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Citations predict four Nobel Prize winners

This year we successfully predicted four Nobel Prize winners in two categories – Economics and Physiology or Medicine.

Since 1989, Thomson Reuters has correctly predicted at least one Nobel Laureate each year. In 2002, 2003, 2005, and 2008 these Citation Laureates won in the same year they were named. In 2008, three Nobel Prizes were accurately predicted - in Physiology or Medicine, Chemistry, and Economics.

This year, Thomson Reuters successfully predicted two Nobel Prize category winners - in Physiology or Medicine and in Economics. This year's Medicine award went to Elizabeth Blackburn, Carol Greider, and Jack Szostak for their roles in the discovery of and pioneering research on telomeres and telomerases. This trio was predicted this year to be a contender for the Prize by David Pendlebury, citation analyst with the Research Services group. Oliver Williamson, one of the recipients of the prize in Economics, has been on the list of probable winners at Thomson Reuters since 2006 for his research on corporate governance.

"Our successful predictions illustrate how *Web of Science* covers the most significant scientific research in all disciplines, across all time spans," said David Pendlebury, Research Services, Thomson Reuters. "Our prediction method, using citation counts as its fundamental point of departure, has over the years proven to be an accurate measure of research success and of Nobelists-to-be."

This scientific approach to predicting the Nobel Prizes regularly catches the imagination of bloggers and the press worldwide, including publications such as New York Times, Smart Money, Newsweek and Times Higher Education.

For more information about the methodology behind the predictions, or to read about past and present winners, visit http://science.thomsonreuters.com/nobel/

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Learn more about these and other resources: http://isiwebofknowledge.com/benefits/promote/

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Citation-based research evaluation – video and webinars

Learn more about InCites and the methodology behind citation-based research evaluation

InCites® is a customized, citation-based research evaluation tool on the Web that provides an objective analysis of people, programs, and peers. The new InCites video explores the changing dynamics of today's global research landscape. It describes how *InCites* seeks to provide reliable, objective methods for quantifying research output and impact, and to help those with a stake in research craft a sound strategy for their institution. The video also provides an explanation of the methodology behind *InCites*, and covers some key features of the web-based product. The new video can be viewed at http://go.thomsonreuters.com/incitesdemo

For a more comprehensive explanation of citation-based research evaluation, we offer a variety of free education resources. You can view pre-recorded sessions here http://science.thomsonreuters.com/training/researchevaluation/#recorded_training.

You can request a free *InCites* consultation at http://science.thomsonreuters.com/info/incites09/

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The organ growers

Tissue engineering is being applied to develop patient-specific replacement tissue, with the ultimate goal of fabricating a brand new organ.

Assoc. Prof. Chua Chee Kai, based at Singapore's Nanyang Technological University, has progressively moved from mechanical engineering into biomedical engineering and then into tissue engineering.
In an interview with Thomson Reuters, he discusses the inspiration for his team's work on tissue scaffolds, and their potential for organ fabrication.

Hear our Intelligent Information for Life interview with Assoc. Prof. Chua Chee Kai:
http://intelligentinformationforlife.com/chua/

THOMSON REUTERS

Innovation hot spots: mining patent data for tomorrow's breakthroughs

Our IP Market Report on innovation hot spots shows that areas of sharpest growth include biofuels based on algae, cell phone data/wireless network roaming and lab-on-a-chip nanotechnology.

To find out the form that future innovations will take, Thomson Reuters tracked hot spots of innovation through the first quarter of 2009, analyzing global patenting activity in fields that have shown significant growth over the past several years. By tracking the total numbers of unique inventions in published patent applications and granted patents from 2003 to 2009, researchers were able to identify segments of the R&D landscape that are receiving growing attention from inventors even in the midst of a worldwide recession. The resulting IP Market Report summarizes the findings of that research, and shows areas of the sharpest growth to include biofuels based on algae, cell phone data/wireless network roaming and lab-on-a-chip nanotechnology.

You can download the report free at http://ip.thomsonreuters.com/info/hotspot/

Intellectual property and its role in business success

David Bunting, Chief Executive. Trevor Baylis Brands plc

Most small businesses concentrate their attention on cash flow and profits to survive; but intangible assets may be vital for the long-term survival of the business.

For many large businesses their valuations are now driven much more by their intangible assets such as goodwill, know-how, and their intellectual property portfolio. This trend towards identifying and securing these assets is becoming important for smaller businesses as well.

Optimising investment

For a small business there could be nothing worse than spending scarce resources developing a new product only to find out too late that it's already been protected by someone else in the target territory. Patent and trade mark searches can give important insights into competitors' strategy, and by checking out new ideas at an early stage a company can create strong patents and trademarks to protect its own products.

Evaluating business ideas

At Trevor Baylis Brands we look at a hundred ideas each month – totalling over 6,000 so far from individuals and small businesses. We look for novelty, need, and quality.

