

Patent Cooperation Treaty (PCT) Working Group

**Eleventh Session
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FURTHER DEVELOPMENT OF THE PCT SYSTEM

Document prepared by the International Bureau

SUMMARY

1. At the time of the publication of the 3 millionth international patent application under the PCT on February 2, 2017, the Director General published a Memorandum titled “The PCT System — Overview and Possible Future Directions and Priorities”¹. The purpose of that Memorandum was to provide “food for thought” on broad directions and priorities for future work aimed at further improving the PCT system, almost eight years after the endorsement by the PCT Working Group, in 2010, of the PCT Roadmap recommendations.

2. To date, the Working Group had no opportunity to formally discuss the Memorandum by the Director General. The present document thus invites the Working Group to review what has been achieved since the endorsement of the PCT Roadmap recommendations and to provide feedback on the suggested broad directions and priorities for future work set out in the Memorandum by the Director General.

FURTHER DEVELOPMENT OF THE PCT SYSTEM

3. At the time of the publication of the 3 millionth international patent application under the PCT on February 2, 2017, the Director General published a Memorandum titled “The PCT System — Overview and Possible Future Directions and Priorities”. The purpose of that Memorandum was to provide “food for thought” on broad directions and priorities for future work aimed at further improving the PCT system, to the common benefit of Contracting States,

¹ <http://www.wipo.int/export/sites/www/pct/en/3million/pdf/memo.pdf>

national Offices, applicants and third parties. The Memorandum explicitly stated that it was not intended to replace the PCT Roadmap recommendations, most if not all of which remained relevant, but rather to build on and to complement them.

4. The Memorandum concluded with the following summary:

“80. The past 15 years have seen enormous improvements to the PCT system driven by changes to the legal framework. However, the further progress which can be driven by such changes is limited. The key to future improvements lies in putting renewed emphasis on the ‘Cooperation’ aim which underpins the Treaty. No doubt, changes to the legal framework will continue to play a supportive role. However, in the view of the International Bureau, it is now mainly up to the Contracting States and the national and regional Offices which perform roles under the Treaty to put further life into that “Cooperation” aim with a view towards making the PCT system fully effective as the tool to support innovation, investment and development that those same Contracting States designed it to be.

“81. Key issues to be addressed in this context include:

- the need for Offices to perform their assigned roles in a timely way and to the quality necessary to allow other Offices and the public at large to trust in the work performed by them, even though this might involve costs for which the main benefits are received by others;
- the need for Offices to accept closer public scrutiny of their work;
- the need for IT systems to be developed with a view towards sharing usable information with others more effectively and to common standards, even though that may increase initial development costs and lengthen development timetables;
- the need to convince applicants, and to set incentives accordingly, to ensure that applicants play a more effective part in the “cooperation”;
- the need to provide training and assistance necessary to ensure that Offices from all Contracting States are able and willing to perform their roles effectively.”

5. It is to be noted that, while the Memorandum by the Director General has been published on WIPO’s website and while the International Bureau has received some informal feedback on its contents, Contracting States and other stakeholders so far had no opportunity to more formally discuss and provide feedback on the broad directions and priorities for future work set out in that Memorandum.

6. It is against this background that the International Bureau considers it timely to invite the Working Group to review what has been achieved since the endorsement of the PCT Roadmap recommendations and to provide feedback on the suggested broad directions and priorities for future work set out in the Memorandum by the Director General.

7. To assist the Working Group in that review process, the present document includes the following:

- (a) a reproduction of the Memorandum by the Director General, published on February 2, 2017, titled “The PCT System — Overview and Possible Future Directions and Priorities”, contained in Annex I to the present document;

(b) an update on the implementation of all PCT Roadmap recommendations endorsed by the PCT Working Group in 2010, together with suggestions as to areas of further work required in respect of those recommendations which, to date, have not been fully implemented, contained in Annex II to the present document;

(c) the proposal to consider and agree in principle on the main areas of work, in addition to areas of further work required identified under (b), above, as outlined in the Memorandum by the Director General and summarized below, as a basis for future specific proposals for improvement at a more detailed level.

8. The copy of the memorandum in Annex I is presented as it was originally published. In some cases, more recent statistics and updated commentaries are available in associated sections of Annex II.

MAIN AREAS OF WORK

9. The Memorandum by the Director General "The PCT System — Overview and Possible Future Directions and Priorities" identified four main areas of work in terms of further development of the PCT system, as summarized in the following paragraphs.

Legal and Institutional Issues

10. See paragraphs 42 to 49 of the Memorandum by the Director General (see Annex I).

11. As observed in the Memorandum, while there will be an ongoing need for minor modifications, it would appear that major reforms of the system through development of the international legal framework can be considered more or less complete. On the other hand, there remain great opportunities to improve already existing features of the PCT system, notably with regard to work sharing among Offices, and to make the system more effective through procedural and institutional efforts to ensure that the international phase work effectively supports the national phase processing.

12. It is thus suggested that one of the main areas of further work should be efforts to improve the linkage between national first filings, international applications and national phase processing, further efforts to improve quality (as discussed below) and further efforts to set national incentives for good practice by applicants, all of which could result in simultaneously reducing processing costs for national Offices and reducing the risk of invalid patents being granted. In essence, this involves ensuring that national Offices are able to receive and make effective use of information about the processing which occurs in other Offices, including classification information as well as search and examination results. Some issues may require changes to the PCT Regulations, such as the recent changes to assist the gathering of classification information from priority applications. However, progress will likely depend more on the effective design and implementation of systems and platforms, such as WIPO CASE, facilitating the exchange of information, improvements in technical standards to deliver data in more useful formats and the development of incentives for applicants to proceed in ways which assist the exchange and effective use of earlier classification information and search and examination results from other Offices.

Technical (IT) Environment

13. See paragraphs 50 to 61 of the Memorandum by the Director General (see Annex I).

14. The PCT system depends on being able to pass information effectively between the applicant, the receiving Office, International Authorities and International Bureau, and then on to the designated Office. Each change of format or need to manually input data from a letter or form involves a risk of introducing errors. Each delay in passing on information introduces uncertainty and a risk of unnecessary or incorrect processing based on out of date information. Each receiving Office and each International Authority performs tasks, most of which should be

essentially identical to one another; in the national phase, Offices face many common issues and need to be able to process information which originated in other Offices. Yet Offices continue to develop systems largely independently. While international standards exist for many processes, in practice, they are often implemented slightly differently at each Office.

15. At a minimum, key data exchange formats should be implemented consistently. Any issues where the standards are found to be ambiguous or insufficient for new needs should therefore be discussed. Ideally, it would be desirable to develop common system components, so that a document or piece of data processed by one Office would reliably produce the same result as would occur at another Office. This may be particularly useful for application bodies (conversion from word processor formats to simpler XML formats), color drawings, names and addresses and search reports. On the other hand, it has to be recognized that, of course, all Offices have domestic requirements and local pressures on them which must be respected. Furthermore, technologies develop at a rate such that in some areas a particular arrangement might be obsolete by the time an international standard can be agreed and implemented according to traditional arrangements.

16. In this context, there appears to be a need for more collective strategic thinking and for more business direction for national and international IT strategies and architectures with a view to developing a strategic vision on how eventually “all will fit together”. As a first step towards developing such a “strategic vision”, WIPO has invited all stakeholders to a Meeting of Intellectual Property Offices on ICT Strategies and Artificial Intelligence for IP Administration, to be held in Geneva from May 23 to 25, 2018, to consider, *inter alia*, which aspects of systems are most important to align and what can be done to allow this effectively. The International Bureau will give an oral report on the outcomes of this meeting during the present session of the Working Group.

Financial Issues

17. See paragraphs 62 to 70 of the Memorandum by the Director General (see Annex I).

18. The key financial issues facing the PCT system fall into two categories. First, PCT fee income represents over 75 per cent of the Organization’s income. The reliability of this income is essential to the stability of the Organization and proposed changes to the fee structure, as well as changes in income or expenditure as a result of changing patterns of use of the system, need to be reviewed carefully. Second, the collection of most fees is in the hands of receiving Offices, even though the largest parts of those fees may be due to the International Bureau and the International Searching Authorities in currencies different from the one in which the applicant pays; on the other hand, some fees are payable to the International Bureau and International Authorities and may need to be paid by applicants in a country remote from the Office to which the fee has to be paid. Effective systems are required to ensure that applicants can pay fees easily, that the fees are received in a timely manner by the Office to which they are due, and that the processes for transfer are robust, allow effective audit and minimize costs in terms of both administration and currency exchange.

19. With regard to the level of fees, discussions are under way with regard to issues concerning access to the system, most notably with regard to the fees payable by universities; the International Bureau will continue to provide administrative, information and drafting support for such discussions. At some stage, but not yet, a more general discussion of fee levels and reductions will be required, particularly if renewed efforts to persuade applicants to use XML filing (which attracts a 100 Swiss franc larger discount than PDF filings) are successful at a wider range of receiving Offices.

20. With regard to the systems for fee exchange, at the time of writing of the present document, a pilot of netting (calculating the total payments due between different Offices in either direction and making single payments based on the difference) was about to begin (on April 1, 2018). Further steps will be proposed based on the outcome of the pilot, but it is hoped that this will work also across the Madrid and Hague systems and enable effective options for centralized payments, for example, allowing the International Bureau to collect fees on behalf of receiving Offices or International Authorities where it hosts online systems allowing the applicant to file international applications or perform other fee-bearing actions with those Offices. It is also hoped to identify new forms of payment, allowing easy secure transactions to be made with lower administrative costs than apply to the current major payment methods.

Quality

21. See paragraphs 71 to 79 of the Memorandum by the Director General (see Annex I).

22. It is essential that national Offices have confidence that the quality of the work which is performed elsewhere is sufficient for the results to be useful to them. This may require improving the quality frameworks which currently apply to International Authorities and considering extending them to a wider range of functions. It should also mean attempting to measure the actual quality of the key work products delivered by different Offices, both with regard to formal and procedural issues and with regard to international search reports and international preliminary reports on patentability.

23. Quality control at the level of individual applications is the sole responsibility of the receiving Office, International Authority or designated Office concerned. However, transparency in quality is important and efforts should be made to collect sufficient data to assist comparison between Offices. This involves both the international phase and the national phase. For example, use of XML in the generation of procedural forms may allow effective analysis of differences in work performed by different Offices. Information on documents cited in the national phase and whether amendments had been made in the intervening time may also permit some degree of statistical analysis. Feedback from the national phase on work which had been performed in the international phase would be useful in principle, but needs to be manageable both by the designated Office providing such feedback, by the International Authority receiving such feedback and by other designated Offices processing the same application. Consideration is needed of what data collection is possible to enable consistent and meaningful statistical review without imposing burdens on examiners to make assessments.

24. If the PCT is to be beneficial to national Offices, applicants from different countries and Member States in the context of their broader innovation and investment strategies, it is important that national Offices have the necessary skills to assist the use of the system effectively. The specific needs will vary from Office to Office, but may commonly include the need for trained patent examiners, the ability to act effectively as a receiving Office and the ability to advise and assist applicants and potential applicants. The specific skills which are needed continue to change as the tools and platforms provided by the International Bureau (including ePCT, IPAS and WIPO CASE) and other Offices and organizations develop. The International Bureau will continue to seek to improve its own delivery of training by reviewing its own documentation (Applicant's Guide, Receiving Office Guidelines, ePCT documentation, etc.) and by providing training directly, whether on-site or remotely through webinars and the like. In other areas, particularly with regard to examiner training, greater coordination would be desirable, as previously discussed in document PCT/WG/10/9 and as will be further discussed during the present session of the Working Group.

CONCLUSION

25. The PCT system is not currently in need of any radical reform, but for all parties to receive the intended benefits, quality must be trusted and improved coordination is required in financial, technical and training matters. Proposed key areas for further work in the coming years include the following:

— *Legal and Institutional Issues*

(a) Offices should identify how information from related applications at other Offices can be used more effectively in national and regional processing and whether applicants can be encouraged to act in ways which support such cooperation.

(b) The International Bureau should continue to support the development and effective use of systems to assist sharing of relevant information, including developing the legal framework to assist the process where necessary.

— *Technical (IT) Environment*

(c) Offices should find better means of cooperation to ensure that all Offices are working towards collecting and sharing key data in consistent and effective formats, agreeing and implementing the necessary standards in a timescale where they are useful.

— *Financial Issues*

(d) Member States need to ensure that PCT fee income remains reliable. Reductions should be affordable and targeted effectively to achieve their policy goals.

(e) Offices should support the netting pilot with a view to cheaper, faster, more transparent and reliable exchange of fees between Offices and supporting the development of effective secure payment systems for applicants.

— *Quality*

(f) All Offices with international phase roles should look carefully at the quality processes and results of their work.

(g) The International Bureau should continue to support discussions between Offices and develop metrics to assist Offices in monitoring their activities.

(h) Offices should recognize that openness in quality issues is essential to foster confidence in the work products of other Offices.

