

# Value-Added Licensing: The Role Of Know-How And Research Material Transfers In License Development

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This article is a collection of insights drawn from the presenters of “Value Added Licensing: Know-How and Material Transfers,” a mini-plenary sponsored by the Energy, Chemicals & Materials (E-104) Committee for the LES 2004 Annual Meeting in Boston. The E-104 Committee focuses on the chemical and associated industries which historically have created and extracted value through their inventions in new products and commercial processes that are protected by patents and proprietary know-how. These classes of intellectual assets typically defend substantial capital asset investments made in plant and equipment to produce and sell products. Globalization and access to information are transforming the energy/chemical and associated industries which present opportunities and challenges to the process of licensing. The licensing of trade secrets and proprietary know-how including novel research materials are becoming more essential value additions in licensing deals, offering success-critical information to the licensee for implementation and commercialization, and generating higher royalties to the licensor. In this context, the E-104 Committee examined and highlighted the various current licensing perspectives in the transfer of trade secrets, materials and know-how information in licensing deals.

In this article we define ‘know-how’ as the codified or non-codified proprietary information held by the licensor that is enabling to the licensee for the successful practice and implementation of the licensed

technology. Some know-how assets believed to be generally unknown to the public and protected as secrets, meeting certain other legal requirements, constitute the licensor’s Trade Secrets. It is often the transferred trade secret or know-how package (including obligated consulting) that is the most valuable addition to the deal, and can justify higher royalty payments to the licensor. As you read on, you will see the perspectives of university, corporate, legal counsel and merger and acquisition practitioners on these issues.

The presenters were:

- Mr. Michael J. Martin of Virginia Tech Intellectual Properties Inc., representing the university perspective.
- Mr. Jay Simon, representing the corporate perspective.
- Mr. Christopher Bloom of Bell, Boyd and Lloyd LLC, representing the legal perspective.
- Mr. Craig Heim of Grace Matthews Inc., representing the M&A perspective.
- Mr. Phil Barnett of PricewaterhouseCoopers, E104 Chair, moderating.

Here is their important story.

## **The University Perspective, By Michael J. Martin**

The different perspectives on value added licensing between companies in industry and the university arise from their different mission statements. The mission of the corporation is to leverage its intellectual assets to maximize shareholder value, while the university mission is to create and disseminate knowledge to maximize value for society.

These different mission statements correspondingly lead to quite different measures of success. For the corporation, success is the acquisition or monetization of intellectual property, creating competitive advantage in the marketplace resulting in a profit. For the university, success is the dissemination of the intellectual property to society or the local economy for creating jobs or, for public health for example. Universities actually may see the exclusive ownership and competitive advantage sought by corporations as restricting the basic mission of knowledge dissemination to the public, often done as local economic development, in return for the government funds that many universities seek and need. Universities understand that exclusive licensing of patents or copyrights is required for most early stage discoveries to attract patient risk capital. However, they must balance the need for exclusivity with the use of public funds for the development along with some faculty who believe that exclusivity is a threat to the intellectual and scientific integrity of the university.

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Despite the differences, there is a nexus of opportunity that both university and industry should understand and view as being in their mutual interest. The demand for local economic development in the United States that is satisfied by new company start-ups funded by industrial sources will continue to expand with the need for jobs and better paying jobs. Local economic development will also drive university policy and decisions to meet the expectations set by government funding organizations, communities, and alumni. Corporations will continue to outsource research and development to lower cost laboratories at institutions and small companies that can generate the technological advancements and intellectual property they need to fulfill business strategies. This synergy demonstrates that they need each other.

The growing importance of intellectual property and its management at universities is best shown by the doubling in the number of invention disclosures over the time span 1991 to 2002 by AUTM (Association of University Technology Managers) university members (Figure 1). During that time frame moreover, the economy benefited from the creation of 270,000 jobs and \$40 billion in economic impact. In 2001 alone, it was reported that 556 start-up companies and 3,778 licenses were concluded as a result of the growing

importance of intellectual property management and commercial development supported by university licensing activities.

A vital component of university intellectual property management is the processes used to protect and transfer its know-how. Student hiring, industrial consortia, faculty consulting, material transfer agreements embedded in licenses are all effective vehicles. Virginia Technical Intellectual Properties, Inc. (VTIP) uses definitive language for *licensor assistance* and *technology know-how* in its transfer and license agreements. These agreements encompass the information which is not in the public domain but which is of vital importance to the successful commercial implementation of the technology being licensed. The purpose of this language is to ensure that both parties spell-out and understand that know-how information is both relevant and needed for successful commercialization.

