



International Chamber of Commerce

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## Policy statement



Prepared by the ICC Commission on  
**Intellectual Property**

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# Cooperation between patent offices: prior art searching of patent applications

## Highlights

- Backlogs of patent applications
- Patent quality - the importance of prior art search
- Current search procedures
- Proposal for “an early comprehensive, coordinated search”

# Cooperation between patent offices: prior art searching of patent applications

## I. Background and object of this paper

As business, trade and the impact of technology have become increasingly global, awareness of the value of intellectual assets has grown. This has increased the global demand for patent protection and has increased the expense to business of obtaining and enforcing patents around the world. Moreover, this increased demand has meant that larger numbers of patent applications are filed in national and regional patent offices, which has increased the backlog of pending patent applications in the major patent offices. Such increasing costs and inefficiencies can, if left unchecked, threaten the viability of the global patent system – in particular if patent applicants cannot obtain high quality and cost effective patents in a commercially reasonable time frame.

The increasing costs and inefficiencies in the patent system underline the need for further work sharing between patent offices. In this context, work sharing means that patent offices share information about search strategies, search results and examination results for applications directed to the same invention. Patent offices engaged in such work sharing will retain the ultimate responsibility of deciding for themselves whether or not a patent should be granted. This goal to improve work sharing among national offices is not new – it is consistent with the original proposal of 1966 for the Patent Cooperation Treaty (PCT) to resolve the duplications in patent examination to “result in more economical, quicker, and more effective protection for inventions throughout the world thus benefiting inventors, the general public and Governments.” What is new is the increasing sense of urgency of patent offices around the world to address the problem.

Even before international substantive patent law harmonization is achieved, significant progress can be made to enable work sharing among national patent offices. The PCT was designed to address many of the problems that arise with international backlogs of patent applications by providing a single high quality search and examination in the international phase. The PCT system provides a robust structure among its 142 (at date of publication) Contracting States through which the work sharing that is an integral part of the PCT system can be fully realized. This focus on the use and improvement of the PCT system is important given the large number of inventions for which protection is sought in two or more countries that pass through the PCT.<sup>1</sup>

The PCT system has been a great success, and ICC supports the PCT as the preeminent vehicle for work-sharing on global patent applications, but changes are required to ensure that it fully realizes its original promise, including the work laid out in a document prepared by the WIPO Secretariat on the future of the PCT and discussed at the PCT Working Group meeting from 4 to 8 May, 2009. The work includes efforts to make the international examination more complete, relevant and useful and also to eliminate unnecessary processing. In this connection, business will continue to follow and support efforts towards improvement of the PCT system so as to make it an effective instrument for work

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<sup>1</sup> In 2007, around 1.85 million applications were filed worldwide. It is important to note, however, that the total number of patent families (based on first filing date) in 2006 amounted to 946,498 – with a patent family defined as a set of patent applications interrelated by either priority claims or PCT national phase entries. The total number of national/regional phase entries under the PCT system in 2007 was 430,357 (including 404,149 non-resident filings and 26,208 resident filings). Filings through the PCT in 2008 (the international phase) are estimated at 163,600. See “World Intellectual Property Indicators, 2009” published by WIPO and available for download at: [http://www.wipo.int/export/sites/www/ipstats/en/statistics/patents/pdf/wipo\\_pub\\_941.pdf](http://www.wipo.int/export/sites/www/ipstats/en/statistics/patents/pdf/wipo_pub_941.pdf).

sharing of patent search and examination. Importantly, we believe that an International Searching Authority (ISA) should do a timely search of such a quality that the ISA itself will fully rely on that search when the PCT application enters the national phase before that same office. In the same sense, applicants should use the PCT procedure to try and save time and money in the national phase examination processes.

Parallel efforts are underway to pursue work sharing on a smaller scale between specific offices, which efforts not need be inconsistent with the ongoing efforts to improve the PCT system. This is perhaps best evidenced by the new Patent Prosecution Highway pilot programme utilizing PCT work products recently announced by the trilateral offices (USPTO, JPO, and EPO<sup>2</sup>). Patent Prosecution Highways (PPHs) allow a patent applicant, whose patent claims are determined to be allowable or patentable by an office of first filing, to request that its corresponding application filed in a second office be advanced out of turn for patent examination provided the claims before the second office are amended so as to match the claims deemed allowable or patentable by the first office. This facilitates the processing patent applications by the offices participating in PPHs, resulting in potential efficiency gains and savings for the offices and applicants, while also expediting issuance of the patent.