(i) International Authorities and designated Offices should consider whether useful feedback on international phase work is possible.

(j) Further work is required on the contents and effective coordination of training provided by the International Bureau or by Offices for other Offices, in particular from developing and least developed countries, in both procedural and substantive matters.

26. While this document is directed at efforts to improve the PCT system, it should be observed that work in the areas set out in this document could also assist Paris route applications. In most national Offices, a majority of granted patents are based on applications first filed in a different Office. Consequently, even for those Offices where the PCT route is not the main source of applications which are pursued as far as grant, greater cooperation in these areas, based on better definition and implementation of PCT standards, is likely to be beneficial in the long term.

27. *The Working Group is invited to comment on the priorities and directions for the major lines of work set out in the present document.*

[Annexes follow]

DATE: FEBRUARY 2, 2017

THE PCT SYSTEM – OVERVIEW AND POSSIBLE FUTURE DIRECTIONS AND PRIORITIES

Memorandum by the Director General of WIPO

INTRODUCTION

On February 2, 2017, the International Bureau of the World Intellectual Property Organization (WIPO) published the 3 millionth international patent application filed under WIPO's Patent Cooperation Treaty (PCT), an important milestone in the history of the Treaty and of WIPO. From very modest beginnings in 1978, with initially 18 Contracting States, the PCT has grown into the central pillar of the international patent system, the primary vehicle for applicants seeking patent protection internationally in any of the PCT's current 151 Contracting States and one of the best examples of successful multilateral work sharing and cooperation. In its almost 39 years of operations, the number of international applications filed has steadily increased from 459 applications filed during its first year to almost 220,000 applications filed in 2015 (with provisional figures for 2016 showing another year of strong growth), far exceeding even the most optimistic expectations of the founders of the PCT who created the system in the 1960s. Today, it is one of WIPO's key assets, accounting for 76 per cent of its revenue and enabling the financing of the development cooperation program of the Organization and of many of its other programs, and there is every expectation that its growth and vitality will continue.

The PCT's success is a tribute to the vision of the PCT's founders who, more than four decades ago, foresaw the potential value in providing a global service to assist innovators in seeking multinational patent protection for their inventions. Building on that vision, the PCT system will need to further evolve to continue to function as the tool to support innovation, investment and development that those founders envisaged it to be. This paper is intended to provide "food for thought" on broad directions and priorities for future work aimed at further improving the system, to the common benefit of Contracting States, national Offices², applicants and third parties. It is not intended as a comprehensive guide to the issues – many more detailed matters are the subject of discussion through circulars or PCT Working Group papers. Nor is it intended to replace the "Roadmap" papers which were discussed between 2009 and 2011; most if not all of the matters raised in those "Roadmap" papers remain relevant.

² In this paper, references to national patent Offices and laws also include regional patent Offices and laws.

The paper provides an overview of the PCT system and some of the issues which it faces. The first two parts of the paper provide a brief outline of the international patent system and the PCT's evolving place within it, including some historical facts where it may be useful to know how the current system came to be. The third part of the paper deals with some of the main issues the PCT system currently faces and measures which could be considered to address them. In particular, it suggests that the primary route to achieve this aim is to put renewed emphasis on the "Cooperation" element of the Treaty, mostly requiring changes to the behaviors and actions of Offices (including the International Bureau) rather than significant changes to the legal framework.

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I. PATENTS WORLDWIDE

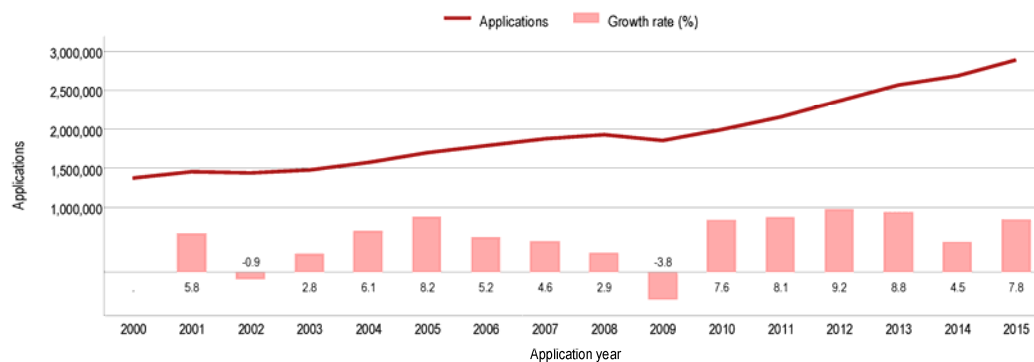
NUMBERS OF APPLICATIONS

1. Around 2.9 million patent applications were filed worldwide in 2015, up 7.8% from 2014. Driving that strong growth were filings in China, which in 2015 received about 174,000 of the nearly 208,000 additional filings and accounted for 84% of total growth, and filings in the United States of America and with the European Patent Office, which combined contributed 8.6% of total growth.

Figure 1: Trend in Patent Applications Worldwide

Patent applications and grants worldwide

A1 Trend in patent applications worldwide



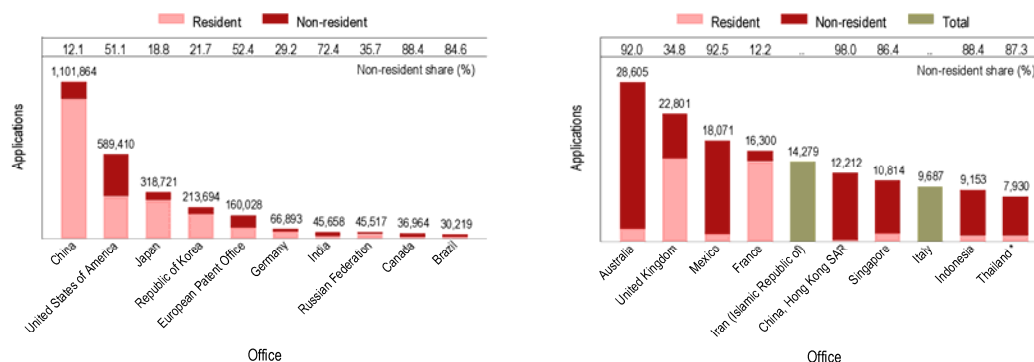
Note: World totals are WIPO estimates using data covering 150 patent offices. These totals include applications filed directly with national and regional offices and applications entering offices through the Patent Cooperation Treaty national phase (where applicable).

Source: WIPO Statistics Database, October 2016.

USE OF THE PATENT SYSTEM BY NON-RESIDENTS

Figure 2: Patent Applications for the Top 20 Offices, 2015

A8 Patent applications for the top 20 offices, 2015



* indicates 2014 data.
.. indicates not available.

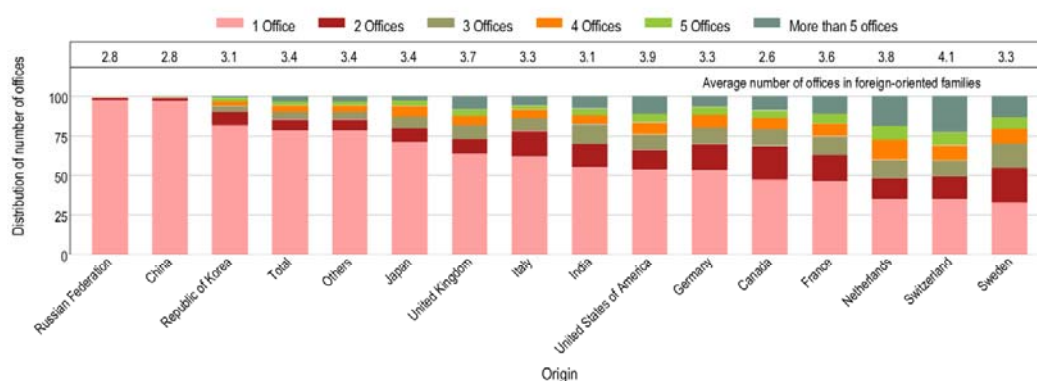
Note: In general, national offices of European Patent Office (EPO) member states receive lower volumes of applications because applicants may apply via the EPO to seek protection within any EPO member state. Resident and non-resident breakdown are not available for the Islamic Republic of Iran or Italy.

Source: WIPO Statistics Database, October 2016.

2. In most national Offices (with a number of notable exceptions), a majority of applications are filed by non-residents who are typically also seeking protection in their home country. Thus, a patent application filed in one country will frequently be part of a larger family of equivalent applications filed in other countries around the world.

Figure 3: Patent Families by Number of Offices, 2011 to 2013

A25 Patent families by number of offices, 2011-13



Note: A patent family is defined as patent applications interlinked by one or more of: priority claim, Patent Cooperation Treaty national phase entry, continuation, continuation-in-part, internal priority and addition or division. Patent families here include only those associated with patent applications for inventions and exclude patent families associated with utility model applications. This figure shows the distribution of total patent families for selected origins by the number of offices at which they exist. For example, 97% of families originating from China and the Russian Federation are single-office families, whereas around one-third of families originating from the Netherlands, Switzerland and Sweden are single-office families.

Sources: WIPO Statistics Database and EPO PATSTAT database, October 2016.

PARIS CONVENTION FILINGS VS. PATENT COOPERATION TREATY FILINGS

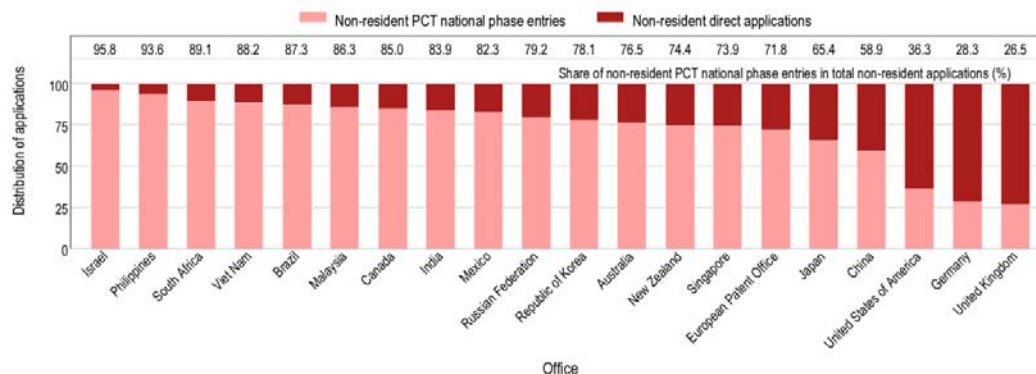
3. Such multinational filings may either be a direct national application to a national patent Office, normally based on a priority claim³ from a first filing in the applicant's home country, or else an international application filed under the PCT, which is equivalent to an application in each of the PCT Contracting States (151 States at the end of January 2017). The most common filing scenario is that one or more national applications are filed in the applicant's home country and then, just prior to the expiration of 12 months from the filing date of the earliest application, either an international application is filed through the PCT or else a number of foreign national applications are filed directly with the national Offices concerned, in either case claiming priority of one or more earlier national applications.

4. In most Offices (the main exceptions being the United States of America and the national Offices of members of regional patent systems, such as the European Patent Convention), the PCT is the route taken by a majority of non-resident applicants.

³ To be patentable, inventions need to be new and inventive at the time that a patent application is filed. The Paris Convention in 1883 introduced a system of "priority" whereby a later application could receive the benefits of the filing date of an application filed in another country up to 12 months earlier.

Figure 4: Non-Resident Applications by Filing Route for Selected Offices, 2015

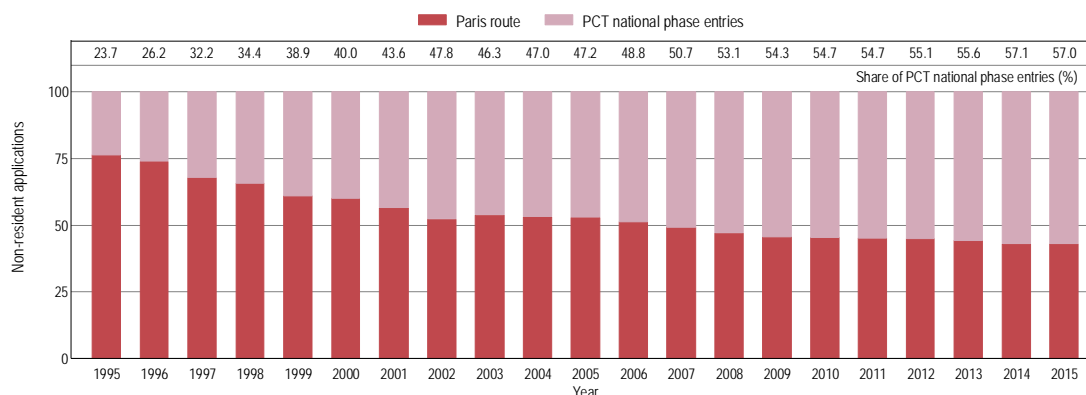
A51 Non-resident applications by filing route for selected offices, 2015



Note: A patent office may receive patent applications filed either directly with the office (the "Paris route") or through the Patent Cooperation Treaty System (Patent Cooperation Treaty national phase entries).

