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Lost and Foundry: Forging a New Approach to Patent Licensing Agreements

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LOST AND FOUNDRY: FORGING A NEW APPROACH TO PATENT LICENSING AGREEMENTS

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Abstract: The Federal Circuit has been inconsistent in its treatment of patent licensing agreements held by foundries. Recently, the Federal Circuit held that a foundry contract is a sale of goods that severs the right of the patentee with respect to the buyer under the patent exhaustion doctrine. In addition, it held that the applicable license would be construed to allow foundry rights unless the patentee could prove otherwise. This Note analyzes a string of Federal Circuit cases involving foundries and patent licenses. It concludes that a foundry contract should be viewed as a sale of services rather than a sale of goods and that, even if it is a sale of goods, a foundry transaction should not be a "first sale" under the patent exhaustion doctrine. In addition, a patent license should be construed with the presumption that foundry rights were not granted unless the licensee establishes a contrary intent.

Johnny, a small child, is faced with a childhood obstacle: how to get a cookie without permission. Although his father told him he could take one if he cleans his room, Johnny decided that price was too high. In addition Johnny discovers that his brother, Billy, has permission to take cookies because Billy has already completed his chores. When his father sees him with a cookie, Johnny explains, "I didn't take a cookie from the cookie jar—Billy took one for me." Despite the fact that Billy had permission to take cookies and Johnny was not explicitly prohibited from using Billy to get a cookie, you can bet that Johnny is in trouble for circumventing his parent's instructions.

The world of patent law contains analogous issues. Many companies without permission to use patents held by others are seeking ways around this obstacle. Rather than gaining "permission" from the patent holder, they find another company, as Johnny found Billy, to manufacture their products for them. In this situation, is the manufacturer, or "foundry,"[1] truly authorized to make products for the buyer? If so, is the transaction a sale of manufacturing services or a sale of goods that severs the patent holder's rights to control those goods?

This Note contends that the Federal Circuit's approach in construing patent licensing agreements in the foundry context needs clarification. Initially, it examines basic patent law concepts under the federal patent statute and common law. It then analyzes the semiconductor industry's

1. A foundry is a place where products are manufactured. Originally, the word applied more narrowly to places where metal was processed. *See Webster's Ninth New Collegiate Dictionary* 487 (1987) (defining foundry as the act, process or art of casting metals).

development and use of patent licensing as an example of the use of foundries. After an examination of illustrative Federal Circuit cases, this Note argues that a foundry transaction should not be treated as a "first sale" subject to patent exhaustion. In addition, it contends that foundry rights are beyond the scope of most patent licensing agreements and strong policy considerations weigh against a liberal construction that the license includes foundry rights. Therefore, this Note proposes that courts approach a patent licensing agreement with the presumption that foundry rights were excluded.

I. FUNDAMENTALS OF PATENT PROTECTION

A. The Purposes of Patent Protection

The major purposes of patent protection are to promote invention, to provide incentives for the development of commercial applications of those inventions, and to encourage inventors to share their inventions with the public.[2] These goals are so important that they were given constitutional protection.[3] Congress exercised this constitutional power by granting inventors a patent monopoly for a limited period of time in exchange for full disclosure of the invention and the right of the public to exploit the invention when the patent expires.[4]

The founders of the United States recognized that invention is a key to advancement. The innovation that was critical in the formative years of the United States is no less important today. Now, perhaps more than ever, the United States must encourage the development and protection

2. F. M. Scherer, *Industrial Market Structure and Economic Performance* 440 (2d ed. 1980); Rebecca S. Eisenberg, *Patents and the Progress of Science: Exclusive Rights and Experimental Use,* 56 U. Chi. L. Rev. 1017 (1989) (discussing the promotion of science through the potentially conflicting means of exclusive rights and free access to new discoveries); Louis Kaplow, *The Patent-Antitrust Intersection: A Reappraisal,* 97 Harv. L. Rev. 1813, 1823–25 (1984) (citing costs and benefits of the patent system); Ejan Mackaay, *Economic Incentives in Markets for Information and Innovation,* 13 Harv. J.L. & Pub. Pol'y 867, 906 (1990) (noting that patent law is a compromise between incentives to invent and monopoly costs); Peter S. Menell, *An Analysis of the Scope of Copyright Protection for Application Programs,* 41 Stan. L. Rev. 1045, 1059 (1989) (explaining that intellectual property protection encourages inventive activity which in turn spurs the development of new products); Donald F. Turner, *The Patent System and Competitive Policy,* 44 N.Y.U. L. Rev. 450, 450–51 (1969) (explaining that the patent system is based on the assumptions that society should have more innovation than it would have without inducement and that a monopoly grant is the best means of achieving it).

3. The Constitution gives Congress the power "[t]o 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[.]" U.S. Const., art. I, § 8, cl. 8.

4. *See generally* 35 U.S.C.A. §§ 1–376 (West 1984).

of innovation to remain competitive on a global scale.[5] To foster this development, the patent system offers incentives and rewards to the inventor.[6] Ideally, the incentives and rewards built into the patent system will lead to the maximization of innovation.

B. Basic Patent Concepts

1. Rights Conveyed to Patentee

To achieve the purposes set forth in the Constitution,[7] Congress has promulgated a series of patent laws conveying rights to the patentee.[8] Patent laws give the patentee a right to exclude all others from making, using, or selling the invention in the United States for seventeen years.[9] To enforce the patent monopoly, the patentee may seek relief from those who violate, or "infringe,"[10] those rights.[11] The patentee may pursue an injunction to prevent the violation of rights secured by patent,[12] or may receive damages in an amount not less than a "reasonable royalty" for the infringer's use of the invention.[13]

2. Patent Exhaustion

The rights of the patent owner are not limitless, however. They do not attach to the physical object that incorporates or embodies a patented

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5. *See* Nancy Rutter, *The Great Patent Plague,* Forbes, Mar. 29, 1993, at 59, 65.

6. Edmund W. Kitch, *The Nature and Function of the Patent System,* 20 J.L. & Econ. 265 (1977). A number of metaphors explain the operation of the patent system, according to Professor Kitch. In this seminal article, he advances that the way the patent system operates is analogous to the American mineral claim system for public lands. *Id.* at 271–75. *See also supra* note 2.

7. *See supra* notes 2–4 and accompanying text.

8. To receive these rights, an inventor must first have the invention approved by the Patent and Trademark Office. There are three general requirements an invention must satisfy before it will be approved. The first, called "utility," requires that the invention must be useful. 35 U.S.C.A. § 101 (West 1984). The second, known as "novelty," demands, among other things, that the invention must not have been known or used by others prior to the time of invention by the applicant. 35 U.S.C.A. § 102(a) (West 1984). The third, called "nonobviousness," precludes the granting of a patent for an invention if the invention would have been obvious to a person having ordinary skill in the technical field of the invention. 35 U.S.C.A. § 103 (West Supp. 1994).

9. 35 U.S.C.A. § 154 (West Supp. 1994).

