



Computer Patent Annuities

CPA Responses to Call for Evidence Issues Paper: Highlighting Other Issues

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Introduction

CPA understands that as part of the call for evidence for the Review team, stakeholders are encouraged to submit evidence that highlights other issues relevant to the scope of the study.

Whilst CPA manages IP renewals, the company itself does not have an extensive CPA IP portfolio. Rather, our IP experience in the market and established position as an IP portfolio management service provider is based on a large number of clients faced with the issues noted (page 1-3 of the Call for Evidence Issues Paper). CPA's client base enables us to speak with a voice of experience regarding many of the points the Issues Paper highlights. As such, this document should be viewed as supporting material to demonstrate how some patent applicants are addressing the practical issues noted therein.

As part of the Gowers study, CPA anticipates that the Review team will need to perform some level of quantitative analysis. On this broader basis, this submission looks to how many CPA clients use patent analytics to better address some of the points raised in the first General Question of the Issues Paper, "How IP is awarded". CPA's experience is such that clients often use analytics to overcome many of the obstacles that a less than perfect system can offer - but that equally, analytics can flourish in a more perfect system. Ideally, such an improved system would be more clearly defined by Patent and Trade Mark Offices. WIPO have recognised this need and are looking to establish download capabilities of patent data and provide a patent analytics offering. CPA's clients use patent analytics to restructure an esoteric patent landscape into a format that can be easily understood by many non-IP professionals. CPA's analysis have been used to audit, benchmark, assess litigation risk and licensing potential, as well as support investments in technologies, companies - even entire countries. Appendix A represents some of these examples as case studies.

It follows that any options to improve the transparency of the patent system, which includes assessing prior rights and exploiting commercial opportunities, are options that facilitate making the patent system easier to navigate. Ultimately, such options are beneficial to both the patent applicant and innovation as a whole.

Aligning IP rights with business strategies

Studies conducted by CPA strongly suggest that companies are not well equipped to identify what they own, or have systems in place that ensure patent potential is fully maximized. In most organisations, ranging from some of the largest companies in the UK to the most recent high-technology start-ups, the management of IP is separated from the day-to-day operation of the business. The study concluded that patent owners needed help with four key areas; strengthening the value of their patent portfolio, assessing merger and acquisition potentials; providing information on competitors and their patent portfolio strategies; and establishing the contents of their patent portfolios.

There is also an acknowledged increase in UK patent protection as well as global incentives to support and use IP as a component of business strategy and execution. This is supported by the increasing level of on-line patent searching and subscriptions to patent databases. Patent applicants are demanding not only information on obtaining IP rights, but also doing this in conjunction with an assessment of the relevant prior art. Further, there is a perceived knowledge gap in terms of how innovation is brought to the marketplace. In an independent study commissioned by CPA, 53% of companies across all UK industries do not analyse the patents within their existing portfolio.¹ Additionally, 90% of companies were unsure of the exact number of patents they owned.

¹ CPA independent market research April 2004

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A key point to note here is that there is a supplementary level of analysis that needs to be carried out on any patent searches. A study carried out by Intellevate, part of the CPA Group found that 98 out of every 100 US patents issued by the USPTO contain mistakes². The study attributes 56% of the mistakes found to be due to the USPTO, and the remaining 44% to the firm prosecuting the patent. Further, 34% of the applications warranted a filing of a certificate of correction. The clear message is that even when a prospective patent applicant has found what they believe to be relevant prior art, a level of investigation needs to be undertaken to assess the validity (legal status) and 'correctness' of prior art. The Intellevate study further went on to define that 2% of the patents surveyed contained serious mistakes that weakened the core claims. Some claims were even found to be missing. It is appreciated that European applicants often pay more attention to correct language and grammar than Americans, where the UKPTO has a duty of care, both to its patent applicants, and patent searchers, to represent accurate patent publication records.