Source: WIPO Statistics Database, October 2016.

Figure 5: Share of Non-Resident Applications by Filing Route, 1995 to 2015



ADVANTAGES OF THE PCT FOR APPLICANTS

5. The PCT route holds many advantages over the direct "Paris Convention" route for applicants. While the PCT does not grant patent rights, it begins and advances the process of applying for such rights in multiple countries, in preparation for eventual processing and decisions on whether or not to grant such rights by national Offices. One of the most important advantages is that it allows applicants a much longer period (at least 30 months from the priority date instead of 12 months under the Paris Convention) in which to decide whether an invention is of sufficient commercial value and has sufficient chance of being patentable for the application to be worth pursuing in other countries, as well as for smaller applicants to seek financial backing.

6. Furthermore, the PCT improves the basis for that decision by applicants. During the period starting with the international filing date and ending with the expiration of 30 months from the priority date, generally known as "the international phase", an international search report and at least one written opinion are provided, which will be of benefit to applicants in deciding whether or not to proceed with the application into what is called the "national phase" before the national Offices which eventually, based on their national law, will decide whether or not to grant patent rights. Given that the largest costs in using the international patent system are typically

not the official Office fees but the translations and national agents' fees, the benefits in putting off the payment of those fees for at least 30 months – and avoiding paying them at all where it is decided not to proceed into the national phase – can greatly outweigh the cost of the international phase fees. The system also allows many formality requirements to be addressed just once, to a common standard, while leaving issues of substance to the national laws of the PCT Contracting States.

ADVANTAGES OF THE PCT FOR NATIONAL OFFICES AND CONTRACTING STATES

7. The PCT route is also beneficial for national Offices. The opportunity for the applicant to “work” on the application during the international phase, by way of correcting formal defects and amending the application, means that those applications which enter the national phase are more likely to be of higher quality. Applications entering the national phase will be accompanied by a high quality international search report and written opinion, ready to be exploited by national Offices to assist the national processing. Consequently, the national processing (which typically costs a national Office more than the fees it charges up to the time of grant and thus often is “subsidized” by renewal fees on granted patents) gets a “head-start”, can be cheaper and will more likely result in faster and more efficient decision making by national Offices whether or not to grant a patent. This can be particularly important for small and medium-sized Offices with limited numbers of examiners and resources. The receipt of a search report and written opinion for a significant proportion of incoming applications can offer not only a significant saving in examiner time and in use of expensive search databases, but also effectively provide useful tips on how to search effectively across different types of subject matter.

8. At a national level, the reasons for supporting the patent system vary from country to country. Key objectives will typically include supporting local innovation and allowing inventors to move more effectively to a worldwide market; attracting foreign investment into local manufacturing and distribution; and simply gaining access to international trade agreements which require effective patent protection as a condition.

9. Whatever a country's priorities are for its patent system, effective use of the PCT system can assist national innovators, reduce the cost of running the national patent system, reduce the number of poor quality applications being received by an Office and increase the confidence in the quality of examination which has been made on those applications for which patents are eventually granted. In this regard, each country can make a variety of choices to optimize its national patent system with a view to deriving the most benefits from the PCT system. On the other hand, improvements to the PCT system can also be foreseen at the international level, to the mutual advantage of all Contracting States.

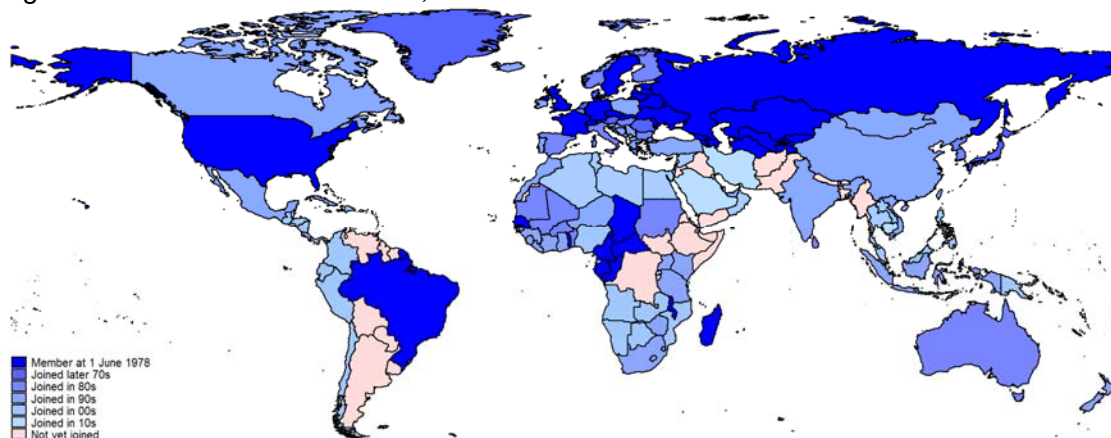
II. THE PCT: ITS DEVELOPMENT AND CURRENT STATE

GEOGRAPHICAL SCOPE OF THE TREATY

10. The PCT began accepting international applications on June 1, 1978, with 18 Contracting States. That number has now grown to 151. Nearly 80 per cent of Contracting States are developing and least-developed countries⁴. In total, PCT Contracting States represent an estimated 95% of the world's economic activity by GDP and 87% of the world's population.

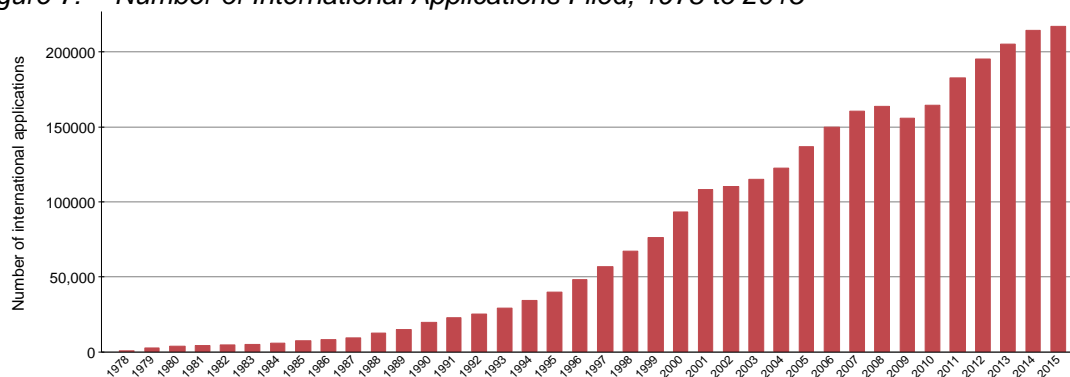
⁴ Based on the criteria for eligibility for a 90 per cent fee reduction.

Figure 6: Accessions to the PCT, 1978 to Present



NUMBERS OF APPLICATIONS

Figure 7: Number of International Applications Filed, 1978 to 2015

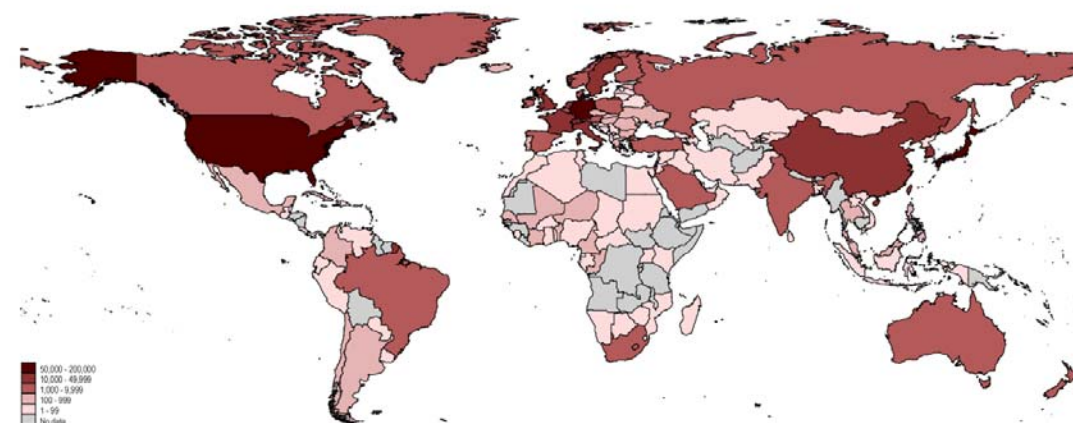


11. Nearly every year since the system began operation there has been a strong increase in volumes of international applications. From around 2,700 international applications filed in 1979, the first full year of operations, by 2015, almost 220,000 were received (with provisional figures for 2016 showing another year of strong growth).

12. The source of applications is also diversifying. In 2015, international applications were filed at 86 receiving Offices (59 from developing and least-developed countries), compared to 78 in 2005 (49 from developing and least-developed countries). As discussed under “Languages”, below, growth has been particularly strong in Asia. Even excluding China, which dominates figures on growth, international applications from developing and least-developed countries have almost doubled in the period 2005 to 2015, compared to a growth of approximately 60 per cent overall. Data on national phase entries is less complete, but it appears that national phase entries based on applications from developing and least-developed countries are also increasing significantly.

Figure 8: PCT National Phase Entries by Country of Origin, 2014

Figure B.2.1: PCT national phase entries by country of origin, 2014



Source: WIPO Statistics Database, May 2016.

INSTITUTIONS' ROLES AND RESPONSIBILITIES

13. The PCT is an inherently decentralized system, based on cooperation and work sharing among Offices of Contracting States fulfilling different roles. While a single Office may play more than one role, every international application must be processed by at least two different Offices, frequently three and occasionally four or more. The international phase roles are:

Receiving Office (RO): Receives the international application and required fees, performs a number of formality checks, assigns the international filing date and sends copies to the International Bureau and to the International Searching Authority. The receiving Office may be a national or regional Office or the International Bureau. The receiving Office has responsibilities to the international community in terms of performing its functions accurately and impartially and passing on the correct documents and fees in a timely manner to the International Bureau and the International Searching Authority, but is essentially performing a function for the benefit of the nationals and residents of the Office's country or region.

International Searching Authority (ISA): Conducts a search to find prior art relevant to novelty and inventive step of the claimed invention. The role of the International Searching Authority is an inherently international one – while many Authorities perform the functions primarily on applications filed by nationals or residents of the Office's country or region, the key consumers of the international search report and written opinion are not only the applicant but also third parties and the national or regional Offices, in their role as designated Offices, of all Contracting States where the applicant enters the national phase.

International Preliminary Examining Authority (IPEA): Very similar role and responsibilities to those of the ISA, but involving an (optional) interactive process, taking into account comments and amendments by the applicant before establishing the international preliminary examination report.

International Bureau (IB): Coordinates the activities of the other Offices, checks that formalities standards are being met, translates key information, maintains reliable independent records, publishes applications and associated documents, ensures that documents and data are reliably provided to the Offices which require them, and provides an electronic platform (ePCT) for electronic filing of applications and carrying out many of the functions of the Offices in their various PCT roles.

DESIGNATIONS – GEOGRAPHICAL SCOPE OF INDIVIDUAL APPLICATIONS

14. Initially, applicants were required to explicitly specify which countries were “designated” in the international application at the time of filing and to pay a fee for each country so designated. As the number of Contracting States grew, this process became ever more difficult, expensive and error-prone for the applicant and both the receiving Offices and the International Bureau. Furthermore, as electronic processing systems and electronic distribution of documents progressed, the marginal cost of processing additional designations decreased to the point where it is now negligible. From 1985, the designation fee was capped so that a maximum of 10 fees was payable. From 1992, a system of “precautionary designations” was introduced, whereby the final decision and payment of designation fees could be delayed until 15 months from the priority date. Over time, the maximum number of designation fees was reduced until finally, in 2004, the designation system was, for all practical purposes, eliminated. Since then, filing of an international application automatically constitutes the designation of all States which are party to the Treaty on the date of filing, leaving only limited opt-outs necessary to avoid “self-collision” problems where parallel national applications are being pursued.

INTERNATIONAL SEARCH AND INTERNATIONAL PRELIMINARY EXAMINATION

15. PCT processing is divided into two main parts. Chapter I of the Treaty sets out processes which are required to be carried out in respect of all international applications, including an international search and international publication. Chapter II sets out an optional process of international preliminary examination.

International Search

16. The international search is carried out by an International Searching Authority, which is a national Office or intergovernmental organization which meets certain minimum criteria and is appointed by the PCT Assembly to act in this role. Each receiving Office designates one or more International Searching Authorities as “competent” to carry out international searches in respect of applications which are filed with it. Where there is more than one, the applicant selects from the competent Authorities.