The most important feature that we look for is market need, but that can be hard to determine at the outset. So first we check to establish whether the idea is novel. We search patent records, business catalogues, and web sites to find similar ideas. We consider whether the idea is patentable or just an obvious advance on what already exists. Over 90 per cent of the ideas we see do not make it past this point.

If we think that the idea is novel then we look at what we call the quality issues such as the technology needed, safety and environmental issues, and of course the costs.

So having understood the novelty of the idea and its quality features we turn back to the market need. Could a product or service based on this idea find a worthwhile market? Obviously the clear winners are those ideas which have protectable intellectual property, for which there is a clear market need, and which can be produced at a price and in a form that would be acceptable to the market. Less than one per cent of the ideas that we see come into this category.

Ideas that aren't new or that can't easily get IP protection

Many of the ideas that we see have been done before but if the idea addresses a clear market need then we need to ask if it infringes intellectual property rights owned by someone else and can it be made with features and a price that would be more attractive than competing products? A cheaper mousetrap might find a market.

Ideas in this category may be difficult to license or sell but it may be possible to build a brand based on the idea and protect that brand with trade marks. Many software or service based businesses come into this category.

Ideas that have no obvious market

If the idea is novel, but no market need is obvious, then the issue is whether the market can be created. Selling the first fax machine is tough to do. Selling the second one is much easier. Would people want mobile phones if they cost USD 10,000 each and weighed five kilograms? Probably not. Would they want them if they were sold at commodity prices and fitted into your pocket? Look around you.

Ideas in this category may only be viable if there is a lot of money spent developing technology or on marketing. No one 'needs' an iPod ™.

New ideas that don't fit the market need

We may uncover a new idea that addresses a clear market need but for some reason isn't compatible with the market requirements. The issues may be about technology, pricing or packaging. These are typical business challenges which can usually be solved given the necessary funds. The mobile phone in the example above needed to be engineered to sell for less than USD 100 and fit people's pockets in order to be successful.

What to do next

Ideas that are novel should have their inherent intellectual property protected by patent or design rights. Business ideas can be protected by a brand strategy and trademarks. It depends on how the idea is going to be exploited. An initial patent filing requires no fees for the first twelve months in the UK and other IP rights are not expensive, so IP fees need not be a barrier to getting early protection. This early action can give up to a year of breathing space while the IP position is refined and improved. Patents can be enhanced and filings under the Patent Cooperation Treaty can be made to secure overseas rights.
Today more companies are operating in markets that cross national boundaries but with legal frameworks for IP operating within those boundaries. The costs and delays of securing their rights may be a major issue for a small business so it is important to get it right. A CBI survey reported that most small and medium-sized enterprises are unaware that IP rights secured in Britain do not apply abroad.

The ideal combination

The ideal business idea or invention is of course one that has novel and protectable intellectual property that meets a clear market need with an acceptable price and performance.

Ideas that don't have a market need either actual, or capable of being created, have no chance of success. Novel ideas that meet the market need are the best.

What Trevor Baylis Brands tries to do is filter ideas so that businesses can develop those with the best chance of success and not waste time and money on ideas that won't make it. We do this by applying a well developed filtration system and then protecting the underlying intellectual property in a way that is going to enhance their value. Intellectual property is going to be the foundation of future businesses and prosperity and it is vital that both business and government understand that.

About the author

David Bunting is Chief Executive of Trevor Baylis Brands plc, which offers practical help and advice to help inventors patent or protect qualifying ideas or products.
http://trevorbaylisbrands.com

Addressing patent creation backlogs

Donal O'Connell, Chawton Innovation Services

The cause of a backlog in a patent creation entity can vary greatly. In his latest white paper–Addressing challenges with backlog in a Patent Creation entity (reproduced below)–Donal O'Connell presents possible solutions for these challenges.

Introduction

This paper explores the issue of the backlog of work within the context of a Patent Creation entity. Any such backlog of work in a Patent Creation context needs to be properly examined and analyzed as a first step, as the root cause can vary greatly from one Patent Creation entity to another.

A backlog may occur at different stages in the patenting process. It may or may not be linked to a particular technology area, or it may be due to the skills and competencies, or lack of skills and competencies of some Patent Attorneys. It may be related to one particular group of inventors, or it may actually relate back to the legal requirements in some specific country for dealing with inventors and handling their inventions, or it may even be due to what is happening within a particular Patent Office.

Backlog with invention reports

A backlog with the handling of invention reports coming from the inventor community into the IP Department can be gauged by answering these basic questions.

- How many inventions per month are you receiving?
- How many inventions can your IP department handle per month?
- What is the current number of inventions unhandled?

For example, you may start the year with 350 invention reports. You may estimate that you will receive 80 inventions per month based on the previous year's numbers. You may calculate that the average number of inventions being dealt with per month is 110. These are the numbers you need to understand and in simple terms if you have more inventions coming in than you can deal with on average per month, you have a backlog problem with invention reports.