The PPH was launched as a pilot programme between the US Patent and Trademark Office (USPTO) and the Japan Patent Office (JPO) in 2006. Now, 14 patent offices participate in bilateral PPHs.<sup>3</sup> The PPHs are a promising mechanism for work sharing, but the operation of PPHs and the results they achieve should be followed to ensure their continued effectiveness and continued compatibility with the PCT. In this connection, an important new development is the new PCT-PPH pilot programme. More and current information the PPH programme generally and specific PPHs can be found on the PPH portal web site maintained by the JPO.<sup>4</sup>

Progress is also being made to further streamline application and examination processes among the IP5 offices (USPTO, EPO, JPO, KIPO, and Chinese Intellectual Property Office (SIPO)). In particular, the IP5 offices have undertaken 10 foundation projects to harmonize the global environment for patent searches and examination and to enable work-sharing among the five offices.<sup>5</sup>

All of these projects – including improvements to the PCT system, PPHs, and work of the IP5 offices show very encouraging signs of a strong interest among patent offices to improve the conditions for cooperation on both multilateral and bilateral levels. The International Chamber of Commerce (ICC) welcomes these efforts by patent offices and the World Intellectual Property Organization to address the systemic issues that have given rise to a persistent backlog of patent applications.

Against this background, ICC proposes below **a strategic objective** relating to prior art searching based on a focused, practical business view of the opportunities provided by patent office collaboration. ICC wishes to emphasize that any effort towards realizing improved work sharing should not compromise the quality of patents ultimately granted by national or regional patent offices. In this

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<sup>2</sup> This program is described at: <http://www.epo.org/patents/law/legal-texts/journal/informationEPO/archive/20100125b.html>

<sup>3</sup> Including the USPTO, JPO, Korean Intellectual Property Office (KIPO), UK Intellectual Property Office, German Patent and Trademark Office, Danish Patent and Trademark Office, Canadian Intellectual Property Office, IP Australia, European Patent Office, Intellectual Property Office of Singapore, Russian Patent Office, Hungarian Patent Office, Austrian Patent Office, and the National Board of Patents and Registration of Finland.

<sup>4</sup> <http://www.jpo.go.jp/cgi/linke.cgi?url=/ppph-portal/index.htm>

<sup>5</sup> The heads of the IP5 offices (with WIPO Director General Francis Gurry as an observer) met in Guilin, China, on 15 and 16 April 2010. See <http://www.epo.org/topics/news/2010/20100419.html>. At that meeting, they reconfirmed their vision established in 2008: “The elimination of unnecessary duplication of work among the offices, enhancement of patent examination efficiency and quality, and guarantee of the stability of patent right.” The heads of the IP5 offices also “agreed to improve the functioning of the PCT to promote it as a vehicle for efficient work-sharing. They also recognized the opportunity for the PPH to play an important role in work-sharing, including in the context of strengthening the PCT.”

connection we note that the USPTO has recently defined a “quality patent” as “a patent: (a) for which the record is clear that the application has received a thorough and complete examination, addressing all issues on the record, all examination having been done in a manner lending confidence to the public and patent owner that the resulting patent is most likely valid; (b) for which the protection granted is of proper scope; and (c) which provides sufficiently clear notice to the public as to what is protected by the claims.”<sup>6</sup> The present proposal is aimed at ensuring a thorough and complete search of the prior art – an essential, but not sufficient, condition of producing “quality patents.”

## **II. ICC’s perspective on patenting and the importance of prior art search**

ICC’s role is to represent the interests of international business, and thereby international trade and economic development generally. While businesses are indeed concerned by backlogs in patent offices, there is another issue which is at least as important and which in the opinion of ICC can be dealt with at the same time as the backlogs. This is the issue of patent validity. If a patent office grants a patent that is subsequently invalidated or subject to invalidation proceedings, it wastes its own time, the time and money of the applicant, and the time and money of the applicant’s competitors, and such a later-invalidated patent distorts the market. Often, this type of problem occurs as a result of the examining office not having the most relevant prior art at the time the patent is granted.