17. The international search is conducted according to internationally agreed PCT criteria intended to make the information useful to any designated Office, irrespective of the details of its national law. Notably, it is intended to include a wide range of documents which are potentially relevant to novelty and inventive step in any PCT Contracting State, even if their date and nature are such that they could not be considered under the national law of the Office acting as International Searching Authority. The results of this search are published, in the form of the international search report, together with the international application to help third parties assess the likelihood that a patent will be granted in Contracting States which are relevant to them.

International Preliminary Examination

18. The international preliminary examination under Chapter II of the Treaty involves providing a written opinion, explaining in more detail the relevance of the documents cited in the international search report and also commenting on other issues, such as clarity or lack of support for the claimed invention. The applicant has an opportunity to respond and make amendments to the application with a view to obtaining a positive report and the Authority establishes an international preliminary examination report (IPER) on the application, taking any such comments and amendments into account.

19. In 1970, international preliminary examination was seen as quite radical and included many safeguards for both applicants and Contracting States. Notably, the Treaty provides very strict conditions of confidentiality regarding the process of international preliminary examination, even though this normally occurs only after the international application has been published. Further, the Treaty permitted Contracting States to make a reservation from the applicability of Chapter II, even though the effects of the IPER were explicitly “preliminary and non-binding”.

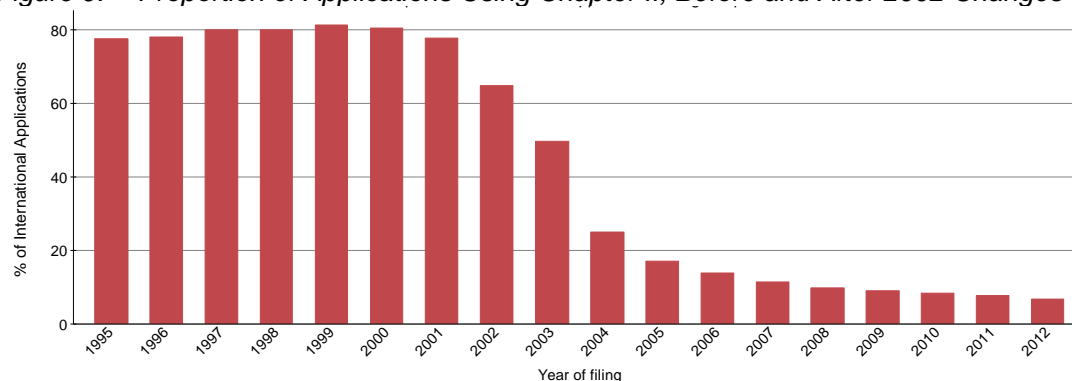
Four of the 18 States party to the Treaty on 1 June 1978 chose to make that reservation (France, Luxembourg, Switzerland and the United States of America), as did six other States joining later. Over time, the Chapter II process was found to be useful and without adverse consequences and, by 1997, all of the reservations had been withdrawn.

Written Opinion of the International Searching Authority

20. Time is needed to conduct the international preliminary examination, which includes the possibility of interactive discussions between the applicant and the examiner, who may be located in different countries. Under the original terms of Article 22 of the Treaty, applicants would normally have to begin national processing at 20 months from the priority date. However, if the applicant filed a “demand” for international preliminary examination, Article 39 extended this time limit to 30 months from priority.

21. The result was that, while the international preliminary examination was useful to many applicants and where it was actively used, the quality of the international application could be significantly improved before national processing began, many applicants filed the demand simply to “buy” 10 months of additional time in which to make the decision on where to enter the national phase without, however, actually providing comments or amendments and thus improving the quality of the application. As a consequence, International Preliminary Examining Authorities were being overloaded with examination work the results of which were not acted on by the applicants with a view towards improving the application and thus did not improve the quality of the applications entering the national phase. Consequently, with effect from 2002, Article 22 was modified to make the time limit for national phase entry 30 months in all cases, irrespective of whether there had been a demand for international preliminary examination.

Figure 9: Proportion of Applications Using Chapter II, Before and After 2002 Changes



22. However, in isolation, this change would have resulted in a major loss of patentability-related information to designated Offices. Whereas 82 per cent of international applications filed in 2000 had been the subject of international preliminary examination, the proportion quickly dropped until by 2010 less than 9 per cent of international applications entered Chapter II. Because many designated Offices used the international preliminary examination reports to assist with their first national phase action, it was agreed that the International Searching Authorities would, in all cases, establish a written opinion to the same standard as the first stage of international preliminary examination. Because this was done at the same time as the international search, the additional workload for the Authorities was considerably less than was the case when it was done as a separate action. This written opinion would then be made available to designated Offices in place of the IPER in the event that no international preliminary examination took place. Where international preliminary examination did take place, the written opinion of the International Searching Authority could take the place of the first written opinion of the International Preliminary Examining Authority.

23. To emphasize that the final reports under Chapter I and II were of the same nature and quality, differing only in whether the applicant had taken the opportunity to respond and amend, the reports were given equivalent names: both are called “international preliminary report on patentability”, one under “Chapter I of the Patent Cooperation Treaty”, the other under “Chapter II of the Patent Cooperation Treaty”.

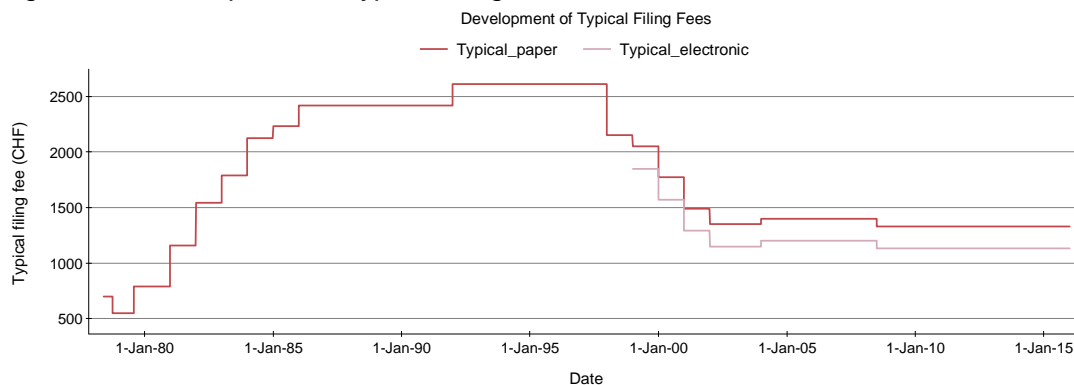
FEES

24. The fees payable in respect of every international application (international filing fee, transmittal fee and search fee) are currently paid to the receiving Office. A number of further fees payable in certain cases only need to be paid to the International Bureau (for example, the special fee for correction of priority claims or early publication prior to the availability of the international search report) or to the International Preliminary Examining Authority (preliminary examination fee and handling fee). The levels of the international filing fee and, in some cases, the search and preliminary examination fees are reduced for natural persons from developing countries and all applicants (including legal entities) from least developed countries.

25. The fees paid to the receiving Office and the Office acting as the International Preliminary Examining Authority contain components for the benefit of that Office and components for the benefit of one or more other Offices, which need to be transmitted appropriately. In many cases, the fees for other Offices are set in the currency of the Office which is to benefit, but paid in the local currency of the receiving Office to which they are paid, according to equivalent amounts which are set periodically by the International Bureau (in the case of currencies which are freely exchangeable) or by the receiving Office to which they are paid (in the case of currencies which are not freely exchangeable). Where the equivalent amount is set by the International Bureau, the International Bureau bears the risk of exchange rate fluctuations between the currency in which the fees are paid and the currency in which the fees have been set and, in the case of the search fee, has to reimburse the International Searching Authority for any loss in fee income where the amount finally received by that Authority is less than the amount set by that Authority.

26. As indicated in relation to designations, above, the structure of the international filing fee has changed over the years, so a simple comparison of fee levels over the years is not possible. However, noting that the average number of designations was 5 in 1978 and had risen to 10 by 1984 (before the maximum number of designation fees had been introduced), a typical fee can be estimated for each time the fees have changed, assuming a steady rise from 5 to 10 designations by 1984 and an international application which is, on average, 30 pages long. In the chart below, separate lines are shown for the amount of the typical international filing fee in the case of a paper filing and in the case of a filing in electronic form, taking into account the most common fee reduction for electronic filing (200 Swiss francs). It can be seen that the typical international filing fee is now only half what it was in 1992. Taking into account that most applicants benefit from a fee reduction of at least 200 Swiss francs for electronic filing and that, with inflation, 2,612 Swiss francs in 1992 is equivalent to around 3,100 today, the effective fee has reduced to about a third of its level in the early 1990s. The fact that the International Bureau managed to continue administering the system despite the effective fee income per application having been reduced to about a third of its levels in the early 1990s is testament to the efficiency savings which have been achieved at the International Bureau through better management practices and the introduction of electronic processing systems over the years.

Figure 10: Development of Typical Filing Fees from 1978 to Present



LANGUAGES

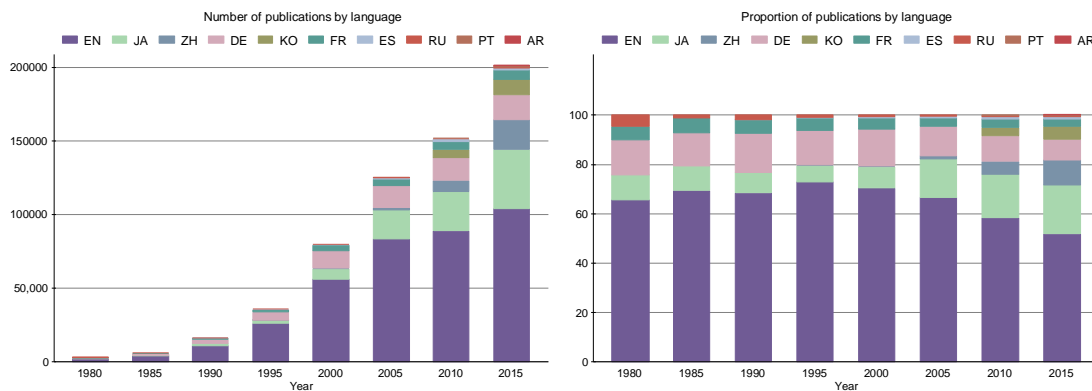
Filing and Publication

27. In 1978, PCT applications were published in one of five languages (English, French, German, Japanese and Russian). Over time, additional languages were added and, since 2009, there are 10 languages of publication (Arabic, Chinese, English, French, German, Japanese, Korean, Portuguese, Russian and Spanish). Depending on the receiving Office, the international application may be filed in other languages, but a translation is required for publication and, depending on the competent International Authority, international search and/or international preliminary examination. In practice, 98.5 per cent of international applications are currently filed in a language of publication.

28. For the entire history of the PCT so far, English has been the majority language of publication. This is in part because of the large proportion of applications filed in that language by applicants from the United States of America and Europe, but also a reflection of the fact that many inventions are now the product of international collaborations done largely in English, together with the need to minimize translation costs in the countries in which applicants expect to enter the national phase. Consequently, in 2016, the receiving Offices of China and the Republic of Korea received the fourth and sixth largest number of international applications in English – more than the receiving Offices of Canada, Australia or, in the case of China, that of the United Kingdom.

29. Nevertheless, the distribution of languages of filing and publication is changing. From a height of 73 per cent of the total in 1993 to 1996, English now represents only just above 50 per cent of the total publications. The Asian languages are increasing rapidly in use, with Japanese, Chinese and Korean language publications representing 20 per cent, 12 per cent and 6 per cent of the total in 2015, respectively. This needs to be understood, however, in the context of rapidly increasing volumes of filings. English language publications in 2016 were over five times the number of those in 1993 and continue to follow a generally rising trend. However, Asian language publications have generally been rising faster. Chinese language publications, for example, rose from zero in 1993 to over 26,000 in 2016.

