

Spring/Summer 2006

A WilmerHale Publication

ipbusiness

MANAGING INTELLECTUAL PROPERTY AS A STRATEGIC ASSET



**HAVE
WE
LOST
OUR
WAY?**

Is the patent process strangling American innovation?

**IP in China: Is This the End of Piracy? • Are “Snippets” Fair Use?
Nanotechnology—and the Environment**

ADVERTISING MATERIAL

“There has been a **dramatic change in the legal treatment of patents**. It’s easier to get patents . . . there are many more of them out there. This has led to big changes in strategy at many companies.”

—**Carl Shapiro, Haas School of Business,
University of California/Berkeley**
from “Have We Lost Our Way?” page 4



“While most countries like the US have robust, **well-developed environmental regulatory systems**, many are questioning whether the existing statutes are sufficient to address the world of nanotechnology.”

—**Mark Kalpin, WilmerHale**
from “Nanotechnology and the Environment,” page 10

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Figuring It Out

How unprecedented and out of control is today's patent thicket, which critics claim drains both energy and money from the coffers of companies that would otherwise be sparking innovation (page 4)? It's not unprecedented at all, says Henry Wixon, a partner at WilmerHale. In fact, Wixon notes, anytime revolutionary changes occur, "the early patents generate broad claims, because the patent office doesn't have a good idea of what the art is . . . The system eventually figures it out." Though he and other observers advocate finding ways to cut abuse out of the current system, they caution against overreaction that might harm the "legitimate stakeholders."

One of those revolutionary changes is nanotechnology, which has brought us such advances as skidproof tires and photovoltaic house paint (page 10). Though nanotechnologies have been lauded as the new frontier, they've also sparked debate among regulators, who fear environmental and health hazards may be lurking in these tiny materials. Until the dust clears, however, the danger of overreaction may present more risk than the materials themselves.

Also evolving—and imitating patterns we've seen before—is China's approach to IP (page 12). "In the past," notes WilmerHale associate Naboth van den Broek, "China thrived on the violation of IP rights, which is similar to what we saw in India a couple years ago. But slowly, the Chinese, like India, are creating their own IP, and it is becoming important to them that it be protected." Watch out for the growing pains they'll face in the process.



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General Information on International Registration

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The State of China's Union: 2006

An annotated analysis examining the import and ramifications of this year's "Government Work Report" (China's State of the Union), the 11th Five Year Plan, highlights of the upcoming legislative calendar, and Premier Wen Jiabao's comments on Taiwan.

The Five Elements of Establishing Solid Nanotechnology Intellectual Property

"The rising number of nanotechnology patents . . . makes it challenging to obtain a defensible IP position," WilmerHale's Mary Rose Scozzafava noted recently in *Mass High Tech*, as she described five ways to build nano-focused IP portfolios.

Whither Nanotechnology?

Legal Issues Still in Play for This Emerging Field

"While there is significant activity in the creation of nanotechnology intellectual property," wrote WilmerHale's Peter Dichiaro and David Abrams in a recent issue of *Mass High Tech*, "it is unclear how IP stakeholders will use their intellectual property in the future." The authors help cut through the uncertainty.

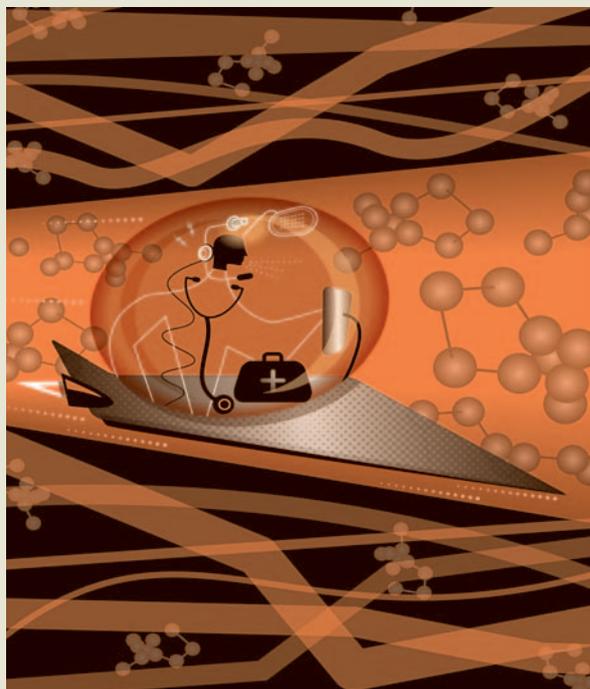
What Do **You** Think?

Should business method patents be treated differently in the courts than other patents?

YES

NO

To cast your vote—and to find out more about this and other critical issues—visit ipbusinessonline.com. Look for results appearing in the Fall/Winter 2006 issue of *IP Business*.



Visit: www.ipbusinessonline.com

Previously, in IP Business . . .

Whatever happened to harmonization? Patent reform? Updates on topics we've covered in earlier issues. By Peter Haapaniemi

Here, Gone and Back Again

When US patent reform legislation headed to congressional committee, it contained a provision allowing companies to oppose a granted patent within six months of being accused of infringing that patent (Fall/Winter 2005). However, that provision was soon deleted—and now, it's back, with the Patents Depend on Quality Act of 2006 announced in early April.



The provision is important to patent reform, because it recognizes the realities that companies often face, says WilmerHale partner Wendy Haller Verlander. "In many industries, it's almost impossible to track the patents issued to competitors with any accuracy—there are so many," she says. "With this provision, that's less of an issue; once somebody threatens you with a lawsuit, you can challenge the

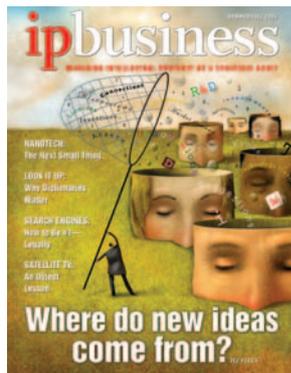
patent's validity in a forum that isn't full-blown litigation. This gives companies an effective alternative to lengthy, expensive patent court cases."