An Open Innovation Model

Integration of patent analytics can be an insightful business tool in identifying gaps in the market and assessing if there are any relevant prior rights that may require a license prior to product launch. Looking towards the presence of open innovation model, the pooling of patents is important in industries where standards play a key role, such as the telecoms and new emerging technologies. In industries that have network effects, i.e. increased operation related returns and consumer benefits with increased scale of adoption and use, we will continue to see increased pooling of patents. Technology and science companies are therefore building up large patent portfolios to improve their overall negotiation position, influence new standards and strengthen their position in legal actions. This drastic increase in patenting activity has resulted in companies' increased use of quantitative analysis of patent landscapes and portfolios to identify trends and competitive positions. In order to assess how they wish to innovate.

Valuation of IP rights

CPA's studies have also shown most companies' stock market value, or the valuations private companies are given by observers, greatly exceed the companies' net book worth – often by a factor in double figures. The gap between the two exists between what is disclosed versus what actually drives value – most of which are intangible assets such as IP. Further, federal accounting standards in the US are now mandating publicly held companies to report the value of their intangible assets within their financial statements. From an investor perspective, intangibles such as a company's ability to innovate and manage risk are increasingly becoming of drivers of value more so than the traditional indicators of value such as historical earnings and return on equity.³

There are divergent views, which lead to large differences in IP valuations. However, the economic model used by the capital markets to value financial assets provides the framework that should be used to value IP. Understanding how valuation works in the capital markets provides an economic framework that can be used to set prices for tangible and intangible assets.

For valuation of IP, the patent owner should start by first asking whether the overall product associated with a patent is value producing, followed by an assessment of IP's contribution to that value. General areas of examination to include:

- Determine the product's competitive position. That is, is the product advantaged and economically profitable?

² The survey was based on some 1,600 patents that Intellevate was asked to proofread in one year. Intellevate expects to proofread 4% of US patents issues in 2006.

³ Kedrowski, Kathleen, Ernst & Young, 2003.

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- If the product is advantaged, identify the source of the advantage from either a differentiation and/or relative cost perspective. For example, a truly differentiated product can command a premium price without losing market share.
- Identify the specific product features and services contributing to the product's source of advantage.
- Link IP, if any, to those product features and services.
- Assess the degree to which IP has contributed to the specific product features and services providing the differentiation and cost advantage.

This approach determines whether product-related IP contributes to value, not how much it contributes. If a specific IP value is required, such as may be necessary in an acquisition, then two valuation scenarios are required: Scenario 1 – the value of the product strategy with IP; and Scenario 2 – the value of the product without IP. The difference between the two is the value created by the IP.

To a large extent there is an innovation value gap. It is appreciated that there is increased investment in R&D⁴ with 74% of global companies planning an increase in spending on product, process innovation in the subsequent year. However despite increased levels of investment, over 50% of management professionals interviewed were dissatisfied with the return on innovation expenditure. Investing in R&D is only the first step towards creating market value. Companies need to improve the way they manage their innovation processes and spending if they are to derive significant value from their original expenditure. There are numerous challenges in the effective implementation of innovation: weak innovation culture, organisation barriers, imprecise metrics and, ultimately, unsatisfactory R&D results. External factors are causing intense competitive and economic conditions that are particularly acute in some markets. In the technology industry, for instance, product life cycles are extremely short, entry barriers low and the regular emergence of disruptive technologies with protective IP.

CPA conducted research⁵ into the R&D-to-income linkage for nine industries; chemicals, machinery, medical devices, electronics, semiconductors, drugs, precision instruments, computers and software. The industries chosen were those most dependent upon innovation as measured by the percentage of a company's annual revenues invested in R&D (R&D Intensity). Each of the industries studied had an average R&D Intensity of 3% or greater, ranging from 3% for machinery to 17% for software, drugs and semiconductors. The results of this study can be reviewed in conjunction with 'Closing the Innovation Value Gap' a recent article featured in the Intellectual Asset Management publication⁶ which summarized that institutional alignment, idea management and customer focused R&D play both a role in achieving better performances as well as ensuring patents are associated with the highest value – all of which makes for easier raising of finance against intangible assets based on IP.

