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Intellectual Property Management:
Priorities and Challenges for IP Managers in India

3rd National Conference on Intellectual Property Rights

November 30, 2012 | Hyderabad

THE ASSOCIATED CHAMBERS OF COMMERCE AND INDUSTRY OF INDIA

Foreword

MESSAGE FROM SECRETARY GENERAL, ASSOCHAM

The importance of intellectual property in India is well established at all levels- statutory, administrative and judicial. India ratified the agreement establishing the World Trade Organization (WTO). This Agreement, inter-alia, contains an Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) which came into force from 1st January1995. It lays down minimum standards for protection and enforcement of intellectual property rights in member countries which are required to promote effective and adequate protection of intellectual property rights with a view to reducing distortions and impediments to international trade.

ASSOCHAM attempts to address issues relating to IPR in all major aspects in a global prospective and some of the major challenges in this discipline the world faced today through our International Conference on Intellectual Property Rights – (Protect the Innovation).

It gives me pleasure to share that ASSOCHAM and ARANCA have worked in unison to bring out this Background Paper on Intellectual Property Rights and the critical role being played by different stakeholders to ensure an enforced & protected IPR regime.

The Delegates attending the Conference will have the opportunity to interact with various stakeholders, many of whom you may want to do business with Even though the debate is intense, the setting is relaxed – you'll have a good time to mingle. A great opportunity to enjoy the excellent technical programming of the International Conference, designed to provide new learning and networking opportunities. I am sure the Conference being held in the background of reaching our ultimate goal of Empowering Business through Knowledge Management in the field of IPR – patents, trademarks, copyrights, trade secrets & industrial designs, etc. will achieve its objectives.
It will also come-up with firm solutions to protect & enforce IPR issues in the Country.

The ASSOCHAM IPR Council has been able to bring initiatives with the support and guidance from the nodal agencies such as DIPP, DIT, CSIR, CGPDTM, WIPO, USPTO & other big corporate houses like Microsoft, GE India, Pernod-Ricord, Philips, Novartis, Nokia & Nestlé etc.

My best wishes to every one for making this initiative a success.

D. S. Rawat
Secretary General
The Associated Chambers of Commerce and Industry of India (ASSOCHAM)

Foreword

MESSAGE FROM CHAIRMAN, ASSOCHAM'S NATIONAL COUNCIL ON INTELLECTUAL PROPERTY RIGHTS

Dear Friends,

Welcome to the 3rd National Conference on Intellectual Property Rights being hosted by ASSOCHAM on 30th November, 2012 at Hyderabad. I am sure that all of you would find the deliberations during the conference very informative, thought provoking and useful.

Though, India can boast of offering an efficient mechanism for protection of Intellectual Property Rights, there is enough scope and urgent requirement for substantial improvement therein. I hope that these aspirations are adequately addressed during the deliberations and do acquire a centre stage leading to progressive legislative amendments and improved administrative measures in future.

We have invited members from the Government, Intellectual Property Office as well as stake holders from industry to share the platform to brain storm burning issues and topics and come out with constructive recommendations to further strengthen IP protection in India.

I hope that all the delegates and attendees will benefit from the conference and each one of us would take back something useful to build on.

I wish you all a wonderful conference and look upto each one of you to make your contribution to make it a grand success.

With best wishes,

Hemant Singh
Chairman, ASSOCHAM's National Council on Intellectual Property Rights, and Managing Partner, INTTL ADVOCARE, Intellectual Property Attorneys, New Delhi

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Preface

When the first US President George Washington signed the first ever patent for a process of making potash in 1770, little did he know that patents will come to being the mainstay for any competitive business worldwide.

Today, an estimated 80% of S&P companies' market cap is attributed to their intangible assets such as patents, trademarks and copyrights. Ensuing veritable patent wars are a result of fierce competition for owning and protecting intellectual property. Sadly, instead of spurring more innovation and creating new ideas, we now witness more litigation. In fact, according to The New York Times, two of the world's top innovators, Apple and Google, now spend more on patents and patent litigation than on R&D. Some pragmatic ones which have overlapping core technologies, see the futility of litigation and have been busy cross-licensing patents. Sony and Samsung have a 5-years cross-licensing agreement covering over 24,000 patents in an effort to reduce cost and potential infringement claims.

In this rapidly changing milieu, how has India done? India filed 39,400 patents in 2011, and should target 50,000 by 2015 and aim at 150,000 filings by 2020. While's India's share of global patent filings as well as pace of growth is nothing much to write home about, things are a mend. Several global companies have already set up their R&D hubs in India. The Government of India is actively promoting R&D and is looking for new ways to reward innovators.

Yet, Indian intellectual property (IP) managers have to go a long way in actively managing and benefiting from patents with their global partners. There are plenty of failed marriages amid few successful ones. While Dr Reddy's Laboratories' deals with Novo Nordisk and Novartis, or Glenmark's diabetes drug out-licensing to Eli Lilly, or Biocon and Pfizer's broken commercialization alliance for generic insulin, might make one wary but it is heartening to see Tata Motors' clear focus on out-licensing some patents from their 1200+ strong patent cache.

A global IP Portfolio Management Survey in February 2012 by Legal IQ reported that alignment of trademark/patent assets with business strategy is considered one of the most business-critical activities, but lack of a comprehensive trademark culture/lack of in-house manpower are the biggest current challenges. More than 96% of respondents felt controlling patent costs is important to their business.

The priorities for Indian IP managers cannot be much different. More and more Indian firms are taking a closer look at their R&D initiatives, innovations roadmaps and their IP portfolios. They must strategize as to how to leverage their IP, how to source it from the right partners, what could be the potential pitfalls and how they can value patents or monetize them.

The world today looks decidedly different than in 1770. Back in that year, President Washington signed just two more patents. With more than six million patents already issued, and more innovations in the labs than ever before in the history, IP managers worldwide have their task cut out.

We hope this report will help throw some light on some of these issues, to help IP leaders in India address the challenges ahead. Aranca's IP researchers and valuation experts comprising Bharat Ramnani, Ninad Phatarpekar, Ashwani Asthana, Pallavi Rao, and Deepesh Gupta made significant contributions to this report.

We look forward to learning from your observations.

Srinivas Macha
Senior Vice President

Indian Patent Landscape

Where We Stand And What We Need To Do

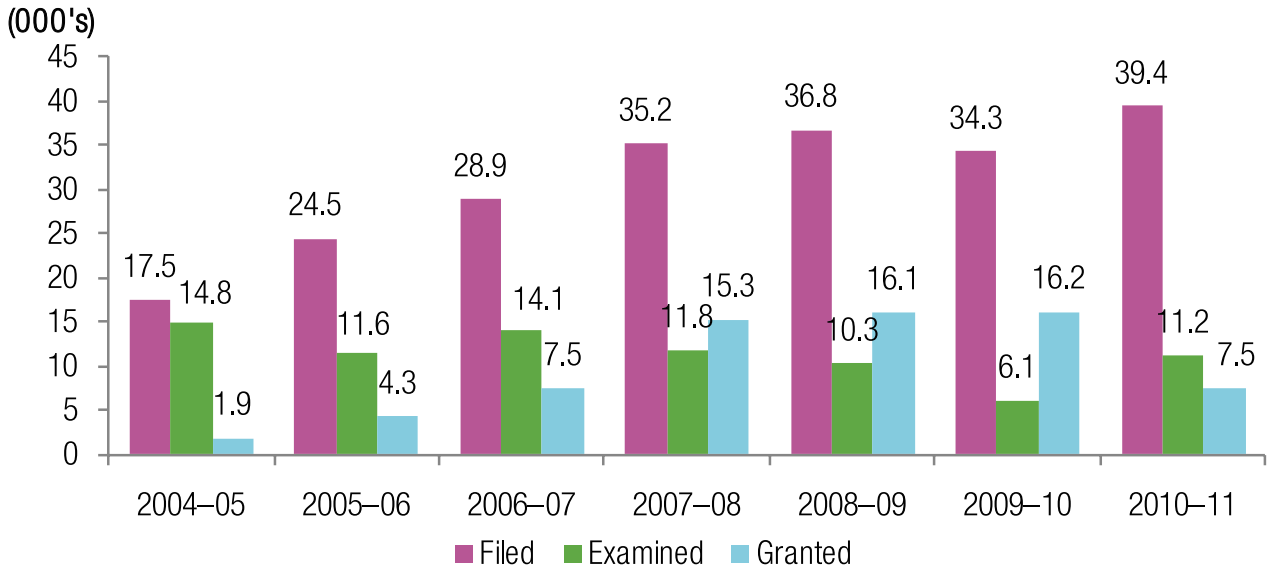
Against the backdrop of increasing competition from global players, building consumer awareness and rapid technological development where product life cycles get progressively shorter; there is rising pressure on companies in India to invest heavily in Research and Development, and consequently, in protecting this investment through prudent IP management.

In the last couple of decades the IP scenario in India has evolved considerably. As India seeks to emerge as a leading global economic power, it has to meet the expectations of having a stronger IP regime and it appears that the stakeholders are taking small but appropriate steps in this direction. This is apparent from the significant growth in the patent filings in India in last 15-20 years.

As per the Annual Report of The Office of the Controller General of Patents, Designs, Trademarks and Geographical Indication, India, 39,400 patent applications were filed during 2010-11, an increase of 15% over the previous year. However, nearly 79% of these applications are filed by foreign applicants and only around 21% by Indian applicants.

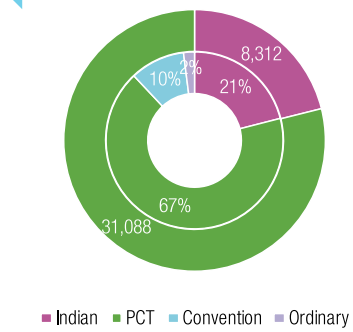
PCT remains the preferred route to patent filing in India by foreign applicants. Further, as of March 31, 2011, out of the total patents in force, only 18% belonged to Indian applicants. During the year 2010-11, the highest number of foreign patent applications was filed by companies such as Qualcomm (1153), Koninklijke Philips Electronics (627), Telefonaktiebolaget LM Ericsson (449), BASF (304) and Sony Corp (302).