## **III. Search – the present situation**

Searching for prior art that would invalidate or partly invalidate a patent application has never been easy, despite the availability of extensive databases and sophisticated search technologies. As global investment in research and development (R&D) increases, so does the number of prior art documents that need to be covered by searches. Moreover, the most rapid increases have occurred in Asia, which presents high linguistic barriers to searching. First Japan, then Korea, and most recently China have engaged in large-scale R&D, publishing much only in their local languages. This recent emergence of China as a source of scientific and technical knowledge has been especially remarkable. It now publishes more peer-reviewed scientific papers than any country other than the US. It has invested heavily in applied technology, defence technology and green technology having been particular areas of focus. Similarly, the growth of patent applications in China has been dramatic – to the point today that its IP Office is the third largest office in terms of filings behind the USPTO and the European Patent Office (EPO).<sup>7</sup>

When an applicant seeks patent protection in multiple jurisdictions, each of the patent offices performs a separate and independent novelty search on the same invention. And, subject to a few exceptions, prior art that would defeat novelty in one jurisdiction will also defeat novelty in the others, which means that each of the multiple offices is searching – at least in theory – roughly the same body of prior art and comparing it to the same invention. However, despite the overlapping searches, it is commonplace for only one or two of the offices to identify prior art which is more relevant than the prior art already known to the applicant (and taken account of by him in his claims as originally filed), and for the parallel searches in other offices to find only *less* relevant prior art. In some cases the divergence of search results reflects linguistic differences between search examiners, but in other cases, the explanation lies in the superior choice of search strategy by a particular office.<sup>8</sup>

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<sup>6</sup> “Patent and Trademark Office [Docket No.: PTO-P-2009-0054] Request for Comments on Enhancement in the Quality of Patents”, U.S. Federal Register, Vol. 74, No. 235, p. 65093, Wednesday, December 9, 2009,

<sup>7</sup> The total patent applications (for invention) filed in SIPO in 2007 were 289,838. Corresponding filings in other offices were: USPTO (456,154), JPO (391,291), KIPO (172,469), EPO (140,763), Total filings in SIPO continue to rise, while filings in the other offices remain stagnant or declining slightly.

<sup>8</sup> The importance of search strategy has been recognized particularly by the Australian Intellectual Property Office, in which a group of three examiners agrees a search strategy before one of them proceeds with performing the search.

Because the multiple searches do not occur concurrently, it is not uncommon for an applicant to be near or beyond the end of the process in several jurisdictions when additional prior art is identified by a late search in another Office. Significant costs will have been incurred in prosecuting patent applications to grant - or near to it - before some Offices, when another Office finds prior art which is so close to the claimed invention that the applicant will choose to abandon all the applications or granted patents. Even if the late-cited prior art does not invalidate all the claims, the applicant may have to amend his application or granted patent in countries in which he filed. Depending on the local law and rules, this can be complicated and expensive for applicants and time-consuming for Patent Offices.

#### **IV. Searching – what ICC would like to see:**

##### **An “early comprehensive, coordinated search”**

The problems just described would be solved if the searches were done by the relevant Patent Offices involved sufficiently early that no office will finish its examination until the complete set of prior art from all offices is available, except in those cases where the applicant needs prompt patent grant and is willing to take the risks just described. ***Neither the PCT system nor the PPHs presently provide this.***

***ICC would like all applications to be subject, on request, to an early<sup>9</sup> comprehensive, coordinated search replicating the current combined strengths of the IP5 Offices.<sup>10</sup> This facility should be provided and such searching done, on request of the applicant.*** Such a search would best be done by intimate collaboration between the IP5 Offices on databases, and by exchange of search strategies and of resultant search results. ICC considers that ***the databases and search strategies that have been used should be disclosed to the applicant and made public*** (for the benefit of third parties). This will allow the applicant to decide whether it is worthwhile to “top up” the search separately. Moreover, it will provide valuable and early information to third parties as to whether a given patent application will be granted and, if so, the scope of granted protection.

The PPH process already accomplishes this to a limited extent. Moreover, it is anticipated that the PPH system will have the effect of enhancing collaboration on search databases and search strategies between the PPH member offices as they will have an opportunity to consider the work of other offices. These are positive initiatives and goals and should be encouraged in a manner that is compatible with and supports the PCT system.

