

White paper

Why IP5 Patent Searching is not Enough

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Introduction

The aim of every professional Intellectual Property (IP) searcher is to deliver a high-standard analysis that fits the customer's needs. The IP searcher can investigate free or commercial databases and use the features and functions inside those tools, combined with their subject matter expertise. The searcher decides which authorities to use in the search, how to use classifications, keywords or combinations, which restrictions can be defined, whether to use the standard fill-in boxes or build a comprehensive command line query, combine search results, etcetera. At the same time, an IP searcher knows that the time spent on a quest is not unlimited. The question then arises: how to limit the effort in order to speed up a search while still reaching the desired quality. One option is to search only the domestic market, or limit the search to the IP5 authorities¹. The IP5 covers the vast majority of all patent applications. Assuming that any important patent application from other authorities will have a patent family member in the IP5, the risk of missing relevant patent

information seems to be very low. IP5 claims to "account for 90% of all patent applications filed worldwide and for 93% of all work carried out under the Patent Cooperation Treaty (PCT)."² This paper will investigate the truth about this axiom.

Patent filing trends

IP5's claim that they cover 90% of all patent applications is not confirmed by the Statistical Tables – on Patents 2011 of the World Intellectual Property Organization (WIPO)³. According to this Table, 79% of worldwide applications were filed in the IP5 in 2011. Looking at the whole coverage of the last 20 years, the IP5 has covered only two thirds of all applications. Over the past decades, IP5 coverage has grown significantly, because of two main reasons. First, the huge increase of Asian applications, due to the recognition of the importance of Intellectual Property in relation to growing economics. Second the status quo in filings in the main European authorities. European parties are increasingly using the EP and PCT routes.

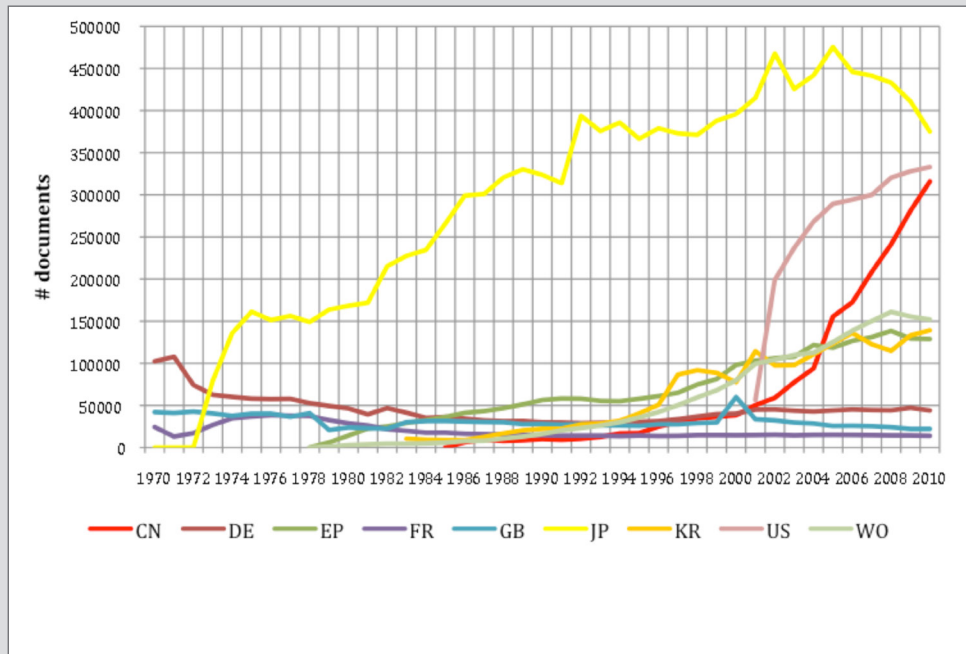
1 IP5: The Five IP Offices is the name given to a forum of the five largest intellectual property offices in the world that is being set up to improve the efficiency of the examination process for patents worldwide. The members of IP5 are:

- the European Patent Office (EPO),
- the Japan Patent Office (JPO),
- the Korean Intellectual Property Office (KIPO),
- the State Intellectual Property Office of the People's Republic of China (SIPO),
- the United States Patent and Trademark Office (USPTO).

2 <http://www.fiveipoffices.org/about-us.html> (February 2013).