10. An "infringer" is defined as anyone who, without authority, makes, uses, or sells any patented invention within the United States during the term of the patent. 35 U.S.C.A. § 271(a) (West 1984).

11. 35 U.S.C.A. § 281 (West 1984).

12. 35 U.S.C.A. § 283 (West 1984).

13. 35 U.S.C.A. § 284 (West 1984). The court may also award interest, costs, and treble damages. *Id.*

invention once that physical object is sold. When a person purchases the physical object from either the patentee or one whom the patentee has authorized to sell the object, the rights of the patentee are said to be "exhausted."[14] In other words, the rights granted to the patent owner extend no further than the first sale of the physical embodiment of the invention.[15] An agreement that attempts to allow the patent owner to retain a measure of control over the patented article after its initial sale is viewed as a restraint on trade and is outside the scope of the rights granted to the patentee.[16] Thus, one who purchases a patented object from the patent owner acquires the right to use the object or transfer it to another party without violating the patent holder's rights.[17]

3. *Licensing*

One way a patent holder can exploit its rights while retaining a measure of control is through licensing. A license is defined as a promise by the patentee to forbear from suing the licensee for acts which, but for the license, would be an infringement of the patentee's rights.[18] Thus, a license, unlike an assignment, does not constitute an interest in the patent.[19] Although the patent code contains language that allows assignment of patent rights,[20] Congress made no express provision for licensing those rights. The validity of patent licensing, however, is supported by an ample body of case law.[21] Because patent licensing is not covered by the patent statute, courts use state contract law for the

14. 3 Peter D. Rosenberg, *Patent Law Fundamentals* 16–66, 67 (2d ed. 1993).

15. Adams v. Burke, 84 U.S. (17 Wall) 453, 456 (1873) (setting forth the first sale doctrine).

16. *E.g.*, Cutter Lab., Inc. v. Lyophile-Cryochem Corp., 179 F.2d 80, 92 (9th Cir. 1949) (holding that agreements used to effect a restraint of trade or a monopoly violate the law).

17. Unidisco, Inc. v. Schattner, 824 F.2d 965, 968 (Fed. Cir. 1987) (holding that resale of patented product is not an infringement if the original purchase was authorized), *cert. denied*, 484 U.S. 1042 (1988); United States v. Univis Lens Co., 316 U.S. 241, 250–52 (1942). Note, however, that acquiring the right to use the object does not give the purchaser the right to make and sell additional objects. 1 Rosenberg, *supra* note 14, at 1–28. Similarly, although a purchaser may repair the object, he or she may not entirely reconstruct a patented product from parts of used products. Donald S. Chisum & Michael A. Jacobs, *Understanding Intellectual Property Law* § 2E[3] (1992).

18. Western Electric Co. v. Pacent Reproducer Corp., 42 F.2d 116 (2d Cir.), *cert. denied*, 282 U.S. 873 (1930).

19. *Id.*

20. 35 U.S.C.A. § 261 (West 1984).

21. *E.g.*, Bendix Corp. v. Balax, Inc., 421 F.2d 809 (7th Cir.) (holding that patent laws include the right to license), *cert. denied*, 399 U.S. 911 (1970); L.L. Brown Paper Co. v. Hydroiloid, Inc., 32 F. Supp. 857 (S.D.N.Y. 1939) (holding patent owner has a common law right to license patents), *aff'd*, 118 F.2d 674 (2d Cir.), *cert. denied*, 314 U.S. 653 (1941); *See also infra* note 23 and accompanying text.

purposes of interpreting, construing, and ascertaining intent in a patent license.[22]

A patent owner has great flexibility through the use of licensing. A patentee who decides to share patent rights through the use of a license may choose to share his or her entire bundle of rights. On the other hand, the patentee may choose to license a much smaller portion of those rights. In general, a patentee may subdivide and license the rights to make, sell, and use patented goods.[23]

The reasons for the disposition of patents through licensing are as varied as the types of licenses that may be given. For many companies, the efficient exploitation of the patent requires the use of licensing.[24] Alternatively, firms may decide to use licenses to share the risks inherent in the research and development process.[25] The result is a development process that is almost always more efficient than it would have been with one firm operating by itself.[26]

Not all patent licensing is the result of two or more companies coming together to achieve commercial harmony for the sake of market efficiency. In some cases, products simply cannot be developed and sold without patent infringement. This is the case when two parties own patents, each of which is required in the production of particular

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22. Baldwin Rubber Co. v. Paine & Williams Co., 107 F.2d 350, 353 (6th Cir. 1939) (holding that construction of license uses the same rules as for other contracts), *cert. denied,* 309 U.S. 676 (1940).

23. Extractol Process, Ltd. v. Hiram Walker & Sons, Inc., 153 F.2d 264 (7th Cir. 1946) (allowing patentee to grant one party the right to make and sell the patented article, while granting to another party the right to use it); *Baldwin Rubber Co.,* 107 F.2d at 353 (allowing patentee to transfer any part of patent rights by license); De Forest Radio Tel. & Tel. Co. v. Radio Corp. of America, 20 F.2d 598 (3d Cir. 1927) (defining a license as the right to make, use, or sell articles embodying an invention).

Note, however, that a patent owner does not have unfettered freedom to impose restrictions and gain advantage through the use of creative licenses. Patent licenses are subject to review for antitrust violations. *See* David H. Marks, *Patent Licensing and Antitrust in the United States and the European Economic Community,* 35 Am. U. L. Rev. 963, 966–69 (1986) (describing some of the licenses that have been or still are disfavored).

24. Although the firm that owns the patent may be adept at invention and innovation, it is often less so at manufacturing, marketing, and selling the goods that make use of its inventions. By licensing other firms to perform these tasks, the patent owner is able to focus its energy where its talents lie, making the entire operation more efficient. Note, *An Economic Analysis of Royalty Terms in Patent Licenses,* 67 Minn. L. Rev. 1198, 1223 (1983).

25. In these cases, companies may grant licenses to each other to share the results of their research. This often requires that the licenses be granted *before* the patent exists. As a result, risk-averse companies are able to minimize their risk of loss by sharing it with other companies. *Id.* at 1228.

26. *Id.* at 1226. *See also* Lester G. Tesler, *Cooperation, Competition, and Efficiency,* 28 J.L. & Econ. 271, 272 (1985) (noting that competition may require some cooperation to achieve efficiency).

products.[27] In this situation, neither party is able to use its own patents without infringing the patents controlled by the other.[28] A common beneficial arrangement is for each party to agree to license its patents to the other.[29] This arrangement is called "cross-licensing."[30]

In cross-licensing, firms share their patent portfolios to break the stalemate that prevents either of them from taking advantage of their patent rights.[31] In addition, firms normally agree to share related patents that they acquire in the future, and to plow a certain amount of their royalties back into research and development to produce those future patents.[32] Thus, in addition to breaking the stalemate that existed prior to the agreement, the use of cross-licensing often leads to more research and development. Note, however, that firms turn to cross-licensing agreements when they perceive that they will work to their advantage.[33] As such, most companies avoid cross-licensing agreements with direct competitors.[34] Instead, when direct competitors control patent portfolios that block each other, they may turn to other techniques to exploit their patent rights.[35] One such technique is to deal with licensed foundries rather than original patent holders.

