

A PRACTITIONER'S GUIDE TO PROTECTING TECHNOLOGY ASSETS

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I. INTRODUCTION

There is arguably no more important asset for a company than its intellectual property. It is often the result of years of labor and millions, or even billions, of dollars in investments. It is also used to symbolize a company's reputation and good will in a market. The most recognized symbols, art, and characters in the world are often owned by some entity as intellectual property.

Like any asset, intellectual property has to be managed properly for it to attain its full value. This is especially true in high-tech industries where poor management of intellectual property rights and technology assets can result in a decrease in efficiencies and quickly set a firm behind its competitors. This article will explain the basics behind the different intellectual property legal doctrines and demonstrate how technology firms can best use these doctrines to manage and protect their intellectual property.

This article provides a brief introduction to Intellectual Property and how it can be used to strategically protect technology assets.

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One objective of this article is to provide the reader with a basic working knowledge of Intellectual Property law, both within and outside of the United States. Another objective of the article is to focus on using Intellectual Property to protect so called “high technology” assets. High technology assets primarily include electronic and computer related assets. Protection of business methods is also covered since business methods span the entire spectrum of technology, including high technology. Life sciences are intentionally left outside the scope this article.

II. BACKGROUND: WHAT IS INTELLECTUAL PROPERTY?

“Intellectual property” is a term used to identify and describe a group of interrelated legal doctrines that generally provide “authors” and “inventors” exclusive property rights over their “writings” and “discoveries.”³ Intellectual Property protection may stem from various doctrines, such as federal and state laws concerning patents, copyrights, trademarks, unfair competition, trade secrets, or publicity rights. This section will briefly outline the purpose behind these doctrines and illustrate the differences between each of these doctrines.

A. Policy Issues Behind Intellectual Property Rights and Protections

In the United States, intellectual property laws are designed to promote and encourage a diverse, plentiful and competitive intellectual marketplace. All U.S. intellectual property laws are drafted with this general purpose in mind. Underlying this general utilitarian purpose are two seemingly contradictory sub-policies that lawmakers must balance when drafting and enforcing intellectual property laws.

1. Expanding the Pie: Providing Incentives for Creativity

Intellectual property laws seek to promote creativity by giving

3. U.S. CONST. art. 1, § 8 (“to promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries”).

authors and inventors exclusive property rights in the useful, novel, or original works.⁴ Such property rights provide incentives to create by allowing authors and inventors to reap the benefits of their labor or investments. For example, pharmaceutical companies would have little incentive to invest time, labor and capital into researching and developing new drugs if they were not given the opportunity to recoup, and profit, from this investment. By allowing authors and inventors to reap the benefits of their creative investments, intellectual property law encourages ingenuity, which, in turn, results in a greater variety of products and services in the marketplace.⁵

2. Promoting Competition

Intellectual property laws also are drafted in accordance with the *laissez-faire* policy of enlarging public access to new products and services.⁶ It may seem counterintuitive to promote competition by granting monopoly rights to authors and inventors, but such monopoly rights are typically temporary and provided in a manner that promotes public access to the protected property.

For example, U.S. patent laws only offer protection to works for twenty years after their filing date – *i.e.*, the date the patent application is filed with the United States Patent And Trademark

4. *See* *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 480 (1974) (“The patent laws promote this progress by offering a right of exclusion for a limited period as an incentive to inventors to risk the often enormous costs in terms of time, research, and development.”); *Silvers v. Sony Pictures Entm’t, Inc.*, 402 F.3d 881, 894 (9th Cir. 2005) (stating that the plaintiff “as the creator, is the person for whom the copyright system is designed to provide incentives for more creations”).

5. *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 144 (1989) (commenting that Congress struck a balance “in the federal patent statute between encouragement of invention and free competition”).

6. *Traffix Devices, Inc. v. Marketing Displays, Inc.*, 532 U.S. 23, 28 (2001) (“protection for trade dress exists to promote competition”); *Zenith Elecs. Corp. v. Exzec, Inc.*, 182 F.3d 1340, 1352 (Fed.Cir.1999) (“The patent and antitrust laws are complementary in purpose in that they each promote innovation and competition.”) (citation omitted); *G.S. Rasmussen & Assocs., Inc. v. Kalitta Flying Serv., Inc.*, 958 F.2d 896, 904 (9th Cir. 1992) (“Congress has balanced innovation incentives against promoting free competition . . .”).

Office.⁷ After this twenty-year term, the invention enters the public domain: at this point, each member of the public is free to reproduce and use the product. Likewise, exclusive patent protections are only granted if the inventor agrees to publish the product's primary purpose, how it is used, and how it is created.⁸ In this way, competitors can study the new product so that they are able to (1) create a new and improved version, or (2) reproduce the product once it enters the public domain.

Intellectual property law – and in particular trademark and unfair competition law – also promotes competition by allowing companies to generate public goodwill and preventing competitors from getting ahead by using unethical business tactics. For example, trademark law grants companies exclusive rights to those symbols and indicia that signal what products are made by that company. On this basis, trademark law makes it easier for consumers to distinguish between similar products. This encourages companies to put forth the best possible product; otherwise, consumers may associate that company's trademark with another company's inferior goods or services.

B. Sources of Regulation for Intellectual Property

1. Federal Powers

Congress draws its power to create and enforce Federal copyright and patent laws from Article 1, § 8 of the U.S. Constitution.⁹ Meanwhile, Congress draws its power to create and enforce trademark and unfair competition laws from the Commerce Clause which gives Congress broad authority to

7. 35 U.S.C. § 154 (2006) (setting forth that a patented work is protected for “a term beginning on the date on which the patent issues and ending 20 years from the date on which the application for the patent was filed in the United States”); *see also* *Brulotte v. Thys Co.*, 379 U.S. 29, 31 (1964) (“The right to make, the right to sell, and the right to use ‘may be granted or conferred separately by the patentee.’ But these rights become public property once the 17-year period expires.”) (citation omitted).

8. *See* 35 U.S.C. § 154.

9. U.S. CONST. art. 1, § 8, cl.8.

regulate interstate commerce.¹⁰

2. State Powers

States are also given authority to pass intellectual property regulations under the Tenth Amendment of the U.S. Constitution, which sets forth that “[t]he powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States”¹¹ As such, the states are free to provide Intellectual Property protections if they do not conflict with federal Intellectual Property regulations. All state intellectual property laws that directly conflict with federal intellectual property regulations are “prohibited” and, therefore, preempted – voided by federal law – by the U.S. Constitution’s Supremacy Clause.¹² For example, a plaintiff cannot receive exclusive patent-like protections to a product design under state unfair competition laws if that design is not patentable.¹³

III. INTELLECTUAL PROPERTY SUBGROUPS

Intellectual property law recognizes that in order to best promote the above-listed policies, different intangible works must be subject to different protections and requirements. For example, it is generally more important for utilitarian products, such as prescription drugs and business methods, to enter the public domain at an earlier time than artistic works. Thus, the patent laws provide a shorter monopoly term – only twenty years for utility patents – while the copyright laws provide a longer term – life of the author plus seventy years – because, unlike the former, copyrights do not protect functional products. This section will describe the features and requirements of the various intellectual property doctrines and explain how they conform to the policy

10. U.S. CONST. art. 1, § 8, cl. 3 (granting Congress, *inter alia*, the power “To regulate Commerce . . . among the several States”).

11. U.S. CONST. amend X.

12. U.S. CONST. art. VI, cl 2 (“[t]his Constitution, and the Laws of the United States . . . shall be the supreme Law of the land; and the Judges in every State shall be bound thereby . . .”).

13. See *Kewanee Oil Co.*, 416 U.S. at 480.

considerations listed above.

A. Patent Law

Patent law generally imposes the most rigid requirements upon and grants the shortest monopoly terms to intellectual property owners. Federal law provides three kinds of patents for inventors: utility patents, design patents, and plant patents. This article will focus primarily on utility patents, as they are by far and away the most common type of patent issued.

First and foremost, utility patents only cover the functional aspects of an asset and provide protection for twenty (20) years from the filing date.¹⁴ In order to receive the benefits of this monopoly, inventors must agree to publish information on how to make and use the product.

For an invention to be granted patent protection it must: (1) qualify as patentable subject matter under 35 U.S.C. § 101; (2) be novel under 35 U.S.C. § 102; and (3) be non-obvious under 35 U.S.C. § 103.¹⁵ In general, a patent represents patentable subject matter if it falls within one of the following enumerated categories: (1) a process; (2) a machine; (3) an article of manufacture; and (4) a composition of matter.¹⁶ Meanwhile, the novelty requirement, set forth in § 102, makes sure that inventions already in the public domain do not get patent protection. This restriction is meant to encourage inventors to immediately patent their inventions. Specifically, Section 102(a) provides that a patent is invalid if the

14. A design patent protects, for fourteen (14) years “the non-functional aspects of an ornamental design seen as a whole and as shown in the patent.” PHG Techs., LLC v. St. John Cos., Inc., 529 F. Supp. 2d 852, 862 (M.D. Tenn. 2007) (citing *Amini Innovation Corp. v. Anthony California, Inc.*, 439 F.3d 1365, 1370 (Fed.Cir.2006)).

15. *Intn’l Olympic Comm. v. San Francisco Arts & Athletics*, 789 F.2d 1319, 1322 n.3 (9th Cir 1986). A patent application must also satisfy various patent description requirements such as the best mode requirement that the patent “specification . . . shall set forth the best mode contemplated by the inventor of carrying out his invention.” 35 U.S.C. § 112.