Patent Filings in India



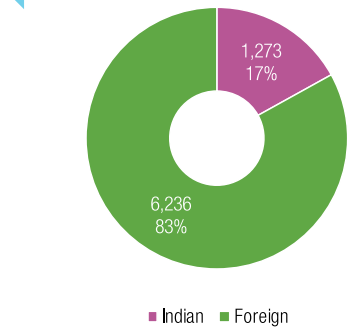
Source: Indian Patents Office, 2012

Total Patents Filed (2010-11)



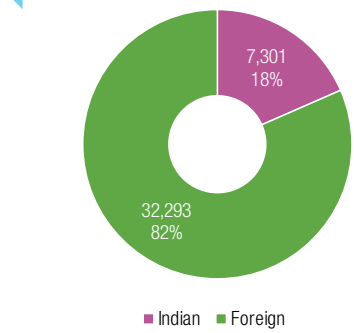
Source: Indian Patents Office, 2012

Total Patents Granted (2010-11)



Source: Indian Patents Office, 2012

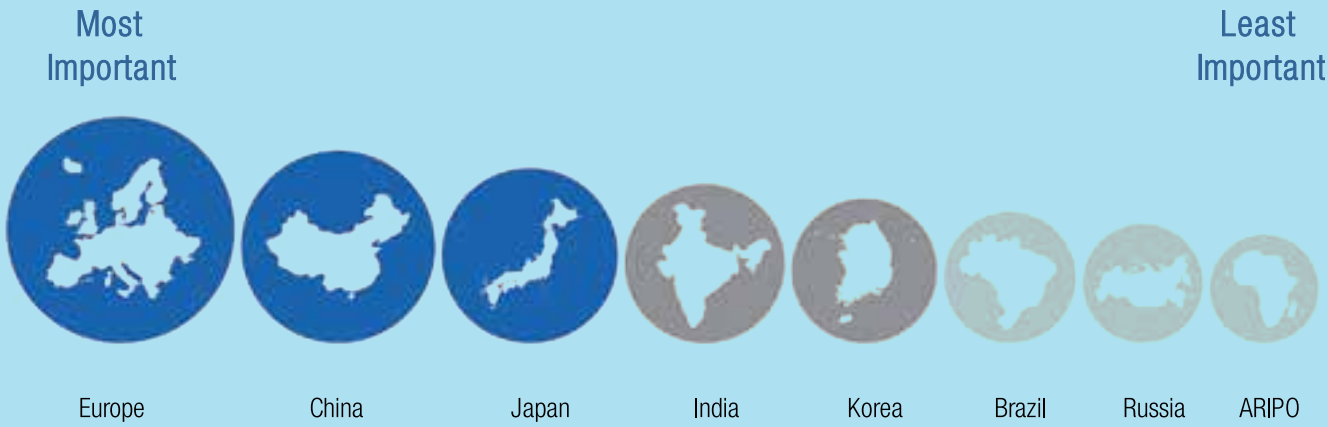
Total Patents in Force (31Mar11)



Source: Indian Patents Office, 2012

Although this indicates foreign companies are considering India as an important market for protecting their IP, we may still be lagging behind our close neighbour China, in terms of preference for global filing strategy of US-based companies.

attributed to this wide gap in patenting activity between Indian and foreign organizations is the low investment for R&D by domestic companies. According to Booz, the top 20 R&D focused companies of the world spend on an average around 11.2% of their net sales on R&D. The study also states that despite a small share of



Note: Respondents were not asked to rank Canada, Australia, Mexico or Others
Source: Inovia, The U.S. 2011 Global Patent & IP Trends Indicator, February 2011

R&D Spend in India Continues to be Abysmal

India's R&D expenditure as a percentage of GDP is expected to remain steady at a low 0.85% in 2012, as per a report in R&D Magazine. However, the government plans to increase R&D expenditure in science and technology - a step in the right direction to paving the way for an innovation-led economy. With an R&D budget for science and technology at 2% of GDP, India would exceed China's allocation of 1.4%, but would still trail in absolute terms. India needs to leverage the current slump in US, Europe and Japan that have resulted in their shrinking share in the global R&D pie, to boost its own place in the global market.

In terms of patent filers, among the top domestic filers in 2010-11 were research organizations and institutes (CSIR (183), IITs (155), DRDO (59) and ICAR (51)) followed by domestic companies. A few of the leading Indian companies filing patents in the last couple of years has been Samsung India, TCS, Infosys, Ranbaxy and Wockhardt. One of the reasons that can be

R&D spending in India, the growth of spend in 2010 as compared to 2009, was around 38%, which is significantly high as compared to rest of the world.

With global R&D focused companies now setting up their centres in India, things are set to improve. A Zinnov analysis states that around 30% of the top 1,000 R&D spenders have a centre in India. This move by foreign companies would increase overall patent filing in India as new technologies are invented in these R&D units. Further, this will also trigger domestic companies to focus more on R&D in order to stay competitive.

Government policies encourage innovation

The Government is also realizing the need for focus on Research and Development and IP creation for the development of a knowledge-based economy and ensuring competitiveness of Indian companies in a globalized environment. Thus, it offers fiscal incentives for promoting the culture of innovation and IP creation in industries, academia and R&D institutions. Certain

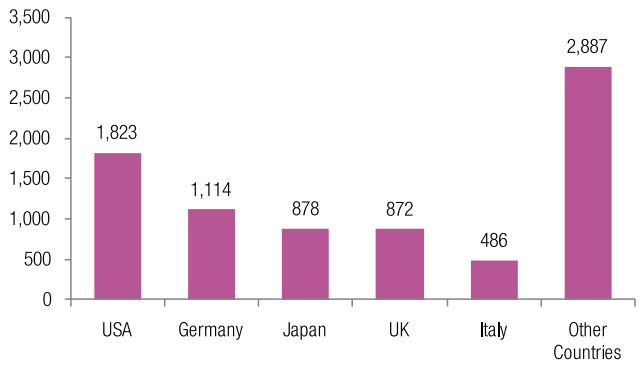
innovation-friendly policy measures adopted by the Government include tax deduction on R&D expenses and sponsoring research programs at government specified institutions, income tax relief on R&D expenditure by recognized R&D units, accelerated depreciation allowance, excise duty waiver for patented products for a period of 3 years and exemption from drug price control order for bulk drugs manufactured from indigenous R&D for a period of five years. Although some of these policies have been in effect for quite some time, there are still important concerns of the industry such as IP enforcement, lack of effective digitized databases for Indian patent searches and making capital raising easy for manufacturing SMEs and developing a conducive ecosystem for innovative and technology-based startups. These need to be addressed for bringing domestic companies in the mainstream of innovations and developing new home grown technologies.

Need to go beyond FDI-fueled technology transfer

One of the main reasons for opening of the Indian economy in early 1990s was to drive Foreign Direct Investments and lift Indian industries for catering to increasing local demand. FDI also acted as a major source of bringing in new technologies to India. The increasing demand supported by increase in FDI cap for major sectors by the government, has attracted foreign companies for setting up businesses in India or through technical collaboration with local business partners.

According to the Department of Industrial Policy and Promotion, around 8,060 foreign technology transfer approvals have been granted as of May 2009. The US is the leading provider of technology, followed by Germany, Japan, UK and Italy. Most of these technology collaborations have been in computer software and electronics sector followed by chemicals, industrial machinery and transportation.

No. of Technical Collaborations Approved



Source: WIPO

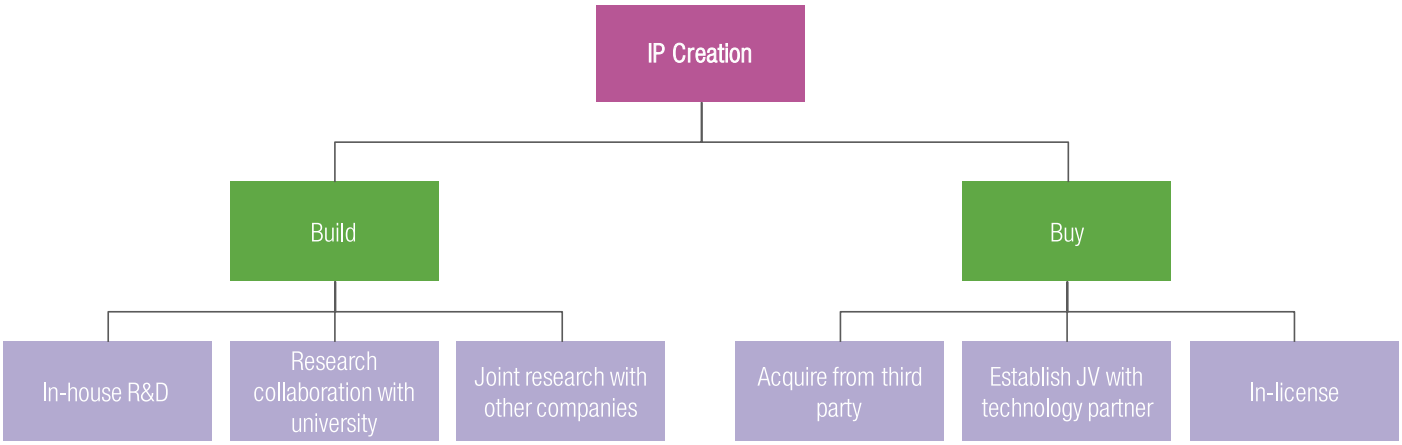
Globalization is forcing domestic companies to create IP and monetize it. But how should they start now to go about doing it?