More Scrutiny for Generics

A year ago, brand-name drug companies found themselves under increasing pressure from generic drug companies (Fall/Winter 2005). Since then, says WilmerHale partner Hollie Baker, there have been a number of settlements. That has surprised many observers, who thought that FTC opposition would limit such deals—and "many people have been waiting for the other shoe to drop," Baker says.

That may have happened in late March, when the FTC announced that it would subpoena some 190 pharmaceutical companies to study whether competition is being stifled by "authorized generics"—drugs licensed by the brand-name company to a generic firm, which is then allowed to compete with other generic firms, even if those other firms are in the traditional 180-day marketing exclusivity period for that drug. "Apparently, the FTC thinks there may be a problem with some of the agreements we've seen," says Baker. The

FTC expects to wrap up its investigation next year.



Looking It Up

In 2004, the Court of Appeals for the Federal Circuit asked for briefs in *Phillips v. AWH*, a case that revolved around the use of dictionaries in interpreting patents, which was an issue of growing concern (Summer/Fall 2004). In mid-2005, the Federal Circuit overturned a previous judgment against Phillips. In a precedent-setting ruling, the court essentially said that the patent language and plain English usage and meanings should be used, rather than strict dictionary definitions—which can differ from source to source.

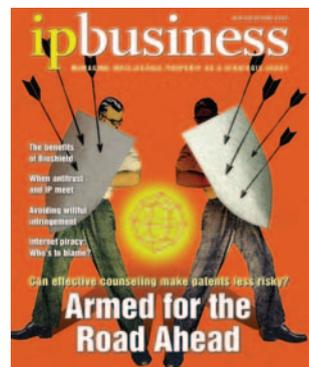
But that wasn't the end of the story. AWH appealed to the United States Supreme Court, which declined to hear the case in February. In March, inventor Edward Phillips was awarded \$1.85 million in dam-

ages after a Colorado jury decided that AWH had infringed his patents.

Gone, But Not Forgotten

Over the course of several years, an EU software directive, which backers hoped would bring unity to a patchwork of software-patenting rules across European jurisdiction, followed an up-and-down path. Once considered close to being adopted, the directive has been revised, turned into a high-profile political issue, and by the beginning of last year, shelved for further consideration (Winter/Spring 2005).

In July of 2005, the European Parliament apparently ended that journey by rejecting the directive by a vote of 648 to 14. Still, some hopeful backers are hoping current efforts around the EU-wide Community Patent will bring clarity to the issue.





**HAVE
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Critics claim that the patent process is out of control, costing companies unnecessary time and money and, in fact, strangling innovation. The question is, how do you cut through the thicket without harming the natural growth? **By Peter Haapaniemi**

There was a time, not so long ago, when a company developing a new product might have had to keep an eye out for a handful of related patents and be sure to either license the necessary technology or design around the existing patents. But those days are now but a memory.

Today, a company with a sophisticated new product may have to consider hundreds or even thousands of potentially relevant patents—and that patent landscape is only becoming more cluttered. The US Patent and Trademark Office (USPTO) now grants some 200,000 patents a year, compared to about 77,000 a year in 1985—and in February the office announced the granting of its 7 millionth patent.

Beyond growing volumes, the last two decades have seen significant qualitative differences in patents as well. “There has been a dramatic change in the legal treatment of patents, and this has led to big changes in strategy at many companies,” says Carl Shapiro, a professor of business strategy at the Haas School of Business at the University of California at Berkeley. “It’s easier to get patents, they are stronger in court and there are many more of them out there. So now you have a situation where there are these landmines sprinkled around that are hard to find, and it can be a very nasty surprise if you run into one.”

There is growing concern over this increasingly impenetrable “patent thicket” of complicated, vague and overlapping claims. Indeed, many observers are questioning whether the patent system has lost its way—and whether it needs to be overhauled. Such concerns have been voiced for years, but today the chorus is growing to include much of the legal community and businesses

both large and small. Politicians, too, are weighing in, with the proposed Patent Reform Act currently being considered by the US Congress. (See *IP Business*, Fall/Winter 2005, page 2, and “Update,” this issue, page 3.)

Patent reform is a complex issue, and not everyone agrees on the nature of the problem or how it should be addressed. However, as Shapiro says, “There is a consensus in academia and in industry that the system is out of balance and needs to be reformed.”

How We Got Here

The roots of that imbalance lie in a number of legal changes that have taken place over the years. “It’s a combination of things that were not thought out together,” says Adam Jaffe, an economist and dean of arts and sciences at Brandeis University. For example, the creation of a special patent appeals court in 1982 has reshaped the legal view of patents. “Some of the decisions of the court have made patents easier to enforce and have increased the economic significance of the remedies that firms can get when they do enforce patents,” Jaffe explains.

Observers also point to the court’s relaxation of the obviousness standard and the chronic under-funding of the USPTO, which together have resulted in “a flood of patents of dubious validity,” says Jaffe. Overall, he adds, “we’ve converted patents from pistols to bazookas and, at the same time made them much easier to get.”

The passage of the Bayh-Dole Act in 1980 also played a role,

Illustration by Cathleen Toelke

While concerns about the patent system have been voiced for years, **today the chorus includes** much of the legal community and businesses both large and small.

says Jorge Contreras, co-chair of the Internet, E-commerce and New Media Group at WilmerHale. “That allowed universities to start getting patents for federally funded research, and some universities have approached this aggressively,” he says. In essence, the law opened the door to “obtaining patents on what in the past may have been called basic research—things like ‘this gene causes this disease.’ Some say that’s a scientific discovery, like finding out that the earth is the third planet from the sun, and not a patentable invention,” Contreras says.