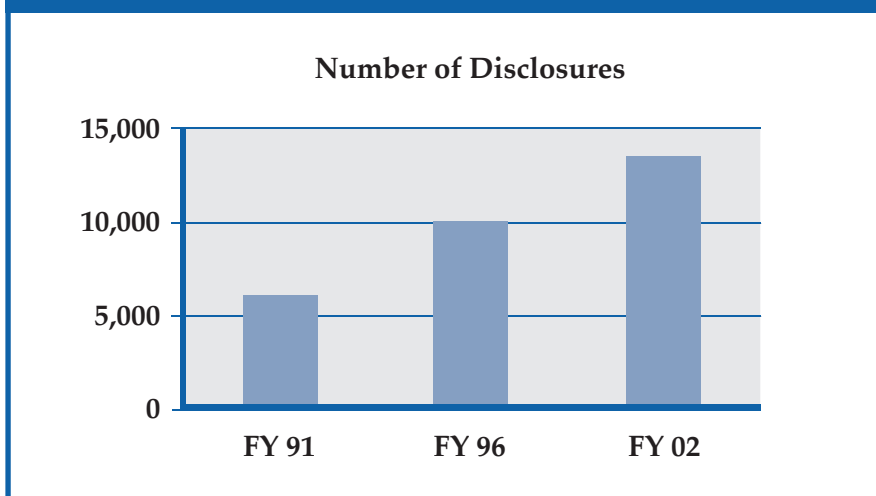
VTIP has success stories that resulted from its intellectual property management practices. Martin goes on to say that 80 companies, 25 of which are principal members and five universities have banded together to form CPES, a consortium whose members have early access to new and developing intellectual property. Several spin-outs were spawned and enabled by contributing faculty members. These include NanoSonic Inc. that has products in

prototype; Luna Innovations that has a production facility in Danville, VA; Prime Photonics which has attracted a strategic partner in an equity-based license arrangement.

The future for industry and university collaboration in intellectual property creation and deployment, says Martin, will require each to be vigilantly aware of the opportunities and threats the other faces as industries globalize and adjust to the pressures of overcapacity and technology migration. Contemporaneously, the university will seek to carry out its mission to disseminate knowledge for the public good and seek funding from governments that have funding limitations but apply the expectations that become requirements for university outreach. Students are the original embodiment of the university's know-how. If a corporation has identified a technology of interest, it should always consider hiring the graduate students involved in the invention. Often dissertation or thesis publication can be delayed for some time at the request of the student or the sponsor of the research. Students are also the individuals most interested in start-ups based on university technology. There are numerous examples of such spin-outs, from Netscape to Airak—a company based on a fiber optic sensor invention of Paul Duncan, a graduate student at Virginia Tech.

Industrial consortia are not new. The original enabling legislation for pre-competitive collaboration was passed in 1976. With the reduction of internal development capacity by industry, more companies are developing an interest in external sources of innovation. Also the federal government is requiring industrial involvement for funding major centers, such as the Engineering Research Centers. Know-how is transferred through seminars, published and presented papers, and by acting as a test bed. Most consortia have an industrial advisory board which provides advice and direction for the research agenda. Each of these points of contact provides early access to know-how. The corporation

**Figure 1. Universities Reporting to AUTM**



needs a plan as to what information is needed for its growth strategy and how it will disseminate it quickly in the corporation. Most consortia have an obligation to publish, so time has a real value. An example of a successful consortium is the Center for Power Electronics Systems at Virginia Tech. It is an Engineering Research Center funded by the National Science Foundation and industrial affiliates. There are five universities and over 100 companies that work together to advance the state of the art in power electronics. Industrial members have different levels of access to know-how, depending on their level of involvement. All have access to preprints of papers and attendance at the seminars that discuss research results. Twenty-five of the companies can act as test beds and eleven members review inventions for patentability.

All universities encourage consulting by the faculty because it enhances the learning environment of the classroom. Corporations also gain by accessing the know-how that the faculty has developed and by controlling the capture and dissemination of new know-how that is developed as a consequence of the contract. Problems can arise when the company attempts to reach into the consulting faculty's inventions created at the university. Faculty can not legally agree to grant access to what they may not own. The company needs to be aware that some terms in the consulting contracts may be voided by the employment contract.

Guidelines are provided in the faculty handbook or policy of the university. There may be restrictions on time or use of university facilities. Often, advanced written approval is required and most universities will not negotiate consulting agreements unless they have a Technical Assistance Program (TAP). However, there can be no conflict of commitment—consulting activities must not interfere with the individual's responsibilities to the university.

Material transfer agreements are another vehicle to access know-how at a university. The National Institute of Health (NIH) has provided a

format that most universities in the United States use. The agreements generally allow access to the materials for non-commercial purposes and there is to be no analysis. Universities typically want access to the results of any testing, but they can be held in confidence. The transfer of materials often includes the rights to any progeny, if it is a biologic; and any modifications to material. There is an agreement to negotiate a license in good faith.

The university licenses patents or copyrights—most also license out know-how—with the caveat that its secrecy may not be maintained. Here are two examples of clauses:

1.15 “Technology” means the following VTIP intellectual property:

- a) Patent Rights, as defined above.
- b) Any and all copyrights mask works, trademarks, service marks, trade dress, trade secrets, confidential information, proprietary information or know-how pertaining to Invention.

Or

1.15 “Licensed Know-how” shall mean proprietary information, copyrighted works, mask works, and trade secrets (as defined in Virginia Code 1950, §§ 59.1:336-343 to mean information, including but not limited to, a formula, pattern, compilation, program, device, method, technique, or process, that derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use, which information is the subject of efforts that are reasonable under the circumstances to maintain its secrecy) and tangible research property (biological materials, chemical compounds, and prototypes) which (i) are within the Field, (ii) are in existence as of the Effective Date hereof, and (iii) are owned or controlled by VTIP. All tangible research property comprising the Licensed Know-how shall be transferred to the VTIP in accordance with the terms and conditions of a Materials Transfer Agreement in use at that time.