II. THE USE OF FOUNDRIES

In the typical foundry arrangement, the buyer approaches the foundry with a request for manufacturing services. The buyer provides the design for a product which the foundry is to manufacture.[36] Although the buyer

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27. 3 Rosenberg, *supra* note 14, at 16–38.

28. *E.g.*, Marconi Wireless Tel. Co. v. De Forest Tel. & Tel. Co., 243 F. 560 (2d Cir. 1917) (noting that each party held key patents in telegraph technology).

29. Scherer, *supra* note 2, at 452.

30. 3 Rosenberg, *supra* note 14, at 16–38.

31. Scherer, *supra* note 2, at 452.

32. 3 Rosenberg, *supra* note 14, at 16–38.

33. *Cf.* Note, *supra* note 24, at 1226–33 (explaining that the rational entrepreneur will license when it is economically efficient).

34. Robert P. Merges, *Commercial Success and Patent Standards: Economic Perspectives on Innovation*, 76 Cal. L. Rev. 805, 869–70 (1988) (citing a survey of over 1800 licensing agreements that revealed that firms were far more likely to license to peripheral competitors than direct competitors because they feared a threat to their competitive position).

35. These may include patent validity disputes, Scherer, *supra* note 2, at 453, harassment litigation, *id.*, or other attempts to negotiate, Merges, *supra* note 34, at 869 n.267 (describing the possible use of patents as bargaining chips).

36. Richard H. Abramson, *When the Chickens Come Home To Roost: The Licensed Foundry Defense in Patent Cases*, The Computer Lawyer, Mar. 1993, at 1, 2.

provides the design, the buyer does not necessarily hold patent rights in that design. In fact, the very reason the buyer chooses to use the foundry is often that the buyer would infringe patent rights held by another if it made the product itself. Regardless of whether the buyer holds patent rights in the design, it owns the design; the foundry is expressly not allowed to sell to others products embodying the design.[37] To do so would violate the intellectual property rights of the buyer. When the foundry has finished manufacturing the products, they are delivered to the buyer, who may either sell them "as is" or incorporate them into another product.

The semiconductor[38] industry presents a good example of the use of foundries. The use of foundries in this industry, though far from new, has grown dramatically as a result of the widespread cross-licensing that occurred in the 1970s.[39] Following a period in which many companies shared their patent portfolios to avoid "patent warfare," new products were developed at a frenetic pace in this burgeoning industry.[40] Over time, however, the market became saturated with semiconductor manufacturing capability. Companies began to realize that they could achieve a financial advantage by using foundries and letting others carry the heavy burden of manufacturing overhead costs.[41] At the same time, they discovered that many key patent licenses were held by foundries with excess manufacturing capacity.[42] Although these companies could not manufacture the products themselves without infringing on patent rights, they calculated that they could market products embodying these patents if they obtained them from a licensed foundry.[43]

Thus, in addition to the buyer's inability to manufacture products without infringing on patent rights, two key factors make foundries particularly attractive. First, the cost of constructing a fabrication facility

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37. *Id. See also, e.g., infra* notes 71–72 and accompanying text.

38. A semiconductor is a material whose electrical conductivity is between the high conductivity of a metal and the low conductivity of an insulator. *See* Adel S. Sedra & Kenneth C. Smith, *Microelectronic Circuits* 140 (1982). Products that are made from semiconducting material, such as silicon, are also often referred to as semiconductors.

39. *See* Abramson, *supra* note 36, at 2.

40. *Id.*

41. Andrew S. Rappaport & Shmuel Halevi, *The Computerless Computer Company,* Harv. Bus. Rev., July–Aug. 1991, at 73.

42. *Id.* at 74.

43. Abramson, *supra* note 36, at 2–3.

is insurmountable for many companies.[44] Without being able to use foundries to produce their designs, many companies, especially small start-up firms, might be locked out of the market. Second, many companies have simply seized an opportunity to make a quick profit. Noticing that many patentees are able to charge high prices for the products that use their patents,[45] these companies found a way to get a piece of the pie. By producing a similar or identical[46] product and offering it at a lower price, an upstart can quickly gain a large market share with a very small investment.[47] This tack has been so successful that it surely will be followed.[48]

III. RECENT FOUNDRY CASE LAW

Since the creation of the Federal Circuit in 1982,[49] all patent cases have been appealed to that circuit. Moreover, the U.S. Supreme Court rarely grants certiorari to patent cases.[50] Therefore, the direction of patent law is shaped primarily by the Federal Circuit. Three recent cases

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44. At least one estimate has put the cost of building a semiconductor fabrication facility at $1 billion. Rutter, *supra* note 5, at 65 (quoting F. Thomas Dunlap, Jr., general counsel for Intel Corp.).

45. These high prices are charged by virtue of the monopoly rights received with the patent grant. This high premium has been referred to as a "knowledge tax." Rappaport & Halevi, *supra* note 41, at 75.

46. For an example of the production of a nearly identical product in a foundry, see *infra* notes 72–73 and accompanying text. In addition to possible patent infringement, a direct copying of a competitor's product is an infringement under the Semiconductor Chip Protection Act. 17 U.S.C.A. § 905 (West Supp. 1994). If, on the other hand, sufficient time and expense are invested in studying and improving the product, an affirmative defense of reverse engineering is available. 17 U.S.C.A. § 906(a) (West Supp. 1994). For a discussion of the Semiconductor Chip Protection Act, see Richard H. Stern, *Determining Liability for Infringement of Mask Work Rights Under the Semiconductor Chip Protection Act,* 70 Minn. L. Rev. 271 (1985).

47. The development costs for a new computer chip can exceed $100 million, while a competing firm may be able to duplicate the mask (or template) used to manufacture the chips for as little as $50,000. H.R. Rep. No. 781, 98th Cong., 2d Sess. 2–3 (1984), *reprinted in* 1984 U.S.C.C.A.N. 5750–51. For example, Bob Hwang, creator of ULSI Systems, Inc., saw that Intel was producing coprocessor chips for about $10 each and selling them for more than $800. By copying the Intel coprocessor design and using a foundry's fabrication services, ULSI easily was able to cut into the Intel market for coprocessors with an investment of less than $3 million. Rutter, *supra* note 5, at 59–60. Hwang faced criminal charges for trade-secret theft related to his design of coprocessors that are a knockoff of the Intel coprocessors. *Id.*

48. This is especially true after the court's approval of foundry arrangements in Intel Corp. v. ULSI Sys. Technology, Inc., 995 F.2d 1566 (Fed. Cir. 1993), *cert. denied,* 114 S. Ct. 923 (1994) [hereinafter *ULSI*]. The *ULSI* decision signals that the ULSI approach is approved and will likely encourage others to copy it. Don Clark, *Intel Loses in Ruling on Patents,* S. F. Chron., June 15, 1993, at C1.