In terms of identifying prior rights that may be a barrier to obtaining a subsequent patent, citation analysis is often used to identify the key patents within an industry. This allows, prior to a product launch, a better assessment of risk, knowledge of existing rights, as well as any licensing requirements or opportunities.

As an example of the type of analysis that can be produced by patent analytics providers, the following chart represents those US patents within an industry that have the highest forward citations from subsequent patents. The number of citations per patent is represented by the y-axis,

⁴ Boston Consulting Group 2004

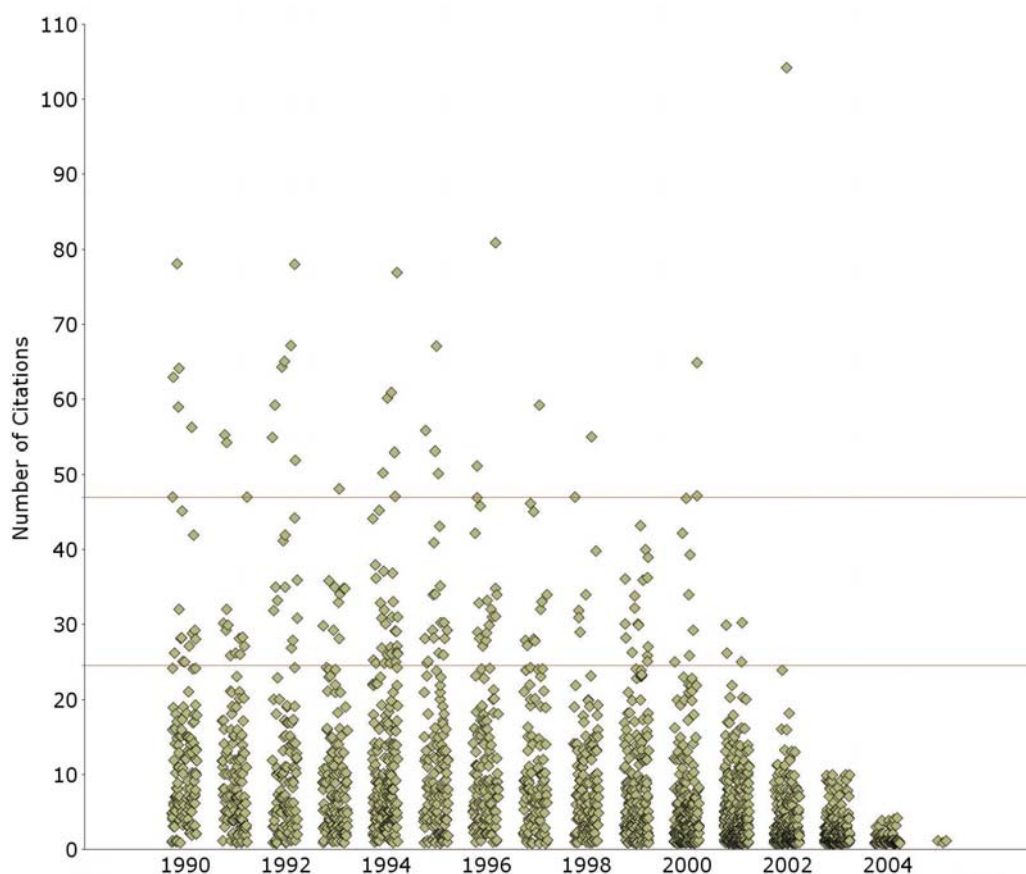
⁵ CPA study involved 240 companies over a 10-year period.

⁶ Closing the Innovation Value Gap. Intellectual Asset Management Dec/Jan 2006

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and the x-axis indicates the publication date of each cited US publication. Activity decreases with time on the basis that latter patent publications have had less time in the industry to be cited. Further, it has been correlated that on average, for every instance a patent is cited, this equates to an approximate 3% increase in market value. This impact on the drug and medical instruments industry is 50% higher than the average while the computer industry is the second lowest among six industry sectors (drugs, chemicals, computers, electrical, metals and machinery and miscellaneous).⁷

Example Chart: Highest cited US publications for an industry



Algorithm notes:

- The analysis only shows granted US patents and US patent applications that have been cited by subsequent art (forward citation analysis/how many times has a patent been cited).
- The citation analysis includes both self-citations by owners of the patents and also those citations of third parties.
- The top line is the 3rd standard deviation line for the average number of forward citation per publication.
- The lower line just is the average number of forward citations per publication for that industry, technology or company.
- This example analysis does not comprise international citation data.