The purpose of this language is to ensure that both parties spell-out and understand what know-how information is both relevant and needed

for successful commercialization.

The future for industry and university symbiosis in intellectual property creation and deployment, says Martin, will require each to be vigilantly aware of the opportunities and threats the other party faces. The chemical industry is globalizing and adjusting to the pressures of overcapacity and technology migration. The university is seeking to carry out its mission to disseminate knowledge for the public good while seeking funding from governments that have funding limitations. Both have interest in creating and sharing know-how to expand the chemical and energy industries. All want to continue to grow their quality of life, each with their own mission to fulfill.

## Key Points Summary

- Universities and corporations have different missions that reflect different perspectives on intellectual assets and how value-added licensing deals are negotiated.
- Despite their different missions and perspectives, the two institutions are becoming more reliant on one another—the university looks for funds that the corporation has to offer; the corporation looks for new technologies to create new businesses that the university has to offer.
- Successful licensing between universities and corporations requires that each institution stay aware of the opportunities and risks the other institution faces.

## The Corporate Perspective, By Jay Simon

Jay Simon presented a succinct statement of what corporations want in a deal, namely *Certainty and Control*. In any deal, be it between corporations or between a corporation and university, the corporation wants to know what they are giving, getting and their liabilities. In a value-added deal where proprietary technical information (e.g. know-how) is being transferred from licensor to licensee, an affirmation that the technical information is adequate for the purpose and is catalogued as to its contents are important clauses

in a definitive license agreement. A definition and example of technical information is the following:

*“Technical Information shall mean technical information relating to Licensed Process acquired by Licensor [e.g., startup, reasonable time thereafter] which Licensor is free to disclose to Licensee and which prior to said date was known by Licensor to have been used commercially or be ready for commercial use, or in Licensor’s opinion, developed such that it would be useful in Licensee’s commercial practice of Licensed Process.”*

The licensor must catalogue and package the technical information in a form useful to the licensee, including such things as the designs and specifications of critical equipment, operating manuals, technical service requirements, and the availability of consulting personnel. These elements, including plant designs, construction, operation and maintenance of a unit for the practice of the licensed process, are often necessary for the licensee to practice and implement the technology successfully.

Transferred rights to practice patents are limited in scope (e.g. territory and fields-of-use) and time duration, usually co-extensive with the technical information. A corporate perspective of patent rights could read as follows:

*“Patent Rights shall mean patents and patent applications of all countries to the extent and only to the extent that they or the claims thereof cover one or more features of Licensed Process, and which are based on inventions conceived prior to [e.g., startup, reasonable time thereafter] and as to which Licensor shall have the right prior to said date to make the grants contained in this Agreement, subject, however, to the condition under which Licensor now has or hereafter acquires the right to make such grants.”*

In return for the transferring of patent rights the licensor earns royalties from the licensee. In well crafted agreements, there won’t be confusion around hybrid licensing issues, such as setting a single royalty for patent rights and know-how. Unlike transferring of patent rights in other countries, in the U.S. there

is no time limit on the collection of royalties for rights to use know-how, although the parties may agree to such time limits when reasonably assessing other technology introductions and obsolescence.

Another important corporate issue is liability of the parties, and of course both the licensor and licensee want to limit their exposure, if at all possible. But reality takes over if you want a deal to happen, and then clear statements should be in the license of what liability each party has. Usually the licensor will accept such risks as gross negligence or willful actions, and perhaps a performance guarantee in exchange for a percent sacrifice of the royalties. The licensee usually accepts the risks from operations, say for example a process.

Corporate-university deals are much the same as corporate-corporate deals; however the certainty and control factors that corporations desire often are limited by state laws and university policies. Controlling the confidentiality of proprietary information is challenged by the university’s mission and the turnover of degree-oriented graduate students who may not understand the importance that corporations assign to proprietary information. The certainty and control issues in corporate-university relationships and deals generally involve arbitrating an understanding between the parties, which the limits to control and certainty that the corporation wants usually will be different from what the university can give.

### Key Points Summary

- Certainty and Control are what corporations want in a licensing deal.
- In a value added license where proprietary know-how is being transferred, corporations take special care to define, catalogue and package the know-how, and to avoid hybrid license issues, such as setting a single royalty for patent and know-how rights.
- Limiting liability and exposure are also important to corporations that address their concern by specifying in the definitive agreement

the liabilities they are willing and not willing to take.

### The Legal Perspective, By Christopher A. Bloom

From the legal perspective, the protection of business information including know-how and material transfers is the province of trade secret law. In order for non-public domain information to be held proprietarily, it must qualify for and be protectable as trade secret. Of course, patents may also be used to protect processes and know-how. But patents last for a limited period of time and otherwise place the information in the public domain. Also, as discussed below, patents are not always available or appropriate for the technology at issue.

