

les Nouvelles

JOURNAL OF THE LICENSING EXECUTIVES SOCIETY INTERNATIONAL

Volume XLI No.4



December 2006

Important Issues For Today

Bayh-Dole: Don't Turn Back The Clock

BIRCH BAYH — Page 215

Swords Into Plowshares: How Tech Transfer (unless we mess it up) Can Help Change The World

JOSEPH ALLEN — Page 219

Patent Trolls: A Stereotype Causes A Backlash Against Patents And Licensing

JOHN C. PAUL, D. BRIAN KACEDON, MICHAEL V. O'SHAUGNESSY— Page 224

U.S./Canadian Licensing In 2005: Survey Results

RICHARD RAZGAITIS — Page 233

Idea Management System (IMS): An Innovation System To Create Value From Concepts

RASHID KHAN & MOHAMMED AL-ANSARI — Page 246

The Global Patent Value Matrix: Making Global Patent Strategy Decisions

WILLIAM A. BARRETT & CHRISTOPHER H. PRICE — Page 253

Rembrandts In The Attic, Toys In The Attic, Or Clowns In A Volkswagen?

DANIEL I. JAMISON — Page 261

Value and Quality Based Patent Portfolio Management

DIETER F. REINHARDT & ALEXANDER J. WURZER — Page 266

Licensing to Promote Global Health Partnerships

TARI SUPRAPTO — Page 274

Recent Risks To And Precautions Available To Patent Licensees In China If The Licensor Is Bankrupted

JIANG XUNMING & ZHU XUEZHONG — Page 281

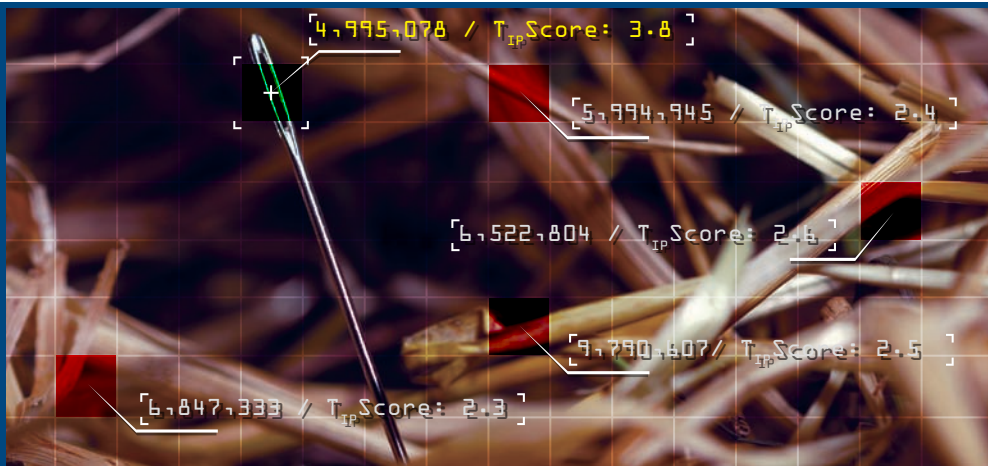
Patents As Assets And Liabilities: Patents Can Serve Various Purposes

FRANCIS HAGEL — Page 286

CFI Opens The Door To Justifying Restrictions On Parallel Trade Glaxo Wellcome v. Commission

ALEC BURNSIDE — Page 290

The **standard** for assessing the **quality** of **patent** assets.



T_{IP} Scores for the Ocean Tomo Fall 2006 IP Auction were downloaded from www.taeus.com at an amazing rate, and there's no doubt the ratings impacted the auction.

One observer proclaimed, "TAEUS supplies a standard similar in concept to Moody's®, which provides an objective rating analysis on commercial securities."

For more information on the **T_{IP} Score** and our current inventory of patent reviews, visit:

www.TAEUS.com

TAEUS International Corporation
+1.719.632.8441 | info@taeus.com

TAEUS helps its clients make money from their intellectual property. We have analyzed more than 50,000 patents from some of the world's largest portfolios. We use our engineering perspective and innovative business approaches to help you unlock the full potential of your intellectual assets.

portfolio mining	patent evaluation
infringement analysis	licensing support
prior art searches	expert witnesses
technical audits	patent repositioning

T | A | E | U | S
Engineering Intellectual Property

Moody's is a registered trademark of Moody's Investors Service



Officers

President	Ronald Grudziecki
President-Elect	Chikao Fukuda
Past-President	Peter Chrocziel
Vice-President	Ernesto Cavelier-Franco
Vice-President	Stephen Powell
Vice-President	Alan Lewis
Secretary	Adam Liberman
Treasurer	D. Patrick O'Reilly
Counsel	Alan H. Gordon
Counsel	Philipp Dreier

les Nouvelles Editorial Review Board

Chair: Rodney DeBoos, Melbourne, Australia
 Jeremy Brown, London, England, UK
 Brian G. Brunsvold, Washington, D.C., U.S.A.
 Clarisse Escorel, Rio de Janeiro, Brazil
 Heinz Goddar, Munich, Germany
 Gloria Isla del Campos, Mexico City, Mexico
 Norm Jacobs, Lexington, Massachusetts, U.S.A.
 Masato Kobayashi, Tokyo, Japan
 John Ramsay, Calgary, Alberta, Canada
 Thomas Ryder, Allentown, Pennsylvania, U.S.A.

Larry Plonsker, Editor

10580 Northgreen Dr., Lake Worth, FL 33467
 Tel: +1-561-432-8814 E-mail: editor@lesi.org

Carla J. Blackman, Design Interface Inc.
 Design & Production

les Nouvelles

Volume XLI Number 4
 (ISSN 0270-174X)

les Nouvelles is published quarterly by the Licensing Executives Society International (LESI). LESI is an association of 31 National and Regional Societies, each composed of individual members who are engaged in the profession of licensing and other aspects of transferring or profiting from intellectual property. Subscription to the journal is included in the membership dues paid by all members. Subscription for the print publication is available to non-members for US\$250/year. Please contact the Editor for further details.

The articles published in *les Nouvelles* reflect the views of the authors and not of the Society as an association or its officers. Material printed in the journal is covered by copyright. No parts of this publication may be reproduced, displayed or transmitted in any form, without prior permission from the Editor or Board of LESI.

A peer review and evaluation system is used to maintain the scholarly nature of the material published in this journal. All articles submitted for publication are reviewed and evaluated by members of the Editorial Review Board (ERB). The ERB members are chosen for their expertise in the fields of licensing and intellectual property. All evaluations are reviewed in a double-blind fashion to remove any bias in the results. The final decision on publication rests with the editor.

A guideline for authors can be found on our web site at the following address: www.lesi.org/lesnouvelles/advertise.asp#submission

Copyright ©2006 Licensing Executives Society International.

DEADLINES FOR LES NOUVELLES: Copy for publication in the blue pages of *les Nouvelles* should be received by the Editor-in-Chief as far as possible in advance of the final deadlines, **February 1, May 1, August 1 and November 1**. Articles for the white pages are reviewed by the LES Editorial Review Board, and they are published as soon as possible after acceptance. All materials are to be submitted electronically in either MS Word or Text Only format.

Delegates

Andean Community Cecilia Falconi Perez	Germany Christian Appelt Ingo Brueckner Peter Hess Christian Klawitter Jochen Schäfer	Singapore Wilson Wong Alex Yu
Arab Countries Beesan Babieh Nabil Salamé	Hungary Adam Szentpeteri Andras Weichinger	South Africa Stephan J. Lamprecht Johan Du Preez
Argentina Fernando Noetinger Gustavo Giay	India Rani Boazz	Spain & Portugal Antonio Távira Gonzalo de Ulloa
Australia & New Zealand Dianne Beer Rob McInnes Simon Rowell Karen Sinclair	Israel Ramel Bar-Josef Henry Einav	Switzerland Felix Grether Philipp Dreier Regula Altman-Jöhl
Austria Günter Kahler Rainer Kraft	Italy Roberto Prato Rinaldo Plebani Luigi Saglietti	USA & Canada Weston Anson Allen R. Baum Walter G. Copan E.B. (Ted) Cross Michael J. Dansky Thomas J. Filarski Paul B. Germeraad Robert Goldscheider Alan H. Gordon Michael Lasinski Michael A. Lechter Russell E. Levine James E. Malackowski Michael J. Martin Kenneth D. McKay Peggy Moizel Gary M. Nath Ada C. Nielsen Arthur M. Nutter Dwight C. Olson D. Patrick O'Reilly François Painchaud John C. Paul Ernest G. Posner Paul A. Roberts Arthur S. Rose James R. Sobieraj
Benelux Kevin Nachtrab Allen Norris Lex van Wijk	Japan Masashi Kurose Ichiro Nakatomi Kenichi Nakano Kiyohide Okamoto Masao Takayanagi	
Brazil Raul Hey Juliana Viegas	Korea Sun Ryung Kim Kwan Ho Shinn	
Britain & Ireland Nigel Jones Christi Michell Fiona Nicolson Stephen Powell Martin Sandford	Malaysia Wendy Lam	
China Yvonne Chua Shaojie Chi Wei Shao	Mexico Oscar M. Becerril Gloria G. Isla Del Campo	
Chinese Taipei Paul Liu Andy Sun	Philippines Patricia A.O. Bunye Rogello Nicandro	
Croatia Nina Cavlina Zeljko Topic	Poland Malgorzata Grabowska Anna Szafruga	
Czech Republic Jana Kuhnlova	Russia Sergey Dorofeev Svetlana Makeeva	
France Frédéric Caillaud Cecile Dupas Claire Jolibois Arnaud Michel	Scandinavia Arne Alnaes Goran Bergqvist Jonas Guilleksson Leif Nielsen	

Society Officers

Chapter	President	Secretary
Andean Community	Helena CAMARGO	Carolina VENEGAS
Arab Countries	Talal ABU-GHAZALEH	Nabil SALAMÉ
Argentina	Fernando NOETINGER	Miguel O'FARRELL
Australia & New Zealand	Robert McINNES	Mark HORSBURGH
Austria	Alexander CIZEK	Nicola BUCHER
Benelux	Lex VAN WIJK	Nigel WAGSTAFF
Brazil	Clarisse ESCOREL	Jose Carlo VAZ E DIAS
Britain & Ireland	Martin SANDFORD	John ROE
China	Zhang WEI	Shaojie CHI
Chinese Taipei	Paul LIU	David W. SU
Croatia	Nives POVRZENIC	Irena TRGOVCEVIC
Czech Republic	Karin PAMAIZLOVA	Zdenek MRAZEK
France	Frédéric CAILLAUD	Claire JOLIBOIS
Germany	Gunter ISENBRUCK	Christian KLAUITTER
Hungary	Michael LANTOS	Katalin DERZSI
India	S. RAMKRISHNA	Nilesh KAPADIA
Israel	Shlomo COHEN	Henry EINAV
Italy	Mario E. TRAVERSO	Michel JOLICOEUR
Japan	Kiyohide OKAMOTO	Sadaji SUGIYAMA
Korea	Kwan Ho SHINN	Sun Ryun KIM
Malaysia	John CHONG	Janet TOH
Mexico	Abraham ALEGRIA	Carlos TRUJILLO
Philippines	Patricia A. O. BUNYE	Leslie Anne T. CRUZ
Poland	Rafal WITEK	Anna SZAFRUGA
Russia	Natalia KARPOVA	Sergey DOROFEEV
Scandinavia	Leif NIELSEN	Per ERICSSON
Singapore	Alex YU	Edward TAY
South Africa	Stephan LAMBRECHT	Karel BRENDENKAMP
Spain & Portugal	Angel Ruiz RUIZ	Antonio TAVIRA MONTES-JOVELLAR
Switzerland	Felix GREETHER	Ralph SCHLOSSER
USA & Canada	Allen BAUM	Thomas J. FILARSKI

Licensing And Intellectual Property Organizations Meetings

For more information on LES or LESI Meetings call
+1-703-836-3106 or go to www.lesi.org

2007

January 31

Shalloway Graduate Student Licensing Competition

Deadline for entries

February 21-23

LES (USA & Canada) Winter Meeting

Palace Hotel
San Francisco, CA

March 8-10

AUTM Annual Meeting

San Francisco Marriott
San Francisco, CA

March 14

Licensing Foundation Day

Willard Hotel
Washington, D.C.

March 15-17

LES ANZ Annual Conference

Sofitel Gold Coast
Queensland, Australia

May 16-18

LES Spring Meeting

Grand Hyatt - Buckhead
Atlanta, GA

June 16-17

LESI International Delegates & Committee Meetings

Zurich, Switzerland

June 17-20

LES International Annual Conference

Zurich, Switzerland

September 2-4

LES Scandinavia Annual Meeting

Aalesund, Norway

October 14-18

LES (USA & Canada) Annual Meeting

Vancouver Convention Centre
PanPacific Hotel & Fairmont
Waterfront Hotel
Vancouver, Canada

October 19-20

LES International Delegates & Committee Meetings

Vancouver, Canada

2008

Feb. 28- March 1

AUTM Annual Meeting

San Diego Marriott
Hotel & Marina
San Diego, CA

May 3-7

LES Spring Meeting & LES International Conference

Sheraton Chicago Hotel
Chicago, IL

October 19-23

LES (USA & Canada) Annual Meeting

Gaylord Palms Resort &
Convention Center
Orlando, FL

2009

October 18-22

LES (USA & Canada) Annual Meeting

San Francisco Marriott
San Francisco, CA

International Past-Presidents

1974 J. Gay	1985 M. Ariga	1996 J. Brown
1975 M. Finnegan	1986 L. Mackey	1997 S. Layton Jr.
1976 B. Hedberg	1987 P. Hug	1998 R. DeBoos
1977 M. Okano	1988 D. Ryan	1999 P. Mandros
1978 D. Smith	1989 K. Payne	2000 H. Goddar
1979 J. Gaudin	1990 J. Portier	2001 E. Shalloway
1980 J. Stonier	1991 F. Noetinger	2002 T. Sueur
1981 S. Heijn	1992 A. Mifune	2003 M. Jager
1982 W. Poms	1993 L. Evans	2004 J. Gulliksson
1983 H. Hodding	1994 O. Axster	2005 W. Manfroy
1984 F. Pombo	1995 N. Jacobs	2006 P. Chrocziel

LESI Operating Committees

	Chairs & Co-Chairs	Vice-Chairs
Audit	Alan Lewis	
Awards	Thierry Sueur	
Communications	Paul Liu Arthur M. Nutter	
Education	Ada Nielsen	
Endowment	Mel Jager Nabil Salamé	
External Relations	Cecile Dupas	
Investment	Antonio Tavira	
IP Maintenance	Fiona Nicolson	
Legal	Philipp Dreier Alan Gordon	
Long-Range Planning	Peter Chrocziel Paul Germeraad	
Meetings	Patricia A.O. Bunye Peter Hess Peggy Moizel	
Membership	Jim Malackowski	
Nominating	Peter Chrocziel	Chikao Fukuda Jonas Gulliksson Ronald Grudziecki Melvin Jager
Task Force 1-SME	Norman A. Jacobs	

LESI Operating Working Groups

	Chairs	Vice-Chairs
Americas	John C. Paul	Catherine Jelinek
Automotive	Volker Plogmann Pierre Gendraud	
Chemicals, Energy, Environmental	Yorikatsu Hohokabe Andreas Winkler	Mohammed Al-Ansari Anthony Venturino
Copyright Licensing	Abraham Alegria Lucianuo Daffarra Arthur S. Rose	
Dispute Resolution	Clarisse Escorel James Sobieraj	
European	Per Ericsson Jean Christophe Troussel	
Industry/University Transactions	Walter G. Copan	
IT & E-Commerce	Alfred Chaouat Kei Konishi	
Life Sciences	Kevin Nachtrab Tetsushi Inada	
Pan-Asian	Masashi Kurose	
Patent & Technology Licensing	Russell E. Levine	
Trademark & Character Licensing	Benny Browne Marco Venturello	

Bayh-Dole: Don't Turn Back The Clock

By Senator Birch Bayh*

Speech of Birch Bayh at the Licensing Executives Society 2006 Annual Meeting, New York, New York Tuesday, September 12, 2006

After a quarter century of what by most objective standards has been an exceptional success, the Bayh-Dole law is under increasing attack today. Most of the attacks have come from individuals who have little experience with the comprehensive nature of how the law is implemented. They do not know what Bayh-Dole does and does not do, and why certain features were incorporated into the law. Equally important, these nay-sayers have no appreciation for the factors that motivated our efforts to develop this legislation in the first place. Most unfortunate of all, these modern-day experts in technology transfer apparently do not understand the basic factors upon which our nation's free enterprise system is based.

Bayh-Dole didn't just happen. Although both of these Senators provided leadership, let me emphasize that our success depended upon countless individuals who had a working knowledge of university research, patent law and basic economic motivators.

Permit me to give you a behind the scenes view of the genesis of Bayh-Dole. This is important because the better we understand the process which led to this law, the better we are able to deal with today's critics. First, a basic premise on which we, as Americans, have relied.

Historically, American economic success has depended upon our ability to develop creative and innovative minds whose ideas serve as the catalyst for business and industry. Free and open competition has resulted in generation after generation of increasingly sophisticated technology. With this innovation came new products followed by more and better paying jobs, increased family incomes and opportunities for home ownership. We had problems, but we were the envy of the rest of the world.

Unfortunately, we had begun to take our quality of life and our economic dominance for granted. By the early 1970's, America began to lose its technological advantage:

- We had lost our number one competitive position in steel and auto production. In a number of industries we weren't even no. 2.
- The number of U.S. patents issued each year had declined steadily since 1971.
- From 1973-1978, the number of patents granted to non-citizens had increased 35%.

- Investment in research and development over the previous 10 years had been dormant.
- American productivity was growing at a much slower rate than that of our free world competitors.
- Small businesses, which had compiled a very impressive record in technological innovation and which had provided most of the new jobs, were receiving a smaller percentage of Federal research and development money.
- The number of patentable inventions made under federally supported research had been in a steady decline.

The bottom line of these alarming economic indicators was that the United States was losing its technological edge. Frankly, the problem was so enormous and complex I doubted if there was anything I could do. It seemed hopeless and I assume that most of my colleagues shared my frustration. I felt like Moses in the wilderness and doubted if the "Man upstairs" would send down a lightening bolt.

The first step out of the wilderness began with a call to my office in the summer of 1978 from Ralph Davis, head of technology transfer at Purdue University. Like Indiana and many other universities, Purdue was making cutting edge discoveries from research funded by federal dollars. But Ralph said that the Government's policy that prohibited universities from owning these patents and leasing them to businesses killed the incentives necessary for innovative companies to fully develop these new ideas. If a company couldn't own the patent, it would not invest in developing it.

I asked Joe Allen, one of my legislative staffers, to check this out. He discovered that although the U.S. government owned approximately 28,000 patents, less than 4 percent were licensed to industry. The others were gathering dust at the Patent and Trademark Office. All those new ideas were gathering dust. The taxpayers

**Birch Bayh is a former Senator from Indiana who co-authored the Bayh-Dole Act, which revitalized the nations patent system and helped create the biotechnology industry by spawning a whole generation of scientist-entrepreneurs. Currently, Senator Bayh is a partner in the Washington, D.C. law firm of Venable LLP. E-mail: bbayh@venable.com*

were getting nothing.

Next, Joe and I met in my office with Ralph Davis and two of his associates, Howard Bremer, Director of the University of Wisconsin Alumnae Research Foundation, and Norman Latker, Patent Counsel at HEW. The collective vision of these three individuals was critical to our success. After hours of thinking through the problem, our meeting resulted in the drafting of legislation designed specifically to take advantage of the innovation found on campuses and the entrepreneurial skills of small businesses. I asked Bob Dole, the Senator from Kansas, to join in and the battle began. While Bob and I didn't always see eye to eye, we did agree that the United States could no longer afford to waste billions of dollars on university and small business research with no return on the investment.

The legislation was straight forward and easy to understand. Universities and small businesses would retain ownership of the ideas they developed through government funded research. They could license such patented ideas to industry at large for commercialization and would receive royalties. The inventors, usually professors, also received a share of the royalties if they assisted in developing the patent to market.

The Bayh-Dole bill was introduced and the legislative journey began. It was far from a cake walk. As could be expected, there were several hurdles in our way.

First, Senator Russell Long, Chairman of the powerful Senate Finance Committee, told Joe Allen, "This is the worst bill I've ever seen." Senator Long believed if the taxpayers funded any of the research, the government should have total ownership of the ideas produced. He believed he was protecting the taxpayer. But the Long theory ignored the fact that many of the resulting inventions were at a very embryonic stage of development. They required substantial expenditures before they actually became a product or applied system of benefit to the public.

Senator Long was one of the most influential members in the Senate. Among 100 equals, Russell Long was more equal than the others. He was a good friend and I had hoped to get his support. But, he'd made up his mind, he was protecting the taxpayers. The task of getting Bayh-Dole would be uphill all the way.

The second hurdle was Admiral Hyman Rickover, father of the nuclear navy. He called me at home one evening and came straight to the point. "Senator, that patent bill of yours threatens to destroy the nuclear navy. You must withdraw it immediately." He demanded to testify, and echoed Senator Long's opposition.

"In my opinion, government contractors—including many small businesses and universities—should not be given title to inventions developed at government expense...These inventions are paid for by the public

and therefore should be available for any citizen to use or not as he sees fit.

"I was able to develop nuclear power systems for the navy without having had to give up property rights."

Bayh-Dole provides that the Navy and other governmental entities will have first call on patents developed by government research if they are needed. In addition, it should be understood that the nuclear navy was developed by utilizing tax dollars in its development. Private investment was not necessary for development. More to the point, the Rickover logic ignores the fundamental economics of bringing an idea or product to market from the private sector. It is estimated that for every dollar's worth of academic research which leads to a patent, it requires \$10 to \$10,000 (sometimes close to \$1 million) of private capital to develop it and bring it to market. Far from getting a free lunch, companies that license ideas from universities often wind up paying over 99 percent of the innovation's final cost, without which the idea would have no value.

Nevertheless, there they stood, Senator Long and Admiral Rickover. A long tough battle would follow.

We were able to overcome such formidable opposition by relying on our allies on the campuses across the country and by developing strong support among the small business community nationwide. We organized task forces composed of individuals from both groups (universities and small businesses) and directed them to talk to their individual Senators and Congressmen. They did just that. Don't let anyone tell you that determined individuals can't make a difference.

To illustrate the power of this combination of citizens, I remember one afternoon when I was at my desk on the Senate floor, and an excitable Joe Allen came bounding up to report some good news. "Senator, we just got two more sponsors. Senators Kennedy and Thurmond just signed on."

Well, getting Ted Kennedy and Strom Thurmond to agree on anything was an achievement, but I couldn't help but kid Joe by asking, "Joe, are you sure this bill makes sense?" Bayh-Dole passed the Senate by the vote of 91 to 4. Those dedicated individuals had made a difference.

The Bayh-Dole bill moved to the House of Representatives. Rep. Bob Kastenmeier of Wisconsin was Chairman of the House Judiciary Subcommittee with jurisdiction over patents and trademarks. Congressman Kastenmeier was sponsoring a Carter Administration bill which was a more traditional measure for patent law reform. Our team went to work and through Howard Bremer's efforts, individuals at the University of Wisconsin explained to Rep. Kastenmeier the benefits to be derived from Bayh-Dole. In addition they pointed out to the Congressman the positive impact Bayh-Dole could

have in his district. In a matter of days, we agreed to join Congressman Kastenmeier's legislation and Bayh-Dole in one package which quickly passed the House and was sent back to the Senate for its concurrence. Congressman Kastenmeier's leadership was crucial to our success. Once again, a few individuals made a difference.

This was not the end of the story. 1980 was an election year. With Members anxious to go home and campaign, Congress recessed, planning to come back after the election for a lame duck session to take up the Budget Bill and certain other bills. Bayh-Dole was one of those. The Senate needed to agree to changes made to the bill in the House.

When Congress reconvened for the lame-duck session, as a result of the Ronald Reagan landslide, 12 Democratic Senators had been replaced by Republicans. The people of Indiana had said, "Bayh, stop making law and start practicing it." On January 3, I would be out of a job.

But, Bayh-Dole was paramount on my mind. The lame-duck session would be short, with only a few days for us to finish our task. What would Senator Long do? Our campus and small business allies had been communicating with their Senators, but Senator Long had put a hold on our bill. If he persisted, the rules of the Senate would enable him to stop us.

While we were wondering, on the last day of the 1980 session, Senator Long's legislative director cornered Joe Allen on the Senate floor and asked, "Does Senator Bayh really want that crazy patent bill?" Joe's answer was an emphatic yes.

Later that afternoon, I got a phone call from my friend, Russell Long. After commiserating with me at length over the outcome of the election, he paused and said, "Oh, by the way, Birch, take the vote on that damn patent bill. You've earned it. We'll miss you in the Senate." Click.

Now, fast forward 25 plus years. Here are what some of the critics are saying. I purposefully omit any attribution to avoid embarrassing the authors of such short-sighted and ill-founded criticism.

1. Universities and their researchers should not be entitled to financial reward because they are not manufacturing anything. Response: This suggests that the ideas (that is, the intellectual property) has no value. This is as ridiculous as suggesting that the manufacturing process has no value. Bayh-Dole recognizes that the idea alone has no value. It is designed to create the incentive for entrepreneurs to invest in the idea and provide the development capital necessary to create a valuable product out of the idea. The marriage of intellectual property and its developmental partner is the basis of Bayh-Dole's success.

2. Bayh-Dole creates the incentive for universities and researchers to ignore their search for knowledge and to be motivated like "crack addicts" driven by "small minded tech transfer offices" addicted to patent royalties. Response: Wow! Such conclusions can only come from those who have no familiarity with the dedication of our universities and their faculties to spread knowledge and have no understanding whatsoever of what motivates those who devote their lives to science and the educational process.

I well remember the testimony of Dr. Leland Clark, of the Children's Hospital Research Foundation. Dr. Clark's obsession was finding practical solutions to improve the lives of the children and adults facing cancer and serious burns. Here's what he told the Senate Judiciary Committee in strongly endorsing the Bayh-Dole bill and describing the mindset of researchers and the role of the few who also became inventors:

"The point is, as part of the mental process which leads to an invention, the inventor often envisions possibilities for application which are not immediately evident to others. The inventor's personal persistence and confidence is often the deciding factor which carries the idea forward and prevents the invention from being set aside or ignored."

3. Researchers/inventors should not share in the royalties granted universities for licensing the product of their research. Response: Bayh-Dole specifically requires a university to reach an agreement with its researcher/inventor so that he or she would continue to assist in the development of the idea until it reached the public. Prior to Bayh-Dole, the researcher/inventor would patent the invention, write a paper for publication in a reputable publication, and return to his laboratory for more research. The idea gathered dust; the public suffered. In addition, Bayh-Dole says to the inventor, "Write your paper, receive recognition among your peers, follow your idea until it is developed so that individuals and society benefit from it."

4. Industry alliances are tainting university research away from basic toward applied research. Response: A National Science Foundation study found no evidence of such a shift.

5. Bayh-Dole has adversely impacted the publication of scientific papers by academia. Response: The U.S. remains by far the leading source of science and engineering publications.

6. Here's the real zinger. There should be no exclusive licenses. They should be made available to all. This criticism is heard repeatedly. Response: Without protection, business and industry will not expend (risk) the large amount of capital necessary to get an idea to the marketplace. It was this same philosophy that resulted in the 28,000 patents drawing dust that Joe

Allen discovered in the PTO in 1978. This sounds so simple, so equitable. The taxpayer pays for the research and makes the results available to everyone. Yet to follow this course of action would turn back the clock of history. It reminds me of the admonition given to us long ago by noted philosopher and historian George Santayana who said, "Those who fail to learn from history are doomed to repeat it." Will we never learn? Or, as another noted philosopher Yogi Berra observed, will we have "déjà vu all over again?"

There are other criticisms of Bay-Dole, equally lacking in merit. They constitute a relatively small clique who, by repeatedly using one another as an authority, appear to represent a large segment of learned opinion in the U.S. This is not the case.

Enough attention to the criticism, after 25 years a successful law should have produced tangible results. Here's what *The Economist* had to say in 2002:

"Possibly the most inspired piece of legislation to be enacted in America over the past half century was the Bayh-Dole Act of 1980...More than anything, this single policy measure helped to reverse America's precipitous slide into industrial irrelevance..."

"The Bayh-Dole Act did two big things at a stroke. It transferred ownership of an invention or discovery from the government agency that had helped pay for it to the academic institution that had carried out the actual research. And it ensured that the researchers got a piece of the action.

"Overnight, universities across America became hotbeds of innovation, as entrepreneurial professors took their inventions (and graduate students) off campus to set up companies on their own."

Let's review some statistics from the most recent Association of University Technology Manager's survey. Under the provisions of Bayh-Dole:

- 137 non-profit institutions introduced 567 new commercial products through their licensing agreements in FY 2004.
- 185 institutions have introduced 3,114 new products through licensing since 1998.
- 16,871 invention disclosures were reported, up 8.8% over the previous year (about 250 university inventions were disclosed in 1980, the year prior to Bayh-Dole).
- In 2004, 462 new companies were formed, based on academic research (an increase of 23.5% over the previous year).
- 67.8% of university licenses went to small businesses.

But these are just statistics. Consider the new products benefiting not just the United States, but

the world: Cisplatin Citracal, a new treatment for Crohn's disease; recombinant DNA technologies; the nicotine patch; better monitoring of diabetes patients; techniques to reduce infant respiratory deaths; 3-dimensional surgery technologies; new crops; and even the Google search engine all sprang from university research. There are many others.

So here is my challenge to the members of LES who know much more than I will ever know about this very sophisticated area. Where are we? The hard fact is that we are in danger of losing the larger philosophical war unless we explain to policy-makers and the general public why protecting intellectual property is important not only economically, but also ethically. Also, we need to understand that hidden in some of the attacks on Bayh-Dole is a veiled assault on our country's patent system.

Our patent system and Bayh-Dole provide incentives and rewards for successful risk-taking. We should be proud of this and bold in its defense. We shirk this responsibility at great risk.

Look at the hard fact: We have allowed our critics to dominate the public forum for too long, thinking that the fallacies of their arguments are transparent. This is a dangerous assumption and one that if left unchecked will undo us. This can happen literally overnight. Legislation in the form of "patent reform" is pending in Congress at this very moment. If it should pass, it would do irreparable harm to our economic growth and our ability to provide sophisticated solutions to the problems which face our society.

We hope that someone else will step into the breach since most normal people do not enjoy conflict, particularly when their integrity and motives may well be attacked. But, to my friends of LES, unless we pick up the gauntlet, no one else will. We cannot remain complacent. This is true of us as individuals and true of the United States of America. We must remember how Edward Gibbons concluded his great volume, *The Decline and Fall of the Roman Empire*: "All that is human must retrograde if it does not advance. Nations, like individuals, are either moving forward in life or moving backward. We are never standing still. The ethical creation of wealth is the real challenge facing the world today."

Previously I have tried to convey the impact that a few dedicated citizens can have on our country's legislative process. If Ralph Davis, Howard Bremer, Norm Latker, and Joe Allen can harness the effort which provided us with Bayh-Dole, certainly those of us who are faced with basically the same challenge a generation later should be willing to stand up and be counted today!

Let me repeat, if we don't do it, who will? ■

Swords Into Plowshares:

How Tech Transfer (Unless We Mess It Up) Can Help Change The World

"Social prosperity means man happy, the citizen free, the nation great."

Victor Hugo in Les Miserables

*By Joseph Allen**

There is a pressing need for our profession to speak up on what we are about. A little reflection shows that what we are really doing is fostering international economic development. And what could be more important in the current world situation?

We need to take this larger view. Broad based economic growth is intricately linked with political freedom. Political freedom fosters stable international relations. Stable international relations promote wealth creation. And so the cycle grows.

The economy of the 21st Century will be driven by tapping the creativity of the human mind, the greatest unlimited natural resource in the world. And what's the key for unlocking this treasure? A strong, dependable intellectual property system.

Too often, we neglect explaining this connection to policy makers. We are seeing this foundation increasingly under attack. This may soon come back to bite us. We must rise to its defense. The stakes are enormous.

As President Abraham Lincoln aptly stated, without a patent system "any man might instantly use what another had invented; so that the inventor had no special advantage from his own invention. The patent system changed this; secured to the inventor, for a limited time, the exclusive use of his invention and thereby added the fuel of interest to the fire of genius, in the discovery and production of new and useful things."

Recently, I accompanied my former boss, Senator Birch Bayh, to the Licensing Executives Society (LES) meeting in New York City on the 5th anniversary of 9/11. Looking around the room as Senator Bayh was speaking; the geographic, ethnic and even religious diversity of the LES audience was remarkable. People were there from all over the world. When he finished, Senator Bayh was asked to meet with a delegation from South America that was hoping to better integrate intellectual property into their region's economic growth.

It was comforting that in the very shadow of the terrible events of that other September day, here

were people from every region of the world building important international partnerships rather than retreating into shells of isolation and fear.

The impressive growth of LES cannot be attributed simply to the importance of licensing, but a much bigger phenomenon. The world economy has never been more interconnected. The public and private sectors are intertwined as never before. In the U.S., new tools such as biotechnology and nanotechnology are direct results of government funding of research. The human genome project never could have been accomplished wholly by the private sector. The rest of the world is now building on our model for capitalizing economically on such opportunities relying on the foundation of the Bayh-Dole Act of 1980 that opened a new era of public-private sector cooperation in the transfer of new technologies from universities to industry.

This system relies on bottom up incentives rather than top down directives. But the underpinning is the intellectual property system that made this country economically strong.

While international business and science are forming strong connections, politically much of the world is becoming increasingly dangerous. This upheaval comes from regions that are alienated from the global economy, where small cliques control the wealth, where prospects for personal success are limited and the foundations of traditional societies are rapidly eroding.

**Joseph Allen was the key staffer for then Senator Birch Bayh in securing the passage of the Bayh-dole Act. He has served in many important positions at the Department of Commerce and the NTTC. He is currently Vice-President and General Manager for the IP Management Group of the West Virginia High Technology Consortium Foundation, in Wheeling, West Virginia.
E-mail: jallen@wvhtf.org*

South American economist Hernando De Soto's groundbreaking book, *The Mystery of Capital*, forcefully demonstrates that the fundamental weakness of perennially under-developed countries is the inability of their citizens to establish clear ownership of their property, both physical and intellectual. Without the incentive of ownership, wealth creation is not possible.

Increasingly, the wealth of nations is directly tied to providing incentives and encouragement to those who take risks with their time and resources to push forward the frontiers of science and technology, turning research concepts into useful products. Only then can the public be truly benefited.

So what's the larger message for the technology management profession? It's time we stop talking only about the intricacies of licensing. We are in danger of losing the larger philosophical war unless we explain to policy makers and the public why protecting intellectual property is important to society in general.

We have allowed our critics to dominate the public forum for too long, thinking that the fallacies of their arguments are transparent. This is a dangerous assumption and one that if left unchecked will undo us. This can happen literally overnight.

Too often, successful innovators are portrayed as exploiting the public once they achieve success after years of unrecognized effort. Some critics sincerely believe that important discoveries would be more readily available and inexpensive if only others could freely copy them.

They seem to believe that inventors will continue producing important technologies whether we reward them or not. Unfortunately, since the press and public lacks a fundamental understanding of the innovation process, these charges find ready acceptance.

While certainly not intended, this philosophy is right out of George Orwell's brilliant book, *Animal Farm*, where the horses were supposed to keep working while the pigs decided who would benefit from their labor. It didn't work well for the animals (particularly the horses—they started dropping dead) and it won't work any better for a society.

Part of the problem is that once an entrepreneur solves a problem, it does indeed look easy. Our charge is explaining that this perception is false and dangerous. Innovation is risky, expensive and daunting to those leading the way. Failure is much more likely than success. The genius of the intellectual property system is that it encourages those

who move our society forward for the betterment of all. Successful entrepreneurs create wealth not just for themselves, but literally all around them. For an economy like ours that is driven by small innovative companies, exclusive rights to core intellectual properties is their one key advantage over larger established companies.

Thomas Edison's dictum, that invention is one percent inspiration and 99 percent perspiration, is as true today as when he helped light the world. It took Edison more than one thousand experiments to get the right filament to light his bulb. Others had the idea, but either could not or would not do the hard work needed to turn an idea into a product.

It might be argued that once Edison hit upon the solution, others could have made the product cheaper. They did not have one thousand failed attempts to pay for, so their costs of production were much lower. Such an approach would kill progress, but we need to go the next step and explain why.

The odds against any one discovery making a substantial amount of money in the marketplace are daunting. Of course, when the "one in a thousand" invention does hit the jackpot, it must also cover the costs of all its brothers and sisters that began the research and development cycle, but failed to survive. Additionally the "creative self destruction" of the competitive marketplace insures that successful technologies are quickly challenged by even newer rival products. Thus, the time to recoup investments can be limited.

It is for good reason that those braving the system are called "entrepreneurs." Webster's dictionary defines the term this way: *one who organizes, manages and assumes the risks of a business or enterprise*. The assumption of the risk is the operative part of the definition. This is not a profession for the timid.

It is not an accident that entrepreneurship and individual freedom are linked. Both are essential for leading the world into new eras of prosperity. This is the true ethical high ground. We should not easily yield it.

Growth driven by entrepreneurs expands political as well as economic freedom across national boundaries. Technology driven economies create R&D partnerships, many of which are multi-national. Such alliances help build stable international relations. The necessary catalyst is an effective technology transfer system.

The basics of technology licensing are worth reflecting on from this larger perspective. For example, those involved in licensing tend to work well to-

gether personally and professionally, because for a licensing deal to be successful it must be a win for both parties, based on a code of professional ethics. Even less grandly, it's just good business to maintain these relationships because they are likely to be the very ones needed later to complete the next deal.

Technology transfer can only succeed when a society honors contracts and has a fundamental respect for the rule of law. It thrives in free enterprise economies encouraging personal risk and reward, the essential ingredients for building an entrepreneurial culture. With the rapid increase in science and technology, command and control economies are less and less effective. Change is simply too swift for centralized planners to predict. The ability to move nimbly is essential for economic survival in an increasingly competitive global market.

Helping others adopt the essential ingredients for prosperity is in everyone's immediate interest, because more is at stake than simply dollars and cents.

Economist Benjamin Friedman wrote a very interesting book a few years ago, *The Moral Consequences of Economic Growth*. Friedman's thesis is that politically open societies develop in times of growing economic wealth. When the economic pie is expanding, a society feels confident in itself, living conditions are demonstrably improved and personal freedoms increase.

Conversely, in static societies where the pie is either shrinking or staying the same, for anyone to move up, someone else must move down. Political freedoms start regressing, confidence is replaced by fear and governments start looking for internal or external enemies to blame to maintain power.

Now think about the international situation we face today. Where are the biggest threats to global stability coming from? Typically, from traditional societies that have missed out on economic improvements and see on their TV's every day how far behind they are. Their children are not taught any real marketable skills, but instead theories for blaming their misery on others. Such countries tend to repress their own citizens, punish minorities and threaten their neighbors.

As Adam Smith said, "It is in the progressive state, while the society is advancing to the further acquisition, rather than when it has acquired its full complement of riches, that the condition of ... the great body of the people seems to be the happiest and the most comfortable. **It is hard in the stationary, and miserable in the declining state.**"

India and China are good examples of states advancing from traditional poverty through the development of technology based economies. India once considered protecting intellectual property as part of a colonial heritage of exploitation they wanted to reject. Interestingly, when India decided that it wanted to be a creator of technology and not an exporter of scientists to the West, it began protecting intellectual property. The results have been impressive in a few short years.

Similarly, according to just released information from the World Intellectual Property Organization, China's patenting rates have soared to the extent that it ranks number 5 in the world, having seen its patent applications grow by more than **six hundred percent** since 1995!

India and China are relatively stable countries where even huge swaths of the world's population have concrete evidence that things are indeed improving. Such progress would have seemed an impossible daydream a few decades ago.

As Edward Gibbons famously said at the conclusion of *The Decline and Fall of the Roman Empire*: "All that is human must retrograde if it does not advance." Nations, like individuals, are either moving forward in life or moving backward. We are never standing still.

However, there is another school of thought that is much more vocal than our own. These are the persistent critics of intellectual property who have gone too long without being effectively answered. They have created a cottage industry publishing articles attacking the very basis of a system that helped turn the U.S. economy around in the last 25 years. These articles quote each other to "prove" their points. While the arguments can rarely survive serious scrutiny, the basic premise that the general public is being victimized strikes a cord politically.

Because most members of Congress and their staffs are not familiar with how products are developed or how our research universities and federal labs are integral parts of our economic development, the apparent fallacy of the critics' arguments may not be readily apparent in Washington.

As a former Senate staffer, I can assure you that it is very difficult to correct a misconception once it takes root politically. We need to get ahead of the information curve by actively engaging in the open forum of policy debate.

The example of the impact of the Bayh-Dole Act is a good case study in this regard. Let's quickly review why the law passed; what it's done and why its

own success has led to it being increasingly under attack.

Some of us are old enough to remember when intellectual property was a dirty word in the U.S. After World War II, government policies giving away federally funded inventions non-exclusively resulted in more than 28,000 inventions quietly gathering dust in Washington. These policies effectively destroyed the fuel of interest that President Lincoln knew was essential to justify the risk of investment.

In the 1960's and 70's we had a Justice Department dominated by antitrust lawyers who viewed patents suspiciously as monopolies and a court system that couldn't decide whether issued patents were worth the paper they were written on. Not surprisingly, American innovation began to suffer with dire consequences.

This witches brew came home to roost with a vengeance in the 1970's and 80's.

The U.S. began to slowly—and then rapidly—lose its place in high technology. Our historic manufacturing areas became the Rust Belt. The lead in electronics, autos, telecommunications, etc., shifted abroad. This toxic snowball undermined public confidence. For the first time, Americans began to feel that their children's lives might well be worse than their own. It was high time to reexamine where we were headed.

Senators Bayh and Dole decided that a good place to start was looking at what the country was receiving from our billions of dollars spent each year on university research.

The answer was that few inventions were being commercialized. Existing patent policies were based on the premise that any invention receiving federal support should be freely available to all. Such mandates destroyed the incentive of the inventor or the private sector to undertake the risk and expense of commercialization. Thus, few new products, companies or jobs were being created. There was nothing moral or ethical in such a system. The American taxpayers were the initial losers, but the world was also denied new products that should have made their lives healthier and more prosperous.

Government patent policies had forgotten the wisdom of the Founding Fathers. It is no accident that one of the earliest parts of the Constitution (Article I, Section 8) lays the groundwork for the incentives created by the intellectual property system. Very wisely, they knew that if the new American Republic was to gain a place in the burgeoning Industrial Revolution that fostering innovation was

essential. They were correct.

The Bayh-Dole Act builds on this solid foundation for spurring innovation. Creators need to be able to own and manage their discoveries. We gave the inventing universities and small companies the ability to manage their patents with minimum oversight from the federal bureaucracy.

The law helped unleash American ingenuity and the results are impressive by any standard. As the *Economist Technology Quarterly* proclaimed: *Possibly the most inspired piece of legislation to be enacted in America over the past half-century was the Bayh-Dole act of 1980. Together with amendments in 1984 and augmentation in 1986, this unlocked all the inventions and discoveries that had been made in laboratories throughout the United States with the help of taxpayers' money. More than anything, this single policy measure helped reverse America's precipitous slide into industrial irrelevance.*

Twenty-five years later the importance of universities as economic drivers is underscored by the findings of the Association of University Technology Managers annual survey of their members. Virtually every state now incorporates its research universities as important cornerstones for their economic development plans. The Milken Institute's September 2006 publication *Mind to Market: A Global Analysis of University Biotechnology Transfer and Commercialization* underscores the impact universities have made in creating whole new industries.