16. 35 U.S.C. § 101 (“Whoever 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 therefor, subject to the conditions and requirements of this title . . .”).

invention was known, used, published, or patented in this or another country before it is filed with the USPTO.¹⁷ Additionally, inventions cannot be publicly used or sold more than a year before its filing date.¹⁸

The non-obvious requirement, set forth in § 103, provides that a patent is invalid if the invention would have been obvious to a person having ordinary skill in the pertinent art as it existed when the invention was made. To make this determination, courts assess three different factual issues: (1) the scope and content of the pertinent prior art; (2) differences between the invention at issue and pertinent prior art; and (3) the degree of skill among those ordinarily skilled in the pertinent art.¹⁹

B. Copyright Law

The purpose of copyright law is to create an incentive for authors to produce artistic works by granting temporary property rights to “original works of authorship.”²⁰ Original works of authorship include: literary works (including computer software),²¹ musical works, dramatic works, choreographic works, pictorial works, audiovisual works, sound recordings, and architectural works.²² To receive copyright protection, a work of authorship must (1) exhibit a “modicum of creativity,” (2) be fixed in a tangible medium of expression, and (3) not be functional.²³

17 U.S.C. § 106 of the Copyright Act provides authors of copyrightable works the exclusive rights: (1) to reproduce the

17. 35 U.S.C. § 102(a) (setting forth that a person shall be entitled to a patent unless “the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent”).

18. 35 U.S.C. § 102(b) (setting forth that a person shall be entitled to a patent unless “the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States”).

19. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966).

20. *See Feist Publ’ns Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340 (1991).

21. *Lotus Dev. Corp. v. Borland Intn’l, Inc.*, 49 F.3d 807, 813 n.5 (1st Cir. 1995).

22. 17 U.S.C. § 102(a) (2006).

23. *Feist Publications Inc*, 499 U.S. at 361-62.

work, (2) to prepare derivative works, (3) to distribute the work, (4) to publicly perform the work,²⁴ (3) to publicly display the work,²⁵ and (4) for sound recordings only, to perform the work publicly through digital audio transmission.²⁶ These rights are conferred upon the work's author by default but can be assigned or leased to other parties.²⁷ Violation of any of these rights constitutes direct copyright infringement under 17 U.S.C. § 501 of the Copyright Act.²⁸

Copyright exists automatically upon creation of an original work of authorship. While authors may register the works with the Copyright Office, such a registration only creates a *presumption* of protectability. Although registration is not required, federal copyright law offers incentives, in the form of statutory damages, attorney's fees, and a presumption of validity, to entice authors to register their works. In the end, the ultimate determination of whether a work is copyrightable is left up to the courts.

C. Trademark Law

Trademark law allows individuals and entities to develop and retain public good will in their goods and services by offering monopoly rights for source identifying marks, symbols and other indicia. The purpose of trademark enforcement is to ensure that consumers can rely on trademarks when making purchasing decisions by prohibiting competitors from using marks in a way that confuses the public about the source of the goods or services.²⁹

24. This right does not apply to graphic or pictorial works, sound recordings, sculptural works, or architectural works. 17 U.S.C. § 106.

25. This right does not apply to sound recordings or architectural works. *Id.*

26. *Id.*

27. 17 U.S.C. § 201 (though “[c]opyright in a work protected under this title vests initially in the author or authors of the work . . . ownership of a copyright may be transferred in whole or in part by any means of conveyance or by operation of law”).

28. 17 U.S.C. § 501 (setting forth that “[a]nyone who violates any of the exclusive rights of a copyright owner . . . is an infringer of the copyright”).

29. *K Mart Corp. v. Cartier, Inc.*, 486 U.S. 281, 313 (1988).

1. Types of Marks

Federal trademark law is governed by the Lanham Act.³⁰ The Lanham Act provides protection for a number of different types of marks including: (1) trademarks (source identifying marks for goods),³¹ (2) service marks (source identifying marks for services),³² and (3) trade dresses (includes source identifying product packaging and designs).³³ To receive protection under the Lanham Act, a mark must be (1) capable of identifying the source of the product or service at issue and (2) non-functional.³⁴

2. Distinctiveness

Whether trademark protection extends to a proposed mark is tied to the mark's distinctiveness.³⁵ Courts classify marks according to the following four categories of increasing distinctiveness: (1) generic; (2) descriptive; (3) suggestive; and (4) arbitrary (or fanciful).³⁶ Marks that fall into the latter two categories are automatically protected because they are "inherently distinctive" – the marks' "intrinsic nature serves to identify a particular source."³⁷ Generic and descriptive marks, on the other hand, are not "inherently distinctive."

Descriptive marks, since they are not "inherently distinctive," are only protectable if they acquire "secondary meaning." Such secondary meaning is achieved when, in the minds of the public,

30. 15 U.S.C. § 1051, *et seq.* The Lanham Act is a federal statute, originally enacted in 1946, that regulates the use of trademarks and prohibits a number of unethical commercial activities such as trademark infringement, trademark dilution, false advertising and false designation of origin.

31. 15 U.S.C. § 1052.

32. 15 U.S.C. § 1053.

33. *See* 15 U.S.C. § 1125.

34. *See TrafFix*, 532 U.S. at 28-29.

35. *Wal-Mart Stores, Inc. v. Samara Bros., Inc.*, 529 U.S. 205, 210 (2000); *Retail Services, Inc. v. Freebies Publ'g*, 364 F.3d 535, 538 (4th Cir. 2004).

36. *Abercrombie & Fitch Co. v. Hunting World, Inc.*, 537 F.2d 4, 9 (2d Cir. 1976).

37. *Samara Bros., Inc.*, 529 U.S. at 210 ("The courts have held that "fanciful and arbitrary" marks ['Camel' cigarettes], and 'suggestive marks' ['Tide' laundry detergent] are inherently distinctive.").

the primary significance of a product feature or term is to identify the source of the product rather than the product itself.³⁸ Proof of long and continuous use of a mark in connection with a product or service in a given market or geographical area constitutes circumstantial evidence of secondary meaning.³⁹ When determining whether a mark is descriptive or suggestive “[a] helpful rule of thumb is that if the mark imparts information directly, it is descriptive, but if it stands for an idea which requires some operation of the imagination to connect it with the goods, it is suggestive.”⁴⁰

Generic marks that describe the goods upon which they are used are the least distinctive and are never protectable for those goods.⁴¹ For example, “pizzeria” can never be a protectable trademark for a restaurant that merely serves pizza.⁴² Other examples include, “aspirin,” and “yo-yo,” because they qualify as generic descriptions of the goods they are used on.

3. *Acquiring Ownership of a Mark*

To acquire ownership of a trademark, one must be the first to use the mark in commerce and continue to use it in connection with the product or service offered.⁴³ Thus, an individual who

38. *Id.* at 210; *see also* *Igloo Products Corp v. Brantex, Inc.*, 202 F.3d 814, 816 (5th Cir. 2000); *E.T. Browne Drug Co. v. Cococare Prods., Inc.*, 538 F.3d 185, 198 (3d Cir. 2008); *Quicksilver, Inc. v. Kymsta Corp.*, 466 F.3d 749, 760 (9th Cir. 2006).

39. *Gift of Learning, Inc. v. TGC, Inc.*, 329 F.3d 792, 801 (11th Cir. 2003); *FS Servs., Inc. v. Custom Farm Servs., Inc.*, 471 F.2d 671, 673 (7th Cir. 1972).

40. PETER TOREN, *INTELLECTUAL PROPERTY AND COMPUTER CRIMES*, §401 at 4-3n.1 (2003) (internal quotation marks omitted); *see also* *Pizzeria Uno Corp. v. Temple*, 747 F.2d 1522, 1528 (4th Cir.1984); *Union Carbide Corp. v. Ever-Ready, Inc.*, 531 F.2d 366, 379 (7th Cir.1976).

41. *Union Nat’l Bank of Tex., Laredo, Tex. v. Union Nat’l Bank of Tex., Austin, Tex.*, 909 F.2d 839, 844 (5th Cir.1990) (“Generic terms are *never* eligible for trademark protection.”); *A.J. Canfield Co. v. Honickman*, 808 F.2d 291, 297 (3d Cir.1986) (stating that “if we hold a designation generic, it is never protectable”).

42. *Accord Pizzeria Uno*, 747 F.2d at 1528 (stating that the term “Pizzeria” in the mark “Pizzeria Uno” must be disclaimed as unprotectable because it is generic”).

43. *Dep’t of Parks and Recreation for Cal. v. Bazaar del Mundo, Inc.*, 448

registers a trademark may not have complete ownership of that mark if another individual has used it first in commerce. Furthermore, the mark must be continuously used; here, a mark is “abandoned” and no longer protectable if its owner (1) discontinues use of the mark or (2) licenses the right to use the mark to third parties without adequate supervision.⁴⁴

Federal or state registration is not required to own a protectable mark. Section 43(a) provides civil remedies for infringement of a valid, unprotected mark.⁴⁵ However, there are advantages to having a mark registered on the United States Patent and Trademark Office’s (USPTO) Principal Register. In particular, registration of a trademark provides: (1) a presumption of validity, (2) national protection against use of the mark,⁴⁶ and (3) the right of assistance from the U.S. Customs Service in preventing importation of infringing products.⁴⁷

4. Trade Dress

A protectable trade dress constitutes the distinctive combination of features in product packaging or designs that impact a consumer’s ability to identify or distinguish the product’s source.⁴⁸ Unlike product packaging trade dress – which can include the color, design or artwork used in a product package – product design trade dress can never be inherently distinctive.⁴⁹

A product design trade dress cannot be protected if it is

F.3d 1118, 1125-26 (9th Cir. 2006).

44. 15 U.S.C. § 1127.

45. 15 U.S.C. §1125(a)(1) (setting forth that “any person” who “uses in commerce any word term, name, symbol, or device . . . shall be liable in a civil action by any person who believes that he or she is or likely to be damaged by such act”).

46. Unregistered marks are only protected against unauthorized and confusing use of a similar mark *in the same geographical market*.

47. USPTO, *Trademark FAQs*, <http://www.uspto.gov/faq/trademarks.jsp> (last visited Feb. 10, 2010).

48. *Samara Bros.*, 592 U.S. at 210.