- **Developing a culture of Innovation:** First and foremost, Indian companies need to develop a culture of innovation and set-up R&D units for developing new technologies. Some of the companies have already been doing it and have found their place in the world's top innovators list by Forbes - Infosys, TCS, L&T, Hindustan Unilever and Sun Pharma. Companies can also avail government incentives for promoting innovation and IP creation.
- **Improving IP Awareness:** Conducting IP awareness sessions for the senior management, inventors and across the company would be a fruitful exercise. Also, the government has set up the Patent Facilitation Center with an objective of improving IP awareness and several companies to hold corporate IP awareness programs.
- **Engaging a Reliable IP Consultant:** in the absence of a full-fledged in-house patent management team or in-house IP counsel, it is beneficial to engage a reliable IP consultant/attorney who would help the company in creating and protecting the IP. Also, he will help guide the management in developing an effective IP strategy so that the company can stay ahead of competition.
- **Developing IP Strategy:** IP creation requires stakeholders to first take a strategic decision on whether they should internally focus on R&D, invent and develop IP or acquire/in-license from third party. Each of the paths involves its own risks and rewards. The decision of developing IP on its own or acquiring from outside must take into consideration the short and long-term strategy of the company.

How can an Indian company go about licensing IP and what should it investigate?

With the emerging significance of IP across the globe, various channels for IP licensing have emerged. A company can now explore various options before finalizing the one that meets its requirements best and is also cost effective.

Finalizing upon licensing an IP is an important business decision for any company. Therefore, once a prospect is identified, adequate due-diligence is necessary before any such agreement is entered into. Also, it is necessary to understand factors that could impact IP licensing in India. Certain things that should be investigated while entering into an IP licensing deal are as follows:



- Whether the IP I have identified suits my technology requirements and offers effective protection?
- What is the level of legal risk involved in terms of validity of the IP?
- Does it suit my commercial interests and yield expected return on investment?
- Have I got proper financial valuation done and accordingly negotiated commercial terms such as sale price, royalty fee etc.
- Are the terms of the licensing agreement in line with the regulatory norms?
- Do the terms of the licensing agreement comply well with applicable laws such as contract law, competition law and taxation law? Is the confidentiality ensured by participating parties?

Given this situation, constructive government response would go a long way to put India firmly on the patent filing map.

With the raised government focus on R&D spending on the anvil, Indian firms increasingly looking overseas for expansion and global firms partnering with Indian organizations to boost their growth, it is perhaps the right time for India too, to place renewed emphasis on creating suitable incentives and efficiency improvements in the patent filing process, that aid the leveraging of IP as a strategic asset.

Some process efficiencies may also need to come into effect to reduce the time taken to grant and register patents, trademarks and design. While utility patents may go some way in reducing the cost burden in the short-run, it is likely to involve higher pressure on the judicial system for determining invalidity.

In-House	Engage IP Consultant / Broker	Hybrid	Online IP Markets
• Perform all the research in-house • Engage managers and legal counsel for the purpose of negotiations of licensing terms	• Hire an external consultant for end-to-end deal activity • Facilitate all the aspects of the deal such as research, sale/licensing/transfer, drafting agreement, negotiation etc. • Most charge a success fee	• Engage an IP research company for conducting part of the licensing process such as identification of prospects and preparing valuation report for a fixed fee • Perform rest of the tasks such as negotiations with in-house team of managers and legal counsel	• In the last few years new IP based business models have come up where companies post their IP for out-licensing / sale and those in need can list their requirement for a particular technology. • Companies like yet2.com, Tynax etc. offer such online platforms • Most charge success fee

The prohibitive costs associated with protecting IP in India, and across borders have resulted in a poor uptake by the industry. None of the top filers in recent times globally, have been from India. In some sectors, such as software, IT and even Pharma, Indian players – including SMEs, who are investing in innovation are not fully leveraging the potential of their innovation through possible licensing agreements and are also leaving themselves vulnerable to IP infringement.

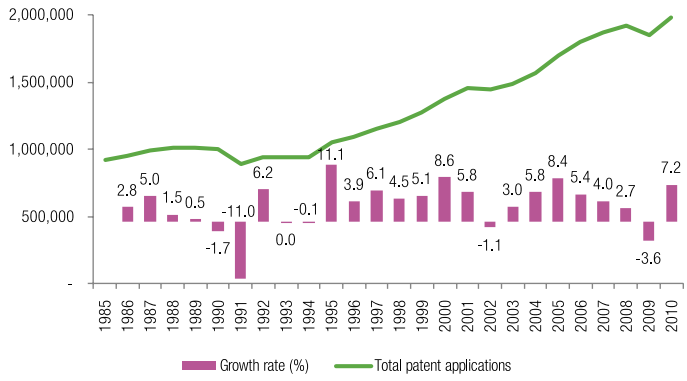
Additionally, to demonstrate support for one of the key drivers of economic growth – the software industry, India may need to recognize software piracy as an organized crime and treat offenses in line with this. Internet based sales of pirated or counterfeit products need to be acted against through suitable amendments in the Copyright Act.

Global Patent Filing Trends

An Overview

Until 1995, the number of applications filed worldwide was stable with around one million applications per year. Thereafter, a continuous upward trend was noticed except for a small drop in 2002 and a larger one in 2009.

Trends in Total Patent Applications



Note: Includes direct national applications and international applications filed through the Patent Cooperation Treaty (PCT) that subsequently entered the national or regional phase.
Source: WIPO

In 2010, the number of applications filed across the world grew by 7.2%, the highest growth rate in five years; 1.98 million applications were estimated to have been filed. This was driven by applications filed at the State Intellectual Property Office of China (SIPO) (+76,573), the USPTO (+34,120) and the EPO (+16,381). More than half of the total growth in applications occurred at SIPO (4.1 percentage points), while the EPO and the USPTO accounted for 2.7 percentage points of the total growth.

China and the United States offices accounted for the majority of worldwide growth with higher IP filing growth than global gross domestic product (GDP) growth; national offices of France, Germany and the United Kingdom with applications at the European Patent Office (EPO) also far exceeded the GDP growth rate of the three largest European economies in 2010.

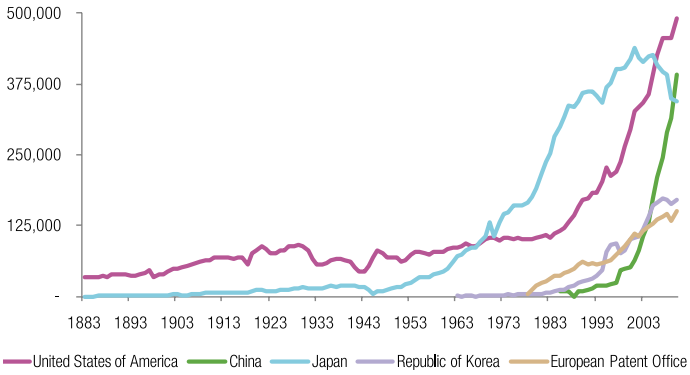
Patent filings over the past few years in Japan have seen a declining trend, but the decrease in 2010 was lower than in 2009. The Republic of Korea is the only reported office for which GDP growth exceeded filing growth for both patents and trademarks.

International filings through the Patent Cooperation Treaty (PCT) grew by 5.7% in 2010, following a 4.8% decline in 2009. Growth in PCT filings was driven by China, Japan and the Republic of Korea, with these countries accounting for 94% of total growth. Despite growth in applications from middle and low income economies, patent activity remains concentrated in high-income countries. In particular, high income countries accounted for 70% of total national patent applications – similar to research and development (R&D) expenditure share and 90% of total PCT applications in 2010. Most growth in the shares of middle-income countries was due to rapid filing growth in China.

The growth in PCT filings can be attributed to the Patent Prosecution Highway (PPH) program. The PPH leverages accelerated examination procedures already available in both offices to allow applicants in both offices to obtain corresponding patents faster and more efficiently. The PPH also permits each office to benefit from the work previously done by the other office, in turn helping to reduce workload and improve patent quality. Also, the ISR/WO (International Search Report/Written Opinion) allows applicants to make informed decisions about their filing strategy, which may not only help save costs in the longer term, but also contribute to a more robust portfolio.

Trends as per Patent Offices

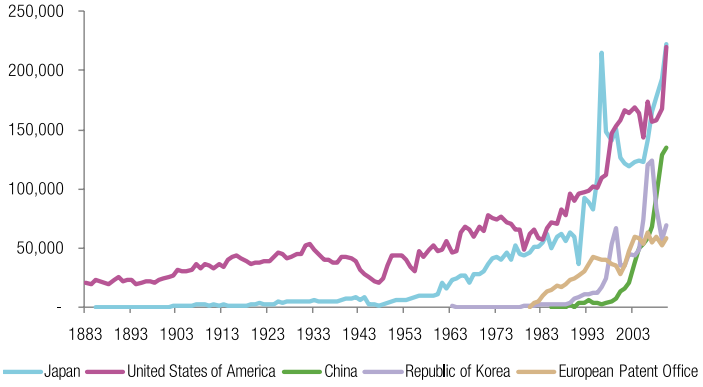
Trends in Total Patent Applications at Top 5 Offices



Source: WIPO Statistics Database, October 2011

Till the early 1970s, most offices experienced stable application numbers, but the JPO started seeing accelerated growth in applications, followed by the US. Between 1968 and 2005, the JPO received the largest number of applications. Since then, the USPTO has become the largest office as measured by total number of applications. From the past decade, China has emerged as one of the fastest growing patent offices. Between 2001 and 2010, China experienced an average yearly growth rate of 22.6%, bringing its yearly patent applications from 63,450 in 2001 to 391,177 in 2010, to emerge as the second largest patent office and is partly explained by China becoming the second largest economy in terms of GDP (gross domestic product) in 2010.