### Is trade secret protection a sieve?

The U.S. Supreme Court, in the landmark case of *Kewanee Oil Co. v. Bircron Corp.*, 416 U.S. 470, 94 S. Ct. 1879 (1974), held that trade secret law was not preempted by federal patent law under the patent clause (Art. 1, § 8, Cl. 8) of the United States Constitution. The Court reasoned that a cause of action for trade secrets misappropriation “provides far weaker protection in many respects from the patent law,” so there is little reason to fear that inventors would choose the protection of state trade secret law if the information is patentable. *Id.* at 489-90, 94 S. Ct. 1879. Unlike Patent law, trade secret law does not forbid reverse engineering; and further, the Court noted, there is a “substantial risk that the secret will be passed on to ...competitors, by theft or by breach of a confidential relationship, in a manner not easily susceptible of discovery or proof.” The Court concluded: “Where patent law acts as a barrier, *trade secret law functions relatively as a sieve.*” *Id.* at 490, 94 S. Ct. 1879 (emphasis added).

Whatever may have been the case in 1974, today it can hardly be said that trade secret protection is a “sieve.” For example, in 1995, the Seventh Circuit Court of Appeals in *PepsiCo, Inc. v. Redmond*, 54 F.3d 1262, 1272 (1995), upheld an injunction preventing a managerial employee from assuming responsibilities at

a competitor for several months for fear that the employee would “inevitably disclose” trade secrets consisting of know-how, operating processes and marketing plans, if he started the new job. While not all courts are as eager to embrace the “inevitable disclosure” doctrine, numerous courts in the United States have upheld trade secret protection involving a variety of know-how, methods and processes. These include: manufacturing processes, unique machines, business plans, pricing and product strategies, client databases, technical drawings and product designs, chemical formulas and product mix, sample products, software programs, and proprietary manuals. In the protection of know-how where the method or process may not be susceptible to reverse engineering and a company takes strong proactive measures to protect its proprietary information, trade secret law can act as a formidable barrier.

Trade secret protection in the United States is largely a matter of state law. In 1985, the National Conference of Commissioners on Uniform State Laws promulgated the Uniform Trade Secret Act which substantially modernized and strengthened trade secret protection. Almost all states have adopted the Uniform Trade Secrets Act. The Uniform Trade Secret Act defines a trade secret in a manner which facilitates the availability of protection. Only two requirements must be fulfilled. To qualify as a trade secret, it must be information that:

(i) derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use, and

(ii) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy.

This definition makes clear that trade secrets need not be new or novel. The information merely needs to have some business value. Also, while it must be kept confidential, absolute secrecy need not

be shown. Trade secret information generally will be known to the owner, its employees, and possibly some third parties under a confidentiality obligation. However, to preserve its value competitors and the rest of the world cannot be privy to the information.

### International Protection of Trade Secrets

The majority of countries around the world have enacted laws which provide trade secret protection comparable to, if not identical with that offered in the United States. In 1992, the United States entered into the North American Free Trade Agreement (“NAFTA”) and in 1994, the United States and most of the countries in the world entered into the Trade-Related Aspects of Intellectual Property Rights (“TRIPs”) as part of the Uruguay Round of GATT. Over 140 countries around the world have ratified TRIPs. All of these countries now protect, as trade secrets, information which derives its value from being kept out of the public domain. Trade secret law can thus provide protection throughout the world for a company’s proprietary non-public domain information.

NAFTA uses slightly different language, but it conveys all the same principle components as the United States’ Uniform Trade Secret Act. Article 1711 of NAFTA which applies to trade secret rights, states:

*Each [Ratifying Country] shall provide the legal means for any persons to prevent trade secrets from being disclosed to, acquired by, or used by others without the consent of the person lawfully in control of the information in a manner contrary to honest commercial practices, insofar as:*

*(a) the information is secret in the sense that it is not, as a body or in precise configuration and assembly of its components, generally known among or readily accessible to persons that normally deal with the kind of information in question;*

*(b) the information has actual or potential commercial value because it is secret; and*

*(c) the person lawfully in control of the information has taken reasonable*

*steps under the circumstances to keep it secret.*

The TRIPs definition of trade secrets closely follows NAFTA. Article 39 of TRIPs provides protection for undisclosed information and prevents information lawfully within a person’s control from being disclosed to, acquired by, or used by others without their consent in a manner contrary to “honest commercial practices.” Both NAFTA and TRIPs recognize the fundamental elements of relative secrecy, value and reasonable steps to maintain secrecy. In general, both Treaties are designed to bring consistency and reliability to cross-border protection of not just trade secrets but in intellectual property as a whole.

The Treaties also recognize the unlimited life of trade secret protection. Under United States law, a trade secret endures until it is disclosed or discovered by proper means. Under NAFTA, no country who is a party to the NAFTA Agreement (i.e., Canada and Mexico) may “limit the duration of protection for trade secrets so long as the conditions [of trade secrecy] exists.” TRIPs also directly states that a trade secret shall be protected “so long as” information is kept secret.

### Confidentiality Requirements for Transferring Trade Secret Information

In order to protect know-how and material transfers in licensing transactions it is important that the subject matter of the transfer be kept secret. It is only through maintenance of such information as a secret that it can be protected against misappropriation. Any such transfer must include reasonable steps to protect the information from disclosure.