In the Reagan Administration, studies were done of the emerging technologies driving the economies of the future. At that time, the U.S. had already lost its lead in most fields and was looking to be soon eclipsed in the remainder. Today the United States has the most robust economy in the world and it's driven by technology. The effective transfer of intellectual property from our public research institutions to industry is an important part of this success.

So who are the real heroes in our turnaround? We should rightly laud our research universities, but even more important are those who assume the real cost and risk of commercialization—entrepreneurs in the private sector. It is the business entrepreneur—and particularly the small company—that drives our economy forward. For these companies in particular, intellectual property rights are vital. Without intellectual property it is nearly impossible to raise venture capital, which has been the fuel for entrepreneurial firms.

Even now, success is certainly not simple. The typical “good” university technology is 5-7 years

away from being a product—in fact, it’s rarely more than a good idea at this stage—and will require \$10 of development by private industry for every \$1 the government invested in research. In biomedical research, this formula is much more expensive and lengthy. A typical new therapeutic drug from a biotech company will require over \$500 million dollars of private sector investment just to get through regulatory hurdles, before the first dollar of sales. Even with a huge investment, there is no guarantee of success.

Yet with all this said, the system is under attack, sometimes even in business magazines.

Almost exactly a year ago, I was approached by *Fortune* magazine for an article on the Bayh-Dole Act. I talked with the author and offered to introduce him to several key players involved with developing the bill including Senator Bayh. I was floored when the resulting article, *The Law of Unintended Consequences* appeared.

The argument spun around the idea that free dissemination of research is good and exclusivity is bad. The final evidence? The author compared biotech licensing with software licensing to “prove” that non-exclusivity works better. Here’s the recommendation for amending the Bayh-Dole Act:

*The right to make a profit from a taxpayer-funded discovery should come with an explicit demand: The patent holder has to license the invention as broadly as possible—which would make exclusive deals the rare exception, not the rule. **The fact is, that the right people will always find a way to turn a good idea into something tangible...***

A similar article appeared in the *Economist* with the same angle—exclusive rights to publicly funded technologies should be discouraged.

We simply cannot leave such statements unchallenged. Whether or not a patent is licensed exclusively or not depends on the nature and risk involved in developing it. The very idea that non-exclusivity is more noble because everyone has the same access can be fatal when development requires great degrees of risk and investment. Such an approach is decidedly anti-small business to boot.

We’ve been down this road before Bayh-Dole and it leads to economic disaster. The irony of these arguments is that they are *exactly the same ones we heard in 1979 from the opponents of the Bayh-Dole*

Act. At that time we had **precisely** the kinds of policies that our critics now advocate. Federally funded inventions were freely available through non-exclusive licenses. Rather than creating the utopia envisioned, potential benefits from billions of dollars of taxpayer funded R&D were simply gathering dust on the shelves of federal agencies.

The reason may seem obvious, but is one that we must explain over and over again. As inventor Frederick Cottrell said while founding Research Corporation: “... *a number of meritorious patents, given to the public absolutely free have never come upon the market chiefly because **what is everybody’s business is nobody’s business.***”

It can’t be more clearly said than that.

The Bayh-Dole Act makes developing these potential products possible rather than leaving them in the laboratory as only interesting theories or papers. The magic of Bayh-Dole is that it provides market incentives for entrepreneurs to deliver new products, create new companies and jobs that otherwise would lie fallow in the public sector.

The principles of innovation are universal. We need to export them freely around the globe. We should never fear the success of our neighbors in a fair marketplace. The creation of intellectual property is not a zero sum game.

For creativity and innovation to flourish, human freedom and the stability of law must exist. There are direct links between the two. We must be passionate in explaining and defending them. There is an ethical underpinning required for any society that wants its entrepreneurs to do what they do best. They must be recognized and rewarded.

So we should feel proud of our profession. We truly are part of a vital international movement that is central to building a more prosperous, peaceful world. However, it is up to us to explain the connection.

Let’s close with two sayings from Teddy Roosevelt that capture the current situation we face:

“In any moment of decision, the best thing you can do is the right thing, the next best thing is the wrong thing, and the worst you can do is nothing.”

“Don’t foul, don’t flinch—hit the line hard.”

Let’s all do the right thing and hit the line hard as well. There’s literally a world at stake. ■

Patent Trolls: A Stereotype Causes A Backlash Against Patents And Licensing

By John C. Paul, D. Brian Kacedon and Michael V. O'Shaughnessy*

From the many well-publicized success stories, there is broad awareness that patent licensing can provide a good source for generating revenue. This holds true not just for large corporations, like IBM, but also for smaller organizations and inventors without the resources to commercialize inventions on their own. But there is growing public sentiment that patent licensing has been too good to the “wrong people”—those who have neither developed nor commercialized the patented technology they license, and who inappropriately have been characterized as undeserving to license and enforce their legal rights in the patents—the so-called “patent trolls.” Coupled with a growing public sentiment that “bad patents” or patents of dubious quality are being granted by the Patent Office and asserted by licensing companies, an environment of hostility towards patents and patent licensing is being generated and reflected in the media.

Over the past year, stories about “patent trolls” have made the headlines in leading papers around the world. The New York Times recently put a negative spin on patent licensing, criticizing companies who “extract” license fees from companies who sell “real products” in “Tired of Trolls, A Feisty Chief Fights Back.”¹ Similarly, CNET News characterized licensing as a shake-down operation in “Perspective: Rise of the Patent Trolls-the Shakedown Is On.”² The Financial Times portrayed licensing as scaring businesses and taxing consumers in “Trolls Control the Rickety-Rackety Bridge of Intellectual Property.”³ The South China Morning Post, portrayed many licensors as opportunists lying in wait to ambush big business in “Patent Trolling, A Thorn In The Side Of Hi-Tech Giants: Spectators Build Up An IP Portfolio And Then Wait For A Big Firm To Infringe Upon It.”⁴ The Denver Post described licensing as a form of boardroom terrorism in “Trolling for Patents: the

Latest Terror of Corporate America Is the ‘Patent Troll’-A Fearsome Entity That Can Sue A Company Using Its Patents For Millions Or Threaten A Shut-down.”⁵ And The Toronto Star asked the bottom line question in “America’s Patent Trolls: Are They Out of Control?”⁶

The media’s increased criticism has reflected and generated a significant public sentiment against patents and licensing. In turn this has raised questions regarding the quality of patents issued by the U.S. Patent and Trademark Office (USPTO), and the various legal procedures and standards by which patents are licensed and litigated. Recently, this public sentiment has created a strong reaction against patents and licensing in all three branches of the U.S. Government.

In the legislative branch, the Senate currently has a pending bill that proposes a significant overhaul of the U.S. Patent Laws. This bill, the Patent Reform Act of 2006, followed an earlier bill in the House of Representatives. In the executive branch, the U.S. Patent and Trademark Office currently has pending revisions to its rules and regulations that propose radical changes to the patenting process. And the U.S. Courts, including the U.S. Supreme Court, are reviewing key aspects of the rights, obligations, and remedies available to patent owners. In a number of instances the courts have already significantly increased the burdens on those who are licensing and enforcing patents, and more may be coming on the horizon.

I. Congress’ Proposed Overhaul Of The Patent System

The United States Congress has clearly signaled its intent to combat the perceived abuses of the

1. Joseph Nocera, *Tired of Trolls, A Feisty Chief Fights Back*, N.Y. Times, September 16, 2006, at C1.

2. Joe Beyers, *Perspective: Rise of the Patent Trolls-the Shakedown Is On*, October 13, 2005, http://news.com.com/Rise+of+the+patent+trolls/2010-1071_3-5892996.html

3. Alan Cane, *Trolls Control the Rickety-Rackety Bridge of Intellectual Property*, Financial Times, September 20, 2006, at 2.

4. David Wilson, “*Patent Trolling, A Thorn In The Side Of Hi-Tech Giants: Spectators Build Up An IP Portfolio And Then Wait For A Big Firm To Infringe Upon It*,” South China Morning Post, May 23, 2006 at 2.

5. Greg Griffin, *Trolling for Patents: the Latest Terror of Corporate America Is the “Patent Troll”-A Fearsome Entity That Can Sue A Company Using Its Patents For Millions Or Threaten A Shutdown*, Denver Post, March 12, 2006 at K-01.

6. Tim Harper, *America’s Patent Trolls: Are They Out of Control?*, Toronto Star, Feb. 3, 2006 at A-01.

litigation system by so-called “patent trolls.” Beginning with the proposed Patent Reform Act of 2005, the House of Representatives offered significant legislation designed to minimize the incentives for patent licensing and enforcement activities.⁷ In the opening statement of a June 15, 2005 legislative hearing, the Hon. Lamar Smith, the Chairman of Subcommittee on Courts, the Internet, and Intellectual Property, articulated Congress’ desires to “reward creativity, not legal gamesmanship.”⁸ A slightly modified version of this legislation, the Patent Reform Act of 2006, now pending before the United States Senate, would result in vast and significant changes to the existing American patent system.⁹ While the stated goal of many of these changes is to increase the burden on the relative few who abuse the system and are characterized as “patent trolls,” for the most part, these changes will increase the burdens on all patent licensors.

A. Change to a First to File System

One of the most significant changes proposed by the Patent Reform Act of 2006 would convert the United States patent system from a “first to invent” system to a “first to file” system.¹⁰ Under the “first to invent” system, the first party to conceive and reduce an invention to practice is awarded the patent on the invention even if another party files its application for a patent first. In contrast, a “first to file” system awards priority to the first to file a patent application regardless of who actually first conceived of the invention.

Until now, the United States has maintained a first to invent system, despite the use of the first to file system in most other countries, and the complex priority contests that result from interference proceedings that investigate and determine who was the first to invent. This has been largely out of a sense of fairness that it was worth the extra effort to determine who was actually the first to invent as opposed to the quickest to file. In addition, a change to the first to file system typically has been opposed because it was viewed as rewarding large companies who can afford to quickly file pat-

ent applications at the expense of small inventors, who may not have the same resources. The balance seems to be shifting, however, due to the growing view that the patent system is being abused.

If the United States changes from a “first to invent” to a “first to file” system, smaller inventors will be unable to obtain patents on inventions they conceive first but patent later. In addition, it will be easier to challenge the validity of the patents they receive if current priority contests will not be available to demonstrate prior invention. Since many smaller inventors lack the capabilities to commercialize their inventions themselves, they are often at the forefront of licensing, and are dependent on licensing to reap any rewards on their inventions. Therefore, the proposed change will put increased burdens on many patent licensors, not just those who attempt to abuse the system.

B. Post-Grant Opposition System

With only limited exceptions, the United States currently relies on patent infringement litigation in Federal

Court to resolve questions of patent validity. The Patent Reform Act of 2006 proposes using an opposition procedure by which a party may challenge a patent before administrative judges within the Patent Office.¹¹ Under the pending rule changes proposed by the United States Senate, any party would be entitled to challenge a patent by filing an opposition within one year after a patent issues from the Patent Office. At any time after the expiration of that twelve-month period, a party may challenge the patent if it demonstrates a “substantial reason to believe that the continued existence of the challenged claim causes or is likely to cause the petitioner significant economic harm.”¹²

The main purpose for proposing the new opposition procedure is to make it easier to challenge the

** John C. Paul,
D. Brian Kacedon and
Michael V. O’Shaughnessy,
Attorneys for the firm of
Finnegan, Henderson,
Farabow, Garrett & Dunner, LLP.
E-mail: john.paul@finnegan.
com, brian.kacedon@
finnegan.com and
michael.oshaughnessy@
finnegan.com*

7. H.R. 2795, 109th Cong. (2005).

8. *Patent Trolls: Hearing on H.R. 2795 Before the Subcomm. on Courts, the Internet and Intellectual Property of the H. Comm. on the Judiciary*, 109th Cong. (June 15, 2006) (statement of Rep. Lamar Smith).

9. S. 3818, 109th Cong. (2006).

10. S. 3818, 109th Cong. § 3 (2006).

11. S. 3818, 109th Cong. § 6 (2006).

12. *Id.*

validity of “bad” patents by avoiding the time and expense associated with litigation within the district courts. While the cost and duration of litigation against so-called “bad patents” may be minimized, the proposed opposition system will increase the burden on all patent licensors, making it easier to attack the validity of all patents, and injecting uncertainty into the value of all patents, both good and bad, for an almost unlimited period of time.

C. Limitations on Compensatory Damages

The Patent Reform Act also seeks to reduce the potential threat of litigation by patent trolls by limiting the overall availability of damages. The pending legislation provides that royalty figures must be calculated based upon the value of the “novel and nonobvious features” of the patented invention, and not the value of the commercial product as a whole.¹³ This calculation could greatly reduce compensatory damages awards, thereby reducing the concern from threatened litigation and reducing the incentive to assert claims for patent infringement. The impact of such a change would affect all patent licensors, not just those asserting dubious patents, or those asserting patents in an inappropriate way.

D. Limitations on Willful Infringement and Punitive Damages

In the United States, the law provides a significant disincentive to willfully infringe a patent. Rather than simply paying for the losses incurred, a finding of willful infringement can obligate an infringing party to pay punitive damages that could triple the compensatory damages award, as well as pay accumulated litigation costs and attorney fees to the patent owner. The Senate bill proposes to raise the standard by which a patent owner or licensor must prove that the infringement is willful, reflecting a concern for possible abuse by patent licensors strong-arming accused infringers to settle by invoking fear of the significant monetary penalties associated with willful infringement.¹⁴ Under the proposed new standard, it would no longer be sufficient to establish willful infringement by showing that the infringer had knowledge of the patent but had no written opinion of counsel justifying the infringing activity. As a result, it will become much more difficult for patent owners and licensors to establish willful infringement and obtain punitive

damages for infringement. Again, however, this will affect all patent owners, not just those who attempt to abuse the system.

II. USPTO's Proposed Changes To Patent Prosecution

Like the congressional efforts to reform the patent laws, the United States Patent Office has also proposed several rules changes to combat the perceived problems of “bad” patents and those who attempt to abuse the patent system.¹⁵

A. Limitations on Continuing Prosecution

Under the current rules for continuing the prosecution of a patent, patent owners can file an unlimited number of continuation applications. This has raised concerns that patent owners can flood the Patent Office with applications and cause “bad” patents to issue due to lack of Patent Office examination resources. Moreover, it has also raised concerns that patent owners are using continuation applications to obtain patent claims that specifically cover new products as they come on the market.

The Patent Office has proposed limiting applicants to a single continuation application.¹⁶ The revised rule provides that a second or subsequent continuation application must be accompanied by a showing of “why the amendment, argument, or evidence presented could not have been previously submitted.”¹⁷ Accordingly, under the proposed rule change, patent owners will be unable to prosecute their inventions in multiple continuation patent applications, will be unable to fully pursue and obtain all the rights to which they have previously been entitled, will be unable to specifically cover all of the commercial embodiments of their invention, and will face more burdens in licensing and enforcing the patents.

In light of the limitation on the availability of continuation applications, applicants may be forced to sacrifice breadth by drafting narrower claims, in an effort to avoid rejection of the limited continuation application. As a result, patent owners may

13. S. 3818, 109th Cong. § 5 (2006).

14. S. 3818, 109th Cong. § 5 (2006).

15. Changes to Practice for the Examination of Claims in Patent Applications, 71 Fed. Reg. 61 (proposed January 3, 2006); Changes to Practice for Continuing Applications, Requests for Continued Examination Practice, and Applications Containing Patentably Indistinct Claims, 71 Fed. Reg. 48 (proposed January 3, 2006).

16. Changes to Practice for Continuing Applications, Requests for Continued Examination Practice, and Applications Containing Patentably Indistinct Claims, 71 Fed. Reg. 48, 50 (proposed January 3, 2006).

17. *Id.*

find it more difficult to pursue patent infringement allegations. Moreover, with reduced opportunity to file continuing applications, applicants will be pressured to ensure issuance of filed applications. Ironically, as a result, rather than making the prosecution process more efficient by diminishing the work required by the Patent Office during the prosecution of each filing, the prosecution process may become much more contentious during examination, with applicants filing more patent appeals. In the end, all patent owners and licensors may be more burdened by the proposed rule without any assurance that the quality of any of the resulting patents will be improved.

B. Limitations on Divisional Applications

In a further effort to limit the number of continuing applications, the Patent Office has proposed a new rule limiting the availability of divisional applications. During prosecution of an application containing multiple inventions, the patent examiner may require an applicant to restrict the application to a single invention. The applicant may then pursue the remaining subject matter as a divisional application. While an applicant currently is entitled to pursue divisional applications irrespective of the status of the original application, the proposed rule change would require that all divisional applications be filed while the original application is still pending.¹⁸ Accordingly, once a patent issues, an applicant may no longer seek a divisional application claiming priority based upon the parent application. Again, this limitation on the availability of subsequent applications would increase the burden on patent owners and licensors who are attempting to obtain, license, and enforce rights to the full scope of their inventions upon which patent owners could assert allegations of infringement. Interestingly, this proposed rule is expected to apply retroactively. Once the Patent Office implements the proposed rules, applicants will be precluded from seeking divisional applications if the parent application has already issued.

C. Limitations on the Number of Patent Application Claims

Under the revised examination practice, the Patent Office has attempted to focus and reduce examination efforts by limiting the number of claims that can be examined initially.¹⁹ The Patent Office has

proposed requiring an applicant to identify ten or fewer representative claims, including the independent claims and any dependent claims the applicant wishes the Patent Office to consider.²⁰ The Patent Office will examine the representative claims, and will defer examination of all non-designated claims until a later time when the application is otherwise in a condition for allowance. If the application contains more than ten claims, or the applicant wishes to identify more than ten representative claims for initial examination, the applicant must provide a detailed examination support document. The Patent Office suggests that this change will result in a “better, more thorough and reliable examination since the number of claims receiving initial examination will be at a level which can be more effectively and efficiently evaluated by an examiner.”²¹

By limiting an applicant to a smaller number of representative claims, the Patent Office anticipates that fewer “bad patents” will issue. This may also, however, increase the pendency of many patent applications. Specifically, in many instances it will be faster to review all the claims at once. By reviewing claims piecemeal, the Patent Office may need to perform a separate examination, and potentially a new search for the additional claims. With patents being slower to issue, the burden on patent licensors may also increase and the value of their portfolios may develop more slowly. Thus, even those entitled to so-called “good” patents will be delayed in trying to protect their technology with patents.

III. Court Decisions Affecting Patent Law

In the past year, there have also been significant developments in patent law in the courts. The increased public and governmental interest in patent licensing issues is marked, in part, by an increase in the number of patent cases heard by the Supreme Court of the United States. Much like the proposed changes to the U.S. patent law and USPTO practice discussed above, many of these developments appear to be directed towards concerns over patent owners who abuse the patent system.

A. Standard for Injunctions

Perhaps the most significant change in U.S. patent law over the past year resulted from the U.S. Supreme Court’s decision in *e-Bay v. MercExchange*.²²

18. *Id.*

19. Changes to Practice for the Examination of Claims in Patent Applications, 71 Fed. Reg. 61, 62 (proposed January 3, 2006).

20. *Id.*

21. *Id.* at 61.

22. *e-Bay, Inc. v. MercExchange, L.L.C.*, 126 S. Ct. 1837 (2006).

Historically, U.S. patent owners generally have been presumed to be entitled to a permanent injunction after a finding of patent infringement. In *e-Bay*, the Supreme Court ruled that the courts should apply the same standards to patent cases as they do in all other cases when determining whether to grant an injunction.²³ Specifically, the courts should review whether the patent owner has demonstrated: “(1) that it has suffered an irreparable injury; (2) that remedies available at law, such as monetary damages, are inadequate to compensate for that injury; (3) that, considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and (4) that the public interest would not be disserved by a permanent injunction.”²⁴ Effectively, the Supreme Court removed any presumption that a patent owner is entitled to an injunction.

As noted, one of the factors that the courts will now look to in determining whether to grant an injunction is whether or not the patent owner can be adequately compensated for infringement by money damages alone. Many believe, however, that for a non-practicing patent owner, namely one that licenses patents but does not sell products, demonstrating that money damages are not adequate will be all but impossible, while large commercially active patent owners will have the same access to injunctions they have enjoyed historically.²⁵ The few cases since *e-Bay* touching on this issue have shown this belief to be well-founded.

Since the *e-Bay* decision was handed down, several district courts have refused to grant injunctions to non-practicing patent owners.²⁶ For example, in one recent case in the District Court for the Eastern District of Texas, a patent owner was unable to demonstrate that money damages would be inadequate to compensate it for infringement because it did not manufacture products, but only sought to license its patents.²⁷ The court was not persuaded that failing to enter an injunction would “irrepara-

bly harm” the patent owner’s licensing business.²⁸ In contrast, in another case in that same court, *TiVo Inc.* was granted a permanent injunction against its competitor *Echostar* in part because *TiVo* commercially sold the patented product.²⁹

It is expected that the *e-Bay* decision will have a profound impact on patent licensing. Most significantly, it removes an important remedy for non-practicing patent owners, namely the ability to obtain an injunction that stops the infringer from making and selling infringing products. The unavailability of this remedy to non-practicing patent owners significantly diminishes the strength of a non-practicing patent owner in licensing negotiations and provides a non-practicing patent owner with significantly less strength in negotiations than a practicing patent owner. The courts do not appear overly sympathetic to the view that a patent licensor whose business is “licensing” will have its licensing business irreparably harmed by infringement such that it cannot be adequately compensated by money damages. Thus, non-practicing patent owners will have to enter negotiations knowing they are unlikely to be able to actually stop any infringement. This obviously increases the bargaining power of any accused infringer because now the accused infringer can better afford to risk litigation, secure in the knowledge that it will likely not be enjoined even if found to be an infringer.

One additional result of the inability to obtain injunctions for non-practicing patent owners is that compulsory licensing may soon become a regular feature of U.S. patent law. In fact, in at least two cases thus far, courts have granted compulsory licenses to companies found guilty of patent infringement.³⁰ Therefore, non-practicing patent owners or patent licensors appear to have an increased burden in licensing and may also need to accept the reality of court imposed licenses.

B. Standing of Exclusive Licensees to Sue

The past year has also seen developments in the law regarding the ability of exclusive licensees to sue on their own without joining the patent owner. In some instances patent owners wish to allow their exclusive licensees to bear the responsibility and risk of litigation in exchange for the potential

23. *Id.* at 1839.

24. *Id.*

25. In fact, in a concurring opinion, Justice Kennedy specifically mentioned the problems posed by patent owners who “use patents not as a basis for producing and selling goods but, instead, primarily for obtaining licensing fees.” *Id.* at 1842.

26. See, e.g., *Voda v. Cordis Corp.*, No. Civ-03-1512-L, 2006 WL 2570614, at *5-6 (W.D. Okla. Sep. 5, 2006); *Paice LLC v. Toyota Motor Corp.*, No. 2:04-CV-211, 2006 WL 2385139, at *5-6 (E.D. Tex. Aug. 16, 2006); *z4 Technologies, Inc. v. Microsoft Corp.*, 434 F.Supp.2d 437, 444 (E.D. Tex. 2006).

27. *Paice LLC*, 2006 WL 2385139, at *5-6.

28. *Id.*

29. *Tivo Inc. v. Echostar Communications Corp.*, 446 F.Supp.2d 664, 670 (E.D. Tex. 2006). This injunction was later stayed by the Federal Circuit pending appeal.

30. See *Finisar v. DirecTV Group*, No. 05-CV-264 (E.D. Tex. July 7, 2006); *z4 Technologies, Inc.*, 434 F.Supp.2d at 444.

reward of royalties from licenses granted by their exclusive licensees. Such a patent owner may not wish to be subjected to costly discovery and day-to-day involvement in litigations and may have negotiated the compensation and other terms of the agreement with their exclusive licensees based on the assumption that they would not be so involved. As a result, such patent owners may not be getting the benefit of their bargain under the evolving case law. Such patent owners have been criticized in some quarters, however, for granting “hunting licenses.”

In two recent decisions, the Court of Appeals for the Federal Circuit found that an exclusive licensee with the exclusive right to sue did not have standing to sue on its own.³¹ In *Aspex Eyewear, Inc. v. Miracle Optics, Inc.*, the Federal Circuit held that an exclusive licensee who has been granted all rights under a patent but only for a limited period of time cannot sue on its own.³² In *Sicom Systems Ltd. v. Agilent Technologies, Inc.*, the Federal Circuit held that a patent licensee granted the exclusive right to sue for all “commercial infringement” did not have standing to sue on its own, even for commercial infringement, because the patent owner retained the right to sue for non-commercial infringement as well as the ability to require consent to litigation.³³

These decisions will likely have an impact on how patent rights are transferred. They appear to reflect a growing hostility against patent owners who wish to transfer the right to sue while retaining other rights previously thought to be relatively insignificant. Specifically, it is becoming increasingly difficult to transfer that right with any comfort that the title owner will not be brought into the litigation. These decisions may also discourage patent owners from pooling related patents for licensing and enforcement by independent third parties. This appears to be yet another example of the growing trend against patent owners who prefer to monetize their technology through licensing as opposed to commercialization.

C. Licensee Challenges to Patent Validity

In addition to those cases already discussed, two cases currently pending before the Supreme Court should have a significant impact on U.S. patent law

in the coming year. The first involves circumstances under which a patent licensee can be prevented from challenging the validity of a licensed patent. In 1969, in the landmark case of *Lear v. Adkins*, the Supreme Court repudiated the doctrine of “licensee estoppel,” which operated to bar licensees from arguing that the patent they had licensed were invalid.³⁴ In 2004, the Federal Circuit held that a patent licensee cannot seek a declaratory judgment of invalidity of a licensed patent without first materially breaching its license agreement.³⁵ The court felt strongly that a licensee should not be able to use a license agreement to shield itself from an infringement suit and yet, at the same time, challenge the validity of the patent licensed by that agreement.³⁶ While the Federal Circuit recognized the import of *Lear*, it specifically noted that in its view, *Lear* does not allow every licensee the ability challenge patent validity.³⁷

Since that decision, other patent licensees have sought to bring patent challenges without success. One such licensee, Medimmune Inc., successfully petitioned the Supreme Court to address this issue.³⁸ Oral argument was held in October of 2006 and a decision is expected next year. The U.S. Solicitor General filed a brief supporting Medimmune and arguing that a licensee in good standing should not always be precluded from challenging the validity of a patent. Many other parties have filed amicus briefs on both sides of the issue.³⁹

The Supreme Court’s decision is likely to have a widespread impact on both current and future patent license agreements. Should the Supreme Court uphold the Federal Circuit’s standard, it is likely that potential licensees may be more hesitant to enter into agreements knowing that it may limit their ability to later challenge the licensed patent. On the other hand, if the Supreme Court reverses the Federal Circuit, this will put patent licensors in the unenviable position of having little to no security that their licensees will not raise validity challenges after

31. *Aspex Eyewear, Inc. v. Miracle Optics, Inc.*, 434 F.3d 1336 (Fed. Cir. 2006); *Sicom Systems Ltd. v. Agilent Technologies, Inc.*, 427 F.3d 971 (Fed. Cir. 2005).

32. *Aspex Eyewear*, 434 F.3d at 1342-43.

33. *Sicom Systems*, 427 F.3d at 980.

34. *Lear, Inc. v. Adkins*, 395 U.S. 653 (1969).

35. *Gen-Probe Inc. v. Vysis, Inc.*, 359 F.3d 1376, 1382 (Fed. Cir. 2004).

36. *Id.*

37. *Id.* at 1381.

38. *Medimmune Inc. v. Genentech Inc.*, 126 S. Ct. 1329 (2006) (granting certiorari).

39. L.E.S. (USA and Canada), Inc. also filed an amicus brief in support of neither party as well.

resolving an infringement dispute and entering into an agreement.

Moreover, such a decision may raise more questions than it answers. For instance, can a licensor include a provision in the agreement providing for termination in the event of a validity challenge? Can a licensor require that a licensee pay more if it is unsuccessful in its validity challenge? These less direct hindrances to validity challenges may become widespread as licensors seek to protect themselves against validity challenges, but it is not clear if they will run afoul of the prohibition against licensee estoppel.

D. Standard for Patentability and Patent Invalidity

The second case currently pending before the Supreme Court, *KSR International Co. v. Teleflex Inc.*, may significantly alter the standards for patentability in the United States.⁴⁰ In this case, KSR has asked the Supreme Court to address the Federal Circuit's requirement that in order for an invention to be obvious, there must be some "teaching, suggestion, or motivation" in the prior art to create the claimed invention. KSR has argued that this test is not supported by statute or Supreme Court precedent and has been created by the Federal Circuit out of whole cloth. In their view, the Federal Circuit's test sets the bar for patentability too low and allows for patenting of trivial inventions. As with the *Medimmune* case, many parties have filed amicus briefs in support of both parties.

The decision to hear this case has lead many to conclude that the Supreme Court is seeking to address the concerns that too many "bad" patents are being issued and that companies are being forced to take licenses under these bad patents to avoid litigation. The potential impact of this decision, however, cannot be underestimated. Should KSR prevail, it will not only make it more difficult to obtain patents, it will also impact the ability to enforce and license many of the hundreds of thousands of unexpired patent still in force.

E. Court Decisions Affecting Antitrust And Patent Misuse In Patent Licensing

Historically, when there has been scrutiny or hostility to patents and patent licensing, antitrust enforcement has been used as a device to head off unpopular licensing activities. Interestingly though,

the recent patent backlash, while instigating changes to the patent laws themselves (as discussed above), has not been accompanied by an increased concern over antitrust violations by the courts.⁴¹ On the contrary, in several recent decisions, the courts have made it more difficult to find patent owners guilty of antitrust or patent misuse violations.

The U.S. Supreme Court recently overturned decades-old antitrust precedent, which had held that a patent owner was presumed to have market power for purposes of determining an antitrust violation.⁴² In *Independent Ink*, the patent owner required that purchasers of its patented printheads and ink containers agree to purchase unpatented ink only from the patent owner.⁴³ Previous Supreme Court precedent had held that such "tying" conduct by a patent owner was always a violation of the antitrust laws because the patent owner was presumed to have market power in the market for the patented product.⁴⁴ Therefore, it was unfairly leveraging its market power in the market for the patented product to try and monopolize a market where it did not have market power.

In this case, however, the Supreme Court overturned its precedent recognizing the market reality that a patent does not necessarily confer market power.⁴⁵ The court held that to find the patent owner guilty of a tying antitrust violation, one would have to affirmatively show that the patent owner had market power in the market for the patented product.⁴⁶ This change in the law makes it much more difficult to prove that a patent owner has committed antitrust violation by tying the sale of a patented product to an unpatented product.

Similarly, the Federal Circuit appears to have relaxed the standards for finding patent misuse based

40. *KSR International Co. v. Teleflex Inc.*, 126 S. Ct. 295 (June 26, 2006) (granting certiorari).

41. One area of patent licensing that may be coming under increased antitrust scrutiny is the standards setting process. The FTC recently found Rambus guilty of several antitrust violations because of its conduct in front of the JEDEC standards organization. *In the Matter of Rambus, Inc.*, No. 9302, 2006 WL 2330117 (F.T.C. August 2, 2006). The Federal Circuit had previously reversed a finding that Rambus's conduct constituted "fraud" under Virginia law. *Rambus, Inc. v. Infineon Techs.*, 318 F.3d 1081 (Fed. Cir. 2003). Thus, it will be interesting to see if the Federal Circuit agrees with the FTC in its ruling.

42. *Illinois Tool Works Inc. v. Independent Ink Inc.*, 126 S. Ct. 1281, 1292 (2006).

43. *Id.* at 1284-85.

44. *Id.* at 1286.

45. *Id.* at 1292.

46. *Id.* at 1291.

on package licensing.⁴⁷ Historically, when a patent owner required a licensee to accept licenses to patents it did not want in order to take a license to a patent it did want, the courts found such conduct to be an act of patent misuse and an antitrust violation. In *U.S. Philips Corp. v. ITC*, Philips was accused of patent misuse for the practice of package licensing of patents that were essential to the standard for compact disks with patents that were not essential.⁴⁸ Philips set one price for a license under the essential patents and included all the non-essential patents at no cost.⁴⁹ The International Trade Commission argued that Philips was engaged in improper package licensing and that by including such non-essential patents at no cost, the patent owners were improperly extending their patent monopoly to reduce competition in the market for technology covered by the non-essential patents.⁵⁰

On appeal, the Federal Circuit disagreed and found that it was not a per se patent misuse.⁵¹ The Federal Circuit also reversed the holding that Philips' licensing activities constituted patent misuse under the rule of reason.⁵² In the Federal Circuit's view, Philips was merely providing security to licensees that once it took a license from Philips it would have freedom from suit under Philips other patents that operate in the same area.⁵³ Such conduct was not viewed as anticompetitive.

This decision will likely have a large impact on how patents are licensed in the standards context. Specifically, the Federal Circuit appears to have set a framework for licensors to follow. Namely, a licensor can charge one price for a license under any one essential patent and include any non-essential patents for free without committing an antitrust violation.

F. International Enforcement of U.S. Patent Rights

Another area that does not appear to have been impacted by the recent negative view of patent licensing and enforcement is the area of international enforcement of U.S. patent rights. In several recent decisions, the courts in the U.S. seem to

have significantly extended the territorial scope of U.S. patents.

Section 271(f) of Chapter 35 of the United States Code makes it an act of infringement to supply components of patented product from the U.S. for assembly overseas. Several recent cases have extended this statute to apply to actions outside the U.S. that may not have previously been considered acts of infringement.⁵⁴ In *Eolas Technologies Inc. v. Microsoft Corp.*, Eolas asserted that Microsoft should be found liable for infringement for any copy of a software product made abroad when the copy was made from a master disk shipped from the U.S.⁵⁵ The Federal Circuit agreed and held that the act of copying software from the master disk abroad infringed a U.S. patent under 271(f).⁵⁶ The Federal Circuit reached a similar conclusion in *AT&T Corp. v. Microsoft Corp.* regarding the electric transmission of software overseas for duplication overseas.⁵⁷ Many have expressed surprise that such extraterritorial conduct could constitute infringement of a U.S. patent. The Supreme Court has recently granted certiorari in this case. So, in the coming year, a definitive ruling on the scope of 271(f) is expected.

Similarly, in *NTP Inc. v. Research In Motion, Ltd.*, NTP argued that an infringing system is used within the United States even when a component of that system is physically located outside the United States.⁵⁹ The Federal Circuit held that the proper test is examine where "the system as a whole is put into service, i.e., the place where control of the system is exercised and beneficial use of the system obtained."⁶⁰ For instance, in RIM's case, RIM's headquarters were in Canada and that is where the system was controlled. End users, however, were located in the U.S. and sent and received messages from the U.S. The Federal Circuit held that control and beneficial use of RIM's system occurred in the U.S. because U.S. customers send and receive messages

47. See *U.S. Philips Corp. v. ITC*, 424 F.3d 1179 (Fed. Cir. 2005).

48. *Id.* at 1182, 1184.

49. *Id.* at 1191.

50. *Id.*

51. *Id.* at 1197.

52. *Id.* at 1198-99.

53. *Id.* at 1193.

54. *AT & T Corp. v. Microsoft Corp.*, 414 F.3d 1366 (Fed. Cir. 2005); *Eolas Techs. Inc. v. Microsoft Corp.*, 399 F.3d 1325 (Fed. Cir. 2005).

55. *Eolas Techs. Inc.*, 399 F.3d at 1338-39.

56. *Id.* at 1341.

57. *AT & T Corp.*, 414 F.3d at 1371-72.

58. *Microsoft Corp. v. AT & T Corp.*, No. 05-1056, 2006 WL 403667 (S. Ct. Oct. 27, 2006).

59. *NTP Inc. v. Research In Motion, Ltd.*, 418 F.3d 1282, 1314 (Fed. Cir. 2005).

60. *Id.* at 1317.

by using devices in the U.S.⁶¹ This decision seems to imply that the Federal Circuit's "control and beneficial use" standard may be broadly construed.

These cases seem to indicate a growing view that the reach of a U.S. patent is broader than just the U.S. Interestingly, however, while some concern has been raised about these decisions, it has not yet reached the same fever pitch as that raised by the activities of "patent trolls."

III. Conclusion

Over the past decade, patent licensing has proven to be an effective way for companies, both large and small, to generate revenue. As in many other areas, however, the attempted abuse of an otherwise beneficial system by a few bad actors appears to have resulted in an incorrect public perception of a widespread problem and created a backlash against the system as a whole. In this case, the backlash includes a broad demonization of patent licensing organizations as "patent trolls," and significant changes or proposed changes in licensing and the patent system by all three branches of government. These changes, however, will not just affect the few bad actors who abuse the system, but will unnecessarily

burden all patent owners and licensors regardless of the quality of their patents or the nature of their licensing and enforcement activities.

The patent licensing community needs to actively address the concerns being raised by the public and the media. It needs to continue to help correct the misperception and remove the fear that the problems are as widespread as imagined and portrayed. And it needs to see that changes proposed by the government are carefully directed to and focused on the actual problems, rather than unfairly and unreasonably burdening the whole patent licensing community.

To allow the patent licensing community to become unnecessarily burdened diminishes the important value the patent licensing community provides to commercial entities and technology developers. As we all know, that community performs a central role in helping commercial entities obtain the rights to use valuable technologies that produce new and beneficial products, and helping arrange for the commercial entities to compensate the developers of that technology for their development costs. ■

61. *Id.* at 1317.

U.S./Canadian Licensing In 2005—Survey Results

By Richard Razgaitis*

*Initial Results of Survey Conducted in February/March 2006 by the Licensing Foundation of LES (USA & Canada) on behalf of the Licensing Foundation.*²

Abstract And Summary Of Findings

The data reported here are from the third annual survey of “the licensing industry” of the United States and Canada taken by the Licensing Foundation in cooperation with LES (USA & Canada). The ambitious reference to “the licensing industry” is however confined to the perspective provided by the membership of LES (USA & Canada) who responded to faxed and emailed requests for participation in this project. The data obtained primarily in March 2006 were for the period 2005.³

Two related but distinct survey questionnaires were used, one for IP asset owners (buyers or sellers, licensors or licensees), and one for service providers such as outside law firms and consultants. The data obtained from IP asset owners is presented here in six segments: large and small companies,⁴ based on the number of company’s employees—greater or less than 500, and by four industry groups: Health, DICE (Digital Information Computers Electronics), Industrial, and University/Government.

For the second year we included two questions relating to perceived societal/environmental opposition to certain underlying values of licensing such as the right of an IP owner to protect and license, or not to license, its IP. As for the 2004 data, these

2005 data report a substantial concern, and one that appears to be growing by comparison of year-over-year responses.

The Foundation will continue its annual state of the licensing industry in 2007 (for the year 2006), and will again request members of LES (USA & Canada) to participate.

Introduction

Understanding what is here termed “the licensing industry” is both a challenging and important assignment. Its importance derives from the vastly increasing importance of IP itself, roughly synonymous with the accounting category of intangible assets, as an asset category in a company’s balance sheet. It is widely recognized that in just a “patent lifetime” (e.g., 20 years), such balance

sheets have been transformed from predominately tangible assets such as plants (factories), property (land), and equipment (so-called PPE), and other tangible assets such as cash and receivables, to being dominated by intangible assets. Estimates of the shift in relative importance of intangible assets using, for instance the S&P 500® index, suggests that tangible assets were about 70 percent of total assets just 20 years ago but today it is intangible assets that are about 70 percent of total assets. So, in just one patent lifetime, tangible and intangible assets have switched positions in terms of relative importance.⁵

**Richard Razgaitis is Senior Advisor at CRA International Inc., formerly Charles River Associates (which acquired InteCap, Inc. in 2004), and he is President of the Licensing Foundation. E-mail: rrazgaitis@crai.com*

1. The Licensing Foundation is a wholly-owned 501c3 subsidiary of LES (USA & Canada). Additional information on the Foundation is available at: www.licensingfoundation.org.

2. The Licensing Foundation during 2006 was managed by its Board comprised of E.B. (Ted) Cross, Ada Nielsen, Patrick O’Reilly, Richard Razgaitis, James Sobieraj, and Art Rose, and assisted by Ken Schoppmann of the LES (USA & Canada) office.

3. There is some potential confusion as to survey periods and publications for these three Foundation surveys. The first survey was taken in early 2004, published in *les Nouvelles* December 2004 (p. 139ff) for data (responses) corresponding to the year 2003. Likewise the second and now the third survey were taken in early 2005 and 2006 and published in the December 2005 (p. 145ff) and now the 2006 issue of *les Nouvelles* corresponding to the data periods 2004 and 2005, respectively.

4. The term “company” is used as a generic reference to an IP asset owning entity, which was primarily represented by corporate entities but includes representation from universities, research institutes, and government laboratories.

5. The reference to “switch positions” does not mean to suggest that Company A in 1985 had (roughly) 70 percent of its assets in tangible form and in 2005 its assets were instead 70 percent intangible. Although such a transformation is perhaps possible, the primary cause of such dramatic shift in relative percentages is the shift from 1985 to 2005 in the kinds of companies present today in our economy, and the various indices of our economy, and their respective valuations. Companies such as Microsoft, Cisco, eBay, Amazon, and all manner of pharmaceutical and biotech companies, and even companies such as WalMart exhibit in 2005 high market valuations and significant relative percentages of intangible assets.

Although the term “knowledge economy” is often used in broader contexts than balance sheet considerations, there is clearly a connection between the term and intangible assets/IP such that being a knowledge economy is manifest at least in part by existence of substantial IP assets.

An obvious value of intangible assets and IP is how it provides competitive advantage to its owner, as reflected in revenues, earnings, and other performance metrics such as revenue per employee or return on investment. Another value of such IP assets is as a source of trade through licensing (including assignment, or sale, of such rights), a subject dear to the readers of this journal and the membership of LES. The challenge faced by anyone seeking to understand the scope and importance of such trade value of IP assets is the difficulty of finding data on this “industry of licensing.”⁶

To this end, the Licensing Foundation has undertaken these annual surveys as an initial, small step to provide some further understanding of the licensing industry. Specifically, the objective of the Foundation’s survey is as follows: provide an annual, synoptic perspective on key statistics, events, and trends in “the business of licensing” that can assist licensing professionals in understanding and advancing the business environment in which they operate and to which they contribute, and can be used by the public, academic researchers, and government policy analysts to grasp the issues and impacts of licensing business practices.

The data obtained by the Foundation’s survey were derived by individual responses by some 1,000 LES (USA & Canada) members using an online survey instrument. Most of the data were collected in March 2006 for the calendar year 2005. Since such LES membership predominately reflects technology licensing of patents, know how, trade secrets, and copyrighted software—and relatively under-represents licensing of trademarks and copyrighted content, for example—the licensing industry so characterized by these data is primarily about technology licensing.

Survey Administration⁷

The survey was administered in the form of an online questionnaire accessed via the Internet. Over 6300 members of the Licensing Executives

Society (U.S.A. & Canada), Inc. were invited in March 2006 to participate in the survey via several rounds of email from the Licensing Foundation. The web survey format was chosen to limit costs, maximize accuracy, and to be minimally intrusive. This type of survey also allows for “dynamic” serving of questions in response to users’ input, minimizing the extent to which respondents are presented with irrelevant or redundant questions. When used for “closed” list-based samples such as the LES membership mailing list, web surveys have been shown to perform as well or better than traditional hard-copy mail-back survey instruments.

Separate versions of the survey were administered to the approximately 3,600 members identified as technology creator/users and to the approximately 2,700 identified as being providers of professional services (legal, consulting etc.)⁸ The survey web site received more than 1,200 “hits” with 588 respondents completing at least one question on the Technology Creator/User Survey and 344 on the Professional Services Survey. Respondents were guaranteed anonymity, and no records linking their identity to the database of survey questionnaire responses have been retained.