Trends in Total Patent Grants at Top 5 Offices



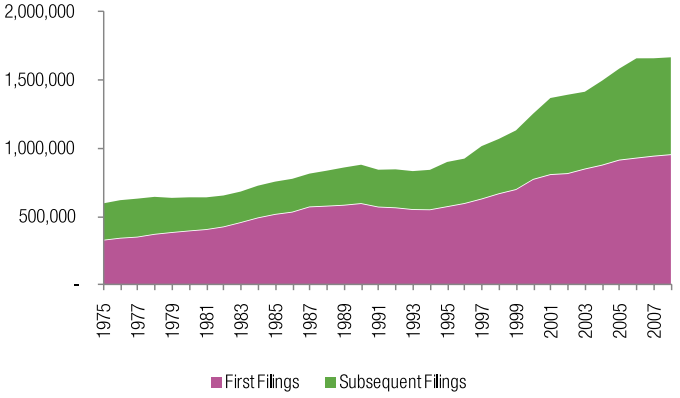
Source: WIPO Statistics Database, October 2011

The trend in patent grants is broadly similar to that observed for patent applications. China has experienced the most sustained growth in patent grants. Between 2000 and 2010, it saw an average yearly growth of 26.3% compared to around 7% for the EPO and KIPO. Both the JPO and the USPTO have issued similar numbers of patents over the past five years (on average 170,000 a year). After substantial growth between 2000 and 2007, KIPO experienced a substantial drop in the number of patents granted. The patent offices of Australia, Mexico and Singapore show an upward trend in patents granted since the mid-2000s, although growth rates are lower than those for patent applications.

First Filings v/s Second Filings

Determinant factors that account for the worldwide growth in filings are multiple filings for the same invention, changes in R&D productivity, and patenting in new technological areas.

Filings Worldwide by Type of Filing



Source: WIPO Statistics Database, October 2011

First filings are associated with new inventions, however subsequent filings are linked to earlier filings and thus do not introduce a new invention. Where the growth in filings is due to first filings, the patent surge would reflect an invention surge. However, where subsequent filings are the source of growth, the surge in filings is due to multiple filings for the same invention. During the first surge period (between 1983 and 1990), first filings (3.9%) saw a higher growth rate than subsequent filings (3.3%). During the second surge period (between 1995 and 2008) first filings (4%) grew more slowly than subsequent filings (6.2%). This indicates the increasing need for patent protection abroad and in a wider jurisdiction, reflecting greater economic integration.

The first surge was mainly due to new inventions. Both subsequent filings and new inventions contributed to the second surge. Subsequent filings mostly represent filings abroad. In the second surge period (1995-2008), new inventions are the main factor behind growth in filings originating in China, the Republic of Korea and the

Russian Federation. For these countries, the contribution of multiple filings is less than 30%, reflecting the fact that applicants from these countries mostly file domestically. Multiple filings are the largest contributor to total growth in filings for other reported countries. For example, they account for 90% of total growth in filings for Italy and the UK.

Filing Trends by Technology

During the period 1995-2008, globally, the volume of patent filings rose by 85.6%. The maximum growth was recorded in the field of computer technology at 10.5%. A growth from 6.4% to 7% was witnessed by the remaining fields in the top 5. This indicates that no one field of technology is responsible for the increase in patent filing.

Country-wise information also shows that no single technology sector had a major contribution to growth in patent filings. Yet, fields associated with ICT are significant in their contribution to an increase in patent filings in all countries.

R&D focus in each country varies as per the market for the technology in that particular country. A detailed break-up of the top technologies in the major jurisdiction (US, EP & WO) is provided below.

The US

The Information and communications technology sector (ICT), which comprises of networking, information processes, telecommunications, semiconductors, and computer systems accounts for maximum activity in relation to patent grants, constituting nearly 40% of all USPTO patents. Apart from this, the life-sciences domain comprising biotechnology, pharmaceuticals, medical electronics, and medical equipment and another broad area consisting of automation, control, and measuring technologies were among the fastest growing patent areas during the 2000s. Over the decade, patents granted in networking grew at a nearly 20% average annual pace over the decade, information processes

Contribution of Fields of Technology to the Change in Volume of Filings Between 1995 and 2008

Field of technology	Total
Computer technology	10.5
Electrical Machinery, apparatus, energy	7.0
Pharmaceuticals	6.6
Digital communication	6.4
Medical technology	5.6
Semiconductors	5.4
Measurement	4.6
Audio-visual technology	4.3
Transport	3.8
Telecommunications	3.8
Others (25 fields)	41.8
Total	**100.0**

Field of technology	China
Digital communication	7.5
Electrical Machinery, apparatus, energy	6.9
Pharmaceuticals	6.5
Computer Technology	6.3
Measurement	5.5
Materials, metallurgy	4.6
Telecommunications	4.1
Audio-visual technology	4.0
Basic materials chemistry	3.4
Civil engineering	3.2
Others (25 fields)	48.0
Total	**100.0**

Field of technology	Germany
Transport	12.7
Medical elements	9.0
Electrical Machinery, apparatus, energy	8.5
Engines, pumps, turbines	8.1
Measurement	7.4
Computer technology	6.6
Medical technology	6.3
Semiconductors	5.3
Machine tools	3.9
Digital communication	3.5
Others (25 fields)	28.6
Total	**100.0**

Field of technology	Japan
Electrical Machinery, apparatus, energy	15.9
Semiconductors	14.8
Computer technology	11.6
Optics	10.5
Transport	8.2
Audio-visual technology	8.0
Digital communication	7.7
Medical technology	6.2
Furniture, games	5.7
Measurement	5.0
Others (25 fields)	6.4
Total	**100.0**

Field of technology	Republic of Korea
Semiconductors	8.9
Computer Technology	7.5
Electrical Machinery, apparatus, energy	7.3
Telecommunications	6.2
Audio-visual technology	5.9
Civil engineering	5.3
Optics	4.7
Digital communication	4.5
Other consumer goods	3.9
IT methods for management	3.7
Others (25 fields)	42.1
Total	**100.0**

Field of technology	US
Computer technology	19.0
Medical technology	9.7
Pharmaceuticals	8.8
Digital communication	6.9
Electrical Machinery, apparatus, energy	4.9
IT methods for management	4.3
Semiconductors	4.1
Measurement	3.9
Telecommunications	3.7
Engines, pumps, turbines	2.5
Others (25 fields)	32.2
Total	**100.0**

Source: WIPO

grew by 13%, and telecommunications and automation and control grew by 9%, whereas in total patents granted showed a 3% growth. Medical electronics, semiconductors, optics, and measurement techniques and instrumentation were also counted among the fast growing technologies. On the other hand, growth in pharmaceuticals, materials, and aerospace and defence was slow in comparison. This can be attributed to the consolidation of the pharmaceutical industry in the last several years, increased competition from generic drug makers, increased price and safety regulation of drugs, and poor growth in FDA approvals of new drugs.

Top Applicants

The top ten patent recipients at the USPTO are all ICT companies. Lead by IBM, with 6148 patents to its credit, five of them headquartered in Asia, two in Korea and three in the United States.

EPO

Top technology fields in which patents were filed in 2011 were Medical technology, Electrical machinery, apparatus and energy and Computer technology. A majority of applications was filed in Medical technology, with 9351 filings in 2011. This is twice the number of filings in this field since 2001. Other fields where patenting activity showed a rise were electrical machinery, apparatus and energy with 8,550 applications, computer technology with 7,561 applications, and digital communications with 7,161 applications. Compared to last year, the pharmaceutical and telecommunications sectors showed maximum reduction in filing. Considering a sector-wise distribution, electrical engineering was the leading domain, followed by chemistry, mechanical engineering and instrumentation.

Top Applicants

Two European companies top the list of applicants filing in the EPO, with 2235 applications filed by Siemens and 1759 applications by Philips. Among the top 10 filers, five are European, two American (Qualcomm and General Electric), two Korean (Samsung and LG Group) and one Japanese (Mitsubishi). In spite of the economic crisis, European companies have held their ground and maintained their top positions. However, Asian companies are fast advancing into the top filers' list, with 18 of the top 50 applicants based in Asia.

WIPO

In 2009, the maximum number of applications was filed in the fields of computer technology (118,380) and electrical machinery (101,790). The highest annual growth rates were between 2005 and 2009 were witnessed by Information technology (IT) methods for management and digital communication. However, the areas of technology such as textile and paper machines, basic communication processes, and telecommunications showed a decline during the same period.

Top Applicants

Panasonic Corporation of Japan tops the list of PCT applicants having published 2,153 applications in 2010. ZTE Corporation, a China based company, occupies second position with 1,868 applications. Qualcomm placed third, being the highest ranked US applicant. Japan has the maximum number of applicants in the top 50 ranking with 18 different applicants, with second place occupied by the US with 15 different applicants.

Valuing Intellectual Property

Uncover Hidden Assets

"When you measure what you are speaking about and express it in numbers, you know something about it, but when you cannot (or do not) measure it, when you cannot (or do not) express it in numbers, then your knowledge is of a meager and unsatisfactory kind"

- Sir William Thompson, Lord Kelvin (1824-1907)

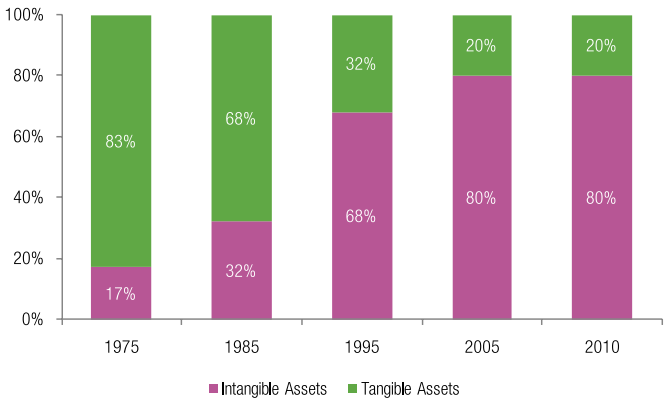
IP Assets Have Become a Crucial Part of Business Strategies Today…

In an intensely competitive global economy, intellectual property (IP) Assets have become a crucial part of business strategies more than ever before. Companies continue to significantly invest in innovation as product lifecycles continue to become shorter. According to research, intangible assets today comprise over 80% of the companies' market capitalization in S&P 500 as against a meager 20% in 1980s. The importance companies ascribe to their intellectual property can be seen in the remarkable increase in the number of applications for patents as well as other IP rights such as trademarks.