The increasingly dense patent thicket has led corporations to build up large patent portfolios in order to have more bargaining power if they are accused of infringement by another company—which of course only adds to the flood of patents. More troubling, this reality—coupled with the increased ease of enforcement and high infringement awards—has also led to the rise of

the well-publicized “patent troll” firms that buy up patents in order to get licensing revenue or infringement awards from large companies, rather than commercialization.

Companies in trouble are often following a similar strategy, says Berkeley’s Shapiro. “Sometimes, when a company is doing badly or is exiting the market, it decides that that’s the time to assert its patents against the companies that are more successful, because in the suit and countersuit, the weak company doesn’t have the revenues or products that are at risk,” he explains. With both the patent trolls and these troubled companies, it’s a case of “asymmetric warfare” because the challenging companies essentially have nothing to lose. “The system actually creates an incentive for companies with patents or companies that have failed in the market to assert their patents against successful companies,” he says.

Of course, companies can fight those challenges in court, but they often decide to forgo that right and simply settle. “Even if the patent is not strong, it can be risky for the defendant in that sort of infringement action,” says Shapiro. “Poor-quality patents are still scary if they are asserted against you because you never know what a jury is going to do and because patents are afforded some presumption of validity in court, so they’re relatively hard to overturn.” In other words, the burden of proof lies with the defendant—and even if a company wins, there is still the expense of litigation, which can easily top \$2 million.

Many observers say that the patent thicket is not just a problem for those companies, but for business and society as a whole because it tends to dampen research and innovation. “To the extent that there are a lot of patents being issued, it means more people may be frustrated in their ability to use technologies,” says Doug Melamed, co-chair of the Antitrust and Competition Department at WilmerHale. “The explosion in the number of patents, and the assembly of large patent portfolios by big technology firms, make it harder for new startups to innovate because they make it more likely that their innovations will appear to infringe somebody’s patent.”

“Instead of seeing patents as something that reduces uncertainty in the innovation process by protecting important developments, firms are seeing them as something that increases uncertainty,” says Brandeis’ Jaffe. “Whenever you launch a new prod-

History Repeats Itself I

1885: All Duly Patented

A justice of this court, while recently announcing an opinion overruling an application for a proposed highly important improvement in the method of lengthening and shortening the cords for hanging pictures, stated that he was then reading his notes from a patented paper-pad, written with a patented pencil, while the ink, pens, & c., pen-holder, and block of india-rubber before him all bore the marks of patentees. Several articles of his clothing were also patented, down to the hem of his garments, which were bound by strips of gutta-percha, duly patented; and these probably were but a small part of the articles in the room thus paying a duty to patentees.

Schillinger v. Cranford, 37 O.G. 1349, 1357 (D.C. Sup. 1885)

uct or process, you are never quite sure if there is someone out there who's going to sue you, and you have uncertain prospects as to whether you will be able to successfully defend yourself." As Jaffe recently wrote, "the role of patents in the US innovation system has changed from fuel for the engine to sand in the gears."

The Search for Solutions

There is only so much that a company can do to cope with the situation. Some amass large portfolios for defensive purposes or as a resource for forging cross-licensing agreements with other patent holders. In the electronics industry, "patent pools" have proven valuable in helping companies cut through the patent thicket. These pools combine patents from various organizations, make them available for use by any company, and allocate royalties among the patent holders. As a result, companies can build products without having to piece together a patchwork of licensing agreements.

"There are dozens of companies with patents that cover some aspect of the DVD standard, for example," says WilmerHale's Contreras. "To enable the industry to make DVDs and DVD players, these different patent holders have thrown their patents together into pools." Other industries are now looking at patent pools as well. "There are proposals for HIV and SARS vaccine pools, but they are still in the formative stages," Contreras says.

In the long run, any real thinning of the patent thicket is likely to require significant changes to the system. Various experts have proposed a wide range of solutions, but in the end, most point to the quality of patents as a key issue. There is, of course, no shortage of examples of patents that critics say fall short of being non-obvious innovations, from one-click online ordering to a method for taking restroom reservations (see sidebar, above). "Much of what the patent office sees as invention is merely science applied to a new field by equation or analogy," venture capitalist Greg Blonder recently wrote in *BusinessWeek*. When he worked at AT&T in the 1990s, "we took old microwave patents and filed identical claims on optical inventions, which are also radio waves, only 10,000 times smaller. We were able to do this even though it was obvious to anyone who ever picked up a physics textbook

Harder to Get, But Here to Stay?

In discussions of dubious patents, it doesn't take long for the topic to come around to patents for business methods—essentially, processes and techniques for accomplishing tasks. For many people, applications for patents on things like using a laser pointer to play with a cat or swinging a tennis racket have made business method patents a symbol of deep problems with the US patent system.

In fact, business methods have come under increased scrutiny from the US patent office, with the number of examiners focused on them rising from 17 in 1999 to 116 in 2004. In addition, the patent office has instituted a "second pair of eyes" process that automatically reviews such patents. "They are still issuing business method patents, but it's tougher to get them," says Irah Donner, a partner in WilmerHale's Intellectual Property Department. After peaking at 899 in 2000, the number of granted business method patents has declined steadily to 283 in 2004. "The allowance rate is now about 11 percent, compared to the overall allowance rate on patents of about 65 percent," says Donner.

But a number of such claims are actually faring well in the courts. "There have been a lot of cases where business method patent owners have been winning—much to the surprise of people who never thought they would be upheld," Donner says.

That surprise may be unwarranted, some observers say, because the real issue is patent quality, regardless of whether the innovation is a business method or a hard technology. "The scope of things that are truly patentable in the business methods area may be relatively narrow, because it's supposed to be a real invention," says Brandeis University's Adam Jaffe. "But if someone really does invent a new way of doing business, then they should be entitled to a patent. The cases that people point to as demonstrating the silliness of patents on business methods only demonstrate the silliness of some of the patents that have been granted. They don't demonstrate the silliness of the concept." —P.H.



that once you have the ability to make things smaller, the physics just translates over."