There are some solutions which you can deploy to help you address this challenge.

1) Outsource prior art searching

For every US patent application filed today, fewer than half will issue as patents, down 30 per cent from less than a decade ago. It is therefore increasingly important to conduct prior art searching on your invention disclosures.

You may wish to approach external patent agencies, and they may charge anywhere between GBP400 and GBP1000 per case, although these numbers need to be sanity checked in the current economic climate. This can be expensive solution.

You may wish to use IP services providers in places such as India. They may or may not be Attorneys, but they are capable of doing good quality searches providing they have someone who is familiar with the technology. This is a more cost effective option.

A key issue to bear in mind with the cost of searching is where in the world the inventions are coming from. You may have to pay a reservation award for inventions coming from countries such as Finland, Germany, Denmark and Sweden where you cannot find prior art. Therefore searching for prior art can be cost effective, if only to avoid paying the reservation award. For complex cases the best alternative may be to just reserve the rights and pay the reservation fee but it does depend on the volume of such cases.

2) Get research and development input/let them self police

Even if you pay the reservation award and have the rights there will still be cases that you want to protect and file patent applications, but how do you find them.

One approach you may wish to use is to disclose your filing targets to this specific group of inventors and ask them to categorize the invention reports into three levels: A) high importance B) nice to have, C) probably not worth protecting. This works well for very advanced technologies where your specific inventors are world experts and you do not really have others in the company who can properly assess these inventions.

A prior art search is then done on category A cases and if these are considered patentable, you should go ahead and protect them. If filing target numbers allow, you then move onto category B inventions. For cases in category B and C which you do not want, you make a 'reject' decision (for inventors coming from the US and UK) citing lower commercial importance. It is possible that you defensively disclose these lower categorized inventions, saving patent filings only for the high scoring disclosures. However, if they come from a jurisdiction where a reservation award must be paid, you should pay the fee.

Both strategies require help either externally from Patent Agencies or IP Services provides or internally from your own research and development experts. For complex chemical and pharma cases, option two may be the best.

I would therefore advise that the IP Department needs to understand who the key R&D Managers are, of those persons submitting ideas, and get their involvement in the process as decisions need to be respected. This self policing patent board or patent committee can then help reduce invention report backlogs as you focus on the cases they feel are most importance and you effectively drop the rest.

Provide R&D with access to patent searching databases so that they can access patent data and start to understand how novel/relevant their disclosures are. Take steps to create an IP savvy workforce.

3) Re-allocate work among your patent attorneys

You can simply re-divide the backlog work across your patent attorneys. This can work but you may find that it takes a lot longer and in the meantime you end up with your resources handling older cases, whereas it may be more important for them to look after at the newer cases, particularly if the technology is fast moving.

4) Focus on quality rather than quantity

Refocus your efforts on quality rather than quantity of invention disclosures, create metrics to measure quality disclosures and set quality rather than quantity targets. Reward inventors, not for the number of their disclosures but for the quality. Ensure R&D is considering the potential commercial strength and not just the technical strength of the disclosure and involve marketing and commercial groups in the rating or scoring.

Backlog at the patent board or patent committee stage

If there are backlog problems here, I can only assume it has something to do with the Business Managers, Technology Managers and technical experts, and their participation at such meetings being erratic. If so, can you get new members involved or at least have a number of people nominated so even if only a subset are in attendance, it is ok to proceed, and make decisions. Some of the key questions to ask here are as follows ...

- How often are patent board and patent committee meetings held?
- How many invention reports are reviewed at each meeting?
- How well attended are such meetings, and are properly informed decisions being taken there?
- How complete/user-friendly is the data presented at these meetings (often the data is confusing or incomplete and decisions are delayed)

- How are the invention disclosures prioritized: are they rated or scored?
- Are the teams aware of the implications/importance of this stage of the process for the business?

Backlog with drafting or first filings

Any backlogs or delays in this stage of the patenting process can be due to one of three issues.

1) External patent agencies

If the backlog is due to your external patent agencies, then either get them to improve their performance or change them.

2) Internal attorneys

Why is there a delay here? Is it due to overwork or rather, too much work for the available resource? If it varies from one internal Patent Attorney to another, then it may be due to skills and competency issues or the nature of the technology being handled by each patent attorney.

One option is to outsource some of the work to external patent agencies or IP services providers depending on the specific tasks causing the delays.

3) Responsiveness of your inventors

Incentivize the inventors so they are only rewarded once the application is filed and also try to elicit R&D involvement so that individual targets have some IP element included. This works best if R&D (or project teams) are in some way involved in budgeting for, or owning the costs for, their own IP.

Office Actions

If the backlog problem relates to Office Actions then any remedies here will depend upon whether the cases are handled internally within the company or externally by external patent agencies. There should not be difficulties with external patent agencies as they should be handling the cases promptly.

