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GLOBALIZATION OF R&D
IP MANAGEMENT POLICIES & STRATEGIES

by

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Globalization of R&D: IP Management Policies & Strategies

I. Introduction

In the late 1950's the U.S. Congress was considering abolishment of the U.S. patent system. Professors Melman and Machlup, the then most famous economists, were commissioned to study the issue and report back to Congress, which they did, after arriving at the following astounding conclusion:

> "If we did not have a patent system, it would be irresponsible, on the basis of our current knowledge and of its economic consequences, to recommend establishing one."

Today such a conclusion would sound like a bad joke, as it is incontrovertible that a strong system of intellectual property rights (IPRs) is indispensable for technological development, which stimulates economic growth and social welfare.

Indeed, today we are truly living in a "Golden Age" for IPRs. Bill Gates speaks of a new "Gold Rush." Others consider IPRs a new and different "Bull Market." Patent filings and issuances have been skyrocketing, so much so that there is talk of a patent "revolution," "explosion," and "frenzy". Trademarks have experienced a similar boom. And trade secrets are said to be the "IPRs of the new millennium and can no longer be treated as a stepchild."

The American Patent System was revitalized by the creation in 1982 of the Court of Appeals for the Federal Circuit (CAFC). "Everything under the sun made by man" is patentable according to our Supreme Court interpreting our Congress (*Chakrabarty* decision, 1980, establishing the patentability of living organisms). And as of 1998 even formerly unpatentable business methods and computer programs are now also patentable (*State Street Bank* decision, CAFC, 1998).

More than ever companies are built around patented technology. The rate of American innovation is soaring. "Innovate or perish" is the motto. The value of IPRs for securing exclusivity is simply invaluable. In recent years, royalties obtained for licensing patents have annually exceeded the billion-dollar mark for companies such as IBM and TI and over $150 billion for all U.S. industries. And universities have jumped on the bandwagon, now obtaining thousands of patents annually and concluding an equal number of licenses per year. The amount of royalties universities reap from patent licenses is also soaring, reaching $1 billion as of 2001, with a couple of universities already putting in over $100 million per year.

Courts read the riot act to infringers. Holding patents valid much more often nowadays, they award damages in the hundreds of million dollars. Preliminary injunctions and treble damages are no longer rare and permanent injunctions are no longer stayed during appeals.

Even our Justice Department has made a complete about-face in their position on patents and licensing. According to their *Antitrust Guidelines for the Licensing of Intellectual Property of 1995*, "intellectual property (is) comparable to any other form of property," there is no presumption that "intellectual property creates market power" and "intellectual property licensing...is generally pro-competitive." What contrast to their prior hostility to patents, culminating in their philosophy that a patent conferred monopoly power as a matter of conclusive presumption and at least nine common licensing restrictions ("nine no-no's") were per se illegal!

Thus, we now have a thoroughly pro-patent climate in the U.S., where patents are more enforceable and much more valuable and it no longer pays to infringe like before when, in the unlikely event the patent in suit was upheld, only reasonable-royalty damages were assessed.

Ronald Myrick, formerly of General Electric, put it this way: "The attraction of IP is simple: it's at the forefront of the technology that's driving the world and IP is one of the unique entities in the law where you're actually creating assets."

II. The Global Landscape

Similar developments are afoot elsewhere on the globe.

In India of all places there has been a sea change in how they view IP. Until recently India had spearheaded the opposition to patents, proclaiming that technology was the "common heritage of mankind" and should therefore be made available for free. Back in 1992, when I attended a WIPO program at the University of Delhi, there were very few in attendance and I was crucified for the pro-patent views I expressed. However, a couple of years ago when I attended an International Conference in India on IP Education and Training, organized by WIPO in cooperation with the Department of Secondary & Higher Education of the Government of India and the Indian Institute of Technology, it came as a great surprise to me that they had turned decisively pro-patent and were singing a different tune. They were saying that now that "IP is available in abundance in India," IP is being taught in "all academic schools" under government sponsorship and IP institutes are springing up all over. The Chamber of Commerce is promulgating the slogan "Patent or Perish," the phrases "IP literacy" and "IP awareness" have become buzzwords and they are trying to "bring IP from a legalistic ivory tower down to the common man." What an about-face!

Many Asian and East-European countries established or strengthened their IP systems before the GATT-TRIPS era and without being swayed by pressures from the outside. Why? Because they had come to realize that IP systems would serve their own self-interests.