Representativeness of sample

The degree to which the results presented here can be considered statistically representative of all technology licensing activity in the U.S. and Canada is difficult to assess. It is important to note that the LES membership list is a “convenience” sample, not a randomized quota-based or stratified sample designed to be statistically representative of an underlying population. However “frame bias” i.e. unrepresentativeness of the LES membership list compared to the population of all licensing professionals is unlikely to be a significant problem, unless there are large numbers of people engaged in technology licensing who are not members of LES, and who differ systematically from those who are.

“Response bias,” i.e. systematic differences be-

7. The discussion here was provided by Prof. Iain Cockburn of Boston University who, along with Prof. Ajay Agrawal of the Univ. of Toronto were retained by the Licensing Foundation to assist in the development of the survey instruments, and collecting and validating the data.

8. LES members self-report, job title, company, professional status, and industry affiliation. However there is scope for errors in identifying “Technology Creator/User” versus “Professional Services.” Approximately 1% of entries in the database were reclassified based on the name of their organization (e.g. “IP Valuation Associates LLP” unlikely to be a technology creator/user.)

tween the members in the sample who choose to respond and those who do not, is not possible to assess fully. The distribution of respondents across industry sectors approximates the distribution in the entire mailing list, with some over-representation of the Health and University/Government sectors. However since we lack information about other characteristics of non-respondents, such as the size of their organization, it is not possible to evaluate potential bias arising from different response rates across, e.g., large versus small entities.

Response Rate

Technology Creator/User Survey

Of the more than 800 visits to the web site for this version of the survey, 588 respondents completed at least one question. After eliminating records for respondents who appear to have moved through the questionnaire without answering more than a handful of questions, the final sample contains 524 usable records.⁹ Of these, 502 answered most, or all, of the questions.

Response rates to specific questions were generally high, generally greater than 80 percent. Note that because the survey questionnaire “branched” at various points to ensure that respondents were only presented with relevant questions, the denominator for calculating response rates is not always 502. For example, of the total of 502 “core sample” records analyzed, only a 188 were presented with questions about “enforcement licensing” after answering “Yes” to Q16 (“In the past 12 months, has your organization entered into any licensing agreements in order to settle or avoid litigation, as opposed to being motivated by a business opportunity?”), and 277 were presented with questions about in-licensing after indicating that their organization was engaged in this activity.

Though 524 responses from a sample frame of 3,600 (the estimated number of IP asset owning companies) may seem low, it is in line with similar voluntary surveys that typically have a 10-30 percent response rate. Note that because LES membership is individual, not corporate, a single organization can appear multiple times in the mailing list. The LES members identified as belonging to the Technology Creator/User category come from less than 1,200 distinct organizations, with only a handful of organizations generating multiple responses. We

therefore achieved coverage of about 45 percent of the total number of Technology Creator/User organizations represented in the LES membership.¹⁰

Professional Services Survey

Approximately 2,700 LES members fall in the Professional Services category. About 10 percent of these do not appear to be actively involved in licensing, for example because they are professional staff recruiters. As with the Technology Creator/User category, the number of distinct organizations represented in the database is much less than 2,700, but because a large fraction do not report any organizational affiliation, it is very difficult to distinguish between employees of a professional firm and “sole proprietor” providers of professional services. Our best estimate is that about 800 distinct substantive professional firms are represented in this mailing list, and at least 1,000 sole-proprietor (or equivalent) entities.

Of the 344 visits to the web site for this version of the survey, 297 respondents completed at least one question. After eliminating records for respondents who appear to have moved through the questionnaire without answering more than a handful of questions, the final sample contains 258 usable records.

Because of the difficulty in identifying organizational affiliation of LES members who fall into the Professional Services category, “coverage” of the total number of entities represented in the LES membership list is hard to assess, as is the representativeness of this sample compared to the population of professional services providers.

Demographics Of The Survey Respondants

The IP asset owners responded on behalf of (a) a corporate licensing office, (b) a business unit/division licensing office, or (c) a standalone subsidiary. The average across all segments was 66 percent corporate, 32 percent business unit, and 2 percent subsidiary. The DICE (Digital Information Computing Electronics) segment had the highest corporate and subsidiary percentage: 78 percent corporate, 17 percent division, and 6 percent subsidiary (which totals above 100 percent because of rounding). The Industrial segment exhibited the largest decentralization: 61, 36, and 4 percent, respectively. Standalone subsidiary percentages varied from a low of 0.4 percent (Health) to a high of 5.6 percent (DICE), with,

9. 524 respondents worked through the first two sections of the survey, but 20 then dropped out.

10. The figure is approximate since individual members do not always identify their organization to LES.

interestingly, a higher percentage for Small companies, 3.5 percent, than for Large, 1.3 percent (the distinction is based on 500 employees).

Respondents were asked about the extent of their personal involvement in licensing, choosing between 0-1 years, 1-3, 3-5, 5-10, 10-20, and 20+. Every experience level in every segment reported not less than 3.6 percent for each experience level. The percentage of respondents with less than one year's experience ranged from 4.5 percent (Health) to 9.5 percent (Industrial); at the other extreme, the range for 20+ years was 3.6 percent (Industrial) to 13 percent (DICE). The mean value for all segments was 9.5 years, ranging from a low of 7.5 years (Industrial) to 10.4 years (University/Government, hereafter Univ./Gov't).

When asked whether they were "the most senior individual in the licensing function" 45 percent answered "yes." There was relative little variation across industry segments, with a low of 40 percent for Univ./Gov't, and a low of 48 percent for Health. Perhaps not surprisingly, 40 percent of respondents in large companies identified themselves as the most senior licensing person, whereas 54 percent did so for small companies.

The diversity of the licensing 'fraternity' is perhaps made most evident by the responses to the question on "what is your primary background outside the licensing field?" For the sample as a whole, the breakdown was 57 percent science/engineering, 20 percent general management, 19 percent legal, and 4 percent all other. As might be expected Univ./Gov't had the highest science/engineering percentages (62 percent, compared to 19 percent for general management, 16 percent legal, and 4 percent other, respectively), but high science/engineering percentages were also evident for Industrial (60, 18, 21, 1 percent, respectively) and Health (56, 20, 18, 6 percent, respectively; and Health had the largest percentage of "other," perhaps reflecting medical backgrounds). DICE had the largest legal representation, 26 percent, and general management, 30 percent, so its distribution was 41 percent science/engineering, 30 percent management, 26 percent legal, and 4 percent other. There was very little difference between Large and Small companies.

These broad distributions in industry, company size, organizational position, licensing experience level, and education backgrounds helps explain the range of interesting people one meets at LES events! One of the great values of the 'LES Campfire' is the

experience from meeting, and learning from, people in the many varied educational and career journeys we have taken.

The raison(s) d'être of IP

One of the recurring questions of licensing is why does it occur? Does licensing represent a transactional 'stop loss' event, wherein a company seeks to get something for IP/technology it has developed but is not using or using fully?¹¹ One question asked: "How important are the following types of IP in creating competitive advantage for your organization?" with choices of patents, trademarks, copyrights, know-how, and trade secrets (where it was left to the respondent to distinguish the latter two choices) and four levels of response as to relative importance: not important (scored 1), mildly (2), moderately (3), or extremely (4). The mean for all segments was the highest, 3.7.¹² The next highest valued IP asset was know how at 3.4, followed by trade secrets at 2.6, trademarks 2.5, and copyrights 2.3. The relatively lower percentages for trademarks and copyrights is likely a reflection of the LES membership being less representative of industries or business processes where such forms of IP are valued and traded.¹³ It is interesting that the respondents made a marked distinction between "know how" and "trade secrets," and ranked "know how" as more important (3.24 versus 2.6).

The distribution of scores for patents exhibited a very narrow range from a low of 3.6 (DICE, Industrial, and Univ./Gov't) to a high of 3.8 (Health), with no difference between Large and Small (3.7). Only a tiny percentage scored patents as "not important:" varying from a maximum of 2.1 percent (Univ./Gov't) down to 0.9 percent (Health). The distribution of scores for "know how", unlike "patents," varied over a large relative range: Industrial had the highest score, 3.7, followed by DICE (3.4),

11. Of course licensing occurs in other contexts, such as with inventing organizations such as universities, research institutes, and government labs, that by their innate purpose do not normally enter commerce, and by companies who find themselves in need of IP belonging to others to complement their R&D or provide freedom to practice.

12. Resulting from a distribution of 80% "extremely important," 13% moderately, 4% mildly, and 1% for not important.

13. Further, copyrights are viewed by LES respondents are likely further underweighted in the area of content copyrights (books, music, graphics, and such) as well as in the software arena. Furthermore, respondents were expressly directed to NOT include right-to-use software licenses in their responses, such as shrink wrap and other software product licenses.

Health (3.3), and Univ./Gov't (2.4). There was little difference between Large and Small: 3.1 versus 3.3, which perhaps surprisingly suggests that small companies place a higher value on know how.¹⁴

For "trade secrets" the high score was again Industrial (3.5), followed in the same order by DICE (3.2), Health (3.0), and Univ./Gov't (1.1); Small companies scored trade secrets more important than Large, 2.7 versus 2.4, as they did for "know how." It is interesting that trade secrets scored lower than know how in all six segments. Does this reflect a more narrow interpretation of what constitutes a trade secret, such as common reference to the legend of the Coca Cola formula locked in a vault for now more than 100 years? Or did survey respondents understand know how more broadly, for example as all the proprietary information/technology regardless of the extent of codification? Or only as-related business assets such as customer lists, actual and prospective, suppliers/vendors, channels of distribution, and business plans and processes? Or, all of the above? Whatever constitutes such know how in the minds of the respondents only an average of 5 percent said that know-how was "not important" and less than 14 percent said it was "mildly important;" so more than 80 percent ranked it as "moderately" or "extremely" important. The corresponding percentages for "patents" was: 1.2 percent (not important), 3.9 percent (mildly), and 95 percent (moderately or extremely).

The above responses were primarily in the context of competitive advantage derived from IP for an IP owner's business. A distinguishing question asked for the motivations that lead the respondent's company to develop such IP assets. Respondents were asked to rate nine options each at same four levels of importance (not important to extremely important). The responses for the overall results are shown in Exhibit 1. The two highest scoring reasons (3.0) were (c) generate licensing revenue and (e) use for strategic partnering and JV's. The higher scores for these two areas likely reflects the perspective of LES 'dealmakers' as opposed to their company's CEO/CFO, who perhaps would have put

the highest scores on (b), (d), and (f).¹⁵ The least important reasons were (i) improve bargaining strength in other business negotiations (2.3) and (f) making life difficult for competitors (2.1). As might be expected Small companies put a higher importance on using IP as a basis for strategic partnering and JV's than Large companies: 3.2 versus 2.9; yet, both segments put a high importance on this reason. Likewise, Small companies put a higher emphasis on signaling capabilities (g), 3.0 (Small) versus 2.5 (Large), improving bargaining strength in other business negotiations, (i) 2.6 (Small) versus 2.2 (Large), and (h) improving bargaining strength, 2.9 (Small) versus 2.6 (Large) Such data contradicts the idea that the use of IP is more important to large companies. Essentially all small companies aspire to be large, and these data appear to support the idea that IP is viewed to provide a greater advantage to smaller companies in such pursuit.

Litigation arising from IP disputes, principally patents but also know how and trade secrets, is often a newsworthy, one might say infamous, "licensing" outcome of IP ownership. The survey asked four related questions to this issue of IP used for litigation. The first such question asked whether in the previous year the respondent's organization entered into any licenses in order to settle or avoid litigation. The overall majority answer was "no," 62 percent, meaning not *any*. However, the responses by segment varied widely: 73 percent of Small said "no" compared to 55 percent of Large, 36 percent; DICE had the lowest response of "no," 76 percent, and Univ./Gov't had the highest, 76 percent. Clearly litigation was a much more common event in the DICE industry than Health (64 percent "no") or Industrial (51 percent "no"), which appears to correlate with the earlier observation that the DICE respondents had the highest percentage of legal backgrounds.¹⁶

A related litigation question asked for what percentage of licensing activity in the preceding year resulted from the respondent's company enforcing its IP rights against another party. As above, the mean response for all companies was low, namely 17 percent. However, here, Small companies re-

14. This may reflect lesser resources in developing an extensive patent portfolio, or a more nascent patent estate, or even, perhaps, a greater fear of the affordability of enforcing patents against perceived infringers (and, so, maintaining more of its IP in the form of know how).

15. One of the long-term objectives of the Foundation's surveying is to acquire responses from other perspectives, such as CEOs and CFOs.

16. So this raises the 'chicken and egg' question: is the higher frequency of litigation innate and thereby leads to the need for more licensing officers with a legal background, or is the higher percentage of such officers from a legal background causing a higher frequency of litigation? This is left to the reader as an unsolved mystery and point of contemplation.

Exhibit. 1 (Q14): How important are each of these motivations for your organization to develop IP assets?

	N/A	Not important	Mildly important	Moderately important	Extremely important	Score (0-4) Mean	Std
(a) Manage litigation risk i.e. deter or avoid litigation or improve settlement outcomes	7.10%	15.90%	17.10%	23.60%	36.30%	2.7	1.3
(b) Realize higher margins on proprietary products	12%	12.30%	13.30%	17.70%	43.80%	2.7	1.5
(c) Generate licensing revenue	1.80%	7.70%	23.00%	27.40%	40.10%	3.0	1
(d) Prevent or slow down imitation of technology or products	9.70%	18.70%	16.70%	23.20%	31.70%	2.5	1.4
(e) Use as basis for strategic partnering and JVs	4.80%	4.20%	17.90%	33.70%	39.50%	3.0	1.1
(f) Make life difficult for competitors e.g. by blocking technology development, raising their R&D costs	16%	24.40%	18.70%	19.40%	21.60%	2.1	1.4
(g) Signal capabilities to investors, partners, customers, prospective employees etc.	4.60%	10.90%	22.60%	32.90%	29.00%	2.7	1.1
(h) Improve bargaining strength in negotiations or disputes over IP	5.80%	9.30%	20.80%	33.10%	31.00%	2.7	1.2
(i) Improve bargaining strength in other business negotiations with customers or suppliers	11%	14.80%	23.20%	30.10%	20.80%	2.3	1.3

ported a higher percentage than Large, 19 percent versus 16 percent, perhaps explained by a relatively smaller number of total licenses. As above, DICE leads all other segments, 38 percent, followed by Industrial (18 percent), Health (11 percent), and Univ./Gov't (8 percent). Another question asked the same question from the defensive side, namely what percentage of licensing was driven by settling or avoiding litigation threatened or initiated by another party. Here the average for all respondents was even lower, 10 percent, and Large companies gave higher values than Small (11 percent versus 7 percent), and DICE, again, had the highest segment score (15 percent), but closely followed by Industrial (11 percent), Health (9 percent), and Univ./Gov't (4 percent).

The final question in this litigation series asked about who the threatening or suing party was that resulted in the just above quoted responses. The most common threat (or suit) was from a direct competitor (33 percent of time, varying from a high of 50 percent for Industrial to a low of 22 percent

for DICE, (not considering for this comparison the 4 percent response for Univ./Gov't). The next most common proactive adversary was described as "an entity apparently created to exploit a specific piece of IP" (so worded in a conscious attempt to avoid the perhaps pejorative, and limiting, term "troll"): 18 percent was the overall average, lead by DICE (32 percent), then Univ./Gov't (25 percent), Health (14 percent), and Industrial (6 percent), and Large exhibited almost double the frequency of Small (21 percent versus 12 percent).¹⁷ The next most common proactive adversary was a party in a different industry: 17 percent was the overall average, again lead by DICE (25 percent), then Univ./Gov't (29 percent), Health (12 percent), and Industrial (10 percent), but here Small exceeded Large by a small margin (18.1 percent versus 16.8 percent). The least

17. Such data may support the belief that a greater legal background is pertinent to DICE because of the adverse litigious environment.

likely proactive adversary was an upstream entity creating technology/tools used by the respondent's organization: the overall average was 12 percent, but this time lead by Univ./Gov't (19 percent), followed by Health (13 percent), Industrial (7 percent), and DICE, here, being the lowest (6 percent); there was little difference between Large and Small (12 percent versus 11 percent).

The respondents were also asked about its perception of the merits of the adversary's argument, specifically: did it appear that such adversary was "unlikely to prevail if litigation was pursued to the bitter end (where "unlikely" was defined as less than a 30 percent chance of success)." Here the responses ranged from 28 percent (Health) to 52 percent (Univ./Gov't), with DICE and Industrial in between at 44 percent and 43 percent, respectively. The overall average was 39 percent, and Large exceeding Small (40 percent versus 36 percent). Clearly the respondents believed that a significant percentage of agreements made to settle or avoid litigation were not the result of a highly meritorious case by the proactive adversary.¹⁸

Know How Licensing

As discussed above, know how was a highly rated form of IP. When asked about licensing such know how, namely in the past year "has your organization entered into any agreements that licensed know how," the response was highly affirmative, ranging from a low of 58 percent (Health) to a high of 82 percent (Industrial), with an overall average of 64 percent. Here there was a notable difference between Large and Small: 69 percent versus 57 percent.

Patents are typically included in such know-how licenses. When asked "were licenses for know-how combined with formal IP such as patents" (in the past year) the average response was 68 percent of the time, with responses of all segments in a narrow range from a low of 53 percent (DICE) to a high of 73 percent (Health). When asked how frequent were licenses *only* for know how (i.e., no "formal IP"), the data were consistent with the above observations: only 10 percent of the time was the overall average answer, ranging from a low of 6 percent

(Univ./Gov't) to a high of 18 percent (DICE), with a small difference between Large (9 percent) and Small (11 percent).

Impediments To Licensing

The above data were for deals actually done. As all licensing professionals know, there are not only good deals and bad deals and 'in between deals,' there are also "no deals." Between a deal aspiration and any kind of an outcome, including the outcome "no deal," there are challenges of various kinds to be overcome. The survey asked a series of questions about the nature of deal impediments.

The first such question sought to identify if the impediments were more numerous, or more onerous, for a licensing transaction than compared to one for an tangible asset such as leasing real estate or contracting for the use of a specialized production facility. To concretize this question, respondents were asked to consider a \$10 million value transaction. Did respondents believe that there are fewer potential buyers/sellers for IP than for a tangible asset, choosing from don't know, strongly disagree, disagree, agree, and strongly agree? The overall answer was a highly affirmative "yes," with 84 percent¹⁹ responding "strongly agree" or "agree." Interestingly, all the segments provided a "yes" answer with DICE respondents the most affirmative at 90 percent (strongly agree plus agree) and Health the least at 77 percent, with Large and Small very similar, 85 percent versus 83 percent.

The next question in this series that received the most "yes" votes (as throughout this discussion, "yes" means the relative percentage of "agree" plus "strongly agree") was the following: is due diligence *much more* difficult/costly for the IP deal? The overall answer was 79 percent "yes," led again by DICE at 88 percent with Industrial the lowest at 73 percent; here Small had a higher percentage than Large: 81 percent versus 78 percent.

Did such IP deals require more attention from top management? The answer was again an affirmative "yes," but less strongly so than for the above questions: the overall "yes" was 72 percent, now lead by Health at 78 percent and trailed by Univ./Gov't at 64 percent; here Small was substantially more affirmative than Large, 78 percent versus 69 percent, likely because such a transaction would be more material for a smaller company. Are IP deals more difficult to bring to closure? "Yes" again: 76 per-

18. Another deep question for the reader to ponder: is this just human nature expressing the belief that it's not me that's at fault? Jean Renoir famously said, "The real hell of life is that everyone has his reasons." And, from one of the oldest extant texts, Book of Proverbs from the Bible, ca. 900 BC: "The first to present his case seems right, till another comes forward and questions him." (Prov. 18:17, New International Version).

19. This calculation was done by *not* including answers of "don't know."

cent, with DICE being the most affirmative at 83 percent. Addressing the closure difficulty question another way, the survey asked is an IP deal more likely to end up not being licensing or sold to *anyone*? Answer: 66 percent “yes,” so the ‘no deal with anyone’ outcome is notably more likely with IP as opposed to tangible assets, with Univ./Gov’t experiencing this most strongly at 80 percent, and Health least strongly at 58 percent. Is the IP deal more likely to be part of other, parallel negotiations? “Yes” at 64 percent, lead by Health at 70 percent, and Small (69 percent) more affirmative than Large (61 percent).

So for those feeling a little beaten down in terms of IP deal flow statistics, we can all take some collegial comfort from what is a widely common experience in all segments for every one of these impediments questions.

One different type of impediment is an organization’s unwillingness to license (or sell) certain ‘off limits’ IP. The survey asked several questions on the nature of IP it was unwilling to license to others: thinking about your organizations entire inventory of IP, approximately what percentage would NEVER be licensed voluntarily? The overall average answer was 31 percent, ranging from a high of 39 percent (Industrial) closely followed by Health (37 percent) to a low of 19 percent (Univ./Gov’t); Large exceeded Small by a large margin: 35 percent versus 27 percent.

When asked why such IP was not to be licensed, the most prevalent answer was because it was “core technology” (42 percent overall, but 63 percent for Industrial, and 45 percent for Large versus 37 percent for Small). The next most prevalent reason was that it was “strategically vital” to retain exclusive access: overall 32 percent, led now by DICE at 49 percent followed by Industrial at 46 percent. The least important reason was perceived minimal value: is it too costly to market outside the organization relative to anticipated returns? The overall response was 24 percent reporting very consistent answers ranging between 21 percent and 27 percent.

Related to willingness to license is a belief that a licensing campaign for a particular IP package is likely to succeed in a worthwhile deal. When asked what percentage of all IP that is available, in the sense of the asset owner’s willingness to sell, is *unlikely ever* to be transacted: the overall average was 37 percent, led by Univ./Gov’t at 54 percent with Health the lowest at 26 percent, and Large exceeding Small by 41 percent versus 32 percent. When asked why was such IP unlikely to be transacted, the

most common, and sad, answer was in response to the choice “has no discernable demand from end-users:” 42 percent overall, led by Univ./Gov’t (54 percent), and Large (47 percent) exceeding Small (35 percent). The next most affirmed choice was “only useful in conjunction with IP that are exclusive to your organization:” 26 percent overall, lead by DICE at 46 percent, with Small (30 percent) exceeding Large (24 percent). The least affirmed explanation, of the three choices provided, was “not effectively protectable” as IP: 19 percent overall, lead by 25 percent for DICE, with Small (21 percent) exceeding Large (18 percent).

Deal Failure

As if the difficulties of licensing IP wasn’t challenging enough, there is the situation where IP is available for licensing, is marketed, leading to direct negotiations, and yet no deal was closed. When asked how often potential licensees/licensors were identified for which no substantive negotiations were started, the overall answer was 33 percent,²⁰ lead by Industrial (40 percent). The survey then asked for the percentage of deal success once substantive negotiations had begun: 53 percent overall, lead by Univ./Gov’t (65 percent) and trailed by DICE (42 percent), with Large (56 percent) exceeding Small (49 percent).

When deal failure occurs, after substantial negotiations, the leading cause was financial terms: overall respondents identified this for 31 percent of cases, led by DICE (42 percent) with Univ./Gov’t (21 percent) reporting the lowest percentage; Small (31.8 percent) was slightly greater than Large (30.2 percent). However, inability to reach agreement on acceptable non-financial terms was also important: responsible for 25 percent of deal failures overall, with all segments reporting over a narrow range (22 to 29 percent). The other nine deal failure explanations scored much lower: better alternative emerged for one or more parties (14 percent overall), due diligence revealed problems with enforceability/validity of IP (12 percent overall), inability to agree on appropriate scope of IP to be included (9 percent overall), ego/hubris (8 percent), lack of trust/bad faith (8 percent), poor negotiating skills (7 percent), too many parties at the table (5 percent), clock ran out (5 percent), legal/regulatory problems (3 percent). So, although there can be many reasons for deal failure, and the ones surveyed were not mu-

20. Meaning that two-thirds of the time substantive negotiations did occur.

tually exclusive, the leading ones were the issues of money and primary deal terms, which supports the best practice of early use of term sheets in negotiations, summarizing deal terms sought.

Anticipating money agreement issues, the survey asked for a series of responses as why mutually acceptable financial terms could not be reached. The most important reasons, of the four choices given, was disagreement on basic facts or assumptions underlying valuation: 33 percent overall, with all segments in a narrow range (30-38 percent) except Industrial (25 percent). The next most prevalent explanation was irreconcilable differences on amounts to be paid within an agreed structure (e.g. royalty rate or amount of upfront fees): 27 percent, led by DICE (37 percent). Next was irreconcilable differences on the financial structure itself (balance between upfront payment and running royalties, paid-up versus contingent payments etc.): 23 percent overall, here led by Health (26 percent), but all segments were in a narrow range (19 to 26 percent). The lowest scoring answer was “no financial model:” 12.6 percent overall with all respondents between 11 and 13 percent.²¹

Closely related to the above series of responses were questions related to the preparation of a financial model and its effect upon dealmaking. Did having such a model improve the terms of the deal? Affirmatively “yes” (72 percent overall), led by DICE (85 percent). Did it increase the likelihood of a deal getting done? Still the overall answer was “yes” (58 percent) but notably less affirmative than the previous response. Did it shorten the dealmaking time? Less than half of all reporting (45 percent) said that it did, though DICE (62 percent) and Industrial (55 percent) had more than a majority say “yes.” Did it reduce the total costs of reaching agreement? No segment reported more than 50 percent “yes” (though Industrial had the highest affirmative response at exactly 50 percent), with an overall average of 34 percent. So the survey suggests the primary benefit of having a financial model was that it improved the deal itself, a clearly important objective, but not primarily that it increased the likelihood of deal consummation, or reduced the negotiating time or costs.

21. These questions were also asked in the Foundation’s first survey of this kind in 2004, and this year’s responses closely track the earlier findings. The robustness of these results indicates that pricing licensing deals is a serious challenge for all participants.

Trend Data For Dealmaking

The survey also asked several deal trend questions. Has the level of interest in using licensing to realize value from technology increased? The overall response was dramatically emphatic with 65 percent saying it has increased versus 5 percent decrease (25 percent said it stayed the same); DICE and Health lead this observation, 72 percent increased versus 3 percent decreased (DICE), and 70 percent increased versus 4 percent decreased (Health); so the response for “increase” was more than 10 times (10x) that for “decrease.” Has the percentage of IP you want to license but can’t, with at least one potential licensee, gone up or down over the past three years? The overall response was favorable, 29 percent saying it increased versus 8 percent saying it decreased (and 63 percent saying it stayed the same). Here the “increase” vs. “decrease” response was about 3.5x. Has the percentage of deals closed once substantive negotiations were started increased? Overall 31 percent said closure increased compared to 5 percent decreased, lead by DICE (40 percent increase versus 8 percent decreased); here “increase” was greater than “decrease” by about 6x.

Such reported positive increases in dealmaking mirrored organizational changes over the past three years. Has your organization become more open to licensing as a way to exploit or gain access to IP? 69 percent overall said yes, with Industrial, DICE, and Health reporting 79 percent, 79 percent, and 75 percent respectively. Has your organization invested significantly in developing internal skills, capabilities, and business processes supporting/licensing? Overall 60 percent said yes, with all segments reporting in a surprisingly narrow range (60 to 61 percent). Has reorganizing or restructuring your licensing organization made you more effective? Less than 50 percent saw increased effectiveness (46 percent overall), with Health (40 percent) least affirmative, and only Industrial (55 percent) had a favorable view of the effect. Has your organization become more focused on generating easily licensable IP? Again the overall response was less than 50 percent (44 percent) responding affirmatively, only DICE (at 54 percent) was above 50 percent. Finally, has your organization placed more reliance on outside counsel or consultants in conducting licensing transactions? Here the answer was substantially weighted toward “no:” overall 25 percent responded with “yes,” lead by DICE (38 percent).

Deal Structures And Remorse

Buyer’s remorse is a well-known phenomenon

Exhibit. 2 (Q42): Thinking about licensing agreements entered into in the last 12 months, with the benefit of hindsight, which if any of the following contract characteristics would you now restructure?

	Checked		Checked
(a) Field of use restrictions?		(g) Grant-back provisions?	
All	43.10%	All	22.90%
D/I/C/E	38.20%	D/I/C/E	29.40%
Health	38.90%	Health	24.80%
Industrial	39.10%	Industrial	18.80%
Univ/Gov	53.20%	Univ/Gov	20.70%
Large	48.60%	Large	23.00%
Small	34.90%	Small	22.80%
(b) Duration of agreement?		(h) Reach-through provisions?	
All	22.40%	All	9.70%
D/I/C/E	20.60%	D/I/C/E	8.80%
Health	23.60%	Health	12.10%
Industrial	29.00%	Industrial	7.20%
Univ/Gov	17.10%	Univ/Gov	8.10%
Large	23.00%	Large	7.20%
Small	21.50%	Small	13.40%
(c) Degree of exclusivity?		(i) Payment structure (e.g. balance between upfront fees vs. running royalty)?	
All	33.20%	All	32.10%
D/I/C/E	17.60%	D/I/C/E	52.90%
Health	36.30%	Health	29.30%
Industrial	36.20%	Industrial	31.90%
Univ/Gov	31.50%	Univ/Gov	29.70%
Large	34.20%	Large	32.90%
Small	31.50%	Small	30.90%
(d) Most-favored-nation (MFN) provisions?		(j) Payment amounts (e.g. royalty rate or amount of upfront fees)?	
All	14.00%	All	35.00%
D/I/C/E	29.40%	D/I/C/E	41.20%
Health	14.00%	Health	40.10%
Industrial	13.00%	Industrial	36.20%
Univ/Gov	9.90%	Univ/Gov	25.20%
Large	12.20%	Large	31.10%
Small	16.80%	Small	40.90%
(e) Technical milestones?		(k) Terms of use?	
All	40.20%	All	14.30%
D/I/C/E	32.40%	D/I/C/E	29.40%
Health	40.80%	Health	12.10%
Industrial	33.30%	Industrial	17.40%
Univ/Gov	45.90%	Univ/Gov	10.80%
Large	42.30%	Large	14.90%
Small	36.90%	Small	13.40%
(f) Business milestones?		(l) Any other terms?	
All	43.70%	All	8.10%
D/I/C/E	23.50%	D/I/C/E	2.90%
Health	40.80%	Health	7.00%
Industrial	37.70%	Industrial	11.60%
Univ/Gov	57.70%	Univ/Gov	9.00%
Large	49.10%	Large	7.20%
Small	35.60%	Small	9.40%

Exhibit. 3 (Q43): What are the three most common reasons why you would restructure some of last year's deals if you could? (Check up to 3 of the following)

	N	Checked		N	Checked
(a) New information has emerged about the market opportunity			(e) Realize that you made mistakes negotiating		
All	380	38.90%	All	380	28.40%
D/I/C/E	36	55.60%	D/I/C/E	36	19.40%
Health	166	40.40%	Health	166	22.30%
Industrial	68	29.40%	Industrial	68	30.90%
Univ/Gov	110	37.30%	Univ/Gov	110	39.10%
Large	226	40.30%	Large	226	28.30%
Small	154	37.00%	Small	154	28.60%
(b) New information has emerged about the performance of the technology			(f) Revised your view of the most profitable licensing strategy (e.g. RAND vs. exclusivity/high royalty rate)		
All	380	33.20%	All	380	20.00%
D/I/C/E	36	13.90%	D/I/C/E	36	27.80%
Health	166	38.60%	Health	166	16.90%
Industrial	68	26.50%	Industrial	68	22.10%
Univ/Gov	110	35.50%	Univ/Gov	110	20.90%
Large	226	31.90%	Large	226	21.20%
Small	154	35.10%	Small	154	18.20%
(c) Stronger IP position today			(g) The other side is not putting their promised effort into the product/ technology		
All	380	16.80%	All	380	52.90%
D/I/C/E	36	22.20%	D/I/C/E	36	36.10%
Health	166	19.30%	Health	166	45.80%
Industrial	68	16.20%	Industrial	68	48.50%
Univ/Gov	110	11.80%	Univ/Gov	110	71.80%
Large	226	13.70%	Large	226	55.80%
Small	154	21.40%	Small	154	48.70%
(d) Revised business strategy			(h) Other		
All	380	40.50%	All	380	5.00%
D/I/C/E	36	50.00%	D/I/C/E	36	5.60%
Health	166	41.60%	Health	166	5.40%
Industrial	68	54.40%	Industrial	68	4.40%
Univ/Gov	110	27.30%	Univ/Gov	110	4.50%
Large	226	42.00%	Large	226	2.70%
Small	154	38.30%	Small	154	8.40%

in ordinary transactions. The survey asked respondents to identify elements of a deal, in hindsight, which they would now restructure. The data are shown in Exhibit 2 showing overall results and the data for each of the six segments. The leading areas of remorse were field of use restrictions (43 percent), milestones (business 44 percent, technical 40 percent), payments (amounts 35 percent, structure of payments 32 percent), and degree of exclusivity (33 percent). Least common concerns were reach-through provisions (10 percent), terms of use (14 percent), most-favored nation provisions (14 percent, overall, though DICE claimed 29 percent), duration (22 percent) and grant-backs (23 percent). Overall 8 percent indicated that there were other terms not identified in the survey that was a cause for retrospective concern.

Next the survey asked for the most common reasons why any element of remorse has occurred. The respondents were asked to identify the three most common reasons from a list of eight choices. The results are shown in Exhibit 3. The most common factor is a reflection of disappointment in the partner's post-deal level of effort namely, "the other side is not putting their promised effort into the product/technology:" this was cited 53 percent of the time by the overall respondents, led by Univ./Gov't (72 percent). Next in frequency of response was a revised business strategy. 40 percent overall cited this explanation, lead by DICE (50 percent). The next most important factor was the emergence of new information about the market opportunity, cited by 39 percent overall, but 56 percent by DICE. Next was new information about the performance of the technology, cited by 33 percent overall, lead now by Health (39 percent) with DICE (14 percent) being the lowest citer of this factor. Next was the recognition of mistakes made in negotiating, which was cited by 28 percent overall, led by Univ./Gov't (39 percent), with DICE (19 percent) scoring the lowest of the segments. Notably less frequently cited was a revised view of the most profitable licensing strategy (20 percent), a stronger IP position today (17 percent), and any other reason (5 percent). These data show some interesting reversals between the Large and Small segments. Large more frequently cited the effect of changes in market opportunity (difference of 3.3 points), revised business strategy (3.7 points), revised view of most profitable licensing strategy (3.0 points), and the other side is not putting their promised effort (7.1 points, the largest differential); whereas Small cited more fre-

quently the effect of changes in the performance of the technology (3.2 points), changes in the strength of its IP position (7.7 points, the largest differential), and other (5.7 points). As to mistakes made, Large and Small cited this explanation with essentially identical frequency (0.3 points differential).

The IP Environment

The survey again sought to determine the level of concern with regard to forces and opinions that are generally adverse towards IP and licensing. Specifically, the respondents were asked: "Some argue that IP-protected products should be made available at prices below those for which there are actually licensed or sold. Others argue that there should be no IP protection at all. Still others believe that some form of compulsory licensing should be available under certain conditions. To what extent do you see these forces as being cause for concern with respect to your business?" The second part of this question asked for the respondent's assessment "today" (beginning of 2006) and for what he or she believed would have been their response three years previous. The results are shown in Exhibit 4 for each segment and the overall response. The right-most two columns shown in italics present the data in two ways: the sum of moderate and strong concern, and the differential from "today's" perception versus "today's" perception of three years prior.

Looking at the "today" data, every segment reported greater than 50 percent moderate or strong concern, with the overall result of 60 percent, led by Health (66 percent). In contrast, the data for one's perception three years earlier was below 50 percent for every segment, whereas the "today" data was all greater than 50 percent. The difference between "today" versus three years prior was 22 points overall, lead by DICE (30 points). No segment reported less than a 15 point increase in concern.

Another point of comparison is the "today" data taken for exactly this question in last year's survey compared to the current data. The data taken in early 2005, the overall moderate + strong cause for concern data was 55 percent, where Large (61 percent) showed somewhat greater concern than Small (53 percent), perhaps because companies in the Small segment have many other causes for concern (such as companies in the Large category). The early 2006 data for "today" has shown an increase by 5 points, with Small (60.8 percent) now exceeding (slightly) Large (60.3 percent), suggesting perhaps that companies in the Small segment are experiencing what the ones in Large saw earlier.

Exhibit. 4 (Q5): Some argue that IP-protected products should be made available at prices below those for which they are actually licensed or sold. Others argue that there should be no IP protection at all. Still others believe that some form of compulsory licensing should be available under certain conditions. To what extent do you see these forces as being cause for concern with respect to your business?

	No cause for concern	Mild cause for concern	Moderate cause concern	Strong cause for concern	Moderate + Strong Concern	Today– 3 Years Ago
My assessment 3 years ago						
All	22.7%	38.3%	26.0%	13.0%	39.0%	
D/I/C/E	22.6%	47.2%	22.6%	7.5%	30.1%	
Health	20.6%	33.5%	27.5%	18.3%	45.8%	
Industrial	30.1%	32.5%	27.7%	9.6%	37.3%	
Univ/Gov	21.6%	46.0%	23.7%	8.6%	32.3%	
Large	22.0%	38.2%	26.7%	13.2%	39.9%	
Small	23.9%	38.6%	24.9%	12.7%	37.6%	
My assessment today						
All	10.4%	29.1%	38.1%	22.4%	60.5%	21.5%
D/I/C/E	17.0%	22.6%	43.4%	17.0%	60.4%	30.3%
Health	8.0%	26.3%	35.3%	30.4%	65.7%	19.9%
Industrial	11.9%	35.7%	38.1%	14.3%	52.4%	15.1%
Univ/Gov	10.7%	32.1%	40.7%	16.4%	57.1%	24.8%
Large	8.9%	30.8%	37.1%	23.2%	60.3%	20.4%
Small	12.6%	26.6%	39.7%	21.1%	60.8%	23.2%

Future Plans

The Licensing Foundation will conduct its 4th Annual Survey of the Licensing Industry in early 2007 covering calendar year 2006. We will again rely on the generous spirit of LES members in taking time from fighting impediments to dealmaking, overcoming barriers to intangibles marketing and negotiations, dealing with deal remorse, and overcoming increasing concerns about adverse forces in the IP and licensing environment to once again participate in this surveying process. In addition we will begin posting the extensive data that the Foundation has collected during these past three years which has only been summarized in the respective year's *les Nouvelles* articles. The reader should check on the Licensing Foundation's Web site in early 2007: www.licensingfoundation.org. Finally, the Foundation is considering supplementing this member-survey by also developing a company-specific survey as part of an overall index of annual company activities by industry segment.

Acknowledgements

The Licensing Foundation wants especially to recognize that its funding has been primarily the result of contributions made by LES (USA & Canada). We have also received limited financial contributions, and massive time and wisdom contributions from many different LES members. This is all gratefully acknowledged. The Licensing Foundation has a **public** purpose, namely: *Advancing the understanding of licensing in fostering innovation for a knowledge economy*. One of our programs for accomplishing this is such surveying and publishing activities.

We also wish to acknowledge the work of Professors Iain Cockburn and Ajay Agrawal who assisted the Foundation in developing the questionnaire and collecting the data, as they have done for all three surveys taken to date.

Most of all we want to acknowledge the effort made by each of you who responded to our request for participation in taking the survey, and hope that our degree of appreciation will expand in 2007 as even more of you join your colleagues in adding your data and wisdom to this effort. ■

Idea Management System (IMS): An Innovation System To Create Value From Concepts

By M. Rashid Khan and Mohammed Al-Ansari*

Abstract

To empower its employees, Saudi Aramco initiated a new company-wide innovation program. In order to facilitate innovation, Idea Management System (IMS) was launched. IMS is an enterprise discipline that utilizes software products, services, procedures/standards and policies to intellectually capture, filter, manage and capitalize on creative ideas across the company to translate the ideas into implemented products. Every employee, regardless of the position, has a chance to benefit the company through using this system. IMS tracks ideas from inception to implementation that makes it much easier to track key metrics, including the estimated cost savings and/or new revenues from the implementation and provide various useful statistics. A large numbers of ideas have been implemented or commercialized adding significant cost savings and value addition to the corporation.

Background

Saudi Aramco initiated an aggressive program in innovation to capture innovative potential of its employees through the initiation of Corporate Innovation Program and IMS software. Through IMS, Saudi Aramco is capitalizing on innovative ideas that are created by its employees to improve the performance of existing operations. IMS is also used to create innovative approaches to address strategic directions and to potentially add value to the development and transfer of technology to the company operations. The creation of the Innovation initiative and IMS stemmed from the company's continued need to maintain itself as a global energy leader and to ensure prosperity for the Saudi Arabian economy.

IMS as a Value Proposition in Sustaining Innovation

Innovation alignment with corporate strategic goal: Innovation is the lifeblood of the modern competing organizational environment. In the fiercely competitive 21st century marketplace, innovative ability is an essential dimension for corporations' survival. The **model** to foster sustainable creativity is drastically different from the innovation programs developed by many organizations that did not flourish. There are examples of organizations that continuously added value by sustaining innovation and creativity and were able to come up with fresh ideas repeatedly leading

to continuous growth in revenue generation. The key difference is to sustain innovation through capturing best ideas; innovative ideas that support organizational strategic direction and visions by tapping the unlimited innovative potential of its employees. (Ref 1, Khan and Al-Ansari, 2005). The patent pending Saudi Aramco software is designed to help focus the employees on specific business directions. This tends to result in a larger quantity of high quality innovation ideas.

Tapping into employees' minds: Innovation success rates depend on the degree to which organizations can discover, develop and implement innovation approach for new products and services. To compete at this level, organizations must pioneer in tapping into the creative power of their employees through creating a nurturing culture that focuses employees' creative energies around key strategic goals and visions. Furthermore, organizations with futuristic vision must align business objectives with their strategic direction and capitalize on evaluating and screening ideas quickly to identify those with the greatest value added potential for implementation.

Needs for suitable idea management system: Although sustaining innovation is a major objective for many growing companies, the creativity and innovation of employees still remain relatively untapped resources. Nowadays, individuals and isolated business units independently brainstorm to develop new

**M. Rashid Khan, Intellectual Assets and Technology Management Division of Saudi Aramco. He received his PhD in Energy and Fuels Engineering from Penn State. He has received various honors for his work in Innovation and Creativity. He is located in Dharan, Saudi Arabia
E-mail: rashid.khan.1@aramco.com
Mohammed Abdulaziz Al-ansari, Administrator of Corporate Intellectual Assets Management for Saudi Aramco. He received a PhD from Washington University in Intellectual Asset Management. He is located in Dharan, Saudi Arabia.
E-mail: ansamoe@aramco.com.sa*

concepts and improve their own operations, but there exists no systematic way to capture, filter, and manage ideas across the enterprise and thereafter put them through implementation. Here is an example: about 400 industry leaders across a broad range of small to mid-size companies around the world were surveyed, according to a recent published study. Over 90 percent of executives reported that innovation is the most important business issue and about 60 percent said that innovation was critical to their future success, and was the topic of frequent conversations within their organizations. However, a vast majority of these companies had no innovation or an Idea management system, and had no mechanism to implement or measure innovation metrics.

Innovation management versus knowledge management: Every organization needs to innovate to a varying degree. To address this, according to Ducker, every organization needs a way to record and appraise its innovative performance in a number of ways. For example, “the problem is never how to get new, innovative thoughts into your mind, but how to get the old ones out.” (Ref 2, Ducker, 1995). It has been reported that many organizations that implemented Knowledge Management (KM) systems were finding it hard to measure the bottom-line impact. Existing KM applications do an excellent job of soliciting and storing ideas into a centralized online database. However, these systems often lack the needed interactions, critical reviews, and integration with other ideas or mechanisms of implementation. No systematic methods are provided to measure the implementation or cost savings. IMS, however, shares very fundamental advantages and common roots related to knowledge management systems. IMS not only helps to capture and share, but also to leverage the collective knowledge, expertise and insights.