49. *Id.* at 214 (holding that product designs can never be inherently distinctive because there are doubts as to whether consumers ever rely on product features to indicate source, and because of anticompetitive concerns arising out of granting perpetual trade dress protections in product designs).

functional.⁵⁰ This restriction is put in place to promote competition and prevent individuals from avoiding the more stringent patent requirements for utilitarian products.⁵¹ When determining whether a product design is too functional for trade dress protection, the courts apply the following two-part test: (1) is the design essential to the use or purpose of the product or does the design affect the cost or quality of the product; if so, (2) would exclusive use of the product put competitors at a severe, non-reputational, disadvantage.⁵² If the answer to both questions is “yes” then the product design is too functional for trade dress protection.

D. Trade Secrets

The Uniform Trade Secrets Act defines a trade secret as “information, including a formula, pattern, compilation, program, device, method, technique, or process” that (1) derives economic value from the fact that it is not generally known or readily ascertainable; and (2) is subject to reasonable efforts to maintain its secrecy.⁵³ If something qualifies as a trade secret under the UTSA, businesses can prevent their employees and agents from divulging trade secrets to others and prohibit competitors from misappropriating these secrets.

Since trade secret protection is perpetual, businesses often protect their intellectual property using trade secret law when the “know-how” is difficult to obtain or reverse engineer. For example, Coca-Cola is not going to seek a patent to protect for its cola formula, because such protection would require publication of the formula and only last twenty years from the filing date. Instead, Coca-Cola relies on trade secret law to protect its formula.

Acquisition of a trade secret constitutes illegal misappropriation in the following situations: (1) breach of a duty of confidence (such as a breach of a confidentiality agreement); (2) continued disclosure of a trade secret after notice of its secrecy; (3) acquisition or disclosure of a trade secret through “improper

50. *TrafFix*, 532 U.S. at 29.

51. *Id.*

52. *Id.* at 32.

53. Unif. Trade Secrets Act (UTSA) § 1(4) (amended 1985), 14 U.L.A. 538 (2005).

means” (such as through fraud or theft); and (4) use or disclosure of a trade secret after notice that it was acquired through improper means.⁵⁴

IV. USE OF INTELLECTUAL PROPERTY TO MANAGE TECHNOLOGY ASSETS

Proper management of technology assets involves apt attention to intellectual property rights during all stages of the development of the assets. In order to properly manage these technology assets, it is necessary for their developers and owners to understand what constitutes a protectable technology asset and what type of intellectual property protection is best suited for the asset. In addition, developers and owners must take into account various other considerations during all stages of the development process.

The term “protectable technology asset” as used herein is intended to refer to any invention, discovery, work of authorship, trademark, trade dress, trade secret, process, method of doing business, logo or any other intangible product for which Intellectual Property protection can be secured.⁵⁵ A technology asset can take many forms and include various types of scientific and commercial developments that involve improvements over existing technology. Such assets are generally thought of to be of a physical nature, but some assets may be intangible as well. Physical assets can include all types of electronic equipment, such as hard drives, DVD drives etc., as well as electronic articles of manufacture such as static memory devices (e.g., flash drives). Intangible assets can include technical know-how as well as processes and methods of doing business. An understanding of how intellectual property laws may protect those assets is absolutely necessary.

54. *Id.* at § 1(2).

55. Inventions, discoveries, processes and methods of doing business are protectable under the US Patent laws. *See* 35 U.S.C. § 101. Works of authorship including logos and trade dress are protectable as copyrights under the U.S. Copyright laws. *See* 17 USC §§ 102, 106. Trademark and trade dress are protectable under the U.S. Trademark laws. *See* 15 U.S.C. § 1051 *et seq.* Trade secrets are protectable under various state trade secret laws. Most states have adopted the Uniform Trade Secrets Act. *See supra* note 53.

Engineering and software professionals constantly create technology assets during the course of their normal duties. Unless these technology assets are properly protected, intellectual property rights in these assets can be irretrievably lost. Unfortunately, many of these professionals are pressured with product deadlines and have little or no time to pursue intellectual property protection for rights that would otherwise be protectable. A more fundamental problem is that the professionals often do not understand that they are creating something that may be protectable, and they may not even understand the various intellectual property regimes in the first place.

A. Defining Protectable Technology Assets

Protectable technology assets are those assets which are protectable by Intellectual Property laws. As discussed above, Intellectual Property law covers various areas of subject matter. As such, the best way to define a protectable technology asset is to examine the types of assets that satisfy the subject matter requirements for each Intellectual Property subgroup.

Most countries around the world, including the U.S., are members of an intentional organization known as the World Trade Organization (WTO). In order to become a member of the WTO, each member country had to sign a 1994 Agreement on the “Trade Related Aspects of Intellectual Property” (“TRIPS”).⁵⁶ The TRIPS Agreement establishes standards of protection for patents, copyrights, trademarks and trade secrets.

As will be discussed in more detail below, the TRIPS Agreement only provides the minimum standards of Intellectual Property protection for such technology assets. As a result, there exist significant differences in the standards of protection in member countries of the WTO throughout the world. Since many companies operate on a global basis, knowledge of both the U.S. and international Intellectual Property laws is required to optimize Intellectual Property rights for technology assets. However, since a discussion of the Intellectual Property laws of all of the member

56. Agreement on Trade Related Aspects of Intellectual Property Rights, Apr. 15, 1994, Uruguay Round Agreements Act, Pub. L. No. 103-465, 108 Stat. 4809 (1994) (amending 19 U.S.C. § 2411) [hereinafter *TRIPS*].

countries of the WTO is outside of the scope of this article, only the Intellectual Property laws of the U.S and selected non-U.S. countries are covered.

In order to ascertain what Intellectual Property rights are available for a technology asset, protectable subject matter for each type of Intellectual Property rights is reviewed briefly below for the U.S. and selected foreign countries.

1. Patentable Subject Matter

In general, the national patent laws of all member countries of the WTO provide for at least two types of patents: namely, utility patents and design patents.⁵⁷ As described above, utility patents cover functional non-aesthetic aspects of a technology asset for subject matter. Meanwhile, design patents cover the aesthetic, non-functional aspects of a technology asset.

a. Patentable Subject Matter of Utility Patents under the TRIPS Agreement

Article 27, paragraph 1 of the TRIPS Agreement provides the basic requirements for obtaining a patent in any jurisdiction that solely utilizes the provisions of this Agreement.⁵⁸

Meanwhile, Articles 27(2) and 27(3) of the TRIPS Agreement identify certain subjects that may be excluded from patentability by WTO members under TRIPS:

(1) . . . inventions, the prevention within their territory of the commercial exploitation of which is

57. The United States patent laws also provide for plant patents as set forth in 35 USC § 161. Plant patents are outside the scope of this article.

58. TRIPS art. 27, para. 1:

. . . patents shall be available for any inventions, whether products or processes, in all fields of technology, provided that they are new, involve an inventive step and are capable of industrial application. . . . [P]atents shall be available and patent rights enjoyable without discrimination as to the place of invention, the field of technology and whether products are imported or locally produced.

Id.

necessary to protect order public or morality, including to protect human, animal or plant life or health or to avoid serious prejudice to the environment, provided that such exclusion is not made merely because the exploitation is prohibited by their law.⁵⁹

(2) diagnostic, therapeutic and surgical methods for the treatment of humans or animals;⁶⁰ and

(3) plants and animals other than micro-organisms, and essentially biological processes for the production of plants or animals other than non-biological and microbiological processes⁶¹

The exclusions identified above define areas of technology that cannot be protected by patent laws in any WTO member country. Keeping in mind that the TRIPS Agreement sets the minimum standards for patentable subject matter, each WTO member country is also free to add exclusions to the list. Accordingly, there are disparities among WTO member countries on certain issues, such as whether software and business methods constitute patentable subject matter. Thus, in order to ascertain what constitutes a protectable technology asset, it is necessary to review the national Intellectual Property laws of various countries with respect to patentable subject matter. For example, the US allows for the patentability of “medical activities” but renders patents covering such medical activities as unenforceable.⁶² In addition, the U.S. provides patent protection for certain plants and living organisms.⁶³

59. *Id.* at para. 2.

60. *Id.* at para. 3(a).

61. *Id.* at para. 3(b).

62. 35 U.S.C § 287. (relating to the unenforceability of patents relating to medical activities)

63. See 35 U.S.C. § 161; 7 USC § 2402 (a); *Diamond v. Chakrabarty*, 447 US 303 (1980). In that case, the Supreme Court held man made living

b. Patentable Subject Matter of Utility Patents in the United States

35 USC § 101 dictates what is to be considered patentable subject matter in the United States.⁶⁴ Thus, in order to qualify for patent protection in the U.S., the development must fall into one of the four enumerated statutory classes: that is, it must be a process, machine, manufacture, or composition of matter. Unfortunately, the determination of whether a development falls into one of those categories is not always an easy question.

The Supreme Court has repeatedly re-affirmed that mathematical formulas and the laws of nature do not constitute patentable subject matter.⁶⁵ Thus, software *per se*, or software that embodies a mathematical formula or a law of nature, is not patentable.⁶⁶ However, software used in combination with a computing device can qualify as a machine in certain situations and therefore constitute patentable subject matter.⁶⁷ In some instances, the functions performed by the software may also qualify as a process, such that it constitutes patentable subject matter.⁶⁸ As of this writing, the U.S. Supreme Court is currently reviewing the patentability of business methods. This review will hopefully result in clear guidelines regarding business method patents and also software related inventions.⁶⁹

As stated by the Supreme Court, “anything under the sun that is man-made” qualifies as patentable subject matter.⁷⁰ Thus

organisms to be patentable composition of matter.

64. 35 U.S.C. § 101. (“Whoever invents or discovers any new or useful process, machine, manufacture or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.”)

65. *Chakrabarty*, 447 U.S. at 309.

66. *Gottschalk v. Benson*, 409 U.S. 63, 71-73 (1972). In this case, the Supreme Court found an algorithm for converting binary coded decimal numbers to pure binary numbers as unpatentable. In determining the unpatentability of the algorithm, the Court found that the patent would totally pre-empt the use of the algorithm.