For example, a high official of the Indonesian Government made the following statements in a seminar which I attended in Jakarta a few years ago, when I served as a consultant for their Patent, Trademark and Copyright Office to assist them in implementing their first patent system:

> Especially today one cannot ignore the role that intellectual property plays in international markets, which is becoming increasingly more important.
>
> The future economic development of the country will focus more and more on the industrial sector directed to exports, which obviously will need access to international markets. This access will only be achieved if we participate in mutual agreements in the sector of intellectual property, through the operation of sufficient, efficient and reciprocal legal protection
>
> .....
>
> The current situation, where intellectual property has greater value and more importance provides a very different stage from that of the fifties, sixties or even the seventies."

The Conference Board in Canada, after noting that Canada's "patentee-unfriendly regime" had discouraged innovation, recently stated "Innovation is now recognized as the major, if not the sole, sustainable source of economic growth and the major determinant of the wealth of a nation." And things are changing "South of the Border," too. Further proof of this came across my desk last year by way of an article in *IP Worldwide*, entitled "Latin America begins to understand IP," which is said to be particularly true of Mexico, Brazil and Argentina.

Unfortunately, much antipathy towards IPRs still persists in many foreign countries.

In recent years such organizations as WIPO, UN-TNC, IESC, USIA, USAID, PhRMA, have sent me on missions to many developing countries to "spread the gospel" of IPRs. It was a real challenge to engage in such "missionary" activities in India, Indonesia, Madagascar, Malaysia, Mongolia, Pakistan and Thailand in Asia; Bulgaria and Russia in Eastern Europe and all of the Central American and most of the South American countries.

Among the key points which I tried to convey in talks and discussions in these developing countries are the following:

- The defense of IPRs today is the new frontier as were the human rights yesterday.
- An effective IP system is indispensable to technological and cultural development which in turn is indispensable to economic growth and social welfare.
- There is solid correlation between the quantity of investments a country can attract from abroad and domestically and the quality of IP systems.
- An IP system should be part of a country's infrastructure from the outset rather than something thought about after reaching a fairly advanced state of development.

- There are no viable alternatives to the present system, which is the only system that is compatible with a market economy.
- An IP system does benefit nationals, not just foreign corporations; after all, there is genius and creativity everywhere but they need nurture.
- Subject matter that is viewed as too important to be protected, like pharmaceuticals and biotech products is on the contrary, too important not to be protected.
- A patent and other IPRs are property and not monopolies.

See the Attachment for additional "Credos-Insights-Truisms" about IPRs and Technology Transfer.

And in conclusion, I urged a six-phase course of action for establishing effective IP systems:

- modernization and strengthening of national IP legislation;
- installation of an effective IP administration;
- adherence to all relevant and important international IP treaties;
- furtherance of appreciation in all sectors of the importance of IP in economic and cultural development;
- improvement of judicial mechanisms for the enforcement and defense of IPRs; and
- establishment of regional, centralized IP systems and offices.

In Pakistan, as well as on trips to other developing countries, I was pleased to find that some of my points resonated with the audiences but skeptical comments and testy questions abounded, as for example:

- copying and imitation are basic human traits and nothing can be done about it;
- the U.S. left the Japanese alone when they copied U.S. products, but turns on us;
- with the free flow of goods there should be free flow of information and technology as a matter of human rights;
- the degree of respect for IPRs should depend on the degree of economic development;
- a patent system that is rooted in America should not have to be adopted in Pakistan;
- Pakistan should be free to participate or opt out;
- 30 million Pakistanis don't have access to medicines and enforcement of IPRs would make it worse;
- developing countries need assistance and forbearance, especially those that were exploited by colonial masters;
- Western IP policies are unfriendly and barren of compassion;
- the U.S. should use more the carrot than the stick;
- IPRs should be shared, even if, or especially if, they are property.
- We passed a law, doesn't that take care of it?

- If a patent is a contract between an inventor and his government and grants protection in exchange for disclosure, why should a foreign country grant protection when there is no *quid pro quo*?

III. International Harmonization

In spite of such negativistic undercurrents, harmonization of IP systems is advancing steadily on a regional and global scale and there is growing literature on the coming "world patent."