Under both United States and international trade secret law, absolute secrecy is not required to establish trade secret protection. In order to prevent misappropriation, it is only necessary to show that “reasonable steps under the circumstances” were taken. This language is virtually identical in the Uniform Trade Secrets Act, TRIPs and NAFTA. Judge Posner in *Rockwell Graphic Systems, Inc. v. DEV Industries, Inc.*, 925 F.2d

174 (7th Cir. 1991) framed the issue economically as whether reasonable security measures were taken in light of the costs and benefits associated with the particular field. *Id.* at 176-179. In Judge Posner's view "perfect security is not optimum security." *Id.*

Trade secret law provides a legal remedy for the misappropriation of trade secrets. Misappropriation under the Uniform Trade Secret Act includes both disclosure and use of a trade secret failure without consent. The definition of "Misappropriation" also encompasses acquisition of a trade secret by a third party who did not itself breach a confidentiality agreement. Under the Uniform Trade Secret Act, liability is imposed for improper acquisition or use of a trade secret as follows:

(i) acquisition of a trade secret of another by a person who knows or has reason to know that the trade secret was acquired by improper means; or

(ii) disclosure or use of a trade secret of another without express or implied consent by a person who

(A) used improper means to acquire knowledge of the trade secret; or

(B) at the time of disclosure or use, knew or had reason to know that his knowledge of the trade secret was

(I) derived from or through a person who had utilized improper means to acquire it;

(II) acquired under circumstances giving rise to a duty to maintain its secrecy or limit its use; or

(III) derived from or through a person who owed a duty to the person seeking relief to maintain its secrecy or limit its use; or

(C) before a material change of his [or her] position, knew or had reason to know that it was a trade secret and that knowledge of it had been acquired by accident or mistake.

Misappropriation thus focuses on the knowledge and means used by the acquirer. The Uniform Trade Secret Act provides that "improper means" of acquiring a trade secret includes "theft, bribery, misrepresentation, breach or inducement of a breach of a duty to maintain secrecy,

**Figure 2. Patents v. Trade Secrets: Extent of Protection**

Patents	Trade Secrets
Claim—"metes and bounds" of protection.	Self-enforcing—as long as secret.
Must be new, novel and non-obvious.	Novelty not required.
Must be patentable subject matter.	No filing or examination is required.
Reverse engineering no defense.	Can be reverse engineered.
	Must show "Improper means" or "Contrary to honest commercial practices."

or espionage through electronic or other means." By using the word "includes," the definition is clearly expansive, leaving it to the courts to define other "improper means."

There is no statutory definition of proper means. However, in considering know-how and material transfers it is important to recognize that if a third party can acquire the information by "proper" means, its value as a trade secret will be lost. While this is something of a gray area in the law, the following are ways in which a third party can properly acquire know-how and information about processes and products:

- Reverse Engineering, information readily accessible from examination of a publicly available product;
- Public Domain, information obtained from readily accessible published materials, public knowledge or general knowledge in the industry;
- Information lawfully obtained from a third party;
- Independent Invention; and
- Information obtained without violation of secrecy duties or other rights.

In any transfer of know-how or materials, care must be taken to avoid circumstances under which third parties may be able to obtain such information by proper means.

### Patent Protection

In many cases, from a commercial perspective, it may be impossible

to protect know-how from being obtained by proper means either because as a practical matter, it can not be kept secret or may be readily found by reverse engineering. In those cases, trade secret protection can not be relied upon to protect the hard asset investments made by companies to produce and sell their products. In considering how to protect such investments is important to evaluate whether patent protection is available and appropriate.

Figure 2 shows a side-by-side comparison of the extent of protection of trade secrets and patents.

Patents provide absolute exclusivity to the patent owner for a fixed period of time. A patent owner has the right during this period to exclude all others from making, using, and selling the patented invention. Moreover, if the patent covers a process, the making, using, or selling products of that process is forbidden. It is, arguably, the strongest protection of any form of intellectual property. A patent's life is twenty years from the filing date of the patent application. During the patent term, the protection offered by a patent is absolute. It does not matter whether an unauthorized user of a patented invention copied it from the patentee or discovered it independently. If the patent is valid and its claims cover the accused device, business method or operating process, whether literally or under the doctrine of equivalents,

that device or process falls within the patent's exclusionary power but after the life of the patent, the claimed invention is freely available for the public's use and enjoyment.

An invention must be new and useful to be patentable. Section 101 of the Patent Act states that "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent..." Further, the Supreme Court in *Diamond v. Diehr*, 450 U.S. 175, 185, 101 S. Ct. 1048 (1981) identified three categories of subject matter that are per se unpatentable, "laws of nature, natural phenomena, and abstract ideas."

### Patents Protection compared to Trade Secret Protection

Under the Uniform Trade Secret Act and the Treaties discussed above, trade secret law protects economically valuable information that is not generally known to the public. The information may consist of technical knowledge or specialized knowledge of a technology or particular field. The level of information which patent law protects is much higher. Patent law protects inventions which are so novel and so significantly different from all other similar inventions as to be non-obvious to those in the relevant art. Since patent law requires substantial, non-obvious contributions to the public domain in exchange for the traditionally disfavored monopoly, patent protection may not be available for valuable yet minor improvements and increments to a patented or known process or method.