Patents of dubious quality lead to confusion and uncertainty and tend to open the door to abuse. On the other hand, says Jaffe, "if good quality patents were being issued, we wouldn't care who tries to enforce them—whether it's a troll or somebody else—because they would be valid patents."

How, then, can the system be changed to improve patent quality? For starters, the IP community needs to understand the fundamental challenge, says Henry Wixon, vice chair of the Intellectual Property Department at WilmerHale. "The rate at which the technology advances outstrips the rate at which the

New Patent Rules Pending

While patent reform legislation works its way through Congress, the US Patent and Trademark Office (USPTO) is considering some significant changes of its own.

For example, patent applications can be quite complex, and thus time-consuming to process. A biotech application may include hundreds of claims, while even a relatively straightforward electromechanical application can easily have 20 or 30. The USPTO wants a new rule to limit the number of independent claims per application to just 10. To go beyond that, inventors would have to research and fully describe the prior art and why the additional claims should be granted over it. "A lot of people won't want to do that, because that could seriously limit your position in any future litigation," says WilmerHale partner Wendy Haller Verlander.

At the same time, the USPTO also hopes to limit continuations. Today, when a patent is rejected, the inventor can file a continuation—basically picking up where they left off and, sometimes, adding new information to the application.

"You can file continuations *ad infinitum*," says Verlander. "The problem is, that leads to submarine patents, where the patent that has been in process all that time is suddenly allowed to issue after someone else has developed and commercialized the technology," she adds. "The patent holder ends up collecting the royalties after someone else has created the market."

Under the new rules, there will be just one continuation allowed. At that point, inventors can either give up or go to the Board of Patent Appeals and Interferences. The likely outcome will be more appeals, and Verlander is part of an expert group at WilmerHale focused on helping companies work their way through that process. In addition, companies will need to be more thorough in preparing applications in the first place. Instead of working iteratively through an unlimited continuation process, says Verlander, "you will want to present your best arguments quickly and strongly. If something is not in the record, you may end up waiving the right to appeal that issue."

This means extra work up front, of course. But in the long run, says Verlander, "the hope is that the overall process will be quicker and more effective, and will lead to better patents." —P.H.

law and the patent office can keep up," he says. "This has always been true, but the problem is exacerbated today because of the speed of those advances."

With that in mind, many observers suggest that more resources be put into the USPTO so that it can hire and educate more examiners. The office has indeed brought more examiners on board and raised application fees. Recently, it also proposed new guidelines requiring applicants to identify the most important claims for their invention in an effort to reduce busywork. In fiscal year 2004, the office reports, more than 40 percent of new applications had 20 or more claims for examiners to sort through, and about one-third of the 355,000 new patent applications had already been reviewed and rejected, and then resubmitted with mostly minor changes. As the office notes: "These practices waste the limited time examiners have to review an application and prevent examiners from focusing on the most important issues in an application."

Most observers agree that bolstering patent office resources is important, but that there is a growing sense that more fundamental legal change is also in order. "The law needs to be clarified to raise the standard for patenting in terms of what is obvious, and what is not," says Berkeley's Shapiro. Over the years, the Federal Circuit has tended to lower the bar on meeting that standard, he explains, and federal legislation that clearly defines what can be patented is probably required to bring more certainty to the rules. (However, the non-obviousness issue is not addressed in the pending Patent Reform Act.)

At the same time, many experts are focusing on the patenting process itself. "The whole model of examination that we rely on is now obsolete," says Brandeis' Jaffe. "There's too much information out there and the world is changing too fast to expect that an examiner sitting in Washington, no matter how well paid he or she is or how much time he or she has to work on each application, will catch everything." What's needed, Jaffe and many others say, is a better way to involve businesses and researchers—those who operate on the front lines of innovation and who naturally have a wealth of insight into which inventions really represent something new.

Proponents of that approach recommend instituting a post-grant review that would allow companies to ask the patent office to re-examine newly granted patents and not only provide relevant information, but also actively participate in presenting their side of the case. "It would be an administrative proceeding at the patent office, rather than a proceeding in federal court, and the hope would be that that could be a more expedi-



The increasingly **dense patent thicket** has led corporations to build up large patent portfolios in order to have more bargaining power should they be **accused of infringement**.

tious way to resolve disputes,” Jaffe says.

This review process would recognize a basic reality: The patent office simply can't be right all the time. “When the patent office does make mistakes or miss prior art, the issue can be nipped in the bud quickly, rather than three or five years later after a lengthy court proceeding,” says Shapiro. It would also let the system focus on the most critical patents, rather than be overwhelmed by the hundreds of thousands of patents approved by the office annually—the vast majority of which are of no real financial or societal value. “The procedure would attract the interest of companies to patents that are commercially important as well as the ones that are more likely to have been issued in error,” Shapiro says.

Pending US patent reform legislation includes a call for such a post-grant review, but Shapiro goes a step further and suggests that a government agency be put in charge of reviewing granted patents. “There are private groups out there that are trying to bust up bad patents, but I think there is a public interest in invalidating patents that were issued in error,” he explains. “Therefore, doesn't it make sense to put some public resources into that? So you could task another federal agency—the Federal Trade Commission, for example—with the job of receiving complaints, reviewing them, and urging the patent office to reconsider certain things.”

Maintaining Perspective

These kinds of changes are not likely to happen overnight. There is a growing consensus on the broad issues, but the details of how to eliminate the patent thicket are still the subject of debate that is likely to continue for some time. And that may not be all bad, says WilmerHale's Wixon, because the IP community needs to keep the issue in perspective. “We could have been asking these same questions about the patent system 150 years ago, and there would have been people saying, ‘Yes, everything is out of hand, we should do away with it.’ And it will ever be thus,” he says.