Several international and regional treaties are stepping stones toward a "world patent." Among the former are the Paris Convention (1884), the Patent Cooperation Treaty (1970), TRIPS (Trade-Related Aspects of IPRs — 1995) and the Patent Law Treaties (one recently passed on procedural aspects and one still pending on substantive aspects) and among the latter are the European Patent Convention (EPC — 1973), OAPI (1958) and ARIPO (1976) in Africa, the Eurasian Patent Convention (EAPC — 1995) and the North-American Free Trade Agreement (NAFTA — Chapter 17 — 1994). According to Gerald Mossinghoff, a former Patent and Trademark Commissioner and PhRMA President, and others, such a system would have the following characteristics:

- Unitary patent Grants by Regional Patent Offices
- First-to-file Priority
- Provisional Applications
- One-year Grace Period
- English Language for Examination and Enforcement
- Single Electronic Prior Art Database
- World Patent Court

The most promising approach towards harmonization are the Trilateral Initiatives between Europe, Japan and the U.S., based on the "Kyoto Action Plan." The objective of this plan is to establish a trilateral network with common searches and other procedural features. Dr. Van Benthem, the former President of the European Patent Office (EPO) suggested, after living through the European harmonization process, that harmonization should be effected in a three-step process, as follows: 1) classification, databases, searches, 2) procedural aspects and 3) substantive matters and that only after enough momentum has been gained in one-stage should the next stage be entered. Since Europe, Japan and the U.S. perform over 90% of the world's patent activities, harmonization between them could lead to a "world patent" as other countries would likely fall in line. Incidentally, Japan has accomplished more harmonization over the years than the U.S. and Europe.

According to WIPO and USPTO officials, an expanded PCT could also be a vehicle for a global patent. And an EPO official suggested (tongue-in-cheek?) that the EPC is a ready mechanism for a global patent, inasmuch as any country can join the EPC. Gerald Mossinghoff believes that, with TRIPS in place, a global, universal or world patent will see the light of day "sooner rather than later," because our knowledge-based era requires full harmonization. (*IDEA*, 1998).

And Lois Boland, a USPTO official, goes as far as to predict:

> "At some point in the future, we will have an international patent system that will have characteristics similar to those we find in the copyright area. That is, the right of an inventor will be universally recognized without having to seek patent protection in each of the countries of the world."

Indeed, much more harmonization has been accomplished in the fields of copyrights and trademarks.

IV. Integration of IPRs

Literature and presentations on IP strategies, IP valuation and other IP topics that I have read and heard almost always speak to patents and patent portfolios. However, doing so overlooks the fact that legal protection of innovation of any kind, especially in high-tech fields, requires the use of more than one IP category, i.e. dual or multiple protection.

Professor Jay Dratler in his *Intellectual Property Law: Commercial, Creative, and Industrial Property* (1991), was the first one to "tie all the fields of IP together." According to him, from former fragmentation by specialties, IPRs are now a "seamless web," due to progress in technology and commerce.

And in 1997 the authors of *Intellectual Property in the New Technological Age* also "avoid the fragmented coverage…by approaching IP as a unified whole" and concentrate on the "interaction between different types of IPRs."

Thus we now have a unified theory in the IP world, a single field of law with subsets and significant overlap between IP fields. Several IPRs are available for the same IP or different aspects of the same IP. Not taking advantage of the overlap misses opportunities or, worse, amounts to "malpractice," per Professor Dratler.

Especially for high-tech products, trademarks and copyrights can supplement patents, trade secrets and mask works for the products' technological content. One IP category, often patents, may be the center of gravity and more important than others. Other IPR categories are then supplementary but very valuable to cover additional subject matter, strengthen exclusivity, invoke additional remedies in litigation, standup if a primary IPR becomes invalid and thus provide synergy and optimize legal protection.

The most important IP management policy and strategy is exploiting the overlap between patents and trade secrets.

V. The Role & Value of Trade Secrets

a.) Importance of Trade Secrets

Deep–seated misconceptions about the relationship between patents and trade secrets are very prevalent. Trade secrets are treated as the orphan in the IP family, or the black sheep in the IP barnyard. They are maligned as flying in the face of the patent system, the essence of which is disclosure of inventions to the public. Keeping inventions secret

is, therefore, supposed to be reprehensible. One noted IP professor in Washington went even so far as to say: "Trade secrets are the cesspool of the patent system." Nothing could be further from the truth. Trade secrets are the "crown jewels" of corporations. "Trade secrets are the IP of the new millennium and can no longer be treated as a stepchild," per Mark Halligan. Indeed, trade secrets are now gaining greater reverence as a tool for protection of innovation. And the stakes are getting higher. Injunctions have become a greater threat in trade secret misappropriation cases and damage awards have been in the hundreds of millions in recent years. For instance, in a trial in Orlando, in which two businessmen were seeking $1.4 billion in damages from Walt Disney Co., accusing the company of stealing trade secrets for the sports complex at Walt Disney World, the jury awarded them $240 million. And misappropriation of trade secrets of Pioneer Hi-Bred International on genetic corn seed materials by Cargill, Inc. cost the latter $300 million.