Integration with protection mechanisms: Saudi Aramco Idea Management System was designed to fill the gaps others apparently failed to provide. IMS software is integrated with knowledge management, innovation and patent disclosure and protection mechanisms. It was developed from extensive research into how people receive and process knowledge and information. The software is used company-wide within Saudi Aramco at individual, team, organizational and corporate levels. It was designed to benefit both the corporation and employees by supplying a steady stream of ideas that address corporate challenges and support day-to-day operation and recognize employees’ innovative thinking. The goal was to turn day-to-day intermittent, localized brainstorming into corporate assets and to create a collaborative innovation culture. IMS offers a number of compelling benefits to organizations

at different levels of operations and populations:

- IMS focuses employees’ creativity around strategic direction, challenges and organizational goals. Research shows that once employees are asked to generate ideas or suggestions around a specific business problem or objective, the quantity and quality of ideas tends to increase significantly.
- IMS overcomes organizational hierarchy. By allowing all employees, regardless to their rank and profession, to share and speak their voice to the highest level of the organization, all hierarchy is eliminated and individual employees are empowered to deliver their ideas and opinions to anyone without the myth of fear-to-speak. This feature creates a team spirit culture and provides an environment to organizations where hierarchy and “fear of speaking out” is an issue.
- IMS encourages employees to capture all ideas and others to build on their ideas. In most types of businesses, employees rarely capture their ideas. With Saudi Aramco IMS, this problem is not an issue. Employees can quickly jot down an idea and return to the system later to add details to their new creation. Since the system is open to all employees, IMS allows other employees to build on an idea and acquire knowledge by viewing others’ ideas.
- IMS collects ideas from the entire organization, not just specialized departments like exploration, R&D and/or marketing.
- Promotes greater transparency. By placing ideas in a shared repository, employees can see the outcome of all of the ideas submitted, which increases their enthusiasm and participation in idea campaigns. In addition, these database-driven tools make it easier to measure the contribution of each implemented idea to the firm’s bottom line. This makes it compelling, in turn, to reward employees who have contributed winning ideas.
- Helps organizations to develop and share best practices. Scattered offices and locations around the globe are not an issue with IMS. The system enables swift and cost-effective sharing of ideas and best practices that have been used successfully at one location with other locations. This allows multiplying bottom-line benefits of a single cost-saving idea many times over. Usually, corporate locations or divisions operate like silos, rarely sharing information, ideas and best practices. Web-based IMS is accessed via any computer with an Internet connection, from anywhere, vastly simplifying the transfer of valuable ideas and best practices across geographical and organizational barriers.
- Speeding commercialization of ideas into products.

Idea Management System (IMS)

IMS helps organizations to capitalize on best ideas faster through a structured process for evaluating ideas and selecting the best for implementation. Also by providing a set of checks and balances to make sure that all ideas are promptly reviewed and evaluated by experts in the field.

- Addressing corporate applications. IMS not only provides a valuable toolset for developing new product and service ideas, but can also catalyze greater results from corporate cost-reduction initiatives and challenges. One can also invite outside partners, such as suppliers, dealers and joint venture partners, to contribute ideas on a secure extranet connection that feeds to IMS.

Improvements of Saudi Aramco Idea Management System (IMS) over Prior Art Software:

Many organizations have relied upon suggestion box systems or web-based knowledge systems to collect ideas from their employees. However, such systems became extinct as these systems suffered from a number of common shortcomings:

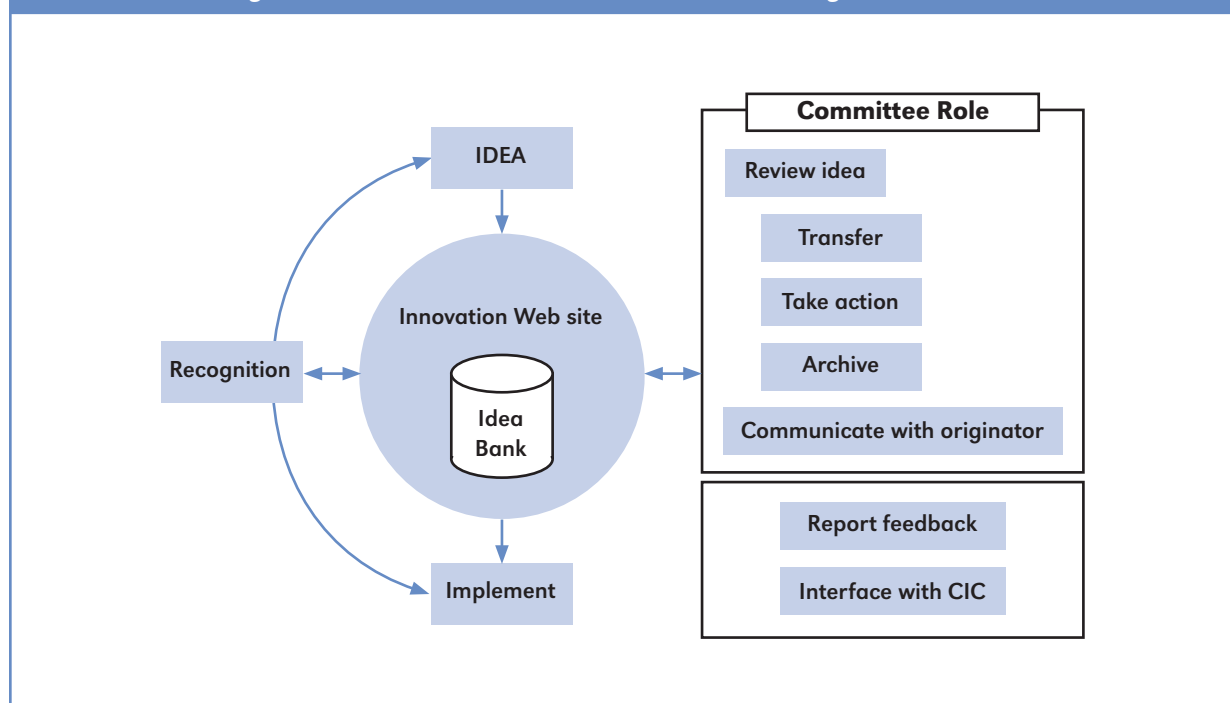
- Because they are not usually focused on addressing challenges and strategic direction, suggestion box systems tend to attract a small volume of low-quality ideas.
- Paper-based suggestion box systems made it hard to ensure that ideas were timely evaluated and

objectively developed into bigger ideas/projects due to the lack of further interactions with different brain powers seeing and evaluating ideas. In most cases ideas are evaluated by a person of specific technical knowledge and background limiting a wider review.

Features of Idea Management System (IMS)

IMS is a web-based application designed and implemented by Computer Applications Department which was launched on June, 2002 by the President of Saudi Aramco. The mission of IMS application was to provide Saudi Aramco employees with a web-based solution, on-line and automated tool accessed from all Saudi Aramco working sites to submit and share ideas and innovations. The system works based on pre-defined work-flow and security process utilizing e-mail service to notify the submitter and reviewers about action taken against the idea. Saudi Aramco IMS tracks ideas from inception to implementation and completion, while making it much easier to track key metrics such as revenue generation, cost savings and ideas submitted vs. implemented. Because the system is powered by databases, setting up and managing a closed-loop evaluation process, which automatically reminds evaluators of upcoming deadlines and unevaluated ideas, is much easier to set up and administer. This exciting visual and organizational tool encourages innovation and creativity by managing innovation and document-

Figure 1a. Saudi Aramco Innovation & Idea Management Process



ing ideas by the owners (Figure 1a).

The architecture of the system is very simple:

- Idea submitted by the employee.
- Automatically deposited into the Idea management bank.
- Once submitted, the employee receives a reference number and the involved department is notified by e-mail that an idea is waiting for review.
- Once the department has acted on the idea, the response is automatically deposited into the bank and notification is given to the employee.
- The implementation process starts and employees are recognized for their ideas.

Various features of the existing system are also presented in Figure 1b in a simplified form. The flow of submitted ideas is shown via the diagram. The System Administration page is the place where one can manage & maintain the main application information and get reports. The submitter enters the space designed to submit an idea and the user's personal information is automatically filled in (no involvement from submitter). There should be at least one owner for each idea. The owner identifies whether the idea is patentable or has commercial value. The owner can also identify the organization that is responsible for assessing and taking action on the submitted idea, with detailed descriptions and benefits to be derived from the ideas.

The process of the system consists of three stages:

Idea gathering stage: Every employee has a chance to add value to the corporation through his innovations using IMS application directly; to any department with no restrictions. Furthermore, each submitter has the ability to attach documents that support his idea.

Idea processing stage: Every department management member or a designated individual is defined as an Idea Management Committee (IMC). IMCs are responsible to review, filter and act on the idea and follow them through completion. There are a number of services enabled for this level of users such as IMC Voting, Restrictive voting, Transferring ideas and more.

Finally, Implementation stage: Approved ideas go through the implementation stage at which a team/project leader takes the initiative and carries the idea through completion. The IMS website is also used to capture inventions and patentable ideas. Upon completion of the protection of intellectual property, commercialization and licensing of creative ideas is initiated. The IMS offers the following additional features and capabilities:

- **Innovation Campaign Focused:** Organizations can set up specific "challenges" within the IMS software, each tailored to address a specific business

objective—such as addressing strategic issues, reducing costs in a division, or developing new ideas for a particular product line. Focused ideation around specific business objectives/goals tends to result in a larger number of high quality ideas.

- **Customizable Forms for Capturing Ideas:** A powerful search engine allows organizations to find a cluster of ideas submitted addressing their specialty. Such a feature allows organizations to focus on ideas that address their direction and vision.
- **Customizable Evaluation Criteria:** The IMS system also enables organizations to create customized numeric scales for evaluating ideas for each campaign. This increases the likelihood that all ideas will be rated consistently.
- **Powerful Evaluation Workflow Process:** IMCs and evaluators are provided with a powerful tool allowing objective evaluation of submitted ideas. Evaluators can nominate through the system, experts to provide their feedback on an idea's value and potential. Also, IMS has workflow processes set up to ensure that ideas are reviewed and evaluated promptly by a team of evaluators; automated workflow "checks and balances" is set to remind evaluators at pre-set intervals of any ideas that they have not reviewed yet. As stated previously, IMCs are responsible to review, filter and act on the idea and follow them through completion. There are a number of services enabled to this level of users such as IMC Voting, Restrictive voting, Transferring ideas etc.
- **Collaboration/Sharing:** The IMS makes it possible for employees to view the disposition of their ideas, as well as to add comments to others' ideas using a peer review process (with voting capabilities) that helps to shape raw ideas into more complete, compelling solutions.
- **Recognition:** Employees are recognized for the ideas that add value to the corporation through their business organization.

Every department is defined as an Idea Management Committee (IMC). IMC reviewers or representatives are responsible to review, filter and act on the idea. There are number of services enabled to this level of users such as IMC Voting, Restrictive voting, Transferring ideas and more. In the final stage, approved ideas are implemented and monitored by the system. Subscribe activity enables one to subscribe to one or more categories to receive mail notification when an idea is submitted. "Search" is a means for finding specific ideas which can be accomplished by Idea ID, Owner's ID, organization/department, subject matter or by IMC. Using the feedback screen, one can

Idea Management System (IMS)

send a feedback message to the webmaster through the System Administer. In addition to the existing features of IMS, additional features include: a comprehensive collaborative idea development environment, structured evaluation processes, automated workflow, sophisticated reporting tools—graphical representation, improved navigation options and a custom report feature with export data in Word or Excel format supporting different styles of review process. The user interface can be redesigned to present information in a more user-friendly way to help guide users through the phases of idea creation and concept building.

Value Proposition

Most employees are inherently creative. That creativity is often typically blocked by structural elements within a company. By eliminating the blockages, we can tap the unlimited genius of employees and benefit in many different ways; by harvesting a low-cost source of good ideas and by empowering employees while improving efficiency and morale. Innovation and the challenges of constant change provide excitement in our roles in our organization. Innovation leads to many new ideas by our employees. The management of ideas may be in conflict or contrast with traditional responsibilities for managing customer needs, planning efforts, technology, and managing human and fiscal resources. Management of ideas now has become a top priority for innovative companies. IMS aims at locating rapidly the “needle in the haystack” that is the handful of “killer ideas” in a sea of mediocre ones, and to filter them through evaluation, protection (such as patents) and ultimately to implementation. Speed to market is critical to building competitive advantage. The IMS software and Corporate Innovation Programs are built with these concerns in mind:

- The value of this approach was found to be enormous. This approach aligns individual work objectives with company/dept. vision, values and priorities.
- The software mechanism minimizes redundant ideas, “reinventing of the wheel,” and wasted efforts. Prior art search would enrich individual work and routine operation and allow one to incorporate “best practices” in daily work. The approach improves the quality of the ideas rather than simply increases the quantity of ideas, which appears to be the current measure. The approach also minimizes the danger of counting just the number of ideas without regard to the added value.
- By introducing automation and empowering the individual submitters, this software approach reduces labor used under the current system.

Idea Management involves the capture, development and selection of focused business ideas to help

achieve corporate objectives for innovation, growth, and cost control. As an example, idea-submitter requested information regarding potential commercial partners for the technology. Technology developers and individual employees are often the best source of information regarding the potential of an idea to the company and outside world. By earlier integration, commercialization or product/process is facilitated.

Table 1 below shows some statistics regarding the benefit IMS has brought to Saudi Aramco.

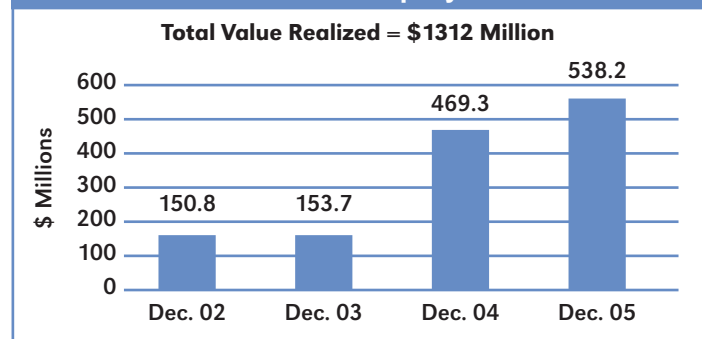
Table 1. The Actual Benefits of IMS to Saudi Aramco

Number of ideas submitted as of 2006: About 41,000
Number of ideas that have progressed through the various stages of the system and have been implemented: Over 1,500
Number of ideas commercialized since 2002: over a dozen; a number of licensing agreements are being developed
Annual cost of administering the system? Volunteers at various levels and IT support for a typical software for serving about over 50,000 employees
Recognition to the employees varies starting from the departmental to corporate level. Various forms of monetary recognitions exist
Metrics have been used to prove the value of IMS including number of patent granted or patentable ideas developed, innovative ideas implemented and many others

Value realized by IMS for Saudi Aramco:

Figure 2 shows an estimated value that IMS has created for Saudi Aramco. The actual economic value generated is \$538 million for 2005 as compared to \$151 million that was reported in 2002, the first time the innovation software was deployed. The values were based on inputs received on the benefits derived by implementation of ideas at the grass-root levels.

Figure 2. Estimated Value the IMS Has Created for the Company



Examples of Success Stories:

Recently Saudi Aramco, the organization which is responsible for around a quarter of the world's total oil reserves, announced the commercial release of a pharmaceutical and medication software system it developed. This slightly incongruous statement begs a question as raised by a recent journal (Ref 3): 'why is Saudi Aramco developing pharmacy software?' The answer to this lies in the particular needs and dynamics within its corporate structure as well as its innovation program.

Historically, Saudi Aramco maintained a large infrastructure for its employees and their dependants, who may number about half a million. Part of this infrastructure consists of various facilities such as medical units of various sizes—Saudi Aramco runs five major hospitals. Development of medical and prescription software was a result of its internal need to manage its sheer size and numbers. Pharmacy and medical software is just one of many inventions and licensed programs that have evolved because of the internal needs and the corporate innovative culture. The internal needs and corporate dynamics which directed the innovation program also led to numerous successes. Some of the recently licensed products by products of internally implemented technologies are shown in Table 2. The products and software listed in the Table are results of Corporate Innovation Program and IMS. Many other benefits were derived from the implemen-

tation of the IMS. For example, one idea submitted may lead to Saudi Arabia emerging as a developer of high value carbon fiber materials from domestic petroleum feedstock.

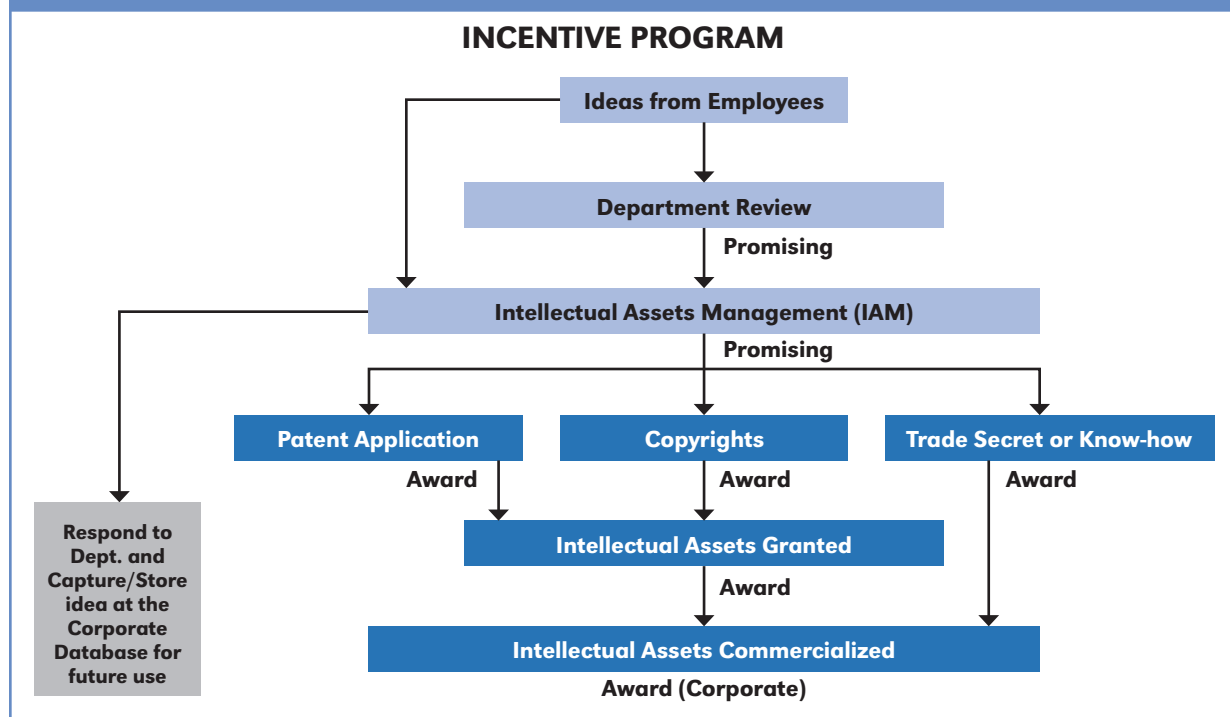
Table 2: Some Examples of Licensed Products or Product Being Licensed

- GeoMorph: Provides real time reservoir characteristics.
- PESP: Process engineering calculations Toolkit for sizing & design process equipment.
- Smart ZV: Isolation valves that allow flow to processing facility. It allows partial stroke testing while the plant is on line.
- Smokeless Flare: New design that reduces air pollution.
- Pharmacy Software: Integrated medical and prescription management module on SAP platform.

Innovation Incentive Programs Within the Company:

The company has started a strong incentives program for its employees for submitting ideas by the IMS. Employees are recognized for the ideas that add value to the corporation through the business organizations. Rewards are given at various levels starting

Figure 3: Incentive Programs at Various Levels



Idea Management System (IMS)

from the departmental level to the corporate level. In addition, employees are also recognized for inventions and successful commercialization of high value ideas.

Summary

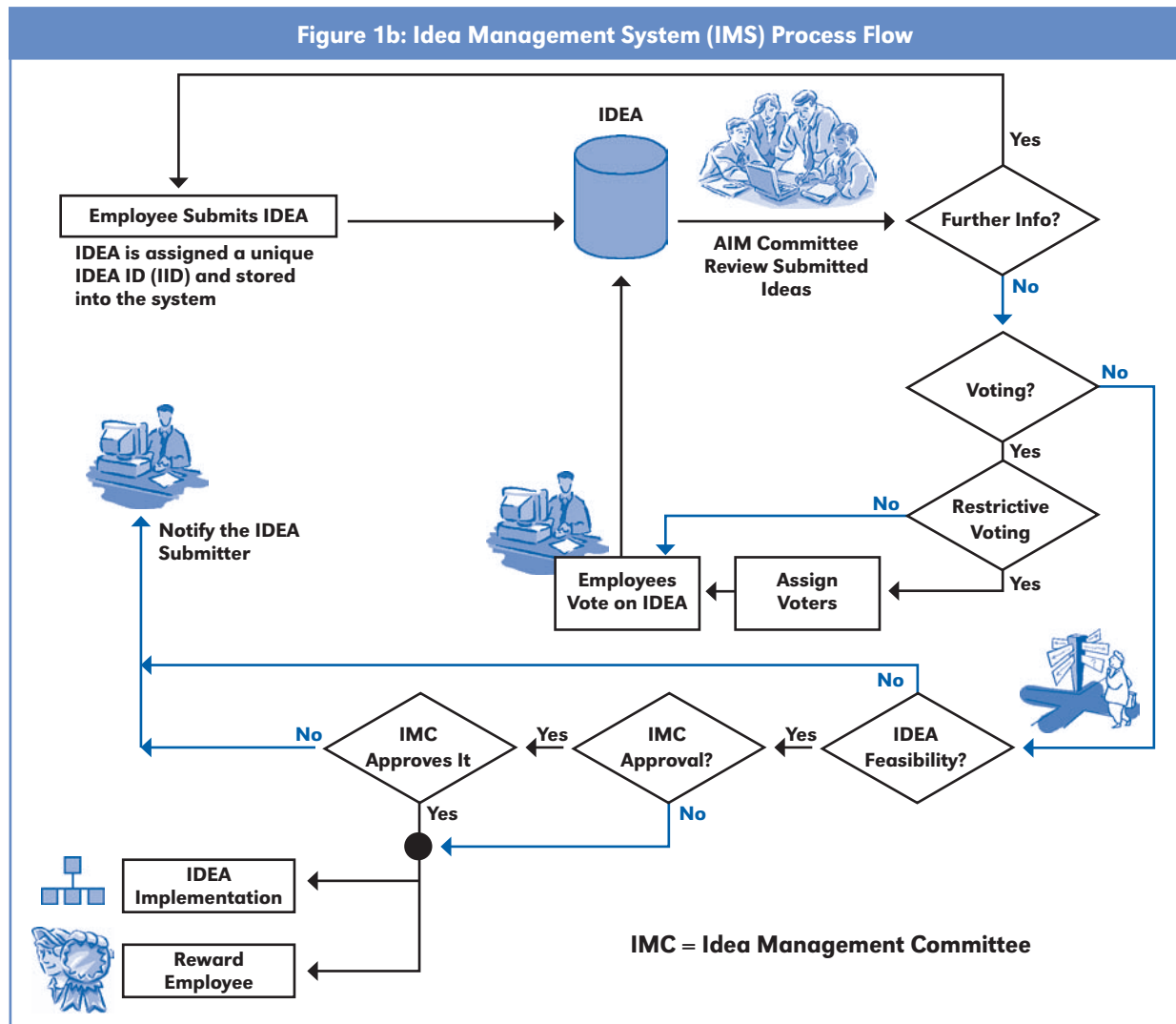
IMS is a web-based application designed and implemented to provide employees with online automated tools that can be accessed from all working sites to submit and share employees' ideas and innovation. The system works based on a pre-defined workflow and security process utilizing e-mail service to notify the submitter and reviewers about any action taken for the idea. Every employee, regardless of their position, has a chance to benefit the company through using this application to directly send innovative ideas to any department with no restrictions. In Saudi Aramco, a very large number of ideas have been already implemented in a very short duration adding significant cost savings and value to the corporation. In addition, numerous products and processes have been identi-

fied for commercialization. IMS provides structured processes for evaluating and merging ideas together, allowing management to quickly zero in on those with the greatest potential. As innovation culture grows in the Saudi Aramco as a competitive advantage, IMS has become the catalyst that can facilitate this company to compete at levels never before possible. ■

References:

1. M. Rashid Khan, Mohammed Al-Ansari, "Sustainable Innovation as a Corporate Strategy," *TRIZ Journal*, January 2005. For further information contact: Rashid.Khan.1@aramco.com.
2. Peter Drucker, *Harvard Business Review*, 1995.
3. Oil Producer Uses SAP for Health System: Page 10 Citations to IOM report—2006 address "Why is Saudi Aramco developing pharmacy software?"

Figure 1b: Idea Management System (IMS) Process Flow



The Global Patent Value Matrix: Making Global Patent Strategy Decisions

By William A. Barrett and Christopher H. Price*

Because technology innovation is becoming more globalized, it is now more important than ever to develop a strategic understanding of the intellectual property (IP) protections available for that innovation. For many innovator companies, new competitive threats are increasingly likely to be launched from one of the innovation hot spots that are emerging in countries around the globe. Many of these new hot spots are located in regions where IP protection is currently inadequate. Because IP protections in these regions are shifting and uncertain, the risks and benefits of IP options are highly ambiguous. The costs associated with obtaining and enforcing a patent varies widely and are hard to predict. It is also difficult, if not impossible, to know whether a patent will be granted, how broad it will be if granted, how long will it take to obtain a granted patent, whether the granted patent will be enforced, and whether the patent will survive scrutiny in a litigation. While companies wait for IP protections to improve, they must continue to evaluate patent investment decisions without certainty about the quality of protection that will be available.

In a July 2003 General Accounting Office (GAO) report assessing the key factors that small businesses should consider in making foreign patent decisions, a panel of experts concluded that “[t]he cost of obtaining, maintaining and enforcing foreign patents is the most significant foreign patent impediment that small businesses encounter.” Even for large businesses the costs can be staggering. For example, we estimate the cradle-to-grave cost at \$2.5 million for taking a single patent application into every country in the world.¹ Considering that most innovative products and services are protected by multiple patents, it is easy to see that the cost of a complete global patenting strategy is prohibitive for most companies and daunting for even the largest companies.

Of course, cost is one of the most fundamental considerations in making any economic decision, but it is surprising how many companies fail to thoroughly consider the cost of foreign patent decisions.

Failure to accurately evaluate this cost leads to two different errors: (1) underestimating the cost and committing to a strategy that is too expensive for the company to sustain, and (2) overestimating the cost and foregoing valuable protection. Either error can have devastating consequences.

The GAO report characterized the cost issue as hinging on “whether the range of benefits that foreign patents may provide to [the company], such as increasing sales or the company’s value, are sufficient to justify their cost.” This question should be viewed as only the initial threshold question, however. It is important to rule out a few countries in which the cost of seeking patents is truly not justified. If, for example, there is no possibility of enforcing a patent in a particular country and existence of the patent will have no impact on competitors or consumers in that country, then the investment will not be warranted. Or, of course, if a company will not sell products in a specific country and the country has no relevant manufacturing capability or market for the product or services in question, then the investment will again not be justified by the return. Furthermore, given the 20-year lifespan of a patent, coupled with the rapid and global pace of innovation and economic development, it can

**William A. Barrett is President of Patent Strategies, PLLC in Triangle Park, NC. He publishes a weblog focused on global patent strategy issues at www.gPatents.com. He can be reached at barrett@gpatents.com. Dr. Christopher H. Price An entrepreneur in the life science industry, having founded companies in the drug delivery and natural products. He is currently the Leader, Pharmaceutical and Biotechnology, for Liquidia Technologies in Research Triangle Park, North Carolina. He earned a PhD in Biology from Syracuse University and an MBA from MIT Sloan School. E-mail: cprice@wfubmc.edu*

1. This estimate was made using Global IP Estimator, produced by Global IP Net (Kihei, Hawaii).

be daunting to predict, using classical discounted value analysis, whether an investment will deliver expected value from geographic regions that 20 years ago were not given even cursory consideration (e.g., India, China).

Ruling out countries in which the benefits of patenting clearly don't justify the costs does not, in the case of most inventions, reduce the total cost of filing patents in the remaining countries to an extent sufficient to satisfy budget constraints. The fact is that today the benefits of having a patent almost always justify the cost. Companies can thus employ the positive strategy of analyzing the set of countries in which the benefits justify the cost, in order to identify the set of countries likely to maximize the return on the patent investment.

With these considerations in mind, we have outlined a simple, rational, step-by-step approach to develop a foreign patenting strategy:

1. Assign a relative value to the invention.
2. Develop a Global Patent Strategy Matrix based on comparative
 - a. Costs in each country
 - b. Market potential in each country
 - c. Enforcement risks in each country.
3. Use the Global Patent Strategy Matrix to select a set of countries that is tailored to the current and expected characteristics and life-cycle of the product being protected and that represents the highest value for the deployment of the resources invested.
4. Evaluate the selected countries to identify whether additional strategic considerations, ones that might suggest eliminating specific countries or adding specific countries to the list, e.g., the possibility of market growth beyond that used in #3 above.

Assigning a Relative Value

Given the \$2.5 million dollar cradle-to-grave cost discussed above for a comprehensive worldwide patent strategy, companies need to evaluate each invention to determine at what cost, along the continuum from \$0 to \$2.5 million, they are willing to invest.

Further, companies need to determine for an appropriate period what is the acceptable range of an IP budget. In this way, informed decisions can be made among all of the IP, on a relative basis. This process is nicely exemplified by the process that the U.S. National Institutes of Health research grants system works. All applications for grants are first

reviewed and either accepted or rejected for entry into the formal peer-review process. The accepted applications are then reviewed and given a numerical score and then ranked ordered by that score. Reviewed grant applications so ranked are then funded in descending order until the total grant budget is reached (the "funding line"), after which none of the ranked grants can be funded. Exceptions are made in this process (e.g., for first-time applicants or other special circumstances). In similar manner, the process for supporting patent prosecution should be methodical but also flexible.

In order to make this assessment, companies need to quickly, consistently, and regularly assess the relative value of their inventions. *"Understanding relative value doesn't require a full-blown valuation that assigns an exact monetary value to each invention. That exercise will undoubtedly be helpful in some cases; to assign a relative value, however, companies need only evaluate their inventions based on a consistent set of factors that sheds some light on the value of each invention relative to the other inventions. Put simply, by quickly and consistently assessing the relative value of their inventions, ranking them in their patent pipelines based on relative value, companies can direct their resources to the inventions with the highest relative value."*² Of key importance here is that the relative value of a given patent may well change over time, e.g., as products fail to develop or new inventions eclipse the patent claims that were to protect the product.

The first place to look when assigning a relative patent value is at the value of the product or products that the patent is expected to protect. Lead products in a company's pipeline will obviously warrant the largest investment. However, it is often the case that the products a patent will protect are only vaguely known when a patent is filed. For example, companies typically must make foreign filing decisions for platform patents in the earliest stages of product development when only the first potential application is known. In such cases, several additional factors may need to be considered in order to assign a relative value. Examples of criteria for assessing relative value include: (a) relevance to the product portfolio of the company, (b) invention type, novelty, likelihood of successfully solving the problems needed to take the invention to the market, (c) market size of product

2. Barrett, William. "The patent gamble: strategic insights for playing the worldwide patent game," *Nature Biotechnology*, 21:1515-1517 (Dec. 2003).

or service opportunities, (d) intensity of competitive pressure, (e) breadth of potential patent protection, and (f) outlicensing potential.

Assigning a relative value to inventions permits companies to rank patents in their value order. Higher value patents should warrant a larger investment, i.e., filing in a broader set of countries. A smaller patent budget for lower value inventions should limit protection to a smaller set of key countries. For example, inventions with the lowest relative value may be protected only in a single country, may not be protected at all, or may even be published to prevent patenting by others.

Developing a Global Patent Strategy Matrix

The Global Patent Strategy Matrix is based on the assumption, as discussed in more detail above, that the primary issue in patent investments is not whether the patent investment justifies the expense, for it almost always does in isolation. Instead, the issue is how a company can invest a limited patent budget in a manner that maximizes its return on investment.

To identify the set of countries representing the best investment candidates, we use three key inputs for each country under consideration: (1) the relative cost of obtaining a patent (Patent Cost); (2) the value of the potential market being accessed (Market Accessed); and (3) the probability that the patent will be effectively enforced (Enforcement Probability). This information can be used to create a Global Patent Strategy Matrix, as shown in Figure 1. In the matrix, the Y axis separates countries by the Market Access Score, a measure of patent cost per dollar of market accessed.

The amount of purchasing power per dollar invested increases with the Market Access Score (Figure 2). The X axis separates countries by Enforcement Probability. The probability of enforcement decreases from left to right. Thus, the top left cell of the matrix includes countries having the highest market access score and the highest probability of enforcement, i.e., the best and most reliable places to invest in patent protection. The bottom right cell includes the countries having the lowest Market Access Score and the lowest probability of enforcement, i.e.,

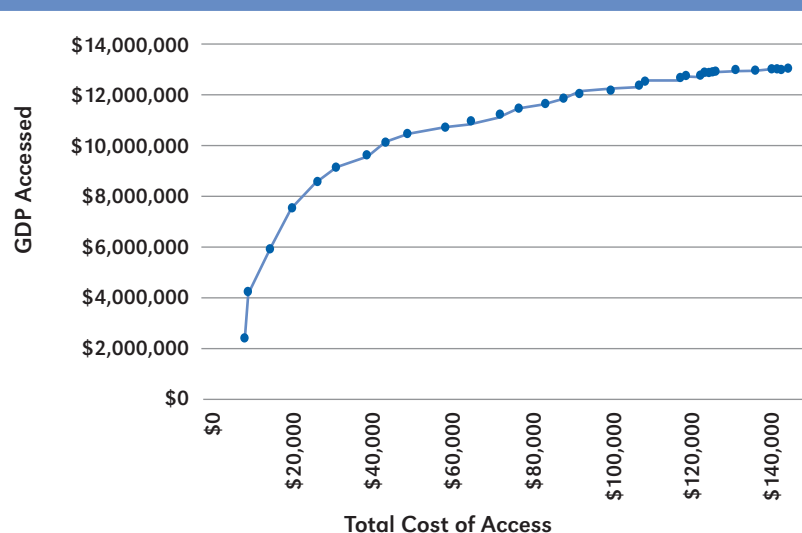
the worst and least reliable expenditures.

We will now discuss each of the input parameters in more detail.

Patent Cost. One of the most intractable problems of patent strategy planning relates to budgeting for patent costs. Patent budgets are highly unpredictable, due to the fundamental pace of innovation and other factors. Patent applications are filed in multiple countries, each with its own price structure, examination procedures and timelines. Some costs, like the maintenance fees charged by patent offices, are *fixed* in each country based on a routine schedule and can be readily predicted. Other costs *vary predictably*; for example, filing fees and grant fees often vary in each country based on the number of pages, claims and/or drawings in the patent application. Still other costs *vary highly unpredictably*, both from the perspective of timing and costs.

An example of highly unpredictable costs are those incurred when a patent examiner reviews a case and sends out an official action to which the applicant must respond. Official actions typically occur one to three times for each patent application pending in each country. The cost of responding varies depending on the number and complexity of issues raised by the examiner. The timing of official actions and response preparation varies from months to years based on the backlog of each specific patent office as a whole, the backlog of the particular technology group reviewing the application, the idiosyncrasies of the particular examiner who happens to be assigned

Figure 1. Market Access Rankings for European Countries



Countries are ranked for market access value by dividing the cradle-to-grave cost of protection by PPP-GDP.

the case, and in some countries, the timing of the request for examination. The later depends on, for example, the caseload and efficiency of the agent handling the case, the caseload and efficiency of the applicant's local legal counsel, and the responsiveness of managers, scientists and inventors involved in helping to formulate responses to the examiner.

Despite the various contingencies, a reasonable degree of patent budget forecasting and planning is possible. It is not only possible but to be effective it is necessary even if somewhat flawed. The challenge has perhaps been tackled most effectively by a company in Honolulu, Hawaii, called Global IP Net. Global IP Net maintains an up-to-date database of cost estimates from patent agents and offices and compiles this information into a software program called Global IP Estimator that enables relatively accurate predictions of patent costs around the world. Global IP Estimator was used for the estimates presented in this article.

When analyzing patent cost as an input to the Global Patent Strategy Matrix, it is important to consider only the relevant costs. The GAO Report emphasizes that companies should consider cradle-to-grave costs in their foreign filing predictions. This is good advice, particularly for established companies that plan to maintain patents for the entire relevant patent term, which will vary by product lifecycle. Thus, for a product with a long development period or product lifecycle, like a novel pharmaceutical drug, the relevant costs may include the entire twenty-year cradle-to-grave costs. In the Patent Strategy Matrix, shown in Figure 1, we use full, cradle-to-grave patent costs but do not include the costs of potential extensions of the product lifecycle, e.g., new patent coverage utilizing drug delivery technology.

Alternatively, for a product with a shorter lifecycle, the relevant costs may include only those costs needed to keep the patent in force during the lifetime of the product. Similarly, for a start-up company whose strategy is to build a valuable patent portfolio and sell the company in three to five years, the relevant patent costs may be those which would support the company through its exit (e.g., a sale of the firm to another company). However, this decision should be made with full product and company valuation in mind, i.e., the future value of the company and its products to the purchaser, value (e.g., in the form of patent coverage) that the purchaser might assess differently.

Where it is not possible to accurately handicap a product will actually make it to market or to what degree it might be successful if it does, it may also

be useful to operate on a shorter timeline, preparing for example a one-to-three year matrix to evaluate the initial phases of the patent investment. Then, three years out, another matrix can be prepared for the three-to-six year costs for a second evaluation of the budget from that point forward. In the second evaluation, the matrix can be used to evaluate which countries will be cut from the list as the budget timeline progresses. This system depends on a formal, disciplined, and continuous review of a company's IP portfolio by an effective multi-disciplinary team.

Market accessed. As with the patent cost portion of the evaluation, it is also important to consider the relevant market in assessing the value of a patent investment. In the calculations used to generate Figure 1, we used the Purchasing Power Parity adjusted Gross Domestic Product³ (PPP-GDP) as a rough estimate of the market accessed in a specific country. Cradle-to-grave patent costs divided by PPP-GDP provide a rough estimate of the relative value of each dollar invested in a particular country.

This approach does not, naturally, take specific-country industries and markets into consideration, factors that could significantly shift a country's assessed market. Thus, the precision of the relative value estimate depends greatly on the precision of the market estimate. A company patenting a new analgesic, for example, could learn something about relative patent value using PPP-GDP as the denominator, but a more precise evaluation would be based on the amount the target country spends on drugs as a whole, and still a more precise evaluation would be based on the amount that country spends on analgesics. The most precise evaluation of all would entail the use of an accurate prediction of the expected product sales in each target country during the relevant portion of the life of the patent.

The amount of purchasing power accessed per dollar invested in patenting varies dramatically from country to country. Consider, for example, the evaluation of a patent for validation in Europe following prosecution of a European patent application in the European Patent Office. Patent validation requires

3. GDP dollar estimates are derived from purchasing power parity (PPP) calculations rather than from conversions at official currency exchange rates. The PPP method involves the use of standardized international dollar price weights, which are applied to the quantities of final goods and services produced in a given economy. The data derived from the PPP method are generally believed to provide the best available starting point for comparisons of economic strength and well-being between countries.

Group	PPP-GDP	Cost	Countries
1	\$10.1 billion	\$40K	Germany, United Kingdom, France, Italy, Spain, Turkey, the Netherlands, and Poland
2	\$2.1 billion	\$56K	Belgium, Sweden, Austria, Switzerland, Greece, Portugal, Czech Republic, Romania, and Denmark
3	\$0.8 billion	\$46K	Hungary, Ireland, Finland, Bulgaria, Croatia, Lithuania, Slovenia, Luxembourg, Latvia, Bosnia, Estonia, Cyprus, Albania, Macedonia, and Iceland

examination of the adequacy and effectiveness of IP protection in 90 countries, and categorizes countries based on the adequacy of their IP protection, enforcement, and market access for persons relying on IP protection. While the purpose of the report is to encourage other countries to live up to their international IP obligations, it also serves as a useful source for identifying potential IP issues (e.g., cost and risk/benefit) and opportunities for companies developing global business and IP strategies.

The 2005 report identified 52 countries with significant problems,

that documentation, including translations where appropriate, be filed in each European country before the stated deadline in order to ensure protection in individual European countries. Sorting the European countries by PPP-GDP, it is clear that as one moves down the list of countries, each unit of PPP-GDP purchased becomes more expensive.

For example, using Global IP Estimator, we estimated that the cost of filing a 75-page patent application in all available European countries is about USD\$154K. Initiating our investment in the countries with the largest PPP-GDP, then moving to the countries with the smallest PPP-GDP, we found that the first \$10.1 billion PPP-GDP Market Access (Group 1 in the Table above) is estimated to cost about \$40K. The next \$2.1 billion PPP-GDP Market Access (Group 2) is estimated to cost \$56K. The final \$0.8 Billion PPP-GDP Market Access (Group 3) is estimated to cost about \$46K. The first one-third of the potential investment accesses a little less than two-thirds of the total GDP, while the last six percent of total GDP costs about one-third of the potential investment. This simple analysis then provides information supporting patenting decisions.

Enforcement Probability. The Y axis of the Global Patent Strategy Matrix (Figure 2) separates countries based on the relative probability that a patent can be enforced in each country. Again developing a measure of enforcement probability is a difficult prospect, but we can obtain some assistance using a report called the “Special 301 Report,” published annually by the U.S. Trade Representative (USTR). This report is based on extensive information gathering and analysis by the USTR and information reported by industry. It provides a relatively detailed

examination of the adequacy and effectiveness of IP protection in 90 countries, and categorizes countries based on the adequacy of their IP protection, enforcement, and market access for persons relying on IP protection. While the purpose of the report is to encourage other countries to live up to their international IP obligations, it also serves as a useful source for identifying potential IP issues (e.g., cost and risk/benefit) and opportunities for companies developing global business and IP strategies.

lems, and placed each of these countries in one of four categories:

- **Section 306 Monitoring**—countries with specific problems raised in earlier reports that resulted in bilateral agreements with the United States that addressed the problems.
- **Priority Foreign Countries**—countries pursuing the most onerous or egregious policies that have the greatest adverse impact on U.S. right holders or products.
- **Priority Watch List**—countries that do not provide an adequate level of intellectual property rights protection or enforcement, or market access for persons relying on IP protection.
- **Watch List**—countries meriting bilateral attention to address the underlying IPR problems.

The Global Patent Strategy Matrix uses the Special 301 Report to separate countries into four groups in order of decreasing probability of effective enforcement: (1) unlisted countries, which are presumed to have the most predictable enforcement; (2) *Watch List* countries; (3) *Priority Watch List* countries, and (4) *Priority Foreign Countries* and *Section 306 Monitoring* countries, which are presumed to have the least predictable enforcement.