Increasing Focus on Exploiting of IP for Driving Business Growth Rather than for Litigation…

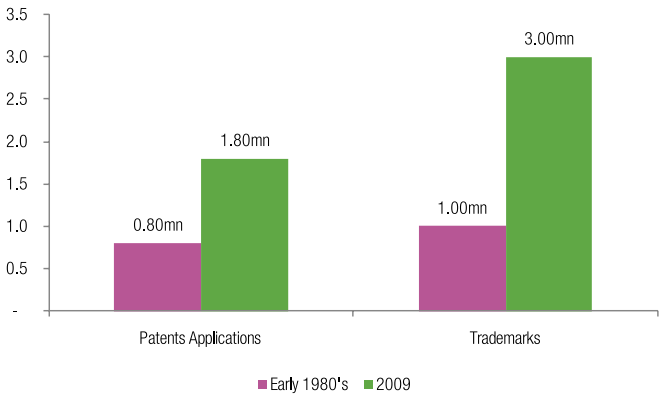
Globally, companies now seem to be viewing IP as the most important strategic asset for driving business growth. Gone are the days, when IP matters were seen solely as legal issues. While litigation associated with protecting IP rights remains a fact of life, the focus is rapidly shifting to strategic management of IP as is evidenced in increasing number of companies trying to exploit their IP through licensing, launching joint ventures for leveraging IP or utilizing IP as key rationale for M&A activity.

Share of Intangible Assets in S&P 500 Market Capitalization



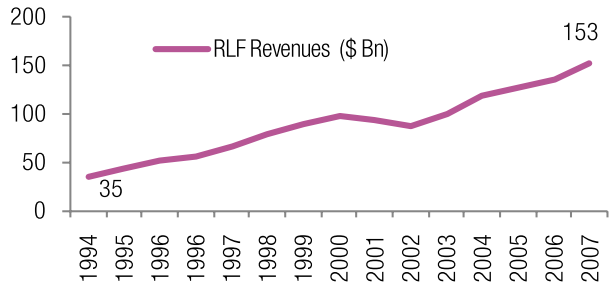
Source: OceanTomo

Worldwide Demand of IP Rights
(# of applications)



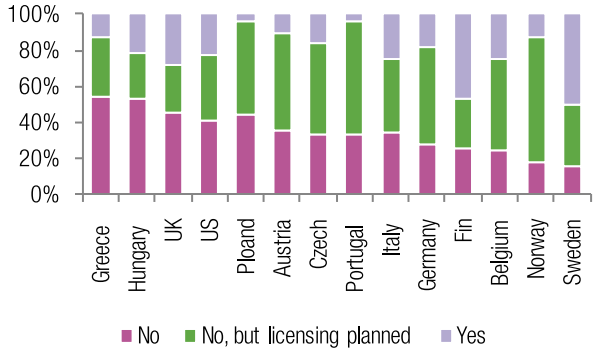
Source:WIPO World Intellectual Property Report 2011

Royalty & Licensing Fees (RLF) Revenues
(US Corporations)



Source: WIPO World Intellectual Property Report 2011

Companies in High-income Countries that Out-License their Patents
(as % of Total Owned Patents)



Source:WIPO World Intellectual Property Report 2011

While licensing activity has registered a significant growth over the last 15 years, licensing revenues still are a minuscule 0.60% of total US corporate revenues. Nonetheless, as the chart above indicates companies in most countries are now showing a renewed interest in unlocking the full value of their patent portfolio by means of out-licensing.

But, are companies at the top of their IP management game?

Hardly, if one goes with available research insights. While IP assets account for high percentage of companies' value, a majority of companies lack a coherent IP management strategy. A 2007 PWC survey highlighted the distance between intent and action. While an overwhelming majority of IP executives believes active IP management is crucial in identifying different channels of creating economic value out of IP assets, nearly two-thirds of IP executives felt their companies' current IP management strategy does not unlock full potential value from their IP. Several companies in technology sectors admitted to being unable to consistently generate premium returns on their IP investments. In fact, very few companies value their IP assets.

Given limited resources and ever-growing bottom-line pressures, it is imperative for companies to not only protect their IP assets, but also generate high rate of return on their IP investments. While companies are continuously improving their IP management, much faster progress is desired. In particular, IP valuation needs to become an important aspect of IP management.

Recent changes in the financial and tax reporting requirements have pushed companies to start valuing their IP assets

Valuation of IP can be quite complex, demanding strong understanding of legal, technological and market aspects along with in-depth knowledge and experience in research, finance and valuation concepts. This along with lack of reliable information deters many companies from even attempting to conduct valuation of their IP assets portfolio.

In fact, until the recent financial reporting requirements and scrutiny pressure by tax authorities came into effect in the last few years, companies were expensing off their internally generated IP assets. Even IP assets acquired in M&A deals were often dumped under goodwill. But, all that could change soon. In the US for instance, with introduction of ASC 805 (formerly FAS 141R) and IFRS 3 accounting standards, companies now are required to separately identify and value each of the intangible assets acquired in the M&A transactions.

While IP is driving high profile M&A deals over the last few years; it is often the last thing to be valued…

With a wave of several high profile M&A deals, IPOs and litigation cases seen over the last few years, wherein tech companies have spent billions of dollars in buying and selling patents; valuation of these patents & IP assets has garnered significant attention.

While IP is the key driver in these M&A deals, many companies have a tough time estimating what it is worth and is probably the last thing that gets valued.

A 2009 MergerMarkets study examining role of IP assets in M&A transactions in North America revealed that over half of corporate respondents believed a proper IP due diligence and valuation will have a significant impact on the ultimate transaction terms. At the same time, even higher percentage cited insufficient time as a major impediment for in-depth due and careful due diligence. The importance of due diligence cannot be over emphasized. While due diligence is not as glamorous deal making is as the Harvard Business Review recently put it, a lack of rigour can create serious situations for companies. Volkswagen, for instance, bought assets of Rolls Royce and Bentley automobiles for about $900

million in 1998. However, the deal did not include the right to use the Rolls Royce trademark, and by the time Volkswagen realized it, it was way too late; the deal was concluded. That meant, that Volkswagen had acquired all the rights necessary to make a Bentley or a Rolls Royce but it cannot brand them as such. Those rights were with BMW pursuant to a prior agreement.

Interestingly, more than half of the MergerMarket survey respondents also identified insufficient due diligence as the most important reason for failure of acquisition.

Lack of focus on IP valuation leads to a serious disconnect between what an acquiring company believes the target's IP is worth and its real value, which may be discovered post deal only after a few quarters. This situation exposes companies to serious risks, resulting in high volatility of stock prices and misallocation of capital. A classic example of this disconnect is Alcatel's Lucent Technologies acquisition for $13.4 billion. For Alcatel, the CDMA technology was one of the strategic rationales for the deal. In less than three years after the deal though, the group announced a $5.1 billion write-down due to an impairment charge to its IP.

In several M&A deals, valuation of IP assets is done as an afterthought, as investment bankers and financial advisors working on the transaction often sideline issues concerning IP assets that could potentially alter or complicate the deal. Even under new financial reporting requirements, it is only once the company has completed acquisition that it is required to value the acquired IP and other intangible assets for allocation of purchase price. This often leads to a deep sense of frustration among IP attorneys and professionals.

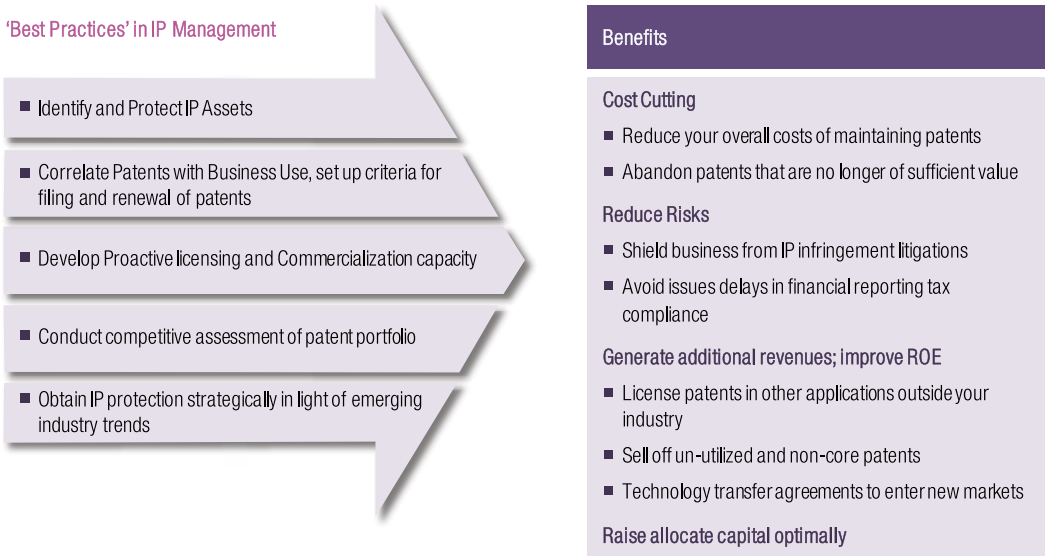
Laying foundations for IP valuation

While IP valuation is a crucial element of a company's IP management strategy, it should only be the final step. Before a company undertakes valuation, it must create a proper and structured base to facilitate the process. Among the crucial steps include, conducting a thorough audit of IP assets starting with classification and mapping of patents and other IP rights, followed by ranking of patents in order of its significance to business growth. This process triggers several key questions such as:

- What patents in our portfolio are being used in our products versus those lying idle?
- Are patents technologically competitive?
- Do any of our unused patents have application in other industry segments?
- Should efforts be invested to identify out-licensing opportunities for unused patents?
- What are the costs associated with protecting various IP assets?
- Is there a mechanism to track IP assets on a timely basis?

While there are rarely precise answers to above questions, finding the best possible answers pushes companies to develop close coordination and working relationships between various functions - R&D, legal, business strategy and finance functions.

This initial ground-work is an important step for companies in evolving their IP management strategy by creating tighter links business goals and research objectives. A proactive strategy for commercial exploitation is crucial for creating additional revenue streams and extracting value from IP Assets.