Anent the importance of trade secrets, James Pooley proclaimed recently: "Forget patents, trademarks and copyrights…trade secrets could be your company's most important and valuable assets." It is also interesting to note that Henry Perritt believes that trade secrets are "the oldest form of intellectual property protection" and that "patent law was developed as a way of protecting trade secrets without requiring them to be kept secret and thereby discouraging wider use of useful information." That makes patents a supplement to trade secrets rather than the other way around.

Indeed, according to a 2003 IPO Survey on Strategic IP Management, patents are often not viewed as a panacea but as a side show inasmuch as patents have limits, such as, publication, invent-around feasibility and patentability requirements but proprietary technology is highly rated as a key source of competitive advantage and the really important intellectual assets are skills and knowledge (88% of responses), which implicates trade secrets. Another finding of this Survey is that while some companies dominate an industry by controlling key patents, others do so by holding important technology as trade secrets.

Moreover, patents are but the tips of icebergs in an ocean of trade secrets. Over 90% of all new technology is covered by trade secrets and over 80% of all license and technology transfer agreements cover proprietary know-how, i.e. trade secrets, or constitute hybrid agreements relating to patents and trade secrets. Bob Sherwood, an international IP consultant, calls trade secrets the "work horse of technology transfer."

Finally, and very importantly, trade secret protection operates without delay and without undue cost against the world, while patents are territorial and so expensive to obtain and maintain that they can be taken out only in selected countries.

b.) The Patent/Trade Secret Interface

Trade secrets are the first line defense: they come before patents, go with patents, and follow patents. As a practical matter, licenses under patents without access to associated or collateral know-how are often not enough for commercial use of the patented technology, because patents rarely disclose the ultimate scaled-up commercial

embodiments. Hence, data and know-how are immensely important. In this regard, let me cite the following persuasive comments:

- "In many cases, particularly in chemical technology, the know-how is the most important part of a technology transfer agreement." (Homer Blair, Professor Emeritus of Franklin Pierce Law Center).
- "Acquire not just the patents but the rights to the know-how. Access to experts and records, lab notebooks, and reports on pilot-scale operations, including data on markets and potential users of the technology are crucial." (Robert Ebish, a free lance writer).
- "It is common practice in industry to seek and obtain patents on that part of a technology that is amenable to patent protection, while maintaining related technological data and other information in confidence. Some regard a patent as little more than an advertisement for the sale of accompanying know-how." (Peter Rosenberg, author of "Patent Law Fundamentals").
- In technology licensing "related patent rights generally are mentioned late in the discussion and are perceived to have 'insignificant' value relative to the know-how." (Michael Ward, Honeywell VP Licensing).
- "Trade secrets are a component of almost every technology license…(and) can increase the value of a license up to 3 to 10 times the value of the deal if no trade secrets are involved." (Melvin Jager, former LES and LESI president).

Another very telling case about the criticality of proprietary know-how comes from abroad. Brazil learned a quick and startling lesson when they decided some years ago to translate important patents that issued in developed countries for the benefit of the Brazilian industry. They believed that that was all that was necessary to enable their industries to practice these foreign inventions without paying royalties for licenses. Needless to say, this scheme was an utter failure.

Patents and trade secrets are not mutually exclusive but actually highly complementary and mutually reinforcing; in fact, they dovetail. In this context it should be kept in mind that our Supreme Court has recognized trade secrets as perfectly viable alternatives to patents: "The extension of trade secret protection to clearly patentable inventions does not conflict with the patent policy of disclosure" (*Kewanee Oil v. Bicron* (1974)) and further strengthened the bases for trade secret reliance in subsequent decisions (*Aronson v. Quick Point Pencil* (1979)) and *Bonito Boats v. Thunder Craft Boats* (1989)). Interestingly, in his concurring opinion in the *Kewanee Oil* decision, Justice Marshall was "persuaded" that "Congress, in enacting the patent laws, intended merely to offer inventors a limited monopoly (*sic*) in exchange for disclosure of their inventions (rather than) to exert pressure on inventors to enter into this exchange by withdrawing any alternative possibility of legal protection for their inventions." Thus, it is clear that patents and trade secrets can not only coexist, but are in harmony rather than in conflict with each other. "(T)rade secret-patent coexistence is well-established, and the two are in harmony because they serve different economic and ethical functions." (Prof. Donald Chisum).