Trade secret law, on the other hand, offers protection to information that generally needs only to have economic value from not being well known and be the subject of efforts that are reasonable under the circumstances to maintain its secrecy. For example, specific information regarding resolution of the problems of particular customers was held to be a trade secret. *Hayes-Albion v. Kurberski*, 364 N.W.2d 609, 616 (Mich. 1985). In this regard, trade secret law lends itself well to the protection of

know-how, methods and processes where the innovations to a method or process may not be novel enough to warrant protection under patent law but may nonetheless be protected under trade secret law.

Additionally, the determination of patentability of an invention is dependant on a third party, the Patent Office. Patent applications tend to be a lengthy and expensive process due to the technical nature of the subject matter and the workload of the patent examiners. The time spent in getting a patent to issue in the United States can exceed two years, which may be in some cases longer than the commercial use or life of the invention. The investment is risky as there is no guarantee that the patent application will pass the statutory hurdles, or that the Patent Office will grant a patent. If the patent is granted, there is also the risk that the claimed invention will be so limited as to not have any value to the company. In trade secret law, however, a company can aggressively self-enforce its trade secrets. Trade secrets can be documented by identifying valuable, proprietary information which a company possesses and taking reasonable, precautionary measures to secure that information. A company which utilizes trade secret law can, therefore, quickly exploit its proprietary business method or operating process to give itself a competitive edge without relying on a third party.

Another drawback to patent protection is that a patent application is usually published before the patent issues. The result is that a company's proprietary information can be publicly disclosed without a guarantee that it will be granted any patent protection. If the information is published then, obviously, trade secret protection is also lost as the information is now within the public domain.

The remedies available for patent infringement are quite similar to those available for trade secrets misappropriation. Both infringement of a patent and misappropriation of a trade secret can provide the basis for a temporary restraining order, pre-

liminary injunction and permanent injunction. An injunction for a patent is limited to the term of the patent. An injunction of a trade secret is, in general, limited to "lead time." That is, the time within which the trade secret could be legitimately reversed engineered. Under United States law, exemplary damages are available for both patents and trade secrets. In the case of patents, the remedy is up to three times the damages found whereas with trade secrets, it is up to two times the actual damages. Both the Patent Act and the Uniform Trade Secret Act also provide for attorneys' fees, but only for exceptional cases where the party charged is guilty of willful and malicious conduct. In general, exemplary damages and attorneys' fees are rarely awarded in either patent or trade secret cases. In the case of patents, damages are never to be less than "a reasonable royalty." In trade secret law, a court, in lieu of damages measured by any other methods, may award damages based on a "reasonable royalty."

Figure 3 summarizes the Remedies for Patent Infringement and Trade Secret Misappropriation.

The major difference in remedies is that infringement of a patent is not a criminal offense in any jurisdiction in the world, but misappropriation of a trade secret often is.

Although both patent law and trade secret law offer advantages and disadvantages in the protection offered to methods and processes, a company must decide which protection is right for each of its innovations and proprietary information. Given some of the advantages and formidable protection offered by trade secret law, trade secrets must be viewed as a viable form of protection with strong and effective remedies.

Because of the inherent differences in protection and remedy between trade secrets and patents, it is good practice to consider these offsets when it is time to decide on which way to go for protecting the invention, either trade secret route or patent route. Key questions to ask are:

- Can the invention be reverse engineered?

- What is the breadth of patent protection available?
- Is the length of time of patent protection acceptable from a business point of view?

### Practical Steps to Protecting Trade Secrets in Know-How and Material Transfers

Avoiding the “sieve” of trade secret protection in transfer of know-how is critical in order to redress misappropriation. Effective trade secret protection requires both legal protections and physical protections. Legal protections include confidentiality agreements with suppliers, customers, employees, and contractors; clear notices and markings on physical embodiments; and rules limiting access and procedures authorizing access to facilities, files, and computer systems. Some areas of trade secret protection that are used which may face legal limitations includes clauses which prohibit reverse engineering in certain contracts, restrictive covenants purporting to prevent competition for an unreasonable time after the termination of agreement, and attempts to prevent “inevitable disclosure” when an employee moves from one company to another.

From both a practical and legal sense, trade secrecy protection is best when it is physical. This can be done by locking the areas where secrets are located, by giving information only to those who need to know, and by dividing information to multiple parties so that no one has all of the information. As a strictly practical matter in the courtroom, perception is reality. The party seeking protection will have to explain to a judge that it has taken reasonable legal and physical steps to preserve the secrecy of the information.

The same control philosophy applies during transfer in value-added licensing, but is made complicated by the fact that you must necessarily disclose the information to employees of another party over whom you have no direct measured control. The licensee and licensor have mutual responsibilities and benefits in maintaining the know-how secret. A strong definition of the trade secret

Patents	Trade Secrets
Injunction during term of patent.	Injunction for “lead time.”
Damages; but not less than a reasonable royalty.	Actual damages when proven.
Exemplary damages; up to 3X.	Exemplary damages; up to 2X.
Attorneys fees in exceptional cases.	Attorneys fees if “willful and malicious” misappropriation.
No criminal penalties.	Criminal penalties.