67. *Chakrabarty*, 447 U.S. at 315.

68. *In re Bilski*, 545 F.3d 943, 961 (Fed. Cir 2008), *cert. granted*, *Bilski v. Doll*, 129 S.Ct 2735 (Jun. 1, 2009) (No. 08-964).

69. *Id.*

70. *Chakrabarty*, 447 US at 309.

compositions of matter certainly qualify as patentable subject matter. Such compositions of matter have been recognized by the U.S. Supreme Court to include all chemical compositions of “two or more substances and . . . all composite articles, whether they be the results of chemical union, or of mechanical mixture, or whether they be gasses, fluids, powders or solids.”⁷¹ As a result, compositions of matter include pharmaceutical products and virtually any chemical composition from tooth paste to floor wax. In addition, living organisms that are man-made organisms have been held to be a patentable composition of matter.⁷²

Machines are generally considered to be any mechanical apparatus having moving parts.⁷³ In contrast, articles of manufacture are considered to be static in nature and have no moving parts. The Supreme Court has recognized the dictionary definition of the term “manufacture” to mean “the production of articles for use from raw or prepared materials by giving to these materials new forms, qualities, properties, or combinations, whether by hand-labor or by machinery.”⁷⁴ For example, an automobile engine is considered a machine while a bookshelf would be considered an article of manufacture.

Even though digital computers generally have no moving parts, digital computers that execute certain types of algorithms have been considered to be machines by the Courts.⁷⁵ However, not all such digital computers are considered to constitute patentable

71. *Id.* at 308 (quoting *Shell Dev. Co. v. Watson*, 149 F.Supp. 279, 280 (D.C. 1957)).

72. *See, e.g., Id.* at 310 (“[T]he patentee has produced a new bacterium with markedly different characteristics from any found in nature and one having the potential for significant utility. His discovery is not nature’s handiwork, but his own; accordingly it is patentable subject matter under § 101.”).

73. Webster’s New World College Dictionary, 4th Edition, published by IDG Books Worldwide, Inc., defines a machine as “a structure consisting of a framework and various fixed and moving parts, for doing some kind of work.”

74. *Chakrabarty*, 445 US at 308 (quoting *Am. Fruit Growers Inc. v. Brogdex Co.*, 283 U.S. 1, 11 (1931)).

75. *See, e.g., Benson*, 409 US 63 (S.Ct 1972); *Diamond v. Diehr*, 450 US 175 (S.Ct 1981); *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F. 3d 1368 (Fed. Cir 1998). Each of these cases involved an algorithm being executed on a digital computer. Even though such digital computers generally have no moving parts, Courts have categorized such digital computers as machines.

subject matter. In general, a computing device that generates a pure mathematical result is not considered useful.⁷⁶ In *Gottschalk v. Benson*,⁷⁷ the Supreme Court found that a digital computer running an algorithm to process binary numbers to be unpatentable. In that case, the Court found that allowing a patent for such subject matter would amount to pre-empting the use of the algorithm itself.⁷⁸ On the other hand, a data processing system for processing financial data was initially found to constitute patentable subject matter.⁷⁹ In particular, in *State Street*,⁸⁰ a claim for a method for managing a “hub and spoke” investment structure in which mutual funds (spokes) pool their funds into a common hub was found to be patentable.⁸¹ The system determined the percentage share that each spoke maintains in the hub and allocates daily income and expenses as well as each spoke’s unrealized gain or loss. Although the system relates to a business method, the claim is couched in terms of various technology elements. Specifically, the claim recites a computer, an arithmetic logic circuit, and a data disk. Because technology elements are considered to be the cornerstone of patentable subject matter, the business method claim in *State Street* was found to constitute patentable subject matter because it produced a “tangible result.” The “tangible result” test was later found to be “inadequate” by the

76. See, e.g., *Benson*, 409 U.S. 63.

77. *Id.* at 71-72.

78. *Id.*

79. See *State Street*, 149 F. 3d 1368 (Fed. Cir 1998) In that case, the Federal Circuit based its holding in part on the fact that the data processing system produced a “tangible result.” *Id.* at 1371. The requirement for a “tangible result” was found “inadequate” by the Federal Circuit in *Bilski*, where the Federal Circuit articulated a new two step test as follows: First the claim must be tied to a particular machine or transforms a specific article and must impose meaningful limits on the claim’s scope. Second, the involvement of the machine or the transformation must not rely on insignificant post solution activity. *Bilski*, 545 F.3d at 959-962. The Supreme Court granted certiorari in this case. *Bilski v. Doll*, 129 S.Ct 2735 (Jun. 1, 2009) (No. 08-964). As of this writing, the Supreme Court has not ruled on this case. Therefore, it is unknown at this time how the Supreme Court will rule on the proper test for patentable subject matter.

80. *State Street*, 149 F. 3d at 1370.

81. *Id.* at 1371.

Federal Circuit in the *Bilski* case.⁸² That said, the validity of the patent in the *State Street* case is at issue at this time.

A “process” is generally a series of steps that provide a useful result. The Supreme Court recognizes a process as “an act, or a series of acts, performed upon the subject matter to be transformed and reduced to a different state or thing.”⁸³ Processes that are generally based on human mental steps are generally not patentable.⁸⁴ Meanwhile, courts have found patentable processes when the steps are performed by digital computers. For example, a system for curing rubber that included a digital computer executing a known algorithm was found to be patentable.⁸⁵ In *Diamond v. Diehr*,⁸⁶ the Supreme Court considered a patent claiming the use of a known Arrhenius equation that was executed on a digital computer to calculate the curing time for a rubber molding process. In that case, the Court found that the algorithm was not being pre-empted and held the process to constitute patentable subject matter.⁸⁷ Moreover, a program for processing signals for display of the results of an electrocardiograph was also found patentable.⁸⁸

Even though business methods are not a separate statutory class, the patentability of such business methods is unclear at this time. Business methods fall into two general categories. One category relates to pure business methods that do not involve a machine, as in *Bilski*,⁸⁹ as discussed below. The other category of business methods relate to methods that involve a digital computer, as in

82. *Bilski*, 545 F.3d at 959, 960.

83. *Diehr*, 450 U.S. at 183 (citing *Cochrane v. Deener*, 94 U.S. 780, 788 (1877)).

84. *Benson*, 409 U.S. 63; *see also* *Pain, Webber, Jackson & Curtis, Inc. v. Merrill Lynch, Pierce, Fenner & Smith, Inc.*, 564 F. Supp. 1358, 1366 (D.C. Del. 1983).

85. *See Bilski*, 545 F.3d at 960.

86. *Diehr*, 450 U.S. at 175.

87. *Id.* at 176.

88. *See Arrhythmia Research Tech., Inc. v. Corazonix*, 958 F.2d 1053 (Fed. Cir. 1992) (finding that claims to a method for processing electrocardiographic signals did not pre-empt the algorithm and that the method constituted patentable subject matter).

89. *Bilski*, 545 F.3d at 943.

State Street.⁹⁰ At this time, the patentability of both categories of business method patents in the United States is unclear pending a decision by the Supreme Court.

The subject matter of the *Bilski* case involved a method for managing the risks associated with commodities.⁹¹ The claim in the *Bilski* case did not include any technological components, such as a digital computer, and was therefore rejected by the Examiner at the United States Patent and Trademark Office (“USPTO”) as relating to non-statutory subject matter.⁹² Indeed, the U.S. Patent Office Board of Appeals and Interferences (the body to which decisions of the USPTO are appealed) affirmed the Examiner’s rejection, finding the claims recited a pure business method patent claim.⁹³ The Board held that in order to constitute patentable subject matter, the claimed process must transform something from one state to another.⁹⁴ Not finding any transformation in the process recited in the claim, the Board found the claim did not constitute patentable subject matter.⁹⁵

90. *See supra*, text accompanying notes 79-81.

91. An exemplary claim from the *Bilski* case is illustrated by claim 1:

A method for managing the consumption risk costs of a commodity sold by a commodity provider at a fixed price comprising the steps of:

(a) initiating a series of transactions between said commodity provider and consumers of said commodity wherein said consumers purchase said commodity at a fixed rate based upon historical averages, said fixed rate corresponding to a risk position of said consumer;

(b) identifying market participants for said commodity having a counter-risk position to said consumers; and

(c) initiating a series of transactions between said commodity provider and said market participants at a second fixed rate such that said series of market participant transactions balances the risk position of said series of consumer transactions.

Energy Risk Management Method, U.S. Patent Application Serial No. 08/833,892 claim 1 (filed Apr. 10, 1997) (discussed in *Bilski*, 545 F.3d at 949).

92. *Bilski*, 545 F.3d at 950.

93. *Id.*

94. *Id.*

95. *Id.* at 949.

On October 30, 2008, the Federal Circuit, in an *en banc* opinion, upheld the rejection of the *Bilski* claims as being unpatentable subject matter.⁹⁶ Even though the court found that business methods remain patentable, the Court held that such business methods are subject to the “machine-or-transformation” test.⁹⁷ Under the machine-or-transformation test, an applicant may show that a process claim satisfies § 101 either by showing that the claim is tied to a particular machine or by showing that the claim transforms an article.⁹⁸ The court also held that purported simple transformations or manipulations of public or private legal obligations or relationships, business risks, or other such abstractions cannot meet the test because they are not physical objects or substances, nor are they representative of physical objects or substances. The Court also ruled that the tangible result test, enunciated in *State Street Bank*, was “inadequate.”⁹⁹ On June 1, 2009, *certiorari* was granted by the Supreme Court, adding further uncertainty to the issue of patentability of business method patents.¹⁰⁰

In addition to that listed above, certain other subject matter is considered to be non-patentable subject matter in the United States. For example, printed matter, in some situations, is non-patentable subject matter.¹⁰¹

c. Patentable Subject Matter of Utility Patents Outside the United States

Despite the efforts of the WTO (through the TRIPS Agreement), key differences between the United States and foreign countries remain as to what constitutes patentable subject matter with respect to software and business methods. This article will discuss the policies of the European Patent Office (“EPO”) and the

96. *Id.*

97. *Id.* at 960.