In fact, they are inextricably intertwined, because the bulk of R&D data and results or associated, collateral know-how for any commercially important innovation cannot and need not be included in a patent application but deserves, and requires, protection which trade secrets can provide.

In the past — and even today — if trade secret maintenance was contemplated at all, e.g. for manufacturing process technology, which can be secreted unlike gadgets or machinery, which upon sale can be reverse-engineered, the question always was phrased in the alternative. E.g., titles of articles discussing the matter read "Trade Secret vs. Patent Protection," "To patent or not to patent?" "Trade Secret or Patent?" "To Patent or to Padlock?," etc. Anent this choice, the respective advantages and disadvantages, e.g., in terms of duration and scope of protection, are considered controlling. However, on scrutiny the perceived differences are not there. The patent life may be more or less than twenty years from filing and a garden-variety type of trade secret, far from being indefinite, may last but a few years. Nor is there a difference as regards the scope of protection with "everything under the sun made by man." And while a patent does, and a trade secret does not, protect against independent discovery, a patent leads to efforts to design or invent around and a trade secret, properly guarded and secured, may withstand attempts to crack it.

c.) The Patent/Trade Secret Complementariness

I submit that it is not necessary and, in fact, shortsighted to choose one over the other. To me the question is not so much whether to patent or to padlock but rather what to patent and what to keep a trade secret and whether it is best to patent as well as to padlock, i.e. integrate patents and trade secrets for optimal synergistic protection of innovation.

It is true that patents and trade secrets are at polar extremes on the issue of disclosure. Information that is disclosed in a patent is no longer a trade secret. As pointed out above, however, patents and trade secrets are indeed complementary, especially under the following circumstances.

In the critical R&D stage and before any patent applications are filed and also before applications are published and patents issued, trade secret law particularly "dovetails" with patent law (*see Bonito Boats*). Provided an invention has been fully described so as to enable a person skilled in the art to make and use it and the best mode for carrying out the invention, if available, has been disclosed, as is requisite in a patent application, all associated or collateral know-how not divulged can and should be retained as a trade secret. All the massive R&D data, including data pertaining to better modes developed after filing, whether or not inventive, can and should also be maintained as trade secrets, to the extent some of the data are not disclosed in subsequent separate applications. Complementary patenting and padlocking is tantamount to having the best of both worlds, especially with respect to complex technologies consisting of many patentable inventions and volumes of associated know-how.

The "best mode" and "enablement" requirements apply only at the time of filing and only to the knowledge of the inventor(s) and only to the claimed invention.

Patent applications are filed early in the R&D stage to get the earliest possible filing or priority date and the patent claims tend to be narrow for distance from prior art. Therefore, the specification normally describes in but a few pages only rudimentary lab experiments or prototypes and the best mode for commercial manufacture and use remains to be developed later. The best mode and the enablement requirements are thus no impediments to maintaining the mountains of collateral know-how developed after filing as trade secrets.

Tom Arnold asserted that it is "flat wrong" to assume, as "many courts and even many patent lawyers seem prone" to do, that "because the patent statute requires a best mode disclosure, patents necessarily disclose or preempt all the trade secrets that are useful in the practice of the invention." (*1988 Licensing Law Handbook*).

d.) Exemplary Trade Secret Cases

Of course, it goes without saying that technical and commercial information and collateral know-how that can be protected via the trade secret route, cannot include information and know-how, which is generally known, readily ascertainable or constitutes personal skill. But this exclusion still leaves masses of data and tons of know-how which are the grist for trade secrets and often also for additional improvement patents. In this regard GE's industrial diamond process technology and Wyeth's Premarin manufacturing process come to mind as excellent illustrations of the synergistic integration of patents and trade secrets to secure invulnerable exclusivity.

The artificial manufacture of diamonds for industrial uses was very big business for GE and GE also had the best proprietary technology for making such diamonds. GE patented much of its technology and some of the patents had already expired, so that much of the technology was in the technical literature and in the public domain. But GE also kept certain distinct inventions and developments secret. The Soviet Union and a Far Eastern country were very interested in obtaining licenses to this technology but GE refused to license anyone. Getting nowhere with GE, the Far Eastern interests resorted to industrial espionage and a trusted fast track star performer at GE, a national of that country, whom nobody would have suspected, was enticed with million dollar payments to spirit away GE's crown jewels. But after a while the GE employee got caught, tried and jailed.