<ul style="list-style-type: none"> <li>• Specify and restrict use</li> <li>• Control disclosure               <ul style="list-style-type: none"> <li>To whom disclosed (by class or name)</li> <li>Terms of downstream agreement</li> <li>Review/Prohibit publication</li> </ul> </li> <li>• Physical protection of information</li> <li>• No “reverse engineering” clauses</li> <li>• Restrictive covenants/Non-compete               <ul style="list-style-type: none"> <li>Parties</li> <li>Employees</li> </ul> </li> <li>• Compliance               <ul style="list-style-type: none"> <li>Report of disclosure or misappropriation</li> <li>Audit</li> <li>Certifications</li> </ul> </li> </ul>
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and know-how information is good practice in a definitive agreement. And with them should be specifics on the protection of disclosure and use as listed in Figure 4.

### Key Points Summary

- For best practices, keep in mind that know-how and material transfers can be protected as trade secrets.
- Patent protection should be considered where stronger legal protection is needed, where broad patent protection is available and where the invention can be reverse engineered.
- Trade secrets can be protected throughout the world by defining and documenting the know-how, physically securing its embodiments, and using appropriate agreements.

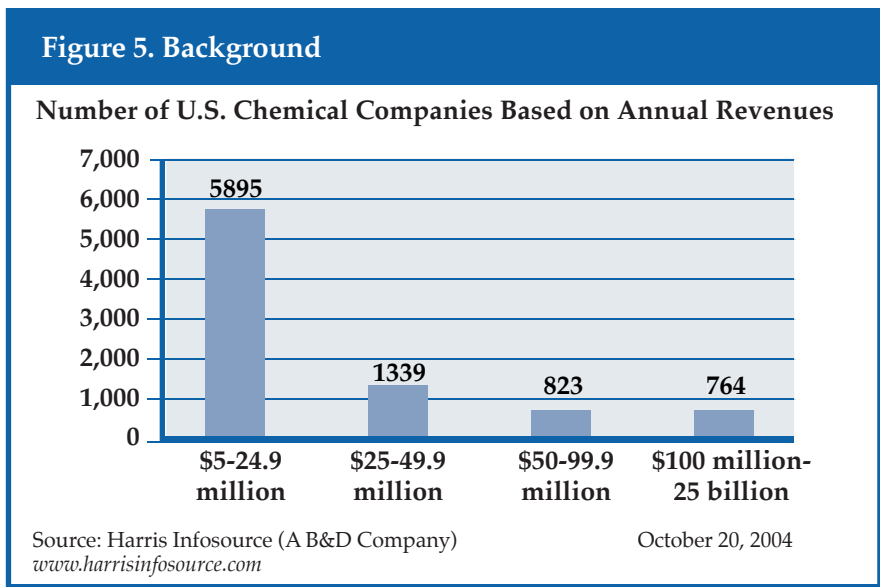
### The Merger and Acquisition Perspective, By Craig Heim

There are many factors that drive the value of whole companies in comparison to stand-alone intellectual property. Consider the example of middle market chemical companies. Experience from completed transactions indicates that a middle market chemical company’s ability to generate cash over the last twelve months, the risk associated with future cash flows, and the ability to grow the business are the three critical factors that determine value. Although protected intellectual property can positively impact value, intellectual property as a stand-alone is not the primary value driver.

A middle market chemical company is characterized as having annual revenues in the range of \$25 million to \$100 million. It is typically a small player in a large market and occasionally is a leader in a niche market. Strong customer relationships are critical to its success and customer needs typically drive technology development. Since a middle market company often works closely with its customers, it is not uncommon for a significant percentage of the company's sales to come from relatively few of its top customers. In addition, few middle market companies own protected intellectual property that has great importance to the success or failure of the business because the costs to acquire and defend the protected intellectual property are prohibitive. Figure 5 shows the relative number of chemical companies in this middle tier category compared to its smaller and bigger siblings.

Cash flow, risk, and growth are the three primary considerations that constitute the cornerstones of value for whole companies. When a company is acquired or sold, the transaction is viewed as an investment and the value is simply calculated as the discounted sum of the cash flows that the business will generate. Since most middle market companies operate in highly competitive markets, the certainty of the projected cash flow is not guaranteed. As a result, the assessment of the appropriate risk behind a company's businesses is critical in determining value. In addition, growth is valued on both a purely numerical basis and for general desirability. For example, both public and private company managers are typically evaluated based on the growth of the businesses that are managed. In turn, growing businesses are typically more desired than stagnant or shrinking businesses.

The cornerstones of value are greatly influenced by many forces that a manager can control and many that cannot be controlled. For example, a manager can control risk by minimizing significant customer concentrations and purchasing ma-



terials from multiple suppliers. Similarly, historically strong financial performance from the management team that will transition to the new owner also positively impacts value. However, external forces that a manager or owner cannot control will also dramatically impact the value of a company. For example, the availability of debt and general stock market performance impact the ability for a financial buyer or strategic buyer to make an acquisition. Several internal and external dimensions are illustrated in Figure 6.

When valuing a business, it is important to view a potential acquisition from the perspective of the potential buyers. The primary categories of buyers include financial buyers, such as private equity groups, public companies with strategic interests in the target business, and private companies with strategic interests in the target business. Grace Matthews, like many merger and acquisition advisors, typically develops several models to approximate how the primary buyer categories will value an acquisition target.