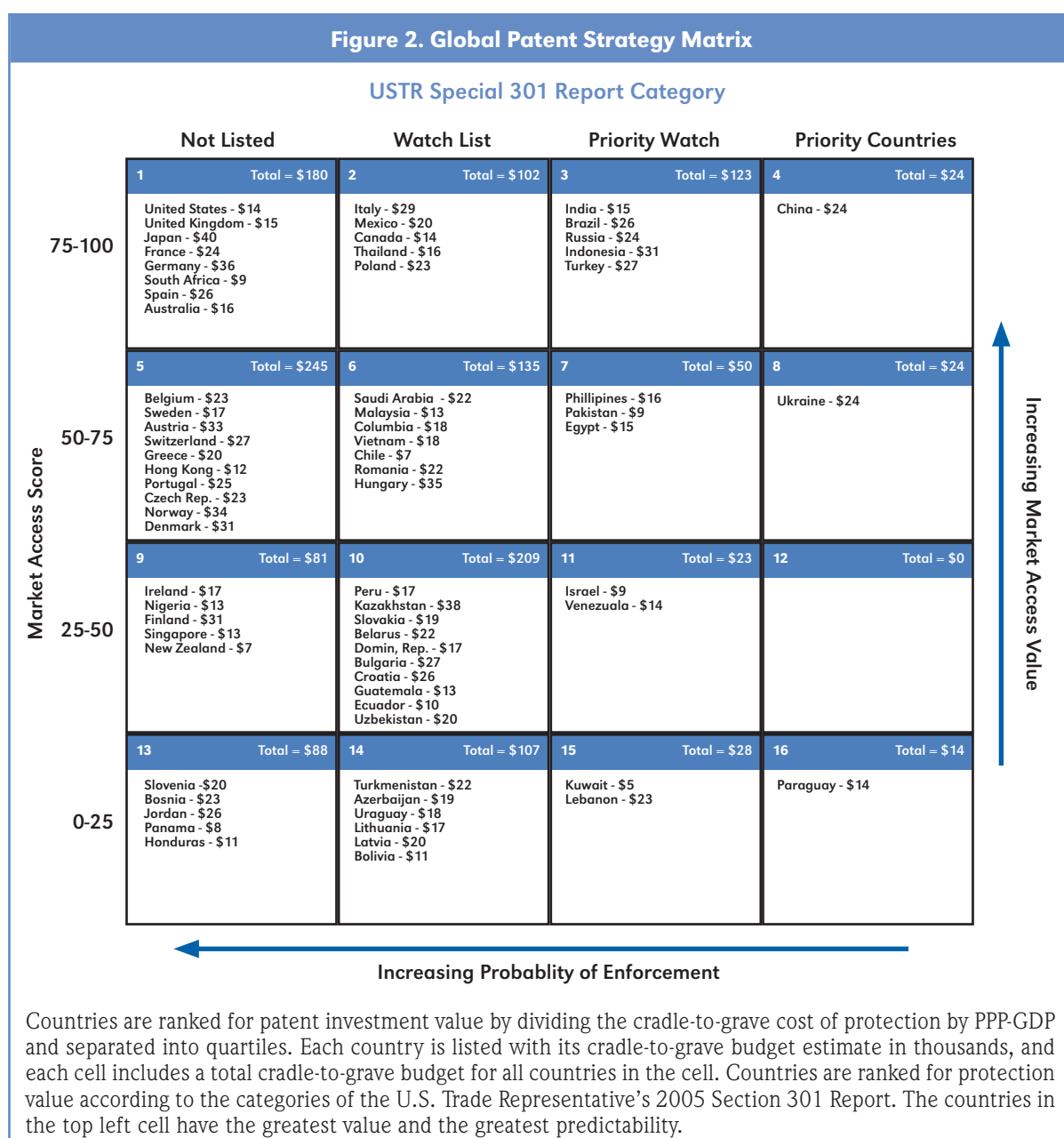
There are pros and cons to using the Section 301 Report as the basis of the Global Patent Strategy Matrix. First and foremost, the report is not intended for this purpose. Its purpose is to pressure foreign nations into adhering to international intellectual property standards. The decision to pressure or not to pressure involves many political and practical considerations in addition to the probability of enforcement. For example, Panama is not mentioned

in the report. Is this lack of mention due to Panama's excellent track record on IP enforcement? Or could it be that Panama's economy is too small to justify inclusion in the report, or that Panama is not a signatory to the relevant treaties? Nevertheless, the Section 301 Report compiles a significant amount of information that would be extremely costly for a company to obtain independently, and we think that it is a good place to start assessing enforcement predictability for many countries. Adjustments based on additional intelligence relating to specific countries of interest can add accuracy and value to the Global

Patent Strategy Matrix.

Using the Global Patent Strategy Matrix

Countries in the sample matrix in Figure 2 are listed with their total cradle-to-grave patent cost and are ordered from top to bottom (both on the matrix as a whole and within each cell) in order of decreasing Market Access Score, and left to right in order of decreasing Enforcement Probability. Thus, according to the cradle-to-grave cost/PPP-GDP analysis, the United States represents the best value for patent cost investment, followed by the United Kingdom, Japan, France, and so on. From an initial



perspective, if the cradle-to-grave patent budget for a specific project is USD\$180,000, the best patent strategy according to the matrix would include the countries listed in cell 1.

The ambiguity created by lack of global consistency in laws and enforcement is a challenge, but it is also an opportunity for companies who can develop strategies that account for these issues. The Global Patent Strategy Matrix can be used to implement various strategy approaches, depending on the attributes of the product or technology being protected. Figure 3 A-C illustrates three potential strategy approaches using the matrix: (A) a protection-driven strategy, (B) a market-driven strategy, and (C) a strategy that balances protection and market drivers. In each case, inventions would be filed in an increasing number of countries based on their value, starting with lowest value countries, which would be filed only in Tier 1 cells, and moving to higher value inventions, which would also be filed in Tiers 2-4. Filing in all Tiers 1-4 would represent a substantially complete filing strategy and would be warranted only for inventions with the highest possible value.

Protection-Driven Strategy. For an invention with a short product lifecycle, a protection-driven strategy may be most appropriate. In other words, the goal is to maximize the probability of enforcement by focusing first on countries on the cells in the far left column of the matrix in which the probability of enforcement is relatively more predictable. Thus, for example, with a cradle-to-grave patent budget of \$500,000, the best protection-oriented approach according to Figures 2 and 3A might be to file in the countries in Figure 2, cells 1 and 5, plus Ireland from cell 9, representing a total cradle-to-grave cost estimate of \$442,000.

Market-Driven Strategy. Improving the quality of enforcement in markets such as India and China also means that in the long run the asserting of IP rights is more likely to provide effective protection for technology innovations, and thus market share, in those countries. For products with a long lifecycle matching or exceeding the twenty-year patent term, a prudent strategy may be to maximize the market size accessed with each patent dollar on the assumption that protection in many large countries like China and India is likely to continue to improve during the life of the patent. As illustrated in Figure 3B, this strategy involves filing in countries along the top row of the matrix. Thus, for example, with a cradle-to-grave patent budget of \$500,000, the best market-driven ap-

proach according to Figures 2 and 3B might be to file in the countries in Figure 2, cells 1, 2, 3 and 4, plus Sweden from cell 5, representing a total cradle-to-grave cost estimate of \$442,000.

Balanced Strategy. In some cases it may be desirable to employ a strategy that balances enforcement predictability with market access. A strategy representing this approach is illustrated in Figure 3C. With a cradle-to-grave patent budget of \$500,000, the balanced approach according to Figures 2 and

Figure 3. Global Patent Strategy Matrix Strategies

A	Protection Focused Strategy			
	1	2	3	4
	1	2	3	4
	1	2	3	4
	1	2	3	4
B	Market Focused Strategy			
	1	1	1	1
	2	2	2	2
	3	3	3	3
	4	4	4	4
C	Protection/Market Balanced Strategy			
	1	1	2	3
	1	1	2	3
	2	2	4	4
	3	3	4	4

A. Protection-Focused Strategy that assumes improving protection, and is appropriate for a product with a long lifecycle to access maximum market size for each investment dollar. **B.** Market-Focused Strategy, appropriate to maximize enforceability, e.g., for a product with a short lifecycle. **C.** Balanced Strategy, focusing on countries where the strongest protection coincides with market value.

3C would be to file in the countries in Figure 2, cells 1, 2, and 5, omitting Denmark or Poland, and representing a total cradle-to-grave cost estimate of just under \$500,000.

Evaluating the selected countries

Even after a strategy is selected based on the considerations discussed above, there is still a need (advisably, on a continuing basis over time) for another action in which the selected countries are subjected to “reality checks.” The decision makers should determine whether any country that is included should be excluded, and more importantly, whether any country that was excluded should be included, based on current business knowledge, competitors, and goals. For example, maybe Panama doesn’t appear on the final list, but if a company is building its manufacturing plant in Panama, then it will want to give serious consideration to filing in Panama. Companies should consider, for example, where they will manufacture, distribute and sell their inventions, and where existing or future competitors are likely to arise as challengers. Consideration should also be given to issues like cross-border trafficking in regions like Europe. If, for example, the Patent Strategy Grid suggests filing in Germany, Italy and France, but not Switzerland, consideration should be given to patenting in Switzerland to reduce the risk that consumers in these countries will cross the border into Switzerland purchase a cheap generic version of the product where there is no patent protection.

Conclusion

Never before has technology innovation and the IP that protects that innovation been so important to building a competitive advantage. Never before

have developing countries become such potential markets for products and competitive threats to the sellers of those products. Companies competing based on innovation must consider global patent strategies, whether they are small companies intending to sell within their own borders or a few regions or large multinational corporations operating around the globe.

Very little information is available to help companies implement rational processes and tools for evaluating various patent filing strategies. Companies can, however, improve their chances of success by implementing a rational decision-making process. By assigning relative values to the invention, to the markets, and to the patent enforcement risk, companies can ensure that they direct the larger portion of the budget to the relatively more important inventions and commercial opportunities.

Developing a Global Patent Strategy Matrix will help companies to identify the best formula for deploying investments in intellectual property, according to a three-component analysis of the cost of protection, the markets accessed and risk of adequate enforcement. The matrix may also serve as a valuable tool for tailoring the global patent strategy to the characteristics and lifecycle of the product being protected. Finally, “reality checks” over time can fine-tune the strategy based on current, real world factors, such as cross-border trafficking or shifts in geographic manufacturing and distribution capabilities. Developing a rational global patenting strategy involves predicting the future, but it doesn’t require a crystal ball. The strategy approach described in this paper may help to clear away some of the ambiguity to develop a strategy that will maximize the strategic value of the resulting global patent portfolio. ■

Rembrandts In The Attic,¹ Toys In The Attic,² Or Clowns In A Volkswagen?³

By Daniel I. Jamison IV*

Abstract

One current corporate practice is to develop a business model (or business unit) around your company's intellectual property (IP) portfolio. The literature and press over the last decade has posited some divergent views of the strategic, tactical, and operational methodologies required to manage and extract value from IP.

How does a company select an appropriate blueprint for its' own unique universe? Why even attempt to manage an IP portfolio as a business? Doesn't IP come into existence in response to product strategies? Aren't the inception, timing, and cost of the prosecution of IP fundamentally un-plannable; reactive rather than proactive? Don't most of the inventors now work elsewhere? And even if you are able to claim some success in the management of the process, isn't the actual value of the IP both intrinsic and extrinsic? Isn't the actual value of IP uncertain at best?

IP in single instances or in strategic bundles can provide the seed elements of product development, the glue in development partnerships, and the catalyst required to turn invention, opportunity, capability, and knowledge into innovation. Understanding how to manage this asset class as a business, however, depends on a thorough understanding of the type and mix of IP in the existing portfolio; how it is encumbered, and how new IP is derived, positioned, and protected.

The Rembrandts...

Rembrandts are the true high value patents in a portfolio. Originally created to support a specific product or technology development, these patents turn out to be uniquely positioned in their field, either by broad early claims, or by some specific at-

tribute that cannot be circumnavigated technically in order to achieve the same functional result. Add to this a robust high volume market that has grown up around and practices the claims of the IP, and you have the makings of an excellent ongoing cash flow or a lucrative asset disposition.

Most companies, however, tend to perceive their portfolios as tightly integrated collections of Rembrandts, cleverly clustered around the company's long term strategy and vision. The portfolio exists to ballast the business and should not be inadvertently disturbed in any manner lest instability in the form of litigation should blow the vessel off course.

The Toys...

Toys are the patents that, due to the intricacies inherent in commercializing or practicing, never independently achieve commercial success. There will always be business unit pressure to turn Toys into immediate cash by selling or licensing these assets. The perceived attractiveness of this IP comes from the belief that any IP can easily be converted to cash (in an efficient market) that can then be used to offset short-term development activities or boost soft business unit performance. Toys are not perceived as having any particular strategic use, and are typically only noticed when an organization is casting about for a scheme to address some emergent or short term situation.

The Clowns...

The clown analogy is used to compare the circus act that employs a relatively small vehicle to extrude a seemingly continuous flow of clowns, with a certain type of IP portfolio that has evolved around the concept of favoring quantity over quality. You, as the individual charged with developing a business from this type of portfolio, will immediately recognize that

**Daniel I. Jamison IV, is the Senior Director of the IP Business Development for Skyworks Solutions, Inc., in Woburn, MA. He is responsible for managing a large patent portfolio. Mr. Jamison earned an MBA from Lehigh University and an MBA in Management from Moravian College. E-mail: daniel.jamison@skyworksinc.com*

1. "Rembrandts in the Attic: Unlocking the Hidden Value of Patents." Kevin G. Rivette and David Kline (Harvard Business School Press, Boston; 1999).

2. Lillian Hellman's 1960 play "Toys in the Attic" and subsequent 1963 screenplay; not the Aerosmith album released by Columbia Records in 1975.

3. With all due respect to the Ringling brothers and apologies to Volkswagen of America, Inc. as well as George S. Rossano.

the assets have been narrowly developed and claimed with an eye toward protecting the sale of very short lifespan technology products in specific markets (or for the attractive wall hanging they provide) and are virtually useless with respect to building your forward facing business. Your enlightened response when encountering a portfolio of Clowns should be to review your subscription status to the LES Job Postings!⁴

Know Thyself⁵

In practice, the average IP portfolio will contain a mix of the above types of IP, but the Parallax error⁶ introduced by the review of the portfolio through the lens of multiple competing business requirements can lead to an inaccurate model of fit and function. Each stakeholder in the company can have an immediate need that can be met to some degree by the IP assets of the company.

Greenfield management of an IP asset portfolio that was developed over a period of time in response to evolving competitive pressures, technology environments, and business philosophies requires a return to the fundamentals of any business which are: know your assets, know your liabilities, know your market(s).

First, determine the validity and exclusivity of title to the portfolio. IP is not typically developed as a point solution, or in discrete time slices. Rather, it evolves over a period of time, during which period many things can happen to the organization that initially birthed the property. Spin-offs, divestitures, and mergers require you to trace and perfect assignments, account for licenses granted (particularly the cross-licenses and pooling agreements that arise as a matter of practice during the spin-offs, divestitures, and mergers), and to determine the availability of the inventors (the search for survivors!).

It is important to remember that the inventors own the patent until the assignment to the company is perfected. Until this time, each inventor has full, undivided ownership of the patent. Note also that agreements to assign are not, in fact, assignments! You should also resolve any obligations the inventor may have to previous employers.

For publicly traded companies, Sarbanes Oxley has also added some interesting elements to the identi-

fication, management and controls that need to be associated with certain material assets such as IP. For this and other reasons it is good practice to develop baseline metrics and a “dashboard” to document and measure the effectiveness of inputs, controls and processes, and to actively identify and manage all associated activities required to achieve our long-term goals as we proceed. A good place to begin this is through the budget process. Early budget efforts will always lack any significant accuracy, but will interactively and iteratively provide a fundamental understanding of cycle time, cost, maintenance, and management support requirements and allow the IP strategist to rapidly model the outcome and impact of each node of the development and prosecution decision tree.

Heal Thyself⁷

To manage the triage process I would recommend using the “Drivers Wanted⁸” approach. By simply determining what the company would like the IP to accomplish *for* the company, or what the company would like the IP to ***allow the company to accomplish*** as an ongoing business, the company can begin to determine how to apply resources in support of selected IP strategies going forward. This application of resources can also take the form of re-deploying resources from non-strategic IP activities to strategic IP activities, internal development, or external development partnerships. As suggested by van Wijk,⁹ a Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis can provide a platform upon which to begin the “heavy lifting” tasks of focus, development, valuation, augmentation, and divestiture. The specific drivers you are looking for are, in order of impact to ongoing operations, relationship of your IP to current products (freedom to operate), relationship of your IP to competitors’ products (ignoring for the moment the relationship of your IP to their IP), alignment of your IP with your product road map, alignment of your IP with your technology platform road map, and alignment of your IP with the standards landscape or the projected technology landscape. As a supplier, your IP drivers are how well your IP enables, protects, or defends your customers’ products or markets. As an

4. <http://www.usa-canada.les.org/membersonly/jobbank/>

5. Oracle-shrine of Apollo at Delphi, Greece (6th century B.C.) and subsequently attributed to Socrates.

6. The apparent displacement, or difference of position, of an object, as seen from two different stations, or points of view. Source: Webster’s Revised Unabridged Dictionary (1913).

7. From *The Bible*. Luke 4:23.

8. “Drivers Wanted” is a Trademark of Volkswagen of America, Inc.

9. van Wijk, L. “Building Shareholder Value Through Effective Patent Asset Management.” *les Nouvelles*, Volume XL, No. 4, December 2005, pp. 176-178.

asset manager, your drivers are how well your IP fits adjacent or non-core market applications, can be sold or licensed to non-competing organizations (field of use), or can be abandoned without adversely affecting any of the aforementioned drivers.

The next step is to match these drivers to the resources available to the company, and the resulting activity-based algorithm allows you to calculate the trajectory of your activities, and to determine if the combinations you have selected will be sufficient to achieve your road map objectives.

To address the review of technology, some companies use an IP review board comprised of members of their technical community. These subject matter experts are well suited to evaluate IP from the technical perspective, but “great technology rarely constitutes innovation.” (Dean Kamen). I like De Beers’ definition of innovation¹⁰ (“...combining the understanding of science and technology with market knowledge, leadership, risk taking, financing, manufacturing and more in a new, commercially useful way”) because his definition rolls up all of the traditional business functions and organizations in the innovation equation that must be considered to efficiently and effectively achieve innovation goals. As an example, the circle was an invention, but the wheel was an innovation.

The conversion of current invention flow (or existing IP) to innovation, therefore, requires leadership (top down culture of innovation), marketing (to identify the opportunities), finance (to quantify the costs, benefits, trade-offs, and capital requirements), manufacturing expertise (as well as re-configurability and capacity to innovate), and a bottoms up culture of (appropriate) risk-taking (personal, professional, and organizational) commensurate with the rates of technology development and innovation experienced or desired in the company’s technology sector.

Know Your Enemy¹¹

In the case of IP, the enemy is time and scope. Patents have a shelf life, currently bounded by the term of 20 years from filing (ignoring strategies to “Lemuelson” the lifespan¹²), but realistically limited by the market window into which it is thrust. With a market window of about 18 to 24 months in the semiconductor space for example, and the initial lag time of 3 years from filing to issue for the patent, the chances are fairly high that the bulk of the technol-

ogy proliferation in the market occurred concurrent with the prosecution phase of the patent. With many great minds around the world working to solve the same or similar problems, the true strength of the patent can only be determined during litigation. We can make some validity assumptions on issue of the patent, but even if no direct challenges take place, we can be bounded by third party patents that not only work around our patent but that actually block our product commercialization activities. Unfortunately, the treble damages provision that attaches to willful infringement does not support active patent searching and evaluation in the development of IP and the commercialization of products in which the IP is embodied. However, nothing precludes us from fully understanding the market environment in which we function, and to that end a strong market requirements document (MRD), system requirements document (SRD), and product requirements document (PRD) will yield the right product at the right price at the right time in the right quantities. The IP prosecution, licensing, and assertion strategy will emanate from this market facing knowledge and development perspective.

Strategy and Tactics

The first step to effectively managing an IP portfolio is to identify what to protect, and how to protect it. Remembering that first and foremost companies exist to create profit through the sale of products or services, a solid understanding of your sources and types of revenue (high revenue products, high margin products, market capture products, market protect products) as well as a thorough understanding of those product and technology platform elements that give your company a competitive edge or commercial advantage (price, performance, efficiency, IP indemnification, liability reach-through, and support of development cycle time and customer lead-time reduction initiatives) will be required prior to any strategy development. Next, you will need to

10. De Beers, F. “Commercialising And Marketing Your IP To Optimize Your ROI.” *les Nouvelles*, Volume XL, No. 4, December 2005, pp. 165-171.

11. From “Sun Tzu On The Art Of War” as translated from the Chinese By Lionel Giles, M.A. (1910). “If you know the enemy and know yourself, you need not fear the result of a hundred battles. If you know yourself but not the enemy, for every victory gained you will also suffer a defeat. If you know neither the enemy nor yourself, you will succumb in every battle.”

12. This refers to the practice by Jerome Lemuelson of filing continuations to prolong issuance until an ostensibly infringing product appeared in the market. In the case of his bar coding patents, the earliest applications were filed in 1954 and 1956. CIP’s on these applications were filed in 1963 and 1972 which became the basis for 16 applications filed between 1977 and 1993.

develop a premise based on your understanding of where your customers, competitors and the market environment are likely to evolve. In this context you can then map the current technology capability of your company to future market requirements and use this road map to align your IP development and prosecution activities with the company-wide strategy required to achieve this evolution.

The word “portfolio” has become an important term used by companies to describe the combined elements of their diverse universe of operations. IP assets will not only be measured by the same rule (return on investment, asset turnover, operational cash flow, etc.) but the portfolio manager will face pressure to conform to certain strategic alignments and time lines more suited to short term (quarterly) financial objectives than to the strategic development and application of the IP portfolio to the company’s technology platform road map.

Elections made by an IP management organization can (and should) be quantified and managed over the entire 20-year window of the patent. This fixed overhead element of the IP budget is analogous to the property, plant and equipment infrastructure developed to support the manufacture of the company’s products and should be similarly managed to remain in alignment with the company’s road map (as currently in force and effect). As with the capital budgeting activities performed by the facilities group, a cross functional team must exist in the organization to continuously review and align the contents of the IP portfolio, identify, develop and review inbound opportunities, and to develop strategies to re-allocate non-core or non-aligned elements of the portfolio.

As for the development of IP, IP developed in support of a business is good for supporting a business. IP developed in spite of a business is good for licensing, and IP developed with no relation to the business is good for selling.

Let’s start with the first example, using IP to support ongoing business activities. This situation is the most common and results from the alignment of the corporate IP prosecution strategy with the business unit product strategy. It is operational in nature, and support of the IP is linked directly to the life expectancy of the related products. Since we are looking for freedom to operate for our company or customers, or barriers to entry for our competitors, a characteristic of this IP management style is to file only in the countries in which the company’s or competitor’s products will be sold or manufactured, and to abandon the IP after 10 to 11 years, or when the technology exits the market, whichever occurs sooner.

A strong business-focused IP portfolio will also create and maintain exclusivity for product families, features, and functionality, and can prevent or deter competitors from copying your products (in the semiconductor space this is referred to as “pin compatibility”) leading to price erosion. Patents can also help maintain margins for product lines by requiring a royalty from competitors. The royalty results in a competitor’s product being less price-competitive and also provides a revenue stream to the IP holder that can be further applied to ongoing development to refine the IP advantage or to create a new advantage. A strong IP portfolio may actually prevent litigation through the implied principle of mutually assured destruction, or it can provide an incentive to offset licensing fees and provide access to third party IP through cross licensing agreements.

The second example usually occurs in organizations in which the IP manager makes some effort (independent of the business unit) to understand the potential applications for resulting IP and makes an effort (often applying additional “corporate level” funding) to “fatten” the claims, do additional foreign filings, and respond more aggressively to office actions. The resulting IP then increases in imputed value (intangible asset valuation) because derivative cash flows from licensing the IP in adjacent markets can augment the product-based cash flows associated with the IP. Cross licensing can also reduce the fees paid to third parties for licenses, thereby increasing the gross margins for the associated products.

The third example is usually found in organizations that invest more heavily in early stage (or no stage) technology research or “basic science.” The output of this investment can consist of disclosures that have little, if any, alignment with ongoing product facing activities of the company. Bell Labs under Western Electric/AT&T was a good example of this type of research output. A traditional IP business unit created to support the sale or licensing of the resultant IP has yielded significant ongoing revenue stream to the company. One of the spin-offs from this parent, Agere Systems Inc., is an oft-cited example of this type of IP business unit structure, with roughly \$150M per year of income directly attributable to its activities.¹³ Effective (profitable) divestiture of assets created in this category will increase the cash position of the company, which can, in turn, increase M&A, licensing, or IP acquisition activities in support of ongoing business.

13. Chanda, A.K., and Lee, K., Lehman Brothers Equity Research report on Agere Systems, November 18, 2005.

Participation in standards bodies is also key to driving IP definition activities that in turn drive the uptake rate of a company's new products. In the semiconductor space, ramp rate and volume sales of new products are the main arbiters of profitability (after cost structure), and the demand can be driven more efficiently through derivative alignment with industry standard systems and platforms. Industry standards organizations like ITU, TIA, ETSI, etc., define the environmental parameters in the telecom space, for example, in which all telecom systems and components launch. Standards bodies can also offer some limited protection against threat of injunction, depending on the drafting of the membership agreements.

Conclusion

Intellectual Property is the skeletal structure of any organization, but the way we choose to implement and manage all of the business elements required to align the specific instances with the strategy of the company can take many forms. Companies can choose to create a business development organization to align the IP strategy with the other strategic elements of the company, and to make sure that the

focus of all IP activity is to grow the business, not just the portfolio. The things that make managing an IP portfolio very difficult for our company, in turn create significant barriers to entry for our competitors, thus allowing us to maintain profitability farther through the product life cycle.

So, is your IP new and different, novel, unique? Can you provide for customer needs, market acceptance, or standards development? Does the portfolio cover a specific product or manufacturing implementation or process, or does it have a general, broader application? Is the existing portfolio aligned with the strategic road map of the company, and do you develop and acquire new IP in support of this strategy? The answer to each of these questions is yes. In fact, it is imperative that the answer is yes if you are to successfully innovate and maintain a profitable presence in an environment of short development cycle times, short product life cycles, and a fickle technical environment in which the early bird gets the worm, but the second mouse often gets the cheese. ■

Value And Quality Based Patent Portfolio Management

By Dieter F. Reinhardt and Alexander J. Wurzer*

1. Introduction

Patents have taken over, additionally to their original function of protecting their own innovative achievements in the industrial area against copying, more and more the function of an instrument for the strategic management of business enterprises.¹ In particular, the patents² are increasingly also used as sources of income through licensing or patent sales, as bargaining chips in cross license agreements, as know-how currency, in the acquisition of enterprises or as basis of financial transactions.³ Up to the 1980's the numbers of annually filed patent applications was proportional to the R&D expenses, but as a consequence of the shift in the importance of patents, since then the patent filings have grown more than proportionally.

Top management of technology driven business enterprises are normally aware of the strategic importance of patents not least because of the growing judgment of the enterprises' patent portfolios and license deals⁴ in the financial market places.⁵ The patent portfolios are used for building up market power and for improving the positions in license negotiations.⁶ However, management often cannot see a direct influence of the patents on the market value of the enterprise and on the return of the working capital.

In a value oriented management of a business enterprise it is a matter of course to optimize the tangible assets and the working capital with respect to their contributions to the market value of the enterprise.⁷ Although the average portion of the intangible assets has meanwhile increased to more than 50% of the overall market value of an enterprise,⁷ an optimization of the contribution of the intangible assets, and especially of the patents and licenses, to the market value of the enterprise seems not to be widely spread. A reason for this insufficient consideration of the patents in the valuation of an enterprise is the lack of a suited instrument for demonstrating the patent value.⁸ Management pioneer Peter Drucker said in 1992: "What gets measured gets managed"⁹ and applied to patents this means that the patent values must be made accessible to measurements in order to take the right steps for increasing the patent value and especially for identifying license potential.

2. Portfolio Analysis and Patent Management

By the end of the 1960's the portfolio analysis was developed as a tool for tying together the analysis of a business enterprise and the respective business environment. The management of most business enterprises knows the methodology of the portfolio analysis and the visualization of the analysis results so that the portfolio analysis is an excellent means for communicating between different organizational units and hierarchy levels of an enterprise.¹⁰ A further advantage is the comprehensible derivation of standard strategies and recommendations to act from the analysis result, such as setting priorities or the assignment of resources.

Since the 1990's portfolio analyses have also been

1. Pike, C.G., "Virtual Monopoly," London: 2001.

2. By patents not only granted patents, but also patent applications and other industrial property rights as well as applications therefor are meant.

3. OECD, Patents and Innovation: Trends and Policy Challenges, Paris: 2004; Kossovsky, N. and Brandegee, B.: Monetization, "Strategies Other Than Licensing: Emerging Financial Concepts in Intellectual Asset Management," *les Nouvelles* 6 (2003) pp. 77-78.

4. Hawkes, S., When licensing deals create shareholder value," *Intellectual Asset Management* 7/8 (2003) p. 7.

5. Mc. Lean, R., "Intellectual asset strategy and the board of directors," *Intellectual Asset Management* 6 (2006) pp. 9-12; Fabry, B. and Ernst, H., "How To Make Investors Understand The Value Of IP Assets," *les Nouvelles* 12 (2005) pp. 201-208.

6. Faix, A., "Die Patentportfolio-Analyse-Methodische Konzeption und Anwendung im Rahmen der strategischen Patentpolitik," *Zeitschrift für Planung* (2001) p. 141.

7. Ch'ang, S., "Discover Your Invisible Advantage," *les Nouvelles* (March 2003) pp. 32-37.

8. Kaplan, R.; Norton, D., "Grünes Licht für Ihre Strategie: Immaterielle Werte," *Harvard Business Manager* 5 (2004) pp. 19-33.

9. Herring, J.P. "Measuring Effective Intelligence" Meeting the Management Communication Channel *www.cireport* (1998).

10. Kamin, S., Khoury, S., "Taking advantage of change," *Intellectual Asset Management* 3 (2005) pp. 14-20.

applied to the management of patent portfolios.¹¹ The analyses have been conducted by tying patent information to technology, product or market information. The goal normally has been optimum patent protection and the strategies derived from the analysis results have been leading to respective patent portfolios under technology, product or market aspects.

The known patent portfolio analyses have not been provided as instruments for deriving strategies for increasing the market values of the business enterprises from the analysis results. In connection with optimum patent protection an increase of the market value is of course expected, however, in the shaping of the patent portfolio by using the known patent portfolio analyses the values of the patents are not immediately or at least not sufficiently considered.

3. Value and Quality Based Patent Portfolio Analysis

In the following a value and quality based patent portfolio analysis is presented which allows bringing the patents in a patent portfolio into alignment with their contributions to the market value of the business enterprise and to elaborate matching licensing strategies.

In the value and quality based patent portfolio analysis the patents themselves are the objects of success and are in the center of the investigation. Each patent is subject to a bifurcate assessment process which results in two key components: On the one hand the patent quality is evaluated and on the other hand the economic patent value is determined. Then, both are brought into relationship to each other through an economic transformation of the patent quality into the patent value. The transformation is done by the value realization process and through the employment of complementary assets. The value realization process includes particularly licensing-out and the own use of the patents. The complementary assets comprise know-how, capital and the potential of producing a marketable product.¹² The value and quality based patent portfolio

analysis uncovers high quality patents and patents of high value and thus it identifies those for which the value has not been realized sufficiently yet, so that new license opportunities are opened.

The analysis result is visualized by mapping the individual patents or patent clusters formed from a plurality of patents as circles in a conventional portfolio diagram having horizontal and vertical axes. However, in the value and quality based patent portfolio diagram the horizontal axis shows the patent quality and is called the quality axis, whereas the vertical axis shows the patent value and is called the value axis.

3.1. Patent Quality

The patent quality shown on the quality axis of the portfolio diagram (cf. Figure 1) is the first key component of the analysis and is an endogenous factor which to a large extent is under the influence of the business enterprise itself. The patent quality is the result of an evaluation process relating to the patent itself and it is expressed by a quality score or ranking between e.g. 0 and 6 or between 0 and 100, whereby a high quality score indicates a high patent quality. The patent quality is determined by utilizing patent indicators derived from data bases and from determinants evaluated by experts.

3.1.1 Patent Indicators and Determinants

The patent indicators include bibliographic, procedural and text related indicators. Most of these indicators can be taken from data bases so that a first quality component can be determined by using a computer. Bibliographic indicators are e.g. the age

**Dieter F. Reinhardt, retired from Siemens AG in Munchen, Germany, where he was the head of a newly founded corporate licensing center and was responsible for patent licensing. After his retirement he co-authored a book about patent valuation. E-mail: reinhardt-dieter@t-online.de*

Alexander J. Wurzer is Managing Director of PATEV GmbH & Co. KG, a corporation for rating and commercialization of property rights and technologies, Munich · Karlsruhe. He is also visiting Professor at CEIPI, Centre of Intellectual Property Studies in Europe, of the Robert Schuman University, Strasbourg and the Director of the Steinbeis-Transfer-Institute for Intellectual Property Management of the Steinbeis University, Berlin E-mail: alexander.wurzer@patev.de

11. Pfeiffer, W. et al.: Studie zur Anwendung der Portfolio-Methode auf die strategische Analyse und Bewertung von Patentinformationen, Landesgewerbeanstalt Bayern, (1989) p. 71; Hofinger S. D., "Patente müssen sich rechnen," *Harvard Business Manager* 1 (1999) p.101; Drinkwater D., "IP Roadmap to Value," *les Nouvelles* (2003), p. 27; Ernst, H., "Patent portfolios for strategic R&D planning," *Journal of Engineering and Technology Management* 15 (1998) pp. 279-308.

12. Wurzer, A. J., "Value-oriented IP Management" *Intellectual Asset Management* (December/January 2006) p. 23.

of the patent, backward and forward citations, patent classification, ownership and key inventors. The procedural indicators include the patent family, i.e. counterpart patents in other countries and the granting procedure, i.e. whether a patent was granted via national, PCT or regional patent applications. Further procedural indicators are oppositions or other nullity actions against the patent and requests for accelerated search or patent examination. The text related indicators may comprise the number of patent claims and the categories in the claims.

The patent determinants form a second quality component and represent attributes of the patents. The determinants comprise the inventive step involved in the subject matters of the patent claims, the scope of the claims and the difficulty designing around the patent. These determinants must be evaluated by experts, e.g. by a patent committee comprising persons of legal and technical background. A combination of the quality components leads to the score indicating the patent quality.

3.1.2 Life Cycle of the Patent Quality

In a typical patenting process, at the beginning only an unexamined patent application exists which does not yet have a strong legal position (cf. Figure 3, qual-

ity axis). Thus, the patent will start with a low quality score. Then, if the result of the patent examination procedure is positive the score increases. In case there is a significant patent family of foreign counterpart patents the score increases further and when the counterpart patents are granted and there are no nullity actions or the patents have survived them, the score reaches a high score. If the prior art does not come close to the invention underlying the patent family, if the patent claims have a broad scope and if it is difficult designing around the patent claims, the patent reaches its maximum score. As time goes by the patents will be selectively abandoned, e.g. if the patent strategy changes or for economic or other reasons. Therefore, the score decreases until finally all patents are abandoned and the score reaches zero.

3.1.3 Probability Density of the Patent Quality

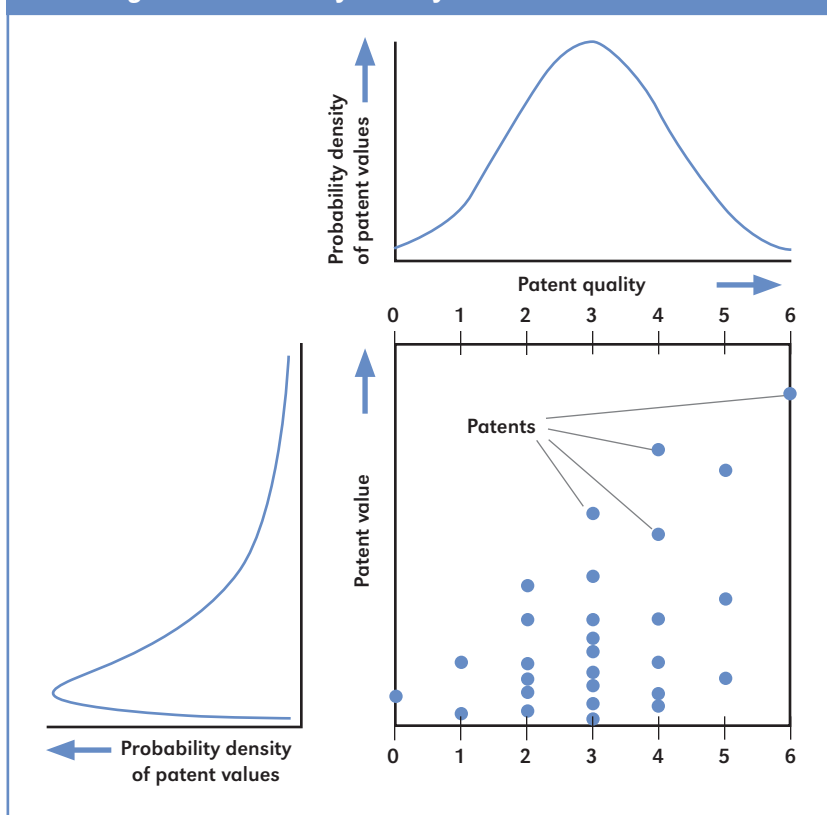
An empirically determined probability density of the quality scores of a large number of patents is shown in the upper part of Figure 1. The horizontal axis comprises the possible quality scores from 0 to 6. The probability of the scores is distributed symmetrically to the mean score 3. This is because the quality components such as the patent indicators

and determinants are normally distributed and they accumulate additively and multiplicatively. One can take from the probability density that most patents have mean scores from 2 to 4 and only a low number of patents have scores of 0 and 1 as well as of 5 and 6. That means that in a patent portfolio there are comprised many patents of moderate quality and only a few of low quality and a few of high quality.

3.2 Patent Value

The second key component of the value and quality based patent portfolio analysis is the economic patent value. It forms the vertical value axis of the portfolio diagram. The economic patent value is the sum of the economic benefits to the patent owner resulting from the various kinds of patent utilization. It is mainly an exogenous factor and is influenced by the business environment as well as by the

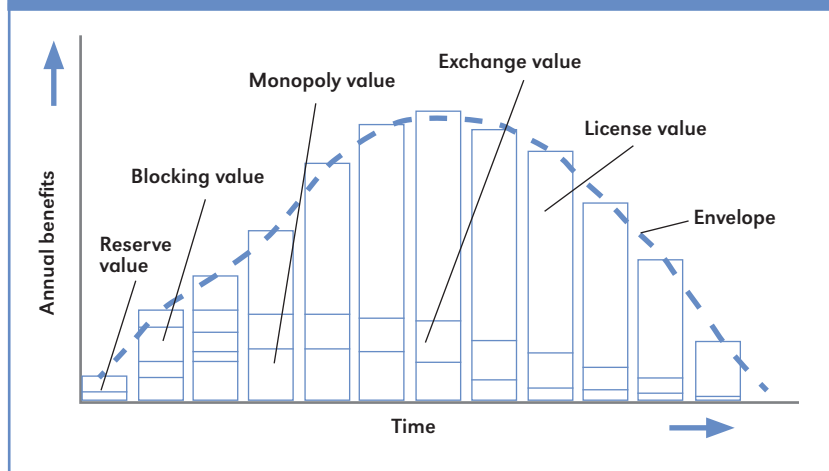
Figure 1. Probability Density of Patents in a Portfolio



value realization process and by the complementary assets of the business enterprise. There are some interdependencies between the patent quality and the patent value, e.g. with respect to the legal status or the size of the patent family. The patent valuation is performed according to the generally known approaches and methods, such as the cost approach, the market approach or the income approach,¹³

ties and to the license potential of the patent. The protection value is based on a monopoly value, a reserve value and a blocking value.¹⁵ The monopoly value results from additional income or cost reduction due to the ownership of the patent. In case the patent is not used by the owner, it nevertheless may have a reserve value relating to the protection of future business and a blocking value which comes

Figure 2. Components of Annual Benefits from Patents



whereby dependent on the purpose, the value realization process, the complementary factors and the addressee of the valuation for one and the same patent different patent values may be determined.¹⁴

3.2.1 Components of the Patent Value

The economic patent value is composed of a plurality of value components which are the result of the various patent functions. Figure 2 shows as example different annual economic benefit components which are added to annual benefits from the patent over its economic lifetime. The annual benefit components are mainly a transfer value and a protection value. The transfer value comprises in the example a license value and an exchange value resulting from a license agreement and a cross license agreement, respectively. The license value is the most important transfer value and corresponds to the incoming royal-

ties and to the license potential of the patent. The protection value is based on a monopoly value, a reserve value and a blocking value. The patent may have other values, such as a sales value if it is sold, an M&A value if it is placed in a cooperation, a joint venture, a start-up company or used in financial transactions. Moreover, the patent can play a role in motivating the employees, improving the reputation of the enterprise or in intimidating competitors.

3.2.2 Life Cycle of the Patent Value

As can be seen from the example in Figure 2, in the early phase the patent has a low value because it is not used and not yet licensed and the annual benefits comprise only the M&A value, the reserve value and the blocking value. Later on the patent is used in own products and is included in a cross license agreement so that the monopoly value and the exchange value come up and increase the value. If counterpart patents are granted in other countries, the monopoly value and the exchange value may increase further. When the license agreement is concluded the license value increases the value further. If the technology covered by the patent is replaced or for other reasons the license agreement and the cross license agreement are terminated or expire and if the patent is not used by the owner any longer, the license value, the exchange value and the monopoly value are reduced. Thus, the annual benefit from the patent decreases and reaches zero. If the patent will not cover the owner's future products the annual benefits will remain at zero as long as the patent is in force.

To determine the patent value life cycle and thus, the patent value at certain points of time, the respective remaining annual benefits are discounted to the points of time and added. The discount rates to be used will start with a relatively high number

13. Pitkethly, R., "The Valuation of Patents," *The Said Business School* (1997) p. 5; Reilly R.F., "Economic Evaluation Techniques," *les Nouvelles* 6 (1995) pp. 53-58.

14. Pitkethly, R., "The Valuation of Patents," *The Said Business School* (1997) p. 3.

15. Khoury, S., Daniele, J., Germaraad, P., "Selection and Application of Intellectual Property Valuation Methods in Portfolio Management and Value Extraction," *les Nouvelles* 9 (2001) pp. 77-86.

because of uncertainties about the future annual benefits and over time the risk will be reduced and the discount rates will come close to the opportunity rate. The result is a patent value life cycle which is similar to that of the patent quality and which is shown in Figure 2 together with the envelope of the annual benefits.

3.2.3 Probability Density of Patent Values

The probability density of the economic patent values in a patent portfolio is shown as an example in Figure 1 along the value axis. The economic patent values are slantingly distributed in accordance with a log. normal curve.¹⁶ Only a few patents have high patent values and the multitude of patents have low patent values. The asymmetrical distribution of the economic patent values is—contrary to the probability density of the patent quality—the result of a different multiplicative effect of the influence factors, such as the manufacturing potential, the market power, the innovation potential of the business enterprise as well as the corporate will to enforce the patents and to exercise the right of prohibition.