If the issue is with internal patent attorneys, then I assume it can only be a skills and competencies issue or a workload issue. If it is a workload issue, then your options are either to outsource some of the work or renew the portfolio by trimming for example. Trimming however depends very much upon the maturity of the portfolio. Having a backlog in Office Actions is clearly a financial concern as it is more expensive to answer these late. Some advantages are also missed by being late.

Summary

To properly address problems with backlog or delays in a Patent Creation entity, the first step is to thoroughly evaluate and analyse the problem. Where in the process do you have the backlog, for

example with inventions, patent board decision making, drafting or first filing or office actions. Secondly, you need to identify whether the backlog situation varies by technology, by Patent Attorney, by inventor group or by location. Thirdly, you need to understand the trend data. Is the problem static, getting better or getting worse. Once this is all known, then corrective actions need to be taken.

You may find that the backlog was caused when resource levels fell at some stage in the past or that the there has been an increase in the number of invention reports received.

You may have very rigid processes in place, and it may be that you need to bend your processes a little to allow for faster invention report handling. You may for example decide that not all inventions deserve to reach your Patent Board or Patent Committee stage as discussed above.

In order to address backlog with your Patent Creation entity, you may need to re-visit your working relationship with R&D Management and your inventor community and get them more involved in the process, perhaps moving from PUSH mode to PULL mode.

You will never reach a stage where there is no time delay between the stages in your patenting process and you have no cases in the pipeline. Patent Attorneys do need some time to reflect and contemplate on inventions, prepare properly for Patent Board or Patent Committee reviews, draft the claims correctly, file the cases with the Patent Offices and respond to office actions. I do not think it is a big problem if the cases sit a little bit longer in the pipeline, as a lot of issues are solved as time passes by and filings can be done more precisely, provided that is that somebody else did not file first.

I do realize that there are some issues with first to file in the world and first to invent in the US, where you have to show that you are constantly moving along in the patenting process. I understand that importance for being first in say the Pharma industry, where a lot of money is often tied to a single patent. Rumours are the first-to-file provision may fall as the US patent system is overhauled, but then again strong interests defend it, so we will see.

When your backlog challenge has been addressed, it is most important not to just forget the problem and move onto the next issue. Metrics should be defined, agreed and implemented and regular data reports created so that you know precisely the efficiency and effectiveness of your patent creation entity every month going forward and so that you can react quickly if things go amiss again in the future.

About the author

Donal O'Connell is the Owner and Managing Director of Chawton Innovation Services Limited
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Alternative energy powers up

Who will win the international race to secure energy independence and to establish dominance in alternative energy technology?

The race amongst the world's largest nations to secure energy independence in the 21st century is fuelling a surge in alternative energy research and development. From North America to Europe to Asia, countries are devoting tens of billions of dollars to fund research for wind, solar and marine energy technologies.

To investigate who the leaders in alternative energy will be, what technologies will they pioneer and where will they come from, Thomson Reuters analyzed global R&D activity in the fields of wind, solar and marine power. By tracking patent activity by technology, region and organization type, researchers were able to gain insights into areas of innovation that are receiving the most attention. They looked at each link in the R&D chain, from academic and government research to small commercial developers to large industrial producers who will ultimately bring new solutions to market. This approach of measuring patent activity across these three links – the three estates of R&D – provides insight into not only the pace of innovation but also the maturity of new technologies under development.

Download this free report: http://ip.thomsonreuters.com/info/greenreport/

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Treating H1N1: the innovation behind the science

Dr. Allen Yeo, Principal Consultant, IP Solutions, Thomson Reuters
Michaela White, Principal Consultant, Life Sciences, Thomson Reuters

This article is featured in this month's issue of PharmaAsia http://www.pharmaasia.com

The recent outbreak of the swine influenza virus (H1N1) has precipitated an immediate response from the international health community, governments and pharmaceutical industry alike. World attention has focused on identifying the most effective anti-influenza drugs currently available and developing the next generation drugs as the H1N1 virus will certainly continue to mutate. As stock prices of certain pharmaceutical companies such as Biota soar, we may ask who the originators, current manufacturers and patent holders of these life-saving drugs currently in use are.

Of the 22 drugs available for the treatment of influenza virus (source: *Thomson Pharma*), the Center for Disease Control (CDC) has recommended the use of Oseltamivir (brand name Tamiflu) or Zanamivir (brand name Relenza) for the treatment and/or prevention of infection with the H1N1 strain. Competitor drugs, M2 ion channel inhibitors Amantadine (Symadine, Symmetrel) and Rimantadine (FlumadDue), have not been recommended due to the increasing occurrence of mutations in the viral M2 ion channel protein and resulting drug resistance.