49. 28 U.S.C.A. § 1295 (West 1993).

50. Merges, *supra* note 34, at 820 n.58.

establish the contours of the Federal Circuit's treatment of patent licenses in the foundry context. In the first two cases, the court followed an approach that presumed foundry rights were excluded from the licensing agreement. In its latest case, however, the court lost this approach, holding that foundry rights were included unless the patentee could prove it intended otherwise.[51]

A. Lisle Corp. v. Edwards

In *Lisle Corp. v. Edwards,*[52] the Federal Circuit considered whether a foundry arrangement was within the scope of the patent license. Lisle contracted for a license to manufacture products embodying a patent owned by the defendant, Edwards. According to the license, Lisle was allowed "to make, have made, use and sell" powered windshield track cutters under a patent held by Edwards.[53] Lisle manufactured the tools described in the license and paid Edwards the required royalty. One of Lisle's customers was Snap-On, for whom Lisle manufactured tools bearing the Snap-On trademark.[54] Some of these tools Lisle made for Snap-On were produced without being marked with the patent notice as required by Lisle's licensing agreement with Edwards.[55] Thinking that Snap-On had manufactured tools that violated his patent rights, Edwards sued Snap-On for infringement. Lisle was joined when Edwards discovered that Lisle manufactured the tools for Snap-On.

The Federal Circuit held that, contrary to the assertion by Edwards, Lisle's manufacture of tools with the Snap-On trademark did not constitute a de facto sublicense by Lisle to Snap-On.[56] Finding this argument to be "without merit and specious," the court held that Lisle's sales were authorized by the license agreement.[57] Thus, when Lisle manufactured a product using its own design but bearing the name of the buyer, the court held that the transaction was within the scope of the patent license agreement.

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51. *ULSI,* 995 F.2d at 1570.

52. 777 F.2d 693 (Fed. Cir. 1985).

53. *Id.* at 694.

54. *Id.*

55. *Id.* Edwards argued that the license could be terminated at his option because of the failure to mark the tools as required in the license. *Id.* at 695. The court, however, held that it would be nearly impossible for Lisle to rectify this error as required by the license, and that Edwards had not demonstrated that he suffered any actual harm from the omission. *Id.*

56. *Id.*

57. *Id.*

B. Intel Corp. v. United States International Trade Commission

More recently, in *Intel Corp. v. United States International Trade Commission,*[58] the Federal Circuit held that a manufacturer was acting beyond the scope of the license when it manufactured products designed by a third party. In this case, Intel Corp. ("Intel") and Sanyo Electric Co., Ltd. ("Sanyo") entered into a cross-licensing agreement that granted Sanyo the right to make, use, and sell any "Sanyo products" under Intel's patents.[59] Intel received similar rights to use Sanyo patents. When Atmel Corporation sold erasable programmable read-only memories (EPROMs) manufactured by Sanyo, Intel complained that Atmel infringed several Intel patents.

The case hinged on the construction of the license agreement. Atmel, a subsidiary of Sanyo, contended that the EPROMs made by Sanyo were authorized by the license.[60] Intel argued in response that when Sanyo manufactured the EPROMs designed by Atmel, it was manufacturing Atmel products, rather than Sanyo products.[61] Thus, the issue was whether the license allowed Sanyo to serve as a foundry by manufacturing products designed by a subsidiary, putting that company's name on them, and delivering them for sale as products of that subsidiary.

The court noted that, although it was unclear what the parties meant by the "Sanyo product" limitation in the cross-licensing agreement, it was clear that the parties intended to limit the grant in some manner.[62] Although the only express limitation withheld the right of Sanyo to sublicense the rights granted, there was simply no indication that the parties had intended foundry rights to be included in the agreement.[63]

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58. 946 F.2d 821 (Fed. Cir. 1991). Because Atmel was the buyer in this case, the case is generally referred to as "*Atmel.*"

59. *Id.* at 826 n.9. In pertinent part, the license stated:

> Intel hereby grants and will grant to Sanyo an [sic] non-exclusive, world-wide royalty-free license without the right to sublicense except to its Subsidiaries, under Intel Patents which read on any *Sanyo* Semiconductor Material, Semiconductor Device, Magnetic Bubble Memory Device, Integrated Circuit and Electronic Circuit products, for the lives of such patents, to make, use and sell *such products.*

Id. (emphasis in original).

60. *Id.* at 826.

61. *Id.*

62. *Id.* at 827.

63. The court, while trying to satisfy the intent of the parties, employed a default rule that would not grant foundry rights unless there was evidence to support them. Citing the Administrative Law

The court found it inequitable that a company, unable to obtain a license of its own from Intel, could employ Sanyo as a foundry and circumvent the Intel patents. Because nothing in the agreement indicated that the parties intended to allow this circumvention, the court held that the foundry services were beyond the scope of the license.[64]

C. Intel Corp. v. ULSI System Technology, Inc.

The facts of *Intel Corp. v. ULSI System Technology, Inc.*[65] are similar to those of *Atmel.* In 1983, Intel and the Hewlett-Packard Company ("HP") entered into a cross-licensing agreement.[66] The stated purpose of the agreement, typical of many cross-licensing agreements, was to allow each company greater freedom to design products without fear of litigation for infringement of the other's patents.[67] The terms of the licensing agreement were similar to those of the agreement between Intel and Sanyo,[68] with each company having the right to use all patents controlled by the other. One difference between the two licenses was that the Intel-HP license omitted the "Sanyo products" type of language contained in the Intel-Sanyo license.[69]

In 1988, ULSI entered into an agreement with HP in which HP would provide foundry services for the manufacture of math coprocessors[70] embodying patents licensed from Intel. According to the agreement, ULSI would supply HP with a proprietary design that HP would use to produce the coprocessors.[71] HP was forbidden to use this design to make

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Judge, the court explained that "*[w]ithout something to explain why the parties would have intended such a result, the agreement will not be given this strained construction.*" *Id.* (emphasis in original).

64. *Id.* at 828.

65. 995 F.2d 1566 (Fed. Cir. 1993), *cert. denied,* 114 S. Ct. 923 (1994).

66. *Id.* at 1567.

67. *Id. See also supra* note 36.

68. Specifically, the license agreement granted each party an "irrevocable, retroactive, nonexclusive, world-wide, royalty-free license under all patents and patent applications owned and controlled by [the other company] . . . ." Intel Corp. v. ULSI Sys. Technology, Inc., 782 F. Supp. 1467, 1474 (D. Or. 1991).

69. *See supra* note 59 and accompanying text.

70. A microprocessor is an electronic circuit on a small piece of semiconducting material that may be used as the central processing unit for a computer. A math coprocessor is a particular type of microprocessor. *See generally* George Loveday, *Microprocessor Sourcebook for Engineers* (1986).