Since 1942 Wyeth has had an exclusive position on Premarin, the big-selling hormone-therapy drug. Their patents on the Premarin manufacturing process (starting with pregnant mares' urine) expired decades ago, but they also have held closely guarded trade secrets. On behalf of Barr Laboratories, which has been trying to come out with a generic Premarin for 15 years, Natural Biologics stole the Wyeth trade secrets. Wyeth sued and prevailed, getting a total injunction, as it was an egregious case of trade secret misappropriation.

These cases illustrate so well the value of trade secrets and, more importantly, the merits of marrying patents with trade secrets. Indeed, these cases show that GE and Wyeth could "have the cake and eat it." Were GE's or Wyeth's policies to rely on trade secrets in this manner or, for that matter, Coca Cola's decision to keep their formula secret rather than to patent it, which could have been done, damnable? Clearly not.

Other recent decisions, such as, *C&F Packing v. IBP and Pizza Hut* (Fed. Cir. 2000) and *Celeritas Technologies v. Rockwell International* (Fed. Cir. 1998) also demonstrate that it is now well established that dual or multiple protection for intellectual property is not only possible but essential to exploit the IP overlap and provide a fall back position.

In the *Pizza Hut* case, for instance, Pizza Hut was made to pay $10.9 million to C&F for misappropriation of trade secrets. After many years of research C&F had developed a process for making and freezing a precooked sausage for pizza toppings which had the characteristics of freshly cooked sausage and surpassed other precooked products in price, appearance and taste. C&F had obtained a patent on the equipment to make the sausage and also one on the process itself. It continued to improve the process after submitting its patent applications and kept its new developments as trade secrets.

Pizza Hut agreed to buy C&F's precooked sausage on the condition that C&F divulge its process to several other Pizza Hut suppliers, ostensibly to assure that backup suppliers were available to Pizza Hut. In exchange, Pizza Hut promised to purchase a large amount of precooked sausage from C&F. C&F disclosed the process to several Pizza Hut suppliers, entering into confidentiality agreements with them. Subsequently, Pizza Hut's other suppliers learned how to duplicate C&F's results and at that time Pizza Hut told C&F that it would not purchase any more sausage from it without drastic price reductions.

IBP was one of Pizza Hut's largest suppliers of meat products other than sausage. Pizza Hut furnished IBP with a specification and formulation of the sausage toppings and IBP signed a confidentiality agreement with Pizza Hut concerning this information. IBP also hired a former supervisor in C&F's sausage plant as its own production superintendent but fired this employee five months later after it had implemented its sausage making process and Pizza Hut was buying the precooked sausage from IBP.

C&F then brought suit against IBP and Pizza Hut for patent infringement and misappropriation of trade secrets and the court found, 1) on summary judgment that the patents of C&F were invalid because the inventions had been on sale more than one year before the filing date and 2) after trial that C&F possessed valuable and enforceable trade secrets, which were indeed misappropriated.

What a great example of trades secrets serving as a fall back position where the patents fail to provide any protection! Indeed a patent is a slender reed in light of the existence of three dozens of invalidity and unenforceability reasons and many other potential patent attrition factors, such as:

- doubtful patentability due to patent-defeating grounds;
- narrow claims granted by the PTO;
- "only about 5% of a large patent portfolio" having commercial value " (per Emmett Murtha, ex-IBM and former LES president);
- the average effective economic life of a patent being "only about five years (Emmett Murtha);
- enforcing patents being a daunting and expensive task;
- only very limited or no coverage in existence in foreign countries,

as well as others.

VI. Technology Licensing Dos and Don'ts

It will hardly come as news that we also have a new ball game in the field IP licensing and technology transfer. Years ago there was little or none of that. All product innovation had to be home-grown technology and the NIH (not invented here) factor played a big role. And, of course, there is often an innate reluctance to license because it is more lucrative by far to exploit IPRs by commercializing innovative products and processes than by licensing out. And there is the concern that licensing will set up competitors.

Dupont, Westinghouse and others until just a few years ago never licensed in nor licensed out. CIBA-GEIGY didn't do so. When they were developing a product and a patent issued to a third party that had priority so that they were not going to have a patent position, they just scuttled the project. They did not even bother to inquire about the availability of a license.