Figure 11: Breakdown of publication languages in different years, by volume and by proportion of total

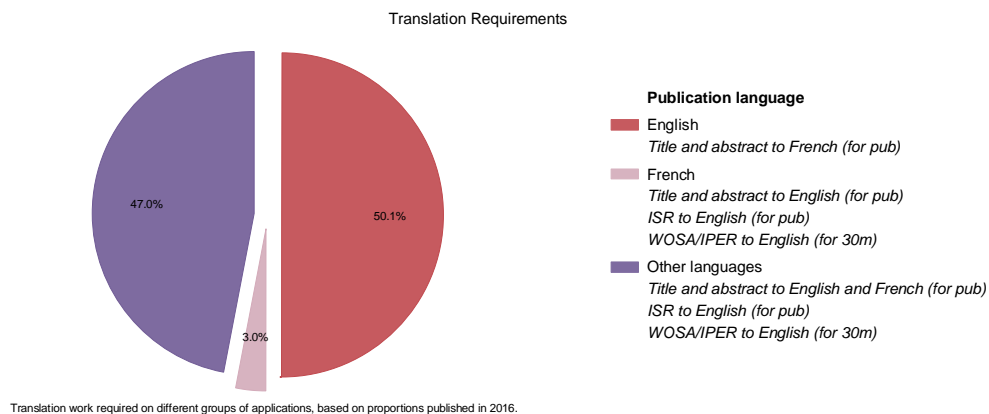


Translation by the International Bureau

30. To ensure that published applications and related information can be used effectively by designated Offices, third parties and patent information users and the applicants themselves, the International Bureau provides high quality translations of certain documents and pieces of information where they are not originally in the language as determined by the Treaty (to ensure accessibility and thus improve the overall usefulness of the system):

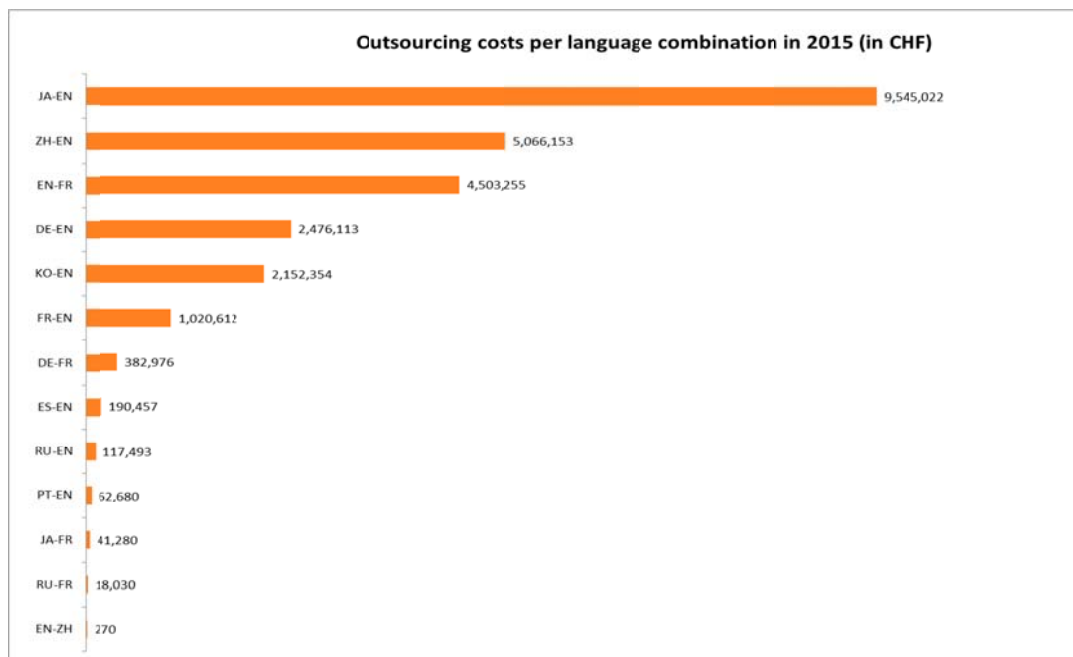
- the title of the invention and the abstract are translated into French and English for inclusion in the published international application;
- the international search report and the international preliminary report on patentability (whether under Chapter I or Chapter II) are translated into English by 30 months from the priority date.

Figure 12: Translation Requirements for Publications in Different Languages



31. The cost of these translations constitutes a significant proportion of the International Bureau's costs in administration of the PCT system, but also represents a major part of the value which is added. It is essential that the costs of translation are kept under control and that the quality of and benefits from the translations are commensurate with the costs. To this end, up to the minute translation technology and tools have been adopted and an aggressive outsourcing approach has been pursued, with 93% of the 126 million words of translation performed in 2015 being outsourced.

Figure 13: Outsourcing Costs of Translation



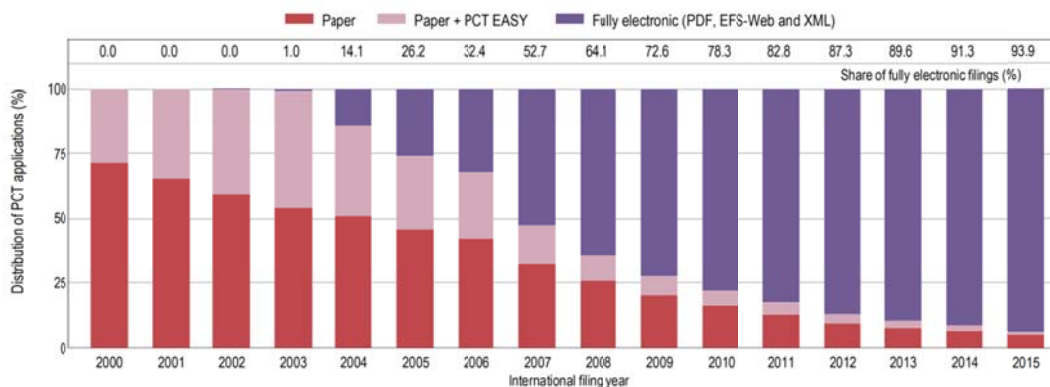
32. In addition to the above-indicated human translations, the abstract and the application body are provided in full text format. This enables machine translation into an ever-increasing range of languages, use of sophisticated linguistic search tools, such as the PATENTSCOPE Cross-Lingual Information Retrieval system, and interaction with terminology databases, such as WIPO Pearl.

33. Further consideration may be given to means by which WIPO might continue its very important role of ensuring that PCT application content is accessible to potential users of that valuable technological information in a manner that reflects the reality of its changing user-base, while containing costs and perhaps likewise expanding the language coverage of application elements such as abstracts titles or reports to further improve accessibility and usefulness of the system.

ELECTRONIC ENVIRONMENT

34. The PCT was originally written at a time when electronic communications were unusual. Now, electronic communications are the normal route. Fully electronic filing was introduced in 2003 and quickly became popular as a result of fee incentives and convenience to applicants. In the second half of 2015 (after the discontinuation of PCT-EASY, which provided a “halfway house” where the applicant submitted the international application on paper accompanied by a diskette containing the bibliographic data in machine-readable form), 94.5 per cent of international applications were filed in electronic format; in 2016, that figure has risen to more than 95%.

Figure 14: Take-up of Electronic Filing



35. All PCT applicants have been able to use electronic filing since it was introduced in 2003, if not by filing their application with their local receiving Office then by filing their application with the receiving Office of the International Bureau. However, until recently, most national receiving Offices found it impractical to offer electronic filing to “their” applicants – it was only a number of the larger national and regional receiving Offices which offered electronic filing. Today, the International Bureau is in a position to offer “hosted” ePCT filing and processing services to any receiving Office which wishes to use these services and to offer them to “their” applicants, allowing the filing and processing of international applications in electronic form at those Offices. At the time of writing, ePCT-filing allows applicants to file their international applications in electronic form with 45 different receiving Offices, the majority of which did not previously allow electronic filing. Several other receiving Offices offer their own, independent electronic filing systems but do not yet accept applications through ePCT-filing.

36. ePCT also allows applicants and Offices to view any documents in the file of the International Bureau. Applicants can also submit post-filing documents to the International Bureau or to 47 Offices in their roles as receiving Office, International Searching Authority or International Preliminary Examining Authority. In the environment of the PCT, where some actions are subject to short deadlines and applicants may be located in a country – or across several countries – different from the receiving Office or especially the International Authority, the ability to collaborate on-line with other individuals listed in an application, and the elimination of postal delays is extremely important.

37. ePCT and various data standards also provide for passing information in machine-readable formats which have the potential to significantly improve processing quality and efficiency. However, apart from the bibliographic data which accompanies the international application as filed, these standards are not yet used as widely as might be hoped. The International Bureau has begun to receive international search reports and written opinions in XML format from three ISAs, but implementation across all Authorities remains a long way off.

NATIONAL PHASE ENTRY

38. In the national phase, designated Offices begin to process international applications to determine whether to grant a patent in compliance with national law. This typically begins 30 months from the priority date, though applicants may request national processing to begin earlier and Offices may offer the opportunity to leave this choice until later – 31 months is a commonly set period and many Offices offer extensions to the deadline on payment of an additional fee or if certain other conditions are met.

39. To enter the national phase, the applicant need usually only pay any fee required by the national Office and provide any required translation (a copy of the international application may be required in certain unusual cases). The other documents and data needed to begin national processing are supplied by the International Bureau directly to the designated Office.

40. Offices are not permitted to require the use of a special form for national phase entry, though the optional forms provided are normally used and generally make the process easier. Provided that the applicant has met the PCT formalities requirements in the international phase (notably the form and content of the international application itself, copies of priority documents, declarations concerning inventorship, right to apply and right to claim priority), there should be no further formal barriers to overcome. The Office can move directly to addressing the substantive issues of patentability, assisted by the international search report and international preliminary report on patentability.

OTHER SIGNIFICANT DEVELOPMENTS

41. The system has adapted over the years to meet the changing needs and expectations of applicants, Offices and third parties. Probably the most significant changes are those which have been described above, namely, to the designation system, the length of the international phase, the establishment of written opinions as part of Chapter I and the fee structure. Some other significant changes have been the introduction of procedures for sequence listings to meet the special difficulties of disclosing and searching genetic sequences; consistent declarations concerning inventorship and other issues, to reduce the burden of providing the same information in different forms for each Office; and “missing parts” and “restoration of the right of priority” to allow applicants to recover from accidental errors which might otherwise be fatal to their applications.

III. FURTHER DEVELOPMENT OF THE PCT SYSTEM

LEGAL AND INSTITUTIONAL ISSUES

Major Reforms Completed

42. As described above, the PCT has evolved very effectively to meet many of the changing needs of applicants, Offices and third parties through modification of the time limits in the Treaty and major amendments to the Regulations.

43. Various further changes (such as greater credence given to international reports in the national phase) might be valued by some users of the system but do not necessarily require changes to the PCT legal framework. Other changes (such as greater transparency in Chapter II processing) might in principle be welcomed by all, but do not seem possible to implement, even if there were general agreement among Contracting States in principle, noting two main practical barriers:

- Many features of the PCT are fixed in the Articles of the Treaty and appear impossible to change without a diplomatic conference. Given that there are now 151 Contracting States, even if a new Treaty could be adopted, it would need to deliver an enormous benefit to all Contracting States if it were to be ratified within a meaningful period by enough States for it to come into force. In the meantime, it is difficult to see how a system could work with two different versions of the Treaty in force which require different drafting standards or different processing steps to be taken to have effects in different designated Offices in anything other than exceptional cases.
- Some of the features set out in the Regulations are implemented in the national laws of Contracting States in ways which mean that they would similarly take a long time to change.

44. Consequently, while there will be an ongoing need for minor modifications, for example, to support improved IT-based workflows and quality initiatives, as discussed in later sections of the present paper, to encourage further sharing of national search and classification information, or to allow new forms of disclosure appropriate to new technologies (as has previously been introduced for sequence listings), it would appear that major reforms of the system through development of the international legal framework can be considered more or less complete.

Continued Improvement of Existing Features of the PCT System

45. On the other hand, there remain great opportunities to improve already existing features of the PCT system, notably with regard to work sharing among Offices, and to make the system more effective through procedural and institutional efforts to ensure that the international phase work effectively supports the national phase processing. Notably, a combination of further efforts to improve the linkage between national first filings, international applications and national phase processing, further efforts to improve quality (as discussed below) and further efforts to set national incentives for good practice by applicants could result in simultaneously reducing processing costs for national Offices and reducing the risk of invalid patents being granted. Two examples of such efforts are set out in the following paragraphs.

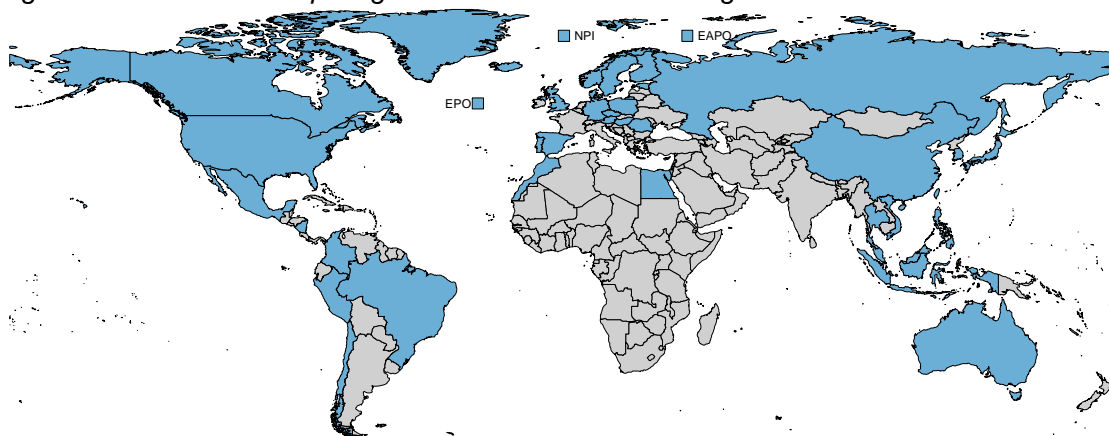
Responses to Negative International Phase Reports

46. In 2010, the European Patent Office started to require applicants to provide a response to negative written opinions of the International Searching Authority (if established by the European Patent Office). This procedure was discussed in the PCT Working Group and has inspired similar arrangements at other Offices. The result was a significant increase in the proportion of applications which were amended prior to consideration by an examiner in the national phase and, as a result, a significant reduction in the amount of work required during the national phase.