71. *ULSI,* 995 F.2d at 1567.

products for other companies. After HP manufactured the coprocessors, they were to be shipped to ULSI for resale as ULSI products.[72]

Intel, which produced a compatible math coprocessor, subsequently brought a patent infringement action against ULSI.[73] The U.S. District Court for the District of Oregon granted Intel's motion for preliminary injunction, and ULSI appealed.[74] On appeal, the Federal Circuit reversed the district court's grant of preliminary injunction.[75] The court held that the Intel-HP licensing agreement provided ULSI with a defense against the claim of infringement.[76]

Two factors cemented the court's decision. First, the court found that the transfer of products from HP to ULSI was a "first sale" that exhausted Intel's patent rights with respect to those products.[77] The court noted that the contract between HP and ULSI was titled "Terms and Conditions of Sale." Moreover, the agreement contained references to the "sale" of the semiconductors.[78] Thus, the court concluded, the agreement "clearly involved the sale of chips, not merely the sale of fabrication services."[79] In addition, the court rejected Intel's argument that because ULSI owned the intellectual property rights to the math coprocessors, HP did not sell products to ULSI but merely sold manufacturing services.[80] The court responded that Intel confused the issue of ownership with the issue of sale. According to the court, as long as HP sold the chips, it made no difference who owned the intellectual property rights.[81]

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72. *Id.*

73. Intel became alarmed in 1991 when it learned that ULSI was marketing its product as fully compatible with a commercially popular Intel math coprocessor. In fact, for some time ULSI even passed its products off as Intel products. *ULSI,* 995 F.2d at 1567 n.3. ULSI was later permanently enjoined from misleading consumers as to the origin of its products. *Id.* at 1567 n.4.

74. Intel Corp. v. ULSI Sys. Technology, Inc., 782 F. Supp. 1467 (D. Or. 1991).

75. *ULSI,* 995 F.2d at 1571.

76. *Id.*

77. *Id.* For a discussion of the "first sale" doctrine, see *supra* notes 14–17 and accompanying text.

78. *ULSI,* 995 F.2d at 1569.

79. *Id.*

80. *Id.*

81. *Id.* It is the court, however, through its circular response, that seemed to misunderstand the issue. While Intel conceded that there was no infringement as long as HP's sale of the chips was consonant with the license granted, Intel argued that the origin and control of the intellectual property rights are crucial to the issue of *whether there was a sale at all.* Thus, the court missed the mark when it stated that origin and control does not matter because there was a sale.

Second, the court held that the agreement between HP and ULSI was within the scope of the license Intel granted to HP. Initially, the court concluded that the HP-ULSI agreement did not constitute a de facto sublicense prohibited by the Intel-HP agreement.[82] Relying on *Lisle Corp. v. Edwards*[83] and the fact that it had already decided that the contract was for a sale of goods, the court held that ULSI received only those rights lawfully incident to the sale of the chips.[84] Furthermore, the court stated that the Intel-HP agreement contained no language restricting HP's ability to serve as a foundry. Although each party cited *Atmel*, the court distinguished the agreement in *Atmel* partially on the basis of the "Sanyo product" language.[85] Because the Intel-HP agreement did not contain a similar phrase, the court concluded that HP's right to serve as a foundry was not restricted.[86]

IV. THE CASE FOR A PRESUMPTION AGAINST FOUNDRY RIGHTS

The Federal Circuit's approach in *ULSI* was a retreat from its well-reasoned conclusions in *Lisle* and *Atmel*. Several factors favor a presumption against foundry rights. First, when the product design is owned by the buyer, the contract should be considered a sale of services, rather than a sale of goods. In addition, whether courts interpret the contract as a sale of goods or services, the foundry arrangement should not lead to patent exhaustion unless foundry services were authorized in the licensing agreement. Second, a number of factors indicate that parties in a typical licensing agreement do not intend the license to be broad enough to allow foundries. When parties never explicitly contemplated foundry rights and intent is very difficult to prove, there

82. *Id.*

83. *See supra* notes 52–57 and accompanying text.

84. *ULSI*, 995 F.2d at 1570.

85. Although the *ULSI* court may have distinguished *Atmel* partially on the basis of the "Sanyo product" language not present in the ULSI license, the court was on unstable ground. While the "Sanyo product" language is important in interpreting the agreement, the *reason* it is important is that it provides a clue to the intent of the parties. Even if the "Sanyo product" language is important, it does not distinguish the two cases. In *Atmel*, the court presumed that foundry rights were withheld unless there was evidence that showed they were included. *See supra* note 63. In *ULSI*, on the other hand, the court implicitly presumed that foundry rights were included unless other evidence showed that they were excluded. *ULSI*, 995 F.2d at 1570.

86. *ULSI*, 995 F.2d at 1570.

should be a presumption that foundry rights were excluded.[87] Finally, policy reasons support a presumption on the side of the patent holder.

A. A Foundry Contract Is a Sale of Services, Not Goods

The typical foundry arrangement should not be classified as a sale of goods, a classification that, if the sale is authorized, invokes the patent exhaustion doctrine and places the goods beyond the reach of the patentee. Although at first glance the typical foundry arrangement can appear to be a contract for the sale of goods, courts should transcend this first glance. Courts should consider such factors as design ownership, the substance of the agreement, and the way the courts treat similar arrangements in other contexts. Even if the foundry contract is construed as the sale of goods, however, further considerations may mandate a holding that the transaction is not a "first sale" for the purposes of patent exhaustion.[88]

While courts initially should look to the terms in the written foundry agreement, use of a phrase similar to "sale of goods" in the foundry agreement is not especially revealing. It is astonishing that the court in *ULSI* would place so much emphasis on this language in the contract between HP and ULSI.[89] Surely ULSI realized that it could attempt to use the patent exhaustion defense later in court if it couched the agreement in terms of a sale of goods rather than services.[90] Although

87. This default rule would be similar to the rule which holds that, in the absence of an express agreement to the contrary, a license is not assignable. 3 Rosenberg, *supra* note 14, at 16–13.

88. Courts should be able to consistently construe a foundry agreement as a "transaction involving goods" for the purposes of the Uniform Commercial Code (U.C.C.) § 2-102, without characterizing it as a "first sale" for patent exhaustion purposes. Fundamentally, there is no reason that the definition of a "transaction involving goods" must be the same as that for a "first sale." Although courts have not agreed on the reach of the U.C.C., it is intended to be interpreted broadly, U.C.C. § 1-102, and appears to cover the foundry transaction which "involves" both goods and services. *See generally* Crystal L. Miller, Note, *The Goods/Services Dichotomy and the U.C.C.: Unweaving the Tangled Web,* 59 Notre Dame L. Rev. 717 (1984). The patent exhaustion doctrine, on the other hand, is triggered by a "sale" rather than a "transaction." One way to interpret this difference in language is that the U.C.C. should cover all transactions unless they clearly do not involve the sale of goods, while the patent exhaustion doctrine should not apply unless the transaction clearly does involve the sale of goods. The cases in the middle, like most foundry arrangements, would be covered by the U.C.C. but not trigger the patent exhaustion doctrine.

89. *See supra* notes 77–79 and accompanying text.