3 Statistic Tables – Patents (Table P1)
(http://www.wipo.int/export/sites/www/ipstats/en/wipi/pdf/941_2012_stat_tables.pdf)

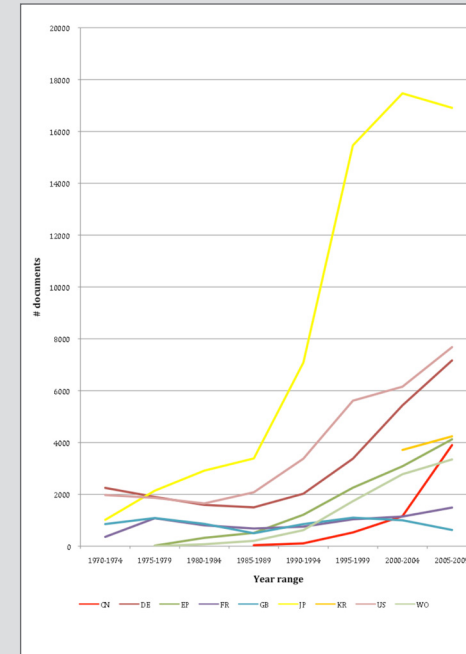
Table 1: Published annual applications



Source: LexisNexis® Patent Content Repository⁴

Note: Before 2001, the United States (US) did not publish applications

Table 2: Published applications in IPC B60R



Source: LexisNexis® Patent Content Repository

Table 3: Published applications in IPC C07C

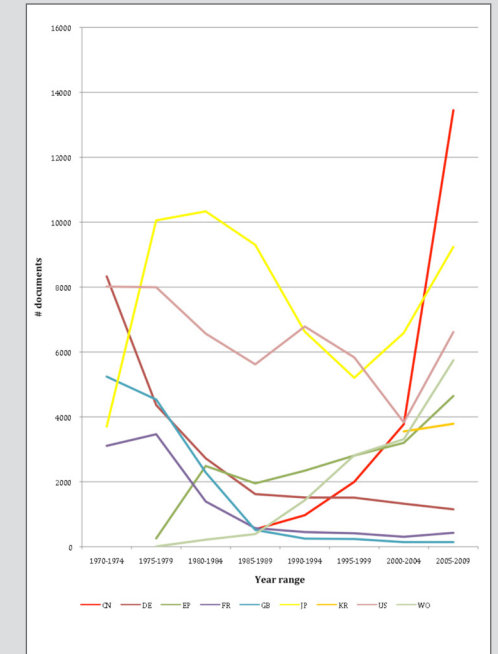


Table 1 shows the number of published annual applications for the IP5 and Germany (DE), France (FR), Great Britain (GB) and PCT (WO).

But increased volumes in patent filings in other authorities, like Australia (26k published patent applications in 2012), Russia (21k in 2012), India (24k in 2012) or Taiwan (52k in 2012), should not be underestimated.

These are countries with a high tech industry. Is searching in a patent collection that covers 90% (or 79%, according to other statistics) enough to reach a valid result set?

Technology trends

One could argue that searching a selective set of authorities like the IP5 is sufficient to accomplish high-quality patent data analyses,

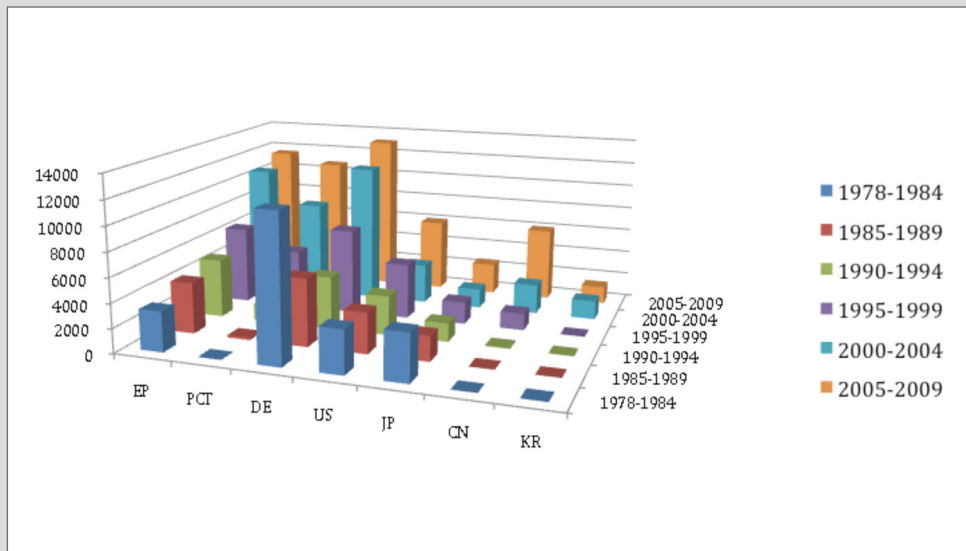
especially if current leading technologies are well covered by those authorities. As an example, examine the International Patent Classification (IPC) for vehicle related inventions (B60R) and chemical compounds (C07C). These classes are in the top of most used IPC classifications. Tables 2 and 3 show the number of applications for the IP5, DE, FR, GB and WO. Clearly, they show that there is

a significant shift in filing from the traditional European countries to the IP5 members.