Patent Prosecution Highway

47. The Patent Prosecution Highway (PPH) provides another form of incentive to file higher quality international applications or to eliminate defects at an early stage, in this case by offering accelerated national examination if the claimed invention has been found by another Office to have claims which are novel and inventive. In the case of PCT-PPH, this means a written opinion of the International Searching Authority or an international preliminary examination report with positive preliminary findings concerning novelty and inventive step. PPH requires participating Offices only to accelerate procedures where the relevant conditions are met; the second Office is not required to come to the same conclusion as the first Office.

Figure 15: Offices Participating in at Least One PPH Arrangement



48. The Patent Prosecution Highway began as a small-scale bilateral pilot between the Japan Patent Office and the United States Patent and Trademark Office but has continued and grown over the past ten years. Now, 41 Offices from developed and developing countries alike in all regions of the world participate in at least one bilateral or in the Global PPH plurilateral arrangement and feedback has been positive. It may therefore be an opportune time to again discuss its potential role in the context of the PCT and the international patent system as a whole. Such discussions might include:

- how PPH can be used in combination with other work sharing tools such as WIPO-CASE (Centralized Access to Search and Examination – see under “Non-PCT IT Platforms”, below) to assist national Offices in reducing their workload and improving the quality of their examination without relinquishing sovereignty over the decision whether or not to grant a patent; and
- whether it would be appropriate to support this system within WIPO, such as by offering direct integration within the PCT (as was proposed by the United States of America and the United Kingdom at the fifth, sixth and seventh sessions of the PCT Working Group) or else by assisting harmonization of the conditions and procedures involved to reduce the complexity for applicants and the administrative overhead for Offices.

Other National Incentives

49. Other initiatives could also be considered, such as fee-based incentives upon national phase entry to encourage the applicant to improve the quality of applications during the international phase. While setting such incentives would in the end be a matter of national law and policy, it would appear worth considering such initiatives in the international context, since a concerted approach by many States with similar goals will generally provide a greater effect on applicant behavior than any one State acting alone.

TECHNICAL (IT) ENVIRONMENT

Opportunities

50. Electronic filing now accounts for over 95% of international applications and electronic processing is the norm at the International Bureau and many receiving Offices and International Authorities. The International Bureau's ePCT system has opened up a new, real-time window on the filing and processing of international application in electronic form and offers national Offices in their capacities as RO, ISA and IPEA the opportunity to provide sophisticated online services for applicants, and to support internal workflows both of which may potentially reduce costs without the overhead of maintaining the associated IT infrastructure. Building on ePCT and WIPO global infrastructure projects such as IPAS (WIPO's Industrial Property Automation System – see under “Non-PCT IT Platforms”, below) and WIPO-CASE, similar opportunities exist to provide electronic services which assist applicants and Offices in the preparation of national phase entry and subsequent national phase work.

51. These electronic services have great potential to improve the PCT system for applicants, Offices and the public alike, by reducing costs and delays, eliminating duplication of work by entering data just once and passing it in machine-readable format, eliminating transcription errors, reducing the potential for many other errors, giving greater transparency to processing and improving the quality and timeliness of patent information.

52. The use of electronic services has already achieved enormous efficiencies, but greater cooperation is needed between national Offices and the International Bureau to unlock their full potential. Systems and standards exist for exchanging most of the information concerning the processing of international applications in near-real time and in machine readable formats. However, they are not yet implemented or used to the extent necessary to take international cooperation to its next level. 70 national Offices use ePCT services or provide their own electronic services which are compatible with the ePCT services to a greater or lesser extent. Yet, electronic processing across the whole of the international phase remains out of the reach of most applicants. Further, most of the post-filing services which are used in practice are based on upload and exchange of traditional documents, mostly in an image format (PDF), which eliminates postal and scanning delays but does not fundamentally improve the procedures as a whole.

53. The records which are available to applicants and other Offices relating to the processing of international applications at most receiving Offices and International Authorities are incomplete and not necessarily up to date, limited to only those documents which have been transmitted to the International Bureau.

Key Issues for the PCT International Phase

54. To unleash the full potential of electronic tools and services, key issues which should be further considered include:

- Processes should be optimized for the 95 per cent and increasing of electronically filed applications, while continuing to support the need to file and process paper where necessary.
- More workflows should be initiated by self-service arrangements, where data is entered just once, at the earliest stage practical (whether by the applicant or by the Office which is competent for a particular function). Any required checks should be performed as soon as possible. Ideally, most data passed on to other interested parties should be in machine-readable format and be validated electronically before it is ever officially submitted to the file.
- Within the limitations of the Treaty, it may be desirable to review the functions to be performed by different Offices to ensure that tasks are performed quickly and consistently. This might involve a review of some of the functions traditionally performed by the International Bureau, which might change as the result of data entry by applicants or receiving Offices; a review of some of the functions traditionally performed by receiving Offices which, as a result of new electronic tools and services, might benefit from being centralized at the International Bureau; and a review of other services which might be fully automated, under the responsibility of the relevant competent Office and only brought to the attention of staff where problems need to be resolved. Ideally, the work of both receiving Offices and the International Bureau should be able to move away from checking for basic formalities errors and more towards giving practical assistance to the application process.
- Unpublished data should be held and processed securely, while ensuring that all Offices involved in the international phase processing or early national phase entries work with consistent and up-to-date information. Published data should be made available as quickly and freely as possible, but with great care to its accuracy and integrity.
- Applicants should be able to both view files and data and communicate electronically with all the Offices involved in processing their international applications throughout the international phase (and into the national phase), whether those Offices are “their own” national Offices or Offices located on a different continent.
- The application body formats should be optimized to allow more effective disclosure of technical information. Current discussions surround XML formats to support availability of the full text of the application and chemical and mathematical formulae and color drawings to allow photographs and more modern diagrams where this is useful. However, vector graphics, 3D graphics, videos and other forms of disclosure might in principle be considered as well.

55. To support the above goals, the normal assumption should be that the applicant or Office responsible for an action should enter all relevant data in a consistent, machine-readable format and that the data should be immediately available, not only for the record but to support any further actions which other Offices need to take as a consequence. Underpinning such an approach is a need for the various systems used by applicants, national Offices and the International Bureau to become more sophisticated in their ability to share functionality and

data, and ePCT is foreseen as a significant enabler of this. National Offices, in their roles as receiving Offices, International Authorities and designated Offices, should review their means of sending and receiving data to ensure that they are appropriate to current needs, especially when they act for applicants in many different countries. The remaining paper document exchanges between Offices should be replaced with electronic exchanges of documents and usable data. Offices should consider the possibilities of web services to allow near-real-time exchange of certain documents and data instead of the use of batches in which documents are in some cases sent only weekly.

56. The further-reaching goals imply a significant effort in identifying new workflows, defining data standards and implementing effective data validation systems. A strong commitment to “quality at source” is required so that data entered can be made available quickly without fear of errors propagating – much of the work currently performed by the International Bureau is essentially checking for issues which are not handled reliably or consistently by different receiving Offices. The expected benefits would be not only more efficient processing, but reduced errors (which can be very difficult and costly to correct for Offices as well as applicants if not identified and dealt with immediately) and improved patent information services. This would offer third parties and designated Offices a wider and more accessible range of information, including the possibility of most information being available in formats which are either language-neutral or else able to be machine translated, in addition to the human translations which are provided.

Non-PCT IT Platforms

57. In addition to ePCT browser-based services, PCT-EDI⁵, Patentscope and Patentscope Web Services, all of which allow sharing of information directly relevant to the international phase processing of an international application, the International Bureau offers a number of other services to assist the work of national Offices.

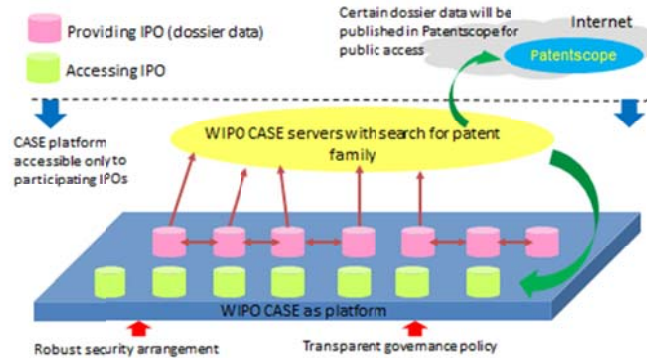
58. The WIPO Digital Access Service for Priority Documents (DAS, also known as PDAS) offers a secure means for transmitting priority documents (which are usually unpublished national applications) between Offices at the request of the applicant. The service currently has 11 participating Offices and, being supported by PCT-SAFE and closely integrated into ePCT, is greatly used by applicants at some of those Offices for PCT purposes. However, it requires wider membership to achieve its potential for its originally intended Paris route purpose.

59. IPAS provides national Offices with a means for automating national processes for patents, utility models, industrial designs and trademarks, which includes options for sending national phase information to the International Bureau as well as for retrieving on demand documents required for national phase processing of published international applications.

60. The WIPO-CASE system offers Offices the opportunity to see search and examination results from equivalent applications in other Offices, including the national phase processing of international applications. While it is always hoped that the international search is of a high quality and reveals all the most relevant prior art, CASE offers the opportunity to ensure that relevant prior art found at later stages, during the national phase processing of international applications, can also be taken into account, minimizing the risk of granting invalid patents.

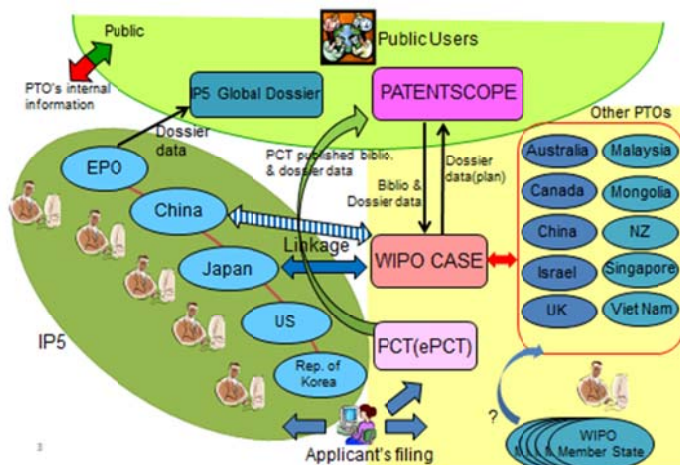
⁵ PCT Electronic Data Interchange – a secure electronic service used for the transfer of documents between the International Bureau and many national Offices’ automated systems, typically on the basis of daily or weekly batches.

Figure 16: Access to WIPO-CASE



61. The WIPO CASE system is integrated with information from Patentscope and from the Global Dossier service run by the IP5 Offices. Wider use of the service by national Offices will significantly increase the benefits available to all users.

Figure 17: Relationship of WIPO-CASE with Global Dossier



FINANCIAL ISSUES

Fee Structure

62. The international filing fee presently has, in essence, three components: a main fee, a page fee payable for each page of the application over 30 and reductions of various levels which are available for filing in electronic form and to applicants from countries which meet certain criteria (primarily developing countries).

63. As noted above, the typical international filing fee paid by applicants is presently around half (or a third, adjusted for inflation) of what it was in the mid-1990s. The efficiencies which have been achieved at the International Bureau in processing mean that this remains affordable for the present. However, a number of issues may need to be considered:

- When 95 per cent of applicants pay a reduced fee (because they benefit from electronic filing-related fee reductions), the “normal” fee is no longer normal. The original objective of encouraging electronic filing has been accomplished and the benefits to applicants of electronic filing are such that few if any applicants would return to paper filing even if the fee levels were the same. A readjustment of the levels might be proposed in the coming years, but is not yet urgent.

– The highest level of reduction for electronic filing (300 Swiss franc for filing in XML format) is offered to achieve a service-oriented goal of being able to provide 100% accurate full text application bodies for the benefit of designated Offices and patent information providers, rather than because they are cheaper to process than filings in PDF format (provided that the bibliographic data from the request is in XML format). While XML filing tools are being improved and this route promoted, financial projections assume a gradual move towards XML.

– While the “typical” international filing fee is significantly lower than the levels in the mid-1990s, the rate is greater than would have been paid for the (old) basic fee and up to four designation fees. This can be seen as a small disincentive to use the system when intending to enter the international phase in only a small number of countries, particularly if the applicant is certain of the countries where protection will be sought and does not need to prepare translations. In principle, it would be desirable to ensure that the system is valuable to *any* applicant considering international patent protection. However, given that processing costs are now almost entirely independent of the number of designations or national phase entries, it is difficult to see how this can be affordably achieved by means of a meaningful fee incentive based on limitation to a small number of designations.