98. *Bilski*, 545 F.3d at 954.

99. *Id.* at 959-60.

100. *Bilski v. Doll*, 129 S. Ct. 2735, (June 1, 2009) (No. 08-964).

101. *See, e.g., In re Gulack*, 703 F.2d 1381, 1385 (Fed. Cir 1983) (holding that printed matter is generally not patentable unless there is a structural relationship between the printed matter and the substrate upon which it is printed).

Japanese Patent Office (“JPO”) with respect to inventions relating to business methods.

i. European Patent Office

What constitutes patentable subject in the EPO is set forth in the European Patent Convention. To qualify as patentable subject matter in the EPO, the invention must have a “technical character and solve a technical problem.”¹⁰² The rule in the EPO is interpreted narrowly. For example, even though the accounting method claimed in *State Street* is implemented by technical means, such as a digital computer, the computerized accounting method would not likely be found to solve a technical problem because, in the eyes of the EPO, the real problem being solved by the computerized accounting method is an accounting problem. Even though the accounting method is implemented by way of technology – *i.e.*, a digital computer – the problem to be solved relates to accounting and not the computer. Since accounting is considered to be a business method, the EPO would probably find that the subject matter of the patent in *State Street*, a computerized accounting method, is not patentable because it relates to a business method.

Notwithstanding, the EPO issued a business method patent on April 14, 1999, entitled “Method and Data System for Determination of Financial Instruments for the Use of Funding a Loan which is at Least Partially Refinanced During Its Term to Maturity.”¹⁰³ The title alone sounds very much like a business method. In order to meet the requirement that the subject matter solve a technical problem, very clever attorneys described the technical problem in their EPO patent application as follows:

102. See EUROPEAN PATENT OFFICE, PATENTS FOR SOFTWARE? EUROPEAN LAW AND PRACTICE, 9 (2009), available at [http://documents.epo.org/projects/babylon/eponet.nsf/0/a0be115260b5ff71c125746d004c51a5/\\$FILE/patents_for_software_en.pdf](http://documents.epo.org/projects/babylon/eponet.nsf/0/a0be115260b5ff71c125746d004c51a5/$FILE/patents_for_software_en.pdf).

103. European Patent No. EP0838063 (B1) (filed Feb. 3, 1997) (issued Apr. 14, 1999), available at http://v3.espacenet.com/publicationDetails/originalDocument;jsessionid=C31F28A31C6D105C36FD858A05C4590F.espacenet_levelx_prod_0?FT=D&date=19990414&DB=EPODOC&locale=en_EP&CC=EP&NR=0838063A1&KC=B1.

A *technical problem* in connection with such general funding principle is, however, that there is no knowledge of an efficient general calculation method for a computerized calculation of the volume of financial instruments or funding principals for the funding of a loan where at least a partial refinancing of a loan during the remaining term to maturity of the loan is made under the condition that the calculation result must partly fulfill the requirement that loan issuing institutions must not undertake interest or funding risk or at least they must or will not undertake such risks above a certain maximum, partly be able to contribute to minimize costs of the debtor so that the loan with adjustable interest rates gets as inexpensive as possible within the given preconditions.¹⁰⁴

The patent application further asserted that the invention, as recited in the claims, provided a solution to the technical problem.¹⁰⁵ Thus, even though the claim presented to the EPO appeared to be a business method, it was presented in terms of a problem with calculation methods and the claims were written in terms of a solution to the calculation problem. In turn, the EPO viewed the calculation problem as a technical problem. Since the claim was drafted as a method to solve a technical calculation problem and not as a pure business method, the EPO found that the claim constituted patentable subject matter.

ii. Japanese Patent Office

The policy in the JPO with respect to business method patents is much more liberal than the EPO but not quite as liberal as the U.S.

104. *Id.* at 4, [0017] (emphasis added).

105. Claim 1 provides as follows: “A method for determining of the type, the number, and the volume of financial instruments for the funding of a loan with equivalent proceeds to a debtor by means of a first computer system.” *Id.* at 58. The claim was drafted as a solution to a known problem in processing financial instruments.

has been in the past. In particular, Japanese Patent Law, Section 2(1) defines statutory inventions as “the highly advanced creation of technical ideas by which a law of nature is utilized.”¹⁰⁶ Under this definition, pure business method patents, business methods which are not implemented by a digital computer, are not considered to be patentable subject matter, because business methods are considered to be merely economic and not “technical.”¹⁰⁷ Although pure business methods are not considered to constitute patentable subject matter, “when the information processing machine (or operational method thereof) contains concrete means, the computer systems for business methods or business methods carried out by computers *are* patentable.”¹⁰⁸

Thus, the claims from *State Street*, which were drafted in terms of a personal computer, would have likely been found to constitute patent subject matter by the JPO.¹⁰⁹ However, the claims from *Bilski*, mentioned above, would likely be non-statutory subject matter because the patent in that case covered a pure business method that did not include any technical components.¹¹⁰

2. Copyrightable Subject Matter

Article 9 of the TRIPS Agreement states that “[c]opyright protection shall extend to expressions and not to ideas, procedures, methods of operation or mathematical concepts as such.”¹¹¹ Article 10 further provides:

[c]ompilations of data or other material, whether in machine readable or other form, which by reason of the selection or arrangement of their contents constitute intellectual creations shall be protected as such. Such protection, which shall not extend to the

106. Hideo Furutani, *Patentability of Business Method Inventions and Inventions with Non-technical Features in Japan versus the U.S. and Europe*, presented at the US Patent Office in November 2003, 9 available at http://www.furutani.co.jp/office/ronbun/Business_method_patents_in_Japan.pdf

107. *Id.*

108. *Id.* at 10.

109. See *supra* note 79 and accompanying text.

110. See *supra* note 91 and accompanying text.

111. TRIPS, art. 9(2).

data or material itself, shall be without prejudice to any copyright subsisting in the data or material itself.¹¹²

All member countries to TRIPS have national copyright laws in compliance with Articles 9 and 10, mentioned above. For example, U.S., copyright protection is available for an expression of an idea that is an original work of authorship and is in tangible form.¹¹³ The expression may be a literary work (including computer program object code and source code),¹¹⁴ or a pictorial, graphic and sculptural work.¹¹⁵ Literary works include various forms of written materials, such as marketing and advertising materials and instruction manuals.¹¹⁶

3. Trademark/Trade Dress

a. Trademarks and Trade Dress Protection in the United States

In the United States, trademarks consist of words or designs used on a product or in connection with a service that are used to identify the source of the goods or service. The non-functional product features and the packaging can also identify the source of the goods or services in the same manner as a trademark. This

112. TRIPS, art. 10(2).

113. 17 U.S.C. § 102 (“Copyright protection subsists, in accordance with this title, in original works of authorship fixed in any tangible medium of expression, now known or later developed, from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device.”).

114. *See* *Fonar Corp. v. Domenick*, 105 F.3d 99 (2d Cir. 1996).

115. 17 U.S.C. § 102 defines works of authorship to include (1) literary works; (2) musical works, including any accompanying words; (3) dramatic works, including any accompanying music; (4) pantomimes and choreographic works; (5) pictorial, graphic, and sculptural works; (6) motion pictures and other audiovisual works; (7) sound recordings; and (8) architectural works.

116. *See, e.g.* *Infodek, Inc., v. Meredith-Webb Printing Co.*, 830 F. Supp. 614, 617 (N.D. Ga. 1993) (holding that instructions for printing and assembly of card decks was copyrightable subject matter under the category of pictorial, graphic, and sculptural works).

type of protection is referred to as trade dress protection and is discussed in detail below. In order to qualify for federal trade dress protection in the U.S., the trade dress must be used on a product sold or used in interstate commerce and must be “inherently distinctive” or possess “secondary meaning.”¹¹⁷ Here, it is important to note that with respect to product packaging, the trade dress must be “inherently distinctive.”¹¹⁸

b. Trademark Protection Outside the United States

All member countries of TRIPS offer some form of trademark protection that is similar to trademark protection in the U.S.. In particular, words that are capable of identifying a source of goods are acceptable for trademark protection outside the U.S.. Words that are not inherently distinctive may be registered once the words become distinctive through use.¹¹⁹

In addition, a regional Community Trademark Application can be filed with the Office of Harmonization of the Internal Market

117. *See* Thomas & Betts Corp. v. Panduit Corp., 138 F.3d 377 (7th Cir. 1998), *cert. denied*, 119 S. Ct. 336 (1998) (“[A]n identifying mark is distinctive and can be protected as a trademark if it is non-functional and if it either 1) is inherently distinctive or 2) has acquired distinctiveness through secondary meaning.”).

118. The U.S. Supreme Court has held that product design trade dresses (*i.e.*, the combination of features in the product itself that acts to signify that product’s source) can never be inherently distinctive and must acquire secondary meaning to obtain protection under the Lanham Act. *Wal-Mart Stores, Inc. v. Samara Bros., Inc.*, 529 U.S. 205, 206 (2000).

119. *See* TRIPS, art. 15. The TRIPS Agreement defines a trademark as:

Any sign, or any combination of signs, capable of distinguishing the goods or services of one undertaking from those of other undertakings, shall be capable of constituting a trademark. Such signs, in particular words including personal names, letters, numerals, figurative elements and combinations of colours as well as any combination of such signs, shall be eligible for registration as trademarks. Where signs are not inherently capable of distinguishing the relevant goods or services, Members may make registrability depend on distinctiveness acquired through use. Members may require, as a condition of registration, that signs be visually perceptible.

Id.

("OHIM"), located in Alicante, Spain, which serves as the official agency for the European Union for registering trademark in all member countries of the European Union.¹²⁰ Community Trademarks provide trademark protection in all member countries of the European Union.