90. Both parties were aware of the possible patent infringement action that might follow. As part of the agreement, ULSI warranted that it had the proper authority to use the design it provided to HP and that it would indemnify HP against any liability for patent infringement. Intel Corp. v. ULSI Sys. Technology, Inc., 995 F.2d 1566, 1575 (Fed. Cir. 1993) (Plager, J., dissenting), *cert. denied,* 114 S. Ct. 923 (1994).

courts certainly must begin their investigation with the written agreement, they must look past the use of magic words within the four corners of the document. In construing a licensing agreement, the objective is to give meaning to the intention of the parties.[91] By deciding that the HP-ULSI agreement was for the sale of goods simply because it used the word "sale," the court failed to examine the circumstances surrounding the writing and thereby failed to effectuate the intent of the parties.

Instead of relying solely on the written contract, courts should consider other elucidating factors. First, product design ownership should be used to help determine whether the foundry transaction was a sale of goods or services. When the buyer owns the product design, the foundry should be held to be providing a service. When, on the other hand, the buyer purchases products designed by the maker, the transaction should be considered a sale of goods.[92]

In conjunction with looking to design ownership, courts also should question the substance of the agreement between the foundry and the buyer. Where the design comes from the buyer who, upon receipt of the goods, merely packages them and sells them as received from the foundry,[93] the foundry agreement must be deemed a purchase of services. The court should not hesitate to withhold the patent exhaustion defense from buyers who seek to circumvent patent rights by copying a

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91. *See, e.g.*, Hooker Chemical Corp. v. Velsicol Chemical Corp., 235 F. Supp. 412 (W.D. Tenn. 1964) (considering surrounding facts and circumstances to construe license in light of unforeseen situations); Baldwin Rubber Co. v. Paine & Williams Co., 107 F.2d 350 (6th Cir. 1939) (noting that construction of a contract must give effect to the intention of the parties), *cert. denied*, 309 U.S. 676 (1940). Washington contract law is in accord with this position. Berg v. Hudesman, 115 Wash. 2d 657, 801 P.2d 222 (1990) (holding that, to give effect to the intent of the parties, extrinsic evidence is always admissible, regardless of whether the meaning of a contract is plain and unambiguous on its face).

92. *ULSI*, 995 F.2d at 1575 (Plager, J., dissenting). This distinction would be consistent with the result in *Lisle*. Lisle Corp. v. Edwards, 777 F.2d 693 (Fed. Cir. 1985). For a discussion of *Lisle*, see *supra* notes 52–57 and accompanying text. Not all courts, however, would agree with the importance of design ownership. *See* Cyrix Corp. v. Intel Corp., 803 F. Supp. 1200 (E.D. Tex. 1992) (holding that product design is not relevant to patent exhaustion doctrine).

93. This was the arrangement between HP and ULSI. *ULSI*, 995 F.2d at 1567.

successful product and "laundering"[94] it through a licensed foundry to usurp the monopoly profits of the patent holder.[95]

Finally, classification of the foundry transaction as a sale of goods is at odds with the treatment of a similar transaction in which the licensee, rather than serving as a foundry for another company, uses that company to serve as a foundry for the licensee. In such a situation, the licensee is said to be exercising "have made" rights.[96] Significantly, the transaction between the licensee who exercises "have made" rights and the foundry providing the manufacturing services has not been called a sale of goods. In such cases, the result usually turns on whether the parties intended the license to grant the licensee the right to have the products made for it by others.[97] If courts viewed this transaction as a sale of goods, they would never reach the issue of whether the licensee was acting within the scope of the license; as soon as the licensee purchased the products from the foundry, the licensee would simply have purchased products from an infringing manufacturer. Although a subsequent use or sale of the goods might infringe, the purchase itself would not. Because the courts may hold the licensee liable for infringement in the making of the goods, depending upon the scope of the license, this type of foundry arrangement is not viewed as a sale of goods for patent exhaustion purposes. There is no sound reason for this dichotomy of classification. If it is not a sale of goods when a licensee exercises "have made" rights, then it should not be a sale of goods when a licensee provides foundry services. Courts should be more consistent and treat both foundry transactions as a sale of manufacturing services.

Even if the foundry arrangement is characterized as a sale of goods rather than services, it should not be a "first sale" for patent exhaustion purposes. This transaction is not the ordinary sale in the marketplace that leads to patent exhaustion.[98] On the contrary, the very purpose of

94. Intel has characterized the ULSI activities as a "laundering" operation, whereby ULSI copied an Intel design that would lead to a patent infringement if they produced it themselves. By finding a company that held Intel patent licenses, ULSI "laundered" its infringing design to produce what it hoped would be clean math coprocessors. Robert Ristelhueber, *Court Grants Intel Bid to Stay ULSI Coprocessor Shipments; ULSI Systems Technology,* Electronic News, Dec. 23, 1991, *available in* LEXIS, Nexis Library, Arcnews File.

95. *See supra* notes 45–47 and accompanying text.

96. Ethyl Corp. v. Hercules Powder Co., 232 F. Supp. 453, 459 (D. Del. 1964) (holding that the right to manufacture a product under a patent license includes the right to have that product made by another company). These "have made" rights are subject to limitation by the license and the intent of the parties. *Id.*

97. *Id.*

98. *Cf.* General Talking Pictures Corp. v. Western Electric Co., 304 U.S. 175, 180–81 (1938).

the sale is patent circumvention. Moreover, for the "first sale" doctrine[99] to apply, the sale of goods must be either from the patentee or from a licensee acting within the scope of its license. Because foundry rights are generally not within the scope of the license, the transfer of goods from the foundry to the buyer is not a "first sale" even if it is termed a sale of goods.

B. Foundry Rights are Normally Beyond the Scope of the License

In most cases, foundry rights are never intended to be within the scope of the license.[100] Because courts should construe the contract to effectuate the parties' intent, they should not rely solely on the written instrument,[101] which usually does not mention foundry rights. Instead, courts should approach the patent license in a foundry situation with the presumption that such rights are not a part of the agreement unless the licensee proves otherwise.

Several indicators reveal an intent not to include foundry rights in licensing agreements. First, the goal of parties in licensing agreements generally is to allow for mutual development and sale of products without patent infringement.[102] In granting the cross-license, each company assumes that it is extending its patent rights to only one other company. Second, these agreements uniformly prohibit sublicensing.[103] This prohibition is a strong indication that the patent holder does not want its patent rights to be shared with companies other than the licensee. Third, patent holders rarely grant licenses to direct competitors.[104] This reveals their desire to keep those direct competitors from gaining access to their valuable patents. If either party contemplated those competitors might reach their patents through foundries, they would expressly preclude it. Fourth, the parties simply

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99. *See supra* notes 14–17 and accompanying text.

100. *See* Abramson, *supra* note 36, at 2 (noting that the general purpose of cross-licenses was to allow each party to develop products without infringing the patents of the other; the changing economy in the semiconductor industry presented an unforeseen opportunity for the use of foundries). *See also infra* notes 102–06 and accompanying text.

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

102. *See supra* notes 27–30 and accompanying text.