64. Regarding the other fee components, now that few paper copies are printed and mailed, the processing cost of lengthy international applications for the International Bureau is only marginally greater than for short ones. However, there is a public policy value in encouraging disclosures to be concise, rather than burying the important information in a large volume of less relevant text. Consequently, while there may be scope for making adjustments to the extent to which the per page fee component applies to the PCT request form, it is desirable not to make any fundamental reforms to this part of the fee.

65. In the case of the reductions for certain applicants from certain countries, the method for determining the States to which the benefit applies has only recently been updated and given its own review cycle – the principles therefore appear to be agreed for the short to medium term. Following a proposal by the Delegation of Brazil, an analysis has been prepared, for consideration by the PCT Working Group at its May 2017 session, of the effect of various possibilities for extending similar discounts to some or all universities and research institutes⁶.

66. In summary, the levels of fees will need to be monitored carefully and changes to the structure may be appropriate or indeed required in the future. However, in view of the sensitivity of any change and to avoid multiple sets of negotiations over different issues, it is proposed to postpone any consideration of structural change until a revision becomes necessary, for example because the projected level of use of the XML filing option suggests that the current model will become unsustainable.

Fee Payment Means, Equivalent Amounts and Reconciliations

67. As noted above, many fees are paid to receiving Offices and International Preliminary Examining Authorities with components for the benefit of other Offices as International Searching Authority or of the International Bureau. This means that many Offices are both transmitting money to, and receiving money from, other Offices with a wide variety of currencies and according to different procedures and timetables. There is a considerable amount of administrative work required to ensure that payments have been made correctly. Offices typically need to maintain financial relationships with several different Offices, even though the volumes of transactions between some pairs may be very small. It also has significant risks for all Offices in that the timing of payments from different Offices can be uncertain. For the International Bureau, in particular, the late transfer of fees from receiving Offices to International

⁶ See document PCT/WG/10/2 at http://www.wipo.int/edocs/mdocs/pct/en/pct_wg_10/pct_wg_10_2.docx

Searching Authorities increases the risk that the exchange rate has deviated significantly from that at which the equivalent amount was set, leaving the International Bureau potentially exposed to make up any shortfall.

68. A closely related issue is that payable functions (such as the filing of international applications and the submission of demands) are being hosted by the International Bureau on behalf an increasing range of Offices, but with payment still needing to be made directly to the receiving Office or the International Preliminary Examining Authority. To improve efficiency, it is important that a centralized payment service can be provided, allowing payments to be made to the International Bureau on behalf of the RO or IPEA. Consideration might also be given to the question as to whether such centralized payment of PCT fees to the International Bureau should indeed replace the current decentralized model under which fees are paid to receiving Offices, International Authorities and the International Bureau.

69. These issues are being studied with a view to beginning “netting” services, calculating total amounts payable between two Offices over a period and then exchanging only the difference. This should permit Offices to minimize transaction costs and allow the International Bureau to better control the timing of currency exchanges and optimize the rates obtained. For these to work effectively, it seems necessary to meet three key conditions:

- Fee transfers between Offices need to be made according to a more reliable timetable (for example, transfers might need to be made for transactions occurring in one calendar month by the third week of the following calendar month).
- A consistent accounting approach needs to be adopted by all participating Offices to ensure that the reconciliations of amounts can reliably be done within the necessary period of time to achieve the payment timetable, in a manner which satisfies audit requirements.
- For centralized payments, it must be clear that payment is considered legally made once the amount has been received by the International Bureau, even though the amount might only be transferred to the account of the relevant Office the following calendar month. A reliable and consistent real time notification system would be needed to ensure that the Office was aware that the relevant fee had been paid, for example, in order to trigger required processing. Where noticeable transaction fees are incurred (such as credit card transactions), it needs to be clear whether these are borne by the International Bureau, the relevant Office or added as a surcharge for the applicant.

70. At the outset, the International Bureau intends to pilot such netting arrangements on the basis of bilateral arrangements between the International Bureau and the relevant Offices. However, if the process is successful, it will need to be codified in the form of consistent Administrative Instructions and potentially in the form of Rule changes concerning the handling of fees.

QUALITY

71. For the PCT to live up to its aim to actively assist the national phase processing of patent applications and to result in higher quality patents being granted and unpatentable inventions not having patents granted, it is essential that its main work products be well designed to be useful to designated Offices, be delivered on time and be of a quality which makes them effective. The quality of the international search report is paramount; without a high quality search, the international preliminary report on patentability cannot be meaningful as its most important feature is to explain the relevance of the results of the international search to the main patentability criteria of novelty and inventive step. However, other work products are also very important and an effective result requires a joint effort by applicants and all Offices involved.

International Search Reports

72. The definition of the documents to be cited in an international search is deliberately broader than can be relevant under the national law of most Contracting States. Most notably, it is required that the international search report should cite documents according to the filing date rather than the priority date and that “earlier patent documents” should be indicated even if they would not be citable under the ISA’s national law, for example, because the cited application did not have effect or an equivalent application in the ISA’s country. This means that designated Offices should have the essential information available to take a decision on patentability according to its national law, even if it comes to a different conclusion from the ISA on the validity of any priority claims.

73. However, at least anecdotally, the quality of international search reports is not deemed sufficient by many designated Offices to rely on the search for national purposes. Some designated Offices offer a discount on national search fees to recognize that in most cases the international search *usually* allows the examiner the “flying start” on search and examination which the system is intended to provide. A few Offices dispense with the need for a national search report in the national phase of applications for which they acted as ISA. But many designated Offices give no credit to the international search report, even if it was established by themselves as ISA. This is particularly unfortunate as it adds an expense to the system which should clearly be unnecessary and gives a poor impression of the ISA’s level of confidence in its own work.

74. Since 2004, a quality framework has been in place, requiring International Authorities to have a quality management system meeting certain criteria. Since 2010, the work on consistent quality of international searches, which has for many years been addressed in the Meeting of International Authorities, was reinvigorated by the creation of a quality subgroup, seeking to address quality issues at an expert level. However, while significant steps have been made, much remains to be done to ensure that quality management systems contribute effectively to ensuring final product quality which is recognized by applicants and designated Offices as fit for the intended purpose.

75. Key issues to be considered in this area include:

- Full faith and credit by designated Offices to international search reports which they themselves established as International Searching Authority – if the producer will not stand behind its product’s quality, why should others have confidence in it?
- Can international quality metrics be identified and publicly applied? Reliable measures of the substantive quality of an individual search report are essentially impossible, but serious consideration needs to be given to whether ways can be found to provide a meaningful international indicator of overall quality of work by the Authority as a whole. Such an indicator ought to be evaluated independently of the ISA concerned in order to give broad confidence in the value of the results.
- Where quality management systems recognize problems, do Offices respond effectively to address those problems?
- Designated Offices are the key users of international search reports and international preliminary reports on patentability and should consider:
 - (i) helping to define what quality levels they expect;
 - (ii) providing incentives, such as reduced fees, which correspond to the benefits the designated Offices will receive once the required quality has been demonstrated;

- (iii) providing constant feedback to the Authority concerning the quality of the reports that it receives.

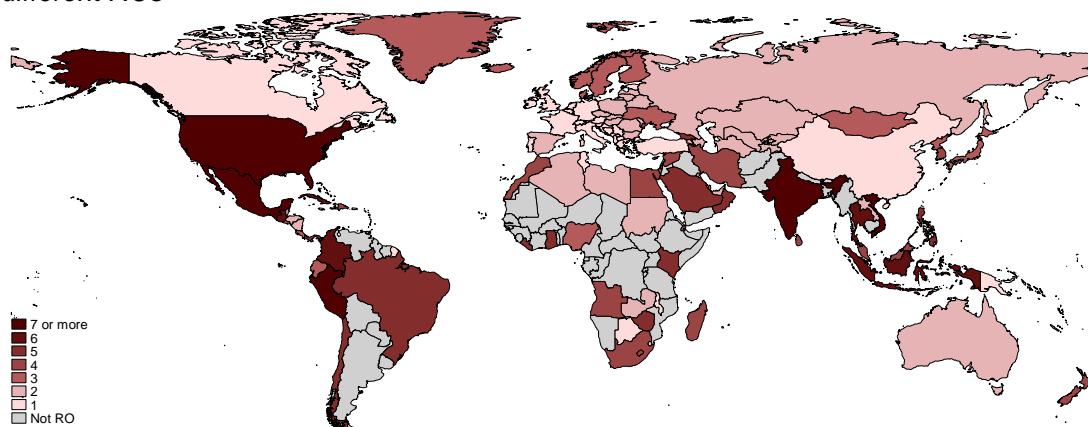
76. Of course, it will likely never be practical for any Office – ISA or otherwise – to provide a guarantee of a truly comprehensive search. Measures should continue to be taken to extend the scope and usability of search databases available to examiners, to provide cross-lingual searching and to explore ways of effectively drawing on language or technical skills in other Offices, whether by means such as the collaborative search and examination pilot⁷ or by tools to efficiently bring together the results of additional searches (such as WIPO-CASE) to the extent that they continue to be considered necessary in both the international phase (supplementary international search) and national phase.

Other International Phase Work

77. While the quality of the international search report and international preliminary reports on patentability are the most important single factors to be considered, for the system to be effective, all parts of it need to work well. For some years, the International Bureau has been publishing metrics concerning the timeliness of a variety of receiving Office, International Authority and International Bureau actions and, in general, the levels of timeliness have tended to improve. However, further work needs to be done on measurable aspects of quality by all Offices concerned, including but not limited to pure timeliness. It would not be practical to suggest that receiving Offices, many of which do not employ even a single person full time on the relevant tasks, should have quality management systems of the nature of those required for the International Authorities. Nevertheless, further consideration needs to be given to ensuring that the processes of all Offices – receiving Office, International Authority and International Bureau alike – are effective and produce results which are timely and accurate, so that they can be relied on for the later stages of international and national phase processing.

ISA Choice

Figure 18: Number of ISAs designated as competent for international applications filed at different ROs



78. One issue which is quite marked is the extent to which different PCT receiving Offices offer their applicants a choice as to the International Authority to carry out the international search and/or the international preliminary examination of international applications filed with them. Some receiving Offices only permit applicants a single choice of International Authority. Others offer many options. Some International Authorities act only for a very small range of

⁷ A third pilot of collaborative search and examination is expected to begin in the course of 2017, involving the IP5 Offices (the State Intellectual Property Office of the People's Republic of China, the European Patent Office, the Japan Patent Office, the Korean Intellectual Property Office and the United States Patent and Trademark Office) – see document PCT/WG/9/20.

receiving Offices, others for many. Articles 16(2) and 56(3) of the Treaty point at the vision shared by some of the drafters of the Treaty that there should eventually be a single International Authority to establish reports in a consistent manner for all international applications. However, with the number of International Authorities having increased from seven in 1978 to 22 at the time of writing (with more interested in seeking appointment), a single Authority now seems unlikely. Consideration thus needs to be given to how to maintain quality and consistency and whether competition between Authorities might serve a role to achieve this goal. While some Offices have a natural role for some applications as a result of language competence, a review in principle of how competence as an ISA is defined may be opportune at this stage.

Search Systems and Examiner Training in Designated Offices

79. The quality of the international search is very important, but it is only truly relevant in achieving the overall aims of the PCT if the PCT work products can be understood and used effectively by designated Offices. There is an ever-increasing demand for examiner training and access to effective search systems for smaller national Offices to ensure that the international reports can genuinely be used to improve the quality of national examination. Addressing this need is difficult, but important to the acceptance of the system as a whole and so that it can achieve the objectives of its founders.

SUMMARY

80. The past 15 years have seen enormous improvements to the PCT system driven by changes to the legal framework. However, the further progress which can be driven by such changes is limited. The key to future improvements lies in putting renewed emphasis on the “Cooperation” aim which underpins the Treaty. No doubt, changes to the legal framework will continue to play a supportive role. However, in the view of the International Bureau, it is now mainly up to the Contracting States and the national and regional Offices which perform roles under the Treaty to put further life into that “Cooperation” aim with a view towards making the PCT system fully effective as the tool to support innovation, investment and development that those same Contracting States designed it to be.

81. Key issues to be addressed in this context include:

- the need for Offices to perform their assigned roles in a timely way and to the quality necessary to allow other Offices and the public at large to trust in the work performed by them, even though this might involve costs for which the main benefits are received by others;
- the need for Offices to accept closer public scrutiny of their work;
- the need for IT systems to be developed with a view towards sharing usable information with others more effectively and to common standards, even though that may increase initial development costs and lengthen development timetables;
- the need to convince applicants, and to set incentives accordingly, to ensure that applicants play a more effective part in the “cooperation”;
- the need to provide training and assistance necessary to ensure that Offices from all Contracting States are able and willing to perform their roles effectively.

