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# A Call for More Collaboration in Industrial Biotech

## An Increasing Exchange of Knowledge and R&D Results Would Benefit the Entire Industry

*Industrial Biotech* - The growing shortage and rising price of fossil energy has increased interest in finding economically attractive replacements that draw on biotechnology. Rising awareness of the environmental impact of fossil fuels and other chemical pollutants has also boosted demand for less problematic, biological solutions.

Accordingly, many small companies - often academic start-ups or subsidiaries of big chemical companies - are actively researching and developing alternative energy solutions, such as pioneering algae-based technologies that absorb carbon emissions and creating biofuel from sugar cane. This situation resembles the R&D surge in the pharmaceutical industry about 20 years ago related to the then-emerging "red" biotechnology. For the most part, these small companies do not expect to establish or operate fully integrated enterprises with all of the attendant functions, such as R&D, production, marketing and sales. Rather, they strive to develop new technologies to sell or license to one of the big players, often traditional chemical and petrochemical companies.

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Collaborative agreements have long been the mainstay of the biotech industry when it comes to technology transactions. Because these agreements typically require the buyer to make considerable payments for the acquired or licensed technology, most provide for a three-tier payment structure and for back-loading a large part of the consideration the buyer has to pay. At the first tier, the buyer is often expected to pay a large upfront fee, for the mere granting of access to an innovative technology. Such fee is usually not refundable, or refundable only in exceptional cases. Second, buyers must also provide "milestone payments," due upon achievement of a specified event in the ongoing development of a project. Such events may include successful tests, reaching certain sales figures or launching the product in new markets. The final pillar of the consideration structure used in such technology transactions is often a sales-based royalty. Despite the complex payment structure used in this type of agreement, the

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This article originally appeared in *G.I.T. Laboratory Journal Europe* on August 28, 2012.

pharma and biotech communities have, over the years, accumulated comprehensive expertise in the use of such sophisticated long-term collaborations.

*Creativity in Deal Structuring* - Beyond the "traditional" bilateral collaborative agreement described above, a collaboration among three or more parties presents even more challenges, requiring greater creativity in deal structuring. This "creativity" is particularly important in arrangements involving five or more participants, where each contributes to the project in their respective area of expertise. Sometimes, academia, nonprofit organizations, public or governmental institutions, and project coordinators are part of multi-partite collaborative agreements.

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The requirement for broad, diverse and complex cooperation models pushes business developers and lawyers to be creative in devising the corresponding contractual structures.

However, in the industrial biotech and alternative energy arenas, collaborations and resulting deal flow still seems pretty limited. Big industry players are in large part refraining from any collaborations, restricting themselves to fee-for-service arrangements or simply acquiring the biotech "partner". Why?

Certainly the industrial biotech industry is dominated by big chemical multinationals with gigantic R&D in-house resources. These huge corporations tend to view small industrial shops as insignificant. In addition, the "not-invented-here" syndrome, as well as trade secrets concerns, may play a greater role in the chemical industry where unregistered, always jeopardized know-how (rather than patents) plays a bigger role than in pharma.

> ***"As an increasing exchange of knowledge and R&D results would also benefit the entire industry, big chemical should also be interested in letting biotechs enjoy their fair share. "***

Another possible reason for the lack of collaboration between big chemical and small biotech may be that the small companies feel unable to bargain with the much bigger partner, and "big chemical" does not do anything to disprove that perception.

*Improving the Level of Valuable Cooperation* - The problem with each of these scenarios is that, in agreeing to a fee-for-service or low-level supply agreement, the biotech companies may actually be ensuring that their deals come in well below value. Were small biotech companies to capitalize on their strengths to achieve better deals, the level of valuable cooperation between big chemical and small biotech companies might similarly improve, with deal flow ultimately increased as well. As an increasing exchange of knowledge and R&D results would also benefit the entire industry, big chemical should also

be interested in letting biotechs enjoy their fair share. In any event, the tool box containing all approved and tested instruments for suitable deals is ready to be used.