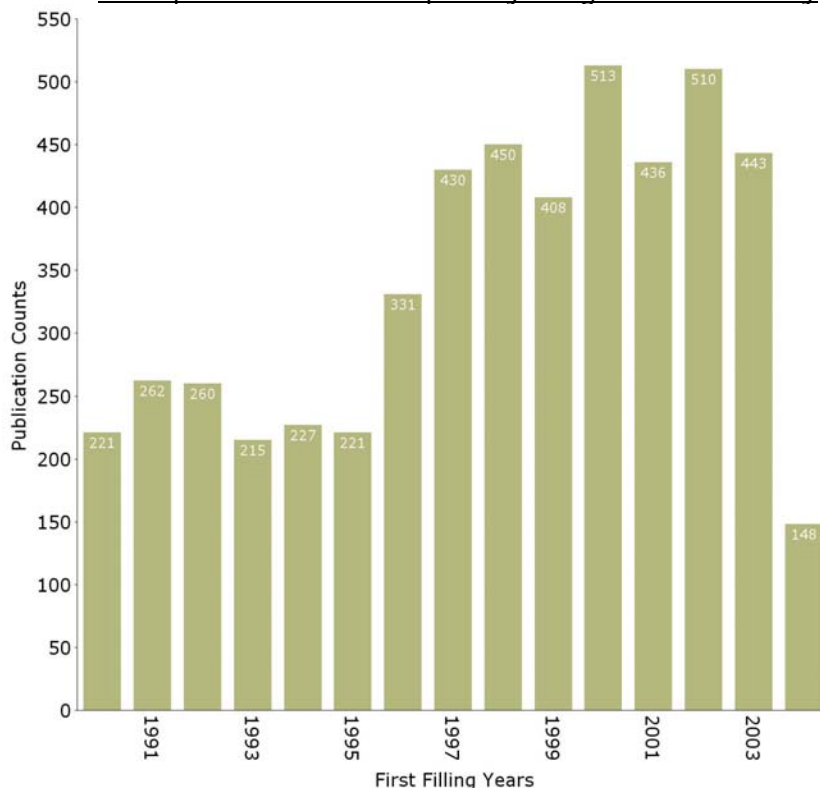
Assessing Innovation

⁷ Hall, Jaffe, Trajtenberg; Market Value and Patent Citations: A First Look; Institute of Business and Economic Research Department of Economics; University of California, Berkeley.

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In terms of measuring innovation within a specific industry, or company, integration of priority filing information and patent analytics provides a quantitative approach. In many cases, priority patent publications provide the only source of insight into a company's R&D initiatives before a product launch occurs.

Example Chart: Earliest priority filings for an industry



The chart displays the priority counts based on the earliest priority filing dates of the patent families in an analysed patent publication dataset. The priority counts represent the total number of patent families that originate from the identified earliest priority filings. Typically, bibliographic information for pending applications is unavailable until the 18 months publication.

Algorithm notes:

- The chart is based on patent family analysis and priority counts are plotted on the earliest filing date of the priority patent application(s) in a patent family.

Appendix C provides an example of how the innovation in a technology area (Stem Cells) is of relevance to the industry.

Exploiting Patent Licensing Potential

Citation analysis is a useful tool in identifying who is filing subsequent patents on an applicant's earlier prior art that could lead to a potential licensing partner. In addition, citation analysis can be used to identify who owns patents which are considered to be background art to an applicant's disclosure – a potential cross licensing candidate. CPA's patent pending analytics solution assists clients in identifying and maximizing patent licensing potential.