Many of the complaints against the system are real, Wixon continues, but some of today's problems are just part of the natural evolution of intellectual property. When truly revolutionary

History Repeats Itself II

1810: The Abuse of a Privilege

“It is true that many novelties attempted to be introduced are improvements, and sometimes patents are solicited for new inventions as old as the day of Tubal Cain. But the abuse of a privilege is no argument against the privilege itself, and due care in the regulation of the patent office, and caution used not to grant patents for pseudo inventions and pretended discoveries will generally prevent any deceit of that kind from being palmed on the public.”

—From *Thomas G. Fessenden, “An Essay on the Law of Patents for New Inventions xxxvi” (1810)*

changes occur, “early patents generate broad claims, because the patent office doesn't have a good idea of what the art is—and besides, if it really is a pioneering step, it probably deserves to have broad coverage,” Wixon says. “As an industry grows up around a new technology, companies get hit with those broad claims and they don't like it. But the system eventually figures it out, the level of skill in the art goes up, and the kinds of patents that one can get naturally get narrower. Then, later, there is another big paradigm shift because of some big technology change, and you go through that same cycle again.”

Ultimately, says Wixon, reform efforts need to find ways to cut through the patent thicket without reducing protection for real innovation. “A lot of companies that invest in research and bring new products to market see patents as extremely important to their business model,” he says. “So we need to address the abuse and the abusers, without harming the legitimate stakeholders.”

FAQ: Nanotechnology— and the Environment

For many companies, nanotechnologies are the new frontier. But new frontiers are often fraught with danger. Regulatory groups are now studying the environmental and health hazards that some of these materials may pose. By Aaron Dalton

Using nanotechnologies, inventors have created and manipulated materials that are so small that they are measured in billionths of a meter and so unique that they often behave in completely new ways—offering the promise of products that range from photovoltaic house paint to skid-proof nano-coated tires. Yet the very uniqueness of nanomaterials has regulators scrambling to understand the issues, assess the hazards and devise appropriate standards and practices. How can nanotechnology players plan their moves in a game where the rules are still evolving? *IP Business* asked experts how they expect events to play out and what steps companies can take right now.

Q. Why are regulators so uncertain about how to deal with nanotechnology? How does this uncertainty affect businesses and investors in the nanotechnology sector?

Some nanotechnology applications involve entirely new substances. Other nanomaterials incorporate known substances, but apply them in a different manner than they have ever been used before. As a result, no one is really sure whether particular nanomaterials could have a negative effect on the workers who manufacture them, the consumers who use them or the environment at

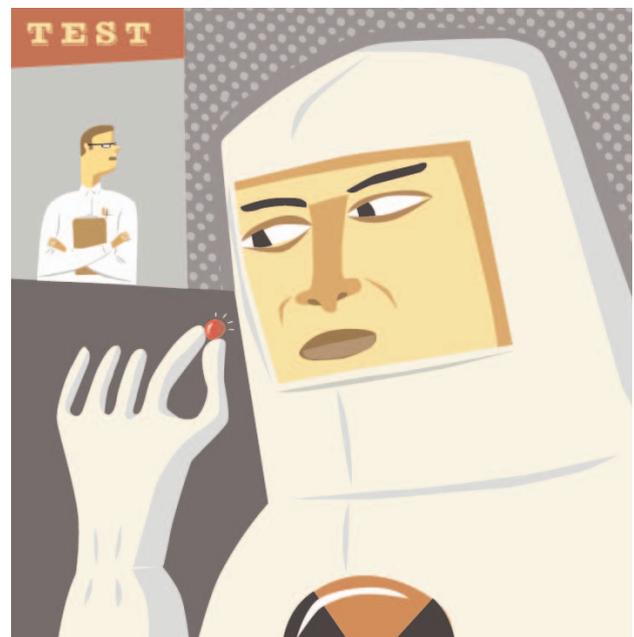
large. “This scientific uncertainty creates regulatory uncertainty as well,” says Mark Kalpin, a partner in the Environmental Department and co-chair of the Energy Group at WilmerHale. “While most countries like the US have robust, well-developed environmental regulatory systems, many are questioning whether the existing statutes and regulations are sufficient to address the world of nanotechnology.” Unfortunately, this scientific and regulatory uncertainty can lead to business uncertainty when companies working or investing in nanotechnology worry about

whether future government regulation will prohibit or restrict their products.

Q. Which organizations are writing the rules on nanotechnology environmental and health regulation?

While no one is writing new nanotechnology-specific rules today, governments are assessing the need for them—and developing policy and informal “rules of decision” as new

nanotechnology products come on the scene. In addition, there are several national and international organizations that have begun working to set voluntary standards and best practices for nanotechnology industries. For example, ASTM International and the International Standards Organization (ISO) have begun parallel efforts to set voluntary consensus standards around terminology; measurement methods; and environ-



mental, health and safety practices. At the international level, the 30 member countries in the Organization for Economic Cooperation and Development (OECD) are taking up the nanotechnology topic in the context of their work on chemical regulation. And a number of ad hoc committees, which comprise companies with large interests in nanotechnology and, in some cases, governments, academics and public interest organizations, have begun taking an active role by seeking to develop their own best practice models.

Q. What makes the environmental and regulatory debate over nanotechnology an IP issue? What are the risks and opportunities for nanotechnology companies and investors?