Nowadays even a simple, straight-forward plain-vanilla patent, know-how or trademark license is practically a thing of the past; instead, complex and sophisticated hybrid agreements, option/license agreements; joint venture, corporate partnering, co-promotion or co-marketing arrangements; strategic alliances and consortium licensing are the order of the day.

And there are other very significant developments and trends in licensing attitudes and practices, in IP valuation and royalty setting or other quid pro quo choices, such as, e.g. cross licenses. And we have an entirely different antitrust climate, as indicated at the outset.

Well, this new climate, this new respect for IP, and the higher value of IP, does lead to new or greater incentives for R&D and other innovative activities because you know you can protect your IP and patent your inventions and the patents are going to stand up. The patents are going to be more valuable and we know that the patent system is a tremendous incentive to R&D and investments. Incidentally, according to the late CAFC Judge Rich, the patent system provides four incentives, namely, to invent, to disclose, to "invent around" and to invest and it is the incentive to invest, which is the most important one. Conventional wisdom has it that the ratio of requisite investment in the three phases of product innovation from laboratory to market place, namely, invention, development

and commercialization is supposed to be of the order of 1:100:1000, and this would support the thesis of investment incentive.

And of course, licensing, technology transfers and investments are ever so much easier to carry out and accomplish via patents and other IPRs as vehicles or bases. Indeed, licensing is a very effective and civilized way of forming business relationships and transferring technology and by far preferable to infringement litigation, which is very much on the increase.

However, one attorney of a big New York law firm used to go around the country, giving talks at association meetings, particularly at meetings of the LES, on guess what topic? You won't believe this. It is "Patent Litigation and Trials: The Alternative to Licensing". Note he meant not just starting a lawsuit and then perhaps settling it but actually going through a knock-down, drag-out fight to the end in the courts. You have to understand he is with a big antitrust law firm whose business dried up when the Antitrust Division of the Justice Department went to sleep in the '80's. This forced antitrust lawyers to switch to IP litigation. And you thought licensing was the alternative to litigation because nobody wins in litigation except the lawyers, as they say.

This new climate has also lead to higher quid pro quos and royalties. Clearly the stakes have gone up. In fact, there has been a lot of hype and hoopla about value extraction from and monetization of patents. A dose of realism is therefore in order.

Contrary to common assumptions, it is not true that licensors can charge what the traffic will bear, licensors can recoup their R&D expenses, the cost of the development of a technology is a big factor, etc. Indeed, there is a limit to what a licensor can charge and most often it is the licensee's economics, not the licensor's, that controls the royalty determination. And isn't there a 25/75% rule? Isn't licensee entitled to the lion's share because of the greater risk he/she carries, especially with less-than-fully developed technology? And above all, when it comes to royalties less is more and greed never pays off. In my corporate experience, several agreements went South because the royalties were too high, the profitability was not there and the deals could not be sustained in the end. On several other occasions, agreements had to be renegotiated for lower royalties for the same reasons. In other words, they were not viable win/win license agreements to begin with.

Actually, the cost to licensor of the development of the technology is not a factor at all. The R& D costs of developing the technology are sunken expenses expended by the patentee/licensor whether or not it is licensed and, therefore, should not be considered in arriving at a suitable royalty. That is to say, the public's interest in buying a product is essentially unrelated to the cost of developing it.

Furthermore, we should not lose sight of Tom Arnold's "100 Factors Involved in Pricing the Technology License," tabulated and discussed in the *1988 Licensing Law Handbook.* This is a handy checklist, even though not all factors play a role in a given technology license. Among the most important and weighty factors are: a) the stage of development

of the subject technology (embryonic, early stage and untested v. tested and commercial); b) the strength of the IPRs (solid v. weak, easy to design around); c) the degree of exclusivity (exclusive v. non-exclusive) and d) the geographic scope.

And the fact that many operative clauses in a technology license have economic weight, as for example, grantbacks, payment structures and schedules, most-favored-licensee clauses, representations and warranties, etc. needs to be kept in mind, so that royalty setting is not the first task in licensing negotiations but the last one, one to be tackled only after all the terms have fallen into place.

Interestingly, in my experience a royalty-free license can also be much more beneficial and profitable in terms of goodwill and increased rate of purchasing of supplies and goods than exacting royalties under a patent license. At one point in my career at CIBA-GEIGY, I prepared over 20 royalty-free non-exclusive licenses to carpet manufacturers under patents I had obtained in the U.S. and Canada on an improved carpet tufting method. I did this with the expectation that these carpet manufacturers would buy more dyestuffs from CIBA-GEIGY.