So what are some of the comparative differences between Oseltamivir and Zanamivir? A SWOT analysis of these two drugs on *Thomson Pharma*, the pharmaceutical pipeline intelligence database of Thomson Reuters, reveals a competitive advantage of Oseltamivir over Zanamivir – method of delivery. Oseltamivir offers easier oral dosage as compared to the inhalation delivery required for Zanamivir. However, Zanamivir has first-in-class status and reimbursement strategies are in place for a significant portion of the US and Japan, as well as for high risk groups in the UK.

To date, there are, 291 drugs related to the therapy area "Influenza Virus Infection". Using the visualization tools of *Thomson Pharma*, we are able to view the current pharmaceutical pipeline for this therapy area (Fig.1). Many of these drugs are either still in the discovery phase or classified as no development reported for the past 12 months. However, there have been promising drugs emerging in the pipeline such as Daiichi Sankyo/Biota's CS-8958, which in April 2009 reported positive Phase II results.

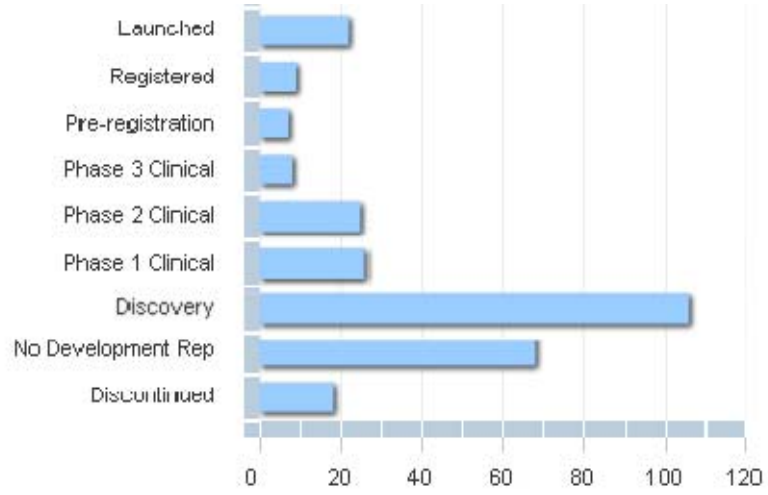

Figure. 1. Number of drugs in the pharmaceutical pipeline for "Influenza Virus Infection".
Source: *Thomson Pharma*

The current dominant marketers and primary patent holders for Zanamivir and Oseltamivir are Biota/GSK and Gilead Science/Roche respectively. Patents cover product, process, formulation, component of combination and delivery devices. Zanamivir patents will expire in 2013 after which we can expect to see moderately heavy generic competition. Thus far there have been no paragraph IV challenges for Zanamivir. However, companies such as Cipla and Hetero, two Indian-based drug manufacturers, are showing evidence of scaling up or developing API manufacturing capabilities. (source: *Newport Premium*)

Oseltamivir patents are set to expire in 2016. Although currently facing no paragraph IV challenges, many more generic manufacturers have shown a strong interest in developing Oseltamivir and generic competition is predicted to be fierce. Cipla is the only company with an active US DMF and a commercially available source of API even as five other companies have confirmed commercially available capabilities. These include Hetero and Ranbaxy of India, and Chongging Shenghuaxi and Shanghai Sunve of China. (source: *Newport Premium*)

How can one begin to understand the innovation trend and attempt to predict the future innovation of influenza and H1N1 virus-related technology through patent analysis? One way is to use a visualization analytic called the "Themescape Map" on *Thomson Innovation*. From an innovation perspective, there are 1,324 patent records (or patent families) related to the therapy area "Influenza Virus Infection" (source: *Thomson Pharma* and *Derwent World Patents Index*). Patents retrieved via *Thomson Innovation* may be uploaded into the Themescape Map software tool. Each color dot represents a patent record that has been plotted using keywords from the Derwent valued-added patent title and abstract. The application

brings technically similar patent documents into proximity clusters in order to easily understand different technology inventions.

Figure 2 also shows an additional "time-slice" information of patent filing trends comparing 2000 to 2004 (330 patent records) and 2005 to current (667 patent records). It can be inferred that research & development (R&D) has been more intense in the last three years for influenza virus vaccines and related technology as seen in the two-fold increase in the rate of patent filings over the last eight years, particularly in patents related to genetic studies. The map can also isolate trends of assignees and inventor filling pattern to help in strategic business planning.

In addition to vigilance and screening by global health organizations, such an analysis reassures us that R&D continues its pace to aid us in fighting the threat of an epidemic. We certainly hope that newer and more effective drugs continue to find their way to the market and the patients who need them.