Strategies for Licensing

Both the buyer and the seller i.e. licensee and the licensor should follow some best practices during the process of licensing and drafting licensing agreements so that the licensing decision undertaken is mutually beneficial.

Strategies for Licensor:

- **Ensure that the patent is valid and enforceable** – Before enforcing any rights on the licensees' it is important to understand that the patent is valid and has slim chances of being invalidated. A thorough prior art search should be conducted to ensure the strength of the patent. Also, it is recommended that the features of the infringing product are mapped with the licensors product. This will enable to ascertain the degree of infringement and assist the licensor in estimating the optimal royalty rate.

- **Higher royalty rates in the beginning** – Since most technologies have a certain life period before they are obsolete, licensors should try and get as high an amount as possible at the start. The royalty rate imposed should be structured accordingly.

- **Modular licensing terms and conditions** – The licensor should retain the right of changing the nature of the license during the period. For e.g. the licensor has an option of varying the royalty rate, convert an exclusive license to non-exclusive one etc. The change can be exercised depending on several factors such as licensee challenging the validity of patents, non-adherence to clauses mentioned in the agreement, disclosure of faulty information on sales etc.

- **Pre-notification clause in case the patent is challenged** – In case the licensee plans to challenge the validity of the licensed patent during the agreement period, a pre-notification clause should be mentioned in the agreement. This clause would provide time for the licensor to think over the issue and take necessary action.

- **Confidentiality clause in case the patent is challenged** – If the licensee identifies potential prior art for invalidating the licensed patent, it would be beneficial if the prior art is not disclosed in public. This will not weaken the licensor's ability to enforce its patent to other to licensees.

Strategies for Licensee:

- Cancel the licensee if the licensed patent is found invalid
- Avoid paying royalties during the negotiation period, court case period and similar other in-active periods.

Once this ground work is done, it becomes easier to chalk out next steps – assessing market opportunity of IP assets and determining their value.

What do IP Managers and CXOs need to know?

While valuation of IP is complex, a strong alignment of business aspects, technology aspects and legal aspects is the key for an organization's IP strategy. It is extremely important for teams who implement technology strategy as well legal function to really understand that technologies that they are seeking to build patent portfolio around will help the business grow.

The value of any IP asset is a function of how a company is able to commercially exploit such an IP asset given the market opportunity and conditions to generate economic profits. Hence, the C-level executives need to know their key patents and be able to relate their IP assets portfolio to revenue stream. While valuing IP assets may be a daunting task, the valuation process itself forces the company's management to crystallize its IP strategy and ideally be in a position to say: "Here is our IP portfolio, this is how we will make money by using it, and this is how we will outsmart the competition and will be able to do so for next 5-7 years".

Cost pressures are forcing executives to seek the right balance between internal and external resources as they pursue better IP optimisation/monetisation. They now look to select and benchmark external service providers. Several firms are already exploring outsourcing options for patent drafting and filing support.

Similarly, while pursuing M&A deals, it is best to start focusing on IP due diligence as early into the transaction process as possible, which should not only address ownership and enforceability issues but also preliminary analyses for valuation of target IP assets. This will enable companies to overcome time challenges and turn IP valuation into a value enhancing process rather than a compliance check mark.

Global Patent Trends

Emerging Markets: The New Innovation Destinations

Emerging markets are steadily turning into hotbeds of innovation. Hitherto preferred for their strengths in manufacturing, these markets are focusing on innovation driven R&D as a means to secure their place in the global economy. Recent global patent numbers indicate several emerging markets countries vying for top spot in the patenting arena, with China and several Asian nations racing ahead.

Compared to a 6% growth in the number of patent applications for the EPO and 12% for the U.S, China has recorded a 54% increase over 2009 with 12,698 patent applications in 2010, twice the number filed in 2008. South Korea increased its patenting activity by 21% from 2009, with 12,342 patent applications.

The increased numbers are a fair indication of the altered direction of these economies towards commercialization and collaboration. Consider China: IP enforcement was a major bone of contention for foreign applicants, along with counterfeiting and piracy. But, with patent reforms in 2009 providing incentives for first filings in China and increasing damages incurred in infringement cases, the country is moving towards breaking down barriers, leading to innovation. This is evident from the 10.8% rise in the number of patent infringement cases accepted and an 84.4% increase on the number of patent imitation cases investigated.

An instillation of confidence, and therein the opportunity to thrive within an evolving market, such as China, is built on effective communication and monitoring by its national administration.

Promoting innovation in the pharmaceutical and biotechnology sectors is improving process development and manufacturing practices and enhancing domestic companies' R&D infrastructure. This has also boosted investor confidence, with foreign firms more willing to set up R&D hubs in China, citing expectations of quality work and a view to expand their base in foreign markets. The national administration is striving hard to showcase China as an attractive destination for international companies to take advantage of the evolving economy and flourish.

Growth Opportunities Spur R&D Hubs and Frugal Products

Emerging country companies see their higher growth rates, rising young populations, an expanding middle class, major infrastructure projects and changing trade patterns as some of the factors that promise substantial new business opportunities. This is goading them to strengthen their R&D capabilities to innovate and deliver competitive products across every sector.

China is the world's most prominent emerging R&D hub, lifting its share of global R&D expenditures between 2007 and 2012 to reach about 14% of total worldwide R&D spending. Over the same period, shares of developed countries R&D investments dipped significantly. China and India have also become net exporters of R&D services to the EU as their growing R&D competence and status attract more R&D projects.

The changing global R&D landscape with the emerging country innovation hubs and local engineering is inaugurating a new class of competitive products designed, engineered and priced for the low- to mid-range market segments. These inventions are called frugal products. In many industries and sectors, they are the world's fastest growing segments. For example, strong demand in emerging and developed countries is boosting sales of medium and low-end mechanical engineering technologies above world market averages. Frugal products pitched to low- and mid-range consumers are growing profit centers in emerging markets. And the welcome surprise is that good-quality,

limited-function machines and products can often create profitable new market niches in advanced economies – very often without cannibalizing sales of higher priced, more feature-laden products. This "reverse" or "transnational" innovation shift introduces a new era in world economic development.

The Rise of Emerging Market Innovation Hubs

To date, most global company R&D hubs are in either India or China. Eight of the ten global companies funding the world's largest R&D budgets have either already setup or are in the process of establishing R&D facilities in these two countries. Some companies such as Microsoft, Nestlé, Intel and Novartis, support both Chinese and Indian hubs.

Prominent multinationals such as Microsoft, PepsiCo, IBM, Cisco, Nokia, GE and Xerox have also established R&D hubs in emerging markets to conduct scientific and engineering research and explore next-generation business models, organizational structures, new designs that could potentially reduce costs by as much as 90%.

For global companies, an international platform of R&D hubs is essential because local R&D capabilities help position products for local markets and customer requirements. A study by Jaruzelski and Dehoff (2008) found that technology firms with global R&D activities can, on average, demonstrate better financial performance. Companies that restrict foreign R&D to a few locations and focus on low-wage countries such as China and India also see above average financial success.

An important reason behind this R&D internationalization is expansion; as multinationals seek greater local capabilities and market access. This explains the investments in other countries such as Brazil, Indonesia, Russia and even Saudi Arabia.

Brazil

Brazil, the "green giant" rich in natural resources and biodiversity, has enormous R&D potential to develop for new forms of energy, agrotechnology and biomedicine. Brazilian advances in renewable energies have won worldwide recognition.

Brazil offers labour scalability and R&D skills across many types of manufacturing, IT and petrochemicals, positioning the country favourably compared to other Latin American countries that do not share a similar range of R&D services. To date, automotive manufacturers are the principal companies building R&D centres in the country. However, IT infrastructure enterprises and R&D engineering are beginning to arrive. For example, General Electric is expected to link its latest USD 100 million Global Research Center in Rio de Janeiro with other GE research hubs in Niskayuna (USA), Shanghai, Bangalore and Munich.

Brazil has been continuously improving its patent protection system, although its current position in the World Economic Forum's Intellectual Property Protection Index at 3.2 (84 out of 142) remains below average. Recent actions by the Brazilian Patent and Trademark Office and the National Council of Justice have reduced the time required for foreign patent applications, and more generally, diminished intellectual property processing times for both Brazilian and foreign companies.

Indonesia

Indonesia's current R&D investment is double that of five years ago, and the government now identifies R&D as a principal driver to develop the economy. Indonesia set a long-term goal to increase R&D investments from less than 1% of GDP to 3%. To reach this objective, the country offers various tax and trade incentives, as well as technical assistance, to businesses – whether private, state-owned, or cooperatives – that invest some of their profits in research. Indonesia offers two forms of patent protection: patents (20-year term) or simple patents (10-year term and lower level of inventiveness). The patent registration and application processes have become more streamlined, and revised intellectual property pre-hearing procedures now considerably reduce both time and expenses.

Russia

The Russian government plans to develop a Russian Silicon Valley near Moscow where Nokia recently inaugurated a handset R&D facility. Intel is one of the most active major companies investing in Russia, and former CEO Craig Barrett co-chairs the Skolkovo Foundation Council. Other prominent industrial investors include Quintiles and Astra Zeneca. Russian high-tech R&D support also extends to funding wireless infrastructure joint ventures between Russian state-owned manufacturers and such foreign partners as Nokia Siemens Networks and Huawei.

While Russia is expected to strengthen rules to match international standards, the country's current position in the WEF IP Protection Index at 2.5 (position 126 out of 142) is below average.

Saudi Arabia

In 2011, Siemens Energy founded an R&D centre with the King Fahd University of Petroleum & Minerals in Dhahran, a leading Middle East research and teaching institution, to offer R&D support for energy related issues, as well as university student and outreach training. In 2010, Intel opened an R&D centre to explore wireless applications in the Kingdom and surrounding region. Patent protection in Saudi Arabia lasts 20 years, and the time between application and registration is about three years. The country has a satisfactory score of 5.1 (position 25 out of 142) in the WEF IP Protection Index.