The PCT Working Group is undertaking efforts to improve the PCT and, in particular, the seminal role the PCT can play in work sharing.<sup>11</sup> The PCT obliges each ISA to conduct an international search which is as good as its facilities permit<sup>12</sup> - which facilities are defined in the PCT Regulations in terms of manpower and minimum documentation. The obligation on ISAs to undertake a search “as good as its facilities permit” is not an objective and high standard. But if ISAs implement that obligation in good faith and collaborate effectively with other ISAs, significant progress can be made in ensuring that the fullest possible information about relevant prior art is made available at the earliest time.

<sup>9</sup> For the meaning of “early” see the last paragraph of this section.

<sup>10</sup> These combined strengths include differing language capabilities. In addition, even with a high degree of coordination on search strategies and the scope of databases and additional materials to search, there will be some differences in search outcomes in practice.

<sup>11</sup> See in particular the documents discussed at the PCT Working Group’s Second Session May 4-8, 2009: [http://www.wipo.int/meetings/en/details.jsp?meeting\\_id=17449](http://www.wipo.int/meetings/en/details.jsp?meeting_id=17449).

<sup>12</sup> PCT Article 15(4): “The International Searching Authority ... shall endeavor to discover as much of the relevant prior art as its facilities permit ...”.

A further mechanism for achieving this exists in the form of the supplementary international search system under PCT Rule 45bis.1(e). This system allows an applicant to request searches in addition to that provided by his ISA from a Supplementary International Searching Authority ("SISAs").<sup>13</sup> If the IP5 Offices were to join this system, then the above early comprehensive, coordinated search should be possible. An important step towards this would be simply for the IP5 offices to volunteer as SISAs.<sup>14</sup>

For applicants using the PPHs, the current link to the PCT system through the pilot project involving the JPO, EPO, and USPTO is a good start. That pilot project should be made permanent and expanded, in particular to allow results by an ISA or an International Preliminary Examining Authority (IPEA) other than the office of first filing under the PPH to be taken into consideration by the office of second filing. Moreover, expanded mechanisms to take advantage of PCT SISAs as discussed above also appear to have great merit in the context of PPHs. Again, regardless of the mechanism, the goal is to provide an early comprehensive, coordinated search.

We believe that differing national laws of novelty present no barrier to such a search. Each of the IP5 offices performing a search would cover all documents available before the latest filing date under the Paris Convention or PCT, thereby covering any document (save for co-pending unpublished applications) which is relevant in any territory. There should be no significant technical problem in this, regardless of the specific law in which a searching examiner is experienced.

The cost of the comprehensive, coordinated search that is conducted in two or more offices will inevitably be higher than the cost of search by a single IP5 office, as the offices conducting supplemental searching would charge for the service. Such additional charges should not be problematic to the applicant community as the choice whether to seek supplemental searching would be in the hands of the applicant. Moreover, it is expected that any such charges by offices conducting supplemental searching would be reasonable and in keeping with the supplemental nature of the work they would be doing. To this point, the comprehensive, coordinated search would not be compulsory for PCT applicants (*i.e.* they would be free to request only a single-ISA search or one or more supplemental searches in addition).

By "early", it is meant early enough that in the great majority of cases, applicants and patent offices would be content to wait until the comprehensive search was available before beginning substantive examination of applications. This would ensure the best efficiency gains for Offices and the best cost benefits to applicants. In this connection, we note that international search reports under the PCT are to be established at 16 months from the priority date, and that work on any supplementary international search requested under the PCT must commence before the expiration of 22 months from the priority date and be established within 28 months from the priority date. For most applications, such time lines would be considered sufficiently "early" for them to be taken into consideration by national and regional offices considering the patentability in the national phase of the PCT process. Moreover, under PPH systems, there is no specific time line by which the work of search and examination is to be done by the office of first filing.

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<sup>13</sup> Comprehensive information about the PCT Supplementary International Search can be found in the PCT Applicant's Guide - International Phase on the WIPO website at: [http://www.wipo.int/pct/en/guide/ip08.html#\\_chapt8](http://www.wipo.int/pct/en/guide/ip08.html#_chapt8). At present, the only SISAs are the Nordic Patent Institute, the Swedish Office, the Finnish Office, and the Office of the Russian Federation. The EPO has recently announced that they will become an SISA in July, 2010.