4. Value and Quality Based Patent Management

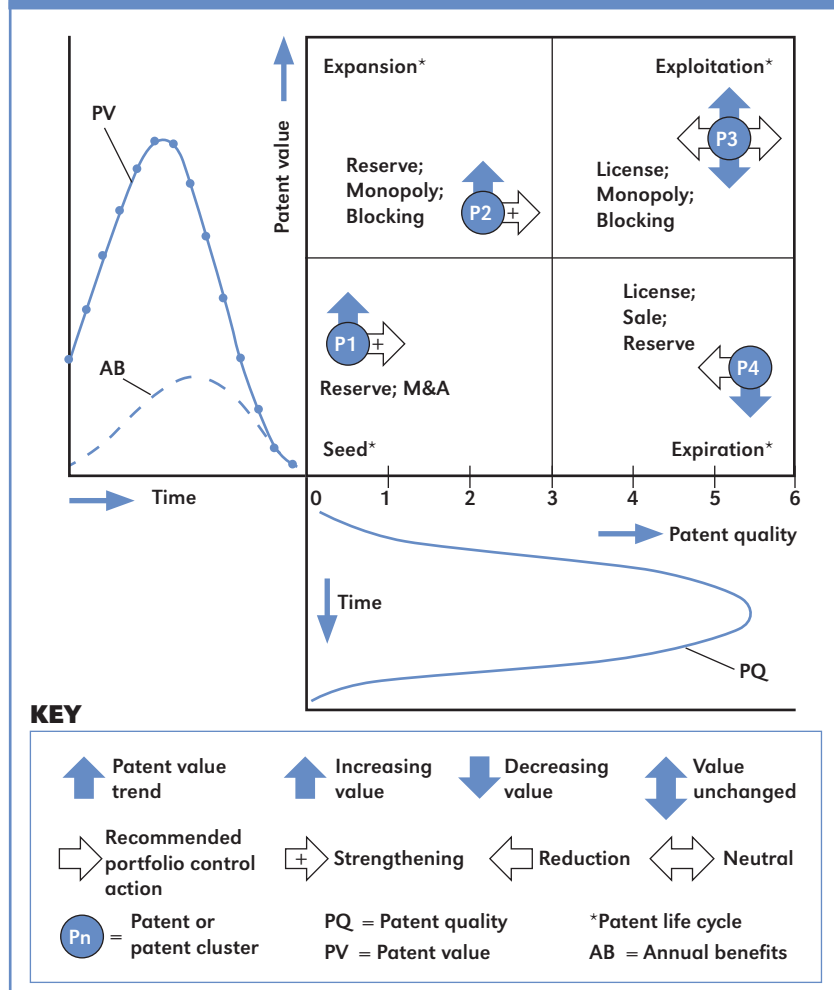
4.1 Distribution of the Patents in the Portfolio Diagram

After the quality and the value have been determined for each patent, the result of the patent portfolio analysis is graphically visualized in the portfolio diagram. Each patent is illustrated in the diagram by a circle the size of which represents a defined parameter, e.g. the respective patent cost. The patent quality as determined by the quality score defines the position of the patent along the horizontal quality axis and the patent value as determined by a monetary amount defines the position of the patent along the vertical value axis.

Taking into account the probability densities of the quality scores and of the patent values as described in 3.1.3 and 3.2.3, the patents have a probability density as shown in the example of Figure 1. Most of the patents have mean quality scores and low patent values. Therefore, in the lower central part of the diagram there are many circles representing the patents. A few patents have low quality scores and low patent values as well as a few patents have high quality scores and high patent values. However, as can also be seen from Figure 1 those patents having high quality scores do not automatically have high patent values and vice versa.

In Figure 1 individual patents are shown, however, it is possible to combine patents relating to the same products, technologies or business units to patent clusters and also to visualize them as circles. Then, the size of each circle can represent the number of

Figure 3. Portfolio Diagram and Time Dependent Development of Patent Quality and Patent Value



16. Scherer, F.M., Harhoff, D. and Kukies, J. "Uncertainty and the size distribution of rewards from innovation," *Journal of Evolutionary Economics* 10 (2000) pp. 175-200.

patents in the respective cluster. The positions of the circles along the quality axis and the value axis are derived from a combination of the quality scores and the patent values of the individual patents comprised in the cluster.

4.2 Deriving Recommendations to Act from the Portfolio Diagram

An example of a patent portfolio diagram visualizing the result of the value and quality based analysis is shown in Figure 3. It can be regarded as a detail of the portfolio diagram of Figure 1 and shows the positions of four individual patents P1 to P4. Each patent goes through a different patent quality life cycle and a different value life cycle as described in 3.1.3 and 3.2.3. A typical patent quality life cycle and a typical patent value life cycle are shown along the quality axis and the value axis, respectively.

The patents in the portfolio diagram of Figure 3 can also be regarded as snapshots of the same patent at various points of time of the shown patent quality and patent value life cycles. The patents are arranged in the crossing points of lines going to values in the life cycles corresponding to each other at the same points of time. It should be noted that in the example the patent quality life cycle is longer than the patent value life cycle because the economic lifetime of the patent is assumed to be shorter than the duration of the patent. Next to each patent it is shown which value component prevails in the value realization process and thus, in the determination of the patent value. The determination depends particularly of the position of the patent in the diagram and the trend of the patent value which is indicated by a vertical arrow connected to each patent. The value trend can be derived e.g. through the comparison of the portfolio diagram with a previous diagram. Further, a horizontal arrow next to each patent indicates a recommended standard strategy for the patent portfolio management for reaching an optimum contribution to the market value of the business enterprise. In special instances recommendations to act which are different from the standard strategies can be given, too.

The portfolio diagram is divided into four quadrants called “Seed,” “Expansion,” “Exploitation” and “Expiration” indicating the respective phases in the quality life cycle and the value life cycle of a patent. Patent P1 in the quadrant marked “Seed” is only a patent application which is still under examination and corresponding patent applications in other countries have not yet been filed. The patent is not used and thus, the quality score as well as the patent value are low. If the utilization of the patent can be

foreseen, the value trend shown by the vertical arrow is positive and it is recommended to strengthen the patent position by filing closely related flanking patents, blocking- and/or reserve patents as shown by the positive horizontal arrow. If it is possible, it is recommended to file counterpart patent applications abroad to form a patent family.

Patent P2 in the quadrant marked “Expansion” has been granted in some countries already, whereas in the remaining countries it is still under examination. If the patent is used in the own products it has the potential to become more valuable with respect to the protection value, especially the monopoly value. It is recommended to further strengthen the patent by possible transitions into national phases of PCT-applications or possible validations of European patents. Further, accelerated examination could be requested in specific cases. Similar third party patents should be vigorously opposed. Additionally, patents covering the same technology should be licensed in, cross licensed or acquired. In case the patent is not used in the own products it might have a reserve- and blocking value.

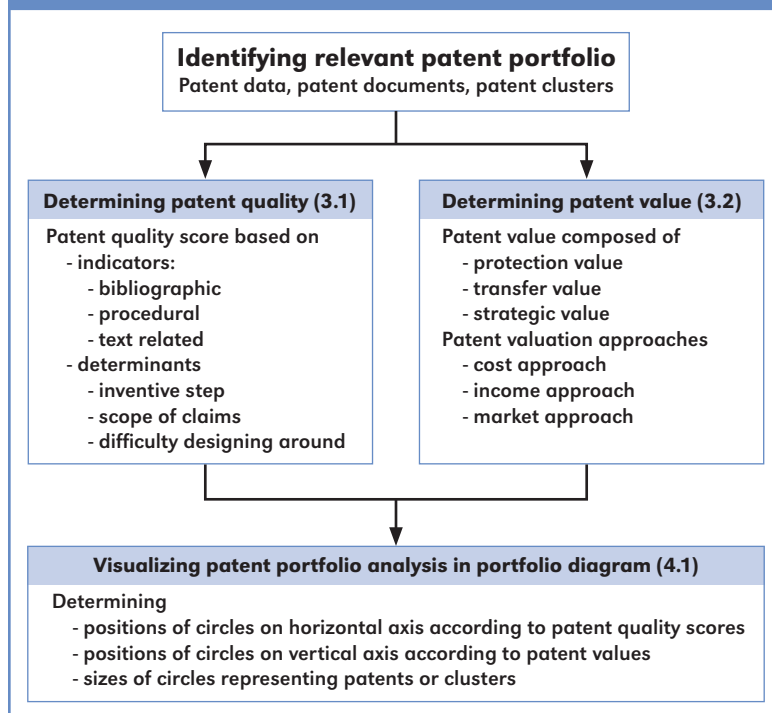
In the quadrant marked “Exploitation” patent P3 is shown which has been granted in many countries and used in own products to a large extent. Competitors are licensing the patent. Thus, the patent value is comprised mostly of a monopoly and a license value. A further increase of the patent value cannot be expected and therefore it is recommended to maintain the present patent position and to continue with the pending examinations and to litigate any unauthorized use of the patent.

In case, as shown in connection with patent P4, the patent value decreases because of reduced or finished own use and/or low or no interest in licensing, the recommendation would be reducing the patent position and finishing all pending examination procedures as indicated by the negative horizontal arrow. The patent position can also be reduced e.g. by selectively abandoning or selling some patents of the patent family. If the patent value decreases further, the patent family should be further reduced by abandoning or selling the patents. Thus, the quality score is further reduced as the value decreases. In the case if the patent cannot be used in future products the patent value reaches zero and the whole patent family can be abandoned.

5. Generating a Patent Portfolio Diagram

The process of generating a patent portfolio diagram visualizing the result of a value and quality based patent portfolio analysis is shown in Figure 4.

Figure 4. Flowchart of Quality and Value Based Patent Portfolio Analysis



As a starting point, the patent management identifies the patents of a patent portfolio to be analyzed, e.g. the portfolio relating to a business unit, technology, product group or product. The analysis can be applied to individual patents of the portfolio or to patent clusters comprising the patents of divisions of the business unit or relating to specific aspects of the technology, the product group or the product. The patent portfolio can also be that of a competitor for comparison of the mutual patent positions. The patent department provides the patent documents and the bibliographic data.

Since the patents or clusters are represented in the diagram by circles, the horizontal positions, vertical positions and sizes of the circles have to be determined.

The horizontal position of each circle in the diagram is a measure of the quality of the respective patent or cluster. The quality is determined in a generally known evaluation or rating process as it is described in 3.1. By using the patent documents and bibliographic data a group of experts, including the responsible patent attorneys and people with technical background, assigns a patent quality score between e.g. 0 and 6 to each patent or cluster. The group will base its finding on bibliographic, procedural and text related indicators as well as

on determinants, such as inventive step, state of the art and the difficulty to design around the patent. The resulting quality score defines the horizontal position of the circle in the diagram. Many enterprises apply such rating processes and manage their patent portfolios based on the resulting scores. However, most known rating processes make use of a combination of endogenous factors which are mainly under the influence of the own enterprise and of exogenous factors which result from the business environment and the value realization process. However, for determining the patent quality basically only the endogenous factors should be used. Therefore, the exogenous factors have to be removed from the rating process, but kept in mind for determining the patent value.

For each circle the vertical position represents the value of the respective patent or cluster. The value is based on the exogenous factors and is determined by the group of experts additionally including people with economic background. The value of each patent or cluster is its future economic benefit and is mainly composed of a protection value resulting from an exclusivity-, reserve- and blocking value, of a transfer value resulting from a license, exchange, sale and M&A value of the patent and/or of a strategic value. These value components are determined by applying the known approaches for the monetary valuation of patents as they are described in 3.2. These known valuation approaches include the cost approach, the income approach and the market approach. The cost approach is mainly used in case of a patent sale or of an injection of a patent in an M&A deal. The market approach is applied for finding a transfer value in licensing or cross licensing negotiations or in case of a patent sale or an M&A deal. The income approach is mainly used for finding the protection- and transfer value as well for the strategic value. The various value components are added for calculating the annual future benefits as shown in Figure 2. Then, the annual future benefits are added and discounted to the point of time of valuation, whereby the discount rate might decrease over time. The valuation result defines the vertical position of the circle in the diagram.

In the last step, as described in 4.1 and shown in

Figure 3, each patent or cluster is visualized in the portfolio diagram by a circle, whereby the horizontal and vertical position is defined by the corresponding quality score and the value, respectively. The diameter or the area of the circle shows a parameter, e.g. the size of the patent family which includes the foreign counterpart patents. In case of a cluster the diameter or area can be proportional to the number of patents comprised in the cluster. As a result, the circles are shown in the portfolio diagram having the four quadrants called “Seed”, “Expansion”, “Exploitation” and “Expiration” as shown in Figure 3.

The diagram visualizes the present patent position with respect to a business unit, a specific technology, product group or product and recommendations to act for strengthening the patent portfolio in view of increasing the enterprise value can be derived as it is described in 4.2. If the portfolio diagram is prepared periodically, the changes can be visualized, too. Further, if the same analysis is applied to a corresponding patent portfolio of a competitor the mutual patent positions can be demonstrated and compared.

6. Conclusion

The value and quality based patent portfolio management is a strategic instrument for demonstrating the value of the patent portfolio and particularly for managing the patent portfolio in two ways, namely

to identify opportunities for the exploitation of the economic potential of the patents in the portfolio and to shape the portfolio in view of increasing the enterprise value. From the positions of the patents in the portfolio diagram the preferred types of value realization can be extracted and from the trend of the patent value instructions for shaping the patent portfolio can be derived. The portfolio management allows diagnosing, judging and controlling the value of the patent portfolio in accordance with the patent strategy of the business enterprise. In the course of determining the various patent value components and particularly the license value, license potentials can be uncovered and realized and thus, the market value of the business enterprise can be increased. The patent management can derive from the result of the portfolio analysis directions for controlling the patent portfolio in a way that the probability density of the patent values follows qualitatively that of the patent quality as close as possible.

For a business enterprise it is indeed only of importance to have patents which have a high economic patent value. The value and quality based patent portfolio analysis forces the patent management to a clear statement with respect to the value and the quality of each patent or patent cluster in the portfolio and thus, to the contribution of the patent portfolio to the market value of the business enterprise. ■

Licensing To Promote Global Health Partnerships

By Tari Suprpto*

Introduction

The Global Forum for Health Research (www.globalforumhealth.org) recently published a two-volume report titled, "Global Forum Update on Research for Health 2005." In summary, this report showed that there is a disparity in the research effort to improve healthcare between developed and developing countries. For example, there is high research effort in both rich and poor countries for diseases that affect large populations such as Hepatitis B and diabetes, but there is a low research effort for diseases that primarily affect poor countries, such as HIV/AIDS and tuberculosis. There is also a group of neglected diseases that exclusively affect people in poor countries, such as malaria, Chagas' disease, and leishmaniasis, and until very recently, very little research is focused on finding cures for such neglected diseases. The mortality rates from these diseases with high incidence in poor countries is staggering. Without a significant research effort, there will be very little innovation to develop effective interventions for these diseases, including better vaccines, drugs, diagnostics, and medical devices. Even with increased research effort, creative licensing approaches will need to be employed to manage research outcomes since these innovations do not carry with them the traditional promise of high financial returns, but rather, such innovations may help save the lives of millions around the world. In addition to numerous factors that lead to global health disparities, there is also an acknowledged need for better public health infrastructure, trained health workers to deliver healthcare services, disease surveillance, and policy formulations.

Over the last several years, a number of initiatives have emerged to stimulate the research effort to find better treatments for diseases in developing countries. These include the formation of product development public-private partnerships (PPPs) sponsored by philanthropic organizations. An Add-On session titled, "Emerging Strategies and Structures in Global Health Partnerships" at the Licensing Executives Society Annual Meeting 2005 in Phoenix, Arizona presented multiple perspectives on these initiatives and alliances to address global health challenges. This session was organized by several members of the Technology Managers for Global Health in collaboration with MIHR (Centre for the Management of Intellectual Property in Health R&D)

and the LES Industry-University-Government Transactions Sector Committee, with the financial support of the Rockefeller Foundation. Usha Balakrishnan (MIHR-U.S.A.), Julie Tan (Health Canada), Gordon Comstock (University of Illinois at Chicago), and Tari Suprpto (Rockefeller University) were the primary organizers of the session. The speakers included representatives from the pharmaceutical industry, such as Pfizer; the PPPs, such as the Global Alliance for TB Drug Development, Aeras Global TB Foundation, the International AIDS Vaccine Initiative; early drug development partnerships such as BioVentures for Global Health; professionals from academic institutions such as University of Illinois at Chicago, Boston University and University of Mississippi; as well as global health research sponsors including the Rockefeller Foundation, the Bill & Melinda Gates Foundation, NIH and NIAID. This document summarizes the speakers' remarks and the various discussions that followed their presentations.

Perspectives From The Pharmaceutical Industry

It was enlightening to learn about what the pharmaceutical industry is proactively doing to solve the global health inequity problem. There are various options involving IP that can be used by companies to expand access to medicines. Companies can out-license IP covering certain medicines, be it voluntary or compulsory. The patents can also be donated, however this means giving away the IP without any return, be it monetary or guaranteeing that the medicines reach the ones who need it the most. Companies can also refrain from filing or enforcing patents in countries with small or low-paying markets. Another option is to donate goods and services, such as medicines, human resources, manufacturing facilities, and forming drug development partnerships with the pharmaceutical industry in the developing world.

Pfizer, for instance, donates and distributes medicines with training, education, and mentoring in collaboration with USAID. Heather Lauver, the Assistant Director for Global Operations for Pfizer's International Philanthropy Programs, said that donating goods and services in this way increases the sense of responsibility of getting drugs to the end-user as opposed to licensing or selling, where once the deal is done, the responsibility is transferred to the licensee or customer. One program is the International Trachoma Initiative, where the drug

Zithromax is donated and delivered to those in need in Africa. Trachoma is a disease that causes blindness, thus perpetuating the cycle of poverty. This program has succeeded in reducing the infection rate of trachoma by 95 percent. Pfizer also has a program to fight HIV/AIDS by building research facilities, funding research and providing drugs, such as Diflucan, to AIDS patients at no cost. Future plans include the establishment of programs to combat malaria and respiratory illnesses.

One of the most critical components in providing medicines to developing countries is the supply chain. Unfortunately, ensuring that the supply chain is uninterrupted is one of the largest challenges as well. Corruption in low-income countries is a huge problem, such as smuggling and rebranding. Pfizer uses distinct packaging to label its drugs destined for donation to prevent the drugs from being diverted elsewhere. The company also deals with the regulatory affairs to fully register the drug in the country of destination, and pays the considerable costs for shipping the drugs to the port, including taxes and import duties. In order to ensure that the products reach the end users from the port, Pfizer establishes partnerships with non-profits and non-governmental organizations (NGOs) to create distribution channels. The supply chain is also needed to ensure that the drugs are delivered in a timely way to maintain their effectiveness, especially in the case of anti-retroviral drugs for HIV/AIDS where 100 percent compliance is required to maintain critical efficacy.

Gordon Comstock from the University of Illinois at Chicago presented his work on a project called "Affordable Medicines for Africa" (AMFA), which is a non-profit initiative to manufacture, monitor quality and efficiently distribute medical products in Africa. This endeavor is meant to build the primary supply chain in Africa to avoid theft, counterfeiting, degradation of the drugs in transit and expiration of the drugs before they can be resupplied. A U.S. \$577M contract with President Bush's Emergency Plan for AIDS Relief is funding an effort to establish a distribution channel. AMFA is coordinating with pre-existing African healthcare delivery systems established by NGOs and faith-based communities (e.g. missionary facilities), which also have the potential to provide education and training. AMFA is also making efforts to train the local pharmaceutical industry to manufacture high-quality products, as well as work with Africa's largest pharmaceutical warehouse and distribution center. Other aspects of the initiative include working with the Ministry of Finance to lower tariffs on pharmaceuticals, which are currently at 40

percent, and to help move the products securely by training locals to recognize counterfeit drugs which may contain little to no active ingredient.

Perspectives from public-private partnerships (PPPs) and product development partnerships (PDPs)

Public-private partnerships (PPPs) are organizations that pursue a social mission by employing the best practices of the private sector and drawing upon the complementary skills and resources of the public and private realms. Many of these PPPs are also involved in developing appropriate products for various needs (e.g. neglected diseases), hence the term "product development partnerships" (PDPs). This part of the session had speakers from the Global Alliance for TB Drug Development (also referred to as the TB Alliance), the Aeras Global TB Foundation, and the International AIDS Vaccine Initiative (IAVI), all of which presented case studies. At the time of the session, both Aeras and the TB Alliance had recently issued press releases concerning deals with pharmaceutical companies, which was very exciting for both the speakers and the participants. It was also evident that there was a great deal of positive communication between the PDPs and that they were supportive of each other.

The public health problems surrounding the individual diseases were presented to put the PPPs/PDPs' efforts into context. Dr. Gerald Siuta, Consultant for Business Development at the TB Alliance, showed that tuberculosis poses a serious public health problem by sheer numbers alone. About one-third of the world's population (~ 2 billion people) is infected with the bacteria responsible for tuberculosis, with about 2 million deaths annually. Current statistics indicate that there are 8-9 million new cases of active disease each year, and about 400,000 of them are multi-drug resistant (MDR-TB). Tuberculosis is also the leading cause of death in HIV-positive people, and about 12 million people are co-infected with TB and HIV. There is a significant need for new TB drugs as the current standard treatment involves administration of four drugs for a period of six to nine months and the few drugs used to treat MDR-TB are poorly tolerated. The antiretroviral agents for HIV interact with the TB drugs, making simultaneous therapy very difficult. Unfortunately, TB is an unattractive

**Tari Suprpto, PhD, she is the Assistant Director of the Office of Technology Transfer at Rockefeller University in New York, NY.*

E-mail: tsuprpto@rockefeller.edu

market for the private sector and there is very little commercialization of public sector research, resulting in no new anti-TB drugs in over thirty years.

Created in 2000, the TB Alliance is an international public-private partnership whose mission is to ensure equitable access to a faster and better cure for TB. The ideal drug would shorten the duration of TB treatment or otherwise simplify the completion of treatment, be effective against MDR-TB, improve the treatment of latent TB, and be compatible with antiretroviral agents against HIV. Another objective of the TB Alliance is to coordinate and catalyze TB drug development activities worldwide and ensure that these products are affordable, adopted into existing treatment programs, and accessible to those who need them most (the TB Alliance's AAA Strategy). The TB Alliance utilizes an entrepreneurial, virtual R&D approach, where all the R&D is outsourced to public or private partners. Their deals include licenses, sponsored projects, co-development or co-investment partnerships, and any other arrangements that allow products to be developed and distributed. Their partners include the Korea Research Institute of Chemical Technology, the University of Illinois at Chicago, the University of Auckland in New Zealand, Chiron Corporation, GlaxoSmithKline, and most recently Bayer Healthcare AG. The Bayer partnership will conduct a global clinical trial (2,500 patients) to study the potential of Bayer's fluoroquinolone antibiotic, moxifloxacin, to shorten the standard 6-month treatment of TB. Moxifloxacin, approved for the treatment of bacterial respiratory and skin infections in 104 countries, has been shown to reduce treatment time by two months in vivo studies and is safe to use with antiretroviral drugs. Bayer will donate the drug for the clinical trials, pay for the regulatory filings and ensure that the drug is sold at an affordable price for TB patients in the developing world. The TB Alliance will coordinate and help pay for the clinical trials and coordinate the data and results to facilitate registration of the drug.

Another PDP addressing the public health problems posed by tuberculosis is the Aeras Global TB Foundation, created in 1997, with the mission to develop and insure availability of new and effective TB vaccines to those who need them most. The current vaccine, BCG, has been used since the 1920's and fails to protect people beyond childhood. Aeras has also licensed technology from companies and academic institutions for sale of new TB vaccines to U.N. agencies, the Global Alliance for Vaccines and Immunization, and to developing and emerging economy countries. In addition, Aeras also provides

process development, regulatory support, expertise, animal models and assays to their partners. In one particular case, Aeras used a market segmentation strategy where Aeras had a royalty-free, sublicensable, exclusive license to import, distribute and sell in developing countries while the collaborator had a similar license to both manufacture and sell in developed countries and emerging economy countries. In another case, the partner agreed to provide the vaccine product at two different prices in the public and private markets. Aeras recently formed a partnership with GlaxoSmithKline (GSK) Biologicals to develop a tuberculosis vaccine that showed promising results in preclinical studies and appeared to have satisfactory safety and immunogenicity based on GSK's early clinical trials. Dr. Rita Khanna, the legal counsel for Aeras, commented that the more advanced the candidate is at the time of licensing, the less flexible the terms are. These deals often involve research collaborations as well. Key provisions in these agreements include intellectual property (ownership is usually based on inventorship, IP management, enforcement, and infringement), regulatory approval, manufacturing and termination.

It is evident that there is a need for vaccines in addition to drugs, especially protective vaccines that can prevent people from contracting diseases such as HIV. The International AIDS Vaccine Initiative (IAVI) is a PDP, founded in 1996 with the mission of ensuring the development of safe and accessible HIV vaccines. This means creating vaccines with speed and making them available and affordable to the developing world. IAVI utilizes a multi-pronged approach to reach its goals. IAVI conducts research and development to design, manufacture and test promising HIV vaccine candidates while securing adequate resources globally and promoting sustainable policies to accelerate HIV vaccine with a focus on the developing world. For example, IAVI has set up clinical trial site infrastructure in Africa and India and plans to test six vaccine candidates in the clinic over a period of six years.

IAVI's program is centered on pre-clinical and clinical collaborations for research to address key scientific challenges and for product development to advance promising candidates. The collaborators are from academia and industry. Some of the issues that are consistently addressed in negotiations are financial terms, IP, and program management. The major challenges that IAVI faces are the science, third-party IP, manufacturing, and access.

Labeed Abboud, the general counsel for IAVI,

spoke of a number of reasonable assumptions that IAVI makes when interacting with the pharmaceutical and biotech industry to achieve its goals. One assumption is that development risks and lack of funding are obstacles to develop technology relevant to HIV vaccines. Another is that access can be ensured through various mechanisms, and that IAVI would obtain reasonable terms for third-party intellectual property. There are also several incentives for industry to partner with IAVI, which include the availability of early-stage funding, development of a technology platform, credibility to investors, and access to expertise and clinical trial sites.

In general, the IP terms for a collaboration agreement would allow IAVI to manage the commercialization of the IP on behalf of all collaborators in developed and developing countries. The typical mechanism is for IAVI to have an option to an exclusive license to IP made during the course of the collaboration and an option to a non-exclusive license to the background IP. Revenue is shared amongst the collaborating parties, but no royalties are expected from sales in developing countries. If IAVI does not commercialize the IP, the other party may exercise march-in rights to further develop the product. Ownership of the IP is flexible, and is usually determined by inventorship. It is important that IAVI's partner be committed to developing and commercializing the technology in such a way that it is accessible to those who need it. Therefore, IAVI reserves march-in rights in the event that the development of the vaccine is abandoned, if the collaborating party fails to meet developmental milestones, or if it is priced unreasonably.

Perspectives from early R&D drug development partnerships, biotech companies and start-ups

The need for global health equity has created a number of partnerships across multiple sectors and also created the need to creatively manage IP worldwide. Usha Balakrishnan, the executive director for MIHR-U.S.A., called out for new ways of thinking about how to evaluate inventions, license IP, form partnerships in drug development, and build appropriate capacity and other infrastructure in developing countries. Ms. Balakrishnan also emphasized the importance of raising awareness for global health-related issues amongst fellow IP, licensing and business development managers. One way she has done so is by founding a collegial network called the Technology Managers for Global Health (TMGH) in 2003 as a special interest group within the Association for University Technology Managers (AUTM). With financial support from the Rockefeller Foundation,

TMGH in collaboration with MIHR, produced and widely distributed a booklet titled "Global Health Partnerships and Academic Technology Transfer" in May 2005. TMGH has grown to over 200 interested participants, meets at the AUTM Annual Meeting, and in the spirit of collaborating to promote global health equity, has now reached across to organizing workshops at AUTM, LES and the Biotechnology Industry Organization (BIO).

Academic institutions can certainly play an important role in addressing the global health problem. Research in academia is not financially driven, and funding is available for developing world diseases. In fact, half of the deals done by private-public partnerships involve academic institutions. Promoting global health-relevant technologies is increasingly being addressed by academic licensing professionals. Following the call to action, "Global Health is the Next Frontier for Technology Transfer," presented by Dr. Maria Freire, President & CEO of the Global Alliance for TB Drug Development, during her acceptance speech as the recipient of AUTM's 2002 Bayh-Dole Service award, AUTM's 2006 Annual Meeting in Orlando is dedicated to the theme of global health and improving society. Most offices of university technology transfer and licensing operate fairly autonomously allowing for potential creativity in licensing solutions for global health purposes. The key issues are how to learn to establish and implement practical mechanisms and partnering strategies that allow for an optimal balance: (a) to enhance both the economic and social impact of university licensing; (b) to extend the economic and social impact of innovations to broader global settings; and (c) for assuring fair access to the world's poor within an evolving framework of licensing practices, legal concerns, business opportunity, and time constraints.

Ashley Stevens, the Director of the Office of Technology Development at Boston University proposed a number of licensing approaches that could be utilized by academic institutions, which include (i) structure two-tier pricing (different prices for developed versus developing countries), (ii) require a development milestone involving developing countries, (iii) require cost-plus pricing in developing countries, (iv) refrain from patenting in developing countries or (v) grant a non-exclusive license to the patent rights without royalties, (vi) exclude developing countries from the primary license, (vii) grant a license to a developing country's pharmaceutical/biotech company, (viii) require public sector development in return for private sector rights, mandatory sublicensing,

and non-assert provisions for developing countries. A number of case studies were presented, such as the licensing of certain anti-fungal compounds to the Institute for OneWorld Health (a PDP) for Chagas' disease and Bristol-Myers' agreement to produce generics in developing countries due to public protests from the licensor's (Yale University) student population regarding fair access.

Mark Rohrbaugh, the director of the Office of Technology Transfer for the National Institutes of Health (NIH) also talked about NIH's role in promoting global health research via intramural research, research collaborations and the licensing of inventions. Most of the technologies that come out of the NIH are novel, fundamental research discoveries and research tools. NIH also commercializes biological materials via tangible materials licenses, which works well for countries that do not have IP regulations. Only a few of NIH's licensed products are in developing country markets, but NIH's licenses often contain a "White Knight" clause requiring public good where products are provided at cost. More recently, NIH has required submission of commercialization plans for other countries upon first U.S. or EU regulatory approval and has licensed directly to institutions in developing countries. In fact, collaborations with institutions in developing countries has revealed needs and technologies related to neglected diseases, and NIH has already transferred technologies to, or has negotiations in process with a number of organizations in developing countries. Some of these licenses are non-exclusive, or utilize a market segmentation strategy, and quite a few are done with PDPs. NIH is also making efforts to promote international technology transfer by helping to build local technology transfer expertise and collaborate with others to facilitate transfer of technologies for neglected diseases.

Other sectors can also be involved in finding and developing new solutions. The biotechnology industry sector can help by developing faster and cheaper point-of-care diagnostics, safer and more effective vaccines, improved delivery systems, sequencing the genomes of pathogens, and creating recombinant drugs or therapeutic biologics. The main question is how to stimulate more innovation within the biotech industry that would lead to appropriate technologies for the developing world.

There are significant barriers to overcome, mainly because there are lots of unknowns. The developing world is an unfamiliar market with high risk and low expected returns, and the funding for is limited. The amount of information is relatively small; there is a

lack of experience in dealing with the developing world and a lack of reliable information on how to find partners and funding sources, test, purchase, and distribute products. Another obstacle is the lack of technical and scientific expertise in the diseases relevant to the developing world. One solution is to take a market-based approach, where capable innovators respond to incentives other than funding and build markets that are competitive with economic opportunities, which is what BioVentures in Global Health (BVGH) is trying to do, as presented by Wendy Taylor, co-founder and VP of Strategy and Operations of BVGH.

BVGH is an offshoot of BIO with the support of the Gates Foundation and the Rockefeller Foundation, and its mission is to break the barriers of development of treatments for neglected diseases. Its efforts include developing business cases to dispel the myth that least developed country markets are unviable as well as to develop scenarios for market size and development costs. BVGH is also developing new market incentives by creating advance market commitments, where companies commit to guarantee minimum price for certain volumes of sales. In addition, BVGH is working on co-development models and outreach to raise awareness and obtain more information. It is also focusing on ways to catalyze private sector R&D by supporting biotech investment in particular disease opportunities, seeking out relevant products and technologies and to see how biotech companies can use their own technology to develop treatments for neglected diseases.

Perspectives from global health research sponsors

The Rockefeller Foundation has a Health Equity program, which is designed to be at the intersection of biomedical science and public health. In the 1980's, this program funded research for neglected diseases. At present, the program's primary goal is to establish product availability for the poor and one of the ways is to spur the formation of product development partnerships (PDPs). The PDPs are non-profit entities that utilize a portfolio management strategy to expand product pipelines. Priorities are based on health inequities, social demand, and maturity of the science in order to ensure availability and adoption of the technologies by the countries that need them. Chad Gardner, Associate Director for Health Equity showed that the Rockefeller Foundation is aware of what is needed for the PDPs to succeed. Availability requires to ensure product existence and design for acceptability, manufacturing capability and capacity, IP systems to support affordable production, national-level regulatory approvals, and appropriate

mechanisms and networks for procurement and distribution. Effective adoption requires education and training of health providers, affordable pricing, policy research to fully understand the demand, education of the end users, and disease surveillance to understand health burden and need.

The Bill and Melinda Gates Foundation recently awarded US \$450M in grants to fund 43 research projects directed towards global health solutions, and not simply to advance science. This initiative is named the Grand Challenges in Global Health. This initiative and global health programs funded by the foundation have a global access strategy that is based on two core principles: 1) global health solutions must be made available at affordable prices to those most in need in the developing world, and 2) the knowledge made through discovery must promptly be made available to the broader scientific community. Therefore, a great deal of thought must be given to the potential activities, obstacles and needs beyond the proposed project itself.

There are a number of key elements to implement this *Global Access* strategy. First, due diligence is needed to confirm appropriate ownership or rights to the necessary IP via legal documentation (e.g. license agreements) and to ensure that the organizations directly involved with the grant project are viable organizations, meaning that there are executives, a pipeline, and means of fundraising. It is essential that there be adequate structures and strategies to manage the project, the technologies, and other related rights. Second, the foundation asks its grantees to make a commitment to support the *Global Access* strategy, which may entail conducting certain activities, such as providing reports or refrain from certain actions, such as granting exclusive licenses and filing for patent protection. This commitment may extend past the term of the grant to achieve the intended health solution. Third, the nature and the scope of the grantee's commitments will depend on the particular project being funded and other facts. Fourth, the grantee will be required to provide an IP management plan and report inventions and licenses. Fifth, the foundation does not take ownership of the technologies, but limited march-in rights remain a possibility. Sixth, grantees are required to submit a written *Global Access* strategy document to outline their plan and maximize output. Erik Iverson, the associate general counsel to the Global Health Group of the Gates Foundation, stated that the foundation will work with each grantee to develop appropriate global access commitments. The foundation also aims to balance its charitable objectives with the grantee's

need to market the technologies outside the developing countries, preserve market competitiveness, and promote IP rights.

The various programs and products of charitable organizations such as the Gates Foundation and the Rockefeller Foundation that are directed towards global health research require an appropriate legal framework. This framework should adequately address the external legal requirements of a charitable funder, such as federal tax rules (including IP issues addressed by the IRS) as well as the foundation's internal mission and goals. Most foundations, universities, PDPs, hospitals, and medical research organizations are 501(c)(3) organizations, meaning that they are corporations or legal entities that are exempt from income tax, and can receive tax-deductible donations and grants. These organizations are formed and operated for public benefit and charitable purposes, including education, scientific, or literary goals. At the same time the organization should not benefit privately from its works. It is also crucial that all 501(c)(3) entities find the appropriate balance between public and private benefit.

Robin Krause, an attorney with Patterson, Belknap, Webb & Tyler was involved in the initial set up of a Gates Foundation-sponsored PDP, IAVI. She observed that from a purely legal perspective, there is no difference between a university and a PDP, but the reality is that there is a perception that universities are more protected. In fact, the operations of a university are broader than PDPs—even a university-generated blockbuster product is only a small portion of the university's entire activity. Regardless, scientific research as a charitable activity must be carried on in the public interest, which means that the results are available to the public on a timely and non-discriminatory basis, the research is performed for a governmental body, and is directed toward benefiting the public by either publishing in a trade publication, aiding economic development of a geographic area, or discovering a cure for a disease.

There are also basic federal tax rules governing exploitation of IP rights of or by a 501(c)(3) entity, where the public must be the primary beneficiary of said exploitation of IP rights, and any commercialization should not be contrary to industry norms, the terms should satisfy arms-length standards, and provide for reasonable compensation and economic benefit without being excessive. The organization must document why the compensation is deemed reasonable. PDPs are of great interest to the IRS as they have IP, revenue-generating abilities, and interest from the private sector. Overall, these legal and

tax requirements may be reflected in the terms of the grant administered by the charitable funder, such as the *Global Access* strategy adopted by the Gates Foundation as described above.

The National Institutes of Allergy and Infectious Diseases, an organization that is part of NIH, also funds global health research as it covers diseases such as HIV/AIDS, malaria, tuberculosis, enteric diseases, and vaccine development. NIAID has a Global Health Plan, which promotes international outreach by encouraging capacity-building in the host country and has training programs for technology transfer. The funding for projects outside the U.S. has increased steadily to about US \$400M for 2005, and over time a number of international research networks have been built.

Traditionally, NIH has supported product development through grants, cooperative agreements, contracts, SBIRs, and CRADAs. According to Mukul Ranjan, an officer in the Office of Technology Development of NIAID, there are now new models for product R&D. These include an increased emphasis on research resources (e.g. reagent repositories, genomic databases, animal models, support for clinical trials), a vaccine research center, vaccine production contracts, and partnership programs. The vaccine production contracts provide resources to facilitate development of candidate vaccines into testable products, manufacturing of GMP-quality pilot lots as well as reagent-grade vaccines for testing in non-human primates, preclinical safety evaluations, and IND preparation. NIAID also puts CRADAs in place for vaccine development, which is directed towards early-stage and high-risk research and encourages collaboration to identify strong leads. NIAID also interacts with industry by granting awards to private sector companies (i.e. SBIRs, and STTRs), and providing support for PDPs to address barriers to de-

velopment, mainly through a cooperative agreement mechanism with a focus on preclinical activities.

Conclusion

The LES Add-On session described in this article brought together people from various sectors, which led to interesting discussions with the speakers and amongst the attendees. It was noted that there was a need to bring more people from the biotech and pharmaceutical industry to provide their unique perspective and expertise, which would be very instrumental in developing innovative licensing activities to promote the creation of global health solutions in collaboration with university and PDP managers. One way to address this would be to design future LES workshops with a program content that would be of interest to the health care industry, perhaps by having a scientist communicate the importance and progress of his or her work in laymen's terms, or have legal practitioners provide specific frameworks under which licensing provisions could be constructed and negotiations could be undertaken in more creative ways.

It is also important to have open and transparent communication across the multiple sectors involved, and to know what other organizations are doing to encourage synergy and complementarity of skills and experience. Other suggestions included the sharing of *Global Access* strategy documents and obtaining feedback from the IP managers or licensing personnel of the institutions who received a grant from the Grand Challenges for Global Health initiative from the Gates Foundation. Overall, it was incredibly encouraging to see a diverse collection of people come together and share their experiences and perspectives so generously with each other. These dialogs will be continued in other sessions planned at future conferences, including a workshop at the 2006 Spring LES/AUTM Meeting in Philadelphia. ■

Risks To And Precautions Available To Patent Licensees In China If The Licensor Is Bankrupted

By Jiang XunMing and Zhu XueZhong*

The proportion of patented technologies as intangible assets possessed by enterprises is rapidly increasing in today's world. A patent license contract for the licensor is not only an important means to reduce R&D risks and obtain advanced technologies, but also a significant means of developing markets and gaining profit. Patent licensing therefore plays an increasingly important role in today's international technology trade. However, the bankruptcy of licensors brings risks to the performance of contracts. This article will, based on the relevant Chinese laws and regulations as well as judicial theories and practices, study the risks to and precautions which may be taken by a licensee to a patent license contract, where the licensor is bankrupted.

Upon bankruptcy, the People's Court appoints a "liquidation team" ("Liquidators") from the Government and private sectors to administer the bankruptcy.

1. Disposal of executory contracts such as patent license agreements

The Bankruptcy Law of the People's Republic of China states that liquidators have the following options in relation to contracts unperformed by bankrupts: (1) Liquidators may decide to cancel the license contract, in which case the compensation for damage incurred by the other party due to cancellation of contract will constitute a claim in the bankruptcy; (2) Liquidators may decide to continue to perform the license, in which case the bankrupt will fulfil its liabilities and the counterparty will be requested to fulfil its obligations.¹ Thus, in order to protect the interests of bankrupts and their creditors and further to realise the assets of the company in liquidation, the Bankruptcy Law gives the liquidators the right to assume or reject executory contracts. However, this right favours the bankrupt, not the licensee. Hence, in the case of liquidation, it is necessary to consider how to protect the interest of the licensee without affecting the interest of the bankrupt's creditors, so as to satisfy all the parties. However, how to fairly deal with both parties in a

license contract is not described in the Bankruptcy Law of the PRC (Interim), the Provisions of Supreme People's Court Concerning Several Issues on Trial of Enterprise Bankruptcy Cases or the Opinions of Supreme People's Court on Several Issues Concerning Implementation of the Bankruptcy Law of the PRC (Interim). Also, there is little theoretical study that has so far been made on this issue.

A contract as defined in bankruptcy law, as Prof. Countryman pointed out, is deemed "executory" only if the obligations of both the bankrupt and the other party to the contract are so unperformed that the failure of either to complete performance would constitute a material breach excusing the performance of the other.² Generally speaking, theory and judicial practice are inclined to deem patent licenses as being incompletely performed and therefore as executory contracts for the purpose of the bankruptcy law. The disposal of executory license contracts should be subject to the bankruptcy law. Nevertheless, licenses are distinctive: the subject matter is an intangible property right that is difficult to replace; the contract term is usually comparatively long; and the contracts are closely related to the production of enterprises. As a result, the cancellation of a license usually has far-reaching consequences on a licensee. It should be particularly noted that the in-

**Jiang XunMing, Lecturer at the Department of Intellectual Property at Huazhong University of Science and Technology. He is a candidate for the PhD degree. He is located in Wuhan, Hubei Province, Peoples Republic of China. E-mail: jxmhu@yahoo.com*
Zhu XueZhong, Ph.D., is a Professor and the Director of the Department of Intellectual Property, Huazhong University of Science and Technology. He is located in Wuhan, Hubei Province, Peoples Republic of China. E-mail: xzzhu@hotmail.com

1. See Article 26(1) of the *Bankruptcy Law of the People's Republic of China*.

2. Countryman, *Executory Contracts in Bankruptcy*; Part I, 57 Minn. L. Rev. 439, 460 (1973)

terests of both parties to a patent license could be coordinated and balanced to assure the realisation of assets in a liquidation in the interest of the bankrupts' creditors and the most important interest of the licensee, i.e. the right to operate under the patent license. Thus, when disposing of an executory license contract, it is necessary, in conformity with legal principles, to consider the distinctiveness of the license contract as well as coordinate and balance the interests of both parties.

2. Risks to licensees if licensors are bankrupted

The liquidators that take over a bankrupt's matters will have the right to decide whether to reject or assume license contracts and to dispose of the bankrupt's properties if licensors are bankrupted. Since there is no provision for the protection of a licensee's interest under executory license contracts under Chinese bankruptcy law and other related regulations, licensees will be at risk and dependent upon whatever the liquidation group's decision is.