Emerging Shift: From Patents to Utility Models

A utility model is a set of rights granted to inventors who invent or discover any new useful process, machine, compositions of matter, or any new and useful variations of existing product, processes, or compositions. These rights are granted for the invention for a limited period of time (7-10 years) during which the holders can commercially exploit their inventions on an exclusive basis. As compared to patents, utility models protect inventions of relatively low inventiveness, and are also known as small patents" or "petty patents". These are considered as type of "second-tier protection".

A number of European states e.g. Austria, Germany, Czech Republic, Denmark, Portugal, Slovakia, Finland and Estonia, allow an inventor to have two IP rights on the same invention, (i.e. the utility model and the corresponding patent that may proceed to grant after the utility model was branched off). The utility model has been used extensively by Chinese applicants, where utility models account for 50% of all IPRs. However, utility models are not provided by all the countries providing patent rights, such as the U.S. and U.K though, in the last two decades, there have been several proposals for the implementation of STP in the form of 'Utility Model' in the United Kingdom (and Europe).

Usually a small company that needs protection on an urgent basis can opt for a utility patent which can be filed with a possibly narrow scope of claims without sophisticated drafting. Like patents, utility patents can be used as a powerful tool for deterring competitors and in taking action against infringers in court.

Global Trends in Utility Model Filing

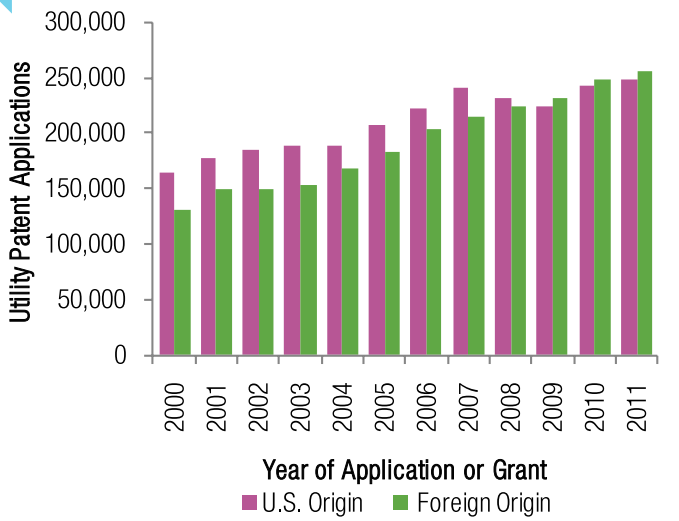
For understanding the global trends, WIPO conducts a survey of approximately 150 national and regional intellectual property (IP) offices around the globe to collect statistics on filing activity for trademarks, patents, industrial designs and utility models, every year.

Global Trends in Applications

Application	2008	2009	2010	Growth (%) 2008-09	Growth (%) 2009-10
Utility Model	313,000	399,000	496,000	27.5	24.3
Industrial design	557,000	587,000	669,000	5.4	14
Patent	1,915,000	1,846,000	1,979,000	-3.6	7.2
Trademark	5,473,000	5,185,000	5,588,000	-5.3	7.8

Source: USPTO U.S. Patent Statistics Chart

U.S. Utility Patent Statistics Chart



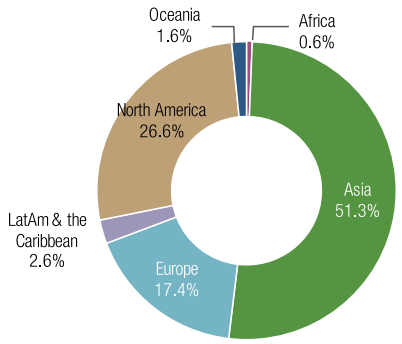
Source: USPTO U.S. Patent Statistics Chart

Utility patents with a primary classification related to industrial biotechnology from January 1975 through December 2006. The number of patents issued each year climbed steadily beginning in the mid-1980s, peaked in 1999, declined from 2000 through 2005, and rebounded in 2006. The trends for industrial biotechnology patenting mirror those in the broader field of biotechnology and are strongly influenced by capacity and resource issues at the USPTO, particularly longer and more rigorous review periods.

In 2010, at 98%, almost all utility model applications were filed domestically. With shares ranging from 41 to 89 percent, offices in Asia accounted for the largest filing concentration for trademarks, patents, industrial designs and utility models (UM). However, North American offices did not account for any utility model applications, because they do not offer this type of protection. . A large number of utility model applications have been filed in Asia and the number is greater than the number

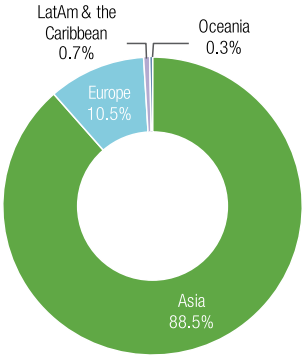
of patent applications. However, the number of patent applications filed in Europe is higher than the number of UM applications in Europe in 2010.

Patent Applications, 2010



Source: USPTO

Utility Model Applications, 2010



Source: USPTO

Company Utility Model Filings

Patents are vital to a company's success. For example, 1979 onwards, Exide and its division GNB Battery have filed approximately 240 utility patents worldwide, with 99 issued US patents and 25 issued European patents. In 2010, Apple was granted a total of 566 U.S. utility, this was about a fivefold increase over the 110 U.S. utility patents it was granted in 2006. Another example is of Panasonic which was granted 3132 U.S. utility patents in 2010 making it the most of any electronics company, followed by Hitachi (2924), Canon (2715), and Sony (2417), Google was granted 283 U.S. utility patents in 2010 this was a huge hike from 28 in 2006. Similar is the case with Fu Zhun which was granted 172 U.S. utility patents in 2010, compared to 7 in 2006. In addition to this, Research in Motion increased its U.S. utility patents from 101 to 529. It is observed that during 2006 and 2010, the number of Chinese-invented U.S. utility patents increased from 661 to 2657. Thus companies are building a strong patent portfolio using utility models as IP strategy.

However, it is important to mention the language issue that a utility model faces, since it is a national IP right, most national laws require to file a translation into the respective official language of the particular state, e.g. for Germany, if the parent patent application is written in English, it is required to file a German translation within three months from the filing of the utility model application.

Growing Emphasis on Patent Portfolio Management

There was a time when intellectual property, an asset, was overlooked by majority of companies. But today, all the intangible knowledge (intellectual property) gathered by the company forms one of the most valuable assets. Strong IP is not only an important goal for a successful business, but is also primarily the asset by which a company will be valued during all stages of its development. Hence, it becomes mandatory that a well-designed IP portfolio is constructed.

With the help of this portfolio the patent owner locks all the rights to itself and poses strong competition to other similar inventions .A well planned patent portfolio can have several advantages such as:

- Protecting research and development efforts
- Generating revenue and profits
- Strengthening market position
- Encouraging licensing activities
- Leveraging new business relationships or maintain existing ones

Selective Patenting

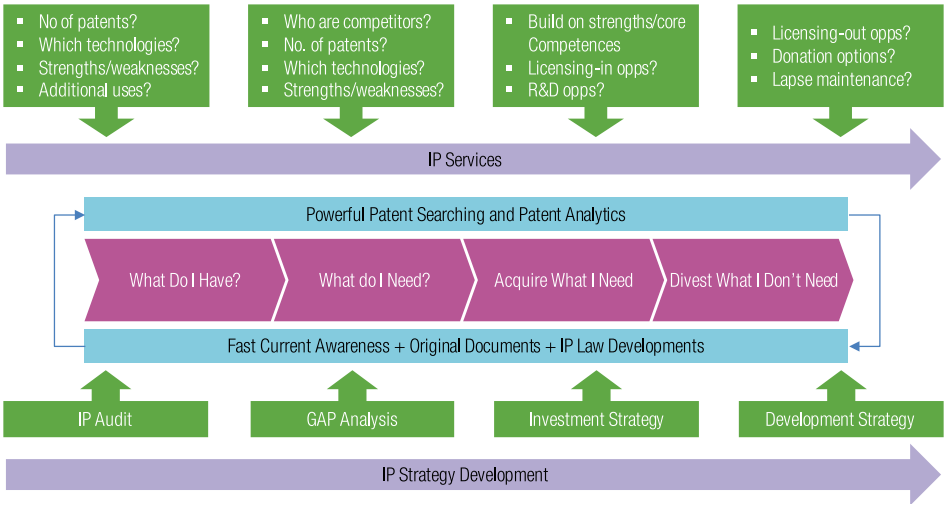
The policy for looking for only those patents which have a commercial value or are of pre-emptive nature is called selective patenting. It is considered as an essential business model as it helps in:

- Determining patent maintenance decisions
- Maintaining strong intellectual property portfolio
- Filing international patent applications
- Supporting licensing revenues

Maintenance strategy

A well thought through and planned strategy is required to manage this portfolio which could potentially earn millions in profits for the company. Hence Portfolio Management has become an integral part of a company's business activity. The key components for effective portfolio management include:

- **Pre grant activities:** Identifying whether the intellectual asset is best suited for patent protection or trade secret protection, whether it should be made available to the public domain, or whether further development is necessary is of utmost importance. A thorough novelty search will help in ascertaining how novel the invention is and whether applying for a patent will be of any value. It will also help in understanding if the patent will be to subject to infringement suits.
  - A strategic business decision is required as to whether to file a provisional patent application or a full utility, or non-provisional, patent application for the identified subject matter
  - Judicial selection of countries in which the patent can be filed has to be made. A freedom to operate study can help in selecting the countries where the patent can be filed. Next big decision to be made is if the application is to be filed at WIPO or individual countries of interest.
  - Once the patent is granted it becomes essential to pay the maintenance fees on time, keep a close watch on the competitors and plan for infringement suits. If the patent loses it value after some years the decision to surrender the patent can also be made.
  - IP audit: This will help in understanding the number of patents a company has and how many of them are active, technology focus of these patents, geographies covered by these patents, foreseen threats, strengths etc.
- **Gap analysis:** Apart from knowing what one's own company has, it is important to know what competitors have (their patents and technology focus, their country coverage for patents etc.) and how a company can supersede the competition.
- **Investment strategy:** Once the company has understood where it stands and what it further need to surpass its competitors , the following points can further be analysed:
  - How much can the company further invest in R&D?
  - Is there any possibility of cross licensing with the competitor?
  - Will merger and acquisition help the company in any way?
- **Divestment strategy:** By way of licensing out patented technologies, companies can part from what they don't need. Sometimes mergers and acquisitions also play an important role. This may also include the litigation process. Here, the company determines whether to assert patents in a lawsuit against third party infringers



Patent portfolio is built with a combination of crown-jewel patents and fence patents. Crown-jewel patents are considered as blocking patents which stop the competitors from entering a particular technology or product market. A single crown-jewel patent may form the basis for a start-up or spin-off companies. In 2010, Salesforce.com was sued by Microsoft as it was using Microsoft-patented technologies in its Web-based CRM software and service supporting hardware and software. These patents were considered as Microsoft's crown jewels and hence they strongly defended them.