As of November 2, 2003, the United States also became a member of the Madrid Protocol, which is administered by the World Intellectual Property Organization ("WIPO") and allows a single international application to be filed in any member country (e.g., with the United States in the USPTO).¹²¹ That member country acts as a receiving office for WIPO, and the trademark application is subsequently sent to designated countries who have the option to accept or refuse the application.¹²²

4. *Protectable Trade Secrets*

Trade secret protection is available outside the U.S. by member countries of TRIPS.¹²³ In general, trade secret protection is similar

120. Council Regulation (EC) No. 40/94, 1994 O.J. (L 11) 1, *available at* <http://oami.europa.eu/en/mark/aspects/reg/reg4094.htm>.

121. *See* USPTO, *United States Joins the Madrid Protocol*, Nov. 15, 2003, <http://www.uspto.gov/web/trademarks/usjoinsmadrid.html>

122. *Id.*

123. Art. 2 (1) of TRIPS requires member nations to comply with articles 1 through 12 and 19 of the Paris Convention for the Protection of Industrial Property. *See* TRIPS, art. 2(1). Art. 10bis of the Paris Convention binds adhering countries to assure nationals of such countries effective protection against unfair competition which is defined as "any act of competition contrary to honest practices in industrial or commercial matters." Paris Convention for the Protection of Industrial Property art. 10bis, July 14, 1967, 21 U.S.T. 1583. Art. 39 of TRIPS provides: "In the course of ensuring effective protection against unfair competition as provided in Article 10bis of the Paris Convention (1967), Members shall protect undisclosed information in accordance with paragraph 2 and data submitted to governments or governmental agencies in accordance with paragraph 3." TRIPS, art. 39.

Art. 39 (2) requires:

Natural and legal persons shall have the possibility of preventing information lawfully within their control from being disclosed to, acquired by, or used by others without their consent in a manner contrary to honest commercial practices so long as such information: (a) is secret in the sense that it is not, as a body or in the precise configuration

to the protection in the U.S. under the Uniform Trade Secrets Act; however, the national trade secret laws may vary from country to country.

B. Pre-Development Considerations with Respect to Technology Assets

In addition to understanding what types of technology assets are protectable, there are a number of pre-development considerations that must be examined in order to optimize intellectual property protection for those assets. These considerations include:

- Third party intellectual property rights
- Deciding on which form of intellectual property protection best suits the objectives of the company

Failure to consider the issues these considerations raise can lead to loss of intellectual property rights. Each of these considerations is discussed separately below.

1. Third Party Intellectual Property Rights

Development of a technology asset often times requires a considerable amount of capital. The development of such assets is

and assembly of its components, generally known among or readily accessible to persons within the circles that normally deal with the kind of information in question; (b) has commercial value because it is secret; and (c) has been subject to reasonable steps under the circumstances, by the person lawfully in control of the information, to keep it secret.

TRIPS, art. 39(2).

A footnote to the text explains that “a manner contrary to honest commercial practices” means practices such as breach of contract, breach of confidence and inducement to breach, and includes the acquisition of undisclosed information by third parties who knew, or were grossly negligent in failing to know, that such practices were involved in the acquisition. TRIPS, art. 39(2) n.10.

Art. 39 (3) requires members to protect undisclosed test or other data that may be submitted as a condition of approving the marketing of pharmaceutical or of agricultural chemical products using new chemical entities where the collection or compilation requires considerable effort against unfair commercial use. *See* TRIPS, art. 39(3). Such “members must protect such data against disclosure, except where necessary to protect the public, or unless steps are taken to ensure that the data are protected against unfair commercial use.” *Id.*

customarily done in secrecy until the asset is to be sold or otherwise released to the public. Without first considering third-party intellectual property rights, the developer of the asset may not be aware until the development of the asset is complete and considerable sums of money have already been spent that the developed asset infringes on third-party intellectual property rights or that the developer will not be able to secure intellectual property protection for the asset. In a situation where the developed technology asset infringes a third party's intellectual property rights, the developer of the technology asset can either (1) challenge the third party's rights; (2) attempt to obtain a license from the third party; or (3) develop a new product that does not infringe on the particular third party's rights. In other situations, the developer of the technology asset may find out that even though the developed asset does not infringe the third party's intellectual property rights, the developed asset may not qualify for intellectual property protection. In this latter situation, the developer has to decide to whether to make the asset available with no intellectual property protection, at the risk that competitors might copy the asset or redevelop a new but similar product. However, simple precautions can be taken to avoid such pitfalls.

As a precaution, the developer should investigate third-party intellectual property rights before the development commences. The investigation can be done on many levels. First, it is important to be familiar with the competitor's products. These products can be found on the competitor's web site, in trade journals, or at trade shows. In as much as the competitor's products are in the public domain, these products may represent "prior art" that might prevent or severely limit the developer's ability to obtain intellectual property rights for the developed asset. In some instances, the competitor's products may be marked with patent numbers or trademarks that cover the product. At this point, it is important to investigate the competitor's intellectual property rights. On this higher level, there are different methods of investigating these rights.

There are a number of ways to search for patents and patent applications. U.S. patents and published applications can be

searched on the USPTO website.¹²⁴ Likewise, U.S. and international patents can be searched on the European Patent Office web site,¹²⁵ while international patents (filed under the Patent Cooperation Treaty) can be searched on the World Intellectual Property Owners (WIPO) website.¹²⁶ Thus, an optimum search will include database searches of the USPTO, EPO and WIPO databases: indeed, this may be done by a professional patent searcher in Washington, D.C. In turn, these professional searchers may search the records of the relevant databases by subject matter. A subject matter search may sound easy, but in reality, it can be rather complex. In any event, the combination of the two searches will likely provide better results than either the database search or the professional search.

There are several points to keep in mind when performing online patent searches. First, these searches are simply word searches and may not find all of the patents and patent application publications that are relevant to your inquiry. For example, a search using the term “car” will not locate any patents or applications on “automobiles” that may be relevant. Quite simply, with millions and millions of patents in existence worldwide, there is no way to become aware of all of the patents and published patent applications relevant to a particular technology area. Second, patent applications are not published on any of the above-listed websites until at least eighteen months have elapsed since the application was originally filed. During the eighteen-month period before the application is published, it is maintained in confidence by the respective Patent Offices and is only accessible during that period by the applicant or its attorneys of record.¹²⁷

2. Trademark and Trade Dress Searches

Trademark or trade dress searches can be done on the USPTO

124. United States Patent & Trademark Office, <http://www.uspto.gov> (last visited Fe. 10, 2010).

125. European Patent Office, <http://ep.espacenet.com/> (last visited Feb. 10, 2010).

126. World Intellectual Property Organization, <http://www.wipo.int/portal/index.html.en> (last visited Feb. 10, 2010).

127. *See generally* 35 U.S.C. §122 (specifying the confidentiality of patent applications until the patent application is published or the patent issues).

website.¹²⁸ However, the USPTO website provides only limited access to these types of intellectual property, as the USPTO only maintains a database for federal trademark registrations and applications for federal trademark registrations. The problem is that trademarks and trade dresses can exist without a federal registration. For example, state trademark registrations are registered with the various states. Also, common law rights may exist for unregistered trademarks; such common law rights are based upon use on a product or service in commerce. Both state and common law trademarks are not searchable on the USPTO website. For the reasons stated above, a professional trademark search service is recommended. Such professional search services are able to locate federal registrations and registration applications, state registrations, registered domain names, business names and unregistered uses of the search term and similar terms.

Trademark designs or logos and trade dress registrations can also be searched by a professional trademark search service. However, such searches are only able to locate federal registrations and registration applications in specific international classes for designs similar to the design being searched. In this area, searches of unregistered designs are currently un-available.

3. Copyright Searches

All copyrights registered in the last thirty years can be searched online on the U.S. Copyright Office website.¹²⁹ All other registered copyrights are accessible by contacting the Library of Congress in Washington D.C. Copyrights may also exist on a common law basis. However, as with trademarks, there is no ability to search unregistered copyrights on the U.S. Copyright Office website. The problem here is that only the copyright applications and registrations are available on the website, as the material covered by the copyright registration is only available for personal inspection at the Library of Congress. Throughout this process, no pictures or copying of the copyrighted material is allowed.

128. *See supra* Section III.A.4.

129. United States Copyright Office, <http://www.copyright.gov/> (last visited Feb. 28, 2010).

C. Which Form of Intellectual Property Protection to Pursue for the Technology Asset

The form of intellectual property protection selected for protecting the technology asset depends on many factors. Here, it is important to note that multiple forms of intellectual property protection can be used to protect the same asset or parts of the same asset. Each form of intellectual property provides different benefits and has different downfalls. Therefore, consideration should be given to multiple forms of intellectual property protection in order to optimize protection for the technology asset. Factors to consider for each form of intellectual property protection are set forth below.

1. Patents

a. Are Patent Rights Still Available?

Before determining if patent protection should be pursued, it is important to first determine whether patent rights are still available. A public disclosure or market activity and the timing of these events are always an important consideration in determining whether to pursue patent protection. A public disclosure is a disclosure of an invention to a third party not obligated to maintain the disclosure in confidence. Such a disclosure can result in forfeiture of both U.S. and foreign patent rights under certain conditions. In the United States, a public disclosure of an invention more than one year before the anticipated filing date precludes filing a U.S. patent application under 35 USC § 102(b).¹³⁰ Public disclosures also have a bearing on the ability to file foreign patents, since most foreign countries are known as absolute novelty countries. From the standpoint of a U.S. applicant, if there has been a public disclosure of the technology asset before the filing of a U.S. patent application, then foreign

130. 35 U.S.C. § 102(b) (providing that a person is not entitled to a patent if “the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States”).

patent applications are barred and cannot be filed.

Under United States law, however, there are certain exceptions to whether there has been a public disclosure. First, if the disclosure was made pursuant to a confidentiality or non-disclosure agreement, then the disclosure is not considered public. Second, if the disclosure is considered an experimental use, the disclosure is considered non-public. In either of these situations, a public disclosure will not likely be found.