The shift of applications from traditional Western classes to Asia supports the assumption that searching in IP5 authorities is adequate to reach the required search results. But, is this assumption correct?

⁴ The LexisNexis Content Repository is a patent database containing more than 100 patent authorities and more than 90 million patent documents. It is used for the LexisNexis patent search platform TotalPatent® and bulk data delivery system IPDataDirect®

Table 4: Siemens applications per Patent Authority



Source: LexisNexis® Patent Content Repository

Trends in companies

What patent application routes are companies currently using? This depends very much on the company, of course. Looking at Siemens Germany in Table 4, one can see trends that coincide with the previous observations. In the 1980s, Siemens was a typical domestic patent applying company. But as soon as EP and PCT filings became available, Siemens

started to use these routes and caused a dip in the domestic applications. Next to a relatively stable number of applications in Japan and the US, domestic and Chinese and Korean applications have increased in the last decade. This example clearly shows that although the IP5 applications play an important role for a company like Siemens, the domestic market has not lost its interest.

“Roughly 70 to 80% of all German patents are not prioritized in any IP5 authority and family searching will not fill the gaps in search results.”

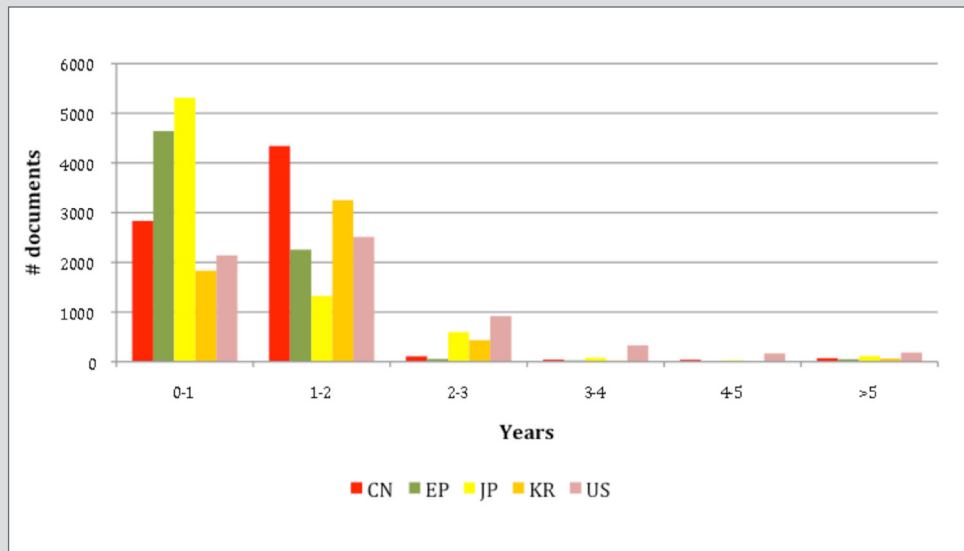
How about PCT documents?

If 90% of the worldwide patent applications covered by the IP5 is considered insufficient for a high-quality search, adding the WO applications would increase this percentage a little. However, one should keep in mind that the high coverage percentage is only valid for recent data. Evidently, the coverage increased dramatically with the introduction of the EPO and WIPO in 1978, and in a later stage with the huge rise of patent applications in Asian countries. But a patent search is not limited to recent documents, and the coverage of IP5 historical data is much lower than it is today, which increases the risk of missing documents in one’s search covering the last 20 years.

How about families?

One might argue that the incomplete coverage can be further limited by using patent families. Any big company outside the IP5 cannot permit itself not to file in one of the IP5 offices or the WIPO. So in the end, all relevant patent applications will end up in an IP5/WO application. Is this true? Let’s take Germany again as an example. Between 1980 and 2009 approximately 1.2 million German applications are published. In the same time frame approximately 200k IP5 published applications have Germany assigned as priority. Meaning that around 17% of the German documents will be found in a search in the historical IP5 collection, because they are a patent family member. Although the percentage has doubled in recent years, in fact it says that roughly 70 to 80% of all German patents are not prioritized in any IP5 authority and therefore will not be part of a result list in a patent search conducted in IP5. This is an important observation, family searching will not fill the gaps in search results.