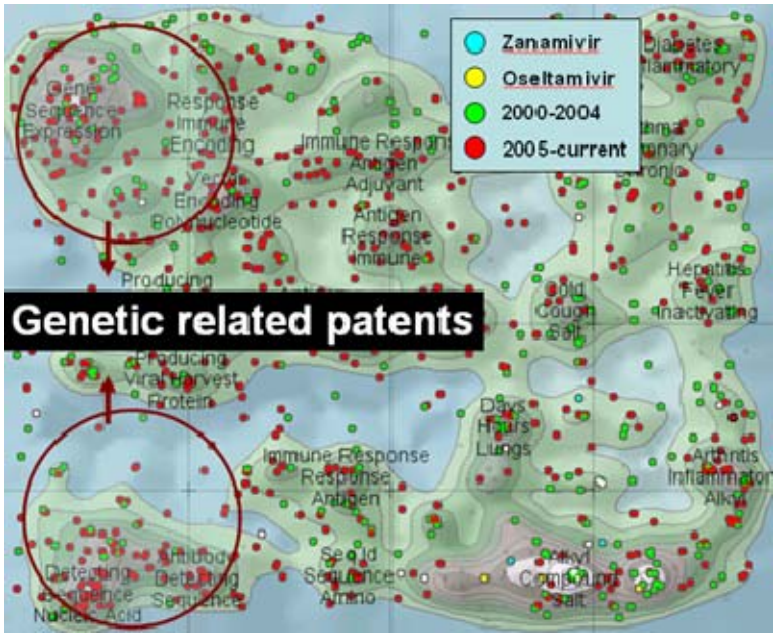

Figure 2: Themescape map of 1,324 influenza-virus-infection therapy area patent records; including Zanamivir and Oseltamivir. (source: Thomson Innovation)

Outlook and issues for the biotechnology sector

Thomson Reuters and the Biotechnology Industry Organization present a comprehensive assessment of Wall Street's perception of, and outlook for, the biotechnology sector.

This perception study presents an in-depth assessment of Wall Street's views of the biotechnology industry, its current challenges, its relative valuation, and outlook. The purpose of the study is to inform and improve communication between biotech executives and investors, equipping them with an insider's perspective on what the investment community values in the current economic climate, including cash position, pipeline, regulatory environment, upcoming catalysts, and IR communications, among others.

Executive summary

Interviews with, and survey responses from, more than 80 biotechnology analysts, investors, and portfolio managers revealed significant optimism about the outlook for the sector. Despite the turmoil in the fourth quarter of 2008, the ripple effects of the credit crisis, and the uncertainty about a recovery for the global economy, the investment community expects the biotech sector to outperform in relative and absolute terms during 2009. Not surprisingly then, 64% of the study participants state that now is a "good" or "very good" time to invest in biotech.

Investors anticipate a surge in mergers and acquisitions this year, led by large-cap companies taking over smaller ones with promising pipelines and thus giving a general boost to valuations in the sector. Investors do not expect overall R&D productivity to improve, but they do foresee advancements in the clinic and some FDA approvals that will serve as catalysts for the sector‟s positive performance. Investors are eager to see significant operational improvements made inside the FDA. The study respondents also indicate there will be stabilization and a general rebound in the broader market that should propel biotech share prices higher.

The participants acknowledge that the credit crunch has forced them to alter the methods they use to evaluate investment opportunities in the biotech sector. There has been a dramatic increase in the focus, priority, and importance placed on a company‟s cash position. There are mixed opinions about the effects of the financial crisis. Some fear that liquidity constraints will prevent even the firms with sound management and good candidates from obtaining the funds they need to sustain their operations; others almost welcome these pressures that should drive more efficient use of capital.

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Investment approaches

As one might expect, investment approaches vary – from investor to investor, from subsector to subsector, and even from one stage of development to the next. Nevertheless, the analysts do share some preferences that collectively outline an investment sweet spot. Generally, they favor mid-cap companies with late-stage pipelines that include oncology treatments. However, roughly one-third of the participants see better opportunities in smaller companies still in the early stages of R&D. The group tends to avoid companies with candidates in therapeutic classes where regulatory scrutiny and competitive pressures are high.

Valuing stock

When determining the value of a particular stock, investors first analyze the growth of revenues, current and/or future. They then discount those top-line streams accordingly before applying basic comparative multiples to set an appropriate price. In response to the spike in market volatility, investors have lowered their tolerance for risk. For biotech, that means a sharper focus on indicators of viability, particularly cash burn, but also share price, trading volume, and market capitalization.

Analysts and portfolio managers expect an uptick in activism in 2009, but their reviews of prior efforts to shake up Boards of Directors, chief executives, and strategies are not all favorable. These investors are not mirroring the decisions made by the so-called "smart money."

Face-to-face engagement with senior management remains the most critical component of the investment process. These asset managers are relying less on sell-side research and events, but attending more industry conferences to gather intelligence. When speaking with CEOs, CFOs, and IROs, investors want to hear clear, consistent, and honest assessments. Moreover, they stress that, especially in the current market conditions, company management should proactively and regularly reach out to the investment community to describe their objectives, plans, and achievements.