Under § 102(b), a sale or an offer for sale made more than one year before the anticipated filing date may preclude the filing of a United States patent application.¹³¹ Nonetheless, sales and offers for sale are treated differently than public disclosures. Unlike public disclosures, confidentiality or non-disclosure agreement does not neutralize the impact of these events. Stated differently, if an offer for sale or sale occurs, the applicant will be unable to file a U.S. patent application after one year from either of those events even if a confidentiality or non-disclosure agreement was signed. However, these events do not necessarily prevent filing of foreign patent applications even if the events took place prior to the filing of a U.S. application. Therefore, with respect to sales and offers for sale that occurred before the filing of a U.S. application, it is best to check with foreign patent attorneys on a country-by-country basis before pursuing foreign applications.

Based on the above, the following inquiries need to be made prior to even deciding whether patent protection can be pursued at all:

- Has there been a disclosure of the technology asset?
- If so, when and to whom?
- Has there been a sale or offer?
- If so when?
- Was a confidentiality or non-disclosure agreement signed?

b. Assuming Patent Rights Are Available, Should Patent Rights Be Pursued?

Assuming patent rights are still available, the question is

131. *Id.*

whether patent rights are best suited for protection of the technology asset. This question can be difficult to resolve if the technology asset is a method or process. In general, patent protection is only suitable in situations where the patent owner can determine if a third party has infringed the claims of the patent. Normally, there is no way to police patents that cover processes or methods, as a patent owner has no right to inspect processes and methods of third-parties being practiced in private. The only way to determine if third parties are practicing protected processes or methods is if the process or method can be reverse engineered from the resulting product. If the process or method can be determined from the resulting product, then obtaining a patent on the process or method makes sense. However, if the process or method cannot be determined from the resulting product, then one should refrain from obtaining a patent on the product or process because once the patent application or issued patent is published, the process or method will be available to the public and the patent owner will have no way of determining whether and when the patent is ever infringed by a third party. In this situation, it is better to maintain the process or method as a trade secret. By selecting trade secret protection, the benefit of the method or process will only inure to its developer. Another benefit of trade secret protection is its perpetual nature; the protected object will never enter the public domain so long as it is not independently discoverable.

Another factor to consider is the projected useful life of the technology associated with the asset. If the projected shelf life of the technology is more than twenty years, then other forms of intellectual property protection should be considered. Consider, for example, the recipe for Coca-Cola soft drinks or Kentucky Fried Chicken fast food. These products have been in the market place for well over twenty years. Had patents been pursued for those products, the recipes for those products would have been in the public domain after conclusion of its twenty year patent term. If that technology had become part of the public domain, it is doubtful that either company would still have a competitive edge over their competitors.

If the expected useful life of the technology is expected to be less than or around twenty years, then patent protection may be

appropriate in certain situations. For slowly changing technology (*i.e.* the expected technology life is longer than the three to five years it normally takes to get a patent but shorter than the twenty years offered by patent protection), patent protection may be ideal. Mechanical devices and certain electronic devices often fall into the category of slowly changing technology. This is especially true for devices that will be sold in the retail market, such as vacuum cleaners, garage door openers, battery chargers, etc.

Technology assets in which the useful life is expected to be less than three to five years are much more difficult to evaluate. A patent owner is allowed to exclude others from making, using, selling or offering for sale the subject matter covered by the patent.¹³² However, until the patent is issued, there are generally no exclusionary rights (e.g., the right to recover damages for infringement). Thus, while a patent application is pending and unpublished, third parties can copy the subject matter of the patent with little risk of liability.

Nonetheless, 35 U.S.C. § 154 does provide some limited patent protection for provisional patent applications if the claims in the patent application as originally filed are substantially the same as the claims that eventually issue.¹³³ This allows the patent owner to collect pre-issuance patent damages, but these damages can only be asserted after the patent issues.

These problems are exacerbated by the fact that it is difficult, if not impossible, to accurately predict the useful life of technology. Perhaps the best way to decide whether to proceed with a patent application in such a situation is to consider the potential economic benefit that the technology asset is expected to provide. If the technology asset is expected to provide a relatively large economic benefit, then it is probably worth spending the \$10,000-\$20,000 it will cost to obtain a patent. Also, the U.S. Patent laws allow products and services that are the subject of a pending U.S. patent application to be marked or otherwise identified as “patent pending.” Simply identifying the technology asset as “patent pending” may

132. See 35 U.S.C. § 271(a) (“Except as otherwise provided in this title, whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent.”).

133. 35 U.S.C. § 154.

be enough to prevent competitors for copying the technology asset.

Based on the above, the following inquiries need to be made in order to decide whether patent protection should be pursued.

- Does the technology asset relate to a method or process?
- If the technology asset relates to a method or process, can the method or process be determined by reverse engineering the resulting product?
- What is the anticipated useful life of the technology asset?
- What is the expected economic benefit from the technology asset?

2. Trade Dress and Trademark Protection

As described above, trademark protection can be obtained to protect a trade name or company and product logos (e.g., the AT&T logo). Trade dress protection is also obtainable for packaging and can be used to protect product configurations and the non-functional features of a device. Unlike patents, pre-filing public disclosures are beneficial for trade dress protection. In fact, a trade dress registration, which can only be filed for non-functional features of a device, can actually extend the monopoly provided by a patent. Whereas patents have a fixed non-extendible term from the filing date and cannot be renewed, trade dress registrations have a term of ten years and are renewable indefinitely.

Despite those differences, both patent and trade dress protections can be attainable for the same item. Consider a cable tie, for example, as manufactured by Thomas & Betts Corporation.¹³⁴ Such cable ties are normally used to secure a bundle of wires in a cable. Such cable ties consist of two components: a strap and a buckle. The strap is wrapped around the bundle of wires and tightened. The end of the strap is slipped through the buckle and tightened. The buckle holds the strap in place and maintains the strap in a tightened position around the bundle of wires. In as much as the cable ties have a definite use and the cable ties fall within one of the statutory classes of

134. See *Thomas & Betts*, 138 F.3d at 277.

patentable subject matter (namely, an article of manufacture), cable ties are patentable.¹³⁵

At the same time, since the cable tie performs a function and given that trade dress protection only extends to non-functional aspects of an item,¹³⁶ how can trade dress protection then be secured for a cable tie? It would seem that buckles of many different shapes would all perform the same function of maintaining the strap in a tightened position. For example, a square buckle would perform the same as a round buckle or an oval buckle. Therefore, the shape of the buckle does not change the functionality of the buckle. Stated another way, the shape of the buckle is separable from the functionality of the buckle. Therefore, the shape itself of the buckle is not functional in of itself. Since the shape of the buckle is non-functional, then the shape of the buckle is a candidate for trade dress protection. As such, it is possible to obtain patent protection for the cable tie with an oval head and trade dress protection for the oval head itself. In fact, the courts have upheld such a trade dress registration.¹³⁷

The ability to protect product configurations has profound ramifications. First, it undermines the generally accepted intellectual property dogma that the subject matter of an expired patent is in the public domain. Second, it enables certain types of technology assets to be protected indefinitely.

It is generally thought that subject matter of an expired patent is in the public domain. Therefore, copying such expired subject matter is normally considered a safe harbor. From a patent standpoint, subject matter of an expired patent is still a safe harbor. However, copying subject matter of an expired patent can lead to liability for trade dress infringement. Therefore, before releasing a technology asset into the market place, it is prudent to do a search to determine if the product configuration is covered by a trade dress registration.

At the same time, trade dress protection enables product configurations for technology assets to be protected long after any

135. *Id.* at 282.

136. *Id.* at 284.

137. *Id.* at 288 (stating that “there is no *per se* prohibition against features disclosed in a patent receiving trademark protection after the patent has expired”).

patents covering the technology asset expire. Therefore, for technology assets for which the useful life is anticipated to be longer than the twenty year patent term, it makes sense to apply for both patent and trade dress protection for the product configuration. However, it is important to note that any evidence that the product configuration is functional can make it more difficult, if not impossible, to obtain trade dress protection.

In the *Thomas & Betts* case mentioned above, the drafter of the patent application did not indicate that the oval shape of the cable tie was functional nor did the drafter claim the oval shape of the buckle.¹³⁸ Since claimed features in a patent are considered functional, had the patent application mentioned that the oval shape head was functional, or in the alternative, claimed an oval shape head, the oval shape head may have been found to be functional, and therefore, not registerable as a trade dress.

Based on the above, the following inquiries need be made prior in order to decide whether trade dress protection should be pursued.

- Is the useful life of the technology asset expected to be longer than the twenty year patent term?
- Is patent protection for the technology asset precluded because of a prior disclosure, sale or offer for sale more than one year prior to the anticipated filing date of a patent application?
- Is the product configuration functional?
- Has the product configuration been described anywhere as being functional?

3. Copyright Protection

As mentioned above, copyright protection is available for the expression of an idea in a tangible form.¹³⁹ In the context of technology assets, copyright protection is available for computer programs, web pages, logos, product packaging, product brochures, advertisements, and various other items. Unlike patent protection, federal copyright protection for an item is available even though the product configuration has been in the public

138. *Id.*

139. See *supra* notes 104-109 and accompanying text.

domain for more than a year prior to the application for copyright protection.¹⁴⁰

Copyright protection is relatively easy and inexpensive to obtain. Common law copyright rights are created by operation of law when an idea is expressed in a tangible medium. Federal registration provides the ability to sue an infringer in a federal court. However, copyright protection does not extend to all types of subject matter. In particular, copyright protection does not extend to an idea itself but rather the expression of the idea. Copyright protection also does not extend to procedures, processes, and systems, methods of operation, concepts, principles, and discoveries.¹⁴¹

Copyright protection offers several advantages over other forms of intellectual property protection. For example, the term of a copyright for new works is at least seventy years and does not require renewal.¹⁴² In addition, there is no time limit in which registration has to be applied for after the subject matter has been made public. This feature is a distinct advantage over patents in the U.S. where patent protection is unavailable if the subject matter has been publicly disclosed, sold or offered for sale more than a year before.¹⁴³

Based on the above, the following considerations should be examined in order to decide whether copyright protection should be pursued.