Companies developing products based on nanotechnology patents or investors seeking to place bets in the nanotechnology sectors need to keep abreast of international regulation efforts and remember that in a global market, the US is not the sole driver of environmental and consumer protection regulation. “There is a very real potential that some companies will face the problem of developing nanotechnology products that are compatible with US standards but inconsistent with existing and emerging regulations in the EU, China or Japan,” warns Kalpin. “If you are not on top of these regulatory developments, you could spend substantial resources and time

developing a nanotechnology product only to find out there is no market for it because it can’t get over these emerging regulatory hurdles.” Of course, an uncertain market also brings opportunities. New assessment models and testing methods are being developed. Companies that can anticipate how these regulations will develop and position themselves accordingly will find exciting market opportunities.

Q. Some observers have cited a risk that the debate over nanotechnology could mirror the debate over Genetically Modified Organisms (GMOs), where opponents of the science essentially dominated the discussion. Is this a real danger, and how can interested parties prevent a GMO repeat scenario?

The nanotechnology debate is fundamentally different because even concerned public interest organizations can see the huge potential societal benefits of nanotechnologies, says James Votaw, counsel in the Environmental Department of WilmerHale and a member of the firm’s interdisciplinary Nanotechnology Practice Group. “Nanotechnologies present some short-term uncertainties but have the potential for enormous long-term benefits,” says Votaw, citing one potential application that could turn a coat of paint into a solar cell, reducing the need for fossil-fueled power plants. “Whether through energy-saving or energy-generating tech-



nologies, nanotechnology has the potential to transform the environmental impact of a manufacturing society, so it is in the interests of environmental organizations not to stop the commercialization of nanotechnologies, but rather to make sure they are developed responsibly. Industry has the same interest.” In place of the adversarial climate that characterized the GMO debate, nanotechnology companies and public interest organizations are working together to find common ground on nanotechnology questions. For example, the nonprofit organization Environmental Defense has partnered with DuPont to try to minimize any nanotechnology risks. There seems to be a consensus that nanotechnology won’t be and shouldn’t be stopped. The question is how it will go forward.

Q. What steps can companies and investors take to shape the debate and protect their investment?

Get involved in the environmental regulatory and standards debate and make sure it stays on a reasoned level. Kalpin encourages companies already operating in the nano-

technology sphere to implement best practices for handling nanomaterials in order to minimize or eliminate worker exposure and environmental emissions. Companies also need to consider consumer exposure. Such steps can show concerned parties and regulators that industry respects and shares their concerns and knows how to work with nanomaterials responsibly.

Q. How will nanotechnology regulation likely play out over the next few years?

While some in industry, as well as those in certain policy and advocacy groups, have called for immediate regulation of “Nanotechnology,” Votaw says it is far too soon to think about new regulations; the EPA and its global equivalents are still trying to determine how to define the subset of materials that they’re concerned about and how to assess and rank those materials for potential hazards. In the short term, new regulation is likely to be modifications of policy and regulatory interpretation as regulators begin to apply existing rules to nanoscale materials. Policymakers do not want to unduly restrict these technologies and undercut potential benefits in fields from medicine to environmental remediation. As regulators work to understand and quantify potential risks, they may seek voluntary commitments to manage workplace exposure or encourage certain kinds of applications to mitigate risk.

ILLUSTRATIONS BY JON FLAMING

A New, Improved China

Facing the ire—and reduced investment—of foreign companies tired of pervasive piracy and lax enforcement, and seeking to protect its own, home-grown intellectual property, China is finally beginning to take IP seriously. When it comes to legislation, this isn't all good news.

By Robin Mordfin

“Ninety percent of the software sold and used in China in 2004 was pirated,” says Robert Holleyman, president and CEO of the Business Software Alliance (BSA) an international policy and education organization that represents software manufacturers. A survey of 450 members of the American Chamber of Commerce in the People’s Republic of China shows that piracy is so pervasive that 35 percent of respondents to a members’ poll said they have been forced to slow, decrease or consider decreasing investment in the country. And the Quality Brands Protection Committee, whose membership is made up of some 130 multinational corporations, representing more than \$40 billion of investment in China, estimates losses of 10 to 15 percent in annual sales for many member companies due to patent theft and copyright piracy.

Clearly, intellectual property theft is a huge concern for manufacturers and sellers in China, and for many companies, it has reached a critical point. “Piracy, particularly of easily replicable items like software and even of more complex products like pharmaceuticals is very common in China,” explains Lester Ross, a partner in WilmerHale’s Beijing office. “Trademark infringement and other IP violations are very common, and enforcement efforts are insufficient.” Many companies from Starbucks, which had its logo and name used illegally by the Shinghai Xingbake Coffee Co. Ltd., to Cisco, which found its name gracing illegally

produced network equipment, have had to take drastic steps to protect both their products and their names.

But there are signs that the situation is beginning to change. Companies working in China are learning how to protect themselves, while the Chinese government is working to create more IP safeguards. There is obvious motivation on both sides. “Over the years, we’ve heard a lot of companies say that [IP theft] is one concern that makes them wary of China,” says Grace Chen, a corporate lawyer in WilmerHale’s Beijing office. “But recently, the enticement of China’s enormous market has been difficult for any major player to pass up.”

China, too, has a lot at stake, with nearly \$100 billion in foreign direct investment, according to the US-China Business Council. Moreover, as the Chinese create more of their own IP, they are finding themselves keenly interested in creating a system that protects it.

Proceeding with Caution

This is not to say that China’s IP issues have not cost it business. Jeremie Waterman, US Chamber of Commerce director for East Asia and Pacific Affairs, notes that many companies with cutting-edge technology and advanced manufacturing methods have held back investments in China to protect their property.

China has made some efforts to assuage foreign concerns. As part of its



membership negotiations for entry into the World Trade Organization in 2001, for example, China agreed to implement the Trade-Related Aspects of Intellectual Property Rights Agreement. TRIPS requires members to comply with minimum standards for the protection of IP rights and to treat foreign companies no less favorably than domestic ones.