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Submissions of Supporting Evidence

The following evidence has been collated as being of interest and relevance to the Gowers Review of Intellectual Property. Information has been intuitively collated as supplementary material in the the appendices to this document. Emphasis on evidence is on the value of patent analytics in defining geographical and technology trends.

Appendix A Patent Analytics Case Studies
 Appendix B Patent Analytics Endorsements
 Appendix C Front Page Financial Times Monday Jun 20 2005
 Appendix D History of CPA
 Appendix E Patent Analytics Chart Examples

It is suggested that CPA meet with the Gowers Review team to discuss how CPA may assist in providing an IP centric review of the UK patent industry. With our proprietary analytics systems and software, UK patent activity can be presented at the postcode level (if required). CPA patent analysis focuses upon analysing and presenting how patent portfolios have evolved, technology distribution, the frequency of publishing, competitive pressures, patent expiry rates, as well as identifying which companies (and inventors) have been responsible for the most innovations.

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Appendix A Patent Analytics Case Studies

Investors and Research Organisations

Patent Landscape analysis helps win multi-million pound investment

A CPA client identified a new opportunity in a specific technology area, working with key industry leaders but required some scientific and quantitative research to help support business decisions. CPA performed an extensive patent landscape analysis where key players and lead thinkers were identified and emerging trends were outlined. The patent landscape report was utilised during the due diligence process which led to the investment of millions of pounds into the new venture.

Patent Agents and Law Firms

Banner Witcoff Ltd - Patent Due Diligence

CPA has produced several capsule patent intelligence reports for the firm, which have been used in conjunction with patent due diligence analyses for their clients. In addition to their practice of determining scope and validity, Banner also used patent analytics trends to identify potential litigation issues, assess value and risk and to provide value-add insight about a transaction as supporting material in their opinion work.

"CPA's patent analytics services have allowed us to quickly organize and then analyse large amounts of information. The reports and graphics included in the reports have also been helpful when describing the scope of patent portfolios to business executives".

US Patent Attorney, Banner Witcoff Ltd

Zacco – Patent Analytics as a value added consulting tool for attorneys

Patent intelligence reports have been produced for existing and prospective clients in all the Scandinavian countries for business strategy meetings, portfolio audits, competitive landscape evaluation, marketing material and new client presentations. The report format was modified to meet Zacco's exact needs.

"We have been providing new and existing clients with competitive patent analytics reports since early 2005. Our clients find the reports a value add to Zacco's traditional services and allows us to work more closely with our clients on commercial focus." Zacco Norway A/S

US Attorney Firm – Benchmarking of patent portfolios secures multi-million dollar contract

CPA produced a competitive patent intelligence report for the firm's prospective client and its five biggest competitors. A team of patent attorneys used the study in the pitch to the client to further strengthen and demonstrate their understanding of IP as a strategic business tool. The firm's ability to demonstrate the client's competitive IP position in the industry was a major factor in them winning a multi-million dollar deal.

European Attorney Firm – Country analysis and mapping of patenting trends

CPA's patent analytics was exploited to gain an understanding of the key players, top patent filers, and general trends in one of the world's leading IP markets. Through advanced analysis of a large quantity of patent and commercial information the client was able to identify the right business strategy for improving their business in this market place.

"There are a number of Agent and Law firms who are starting to use IP analytics to strengthen their own commercial operations. They are following the advice they normally give to their clients." – Jason Resnick, Manager CPA IP Analytics

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Content for international conference

An international patent firm used patent analytics as a marketing tool by producing an in-depth report authored by key partners and which was launched at an international Biotechnology conference. This report became front-page news in a leading financial publication. CPA worked together with the client to generate the patent analytics information for the analysed technology areas, which included identifying the patenting trends and generating the graphics for the report. Please refer to Appendix C.

Multinational and Corporate Clients

Pharmaceutical Industry – Investigation of new high technology market

The senior management of this leading European Pharmaceutical Company identified the need to evaluate the developments in a new emerging biotechnology field. CPA worked closely with the lead thinkers within the company to map the patent landscape and identify trends of defined market segments. The project delivered a detailed report outlining the key findings along with a presentation ready for the senior management. The scientists received the underlying patent bibliographic data, which was delivered in an intuitive format, in a database format allowing key patents with high number of citations to be investigated further.