<sup>14</sup> A further step may be considered to bring searching and examination among the IP5 offices into tighter coordination within the PCT system. This could be done by allowing multiple international supplemental searching by the IP5 offices, as noted in this paper, but on the condition that an applicant makes a sufficient showing that the claimed invention is patentable over the results of the first search before another search is undertaken. This would be possible in the existing PCT-II legal framework. This can be viewed as analogous to the practice in the EPO under EPC Rule 161(1). Under that practice, upon entry into the national phase before the EPO, the applicant is required to correct any deficiencies noted in the written opinion of the ISA or in the PCT-II Report. But this efficient approach is limited to situations where the EPO has acted as the ISA or IPEA.

Hence, if the application is already searched and examined in the office of second filing before the work of the office of first filing has completed its work, then the function of the PPH would be frustrated.<sup>15</sup>

## **V. Implications of early comprehensive, coordinated search for substantive examination**

An early comprehensive, coordinated search would result in fewer cases reaching the stage of substantive examination because applications are abandoned by applicants when fatal prior art is found in a search. Immediately also, such a search would mean that applicants would feel confident in amending their claims before substantive examination, knowing that further prior art was unlikely to be cited, and putting them generally in a form likely to be acceptable to offices. Moreover, if patent offices are usually performing their substantive examination on the basis of the same set of prior art documents, the efficiency gains achievable by collaboration and work sharing in substantive examination are increased enormously.

## **VI. Summary**

Continued and improved cooperation between patent offices of an early coordinated comprehensive search would create efficiencies for patent offices, especially if such a search were the basis for cooperation on substantive examination. In pursuing this goal, we take the following positions:

- **To support the PCT as the preeminent vehicle for work-sharing on global patent applications.** ICC will continue to follow and support efforts towards improvement of the PCT system so as to make it an effective instrument for patent application work sharing.
- **To continue to work with participating patent offices in the implementation of Patent Prosecution Highways** – which we view as a promising mechanism for work sharing – in particular to ensure they continue to be effective and continue to be compatible with the PCT.
- **To encourage patent offices to take positive steps to achieve an “early comprehensive, coordinated search”,** which can be done through:
  - Ensuring that ISAs conduct an international search that fully and in good faith complies with obligations under the PCT.
  - Ensuring improved collaboration among national patent offices (in particular the IP5 offices) on search, including on databases, search strategies and exchange of search results.
  - Exploring mechanisms for an applicant, upon request, to obtain more than one search in connection with an application for a single invention. This could be done, for example, through increased participation by ISAs in the supplementary international search system under PCT Rule 45bis.1(e).

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<sup>15</sup> In this connection, we believe that activities like the Strategic Handling of Applications for Rapid Examination (SHARE) program of the USPTO show promise. In SHARE, applications for which an office is the office of first filing are prioritized in the examination queue which would make it more likely that the results of the USPTO as the office of first filing would be timely for use by an office of second filing – in particular within PPH systems.



# The International Chamber of Commerce (ICC)

ICC is the world business organization, a representative body that speaks with authority on behalf of enterprises from all sectors in every part of the world.

The fundamental mission of ICC is to promote trade and investment across frontiers and help business corporations meet the challenges and opportunities of globalization. Its conviction that trade is a powerful force for peace and prosperity dates from the organization's origins early in the last century. The small group of far-sighted business leaders who founded ICC called themselves "the merchants of peace".

ICC has three main activities: rules-setting, dispute resolution and policy. Because its member companies and associations are themselves engaged in international business, ICC has unrivalled authority in making rules that govern the conduct of business across borders. Although these rules are voluntary, they are observed in countless thousands of transactions every day and have become part of the fabric of international trade.

ICC also provides essential services, foremost among them the ICC International Court of Arbitration, the world's leading arbitral institution. Another service is the World Chambers Federation, ICC's worldwide network of chambers of commerce, fostering interaction and exchange of chamber best practice.

Business leaders and experts drawn from the ICC membership establish the business stance on broad issues of trade and investment policy as well as on vital technical and sectoral subjects. These include financial services, information technologies, telecommunications, marketing ethics, the environment, transportation, competition law and intellectual property, among others.

ICC enjoys a close working relationship with the United Nations and other intergovernmental organizations, including the World Trade Organization and the G8.

ICC was founded in 1919. Today it groups hundreds of thousands of member companies and associations from over 120 countries. National committees work with their members to address the concerns of business in their countries and convey to their governments the business views formulated by ICC.



**International Chamber of Commerce**

*The world business organization*

**Policy and Business Practices**

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