In the private equity model, a detailed financial model is developed, which relies heavily on assumptions. The value is calculated based on the debt carrying capacity of the business, the cash flow available to service the debt over a five to seven year period, the expected value of the business at the exit, and the

necessary return to the equity investors. In the current market, debt availability is the primary driver of value and the relative strengths or weaknesses of the wide-ranging assumptions control the reliability of the value computed using the private equity model.

In the public company/strategic acquisition model, the acquirer is looking for synergies to expand earnings possibly through product line extensions, expanded distribution of products, access to new customers, access to new markets, raw material purchasing synergies and cost reductions. The acquisition must noticeably contribute to growth in this model, and the acquisition must be accretive immediately to the buyer's earnings. An example of a simple strategic acquisition model is illustrated in Figure 7.

In the third valuation method, the private company/strategic acquisition model, the buyer is also looking for synergies, but the value of the target is based on cash flow generated by the target including appropriate synergies. When contacting prospective private company acquirers, it is important to determine their desire for risk. This is important because a private strategic acquirer can pay for small acquisitions from existing cash flow, but the interest in larger acquisitions would be determined by the buyer's appetite to assume additional debt. An example of

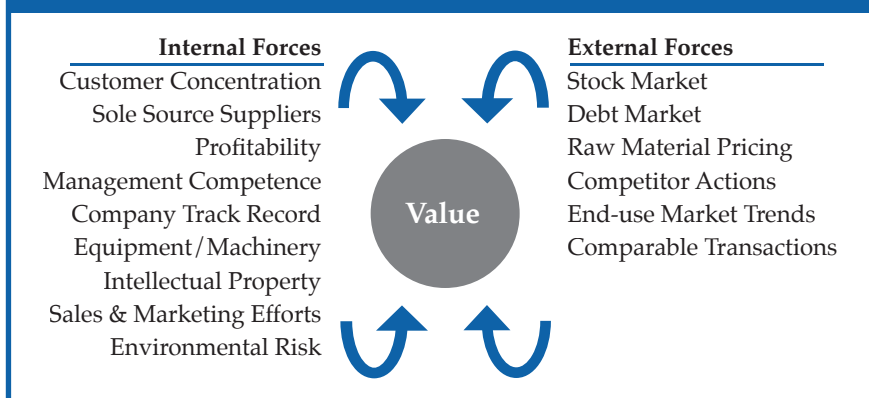
how a private strategic buyer would evaluate an acquisition opportunity is illustrated in Figure 8.

The underlying presumption behind the aforementioned models is that intellectual property is not the primary driver behind the value of middle market chemical companies or their associated businesses—a perhaps dissenting opinion to some readers. However, experience and data suggest that cash flow and earnings are the primary value drivers along with strong customer relationships and evenly distributed customer sales being additional sources of value. In defense of the intellectual property practitioner, protected IP affects value to the extent that it affects earnings, cash flow, and risk. Intellectual property can also provide the appearance of professionalism in the target company.

### Key Points Summary

- The M&A perspective of value-added licensing is distinct and different from those presented earlier.
- M&A sees value as being affected by internal and external forces where expected cash flow is the single most important driver of value, not the protected intellectual property owned.
- In general, strong customer relationships are more defensible than patents to middle market chemical companies, since these companies often lack the financial resources to challenge an infringement.
- Although intellectual property can enhance value indirectly, having it is not a critical value driver.

### Figure 6. What Drives Value?



### Figure 7. Public Company/Strategic Acquisition Model

The acquisition should be immediately accretive to the buyer's earnings (non-cash items are important).

#### Non-Dilutive Value of Target Company to XYZ Company

Value in (\$000)

	Reported Sales Basis	With \$2 Million Incremental Sales	With \$5 Million Incremental Sales
Targeted Adjusted Net Income	2,588	2,588	2,588
(Plus) Incremental Profits	0	677	1,573
(Less) Taxes Paid on Incremental Profits	0	(220)	(511)
(Plus) Interest Expense	226	266	266
(Less) the Tax Effects of Interest	(86)	(86)	(86)
<b>Debt-Free After-Tax Earnings</b>	<b>2,768</b>	<b>3,225</b>	<b>3,830</b>
(Times) Enterprise Value/Debt-Free Earnings	14.75	14.75	14.75
<b>Non-Dilutive Investment by XYZ Company</b>	<b>40,828</b>	<b>47,568</b>	<b>56,489</b>

### Figure 8.

	As Stated	Adjustment	Net to XYZ Co.
<b>Net Sales</b>	<b>45,588</b>	<b>-</b>	<b>45,588</b>
Cost of Sales			
Raw Material (1)	30,684	(2,184)	28,536
Burden Adjustment	233		233
Freight Out (2)	1,137		1,137
Warehouse (2)	35		35
Tolling (2)	177		177
Plant Wages (3)	2,237	(224)	2,013
Plant Overhead (4)	4,847	(485)	4,362
Other	-		-
Total Cost of Sales	39,349	(2,856)	36,493
<b>Gross Margin</b>	<b>6,239</b>	<b>2,856</b>	<b>9,095</b>
Selling (5)	990		990
Laboratory (6)	981	(294)	687
Administration (7)	1,114	(414)	700
<b>Total Operating Expense</b>	<b>3,084</b>	<b>(708)</b>	<b>2,376</b>
<b>EBITDA</b>	<b>3,155</b>	<b>3,564</b>	<b>6,719</b>