2.1 Risks to licensees if liquidators decide to reject executory contracts

If the liquidators decide to reject a license contract in accordance with the provisions of Chinese Contract Law, licensees cannot continue to fulfil the right to execute the patent license.³ In such a case, the licensees' interest is neglected. As a result, the initial aim of the license contract cannot be realised. It is often stipulated in licenses that the licensee should invest time and money in preparation for the performance of the license, such as training personnel, altering and improving production lines, and engaging in market development, advertising campaigns for products, business program, developing strategies, etc. All of these preparations cost time and a sizeable amount of money that cannot be recovered in the short term. The licensor's bankruptcy deprives the licensee of the right to operate under the patent license and therefore can render recovery of this investment futile. The licensee, however, has no right to access

the bankrupt's assets if the contract is cancelled. In this case, the contractual fine agreed upon in the license may not be regarded as a credit in the bankruptcy because it is a source of punishment against the contract breaker. It has the effect of making the penalty provision concerning earnest money inapplicable.⁴ Though the licensee may have the right to claim for compensation for loss under the Contract Law and the Bankruptcy Law, the amount of compensation will be limited. Firstly, compensation will be calculated only on the actual loss, excluding the loss of expected interest.⁵ Secondly, the available bankrupt's assets are usually limited due to the insolvency, which results in only less than a full proportion of the loss being recovered by a bankrupts' creditors; at times even nothing at all.⁶ Thirdly, according to the limitation of "the principle of reasonable foreseeability" in the legal theory of contract, the bankrupt may argue by way of defence that the licensees' loss exceeds what may have been reasonably forecast.⁷

2.2 Risks to licensees if liquidators decide to assume license contracts

Under the Chinese Bankruptcy Law, liquidators have the option to assume patent license contracts. Liquidators will therefore consider the interest of bankrupts and relevant creditors when executing such an option for the following reasons. (1) After termination of bankruptcy proceedings, a bankrupts' liability for remaining debts unpaid are discharged, which means that bankrupts have no interest in the continuous performance of patent license contracts; (2) Liquidators, mainly engaged in bankruptcy liquidations, have no interest in patent license contracts; (3) Difficulties are likely to be encountered in continuing to perform patent license contracts due to the long term thereof. For these reasons, licensors, normally, will decide not to continue to perform patent license contracts.

However, even if a licensee has the right to performance of patent license when the licensor decides to continue a patent license contract, the licensee may encounter risks. On the one hand, the licensor or its successor will not be in a position to continue to perform collateral obligations such as making pat-

3. See Article 97 of the Contract Law of the People's Republic of China.

4. See Article 55 of the Provisions of Supreme People's Court Concerning Several Issues on Trial of Enterprise Bankruptcy Cases.

5. See Article 26(2) of the Bankruptcy Law of the People's Republic of China and Article 55 of the Provisions of Supreme People's Court Concerning Several Issues on Trial of Enterprise Bankruptcy Cases.

6. See Article 37 and 38 of the *Bankruptcy Law of the People's Republic of China*, adopting the unconditional exemption doctrine on the liabilities not being discharged after the bankruptcy liquidation.

7. See Article 133 of the *Contract Law of the People's Republic of China*.

ent maintenance payments, providing personnel training for licensees, servicing patented technology, proving patented products and market services, cracking down on patent infringement, etc. Furthermore, if the licensor or its successor cannot perform such collateral obligations, the payment of a royalty by the licensee will become problematic. If the patent license contract does not expressly distinguish the patent royalty from the payment for collateral obligations, or differentiate between the payable items by amount, then the liquidator will receive a benefit exceeding the amount notionally required to be paid as a patent royalty.

2.3 Influence on and risk to licensees if licensors assign patent

If the owner of a licensed patent becomes bankrupt, the patent becomes part of the bankruptcy property.⁸ According to Chinese Bankruptcy Law, liquidators may dispose of the property at their discretion. The following part of this article will analyse the validity of and impact on licenses if liquidators assign the licensed patent to a third party.

After conclusion of patent licenses, licensees are granted the right to performance of the patent license on condition of paying certain royalties. The right granted to licensees is the right to exploit the licensors' patent, i.e. an encumbrance is created on the patent. Within the scope of the right to exploit the patent, the Licensee may not only prohibit any person from disturbing its exploitation but also challenge the patent owner directly. This is because the right to exploit a patent is established in prior order and such right can only become valid after registration of the patent license by the State Intellectual Property Office. The assignee of a patent takes the patent subject to the licence since the lessee's interests and the interests of the owner are recognised equally. The assignment does not affect the validity of the patent license contract, except a third party becomes the new owner of the licensed

patent. In such a case, the impact on patent license contracts by assigning the patent to a third party is very similar to that on lease contracts where there is a change in ownership of the leased property.⁹ So, it is reasonable by using the theory and regulations concerning lease contracts to interpret the impact of assignment on the validity of a patent license contract.

Although an assignment of a patent has no direct impact on the validity of a license contract granted under that patent, it may be doubtful that the assignee will be able to fulfil the obligations under the contract, especially in case of some particular obligations closely related to the ability of the licensee. The ability includes the provision of personnel training for licensees, service for execution of patented technology, provision of patented products etc.

3. Precautions by licensees for risks if licensors are bankrupted—countermeasures on the level of legal system

Today, most countries in the world have established similar legislation giving liquidators (trustees) the rights to reject or assume license contracts. At the beginning, most countries did not reasonably restrict the execution of such rights for the purpose of protecting licensees' benefits when cancelling license contracts. Thus, to the extent of executory license contracts, licensees' benefits were often damaged because of a liquidators' rejection of license contracts had a disastrous impact on licensees. This was the situation in the United States until the amendment of Section 365 of U.S. Bankruptcy Code in 1988, which now grants licensees under executory contracts rejected by a liquidator an option to: (i) continue to pay royalty in order to retain the right to exploit the patent license; or (ii) treat the licence as terminated if the rejection by the liquidator would entitle the licensee to do so otherwise.¹⁰

The amendment of Section 365 as mentioned above arose from the case *Lubrizol Enterprises v. Richmond Metal Finishers, Inc.*,¹¹ in which, the Appellate Court held that it was unfair for Lubrizol to be deprived all rights other than damages as the result of the liquidator of the licensor rejecting performance of the license contract. The provision in Paragraph 365(n) of U.S. Bankruptcy Code gives

8. See Article 28.1.3 of the *Bankruptcy Law of the People's Republic of China*.

9. See Article 229 of the *Contract Law of the People's Republic of China*: "Leasehold ownership changes occurs in the lease period do not affect the effectiveness of the lease contract", Article 119, paragraph 2 of the *Opinion of Supreme People's Court on Some Issues Concerning Implement of General Principles of Civil Law of the People's Republic of China*: "If the property rights of private rental housing are transferred in the lease period due to sale, bestowal or succession, the original lease contract is of continuing validity for both lesser and house-owner" as long as the contracts are valid.

10. See *U.S. Bankruptcy Code Section 365(n)*

11. *Lubrizol*, 756 E2d 1043.

licensees the option to terminate license contracts or to retain rights under the patent license if liquidators reject the license contracts. It is worth emphasising that the licensees' option is based on the hypothesis that the liquidator has rejected the license contract. If the liquidator decides to affirm the license, the licensee will have no option. Of course, licensees' right to retain rights under the license does not mean that the licensor must fulfil its obligations under the license. Where the liquidators reject performance of the license contract, the licensor is not responsible for performing its obligations under the contract such as, training licensee's employees, maintaining patents, updating patented technology, etc., but is obliged not to interfere with the licensee exploiting the license. In other words, the rejection of a licence only exempts the licensor's obligation to actively perform the license contract, but not the passive obligation not to interfere with performance by the licensee.

The amendment of paragraph (n) of Section 365 of U.S. Bankruptcy Code properly reflects the principle of fairness: on one hand, licensors may avoid a positive obligation under patent license contracts; on the other hand, a licensee may retain its right to exploit the patent. This amendment properly balances the benefits of both licensors and licensees, which is arguably a better system. For the purpose of further regulating the right to cancellation, the laws should restrict liquidators the right to cancel executory mutual contracts. In case of a failure to elect to reject within a statutory period, the liquidator should be deemed to have consented to continued performance of the license. In theory, executory contracts are binding on the parties to such contracts. Liquidators have the possibility of changing the status of licenses. In other words, the license will be invalid if the right of rejection is exercised and the license will remain valid if this right is not exercised. Therefore, if not rejected, continued performance of the contract is required. The Bankruptcy Law gives liquidators the option to reject licenses. Since the bankruptcy of an enterprise does not constitute the necessary trigger for the cancellation of contracts, liquidators have to take certain actions when intending to reject licenses. If liquidators do not express such intention implicitly, it should be deemed that licenses remain valid. When liquidators cancel licenses, the law grants licensees a corresponding option to cancel or retain the licenses and stipulates the period within which the right must be exercised by licensees. If licensees do not elect to retain the license within the statutory period, it should be deemed as consent to

termination of the license.

4. Precautions for risks to licensees if licensors bankrupted—countermeasures on the level of contract management

Where liquidators decide to cancel patent license contracts, the current Chinese Bankruptcy Law does not give licensees the options to cancel or remain the right to execute license contracts. Once licensors are bankrupted, licensees will be at passive position, even incurring disastrous consequence in case of improper measures. Under other related Chinese laws and regulations and practical experience, the countermeasures will be set forth from five aspects on the level of contract management as follows.

4.1 Urge liquidators to execute the right to cancel executory license contract timely

The Chinese Bankrupt Law does not give licensee the option to cancel or remain the right of cancellation on executory license contracts when liquidators cancel such contracts. Also, the Law does not restrict the period to execute the right of cancellation. If liquidators' decision is delayed, licensees have to wait for the result in a passive manner. This will certainly bring huge unstable factors to licensees' production and operation. In order to avoid such a situation, licensees may urge the other parties to cancel or remain the right of executing license contracts within a reasonable period. If the licensor does not use the right of cancellation within such a period, the licensee may claim invalidity of the right to ensure that the contract cannot be simply cancelled by the licensor.¹² In addition, one party may urge the other party to execute the so-called "cancellation right" timely within the period stipulated in a license contract, so as to settle the matter as early as possible.

4.2 Restrict reasonably disposal by licensors to licensed patents

After licensors are bankrupted, the licensed patents still fall into the bankruptcy property and liquidators may dispose such property to realise bankruptcy. However, the disposal made by liquidators may disadvantage licensees. Thus, licensors' disposal should be restricted. For example, if licensees are entitled with exclusive right to execute licensed

12. See *Contract Law of the People's Republic of China*, Article 95 Paragraph 2: Where the law or the parties prescribe a period for exercising termination right, failure by a party to exercise it at the end of the period shall extinguish such right.

patents, it may be stipulated in license contracts that licensees may take the priority to execute the licensed patents when licensors are bankrupted. If licensees have the common right to execute the licensed patents when licensors are bankrupted, it may be stipulated in license contracts that licensees have the right to execute the licensed patents before any other non-licensees. In such circumstance, licensees may control their execution and gain future benefits. The transfer of the right to execute the licensed patents can be stipulated in license contracts so as to avoid unreasonable charges asked by bankrupts.

Further, as another advisable choice, licensors should conclude patent escrow contracts with a third party that is able to perform license contracts.¹³ This can be stipulated in license contracts that the licensed patent rights should be transferred to licensees if licensors are bankrupted and a third party may also succeed all the rights and obligations previously belonged to the licensors. Such a stipulation should be admitted by liquidators and does not cause any problems to realise the liquidation of bankrupts.

4.3 Claim that patent transfer has no impact on validity of previous license contracts

As mentioned above, liquidators have the right to dispose bankruptcy property after the bankruptcy of licensors. Thus, in the case the license contract does not reasonably restrict the disposal by licensors in relation to licensed patents, licensors may transfer the patents to a third party. In order to prevent any disadvantage of this transfer, licensees should claim that such a transfer has no impact on the validity of license contracts.¹⁴ Licensors' rights and obligations as detailed in license contracts, including royalty payments, staff training programs, execution of patented technology, provision of patent products, market service and the crack-down of patent infringements, should generally be succeeded by a third party. The third party is required to provide sufficient guarantee for its future performance and assume the liabilities for breaching the contract.

4.4 Record amount payable in details in license contracts

There is no doubt that licensees should continue to pay the royalty by using the licensed patents when licensors are bankrupted. However, the licensor cannot continue to perform some collateral obligations stipulated in the contract due to bankruptcy, such as training of licensees' employees, execution of patented technology, provision of patented products and market service, crack-down of patent infringement, etc. Thus, the royalty should be separated with payment for collateral obligations stipulated in license contracts when drafting such contracts and the amount payable should be recorded in details, so that licensees will not pay more than royalty when continuously executing licensed patents if licensors are bankrupted. Of course, it is also practicable to stipulate in license contracts the proportion of payment for licensors' collateral obligations to total fee. In such circumstance, once licensors cannot perform their collateral obligations under license contracts due to bankruptcy, licensees may deduct the relevant fee.

4.5 Guarantee by licensors or a third party for license contracts

In accordance with the provisions in Guarantee Law of the People's Republic of China, the performance of license contracts may be guaranteed by the party or a third party in order to urge licensors to wholly and timely perform contractual obligations. On the other hand, licensees can decrease risk and actual loss to the minimum level resulted from failure of licensors to perform contractual obligations by claiming prior compensation with guaranteed property. However, where licensors are bankrupted, the earnest money stipulated in license contracts will not apply to penalty provision concerning earnest money, in that case the earnest money clause does not function as guarantee.¹⁵ The guarantee methods that licensees may stipulate in license contracts mainly include guarantee, mortgage, pledge, etc. ■

13. See *Contract Law of the People's Republic of China*, Article 45 Paragraph 1: The parties may prescribe that effectiveness of a contract be subject to certain conditions. A contract subject to a condition precedent becomes effective once such condition is satisfied. A contract subject to a condition subsequent is extinguished once such condition is satisfied.

14. See Section 2.3 herein.

15. See *Rules of Supreme People's Court on Some Issues Concerning Trials on Enterprises Bankruptcy Cases*, Article 55: In case liquidation team cancels contract, the actual loss incurred to the other party shall fall into bankruptcy debts, "the liquidated damages shall not fall into bankruptcy debt and deposit shall not apply with deposit penalty principle."

Patents As Assets And Liabilities: Patents Can Serve Various Purposes

By Francis Hagel*

The current trend of characterising patents as “assets” entails a risk: when considering the economic aspects of patents, it tends to restrict the scope of analysis to the patent rights owned by the company and their valuation. However, for a company which owns and exploits patents in its business, an evaluation taking into account patent assets alone is seriously incomplete as it ignores the other side of the coin: patent liabilities. A company is exposed as a result of its commercial activity to the risk of infringing third party’s rights. In order for its patent situation to be completely assessed, a company must indeed evaluate its assets, but also the liabilities arising from third party patents¹, in other words, assess its *balance of patent assets and liabilities*.

This is all the more necessary as the risks arising from third party’s rights are not limited to the payment of damages or royalty fees and to legal expenses. The risk for a company is also and above all to have to interrupt a commercial exploitation which has required substantial R&D and commercialisation efforts. In addition to the measurable loss, such a situation may be perceived as a collective disaster for the company and a personal failure for the management. Moreover, patent-related risks have significantly increased over the last decade: both potential risks, as a result of the sharp growth in patent filings at international level, and actual risks, as evidenced by the strong increase of infringement proceedings initiated in the U.S. courts (which have seen an increase in cases of 78.5% since 1995), which is a matter of concern not just for U.S. companies, but also for all non-U.S. companies, including SMEs, having activity in the U.S.

This is why companies frequently rank a defensive purpose (the protection of their freedom of action) first among the objectives of patent filing. This may seem paradoxical. A patent being a right to exclude, it is in essence an offensive tool which can be asserted against third parties in the case of violation. But its defensive efficiency is also a reality. Firstly,

a published application or patent anticipates subsequent patent filings by third parties in the same country as of its filing or priority date. Secondly, if a company is threatened in its freedom to operate by a competitor asserting a patent, it may find a way to counter the threat if it locates an activity of this competitor which infringes one of its patents. This offers the possibility to settle the dispute by a cross-license preserving the company’s freedom to operate. Clearly, this is more likely to take place if the company holds a sizable patent portfolio. A dynamic patent policy is thus effective to reduce infringement liabilities. It acts in a way as insurance.

Versatility of Patents

Patents are official titles providing exclusionary rights to technical subject matter expressed in words in the claims. A patent thus includes a definition of its scope (unlike other intellectual rights such as copyright) which is readily available to third parties as of its publication. This is coupled with a large flexibility in many respects. The language of the claims, hence their breadth, is at the discretion of the applicant and adjustable to a limited extent during prosecution, subject to review by the Patent Office for compliance with patentability requirements and other applicable rules. The subject matter of the claims (product, component, manufacturing method, method of implementation, or use) can be tailored to cover not just the competitors’ activity, but also those of suppliers and users, where appropriate. As to the territorial coverage, the Patent Cooperation Treaty (PCT) system enables the applicant to retain very broad options during a period of 30 months from the priority date. In addition, transfers of patent rights can be carried out separately from the business or the technology to which they relate.

This set of features provides opportunities for benefits to corporate owners in quite a diversity of ways. The primary objective of patent protection for a company is to support its business, and every opportunity to reap benefits from patents must be taken advantage of. It is to be noted in this respect that pending applications, which are not patent assets in a full sense, may nevertheless bring benefits in non-contentious situations e.g., to support the early phase of commercialisation.

1. Brian Kahin, “Information process patents in the U.S. and Europe: Policy avoidance and policy divergence,” *First Monday*, March 2003.

Offensive Function

When a new product or service is introduced in the marketplace, a patent covering this product or service is aimed at dissuading imitations. The goal is to prolong the commercial advantage gained from the introduction. This may imply an advantage as to pricing and profit margin, assuming that this advantage can be attributed to the exclusionary right of the patent. This occurs if the patent cannot be easily circumvented and if there is no alternative solution equivalent to the patented invention.

When this is the case, a patent has unquestionably an economic value. Measuring it, however, is not an easy task. The valuation is based on the discounted cumulated incremental profit brought by the patent over the relevant period of time, less the maintenance and foreseeable enforcement costs. This first requires that the specific contribution of the patent be isolated from other factors which contribute to the market advantage for the product or service (lead time, role of features unrelated to the patent, exclusive supply agreements for critical components, etc). Assumptions must then be made as to the period of time over which the patent will continue to effectively contribute to profitability, and as to sales over that period. The former assumption is based on the expected lifetime of the underlying technology but is highly uncertain, since the emergence of an alternative technology can unexpectedly shorten the lifetime. Sales projections are also very uncertain. Moreover, a company which introduces a new product has generally a whole range of products and the introduction may have complex induced effects (positive and/or negative) on the sales of existing products or services. These effects must also be taken into account for an assessment to be realistic. Obviously, if there is a portfolio of patents covering the product or service, the assessment must be made for the portfolio. The portfolio can include patents covering alternatives not used in the commercial product or service, as such patents can also be effective to restrict competitors' ability to design around.

It is clearly in the patent owner's best interest if the patent acts in a dissuasive mode, because asserting the patent against a competitor entails legal costs and uncertainties as to the validity of the patent and its applicability to the competitor's product. Factors which are effective in dissuading competitors include the company's credibility as to its determination to defend its intellectual property, the mention of patent protection in commercial publications and dealings with clients, and the coverage

of the product or service by several patents rather than by a single patent.

The offensive role of patents can be taken to advantage in business dealings outside any conflict. For example, in the provision of professional services, the existence of a patent covering a new option can justify an extra charge for the patented option. Another situation occurs when a client has been convinced by the patent owner that the patented product or service is superior, and makes it a requirement in calls for tenders that the patented technology be used. A supplier other than the patent owner must, to be awarded an order, prove that it has reached an agreement with the patent owner. The latter is thus certain to receive a compensation if it is not awarded the order. The existence of a patent may also be an argument which justifies for the client a derogation from procurement procedures requiring a call for tenders, leading to the direct award of a contract to the patent owner. This can happen in particular where the client is an administrative body or an organisation subject to public markets regulations. The immediate commercial benefit gained from the patent can be considerable.

The case of patents on pharmaceuticals is an extreme one as to the economic value a single patent can have. A market value of the patent on a pharmaceutical can be deduced from the loss of market capitalisation of the company which owns the patent when the latter falls into the public domain or is invalidated by a court decision, and generics become available to compete with the patented pharmaceutical. When a highly successful pharmaceutical is concerned, the stakes are colossal. For example, a single adverse court decision shortening by three years the term of the patent on its flagship product caused the market capitalisation of Eli Lilly, the U.S. pharmaceutical company, to fall by an amount of 36 billion U.S. dollars, equal to the market capitalisation of General Motors.

Defensive Function

The defensive effect of patents may have a substantial economic value resulting from the reduction of

**Francis Hagel, Intellectual Property Manager at Compagnie Generale de Geophysique, located in Massy, France. He is a European patent attorney and admitted to practice before the US Patent Office. E-mail: fhagel@CGG.com*

risks as to the freedom to operate and of costs generated by legal opinions and litigation. As said above, such risks and costs may indeed be catastrophic.

In sectors such as electronics and telecommunications, the major players enter into license agreements relating to the entirety of their patent portfolios on product categories.

Software giant Microsoft, which in view of its exposure to antitrust counterclaims may not be eager to assert its patents, explains its aggressive patent filing policy (the objective stated by Microsoft is 3,000 filings per year!) by a purely defensive purpose. According to its General Counsel, Microsoft has to handle a total of about 40 infringement cases and spends in the order of U.S. \$100 million in attorney fees every year. Given Microsoft's size, each case may entail a high risk. For instance, Microsoft was ordered by a U.S. court in June 2004 to pay \$520 million in damages for infringing a patent on Internet technology.

Another example can be found in the relations with suppliers, when a technical collaboration exists between client and supplier to develop a product or component. In this case, the goal for the client is to preserve its freedom as to the use of another supplier (second source) so as to strengthen its bargaining position vis-à-vis the supplier and improve or at least protect its profit margin. The client files a patent application on a concept proposed to a supplier, or imposes on the supplier the filing of a joint application or equivalent contractual conditions. Such situations are common in the automotive and the chemical industry.

License Revenue

LES members need not to be advised that patents can be licensed to third parties and generate revenue in the form of royalties. Licenses involving patents fall in two categories: bare licenses, which only provide the right to use a patent, and technology licenses which involve the transfer of technical information and/ or research material, in addition to the right to use the patent. The parties in a bare license are typically competitors and licenses are of a confrontational character while technology licenses are cooperative and generally involve parties having complementary activities in some respect.

As to bare licenses, highly publicised cases, insofar as amounts are concerned, relate to the electronic sector, in which patent portfolios covering basic technology have been licensed to the entire industry, generating considerable royalty streams, to such an extent that the patent owners have created business units specialised in the management of licenses.

Another type of bare license is found in sectors

in which, for compatibility purposes, technological standards must be implemented by all players. This takes place in particular in the telecommunications and digital media sectors. The owners of patents covering features incorporated in a standard agree to grant licenses. The economic value is significant since, although royalty rates may be low, the royalty base covers the whole sector. It must be kept in mind, however, that a patent owner in this field is also a user of standards and has to pay royalties for patents owned by its competitors. From a company perspective, the potential or actual revenue from its patent(s) is offset by the potential or actual royalty payments arising from third party's patents. As pointed above, what matters is the balance.

In the case of technology licenses, the primary purpose is to enable the licensee to develop and commercialise a technology. The revenue stream generated by the license is thus based on the value of the technology in a broad sense (including access to research material, databases, suppliers). The patent part of the license, if it is non-exclusive, is implied in the technology license and cannot be attributed a specific fraction of the revenue stream. However, patents do play a positive role in technology licenses by enhancing legal security and contributing to the policing of the license especially vis-à-vis a licensee's activity outside the scope of the license and post-term situation.

Strategic Objectives

Patents are an aid to growth for high-tech SMEs, as they are favored by risk-capital investors and sometimes a condition of the acquisition of an equity interest. For these SMEs, patents may represent a substantial asset. In particular, patents may complement no-compete covenants to dissuade key personnel from leaving the company to join a competitor or start their own competitive business.

In the case of a joint-venture, the license granted to the joint-venture by the developer of the technology does not only generate a royalty stream, it is also a tool of strategic control: in the case of termination of the joint-venture agreement, the license is also terminated and the local manufacturer cannot continue the exploitation on its own without infringing the patent.

The outsourcing of production activities may entail a risk of loss of control and of know-how being leaked out. This risk can be reduced by coupling to the industrial agreements companion licenses which authorise the use of patents only for carrying out orders placed by the client. For this to be possible, patents must be secured in the country of the subcontractor.

Where R&D activities are outsourced, it is obviously a requirement for the ownership of results to be clearly defined as well as the rights to use the results. In this kind of situation, patents are a tool of strategic control for the client.

Tax Benefits

International groups with R&D facilities and operational entities located in different countries must structure the funding of R&D by internal agreements which include technology licenses involving the payment of royalties by operational entities. These licenses raise transfer pricing issues since they involve related parties and are subject to close scrutiny by tax authorities in the countries of the licensees. As royalty payments are deductible from the licensee's income, tax authorities want to verify that royalty rates do not exceed the rates which would result from an arms-length negotiation between independent parties, and are not used to unduly reduce taxation.

In order to justify a royalty rate which may seem too high to the tax authority, it helps if the technology license includes a patent component, because patents are official titles granted by a local administrative body and they are credible vis-à-vis the tax authority. In this case, the patent portfolio can be attributed a fraction of the royalty rate of the license and generates value in the form of tax savings, provided the tax rate applicable to royalties in the country of the licensor is lower than the income tax rate in the country of the licensee.

Reputation

Nowadays, the patent policy of a company is considered as a significant element in terms of its reputation and image. Patents are frequently used in the financial communication of corporations as an indicator of their technological position, of their level of investment in research development and of the quality of their management. A company holding a strong patent portfolio tends to be seen as a reliable partner for collaborations or alliances.

Maximising Value

Given the diversity of benefits which can be reaped from patents, a corporate owner cannot maximise these benefits without specific actions. First, the company must have an up to date exhaustive knowledge of its portfolio as it relates to each commercial product or service. Secondly, the patent manager must keep in touch not just with the R&D/technology departments but also with the departments in charge of commercial activities (marketing, sales, purchasing), and communicate to them the relevant patent information. Specific opportunities can thus be identified. Third, the company must monitor patent publications by third parties, in order to detect potential risks as early as possible. The information concerning its portfolio related to products or services, opportunities for benefits and third parties' patent activity allows the company to rate its patents in terms of the actual and potential benefits, manage its portfolio and take preventative action (design around, opposition) in order to reduce infringement risks.

Value vs. Valuation

Some of the benefits of patents outlined above do not lend themselves to financial valuation. Actually, a reliable quantitative valuation is possible only in limited cases. As shown above in the discussion of the market advantage brought by patents, it is generally difficult to unbundle the role of patents from that of the many other relevant factors (value of the unpatented know-how, competence of employees, strength of the commercial organisation, reputation, etc). As to the defensive effect of patents, it cannot be isolated from the activity of the company as a whole and a separate valuation would be meaningless. These benefits are real and sometimes very substantial and they must be given full attention, even though they are not financially measurable. It appears in fact that for management purposes, a qualitative assessment such as the rating discussed above is well sufficient. A quantitative valuation is to be done only if required by accounting or tax regulations. ■

CFI Opens The Door To Justifying Restrictions On Parallel Trade

Glaxo Wellcome v. Commission

*By Alec Burnside**

On 27 September 2006, the European Court of First Instance (CFI) partially annulled the European Commission Decision condemning GlaxoSmithKline's policy of charging higher prices for Spanish products destined for export.

The judgement marks another step in the prolonged debate between antitrust authorities and pharmaceutical companies on the legitimacy of inhibiting parallel trade. The CFI ruled that the Commission had failed adequately to assess whether "dual pricing" could have benefited research and development and therefore have been eligible for exemption from EU antitrust rules. The CFI further concluded that the Commission was incorrect in its assessment that the scheme was by its very nature restrictive of competition, and criticised the Commission for failing to take sufficient account of "the specific nature of the pharmaceuticals sector," in particular the potential benefits to consumers from R&D expenditure. It also accepted, as asserted during the court case by GSK, that *"it cannot be presumed that parallel trade tends to reduce prices."* However, the CFI did confirm that the Commission had been correct to conclude that in the specific circumstances of this case, the dual pricing had the effect of restricting competition.

The Court also held the Commission was correct in concluding that there was an agreement between GSK and the Spanish wholesalers to whom the dual pricing sales conditions applied.

Although far from giving an automatic green light to schemes inhibiting parallel trade, the judgement does give pharmaceutical companies the possibility of justifying them by detailed evidence of consumer benefit (notably from R&D investment). In contrast, the Commission can no longer claim such schemes are anticompetitive by object, and must instead look at the factual evidence of their effects on competition and weigh up any counter-balancing economic advantages.

Background

Between 1998 and 2000, in what was perceived as an attempt to dissuade parallel trade from Spain

to the UK, GSK (then Glaxo Wellcome) set prices for five of its most popular products intended for resale outside Spain considerably higher than those for domestic use.

GSK sought exemption/negative clearance from the European Commission for its new sales conditions, arguing that the "dual pricing" merely reflected the fact that domestic Spanish prices were effectively set by Spanish law fixing maximum wholesale prices for pharmaceutical products marketed in Spain and financed by the funds of the Social Security or by Spanish public funds. GSK also argued that there was no 'agreement' between itself and the wholesalers (and therefore no breach of Article 81 of the EU treaty), and that having this dual pricing benefited consumers by ensuring sufficient revenue remained available for research and development.

The European Commission rejected all these arguments and in a Decision of 2001 concluded that GSK had infringed Article 81. The company was ordered to bring an end to the dual pricing policy. It is this Decision that was in part annulled by the CFI on 27 September.

Consequences for the pharmaceutical industry

The ruling is likely to be welcomed by the pharmaceutical industry for a number of reasons. Firstly, it adds credibility to the industry's claims that the financial benefits of parallel trade do not necessarily accrue to end consumers. The CFI concluded that in view of the existence of national schemes of price regulation *"it cannot be taken for granted... that parallel trade tends to reduce those prices and thus to increase the welfare of final consumers."*

This also gives some credence to the argument frequently voiced by the industry, that the particular conditions of the pharmaceutical industry—and in particular, national price regulation—require special consideration when applying the competition rules. The Commission is criticised in the judgement for its failure to take account of national price control, described as *"a specific and essential characteristic of the sector."*

On balance, the judgement seems to confirm a

trend of judicial support for attempts to combat parallel trade in the pharmaceutical sector. The CFI's judgement in *Adalat* confirmed that unilateral restrictions placed on supply of product intended for export by pharmaceutical companies were lawful, whilst the Advocate General in the *Syfait* case (concerning GSK's supply management rules, limiting wholesaler supplies to what was needed for the domestic market) recommended the Court of Justice to rule in favour of the pharmaceutical industry, even in the case of dominance, arguing that the special circumstances of the industry justified limiting parallel trade. Unfortunately the full Court declined to rule for technical reasons and thus left the matter unresolved.

Like the Advocate General's recommendation in *Syfait*, the CFI dual pricing judgement leaves the door open for restrictions of parallel trade to be compatible with the competition rules. In the current case, the CFI ruled that such restrictions could be exempted where the industry can demonstrate sufficiently concrete consumer benefit, particularly by preserving investment in research and development. Since the date of the Glaxo Decision, modernisation of the competition rules means that it is no longer possible to apply to the Commission for exemption of trading conditions. Instead, the burden is now upon companies to assess their own arrangements with respect to parallel trade and to take a view on their compatibility with the competition rules.

Consequences for the Commission

Combined with the *Adalat* case and the Advocate General's Opinion in *Syfait*, this judgement has certainly made it harder for the Commission to pursue schemes limiting parallel trade in the pharmaceutical industry, in particular under Article 81. Although the issues in *Syfait* have not yet been resolved, the Advocate General's Opinion in that case, and the complexity of Article 82 cases more generally, probably makes pursuing parallel trade cases under

Article 82 scarcely more attractive. Certainly the Commission has not demonstrated any enthusiasm to do so in the years since *Adalat*. Indeed, it is likely that the Commission is focussing its gaze on other aspects of the pharmaceutical industry, especially strategies to counter generic competition.

For the Commission, the dual pricing judgement is also another vote of no confidence in its evidence gathering and decision making processes, following in the wake of the highly critical *Impala* judgement in July (annulling the Commission's Decision to approve the merger between Sony Music and BMG). The CFI states that the Glaxo Decision is vitiated by *"a failure to carry out a proper examination [of the] factual arguments and the evidence pertinently submitted by GSK."*

**Alec Burnside, Linklaters, Brussels, BELGIUM
E-mail: alec.burnside@linklaters.com*


Both judgements are explicit in their criticism of the Commission's failure to provide sufficient reasoning and evidence for its conclusions, and to examine the available factual evidence. Clearly, the Decision in question here dated from 2001, and since that time, numerous efforts have been made to increase the analytical rigour of the decision making process within the Commission.

Next steps

The CFI has ruled that although the procedure for applying for exemption is no longer in force, the Commission must nevertheless examine whether GSK qualified for exemption under 81(3) at the point at which the application was made, that is, taking into account the factual circumstances when GSK applied for exemption in 1998. Assuming the Commission chooses not to appeal the judgement, it is likely that it will make a decision on the case within the next year. ■

Notes:

Notes:



**European IP Rights Auction
Munich/Germany
March 6 and 7, 2007
Register now!**

High class patents and licences
from the fields of

- nanotechnology
- automotive
- medical science
- life science
- mechanical engineering
- consumer electronics etc.

will be auctioned to an
international public.

For more information:
www.ip-auction.eu

IPA

**Now
accepting
color advertising for
les Nouvelles
Contact Larry Plonsker
561-432-8814 for details
or go to
[www.usa-canada.les.org/
publications/
advert.asp](http://www.usa-canada.les.org/publications/advert.asp)**



Accessibility Of The LES Experience

By Ronald Grudziecki, President, LES International



In This Issue:

- LES Russia Seminar, Page 2
- LES Israel Tech Transfer, Page 3
- LES India Meeting, Page 4
- LESI in NYC, Page 5
- New Members, Pages 6-10
- Winter Meeting in San Francisco, Page 7

Call For Papers

Suitable papers for publication in future issues of *les Nouvelles* are being sought. Members or non-members who have presented papers at conferences or created original works are invited to submit their work. Submit in electronic form via e-mail or disk (MS Word or text-only format) to:

Larry Plonsker
Editor, *les Nouvelles*
10580 Northgreen Dr.
Lake Worth, FL 33467
E-mail: editor@lesi.org

My thanks to Peter Chrocziel for helping me get the 2006-2007 year off to a good start. Under his leadership this past year, a lot of matters were completed and/or started in an effective manner so I could begin the year with enthusiasm.

I've already had the opportunity to make my first official visit to a Society, namely the Andean Community at their 4th Annual Conference held in Lima, Peru the 24th-26th of October. It was a great pleasure for me to go there and meet Society members who I hadn't met before. There were 74 registrants from all five countries of the region as well as 3 registrants from WIPO in Geneva. Thanks to outgoing President Cecilia Falconi, incoming President Helena Camargo, Ernesto Cavalier and the other members of the LES Andean Community for setting up this meeting and making me feel at home.

At that meeting, I spoke of the "accessibility" of the LES experience. This is going to be one of the keystones of my year. Every one of the chairs of our committees, before he or she agreed to fill that position, agreed to have an active committee page on the LESI Web site this year. This is terribly important as it allows a member of a Society with interest in a particular area where we have a committee or working group to interact with his peers around the world without having to travel somewhere to find a meeting. Of course, we would love to have them all attend an international conference, national meeting or regional meeting, but we know that many of our members cannot for various reasons. Nonetheless, the use of an active com-

mittee web site allows them access to other members with similar interest. My thanks to Art Nutter of the Communications Committee and his new Co-Chair, Paul Liu, for their help in establishing and maintaining this valuable asset of the organization. Of course, if anyone reading this message wants to be involved in a committee's or working group's activities, this is the easiest way to get started. Go to the "Member's Side" of the LESI Web site, click on "Active Committees" on the right hand side, find the committee you're interested in and get started. Just let the chair know of your interest and participate.

We are proceeding with the task of establishing an office to handle administrative chores for the Society and its leadership. We will be hiring a person who will be located in the administrative offices of LES (USA & Canada) responsible for our matters. Our thanks to LES (USA & Canada) and their Administrative Director, Ken Schoppmann, for their help and guidance in this engagement.

Another key point for this year is to increase the "visibility" of LES around the world. We know, and those who deal with us know, that we are the premier licensing organization in the world. A task this year will be identify ways for others, particularly government and business officials to also think of LES first when a licensing matter comes to mind. To that end, I will be setting up an ad hoc committee to be headed by Clyde Willian and including members from around the world to consider what can and should be done in this regard. ■

Interest In IP Rapidly Increasing In Russia

LES Russia held a seminar “Problems and Practice of Realization of IP License Agreements in Russia,” in Moscow on June 16, 2006. The seminar had a good attendance of 36 people from Russia and other countries.

Opening the seminar, Dr. Natalia Karpova, President of LES Russia, Professor of the Academy of National Economy under the Russian Government, noted the ever-growing role of IP in the rapidly developing world market economy on the example of a number of leading international companies. The great importance, which the leading world players pay to IP protection, intangible assets and legal aspects of technologies transfer, was also highlighted.

The first presentation “The Issues of License Agreements and State Registration,” was made by Vladimir Khoroshkeev, Patent Attorney, Director of the IP firm “Reshersh.” The talk concerned the problems of registration of license agreements in the Russian PTO, caused by both drafting up agreements and requirements of examiners towards their registration. The attendees took a keen interest in these proceedings.

As always, the participants looked forward to speeches of the judicial staff. Elena Moiseeva, Judge of the Russian Supreme Arbitration (Commercial) Court, in her presentation “The Court and Arbitration Practice of Litigation of License Agreements,” emphasized the trend towards a sharp increase in the number of IP hearings in arbitration (commercial) courts. Elena discussed many examples of litigation cases on trade marks, utility models, copyrights and license agreements as well.

Marina Karelina, Department Head, Russian Academy of Justice, spoke about “Settling Disputes That Arise When Fulfilling the Terms of Licensing Agreements.” Generalization of the Russian legal practice in the sphere of license trade and a number of cases concerning different IP subject matters were presented.

In the course of discussion between Elena Moiseeva and Marina Karelina, useful recommendations were given on drawing up license agreements concerning intellectual property. Basic approaches of Russian courts towards IP disputes were also highlighted.

In the presentation, “Intel’s Practice on Licensing Software,” Sergey Gaviadinov, Head of Legal Department, “Intel” (Moscow), considered issues of adapting a company, whose capital asset is intellectual property, to the Russian market and legislation. Sergey answered a great number of questions from the participants. It was very useful to find out that the difference between IP legislation in the USA and the Russian Federation is not a serious obstacle for the success of a company in the Russian market.

The topic of the speech made by Dr. Sergey Zhukov, Test-astronaut and Director General of Technology Transfer Centre (Moscow), “The Problems of Licensing in the Aerospace Industry,” spoke for itself. Moreover, the attendees were surprised to discover at what a high professional level these issues were solved and what great importance was attached to IP in this specific sphere, which had been fully closed to licensing in Russia.

Dr. Ludmila Fatkina, Professor of the Russian State Institute of Intellectual Property, spoke on “The Peculiarities of Accounting and Taxation of License Deals.” In view of the character and number of questions, there appeared to be a clear deficit and in a literal sense, “a thirst” for information in this field.

It was most encouraging that all the speeches, equally, had aroused great interest of the audience. Taking into account the dynamics of law enforcement practice, this subject could be considered again at a future LES Russia seminar. ■



Sergey Gaviadinov presents information on Intel’s software licensing.



Panelists discuss the problems and practice of IP License Agreements in Russia.

LES Israel—Technology Transfer Conference

Tel Aviv, 18 May, 2006

LES Israel held in Tel Aviv on May 18, a one day conference regarding Technology Transfer. Speakers in the conference came from four continents and from different sectors of industry, legal practitioners, consultancy firms and financial advisors.

The conference was comprised of three panels:

1) **From Idea to Business** dealt with issues that concern private inventors, start-ups and universities on their way to bring a technology to the market. Panel members were Daniel Isenberg (moderator), Chairman and founder, Triangle Technologies, Senior Lecturer, Harvard Business School; Shlomo Harel, CEO, Carmel-Haifa Economic Corporation, previously CEO of YEDA, the Weitzman Institute, Israel; Prof. Jonathan M. Gershoni, Head of the Department of Cell Research and Immunology, Faculty of Life Sciences, Tel Aviv University, Israel; Amir Ziv Av, President—Ziv Av Engineering, Israel and Zeev Weiss, CPA, Head of Life Sciences Strategic Consulting, from PricewaterhouseCoopers, PWC, Kesselman & Kesselman, Israel.

2) **From One Mature Business to Another** dealt with issues that concern technology transfer between large companies including issues that relate to technology developed within pre-competitive R&D consortiums. An interesting angle regarding tech transfer between companies angle was the view of a food manufacturer (Nestle Israel) on this issue. The panel members were Robert A. Myers (moderator) Fairfield Resources Stamford, CT, USA; Dror Barzily, CEO Nestle Ice Creams Israel, ex CFO Osem Group Israel; Nissim Bar El, Chairman and CEO, Comsec Group Israel; Ilan Peled, Director, MAGNET Program, Office of the Chief Scientist of the Israeli Ministry of Industry, Trade & Labor; David Yurkerwicz, VP, CRA International, New York, USA and Dov Maor, D.Sc., VP Clinical Research & RA, InSightec Ltd, Israel.

3) **IP Valuation and Legal Protection** discussed several monetary and legal aspects making transactions of technology transfer. Panel participants were Michael Shaham (moderator), Advocate, Israel; Alan Friedman, VP CRA International NY, New York, USA; Liad Whatstein, Attorney, Head of the Litigation Department, Shlomo Cohen & Co., Israel; Ronald L. Grudziecki, President-Elect, LES International Affairs Committee, Attorney, Drinker Biddle, Washington D.C., USA; GianPaolo DiSanto, Attorney, Pavia e Ansaldo, Milan, Italy and Alan

Lewis, Vice-President, LES International, LES South Africa, Attorney, Adams & Adams, Johannesburg, South Africa.

The conference started with greetings by Shlomo Cohen, LES Israel president followed by an introduction of LES International made by LESI President Ronald L. Grudziecki.

Between sessions a case study entitled “The Crackberry Case” was presented by Hananel Kvatinsky of LES Israel that shed light on some unknown angles on this well publicized litigation. It also prompted some questions regarding the patent system.

The organizing committee of the conference included Ms. Dalit Sagiv, Adv. of Shlomo Cohen & Co, Mr. Michael Shaham, Adv. and Mr. Hananel Kvatinsky from Comverse.

More than 130 people attended the conference and kept the auditorium full most of the day. Refreshments were graciously provided by Comverse. Many attendees joined LES Israel as a result of the conference. ■



The panelists discuss “From Idea to Business.”

Correction...

Editor's Note: The following biographies were mistakenly omitted from *Financial Considerations In International Intellectual Property Licensing Transactions* by Emile Loza, Kimberly S. Chotkowski, Scott J. Stevens & Gregory J. Urbanchuk in the September issue.

Emile Loza, MBA, JD is managing attorney of Technology Law Group, LLC and founded Technology Group, the Northwest's only intellectual property services consortium, both based in Boise, Idaho. She may be reached at eloza@technologylawgroup.com

Kimberly S. Chotkowski, MBA, JD recently joined Andre-Troner (ATLC). She may be reached at kchotkowski@atlc.us.

Scott J. Stevens is a partner with Woodard, Emhardt, Moriarty, McNett & Henry LLP in Indianapolis. Stevens may be reached at sstevens@uspatent.com.

Gregory J. Urbanchuk is Senior Manager of Forensic & Dispute Services with Deloitte LLP in London. Urbanchuk may be reached at gurbanchuk@deloitte.co.uk.

LES India Seminar Held In Mumbai, India

By Rani Boazz

LES India organized a Seminar on October 3, 2006 entitled “Global Best Practices in Intellectual Asset Management, Tech Transfer, Licensing and Royalty Issues” at the Indian Merchants Chamber, Churchgate, Mumbai.