Table 5: Time difference in publication date between DE and IP5 family member



Source: LexisNexis® Patent Content Repository

Time delays in IP5 publication

Another aspect that should not be neglected is the timely publication of patent family members in one of the IP5 authorities. It turns out that it can take a long time before a family member is actually published in one of the IP5 member states. Table 6 shows the average time delay between the publication date in Germany (as priority authority) and the IP5. 50% of all patents with Germany as priority are published within one year after the publication in Germany, 40% between one and two years,

while 10% takes more than two years. And these are averages! In the US, 25% of the patents with a German priority are not even published within two years. A substantial amount of documents in an IP5 authority, potentially containing relevant information, cannot be found in time because of the delay in publication. A wry conclusion, accessible information is not found because the searcher limited itself to an IP5 search.

Optimal solution?

Could the patent searching method described above, i.e., an effective pragmatic search limited to the IP5, be an optimal solution? A researcher should consider carefully what their patent search needs to achieve. If they want to get a quick, first impression of the state of the art, or a high-level statistical analysis, an IP5 authority search could be valid. One should realize that searches like ‘prior art search’ or ‘freedom to operate’ need a more extensive search. Missing relevant patent documents can lead to wrong conclusions and later repairs can cause severe time-to-market delays.

As a result, businesses may initiate expensive patent application processes that will not lead to the expected grant or, even worse, to infringement procedures. The assumption that searching IP5 in these cases is sufficient is in essence incorrect! Professional patent searchers can never allow themselves to neglect even a small part of the patent data. The statistics show that 10% (or even 21% when looking at WIPO statistics) of the 2011 data is not found if the search is limited to IP5. For older documents, this figure will increase. Using families will increase the number of documents in the search pool and improve the result set, but only slightly. In fact, data is still missed due to publication delays in patent family members.

Conclusions

Searching only in IP5 patent documents seems an attractive proposition at first glance. The coverage is relatively high and the assumption is that important domestic patent applications will eventually be filed in IP5 anyhow (as family member), and relevant patent documents will be found. Yet, research shows that domestic applications still play an important role for companies; at least 10% of all patent applications are not covered in recent data (and even more for older data) and this coverage cannot significantly be improved by using patent family searching. Therefore, searching IP5 is not the most appealing solution to reach high-quality results in an effective way for those searches that need to be flawless.

A high-quality search requires a database that includes all authorities, with high collection coverage per authority. To improve the quality of the search, it is better to increase its effectiveness by clever search strategies, such as using enhanced features and functions of the search tool and added value data. This way, obvious barriers like unknown languages are easily overcome, for instance by using machine translations into English, a feature already offered in the LexisNexis patent search platform TotalPatent.

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LexisNexis IP Solutions in the news:

LexisNexis Reaches Critical Milestone in Asian Patent Collections

Addition of Taiwanese patents means IP professionals globally now have access to the most comprehensive collection of Asian records with English translations

October 22, 2013 - NEW YORK – LexisNexis® Legal & Professional, a leading global provider of content and technology solutions, today announced it has added more than one million English-language full text patents from Taiwan to its award winning LexisNexis® TotalPatent® service. Together with patent content already available from China, South Korea, India and Japan, LexisNexis offers the most comprehensive resource for Asian patent information in English with 25 million full text records now available.

“Creating an authoritative full text collection of Asian patents in English through TotalPatent has been a major objective for LexisNexis,” said Richard Garner, product director at LexisNexis responsible for IP research solutions. “With the addition of Taiwanese data, we’re pleased to offer global IP professionals the most complete set of Asian patents so they can confidently find, review and act on patent information in the rapidly growing and critically important Asian markets.”

Asia, one of the fastest growing regions in economic terms, is now also the source of more patent filings annually than any other region of the world¹, according to data from the world’s largest five intellectual property offices called IP5. Additionally, according to data from the World Intellectual Property Organization (WIPO), in 2011 China overtook the US as the largest filer of patent applications – having previously surpassed traditional giants like Japan, S Korea and Europe. And, in 2012 patents filed from China accounted for more than one third of patents filed by the IP5 offices.

“What’s remarkable is that China achieved this position not over a couple of centuries but in little less than a decade,” said Garner. “Meanwhile, patent filings in other markets such as South Korea, India and Taiwan continue to grow at a healthy pace, making access to and easy understanding of full text patents from these nations a fundamental need for IP professionals.”

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