However, while China's IP laws and regulations underwent a comprehensive overhaul in 2000 and 2001 so they would comply with TRIPS, Chen points out that, "today's problems do not relate to TRIPS compliance, but rather to problems with implementation, particularly with respect to enforcement. The majori-

ty of instances go unpunished, and if penalties are imposed, these are usually so minimal that they do not provide any deterrent effect, but are merely viewed as a 'cost of doing business.' Although the law does provide for criminal liability in egregious cases pursuant to TRIPS, the thresholds are either too high or so difficult to establish that it is virtually meaningless, in most instances."

Weak Criminal Penalties

At present China does not effectively impose criminal penalties for IP violations in either foreign or domestic cases, and this shortcoming, suggests BSA's

Holleyman, may well be its undoing. "Criminal enforcement is key, and it is missing from the arsenal," he adds. "It needs to be supplemented with appropriate civil and administrative procedures to create deterrents. Right now that is virtually nonexistent." This was evident in late 2004 when Disney discovered counterfeit copies of its products carrying the Disney trademark for sale at the Beijing Dini Magic Culture Distribution Co. Ltd. While at Disney's request, the Beijing Haidian Administration for Industry and Commerce (AIC) did declare this trademark infringement, the fine the AIC imposed—RMB 50,000 (US\$ 6,053)—was all but negligible.

ILLUSTRATION BY LOU BEACH

Although companies have said that **IP theft** makes them “wary of **investing in China**, the enticement of China’s enormous market has been difficult for any major player **to pass up.**”

Beyond ineffective fines, however, experts agree that it is the rarity of criminal penalties for infringement that leads to importation and customs issues. “My impression is that China doesn’t take [IP rights] all that seriously,” says Douglas Melamed, co-chair of the Antitrust and Competition Department at WilmerHale. “They are not willing to bring their own proceedings against companies that are

not properly licensed to manufacture. The goods are sent to the US, and the concern becomes how effective is customs at picking up counterfeit items?”

Of course, some companies are taking action in the US to prevent the importation and manufacture of such patent-infringing items. In 2002 Philips Electronics filed a case with the US

International Trade Commission (ITC) to prevent unlicensed CD-R and CD-RW discs manufactured by Philco and Gigastorage, two Chinese companies, from entering the US. Earlier, Philips had provided other manufacturers in China with a pool of patents that allowed them to produce the discs legally in return for paying royalties to Philips. The pool contained patents that were directly and indirectly related to the manufacture of the discs. In March 2004, the ITC ruled that the patents were unenforceable because the distribution of the patent pool was patent misuse.

However, in September 2005, the United States Court of Appeals for the Federal Circuit reversed that decision and held that the use of a patent pool is not patent misuse and that Philips was owed royalties for the illegally produced discs.

Beyond its general IP significance, this decision was important for its ruling on patent pools. Melamed, who led the team of WilmerHale lawyers that represented Philips, explains that this case ultimately allows pools to be used for technology transfers by foreign companies to manufacturers in China.



The EU: Working Bilaterally

In order to focus attention on intellectual property rights enforcement legislation, the European Commission Directorate General for Trade issued the Strategy for the Enforcement of Intellectual Property Rights in Third World Countries in 2005.

Fundamentally, the EU is trying to make it easier for European companies to go to the European Commission or to their national governments and get them to help enforce IP rights abroad. “The EU will try to work bilaterally with the offending nation, but also offers mechanisms for companies to bring complaints that may eventually lead to WTO dispute settlement cases,” Naboth van den Broek, a European lawyer in WilmerHale’s Brussels and Washington, DC, offices, explains. “The commission is also more actively looking for violations, or at least actively keeping its eyes open. They may address violations, even if there isn’t a domestic business that has formally complained.”

The steps the Commission is taking include:

- Ensuring that the EU will consult with other trading partners to review the TRIPS Agreement and amend many of its shortcomings, including its IP rights enforcement issues
- Committing to include IP rights protection dialogue in political dialogue with EU and non-EU nations
- Extending technical assistance to countries identified as priorities in the fight for intellectual property rights
- Making ex officio use of the WTO dispute settlement agreement in case of non-compliance with mutually accepted standards of IP protection

The Downside of Chinese Legislation

Some noteworthy changes are in the works in China as well. For more than a decade, Chinese officials have been working with EU and US trade and antitrust experts to create antimonopoly legislation, and many experts feel that the National People’s Congress will finally pass the legislation this year or next. As William Kolasky, co-chair of the Antitrust and Competition Department at WilmerHale,

explains, “The antimonopoly legislation is a positive development because it should help deter cartel activity by local businesses and open up access to local markets for foreign companies.”

Although the new legislation should help promote more open competitive markets generally, there are several anti-monopoly provisions in the law that are worrisome to foreign companies with interests in China. “In dealing with dominant firms,” Kolasky says, “the law adopts a very expansive definition of dominant—meaning any company that has 50 percent or more of the market in a particular area. Additionally, any three firms that have a 70 percent share of a market can be collectively dominant.” This, he says, “could allow the law to be used to regulate the prices of firms with large market shares in particular markets and could also force companies to grant access to their intellectual property if the competition authority concluded that it was an ‘essential facility.’” Such government interference can, he says, lead to distortions that reduce efficiency and raise prices, harming both the companies that are regulated and the consumers who purchase their products.

The Chinese government is also considering legislation on technology standards that could, some believe, ultimately force compulsory licensing of IP. “Many American companies are concerned that this could have a huge impact on their intellectual property rights,” Kolasky says. “The concern here is when a company doesn’t want to license its patents and wants to manufacture its product itself. If the government forces the company to license, this could reduce the incentive to innovate because the rewards might not be there. That isn’t good for foreign companies—or for the Chinese.”