103. *See, e.g.*, Intel Corp. v. ULSI Sys. Technology, Inc., 995 F.2d 1566, 1570 (Fed. Cir. 1993), *cert. denied*, 114 S. Ct. 923 (1994); Intel Corp. v. United States Int'l Trade Comm'n, 946 F.2d 821, 826 n.9 (Fed. Cir. 1991); Lisle Corp. v. Edwards, 777 F.2d 693, 695 (Fed. Cir. 1985).

104. *See supra* note 34.

do not contemplate foundry rights.[105] While the lack of foresight does not settle the issue one way or the other, it does force the court to use extrinsic evidence to determine the meaning of the license, based on the probable intent of the parties.[106] Because the above factors suggest that parties intend to exclude foundry rights, the courts should presume that foundry rights are not included unless the licensee proves otherwise.

C. *A Presumption Against Foundry Rights Is Better Policy*

In addition to the reasons above, there are a number of policy considerations that favor a presumption against inclusion of foundry rights. These include preventing the abuse of the patent license, fairly compensating the patent holder, fostering innovation and the sharing of technology, and reducing litigation.

1. *Abuse of the License*

A company may employ a plethora of innovative techniques to give an infringing operation the appearance of legitimacy. While only a few of these have reached the courts, the *ULSI* decision has opened the door for further abuse. A default rule against inclusion of foundry rights, on the other hand, would stem this abuse by reducing the number of ways that a company can circumvent a patentee's rights. In addition, it would yield a more equitable result, placing the burden on the circumventing party to show that its creative use of the patent does not constitute infringement.

Some methods of circumvention have already been discredited by the courts. In *E.I. Du Pont de Nemours & Co., Inc. v. Shell Oil Co.*,[107] for example, Shell Oil Company ("Shell") received a license from E.I. Du Pont de Nemours & Co. ("Du Pont") to manufacture products embodying Du Pont patents. The license granted "have made"[108] and sell rights, but restricted the right to sublicense. When Shell reached an

105. *See* Clark, *supra* note 48, at C4 (explaining that the parties never thought about the prospect of foundries); Abramson, *supra* note 36, at 2.

106. At least one court has held that, where a license agreement is being construed in light of an unforeseen contingency, the court should read into the agreement, considering the surrounding circumstances, what the parties would have written had the unforeseen contingency been under consideration at the time the license was executed. *See* Hooker Chemical Corp. v. Velsicol Chemical Corp., 235 F. Supp. 412 (D. Tenn. 1964).

107. 498 A.2d 1108 (Del. 1985) [hereinafter *Du Pont*].

108. *See supra* note 96 and accompanying text.

agreement with Union Carbide in which Union Carbide would manufacture a specified quantity of the products for Shell, and Shell would sell that same quantity back to Union Carbide, the court found that the agreement constituted a sublicense.[109] Although the license contained no express prohibition of such transactions, the court concluded that the substance of the transaction was of a type the parties did not intend to allow.[110]

Despite the disapproval of circumventing transactions in *Du Pont,* the Federal Circuit's stamp of approval on the *ULSI* foundry arrangement will likely lead to other pettifogging efforts. For example, a licensee may combine its "have made" rights with the foundry rights approved of in *ULSI.* In this case, the licensee arranges for a company, "maker," to manufacture products and sell them to another company, "buyer." Perhaps to lend an air of legitimacy, the licensee will pass the products through a warehouse it owns before delivery to "buyer." This arrangement is clearly beyond the scope of the license, because it is, by definition, a sublicense for the licensee to allow "maker" to manufacture and sell products to "buyer."

The Federal Circuit's response to these foreseeable arrangements is uncertain. Previous decisions separately allowing both "have made" rights and foundry rights ostensibly would allow an arrangement which simply has both features at once. Language in the licensing agreement that prohibits sublicensing, on the other hand, would lead to the opposite conclusion. Classification of a foundry arrangement as a sale of services, coupled with a presumption that foundry rights are not included in a licensing agreement, would compel the holding that the arrangement was not allowed by the licensing agreement.

Other variations on the licensed foundry theme are limited only by the imagination of the parties. A licensee might enter into a "joint venture" in which each company manufactures patented products and shares the profits. Or perhaps a licensee will "purchase" a third company's fabrication facilities for nominal consideration and then hire the third company's employees to manufacture patented products sold by that third company. Are these arrangements within the scope of the license? Does the transaction constitute a "first sale" from the licensee to the third company?

There are simply too many possible variations on the circumvention theme. Surely the parties to the licensing agreement cannot foresee and

109. *Du Pont,* 498 A.2d at 1117.

110. *Id.* at 1113.

include express restrictions for every possible approach. The proposed default rule will yield more predictable results.[111] Courts should presume foundry rights are prohibited unless evidence reveals a contrary intent by the parties.

2. *Fair Compensation to the Patentee*

A rule presuming foundry arrangements are prohibited unless the licensee proves otherwise would result in fair compensation to the patentee. When the patentee does not intend to grant foundry rights, the compensation it bargains for will be lower than if foundry rights are included. Although some commentators contend that the patentee has already been adequately compensated,[112] that position assumes that the scope of the license included foundry rights. If foundry rights were not intended to be included, however, the patentee has not received a royalty for the use of its patent.

Because companies spend prodigious amounts of money on research and development,[113] the issue of proper compensation is paramount. Companies will be far less likely to invest that money if the likelihood of return is uncertain.[114] At the same time, the potential reward for the buyer in a foundry agreement will surely lead many others to follow ULSI's lead, further cutting into the patentee's royalties.[115] Although consumers may enjoy the advantage of cheaper products and the economy will avoid the problem of under-consumption in the short run as a result of the exploitation of foundries,[116] such advantages come at the expense of reduced innovation in the long run.[117]

Finally, it is not enough to allow the exploitation of foundries based upon cross-licensing agreements developed in the 1970s and 1980s, with the expectation that these companies can draft their agreements more

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111. One commentator has argued that foundry arrangements should be allowed as long as they have "economic substance." Abramson, *supra* note 36, at 7. It is unclear, however, how a court might determine whether or not an arrangement had "economic substance." In addition, this approach overlooks the important question of whether or not the agreement was within the scope of the license. It certainly seems possible for a manufacturing agreement to have "economic substance" but still be beyond the scope of the license.

112. Abramson, *supra* note 36, at 6.

113. Rutter, *supra* note 5, at 64.

114. *See generally* Kitch, *supra* note 6.

115. Note, *supra* note 24, at 1212 n.98. *See also* Clark, *supra* note 48.

116. *See, e.g., supra* note 47.

117. *See infra* notes 121–31 and accompanying text.

carefully in the future. Many of these agreements contained clauses granting each party the rights to patents acquired by the other for many years into the future.[118] Thus, if the default rule against foundries is not followed, patentees will continue to lose royalties for a very long time.