Chemical Industry – Innovation trends and areas of future investment

A world leading chemical company had undergone a corporate restructuring and identified the need to increase investment into innovation to grow key market positions. Patent analytics was identified as a fundamental tool in this process to better understand new innovation trends in the market place and pave the way for the launch of new products and services. CPA worked together with the client to provide a global IP centric view of the key business areas. An iterative process allowed key competitive innovation trends and benchmarks to be identified. The findings were commercially relevant and used by the management team to enhance the overall corporate strategy.

FMCG Industry – Competitive mapping of patent landscape

The increased focus on IP asset management had led to a drastic increase in spending on IPR within this world leading FMCG Company. Working with CPA, the company was able to establish the competitive patent position for each business unit in relation to their key competitors. This allowed the management and R&D teams to benchmark their IP position against the trends in the industry and also focus their resources to neutralise competitors' aggressive patenting activities. It also made it possible to align the IP department's work with the business units' strategy.

Oil & Gas Industry – Competitive forces in the market and supply chain

A leading service provider in the oil and gas industry wanted to monitor the patenting activities of their closest collaborators and leading research institutions. With the risk of knowledge transfer to competitors it was important to identify who was actively working with the competition. The project looked at patent information along with commercially available financial information to identify those collaborators who were working with competitors. It was revealed how an important supplier was at times patenting together with a competitor. The appropriate measures were taken to limit the risk of knowledge transfer to competitors.

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Electronics and high tech Industry – Evaluation of acquisition target’s IP position

The management of this established Electronics Company needed to investigate the most appropriate acquisition target, in order to help the company improve its transition into new technology and ultimately maintain its market position. The most promising acquisition targets were identified and their patent and marketing positions were evaluated. Working together with the IP department, CPA evaluated the patent landscape of the identified acquisition targets and benchmarked their patents against each other. The competitive landscape and citation analysis also identified how licensees of core technology patents were further developing the technology. The results of any recent M&A activity of the analysed companies, together with the patent landscape allowed the electronics company to make the best commercial decision.

http://www.cpaglobal.com/patents/analytics/case_studies

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Appendix B Patent Analytics Endorsements

"CPA's Patent Intelligence Reports are a **treasure trove of strategic market insight**. They should be an **indispensable part** of every company's **IP management discipline**." (Steve Lundberg Schwegman, Lundberg, Woessner & Kluth P.A.)

"CPA's patent analytics services have allowed us to **quickly organize and then analyse large amounts of information**. The reports and graphics included in the reports have also been helpful when describing the scope of patent portfolios to business executives". (US Patent Attorney, Banner Witcoff Ltd)

"Using CPA's patent analytics report in a pitch to a key prospect meant **our firm won business** that is valued at \$1 million USD/year" (US Patent Attorney)

"Very interesting, very impressed and good value for money" (CPA Representative Partner)

"Our firm is very excited about CPA's patent analytics debut" (Attorney)

"The [CPA Company report] has been very well received" (Corporate)

"Patent analytics allowed us to confirm many things we had been suspecting and also gave us some **great insight into our industry as a whole**." (Corporate)

"The **citation analysis** is now a key tool for me to **evaluate who is building on our IP** and should be watched." (German Patent Attorney)

http://www.cpaglobal.com/patents/analytics/case_studies

CPA Responses to Call for Evidence Issues Paper: Highlighting Other Issues**Appendix C Front Page Financial Times Monday Jun 20 2005**

Text from Ft.com Monday Jun 20 2005:

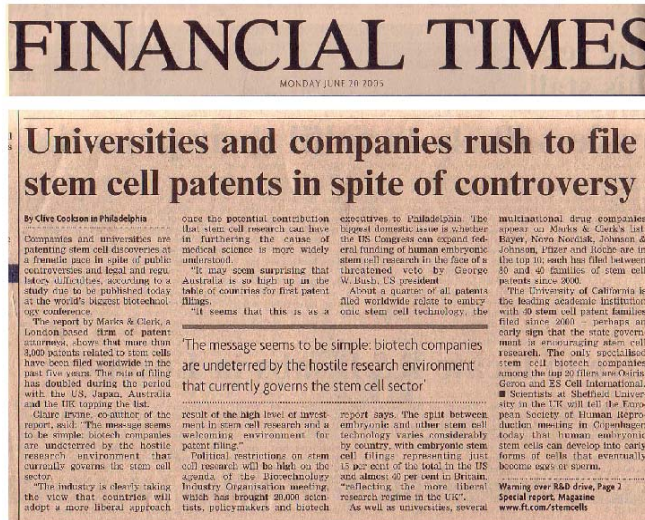
3,000 stem cell patents filed in last five years

By Clive Cookson in Philadelphia

Published: June 19 2005 22:00 | Last

updated: June 19 2005 22:00

Companies and universities are patenting stem cell discoveries at a frenetic pace in spite of public controversies and legal and regulatory difficulties, according to a study published on Monday at the world's biggest biotechnology conference.



The report by Marks & Clerk, the London-based firm of patent and trade mark attorneys, shows that more than 3,000 patents related to stem cells have been filed worldwide in the past five years. The rate of filing has doubled during the period with the US, Japan, Australia and UK topping the league table. "The message seems to be simple: biotech companies are undeterred by the hostile research environment that currently governs the stem cell sector," said Claire Irvine, co-author of the report.

"The industry is clearly taking the view that countries will adopt a more liberal approach once the potential contribution that stem cell research can have in furthering the cause of medical science is more widely understood."

Political restrictions on stem cell research will be high on the agenda of the Biotechnology Industry Organisation meeting. The biggest domestic issue is whether the US Congress can expand federal funding of human embryonic stem cell research in the face of a threatened veto by George W. Bush, US president.

As well as universities, several multinational drug companies appear on Marks & Clerk's list. Bayer, Novo Nordisk, Johnson & Johnson, Pfizer and Roche are in the top 10; each has filed between 30 and 40 families of stem cell patents since 2000.

Scientists at Sheffield University in the UK will tell the European Society of Human Reproduction meeting in Copenhagen on Monday that human embryonic stem cells can develop in the laboratory into early forms of cells that eventually become eggs or sperm.

CPA Responses to Call for Evidence Issues Paper: Highlighting Other Issues**Appendix D** History of CPA

CPA is the world's leading IP management specialist. With over 35 years of patent and trademark experience and approximately 40,000 clients across the globe, CPA performs over one million renewals annually. Spanning IP administration, surveillance, systems and strategy, CPA's products and services include: software systems, patent, design and trademark renewals, trademark searching and watching, domain and digital content management, docketing, patent searching, patent illustration, patent proofreading, and patent analytics reports and consulting.

1969 - CPA is created by a number of attorneys from different UK firms with the aim of providing a dedicated intellectual property patent and design renewals service.

1975 – CPA extends its remit to include trademark renewals.

1985 – CPA diversifies and a new business, Search International, (renamed CPA Search in 2002).

1986 – CPA partners with the Trade Marks Directory Service (TMDS), the longest established watching service in the world. All types of marks are monitored, including 3D marks, colours, sounds, smells and gestures.

2000 – The addition of CPA offices in Alexandria, Virginia and San Francisco.

2000 – CPA Direct is released to clients. CPA Direct is an online service that allows clients to access and manage renewals in real time.

2001 – CPA launches Domarque, a web-based service that offers the capability to protect, manage and maintain domain names.

2001 – CPA acquires Memotech, a software solution for companies managing patents, designs and trade marks. This gives CPA an additional office in Paris, France.

2002 – CPA launches an online quoting and tracking service for trademark searching clients.

2002 – CPA partners with Maxim Technology (Pty) Ltd and offers a software solution (now named Inprotech) to attorney clients.

2005 – CPA acquires Foundation IP and Intellevate an online IP management and outsourcing solution.

<http://www.cpaglobal.com/>

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