As technology becomes the key driver in this knowledge led universe and impacts societal dynamics, licensing of technology and related IPRs will take center stage in this vibrant global economy. India has an already established expertise in software and related Information Technology fields; and this expertise can be further leveraged to research in pharmaceutical and biotechnology and all other newly developed and developing fields.

The opening remarks were delivered by Mr. S. Ramkrishna, the President of LES India. The Seminar was designed into three sessions wherein we had one speaker and panelists who spoke about a particular issue during a session. Session I was on Global Best Practices in Licensing: Experiences from Global Leaders. Mr. Alastair Donaldson, Senior Partner, Donaldson Walsh, Adelaide, Australia spoke on “Trade Secret/Confidential Information Licensing Issues.” The Panelists were Dr. Ramani Aiyer, Senior V.P., Strategic Planning, Nicholas Piramal Limited; and Mr. C.Y. Pal, President, Franchising Association of India.

Session II was on Best Practices in Intellectual Asset Management: Technology transfer, Licensing-in and Licensing-out including royalty determination. Mr. V. Lakshmikumaran, Managing Partner, Lakshmikumaran & Sridharan spoke on “Technology Transfer, License Agreements and Contracts.” The Panelists were Mr. Nilesh Kapadia, Nilesh M. Kapadia & Co.; and Mr. S. K. Khosla, Head, R&D, Syngenta Crop Protection.



Session II panelists discuss Best Practices in Intellectual Asset Management.

Session III began in the afternoon and introduced new ways of leveraging IPR portfolios including JV's, collaborations, spin-offs, teaming arrangements and franchising. Mr. Eugene Reinboth, Donaldson Walsh, Adelaide, Australia spoke on ways of leveraging IPR portfolios including joint ventures, collaborations, spin-offs, teaming arrangements, and franchising. The panelists for this session were Sunita K. Sreedharan, Partner, Anand And Anand; Dr. S. Parthiban, Director, GVK Biosciences Pvt. Ltd. and Mr. Sanjay Prasad, V.P., Head of India Operations, IP Value Management Inc.

The Seminar was made more interesting with a lively discussion between the panelists and the attendees. The Seminar attracted twenty three attendees excluding the Speakers. The Seminar was a success in view of the quality of the presentations and the interest that LES India generated amongst possible new members. ■

© Rani Boazz, Partner, Anand And Anand
(Immediate Past President, LES India)

In Memoriam **Samuel Gilliland Layton Jr.**



Mr. Layton, 70, of Charlotte died Thursday, September 26, 2006 at Presbyterian Hospital-Main. He was born February 26, 1936 in Union, SC to the late Samuel Gilliland Layton, Sr. and Anne Thomas Layton. Sam grew up in Union, SC and graduated from Union High School. Mr. Layton received his B.S. degree in mechanical engineering from the University of South Carolina in 1959 and then his J.D. degree from American University in 1963. He was a member of the North Carolina State Bar and was admitted to practice before the United States Court of Appeals for the Federal Circuit and numerous United States Federal District Courts.

Sam was very active in the Licensing Executives Society and served the society in many positions including President of LES (USA & Canada) in 1987 and President of LESI in 1997. He was also a member of the American Intellectual Property Law Association and the Association Internationale pour la Protection de la Propriété Industrielle.

Mr. Layton practiced with Bell, Seltzer, Park and Gibson

LES International In New York City



Former U.S. Senator Birch Bayh (standing right) addresses the LES International Committee of the Americas after his speech at the Marriott Marquis.

Law Firm from 1963 to 1997 until the firm merged with Alston and Bird and continued until his retirement in 2002. He was a frequent speaker at national and international intellectual property seminars and meetings in many parts of the world including North and South America, Europe, Asia, Africa and Australia.

Mr. Layton is survived by his wife of 43 years, Heidi Layton; sons, Gil Layton and wife Kristy of Denver, CO, and Thomas Layton and wife, Anne of Charlotte; daughter, Heidi Berger and husband Chris of Charlotte; grandchildren, Catherine and Sam Layton, James and Thomas Layton, and Molly and Lucy Berger. A funeral service for Mr. Layton was held at 2:00 p.m. Friday, September 29, 2006 at Myers Park United Methodist Church. Interment followed the service at Evergreen Cemetery. The family requests that memorial contributions be made to the charity of one's choice.

Published in the Charlotte Observer on 9/28/2006.

Added by Mel Jager

We all join in offering condolences to Heidi and her family. For all of your information, Sam went to the doctor Friday and was given some antibiotics and sent home. He started coughing blood Saturday and went to the hospital to find that a cancer had attached to his pulmonary vessels and broke through. There was nothing that could be done to correct the situation.



Rod DeBoos (right) receives the LES International Gold Medal from President Peter Chrocziel in New York City.



The Society of the Year Award is presented to LES (USA & Canada) and enthusiastically accepted by Dwight Olson.

New Members

LES Britain & Ireland

Birtles, Richard

University of Sheffield
Sheffield University
Enterprises Limited
217 Portbello
Sheffield S. Yorks S1 4DP UK
Phone: +44 114 222 1511
Fax: +44 114 222 4430
E-mail: r.birtles@suel.co.uk

Brown, Graeme

Innovation & Enterprise,
Queen Mary University of
London
Mile End Road London
E1 4NS UK
Phone: +44 20 7882 3107
Fax: +44 20 7882 5128
E-mail: g.m.brown@qmul.ac.uk

Geurts, Benoit

Gresford Lodge
Abbey Mill Lane
St Albans
Herts AL3 4HE UK
Phone: +44 7876 652 613
E-mail: benoit@ipexsearch.com

Harper, Shona

McDermott Will & Emery UK LLP
7 Bishopgate
Phone: +44 20 7577 3421
Fax: +44 20 7577 6950
E-mail: smharper@europe.mwe.com

Hotten, Pete

Oxford Gene Technology
Begbroice Science Park
Sandy Lane
Yarnton Oxford OX5 1PF UK
Phone: +44 1865 842 603
Fax: +44 1865 864 684
E-mail: pete.hotten@ogt.co.uk

Hulme, Colin

Burness LLP
242 West George Street
Glasgow G2 4QY UK
Phone: +44 141 248 4933
Fax: +44 141 204 1601
E-mail: colin.hulme@burness.co.uk

Hulse, Graham

Sheffield Hallam University
Enterprise Centre
Howard Street
Sheffield South Yorkshire
S1 1WB UK
Phone: +44 114 225 2993
Fax: +44 114 225 3524
E-mail: g.hulse@shu.ac.uk

Jackson, Ian

KPMG
8 Salisbury Square
London EC4Y 8BB UK
Phone: +44 02 7694 8207
Fax: +44 20 7311 8377
E-mail: ian.jackson@kpmg.co.uk

Lomas, Mark

Ashfords Solicitors
Ashford House
Grenadier Road
Exeter Devon EX1 3LH UK

Phone: +44 870 427 3951
Fax: +44 870 427 7198
E-mail: m.lomas@ashfords.co.uk

Ogunsalu, Samuel

Innovation & Enterprise,
Queen Mary University of
London Mile End Road
London E1 4NS UK
Phone: +44 20 7882 3792
Fax: +44 20 7882 5128
E-mail: s.ogunsalu@qmul.ac.uk

Plaistowe, Richard

Hammonds Solicitors
Rutland House
148 Edmund Street
Birmingham West Midlands
B3 2JR UK
Phone: +44 870 839 3503
Fax: +44 870 458 2917
E-mail: richard.plaistowe@hammonds.com

Roberts, Michael

Greaves Brewster LLP
Indigo House
Cheddar Business Park
Wedmore Road
Cheddar Somerset BS27 3EB UK
Phone: +44 1934 745 880
Fax: +44 1934 745 881
E-mail: michaelroberts@greavesbrewster.co.uk

Ryan, Daniel

LECG
Davidson Building
5 Southampton Street
London WC2E 7HA UK
Phone: +44 20 7632 5075
Fax: +44 20 7632 5050
E-mail: dryan@lecg.com

van Bruchem, Peter

4A Dick Place
Edinburgh EH9 2JN UK
Phone: +44 7726 620 912
E-mail: ip@petervanbruchem.co.uk

Wiley, Teri

Cambridge Enterprise
University of Cambridge
10 Trompington Street
Cambridge CB2 1QA UK
Phone: +44 1223 760 339
Fax: +44 1223 764 888
E-mail: teri.wiley@enterprise.cam.ac.uk

Wynn, Andrew

LECG
Davidson Building
5 Southampton Street
London WC2E 7HA UK
Phone: +44 20 7632 5029
Fax: +44 20 7632 5050
E-mail: awynn@lecg.com

LES France

Ammiar, Belkacem

Transformance Sas
6, Boulevard Bineau
Levallois Perret 92300
E-Mail: ammiar@yahoo.fr

Andrieu, Eric

Cabinet ORES

36, rue de Saint Pétersbourg
PARIS 75008
Phone: +01 53 21 11 00
Fax: +01 53 21 08 88
E-Mail: eric.andrieu@cabinet-ores.com

Asselot, Pascal

Thomson
46 Quai Alfonse Le Gallo
Boulogne-billancourt 92648
Phone: +01 41 86 51 56
Fax: +01 41 86 56 37
E-mail: pascal.asselot@thomson.net

Boulange, Florence

Institut Curie
26, Rue D'ulm
Paris Cedex 05 75248
Phone: +01 44 32 40 50
Fax: +01 43 25 52 71
E-mail: florence.boulange@curie.fr

Briand, Antoine

Lovells
6, Avenue Kleber
Paris 75116
Phone: +01 53 67 47 47
Fax: +01 53 67 47 48
E-Mail: antoine.briand@lovells.com

Clerval, Rodolphe

Genzyme
33-35 Boulevard De La Paix
Parc D'activité Du Bel-air
Saint Germain En Laye 78105
Phone: +01 30 87 25 26
Fax: +01 30 87 26 69
E-mail: rodolphe.clerval@genzyme.com

Coillard, Jean-christophe

Aquitaine Valo
166, Cours De L'argonne
Bordeaux 33000
Phone: +06 67 17 48 67
Fax: +05 40 00 34 44
E-mail: jc.coillard@poleuniv-u-bordeaux.fr

Coppens, Stéphanie

Sanofi Aventis
82 Avenue Raspail
Gentilly 94255
Phone: +01 41 24 53 36
Fax: +01 41 24 15 02
E-mail: stephanie.coppens@sanofi-aventis.com

Coste, Jean-Patrice

FIST SA
83, Boulevard Exelmans
Paris 75016
Phone: +01 40 51 00 90
Fax: +01 40 51 78 58
E-mail: jean-patrice.coste@fist.fr

Daniel, Olivier

FIST SA
83, Boulevard Exelmans
Paris 75016
Phone: +01 40 51 00 90
Fax: 01 40 51 78 58
E-mail: olivier.daniel@fist.fr

Daussin Laurent, Valérie

Sophia Alpes
Maritimes Promotion
400 Promenade Des Anglais
Bp3185
Nice Cedex3 06204
Phone: +04 92 17 51 53
Fax: +04 93 80 05 76
E-mail: valerie.daussin@cote-azur.cci.fr

Dendane, Ludovic

Transgene Sa
11, Rue De Molsheim
Strasbourg 67000
Phone: +03 88 27 91 04
Fax: +03 88 27 91 11
E-mail: dendane@transgene.fr

Des Courieres, Thierry

Total
51, Esplanade Du Général De
Gaulle - La Défense 10
Paris La Defense Cedex
92907
Phone: +01 41 35 39 47
Fax: +01 41 35 59 06
E-mail: thierry.des-courieres@total.com

Dreyfus, Nathalie

Cabinet Dreyfus Et Associes
25 Rue Louis Legrand
Paris 75002
Phone: +01 44 70 07 04
Fax: +01 40 06 99 64
E-mail: contact@dreyfus.fr

Dufourcq, Alexis

26, Rue Du Plateau
Paris 75019
Phone: +06 98 74 54 22
E-mail: alexisdufourcq@free.fr

Egret, Guillaume

Gide Loyrette Nouel
26 Cours Albert Premier
Paris 75008
Phone: +01 40 75 61 92
Fax: +01 40 75 37 53
E-mail: egret@gide.com

Elias, Yann

Universite Paris Xi
27, Rue Des Fleurs
Paris 75006
Phone: +01 78 01 31 68
E-mail: yann.elias@u-psud.fr

Furst, Bertrand De

FIST SA
83, Boulevard Exelmans
Paris 75016
Phone: +01 40 51 00 90
Fax: +01 40 51 78 58
E-mail: bertrand.defurst@fist.fr

Guay, Bernard

B Guay Consulting
Pharma Business Development
51, Rue Saint-alban
Roanne 42300
Phone: +06 85 94 64 45
E-mail: bernard.guay@bguay.com

Guette, François

St Microelectronics
Zi De Rousset Bp 2
Rousset Cedex 13106
Phone: +04 42 68 82 63
Fax: +04 42 53 40 13
E-mail: francois.guette@st.com

Guerreiro, Sandrine

FIST SA
83, Boulevard Exelmans
Paris 75016
Phone: +01 40 51 00 90
Fax: +01 40 51 76 58
E-mail: sandrine.guerreiro@fist.fr

Guilbert, Gérard

Eads Centre Commun De
Recherche (Ccr)
12, Rue Pasteur - Bp76
Suresnes Cedex 92152
Phone: +01 46 97 38 56
Fax: +01 46 97 33 01
E-mail: gerard.guilbert@eads.net

Guyot, Séverine

Guyot&micallef
63, Boulevard Des Invalides
Paris 75007
Phone: +01 53 58 34 34
Fax: +01 53 58 34 30
E-mail: guyot@guyotmicallef.com

Hamelin, Valérie

Axalto Sa/gemalto
6, Rue De La Verrerie
Meudon Cedex 92197
Phone: +01 55 01 54 10
E-mail: vhamelin@axalto.com

Horlacher, Jérôme

Utbm
Belfort Cedex 90010
Phone: +03 84 58 30 96
E-mail: jerome.horlacher@utbm.fr

Intes, Didier

Cabinet Beau De Lomenie
158, Rue De L'université
Paris Cedex 07 75340
Phone: +01 44 18 89 00
Fax: +01 44 18 04 23
E-mail: dintes@cabinetbeaudelomenie.com

Jean-Romain, Jean-Michel

FIST SA
83, Boulevard Exelmans
Paris 75016
Phone: +01 40 51 00 90
Fax: +01 40 51 78 58
E-mail: jean-michel.jean-romain@fist.fr

Joubert, Cécile

Nemoptic
1, Rue Guynewer
Magny Les Hameaux 78114
Phone: +01 39 30 72 51
Fax: +01 39 30 51 61
E-mail: c.joubert@nemoptic.com

Continued on Page 8

Learn About Managing The Evolving Deal In San Francisco

Join fellow LES members in beautiful San Francisco, California and gather for the first of three meetings in 2007 focusing on "Change." The 2007 Winter Meeting for LES (USA & Canada) will focus on "Managing the Evolving Deal." The changing role of IP and the legislative, judicial and procedural changes being debated will fundamentally change how it is protected and commercialized. This will substantially affect the business of licensing. 2007 is the year to understand this changing landscape and adapt to these changes. Make your arrangements today and don't miss out on the first 2007 meeting focusing on "Change."

And the top 5 reasons you need to be part of the 2007 Winter Meeting;

1. The Location

From grand, sweeping views to neighborhood color and character, from glimpses of history to world-class dining and shopping—San Francisco is home to a little bit of everything, for everyone. San Francisco is also a unique combination of information technology, biotechnology and university-based technology companies. The LES Winter Meeting will combine access to these local resources with national and international program content all in the beautiful backdrop of one of the world's most beautiful cities.

2. The Hotel

Inspired by visionary, William Ralston, the Palace Hotel was the result of one man's dream of turning the city from boom town into a booming metropolis, simply by erecting a hotel of timeless elegance and

unprecedented luxury. When the Palace Hotel opened its doors in 1875, the Garden Court was the carriage entrance to this grand hotel. A parade of famous guests visited San Francisco's Palace and stood in awe of its magnificence. In 1906 the Hotel survived the catastrophic earthquake that shook San Francisco, but was later taken down and gutted by a blaze in wake of the earthquake. In January 1989, the Palace closed its doors for a major restoration. When it re-opened in 1991 the Garden Court was everything everyone had hoped it would be. It was, once again, one of the most beautiful spaces in the world.

To make your reservations for the 2007 Winter Meeting, call the Palace Hotel and identify yourself as an LES Winter Meeting Attendee. There is a special meeting room rate of US\$239. For telephone reservations call (888) 325-3589 and for more information online look to www.sfpalace.com/main/home.htm

3. The Program and Learning

The core of the meeting starts on Thursday morning with:

- What's Hot and What's Not? The VC Perspective.
- Health Care—Deal Valuations in 2006: Is this a Bubble Market? by Mark Edwards, Managing Director, Recombinant Capital, Inc.
- Deal Today, Gone Tomorrow, How IBM Stays Ahead of Changes in the Innovation Marketplace.

Luncheon Keynote Speaker

- Craig Christianson (Director of Licensing, Wisconsin Alumni Research Foundation) speaking on Licensing Enabling Technology—the Human Embryonic Stem Cell Story.

Join meeting attendees on Wednesday before the meeting for Add-on Seminars in Health Care, High Technology, Consumer Products Industry and University & Government Laboratory Transactions. Another feature of the meeting are the 25 interactive and educational workshops covering all of the LES Industry Sectors.

4. The Networking Events

Evening Welcome Reception - Wednesday February 21

Networking Dinner - Thursday, February 22

Tech Fair on Thursday afternoon, February 22

Join your LES colleagues to review the latest products and services available from fellow LES members and their firms. Table top exhibits will be organized to provide ample opportunities for discussions with innovative service providers and technology consultants.

5. LES Technology Showcase—New this Year!!

Thursday, February 22 1:30 p.m.— 5:00 p.m.

For the first time, LES is providing an opportunity for holders of intellectual property to showcase their technology for license or for sale. There will be two parallel tracks for presentations—Health Care and High Technology. Potential partners can make arrangements for continuing discussions following the Showcase presentations.

For full meeting details on speakers, schedules, the Tech Fair and the Technology Showcase go to www.usa-canada.les.org/meetings/2007winter.



Fun Stuff Planned...



Join the winery tour to Del Dotto's in Napa Valley and Reverie at Diamond Mountain.



Take a guided Segway Tour with the San Francisco Electric Tour Company.

Continued from Page 6

Kehres-Diaz, Anna

Ecole polytechnique
Drip/dgar - ecole polytechnique
Palaiseau Cedex 91128
Phone: +01 69 33 31 57
Fax: +01 69 33 38 18
E-mail: anna.kehres-diaz@polytechnique.edu

Laloum, Eric

Institut Curie
26, Rue D'ulm
Paris Cedex 05 75248
Phone: +01 44 32 40 79
Fax: +01 43 25 17 56
E-mail: eric.laloum@curie.fr

Larrey, Eric

Floralis
2, Avenue De Vignate
Gieres 38610
Phone: +04 56 52 03 03
Fax: +04 56 52 03 02
E-mail: eric.larrey@floralis.fr

Leboine, Fabrice

Universite De Technologie
De Troyes
12, Rue Marie Curie
Troyes 10010
Phone: +03 25 71 76 46
E-mail: fabrice.leboine@utt.fr

Le Saouter, Stéphane

Marubeni
5 Boulevard De La Madeleine
Paris La Defense Cedex 75001
Phone: +01 44 86 89 36
Fax: +01 42 60 50 16
E-mail: stephane.lesaouter@marubeni.com

Le Vely, Didier

Arkema
4 Cours Michelet La Defense 10
Paris La Defense Cedex 92091
Phone: +01 49 00 81 09
Fax: +01 49 00 52 96
E-mail: didier.le-vely@akermagroup.com

Lecca, Patricia

Cabinet Lecca
5bis, Rue Des Motties
Fontenay Aux Roses 92260
Phone: +01 46 83 10 17
Fax: +01 70 24 73 47
E-mail: patricia@lecca.fr

Lieb, Fabian

Sep Bardehle Pagenberg Dost
Altenburggeissler
14, Boulevard Malesherbes
Paris 75008
Phone: +01 53 05 15 00
Fax: +01 53 05 15 05
E-mail: lieb@bardehle.fr

Lipskier, Jean-François

Neaxis
8, Allée Des Frondaisons
Verrieres-le-buisson 91370
Phone: +06 13 05 00 48
E-mail: jf.lipskier@neaxis.com

Mandel, Olivier

Korman, Mandel & Henaff
66, Avenue kléber
Paris 75116
Phone: +01 47 27 65 06
Fax: +01 47 27 65 07
E-mail: omandel@hotmail.com

Marron, Damian

Nicox SA
2455 Route Des Dolines
Bp313
Sophia Antipolis 06906
Phone: +04 92 38 70 20
Fax: +04 92 38 70 30
E-mail: marron@nicox.com

Merly, Frank

FIST SA
83, Boulevard Exelmans
Paris 75016
Phone: +01 40 51 00 90
Fax: +01 40 51 78 58
E-mail: franck.merly@fist.fr

Micallef, Sophie

Guyot&micallef
63, Boulevard Des Invalides
Paris 75007
Phone: +01 53 58 34 34
Fax: +01 53 58 34 30
E-mail: micallef@guyotmicallef.com

Mignon-Eyraud, Delphine

Thomson
46, Quai Alfonse Le Gallo
Boulogne-billancourt 92648
Phone: +01 41 86 58 18
Fax: +01 41 86 56 17
E-mail: delphine.eyraud@thomson.net

Moins, Marie-Cécile

Thomson
46, Quai Alfonse Le Gallo
Boulogne-billancourt 92648
Phone: +01 41 86 51 69
FAX: +01 41 86 56 16
E-mail: marie-cecile.moins@thomson.net

Monnier, Corinne

FIST SA
Paris 75016
Phone: +01 40 51 00 90
Fax: +01 40 51 78 58
E-mail: corinne.monnier@fist.sa

Morel, Muriel

Sanofi-aventis
20, Avenue Raymond Aron
- Tri E 2/144
Antony 92160
Phone: +01 55 71 41 11
FAX: +01 55 71 72 91
E-mail: muriel.morel-pecheux@sanofi-aventis.com

Mougél, Frédéric

FIST
83, Boulevard Exelmans
Paris 75016
Phone: +01 40 51 00 90
Fax: +01 40 51 78 58
E-mail: frederic.mougél@fist.fr

Nabet, Sandrine

Universite De Versailles
St Quentin En Yvelines
13, Rue Saint Symphorien
Versailles 78000
Phone: +06 17 91 20 27
E-mail: sandrinenabet@aol.com

Nicollé, Olivier

Alcatel
54, Rue De La Boétie
Paris 75008
Phone: +01 40 76 28 64
Fax: +01 40 76 28 80
E-mail: olivier.nicollé@alcatel.com

Oppelt-Reveneau, Marthe-elisabeth

Oseo Anvar
27-31 Avenue Du Général
Leclerc
Maisons Alfort Cedex 94710
Phone: +01 41 79 87 93
FAX: +01 41 79 89 17
E-mail: meoppeltreveneau@oseo.fr

Pasquier, Sophie

Alcatel
54, Rue De La Boétie
Paris Cedex 08 75411
Phone: +01 40 76 28 98
Fax: +01 40 76 14 76
E-mail: sophie.pasquier@alcatel.fr

Philippe, Jean-Christian

Alma Consulting
55, Avenue René Cassin
Lyon 69009
Phone: +04 72 35 59 56
Fax: +04 72 35 80 31
E-mail: jcphilippe@almacg.com

Puyplat, Vincent

Thomson
46, Quai Alfonse Le Gallo
Boulogne-Billancourt 92648
Phone: +01 41 86 53 86
Fax: +01 41 86 56 37
E-mail: vincent.puyplat@thomson.net

Raboin, Jean-Christophe

Sanofi Aventis
20, Avenue Raymond Aron
Antony 92165
Phone: +01 55 71 66 76
Fax: +01 55 71 72 91
E-mail: jean-christophe.raboin@sannfi-aventis.com

Ritsou, Elena

Neovacs
15, Rue Jean Berlier
Paris 75013
Phone: +01 53 10 93 04
Fax: +01 53 10 93 03
E-mail: eritsou@neovacs.com

Robinet-Muguet, Isabelle

France Telecom
Immeuble Jobbe Duval 6 Place
D'allaray
Paris Cedex 15 75000
Phone: +01 45 29 42 04

Fax: +01 42 50 87 99

E-mail: isabelle.robinetmuguet@francetelecom.com

Roquefeuil, Pierre

Geoservices SA
7, Rue Isaac Newton
Le Blanc Mesnil 93151
Phone: +01 48 14 84 81
E-mail: pierre.roquefeuil@geoservices.com

Salaun, Chistian

Elan
13 Rue Jean Brunet
Meudon 91920
Phone: +01 46 26 33 80
Fax: +01 46 26 22 02
E-mail: elan.csalaun@wanadoo.fr

Schmittbiel, Jean-Marc

FIST
10, Boulevard Diderot
Paris 75012
Phone: +01 40 51 00 90
Fax: +01 40 51 78 58
E-mail: jean-marc.schmittbiel@fist.fr

Spencer, Gavin

Nicox SA
2455 Route Des Dolines
Bp313
Sophia Antipolis 06906
Phone: +04 92 38 70 20
Fax: +04 92 38 70 30
E-mail: spencer@nicox.com

Sutty, Florence

Transformance Sas
46, Quai A, Le Gallo
Boulogne Billancourt 92648
Phone: +01 41 86 52 10
FAX: +01 41 86 56 17
E-mail: florence.sutty@thomson.net

Tait, Andrew

Alcatel
54, Rue De La Boétie
Paris 75411
Phone: +01 40 76 52 27
FAX: +01 40 76 14 76
E-mail: andrew.tait@alcatel.com

Tezier Herman, Béatrice

Cabinet Becker & Associes
25, Rue Louis Le Grand
Paris 75002
Phone: +01 53 43 85 00
FAX: +01 53 43 85 05
E-mail: btezier@becker.fr

Tronchon, Bertrand

Acfci
45, Avenue Iéna
Paris 75016
Phone: +01 40 69 38 53
E-mail: b.tranchand@acfc-cci.fr

Ullman, Charles De

Thomson
46, Quai Alfonse Le Gallo
Boulogne-Billancourt 92648
Phone: +01 41 86 51 73

Fax: +01 41 86 56 17
E-mail: charles.ullman@thomson.net

Valencony, François

Transgene Sa
11, Rue De Molsheim
Strasbourg Cedex 67082
Phone: +03 88 27 91 23
FAX: +03 88 27 91 11
E-mail: valencony@transgene.fr

Weitzman, Jonathan

Institut Pasteur
20 Rue Du Docteur Roux
Paris Cedex 15 75724
Phone: +01 40 61 33 97
FAX: +01 40 61 37 32
E-mail: jonathan.weitzman@pasteur.fr

Zapalowicz, Francis

Bureau A. Casalunga-josse
8, Avenue Percier
Paris 75008
Phone: +01 45 61 94 64

LES Germany

Benedum, Ulrich

Haseltine Lake Partners
Theatinerstrasse 3
D-80333 München
GERMANY
Phone: +49-89-6227 1760
Fax: +49-89-48 56 86
E-mail: ubenedum@haseltinelake.com

Brücher, Christoph

Biotest AG
Landsteinerstrasse 3 - 5
D-63303 Dreieich
GERMANY
Phone: +49-6103-801 183
Fax: +49-6103-801 694
E-mail: christoph_bruecher@biotest.de

Hermann, Bettina

Frohwitter
Possartstrasse 20
D-81637 München
GERMANY
Phone: +49-89-99 80 90
Fax: +49-89-99 80 95 55
E-mail: bhermann@frohwitter.com

Hock, Joachim

Müller-Boré & Partner
Grafinger Straße 2
D-81671 München
GERMANY
Phone: +49-89-49 05 70
Fax: +49-490 57 10
E-mail: hock@mueller-bore.de

Horst, Jens-Peter

MBM ScienceBridge GmbH
Hans-Adolf-Krebs-Weg 1
D-37077 Göttingen
GERMANY
Phone: +49-551-30 72 41 52
Fax: +49-551-30 72 41 55
E-mail: jphorst@sciencebridge.de

Huebner, Stefan Rolf
Hinkelmann & Huebner
Kaiserplatz 2
D-80803 München
GERMANY
Phone: +49-89-54 24 40 10
Fax: +49-89-54 24 40 12
E-mail: srhuebner@hinkelmannhuebner.de

Kamlah, Dietrich
Taylor Wessing
Isartorplatz 8
D-80331 München
GERMANY
Phone: +49-89-21 03 80
Fax: +49-89-21 03 83 00
E-mail: d.kamlah@taylorwessing.com

Knauer, Joachim
Grosse Bockhorni Schumacher
Frühlingstr. 43A
D-45133 Essen
GERMANY
Phone: +49-201-8 42 30-0
Fax: +49-201-8 42 30 20
E-mail: info@rheinruhrpatent.de

Lemke, Christine
MediGene AG
Lochamer Strasse 11
D-82152 Planegg/Martinsried
GERMANY
Phone: +49-89-85 65 29 56
Fax: +49-89-85 65 33 30
E-mail: c.lemke@medigene.com

Lütjens, Henning
Bayer Business Services
GmbH
D-51368 Leverkusen
GERMANY
Phone: +49-214-30-34490
Fax: +49-214-30 61 856
E-mail: henning.luetjens@bayerbbs.com

Lutze, Oliver
Bayer AG
LP - IPM
D-51368 Leverkusen
GERMANY
Phone: +49-214-30 28 663
Fax: +49-214-30 61 856
E-mail: oliver.lutze.ol@bayer-ag.de

Phelps, Robert
PARI Aerosol Research Institute
Steinerstrasse 15a
D-81369 München
GERMANY
Phone: +49-89-74 28 46 69
Fax: +49-89-74 28 46 30
E-mail: r.phelps@pari.de

Schneider, Heike
Degussa AG
Rodenbacher Chaussee 4
D-63457 Hanau-Wolfgang
GERMANY
Fax: +49-6181-59-6305
E-mail: heike.schneider@degussa.com

Schröder, Matthias
Menold Bezler Rechtsanwälte
Rheinstahlstrasse 3
D-70469 Stuttgart
GERMANY
Fax: +49-711-8 60 40 01
E-mail: matthias.schroeder@menoldbezler.de

Schramm, Michael
Bettinger Schneider Schramm
Cuvilliesstrasse 14a
D-81679 München
GERMANY
Phone: +49-89-59 90 800
Fax: +49-89-59 90 80 22
E-mail: schramm@bettinger.de

Schumacher, Horst
Grosse Bockhorni Schumacher
Frühlingstr. 43A
D-45133 Essen
GERMANY
Phone: +49-201-8 42 30-0
Fax: +49-201-8 42 30 20
E-mail: info@rheinruhrpatent.de

Seidel-Speer, Britta
Kanzlei Dr. Britta Seidel-Speer
Haydnweg 32
D-82538 Geretsried
GERMANY
Phone: +49-8171-32 88 2
Fax: +49-8171-32 88 3
E-mail: ra.seidel@web.de

LES India

Boez, Rohini
Autodesk India Pvt. Ltd.
201/202, Durga Chambers
386 Khar Linking Road, Khar (W)
Mumbai 400 052, India
Phone: +91-22-66952000
E-mail: Rohini.boez@autodesk.com

Chaudhary, Pawan
Venus Remedies Ltd.
51-52, Industrial Area, Phase I
Panchkula 134 113, Haryana.
Phone: +91-172-2590113
E-mail: mdoffice@venusremedies.com

Ghadge, Amol
Netalter Software Limited
3,4, Sai Smruti,
Behind Deep Mandir
L B S Marg, Mulund (West)
Mumbai 400 080
Phone: +91-22-25928553
E-mail: amol@netalter.com

Gupta, Rajkumar
Perfect Consultant
Prestige Classic, B Wing
Pune Mumbai Road, Opp. Dr.
Kanitkar Hospital
Pune 411 019
Phone: 27470448
E-mail: Gupta1@vsnl.com

Krishnamurthy, Naina
Krishnamurthy & Co.
#715, 1ST Floor, I Main
indira Nagari Stage
Bangalore 560 038.
Phone: +91-80-25283685
E-mail: mail@krishnamurthyandco.com

Karnik, Uma
Netalter Software Limited
3,4, Sai Smruti,
Behind Deep Mandir
L B S Marg, Mulund (West)
Mumbai 400 080
Phone: +91-22-25928553
E-mail: umakarnik@netalter.com

Ravindran, Sudhir
Global Business Solutions
4, 4th Floor, Crown Court
128 Cathedral Road
Chennai 600 086.
Phone: +91-44-28110821
E-mail: admin@gbsindia

Sprinivasan, Parthiban
GVK Biosciences Pvt. Ltd.
#81, Tirumalai Pillai Road
T. Nagar, Chennai 600 017
Phone: +91-44-42125522
E-mail: parthiban@gvkbio.com

LES Russia

Gusev, Vadim
Technopol-Moscow
B. Spasskaya str., 25, stroenie 3
Moscow 129090 Russia
Phone: +7 (495) 787 3108
Fax: +7 (495) 787 3109
E-mail: v.goussev@technopol-moscow.com

Vakhnin, Alexey
Patent & Trade Mark
Attorneys "INNOTEC"
Bld. 6, Preobrazhenskaya Pl.,
Moscow 107061, Russia
Phone: +7 (495) 2257545
Fax: +7 (495) 7376366
E-mail: vakhnin@innotec.ru

Virpsho, Vera
Al. Nevskogo str., 176-2,
Kaliningrad 236009, Russia
Phone: +7 (4012) 750 503
E-mail: virpsho@online.ru

LES (USA & Canada)

*Continued from Viewpoints
Oct. 2007*

Lanfear, Jonathan
Pfizer Inc.

Lartigue, Katie
Rembrandt IP Management

Lea, Maxwell
DFB Pharmaceuticals, Inc.

Lee, Joseph
Acacia Research Corporation

Lee, Sean
Boston University

Lester, Kelly M.
Phillips Lytle LLP

Levinson, Susan L.
The Strategic Choice LLC

Levy, K. M.

Lieberman, Lance J.
Cohen, Pontani,
Lieberman & Pavane

Looney, Adrian G.
Pfizer, Inc.

Lush, Scott
Defense Commercialization

Lussow, Alexander R.
QLT Inc.

MacInnis, Donald J.
Drug Royalty Corporation, Inc.

Mallette, Stephane
Institut Rosell-Lallemand

Manion, Kristen L.
BD Biosciences

Marble, John
Microsoft Corporation

Maresca, Frank R.
Phytotox Ltd.

Marley, Michael

Martin, Matthew R.
UCTECH, Univ. of Chicago

Martin, Stephen
Novartis Animal Health US

Matthew, William D.
Schwarz Biosciences, Inc.

Matthews, Benjamin P.
UILO, Univ. of British Columbia

McDaniel, Wayne C.
University of Missouri

McMillan, Vernotto C.
NASA Marshall Space
Flight Center

McQuinn, Anthony P.
Via Licensing Corporation

Medlin, Joe
ProEthic Pharmaceuticals Inc

Meek, Kevin J.
Baker Botts LLP

Megaw, George
UAB Research Foundation

Mehler, Nicholas G.
Lowenstein Sandler PC

Mellor, Neil
Spexell Pharma

Metjahic, Safet
Greenblum & Bernstein, PLC

Meyer, Joel
Digimarc Corporation

Michael, Junker Peter
Univ. of Southern Denmark

Michel, Marianne H.
Pioneer Hi-Bred
International, Inc.

Milam, Kathryn M.
Stokes Lawrence, P.S.

Milligan, David H.
Blackwell Sanders Peper
Martin, LLP

Misra, Simone
Microsoft Corporation

Misztal, Jacek
MOSAID Technologies Inc.

Mitchell, Richard L.
Nastech Pharmaceutical
Company Inc.

Mitsunobu, Keiko
Anthera Pharmaceuticals, Inc.

Mize, James A.
Sealed Air Corporation

Mojsiak, Ostap R.
GlaxoSmithKline

Molsbergen, Martina
Blowa, Inc.

Morgans, Kate
Charles River Analytics

Morie, Bradley R.
Biocrates

Morl, Christopher J.
Agensys, Inc.

Morris, Robert A.
Microsoft Corporation

Morris, T. Allen
Virginia Commonwealth Univ.

Moseley, Sarah S.
Durmitor, Inc

Mott, Graham N.
Philips Electronics

Mott, John B.
Los Alamos National
Security, LLC

Murphy, Chris
Semiconductor Insights, Inc.

Nagler, Jacinta
Purdue Pharma L.P.

Neacy, Eileen
Nektar Therapeutics

Nelson, Eric M.
Tranzyme Pharma

Nguyen, Qui H.

Nikolopoulos, Nikos J.
Tyco Electronics -
Wireless Division

Nix, Olivia
RTI International

Nock, Jennifer P.
Tufts University

Noel, Mark W.
Curis, Inc.

Norris, Troy W.
Biogen Idec MA Inc.

Nunnenkamp, Kenneth J.
Patton Boggs LLP

O'Shaughnessy, Michael V.
Finnegan, Henderson, Farabow,
Garrett & Dunner, LLP

O'Brien, Kevin P.
Sanofi Aventis

Obrigkeit, Darren D.
DSM Biomedical

Ohno, Hiroshi
Toray Industries (America), Inc.

Oliver, Ron
Chipworks

Overbay, Thomas D.
Benchmark Biolabs, Inc.

Padilla, Belinda
Los Alamos National
Laboratory

Pakstys, Gabia A.
Johnson & Johnson

Palmer, Jennifer A.
Oak Ridge National Laboratory

Park, Tae Woong
Electronics and Telecommunica-
tions Research Institute (ETRI)

Patel, Arvin
IBM Corporation

Paul, Winfried G.
Bayer MaterialScience LLC

LES (USA & Canada)

Continued from Page 9

Pearl, Zeev

Pearl Cohen Zedek Latzer

Peleato, Pam

MOSAID Technologies Inc.

Pierce, Justin E.

Sony Ericsson Mobile Communications (USA) Inc.

Pogue, Gregory P.

University of Texas at Austin

Polasko, Kenneth J.

Univ. of California - Los Angeles

Pool, Danielle M.

Medicis Pharmaceutical Corp.

Prager, Jennifer A.

Hemming Morse, Inc.

Pratt, Shannon P.

Shannon Pratt Valuations, LLC

Proniuk, Stefan

San Diego State University

Rampy, Mark A.

CoGenesys, Inc

Ransom, Harrison

Biosearch Technologies, Inc.

Reed, James

BellSouth Intellectual Property Marketing Corporation

Reeves, Erik

Patents Online, LLC

Remes, Andrew

University of Pittsburgh

Richards, Bob

AVETEC

Richardson, Thomas

Medarex, Inc.

Roberts, Elizabeth

Pfizer Consumer Healthcare

Rocamboli, Stephen

Paramount BioSciences, LLC

Rodriguez, B. Vincent

Rockwell Collins, Inc.

Rojahn, Katherine E.

University of Chicago

Rouxel, Jasmine

Axens North America, Inc.

Ruckart, John

BellSouth

Sarlitto, Michael J.

SummitPoint Management

Saynor, Elizabeth A.

UCTECH, University of Chicago

Schafer, Heather N.

Brinks Hofer Gilson & Lione

Schoener, Jim

Alkermes, Inc.

Schuman, Christiane

Duane Morris LLP

Schwartz, Randy W.

Hovey Williams, LLP

Scott, Anderson

Pluritas

Seavello-Shope, Suzanne

Center for Disease Control and Prevention

Segal, Catherine A.

Wellgen, Inc.

Sensenig, Dee A.

The Boeing Company

Shahin, Michael M.

University of Rochester

Sharma, Monica

Blake Cassels & Graydon LLP

Sherman, Ronni L.

Stratagene

Sias, Stacey R.

Celera Genomics

Silva, David

Millipore Corporation

Silverberg, Michal

OSI Pharmaceuticals, Inc.

Sinclair, Hollie

PricewaterhouseCoopers LLP

Smeraglia, Vincent A.

University of Medicine & Dentistry of New Jersey

Smith, Stephen A.

Tennessee State University

Sonn, Karen S.

Sonn & Associates, P.C.

Sossong, Thomas

Drinker Biddle & Reath LLP

Spence, William C.

Kirkland & Ellis LLP

Spivak, Kevin

Morrison & Foerster LLP

Srinivasan, Venkatesh

Phyton Biotech, Inc.

Steinert, Daniel J.

Ocean Tomo

Stocco, Teana T.

UCTECH, Univ. of Chicago

Storms, Carol

Spexell Pharma

Stufflebean, Troy

Patents Online, LLC

Suarez, Mauricio

Wisconsin Alumni Research Foundation

Sullivan, Patrick M.

Los Alamos Commerce and Development Corporation

Sussman, Philip N.

The Channel Group LLC

Talerico, Tammy L.

Church & Dwight Inc.

Tang, C. Mark

World Technology Ventures, LLC

Taylor, William D.

Pfizer Inc.

Thivierge, Pierre

Paladin Labs Inc.

Thumm, Michael

Chipworks

Trask, Scott

Newport Corporation

Vander Veen, Thomas D.

LECG, LLC

Vick, Jeffery S.

Vick Biomedical Consulting

Victor, Steven

Development Specialists, Inc.

Visen, Neeraj

University of Manitoba

Vlassov, Serge

SKAPA'S Consulting Inc.

Voigt, Cassandra

DataCard Corporation

Wallenburg, John C.

McGill University

Walsh, Raymond J.

BOSE Corporation

Wang, Chiao-Wei

University of Illinois

Wasson, Michele E.

Innovation Asset Group

Wayman, James

Textron Fastening Systems Inc.

Webster, Susan Elizabeth

Florida International University

Wiederrecht, Gregory J.

Merck & CO., Inc.

Williams, Karen K.

Sybase, Inc.

Womack, J. Scott

IPAC, LLC

Xu, Gangfeng

Wyeth

Xu, Stella

Hoffmann-La Roche

Yoder, Stephen

MorphoSys AG

Yoshida, Atsushi

Microsoft Corporation

Zarras, Peter

Crowe Chizek

Zavelson, Tracy

AT&T Knowledge Ventures

Zhang, Tong

ESP Equity Partners

Zisk, Matthew B.

Skadden, Arps, Slate, Meagher & Flom

Zur, Eran

Hoffman & Zur

Video-On-Demand

Patents
\$990,000

1800yellowpages.com
\$1.32 M

Your IP Here
\$?

Multiple Node Audio
Patent
\$825,000

OCEAN TOMO

April 18-19 ▪ Chicago, IL

SPRING 2007 LIVE IP AUCTION

The Patent, Trademark, Copyright & Domain Name MarketplaceSM

ANNOUNCING "OPEN CALL" FOR INTELLECTUAL PROPERTY SUBMISSIONS

The following are some areas Ocean Tomo has identified as having high buyer interest:

Consumer Products | Convergence Technology | Digital Media & Entertainment | Financial Services & e-Commerce | Imaging & Display Technology | Internet/Web Services | Location-Based Technology | Medical & Life Sciences | Software & Business Methods | Telecommunications | Consumer Brands | Copyrights & Music Catalogs

All patent, trademark, copyright and domain name submissions for The Ocean Tomo Spring 2007 Live IP Auction should be received **no later than December 31, 2006**.

For more information, please call (312) 377-4851 or visit www.oceantomoauctions.com.

IP INVESTMENT & LIVE AUCTION SUMMIT 2007

Presented by Ocean Tomo & Premier Cercle ▪ June 1 ▪ London

For more information please visit www.oceantomo.com/europeanauction.html.



Licensing Executives Society
1800 Diagonal Road, Suite 280
Alexandria, VA 22314-2840