Read the full report at
http://thomsonreuters.com/content/scientific/pdf/472022/BIO_ThomsonReuters09_study.pdf

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The Japanese generic drug market: opportunities and strategies for success

Until recently, Japan seemed all but closed to incursion by foreign generic manufacturers. In an important new white paper, Thomson Reuters reveals the true picture of the generic market in Japan and the tactics that can ensure success in this market.

Japan is the world's second largest pharmaceutical market, commanding annual sales of approximately 6.45 trillion yen (US$64.5 billion). However, only 6.6 per cent of its prescription drug sales are contributed by generics.

A combination of major drug patent expiries before 2012, a rapidly aging demographic, wide-ranging government initiatives to reduce health care spending, and comparatively high reimbursement prices are making the generic drug sector in Japan increasingly attractive to foreign manufacturers looking for a large, relatively untapped and receptive market.

In this white paper, Thomson Reuters draws on the unique intelligence of *Newport Premium*™ and *Thomson Pharma*® to reveal exactly what's happening in the Japanese generic drug market, and predicts how the situation may change under the incoming Democratic Party of Japan (DPJ) administration.

Written with the cooperation of generic industry experts in Japan, the white paper shows how the country is already embracing foreign drugs, active pharmaceutical ingredients (APIs) and generic companies. It explores the public perception of generic drugs in Japan, the attitude of Japanese physicians and pharmacies, the importance of quality and brand equivalence, and the drug reimbursement, approval, exclusivity, distribution and other issues that foreign companies need to be aware of.

Download a free copy of this white paper at http://go.thomsonreuters.com/jp_generic

THOMSON REUTERS

Disease detectives

Learn how Caris Diagnostics are using molecular profiling in the quest for personalized medicine.

Caris Diagnostics, based in Arizona USA, are positioning themselves for growth by not only expanding their portfolio of anatomic pathology and molecular profiling services, but also by expanding into blood-based molecular diagnostics.

In an interview with Thomson Reuters, Brian Wright, Vice President of Strategic Marketing, discusses the explosion of molecular diagnostics, and how it will ultimately enable physicians to more effectively detect and treat diseases earlier.

Hear our Intelligent Information for Life interview with Brian Wright :
http://intelligentinformationforlife.com/wright/

THOMSON REUTERS

Cure for Needy - bringing down the production costs of orphan drugs

The Cure for Needy project believes that a global pool of information can help chemists and pharmaceutical manufacturers to bring down the production costs of orphaned drugs. Thomson Reuters has added its support to the project by providing access to some selected routes of synthesis in Prous Science Integrity®.

Most of us are lucky. We know that if we fall ill with a disease for which there is a proven cure, that drug will be available to us. But what if no manufacturer produces it? Where could we turn?

The Cure for Needy project, founded by James Tour, Chao Professor of Chemistry at Rice University, Houston, aims to help bring medications for these orphaned diseases to those who need them by looking for ways in which essential drugs can be made more cheaply.

According to Tour, there are many ways to synthesize a given drug, and the paths that exist aren't necessarily the most efficient ones. By exploring other routes of synthesis, he believes these orphan drugs can become profitable, and hence brought back into mainstream care. Cure for Needy hopes to inspire a global network of chemists to seek out these more efficient, cheaper or greener ways to make the drugs, and pharmaceutical companies to use them to bring the drugs out of the cold.

The project believes that this can be achieved purely through altruistic means. The new routes of synthesis will be released to public domain, and pharmaceutical companies will manufacture the drugs for the recognition doing so would bring them. Smaller manufacturers might even use this to make a name for themselves.

Where the drug is held under patent, Cure for Needy will act as a conduit to help the potential manufacturer obtain permission to make it.

Thomson Reuters has jumped behind the Cure for Needy project by providing it with relevant synthesis schemes from its integrated drug discovery and development portal *Prous Science Integrity*. "We are pleased to support the work of the Cure for Needy initiative," said Dr Josep Prous, jr, Vice President and Chief Scientific Officer of the Healthcare & Science business of Thomson Reuters. "The provision of a central repository for orphan drugs synthesis schemes will drive forward innovation in an essential but under-represented area of research and development."

You can learn more about the Cure for Needy project at http://www.cureforneedy.org

Call for nominations: IUPAC-Richter Prize in Medicinal Chemistry

Medicinal Chemistry Subcommittee of the IUPAC Division on Human Health and Medicinal Chemistry

The IUPAC-Richter Prize in Medicinal Chemistry is to be awarded to an internationally recognized scientist whose activities have made an outstanding contribution to the practice of medicinal chemistry or to an outstanding example of new drug discovery.

The USD 10,000 IUPAC-Richter Prize has been established by a gift from the Chemical Works of Gedeon Richter, Plc. (Budapest, Hungary) to acknowledge the key role that medicinal chemistry plays toward improving human health.

The IUPAC-Richter Prize will be presented in August 2010 during the EFMC International Symposium on Medicinal Chemistry in Brussels Belgium, where the recipient will also give a plenary lecture on the subject of his/her research. The recipient is encouraged to repeat the lecture at a medicinal chemistry symposium in the USA.