In the face of these changes, there are precautions that companies can take to protect their IP and their profits. “While it is certainly very possible that companies will elect not to bring their cutting-edge

technology to China, few, if any, have decided to forego China altogether,” Chen says. “Instead, companies are taking steps to protect themselves, by conducting rigorous due diligence, particularly in the selection of partners. They are disclosing IP selectively, using audit and compliance checks and putting mechanisms in place to protect trade secrets, for example, by restricting physical and data access.”

On the Home Front

China’s own internal IP battles augur well, experts say, for IP reform. For several years, the government has been running intellectual property courts. “More than 95 percent of the cases are Chinese companies suing other Chinese companies,” notes Nicholas Lardy, a senior fellow at the International Institute of Economy.

Similarly, there are signs that as the Chinese create more home-grown IP, they are more and more interested in protecting it. “In the past, China thrived on the violation of IP rights, which is similar to what we saw in India a couple of years ago,” says Naboth van den Broek, a WilmerHale associate in the firm’s Brussels and Washington, DC, offices. “But slowly, the Chinese, like India, are creating their own IP, and it is becoming important to them that it be protected.”

Moreover, China has promised to take significant steps toward improving its IP policies as part of its work with the US-China Joint Committee on Commerce and Trade. Last July, China agreed to work toward increased criminal prosecutions, reduced exports of infringing goods and enhanced cooperation among law enforcement authorities.

While all of this suggests the situation is improving, most observers agree that until the Chinese legal system allows all companies operating in China to feel that their ideas are protected, businesses must continue to proceed with extreme caution.

CHINA’S LABOR LAW:

Reducing the Power of the Non-Compete

Non-compete agreements are a key element in IP protection. But China’s new Labor Contracts Law, if it is enacted as written, could both narrow the duration and also increase the enforcement cost of non-compete clauses.

Under the new law, non-compete clauses would be permitted but the maximum term would be reduced to two years, which is less than under current law, and the restriction would be geographically limited. Worldwide non-compete clauses may prove to be particularly problematic.

Furthermore, non-compete clauses would lose much of their strength. Under the new law, an employee who breaches a non-compete clause would bear liability to the employer, but this liability would be capped at just three times the amount that the employer paid for the non-compete restriction.

“Non-compete clauses would lose much of their deterrent effect,” Lester Ross, a partner in WilmerHale’s Beijing office, notes, “and this would discourage foreign multinationals from transferring technology to their China operations or from investing in the training of their Chinese employees.”



Pursuing Legitimacy— And Infringers

By Jeffrey A. Heilman

Ice Wine or Bitter Fruit? Ferments of the BlackBerry Fight

Despite the frost of a four-year patent infringement litigation over its BlackBerry mobile messaging device, Canadian-based Research in Motion Ltd. (RIM) clung tenaciously to the vine, countering its patent-holding foe, Virginia-based NTP Inc., at every turn. WilmerHale partner Tom Olson considers the implications of the case's recent \$612.5 million settlement:

"NTP's ability to extract money from RIM depended on RIM's continued financial health," says Olson, adding that, "the larger significance of this case is how patents can be acquired as speculative investments and then prosecuted. Entrepreneurs, and not just inventors or brick-and-mortar businesses, are buying patents, and VC firms are stepping up to the plate to help them do so. NTP's success is likely to encourage more of this."

P2P File-Sharing Goes Mainstream

Entrepreneurs are also gravitating toward the peer-to-peer (P2P) file-sharing orbit, but with more respect for fair play and cooperation. Last June, the Supreme Court resolved the debate over illegal Internet music and movie file swapping, holding that file-sharing companies Grokster and StreamCast, by promoting use of their software, could be sued for inducing copy-



right infringement. Consequently, "contributory infringement" is now a concern for businesses involved in the digital recording or transmission of copyrighted material, even under the fair use doctrine.

While they got their satisfaction, the suit's entertainment industry plaintiffs are not averse to file-sharing as a conduit to customers—if bad actors change their tune. Millions used BitTorrent, for example, to download pirated movies, but last November, the software's creator, in a deal with the Motion Picture Association of America, agreed to de-link movies from his website. "Here you have a Grokster-successor joining forces with the copyright holders," says Olson, "and helping to combat piracy." As Grokster now pursues legitimacy via a fee-based service and the entertainment industry still pursues infringers, the theme for entrepreneurs is to go for handshakes and not five-fingered discounts.

Back Issues in the Virtual Library

Copyright infringement is also an issue in Yahoo and Google's independent efforts to transform the world's books and library collections into searchable online content. The promise of the projects—which include the voluminous libraries of Harvard and Oxford universities, the New York Public Library and other partners—is revolutionary. Heralding an ultimate knowledge repository, proponents say that increased exposure will drive print sales, lost and obscure books will be found, and publishers will find a limitless audience.

Not so fast, say the Authors Guild and the Association of American Publishers, who sued Google for infringement in its full-text digitizing of in-copyright books. Google is claiming fair use, saying that search queries only yield "snippets" of a book's information. Publishers argue that there is an existing marketplace for the right to show "snippets," illustrated by Amazon's "Search Inside" feature, which is offered only with the publisher's consent.

In association with the Open Content Alliance, a global collaborative of organizations building a permanent digital archive of multilingual, multimedia content, Yahoo is proceeding more conservatively, limiting its digitization to public domain books. Google argues, however, that the world will be a better place if people anywhere and everywhere can find and access content of personal interest.

ILLUSTRATION BY DAVID MILGRIM

“Over the years, we’ve heard a lot of companies say that [IP theft] . . . makes them wary of China. But recently, the enticement of **China’s enormous market** has been difficult for any major player to pass up.”

—Grace Chen, WilmerHale
from “A New, Improved China,” page 12



“The larger significance of [the BlackBerry] case is how patents can be acquired as **speculative investments** and then prosecuted. Entrepreneurs . . . are buying patents, and VC firms are [helping] them do so.”

—Tom Olson, WilmerHale
from “Pursuing Legitimacy—and Infringers,” page 16