Fence patents are used to surround core technologies of a competitor by filing numerous patent applications around competitor's patents and "fence" in his future mobility .This sometimes compels the competitor to cross-license its patents. Cross-licensing is prevalent amongst companies with overlapping core technologies. Sony and Samsung Electronics have entered into a 5 years cross-licensing agreement covering over 24,000 patents in an effort to reduce cost and potential friction.

About ASSOCHAM

The Knowledge Architect of Corporate India

Evolution of Value Creator

ASSOCHAM initiated its endeavor of value creation for Indian industry in 1920. Having in its fold more than 400 Chambers and Trade Associations, and serving more than 4,00,000 members from all over India. It has witnessed upswings as well as upheavals of Indian Economy, and contributed significantly by playing a catalytic role in shaping up the Trade, Commerce and Industrial environment of the country. Today, ASSOCHAM has emerged as the fountainhead of Knowledge for Indian industry, which is all set to redefine the dynamics of growth and development in the technology driven cyber age of 'Knowledge Based Economy'.

ASSOCHAM is seen as a forceful, proactive, forward looking institution equipping itself to meet the aspirations of corporate India in the new world of business. ASSOCHAM is working towards creating a conducive environment of India business to compete globally. ASSOCHAM derives its strength from its Promoter Chambers and other Industry/Regional Chambers/ Associations spread all over the country.

Vision

Empower Indian enterprise by inculcating knowledge that will be the catalyst of growth in the barrierless technology driven global market and help them upscale, align and emerge as formidable player in respective business segments.

Mission

As a representative organ of Corporate India, ASSOCHAM articulates the genuine, legitimate needs and interests of its members. Its mission is to impact the policy and legislative environment so as to foster balanced economic, industrial and social development. We believe education, IT, BT, Health, Corporate Social responsibility and environment to be the critical success factors.

Members – Our Strength

ASSOCHAM represents the interests of more than 4,00,000 direct and indirect members across the country. Through its heterogeneous membership, ASSOCHAM combines the entrepreneurial spirit and business acumen of owners with management skills and expertise of professionals to set itself apart as a Chamber with a difference.

Currently, ASSOCHAM has more than 100 National Councils covering the entire gamut of economic activities in India. It has been especially acknowledged as a significant voice of Indian industry in the field of Corporate Social Responsibility, Environment & Safety, Corporate Governance, Information Technology, Biotechnology, Telecom, Banking & Finance, Company Law, Corporate Finance, Economic and International Affairs, Tourism, Civil Aviation, Infrastructure, Energy & Power, Education, Legal Reforms, Real Estate and Rural Development to mention a few.

Insight into 'New Business Models'

ASSOCHAM has been a significant contributory factor in the emergence of new-age Indian Corporates, characterized by a new mindset and global ambition for dominating the international business. The Chamber has addressed itself to the key areas like India as Investment Destination, Achieving International Competitiveness, Promoting International Trade, Corporate Strategies for Enhancing Stakeholders Value, Government Policies in sustaining India's Development, Infrastructure Development for enhancing India's Competitiveness, Building Indian MNCs, Role of Financial Sector the Catalyst for India's Transformation.

ASSOCHAM derives its strengths from the following Promoter Chambers: Bombay Chamber of Commerce & Industry, Mumbai; Cochin Chambers of Commerce & Industry, Cochin: Indian Merchant's Chamber, Mumbai; The Madras Chamber of Commerce and Industry, Chennai; PHD Chamber of Commerce and Industry, New Delhi and has over 4 Lakh members.

Together, we can make a significant difference to the burden that our nation carries and bring in a bright, new tomorrow for our nation.

ASSOCHAM
INDIA

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Intellectual Property Rights

About Aranca

Aranca Patent Research and Analytics Solutions

Providing Customized and On-demand Solutions Across the Life Span of Patents to Global Clients

From start-ups to Fortune 500 companies, law firms, patent brokers, technology transfer firms and universities, Aranca has worked with over 450 global clients, and executed more than 7500 patent research assignments across 20 industry verticals.

Aranca provides comprehensive intellectual property research, analytics, valuation and out-licensing support services spanning the entire patent lifecycle. From prior art searches to tech landscape studies or white space analysis to patent drafting or evaluating opportunities for out-licensing and patent valuation, Aranca offers a comprehensive portfolio of solutions. Through bespoke projects to support one-off requirements or dedicated teams for recurring research needs, Aranca's patent research services have been leveraged by a variety of global clients. Our ability to blend business analysis and valuation opinion with patent research to offer unmatched depth and insights when answering key questions pertaining to IP strategy is unique.

We work with patent specialists, patent licensing managers, attorneys, R&D leaders and CXOs and help leverage their IP effectively, through services that span the entire patent lifecycle from conceptualisation to commercialisation.

Clients benefit from our diverse expertise across sectors and economies, global research capabilities, flexible engagement models, breadth/depth of customized solutions to cover a range of information requirements and our commitment to quality.

Our clients leverage our unique blend of experience and strong processes:

- **Access to world-class resources:** We leverage our access to all major patent databases like Thomson Innovation, Delphion and STN, to name a few and have the ability to conduct IP research across 70 major/minor jurisdictions. As part of our search for patent specific information, we also mine other data sources such as IP.com, Citeseer, IEEE,SPIE, SAFE, ACM, BLAST, Scrius, PubMed and PubChem.
- **Robust processes and strong information security and confidentiality policies:** Our structured and process-driven approach and research frameworks ensure that our deliverables are sharp, focused on research scope, exhaustive and yet, timely. Information security and client data confidentiality are top priorities for Aranca. Our data confidentiality and information security policies are modelled on ISO 27001 principles. Access to information is limited electronically, through dedicated drives and physically by suitable access control mechanisms.
- **Language Capability in all key geographies:** Aranca has executed over 500 assignments for global clients in 25+ non-English speaking countries for research needs relating to invalidity searches, FTO studies, technology assessment and licensing support. With access to several paid databases (with translated text), regional databases and network of translators/interpreters, Aranca is among the few research firms that provide cost effective patent research and analysis (including technical translation services) for non-English speaking jurisdictions in Europe, North and South America and Asia. Aranca has the ability to conduct IP research in 70 major/minor jurisdictions, capabilities to conduct searches in multiple languages including German, French, Chinese, Japanese and Korean languages.
- **Experienced analyst team:** Aranca has a team of 350+ analysts with advanced degrees from prestigious institutions from North America, Europe and India. Our highly qualified and experienced patent research team comprises engineers, post-graduates, doctorates and paralegals (trained by US/EP attorneys) with work experience in IP or technology research.

Extensive Patent Research Experience Across Sectors and Technology Domains

Aranca has experience in researching over 250 technology domains. We bring significant breadth and depth of experience in sectors including Automotive, Chemicals, Electronics, Energy, Food Technologies, IT

& Computing, Life Sciences, Mechanical Engineering, Pharmaceuticals and Telecommunications, to name a few. We also have specialist expertise in emerging areas like Nanotech, Green Energy, Stem Cell Therapy and more.

Illustrative examples of some patent research assignments we have executed include:

- Patent Valuation for an e-commerce platform for one of the leading law firms in New York
- Technology assessment related to biofuels for a research lab in UK
- Technology assessment related to the treatment of Alzheimer's disease using novel chemical compound, for a leading IP firm in Singapore
- Technology Landscape related to botulinum toxin for a global leading pharmaceutical company specializing in dermatological applications in Russia
- IP Landscape related to biomedical devices for a company based in the US
- Technology assessment related to polysaccharide containing nanoparticles for a firm in Europe
- IP strength Analysis and Strategic planning study related to inositol derivative, for a leading pharmaceutical company in France
- Valuation of a patent related to an ergonomically designed vehicle seat for a leading automotive part manufacturer in Europe
- Novelty search related to teat disinfectants for a leading animal dairy products manufacturing company in the US
- Freedom to operate analysis for pour-on composition containing insecticides against animal parasites for a leading animal health care company in the US
- State of art search for methods of modifying fruit ripening enzyme for a leading agriculture company in Switzerland

While Aranca has a strong global footprint, we have also successfully built long-lasting relationships with our clients in India. We bring insights from global best practices and combine it with our local knowledge to prepare our clients to take on patent portfolio management challenges with ease.

Talk to us to learn more. You can visit our website www.aranca.com or write to info@aranca.com

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250+
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70+
Jurisdictions Covered

An idea might change the world, but we believe a patent can make or break a company. As a leading research and advisory services provider, Aranca has been helping global clients including several Fortune 500 companies, manage their patent portfolio effectively and efficiently. We combine our deep cross-functional expertise in researching over 80 sectors and 250 technology domains in more than 70 jurisdictions worldwide, to deliver not just insights, but answers.

Our clients engage us for research and analytics support across the entire lifecycle of patents: right from prior art searches and prosecution support to patent valuation and technology in/out licensing.

We help you formulate and benefit from a smart patent management strategy. Just as we helped more than 450 global clients.

Talk to us to know what we can do for you.

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