In addition the winner will receive from Thomson Reuters a free subscription to *Prous Science Integrity®*, a drug discovery and development portal designed to provide fast access to the information medicinal chemists need most by integrating and indexing chemical, biological and pharmacological data on more than 300,000 compounds.

"Our company has been using *Prous Science Integrity* for many years as a source of information on drugs in all phases of discovery and development," said Dr. János Fischer, Senior Research Scientist, Richter Plc. "The quality and reliability of the chemistry information in the portal, the breadth of coverage, extending to more than 300,000 compounds, and the structure search capabilities found in Integrity make it the ideal tool for a medicinal chemist."

The deadline for nominations is 31 December 2009, for further information visit http://www.iupac.org/news/Richter_prize.html

THOMSON REUTERS

India's scientific output to overtake the G8 by 2020?

A new Thomson Reuters study predicts India's research productivity will be on par with most G8 nations within seven to eight years and could overtake them between 2015 and 2020.

The study, Global Research Report: India, aims to inform policymakers about the research and collaboration potential of India and its current place in world science. The study is part of a new series of Global Research Reports from Thomson Reuters that illustrate the changing landscape and dynamics of the global research base around the world.

The study draws on data found in *Web of Science*®, available on the *ISI Web of Knowledge*® platform. Key findings include:

- In the last decade, India has seen a substantial growth in its annual output of scientific publications—from roughly 16,500 in 1998 to nearly 30,000 in 2007, an increase of some 80 per cent
- India's annual growth rate has vaulted in recent years to rival comparable figures from such well-established European and Asian nations as Japan, France, Germany, and the United Kingdom
- India's research portfolio is markedly balanced between the life sciences and physical sciences.
- India has established stable and growing research partnerships with a variety of nations—notably, the United States, Germany, the United Kingdom, and Japan
- South Korea has hugely increased its percentage of papers collaborative with India in what is generally a doubling in volume of Indian collaborative output with Asian partners, possibly signaling the emergence of a clearer regional research network.

"By examining India's scientific focus and how its areas of concentration map to the rest of the world, this report will provide policymakers and institutions who are interested in engaging with India's growing research base with useful information and insights that will help them leverage opportunities for innovation," said Mike Boswood, CEO, Healthcare & Science business, Thomson Reuters.

Download the full report at http://science.thomsonreuters.com/info/grr-india/

THOMSON REUTERS

Brazilian science on the rise

Christopher King, Thomson Reuters

Brazil has been moving consistently upward in the output and impact of its scientific publications – but can it stay ahead of India and China, fellow members of the so-called BRIC nations that are predicted by some to have the resources and economic potential to give them a significant share of the world's future economic growth?

Science Watch turned to the publication and citation statistics in the Thomson Reuters National Science Indicators to examine Brazil's science output, along with its percentage share of world science, between 1989 and 2007. Brazil's highest representation in the database is currently in agricultural sciences, with more than five per cent of Thomson Reuters-indexed papers during the period examined. Second in the table, both in terms of Brazil's latest five-yearshare and in the increase since the earlier period, is plant and animal sciences.

Science Watch also reveals that Brazilian science has had the greatest relative impact amongst the BRIC nations of Brazil, Russia, India and China in all fields in the period of the study. Some doubt is expressed about whether this dominance will continue as India and China are both rising sharply in impact, while Brazil's trajectory in recent years has been comparatively flat.

See the full study at http://sciencewatch.com/ana/fea/09julaugFea/

THOMSON REUTERS

ResearcherID: increasing the visibility of researchers and their work

By September 2009 there were 46,000 members of the Thomson Reuters ResearcherID community.

These users are spread across the following regions:

24 per cent Asia Pacific
43 per cent Europe, Middle East, Africa
6 per cent Latin America (Central America, South America) and Caribbean
27 per cent North America (US, Canada, Mexico)

As this global, multi-disciplinary scholarly research community continues to grow month-on-month, new enhancements are made regularly to facilitate increased collaboration amongst researchers and assist them in promoting their work on a national and international scale.

Amongst the most recent enhancements helping members to raise their profile and connect with like-minded researchers are:

- Online publications list – By building their own online publications list, *ResearcherID* members can provide colleagues and researchers worldwide with easy access to their body of work. Publications can be quickly added to *ResearcherID* by searching the *Web of Science*® or *Web of Knowledge*(SM) and uploading files through *EndNote*® *Web*. Alternatively, members can build their individual publication lists using the 'Add Publication' feature.

- Refer-a-colleague – This feature allows members to send a link to their peers inviting them to register on *ResearcherID*. Multiple invitations can be sent by importing contacts from Outlook or Webmail. Alternatively, members can select from a list of co-authors from their *Web of Science* publications.

Free *ResearcherID* Education and Training: http://science.thomsonreuters.com/training/rid/