- Are there components of the technology asset, such as a computer program or web pages that may warrant Federal copyright protection?
- Is the product packaging worth the cost of obtaining Federal copyright protection?
- Consideration should also be given to obtaining Federal copyright registration.

4. Trade Secret Protection

Trade secret protection can be obtained by simply treating the

140. *See generally* 17 U.S.C. § 408.

141. 17 U.S.C. § 102(b).

142. *See* 17 U.S.C. §§ 302-305 (defining the term limits of copyrights).

143. 35 U.S.C. § 102.

technology asset as a secret. As discussed above, certain methods and processes that cannot be ascertained by reverse engineering are excellent candidates for trade secret protection. Consider, for example, semiconductor processes in which the process cannot be ascertained from the resulting semiconductor. Another example may be an intermediate formation of a semiconductor that improves the efficiency of the semiconductor formation process but is removed with subsequent processing. In these examples, there would not appear to be any way of policing any resulting patent. Since U.S. patents are published on the USPTO website, the process would be available for the entire world to see with no way for the patent owner to determine if any third party is infringing the patent. Thus, in these types of situations, trade secret protection is probably the best form of intellectual property protection.

In order to protect a technology asset as a trade secret, it is axiomatic that the asset must in fact be treated as a secret. As such, exposure of the trade secret must be controlled. For example, a secret process in a manufacturing plant can be controlled by limiting access to that part of the manufacturing plant to only those employees that need to know or are involved in some way in the process. These employees should also be required to sign a confidentiality agreement obligating them to maintain the confidentiality of all trade secrets and confidential information to which the employee is exposed. Electronic business records that are confidential should be password protected. Confidential business records that are in paper should be kept in locked file cabinets. Passwords and file cabinet keys should only be provided to trusted employees that have signed confidentiality agreements.

Based on the above, the following considerations should be examined or inquiries in order to decide whether the technology asset should be maintained as a trade secret.

- Is the useful life of the technology asset expected to be longer than the twenty year patent term?
- Can the process or method be determined from the resulting product?

D. Considerations with Respect to Development of the Technology Asset

In addition to the considerations mentioned above, there are other important considerations relating to maintaining the right to protect the rights of a technology asset during the development stage and protecting the details of the development itself. It is also important to understand which entity will own the technology asset at the outset of its development.

1. Ownership

When the development of the technology asset involves third parties, it is important to ascertain and secure ownership of the technology asset prior to and during its development. Starting from the general proposition that the developer of the technology asset may have ownership rights in the developed product, these rights may be assigned by contract. For example, the ownership rights of employees in technology assets may be secured by way of an employment contract. In order to be legally binding, the employee must be given some consideration for assigning over rights in a technology asset to an employer. Normally, the consideration is provided in terms of continued employment. Thus, the employment agreement may provide that the employee either agrees to transfer any and all rights he may have in technology assets developed for the employer in exchange for continued employment. This provision is generally only sustainable for technology assets developed by the employee during the course of employment that relate to the employee's scope of work. Other developments by the employee which were developed without the resources of the employer and are outside the current and anticipated business of the employer are not included. For those developments that are included, the employee is bound to transfer the ownership rights in any developments to the employer. Should the employee refuse to transfer ownership rights to the technology asset to the employer after the technology asset has been developed, the employer has the right to obtain a court order to force the employee to initiate the transfer ownership.

Third parties that are not employees may also be involved in the

development of the technology asset. The ownership rights of these third parties may be secured by way of an agreement. In this case, the consideration underlying the agreement is the award of the contract. It is important that the ownership rights of the technology asset with respect to third parties be secured prior to them awarding any contracts. Should the third party refuse to transfer the technology asset after the development is complete, the employer has the right to obtain a court order to force the employee to transfer ownership of the technology asset.

Even with all of the appropriate contracts in place, it is possible to lose ownership rights in a technology asset. Loss of ownership rights in a technology asset can occur in one of two ways: (1) breach of confidentiality or (2) the use of open source software.

If the technology asset involves software, ideally no open source software is involved. Open source software is free software that is available on the Internet. In general, software use creates certain obligations on the part of the user. These obligations are spelled out in the license agreements available with the software. Failure to comply with the obligations can result in a charge of copyright infringement.

Certain types of open source software can cause a total loss of rights. Open source software normally falls under what is known as the General Public License (GPL).¹⁴⁴ Under certain conditions, use of software covered by a GPL can result in a loss of ownership rights of at least some of the software developed as part of the technology asset. In as much as there have been no known court interpretations of the GPL, it is difficult to ascertain its total scope. As such, many software development contracts are being written to either avoid open source software altogether or to only permit the use of open source software with written permission.

2. Confidentiality

It is axiomatic that a technology asset should be protected during the development stage to prevent third parties from learning of the technology asset and possibly utilizing the technology asset for their own benefit. Lack of protection of the technology asset

144. See generally GNU General Public License, Free Software Foundation, <http://www.gnu.org/copyleft/gpl.html> (last visited Feb. 28, 2010).

during the development stage can also result in a loss of rights. As mentioned above, a public disclosure, a sale, or an offer for sale more than one year before the filing date of the patent application can result in the loss of a right to apply for patent protection in the US.¹⁴⁵ Many countries around the world are considered to be “absolute novelty” countries. In those countries, any public disclosure, which includes trade show exhibitions and the publication of trade journal articles, prior to the filing date of a patent application can result in a complete loss of right to file a patent application. Should there be public disclosure, a sale or an offer for sale more than one year before the filing date of a patent application, then the subject matter from a patent standpoint goes into the public domain, thus resulting in a total loss of rights.¹⁴⁶

In order to protect intellectual property rights during the development stage of the technology asset, ideally all triggering events, including public disclosures, sales and offers for sale, should be postponed until a patent application has been filed in order to protect the rights to file patent applications in the U.S. and foreign countries. Before the technology asset is disclosed, sold, or offered for sale, consideration should be given as to whether foreign patent protection is desirable. If not, advantage can be taken of the one-year grace period in the U.S. in which to file a U.S. application after the triggering event. However, after such a triggering event, failure to file a U.S. patent application within one year of the triggering event results in a loss of patent rights. As such, before any triggering events are initiated, such events should be coordinated with the company’s technology asset manager.

E. Securing Intellectual Property Rights After Development

This issue is important when considering patent protection. Even after taking all of the precautions mentioned above, there is always an issue as to when to apply for patent rights. The patent

145. 35 U.S.C. § 102(b).

146. Kevin J. Zilka & Dominic M. Kotab, *Patent Novelty Requirements of the World and Strategic Foreign Patent Procurement Practices*, Silicon Valley IP Group, LLC. (2003) available at www.zilkakotab.com/PDFs/publication1.pdf.

statute requires that the subject to be patented be “useful.”¹⁴⁷ In general, this means that the device must work as intended and provide a useful function. Considering that it often takes years to develop a technology asset to this point, when should one consider filing a patent application?

In order to answer this question, it is important to consider that there are various stages of development. Initially there is a “proof of concept” stage, when a relatively crude version of the technology is produced. At this point, the technology asset performs its intended function, but is not suitable for commercial distribution. The next stage is the commercial stage, which normally involves further refinement of the technology asset. Because the time period between the proof of concept stage and the commercial stage can be considerable, it makes sense to file a patent application for the technology asset at the proof of concept stage. Otherwise, there may be a risk of losing patent rights by waiting too long after a triggering event, as discussed above. Any further improvements in the technology asset during the development of the commercial stage should be reviewed carefully for additional patent or other intellectual property protection.

F. Post-Development Considerations

After the technology asset is developed and the desired intellectual property rights are acquired or applied for, it is important to be vigilant in the market place with respect to the developed technology asset for several reasons. First, it is important to watch for potential infringers. In these cases, one should consider accelerated prosecution of a U.S. patent application. For example, examination may be accelerated because of a third party’s actual infringement of one or more claims in the application.¹⁴⁸ The infringing activity may also

147. 35 U.S.C. § 101 (“Whoever invents or discovers any new or useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions of this title.”).

148. U.S. PAT. & TRADEMARK OFFICE, U.S. DEP’T OF COMMERCE, MANUEL OF PATENT EXAMINING PROCEDURE § 708.02 (8th ed., 7th rev. 2008).

qualify for pre-issuance patent damages.¹⁴⁹ Although legal proceedings cannot be brought against the infringer until the patent issues,¹⁵⁰ the third party involved in the infringing activity may be liable for damages prior to issuance of the patent if the following two conditions are met: (1) the patent application is published the third party has or had actual notice of the published claims prior to the issuance of the patent; and (2) the claims in the published patent application are substantially similar to the patented claims.¹⁵¹ These pre-issuance damages are in addition to post issuance damages¹⁵² and attorney fees.¹⁵³

Another important post-development consideration relates to post development changes in the technology asset. Often times, a patent application for a technology asset is prepared and filed early in the development stage. In many situations, the technology asset goes through many design iterations before the commercial embodiment is rolled out. During such design iterations, it is important to make sure that the patent application covers the current product. Otherwise, the resulting patent may not cover the commercial product.

V. CONCLUSION

Development of technology assets is a relatively costly undertaking. In order to protect the expense of development, knowledge of what constitutes a protectable technology asset is indispensable. Lack of knowledge of what constitutes a protectable technology asset can lead to a loss of important intellectual property rights. It is also important to evaluate the different forms of intellectual property protection available and to select the form or forms of intellectual property protection that best suits the technology asset as well as the expected useful life of the technology asset. In order to optimize the intellectual property

149. 35 U.S.C. § 154(d).

150. 35 U.S.C. § 271 (a) (“Except as otherwise provided in this title, whoever without authority makes, uses offers to sell or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent.”).

151. *See* 35 U.S.C. § 154(d).

152. 35 U.S.C. § 284.

153. 35 U.S.C. § 285.

rights of a technology asset, careful attention to those rights is required during all stages of its development.