3. *Encouraging Technology Sharing and Fostering Innovation*

The *ULSI* decision is likely to reduce technology sharing. After *ULSI,* many old cross-licenses expose future patents to use by licensed foundries.[119] As a result, companies like Intel may choose to keep their inventions as trade secrets rather than to patent them.[120] Even if a firm is not exposed under a long-term licensing agreement, the weakening of its patent rights by the courts makes it more likely to refrain from disclosing its inventions by patent.[121] This response amounts to wasted resources, and reduces the pace of technological development.[122]

The proposed rule restricting the approval of foundries, on the other hand, would encourage technology sharing. The operation of the marketplace prior to the approval of foundries naturally encouraged companies to share technology.[123] If firms knew that their old cross-licensing agreements would not expose their future patents to foundries, they would not be dissuaded from patenting and sharing their inventions.

In addition to enhancing technology sharing, a rule limiting foundry rights would cultivate innovation. Companies spend money on research and development, in part, because they know their efforts will be protected by patents.[124] Similarly, they know that they can recoup their investment through the monopoly profits patents bring.[125] When the system is predictable, companies plow their monopoly profits back into

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118. For example, the agreement between Intel and HP granted to each party the right to all patents obtained prior to January 1, 2000. Since patents have a term of 17 years, the license between Intel and HP will continue through January 1, 2017. Intel Corp. v. ULSI Sys. Technology, Inc., 995 F.2d 1566, 1567 (Fed. Cir. 1993), *cert. denied,* 114 S. Ct. 923 (1994).

119. *Id.*

120. *Cf.* Scherer, *supra* note 2, at 441.

121. *Id.*

122. Kitch, *supra* note 6, at 278–79. *See also supra* note 26 and accompanying text.

123. Merges, *supra* note 34, at 869. *See also supra* notes 24–30 and accompanying text.

124. Scherer, *supra* note 2, at 446. *See also* Menell, *supra* note 2, at 1059 (noting that patent protection induces inventive activity); Eisenberg, *supra* note 2, at 1024–26 (explaining that, without patent protection, many inventions would never come about).

125. *See* Harry First et al., *Revitalizing Antitrust in its Second Century: Essays on Legal, Economic, and Political Policy* 140–41 (1991).

research.[126] If those profits are diluted through the unexpected granting of foundry rights, there will be fewer companies with the resources required to innovate. In contrast, the proposed rule would reduce the use of foundries, and patent holders like Intel would continue to receive the monopoly profits necessary for innovation.

Transactions like the one between HP and ULSI, on the other hand, contribute little to the advancement of technology. Intel's policy was to share its patents with companies that would give something back.[127] In this case, ULSI simply copied an existing Intel design and marketed it.[128] Beyond the short-run advantage for consumers, there is no sound reason to encourage an arrangement that fails to advance technology.

A more desirable result encourages companies either to obtain their own licenses directly or to invent around them. Many advancements in technology have been achieved by companies that focused their energy on an invention that legitimately avoided patent infringement.[129] The proposed rule would foster innovation by encouraging companies to apply their energy to the search for technological advancement rather than legal loopholes.

Indeed, technology sharing and innovation go hand in hand. In general, sharing technology through licensing and other agreements increases efficiency and the pace of innovation.[130] In the computer industry in particular, the joint contributions of many firms has led to a phenomenal rate of innovation.[131] This activity should be encouraged by eliminating the approval of unintended foundries.

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126. *Id.* at 143 (describing Shumpeterian monopoly, with a large share of profits plowed back into innovation). *See also* Rutter, *supra* note 5, at 64. *But see* Eisenberg, *supra* note 2, at 1040 (arguing that the Shumpeterian monopoly is an analytical dead end without empirical answers).

127. Rutter, *supra* note 5, at 65.

128. *See supra* notes 70–73 and accompanying text.

129. Scherer, *supra* note 2, at 446.

130. *See* Thomas M. Jorde & Davit J. Teece, *Antitrust, Innovation, and Competitiveness* 63 (1992) (firms must cooperate to succeed in innovation); Robert P. Merges & Richard R. Nelson, *On the Complex Economics of Patent Scope,* 90 Colum. L. Rev 839, 895 (1990) (many firms must contribute for technological advancement); *Id.* at 896–97 (without cross-licensing, there is nothing to mitigate the effect of broad patents); Tesler, *supra* note 26, at 272 (competition may require some cooperation to achieve efficiency). *But cf.* Michael L. Katz, *An Analysis of Cooperative Research and Development,* 17 Rand J. Econ. 527 (1986) (while cooperation enhances efficiency, under certain conditions research and development output sharing may lower the equilibrium level of effective research and development).

131. Merges & Nelson, *supra* note 130, at 894 (cross-licensing with computers is common; as a result, the pace of innovation has been rapid); Jorde & Teece, *supra* note 130, at 208 (sharing through cross-licensing has hastened the pace of technological development in the computer industry).

4. *Reduction of Litigation*

A final possible advantage of the adoption of the default rule is a reduction in patent litigation. A primary reason for cross-licenses was to avoid the litigation that would have followed without them.[132] After *ULSI,* parties will still resolve their disputes in court because the court must construe the meaning of the license. Moreover, the likelihood that others will copy the ULSI approach may lead to an increased caseload in the future.[133]

A rule prohibiting foundries in the absence of evidence showing a contrary intent of the parties will encourage companies to continue using licensing agreements and patenting their inventions.[134] Without this proposed rule, a reduction in licensing could lead to the type of litigation the parties originally sought to avoid, stemming from the situation in which no company can exploit its own patents without violating patents held by others.[135] Similarly, a reduction in patents for fear of exposure to foundries may lead to litigation. Specifically, when parties to a licensing agreement agree to share patents acquired for many years in the future,[136] it may be bad faith for a company, out of fear of exposure to foundries, to keep its inventions as trade secrets rather than to file for patent protection. If one party must share its inventions under the agreement, but gets nothing in return, litigation is sure to follow.

V. CONCLUSION

The Federal Circuit should adopt a more restrictive approach to the use of foundries. First, the court should characterize a foundry agreement as a contract for services, rather than the sale of goods. Even if a foundry arrangement is interpreted as a sale of goods, however, courts should not treat it as a "first sale" under the patent exhaustion doctrine unless foundry rights are shown to be within the scope of the license. This characterization would remove the patent exhaustion shield held by a company circuitously using foundry services. In addition, it would eliminate the inconsistent characterizations of the transaction in which the licensee serves as the foundry (characterized as a sale of

132. *See supra* notes 27–29 and accompanying text. *See also supra* note 39 and accompanying text.

133. *See supra* note 48 and accompanying text.

134. *See supra* notes 123–31 and accompanying text.

135. *See supra* notes 27–29 and accompanying text.

136. *See, e.g., supra* note 118.

goods) an the nearly identical transaction in which the licensee uses another firm as a foundry (characterized as a sale of services).

Second, the court should reconsider its approach to the construction of patent licensing agreements. Because several factors reveal that parties do not intend to grant foundry rights in the typical patent cross-licensing agreement, licensing agreements should be construed to exclude foundry rights unless evidence is produced to show a contrary intent. Although parties may sometimes intend the scope of cross-licensing agreements to include foundry rights, policy considerations encourage a more restrictive reading of ambiguous agreements.