already be exclusively licensed to others so that such a grant is not possible. However, everything should be done to avoid a situation where background rights are in existence that would frustrate an industry partner's ability to exploit the results of a collaboration research agreement with the university.

- In terms of potential resolutions, we think it is most equitable to continue with a practice where an industry partner is granted a royalty-free nonexclusive license for the results of the research collaboration, with an option to negotiate an exclusive royalty bearing license. With respect to background rights, before a collaboration starts, the university should undertake appropriate due diligence and highlight to the industry partner any background rights that may affect the ability of the industry partner to commercially exploit the results of the collaboration agreement.

Payments.

- For the reasons described above, one of the most contentious issues to deal with in university-industry collaborations is the payment provision for an exclusive license to exploit the results of the collaboration. Often this provision is not dealt with in the research collaboration agreement, other than to provide that the industry partner will agree to pay the university a "reasonable royalty" for exploitation of any inventions developed under the collaboration agreement.

- I do not think there is always a meeting of the minds as to what the parties view as a reasonable royalty for exclusive rights, even before any collaboration begins. Therefore, I would like to present my view as to what constitutes a best practice in this area: to have the parties agree - *in advance* - to a range of what a reasonable royalty or other payment to the university would be if the results of the collaboration are successful and a product commercialized. I recognize, of course, the difficulty in determining what a reasonable royalty would be for an invention that has not yet been made. However, in industries such as ours, we do know what typical royalty rates are and, therefore, we have some basis to provide a range of royalty rates in an agreement. A key point here is the interests of both parties in avoiding a complex and protracted disagreement about the value of an invention after it has been made, but before it is commercialized. The specific factors that go into the royalty rate calculation can also be laid out in the agreement, including the following:

    - Bracketing (minimum and maximum amounts; threshold of net sales outside of which no royalty or fee is due) or caps on royalties and fees negotiated in advance. Justifications for this approach include:

      - risk of commercial failure or disappointing performance

      - investment required by commercial partner to bring technology to commercial application

      - liability (understanding that many public universities have their tort liability absolutely capped by state statute or constitution)

      - contribution by commercial partner or others to bring technology to the point of commercial application

      - relative importance of commercial partner's contribution to the end result

- royalty stacking provision in license
- value and extent of both parties' background IP
- existence of industry standards concerning relevant markets and typical royalties and fees
- typical profit margins in relevant market
- predictability of how results of research may affect commercial outcome(s)

- If it becomes difficult to reach agreement on bracketing or capping payments in advance, then the industry sponsor needs to consider some or all of the following approaches to protect itself against the possibility of being forced to pay impractical compensation:

  - preferably a paid-up, royalty-free, nonexclusive worldwide license
  - if the paid-up royalty-free is not available, the parties may be able to agree upon a one time fee for such a license

- Factors that must be considered in arriving at a royalty and/or fee basis, include: (i) value of each party's background IP required to practice the licensed technology; (ii) investment required to bring the technology to commercial application; (iii) risk of commercial failure or disappointing performance; (iv) risk of liability undertaken by commercial partner (through indemnifications, for example); (v) value of industry partner's obligation to pay all patent expenses worldwide; (vi) value of parties' contributions in funds, equipment, personnel; (vii) royalty stacking; (viii) royalties and other fees typically paid for comparable technologies; (ix) awards of royalties and other payments by courts; (x) profit margin for commercial products in comparable technologies; and (xi) other related products sold by the industry partner (may impact the value of the invention, i.e., whether commercial success is based upon the value of the invention versus the value of the corporation's commercial expertise, trademarks, good will, name and brand recognition).

- In any situation where agreement is difficult to reach, the industry partner should assure its FTO during any period of dispute, negotiation, or ADR so that the university cannot use the absence of license rights and threat of injunction or other legal action as leverage on valuation issues. This FTO should be established contractually in the sponsored research agreement and may involve an arrangement whereby the corporation pays amounts into an interest-bearing escrow account for the ultimate benefit of the university, once the valuation issues are resolved.

License Scope

- Payment should be based upon the scope of claims in a granted patent.
- Payment based upon the scope of claims in a pending application is a point for negotiation.

Patent application preparation/prosecution/maintenance

- We often see situations where the industry partner is required to pay the costs for patent application preparation, filing, prosecution, and maintenance in the US and globally. It is common that this is done by a law firm of the university's choosing, with input on the scope of claims, prosecution, and foreign filing determined by the university.
- In my experience, there is no greater way to drive up costs than to separate decision- making responsibility from cost responsibility.
- These costs should be considered in the negotiation of payment provisions. Further, the practical aspects of directing an outside law firm should be reviewed, so that the industry partner has some control over patent scope, costs, etc.

Ownership provisions

- It is very important to sort out who owns what, but even more important to understand exploitation rights of the industry partner.

Dispute resolution

- I am a strong believer in alternative dispute resolution (ADR) mechanisms, and believe that any collaboration agreement between a university and an industry partner should include ADR as the exclusive dispute resolution process. ADR includes items such as elevating disputes to higher levels of authority within the respective organizations, mediation, and arbitration. ADR can be particularly effective in resolving issues about invention evaluation.

Confidentiality

- We understand the importance of publication to universities and professors. We believe it is important for the interests of both parties that any agreement includes a disciplined process that allows publication within a reasonable time, after appropriate steps are taken to remove industry confidential information and file patent applications on the results of the collaboration.

- Industry sponsors want institutional (as well as faculty and students) obligations and responsibility for confidentiality.

Other provisions

- Industry sponsors want to assure that the university is obligated to avoid commingling the sponsored research with research sponsored by another commercial entity and, in some instances, to avoid commingling the sponsored research with federally funded research, which gives rise to government rights under the Bayh-Dole Act (35 U.S.C. §§ 200 – 212). The latter consideration is especially important for companies whose business includes sales to the government. Bayh-Dole also has a preference for U.S. manufacturing; universities can be expected to require the industry partner to seek any necessary waivers.

- Require universities to recognize and agree to their own obligations for export control compliance (given the large number of foreign nationals on most campuses, this is a matter of more than theoretical concern).