Another telling example is the recent royalty-free licensing by Iridian Technologies. Iridian owns a broad patent and another two dozen patents on iris-recognition technology. They licensed them on a royalty-free basis, after deciding that the upside of software sales was greater than the downside of collecting royalties. Now they have already won contracts with Schiphol Airport and the UAE government and other big government contracts are expected. This case also shows that giving away valuable IP rights for free can be a savvy business move.

VII. Conclusion

In the U.S. we live in a "Golden Age" for IPRs in every respect. Abroad favorable developments are replacing earlier antipathy towards IPRs and international harmonization is advancing steadily towards a global patent system. In our knowledge-based high-tech era it is important as a matter of management policy and strategy to exploit the overlap between IP categories, especially between patents and trade secrets, for dual or multiple protection. Patents and trade secrets are not incompatible but dovetail: the former can protect patentable inventions and the latter, the volumes of collateral know-how resulting in synergistic integration and securing invulnerable exclusivity. Trade secret protection operates without delay and without undue cost against the world. And most technology licenses are hybrid licenses covering patents and trade secrets inasmuch as licenses under patents without access to collateral know-how are insufficient for commercial use of patented technology.

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ATTACHMENT

CREDOS • INSIGHTS • TRUISMS
on
Intellectual Property Rights and Technology Transfer

- The defense of intellectual property rights today is the new frontier as were the human rights yesterday.
- An effective IP system is indispensable to technological development which leads to economic growth and social welfare.
- An IP system should be part of a country's infrastructure from the outset rather than something that one thinks about after reaching a fairly advanced stage of development (Robert Sherwood).
- There are no viable alternatives to the present patent system which is the only system "that is compatible with the system of market economy" (Professor Carlos Fernandez-Novoa).
- There is solid correlation between the quantity of investments that can be attracted and the quality of the patent system (Professor Mansfield).
- Of the four incentives provided by a patent system, namely, to invent, to disclose, to "invent around" and to invest, the incentive to invest is the most important.
- An IP system does benefit nationals, not just foreign corporations; after all there is genius and creativity everywhere but they need nurture.
- A patent and other IP are property and are not and cannot be monopolies (a patent does not take from the public and give to the individual; on the contrary, it takes from the individual and gives to the public).
- "Everything under the sun made by man is patentable" (U.S. Supreme Court in the Chakrabarty decision); hence, there should virtually be no exclusions of subject matter from patentability.
- Subject matter that is viewed as too important to be protected (e.g. pharmaceuticals) is, on the contrary, "too important not to be protected" (Professor Thomas Field).
- Some countries have gold, some have oil — and some have technology and those that have gold and oil do not consider them part of the "common heritage of mankind" and accordingly give them away for free (Naboth Mvere, former Controller of IP, Zimbabwe).
- The duration of a patent should be no shorter than 20 years from filing and preferably 25 years or more or provide for patent term restoration to compensate for regulatory and other delays.
- Lead times for commercializing inventions have become longer in all areas and not just the pharmaceutical area and hence conventional periods of three or four years till lapsing or compulsory licensing and short patent terms are badly out of step with present realities.
- Patents and trade secrets are not mutually exclusive but complementary; they "dovetail" (U.S. Supreme Court in the Bonito Boats decision); thus, the question is not whether to patent or to padlock but rather what to patent and what to keep a trade secret and whether it is best to patent and to padlock, i.e. expoit the overlap.
- "Trade secret law and patent law have coexisted in this country for over one hundred years..... the extension of trade secret protection (even) to clearly patentable inventions does not conflict with the patent policy of disclosure." (U.S. Supreme Court in the Kewanee Oil decision).
- Multiple forms of protection can and should be utilized and integrated by exploiting the overlap between the various IP categories, especially in modern fields of technology; this provides fall-back positions, achieves synergistic effects and thus optimizes exclusivity (Professor Jay Dratler).
- Technology transfers, licensing and investments are ever so much easier to carry out and accomplish via patents and other IPRs as vehicles or bases.
- Importation of technology leads not only to export of products but also to export of adapted, improved technology (reverse technology transfer).
- The days when technology transferors took advantage of transferees (in developing countries) are gone, the realization having taken hold that the only viable license is one that results from a win/win approach and passes the fairness test.