[Annex follows]

ANNEX – TABLE OF FILING FEES

<i>Date</i>	<i>Basic fee</i>	<i>Designation fee</i>	<i>Max Designation fees</i>	<i>Page fee</i>	<i>Typical paper filing fee</i>	<i>Typical fee with reductions</i>
1 June 1978	300	80		6	700	
3 October 1978	250	60		4.50	550	
1 August 1979	325	78		6	793	
1 January 1981	432	104		8	1160	
1 January 1982	527	127		11	1543	
1 January 1983	566	136		13	1790	
1 January 1984	623	150		13	2123	
1 January 1985	654	158	10	13	2234	
1 January 1986	706	171	10	14	2416	
1 January 1992	762	185 ⁸	10	15	2612	
1 January 1996	762	185	11	15	2612	
1 January 1998	650	150	11	15	2150	
1 January 1999	650 ⁹	140	10	15	2050	1850
1 January 2000	650	140	8	15	1770	1570
1 January 2001	650	140	6	15	1490	1290
1 January 2002	650 ¹⁰	140	5	15	1350	1150
1 January 2004	1400 ¹¹			15	1400	1200
1 July 2008	1330			15	1330	1130

[Annex II follows]

⁸ In July 1992, a “confirmation fee” was introduced, being a supplement payable in the event of the confirmation after the international filing date of designations which were made provisionally at the time of filing.

⁹ PCT-EASY filing fee reduction introduced.

¹⁰ Full electronic filing fee reduction introduced.

¹¹ Distinction between PCT-EASY, PDF and XML filing fee reductions introduced.

UPDATE ON THE IMPLEMENTATION OF THE PCT ROADMAP RECOMMENDATIONS

BACKGROUND

1. In 2010, the PCT Working Group endorsed a series of recommendations to improve the functioning of the PCT system (“PCT Roadmap recommendations”), based on a study prepared by the International Bureau (document PCT/WG/3/2) and related submissions from PCT Contracting States (documents PCT/WG/3/5 and 13). The discussions by the Working Group are outlined in the report of the session (document PCT/WG/3/14 Rev., paragraphs 14 to 137).
2. Underpinned by a number of fundamental principles which Contracting States considered during the second and third sessions of the Working Group, the PCT Roadmap recommendations endorsed by the PCT Working Group at its third session covered a variety of actions which should be undertaken by the International Bureau, applicants, Contracting States and national Offices (acting in both their national and international capacities) to make the PCT system more effective both for processing patent applications and for supporting technology transfer and technical assistance for developing countries.
3. While the PCT Roadmap recommendations contained a variety of specific recommendations, the essential underlying theme of the PCT Roadmap, as emphasized in document PCT/WG/5/3, was the need to review what the Treaty was trying to achieve for the benefit of all interested parties – applicants, national Offices and third parties and civil society more generally – and to encourage relevant players within the system to take steps to meet these aims more effectively. For the most part, this was not a matter of changing the Treaty or Regulations, but of taking administrative and technical steps to improve the implementation of what was already mandated.
4. As such, the legacy and the success of the PCT Roadmap recommendations can be seen not only in the concrete actions that have been undertaken to implement the individual recommendations but also in the fact that:
 - (a) there now is greater understanding of the concerns and needs of Contracting States, both developed and developing, in relation to their capacity to perform their own effective national search and examination, and thus greater recognition of the need for cooperation between Offices and of the role the PCT system can play as a work sharing tool to address capacity, workload and patent quality related issues;
 - (b) consequently, there is wider recognition of the importance of PCT work product quality, especially quality of the international search report and written opinion of the International Searching Authority; improvement of existing quality management systems in Offices and of PCT work product quality are now prominent features of continuing work; and
 - (c) there is greater recognition of the need to improve and better coordinate the technical assistance aimed at improving the capacity in particular of developing and least developed countries to take full advantage of the PCT system.
5. The state of implementation of the PCT Roadmap recommendations was formally reviewed by the PCT Working Group twice, at its fourth and fifth session in 2011 and 2012 (see documents PCT/WG/4/3 and PCT/WG/5/3, respectively). More than five years have passed since then, during which the recommendations have successfully guided discussions and decisions by Contracting States in their efforts to further improve the functioning of the PCT system. Today, a number of the recommendations have been fully implemented; others await further work. New issues have arisen and remain to be addressed. And new opportunities have opened up, in particular with the arrival of new electronic tools and services, the full potential of which has yet to be unleashed.

6. Following the division into groups of issues and recommendations used in document PCT/WG/3/2, the following paragraphs, setting out an update on the implementation of those recommendations, follows the same division into the following six groups:

- (a) recommendations related to backlogs and improving quality of granted patents (see paragraphs 7 to 27, below);
- (b) recommendations related to timeliness in the international phase (see paragraphs 28 to 33, below);
- (c) recommendations related to the quality of international search and preliminary examination (see paragraphs 34 to 58, below);
- (d) recommendations related to incentives for applicants to use the system efficiently, and to skills and manpower shortages (see paragraphs 59 to 87, below);
- (e) recommendations related to cost and other accessibility issues, and to consistency and availability of safeguards (see paragraphs 88 to 118, below);
- (f) recommendations related to technical assistance, and to PCT information and technology transfer (see paragraphs 119 to 142, below).

RECOMMENDATIONS RELATED TO BACKLOGS, AND IMPROVING THE QUALITY OF GRANTED PATENTS

7. In the discussions leading up to the endorsement of the PCT Roadmap recommendations in 2010, Member States recognized that if the patent system was to assist effectively in supporting innovation and investment, it was essential that national Offices which examined patent applications needed to do so with appropriate speed and quality. Search and examination takes time and a perfect search is effectively impossible. However, examination needed to provide a high degree of certainty that any patent granted was valid and the process must not leave the applicant and third parties in uncertainty for an unreasonable period of time.

8. Member States noted that mitigation of these issues would require work at the national level according to specific national needs, but that international efforts could be made in various areas to assist that work. This section considered a number of recommendations which sought to review and improve the information which the PCT system makes available to national Offices to mitigate the issues at an international level, as well as examining the reasons for which increased levels of national work had occurred. The quality of the international phase work and assisting the national search and examination capacity were considered in later sections.

Content of International Search Reports, Written Opinions and International Preliminary Reports on Patentability

9. In relation to the content of international search reports, written opinions and international preliminary reports on patentability, Member States endorsed the following recommendations (see paragraph 143 of document PCT/WG/3/2):

“143. Recommendations – Consequently, the following recommendations are made in relation to ISRs and IPRPs in order to make them more useful tools for assisting national Offices in addressing quality and backlog issues:

“(a) The Offices which act as International Authorities should continue to take steps to improve both the actual and perceived quality and consistency of the reports which they establish in accordance with the current Treaty, Regulations and Guidelines, to ensure that they provide content which designated and elected Offices wish to take into account. This issue is considered further in paragraphs 158 to 172, below.

“(b) The Offices which act as designated and elected Offices should continue to review the intended contents of ISRs and IPRPs and make any further recommendations for improvement within the limitations that the reports must be useful to all Contracting States and may not contain any comment on whether an invention is patentable or unpatentable according to any particular national law.

“(c) The IB and the Offices which act as International Authorities should review the proposals for changes to the details of what should be contained in ISRs and IPRPs and report to the next session of this Working Group, including any recommendations which may appear appropriate, for example for changes to the Rules or Administrative Instructions (including the Forms).

“(d) This exercise should in no way affect the right of designated and elected Offices to use the resulting ISRs and IPRPs in whatever way they see fit, in accordance with their national laws and policies.”

Progress

10. Upon a proposal submitted by the United Kingdom and the United States of America (document PCT/WG/6/18), the PCT Regulations (Rules 66 and 70) were amended (with effect from July 1, 2014) to make top-up searches a mandatory part of the international preliminary examination procedure under Chapter II of the Treaty.

11. Upon a proposal submitted by the United Kingdom and the United States of America (document PCT/WG/6/13), the PCT Regulations (Rules 44^{ter} and 94) were amended (with effect from July 1, 2014) to make the written opinion of the International Searching Authority available promptly after international publication of the application concerned.

12. The Meeting of International Authorities under the PCT and its quality subgroup have analyzed the contents of reports over many sessions and concluded that the contents of international search reports and written opinions as mandated by the PCT Regulations are appropriate to meeting the needs of designated Offices. However, it is important that the quality and presentation of the reports is appropriate. As such, work concentrated on a number of specific areas:

(a) Various improvements were proposed to the PCT International Search and Preliminary Examination Guidelines. Agreed changes were promulgated in October 2015 with Circular C. PCT 1459, though some more complicated issues, such as unity of invention, continue to be discussed.

(b) International Authorities continue to develop and report on their quality frameworks, which seek to ensure that the Authorities and their examiners have the necessary resources, training and quality control processes to deliver high quality results.

(c) A number of standardized clauses have been developed to improve the consistency of the manner in which comments on novelty and inventive step are reported.

Further Work

13. The International Authorities are required to continuously review and report on their quality frameworks. The Quality Subgroup of the Meeting of International Authorities under the PCT will continue to develop this process.

14. The International Bureau has a wide range of quality assurance and quality control measures in place, but intends to bring these together into a more consistent framework of its own. Developing a quality framework equivalent to those required of International Authorities would be an excessive burden for all but the largest receiving Offices, save as part of any more general Office quality process. Nevertheless, receiving Offices should review their processes to ensure that they have sufficient and properly trained staff with access to the necessary resources to allow work to be done properly and on time.

15. The International Bureau will review the training, manuals and guidelines which it is able to provide, especially in relation to ensuring that staff of Offices using ePCT are able to use the system effectively.

16. Following the adoption and use by several International Authorities of standardized clauses concerning novelty and inventive step, further areas will be considered for similar treatment.

Availability of National Search and Examination Reports

17. In relation to the availability of national search and examination reports, Member States endorsed the following recommendations (see paragraphs 146 and 147 of document PCT/WG/3/2):

“146. Recommendation – In relation to other reports, it is recommended that designated and elected Offices which conduct search and examination in the national phase should consult with the IB on ways of making their national reports available to other designated and elected Offices, either by providing the national reports for inclusion on PATENTSCOPE, or else by providing notifications that reports are available in a way which permits a link to be added in PATENTSCOPE to a national file inspection system. This should be coordinated with other activities aimed at sharing national search reports between national Offices (such as those described in paragraphs 45 to 47 of document SCP/14/3) to minimize the work involved for Offices in making the reports available and to ensure that the reports are available to other Offices as easily and effectively as possible.

“147. The IB should ensure that such reports are made available through PATENTSCOPE in a way which permits efficient access by national Offices, both by looking at the conventional web pages or using automated processes to retrieve all relevant reports. Ideally, the citations should be made available in machine readable format so that direct links can be provided to at least the easily available cited patent documents.”

Progress

18. The WIPO CASE system is now available for sharing documents and data (primarily search and examination reports) between national Offices. At present, 15 Offices (including the International Bureau for the PCT) make search and examination reports available to others through this system and 31 Offices access documents from the system. Data may be exchanged either through a browser-based interface or automatically through a machine interface (web services). A number of Offices have agreed that documents may be made available to the public. These documents can be viewed through PATENTSCOPE as well as through any national file inspection systems provided by the relevant Office and public portals implemented by certain other Offices.

19. Upon a proposal submitted by the Republic of Korea and the European Patent Office (document PCT/WG/7/27 and 8/18), the PCT Regulations were amended (Rules 12*bis*, 23*bis* and 41), with effect from July 1, 2017, to require the receiving Office to provide to the competent International Searching Authority the results of any earlier search and/or classification carried out by that Office in its capacity as a national Office on any earlier application forming the basis of a priority claim for the international application.

Further Work

20. Most of the information is currently in the form of traditional documents. Some of the information is eventually transcribed into databases, but further work is needed on making the data (especially the citation information) immediately available in machine-readable formats, allowing improved and up-to-date services such as consolidated lists, family matching and linking to copies of citations.

Third Party Observations

21. In relation to third party observations, Member States endorsed the following recommendations (see paragraph 149 of document PCT/WG/3/2):

“149. Recommendation – The IB should make available a system allowing third parties to submit observations on published international applications, including references to disclosures which they believe mean that the claimed invention may not be novel or inventive. It should remain open to designated Offices to decide to what extent they should review disclosures cited through such a system (the International Bureau intends to issue a document covering this subject in greater detail).”

Progress

22. A third party observation system was agreed and became available from July 1, 2012. This took the form of a browser-based system allowing comments concerning novelty and inventive step to be entered, optionally accompanied by copies of prior art documents which were referred to. Following a review in 2014 (see document PCT/WG/7/11), a number of recommendations were approved to make it easier for third parties to enter their observations into the system. Some Member States wished to allow the system to be expanded to allow a wider range of observations to be submitted, notably to allow comments on further issues, such as sufficiency of disclosure. However, it was agreed to wait and review the effectiveness of the system as it stands.

23. In the first five years of operation, 1,422 observations were accepted in relation to 1,394 international applications. These observations are immediately forwarded to International Searching and Preliminary Examining Authorities if they are submitted before the relevant reports are received by the International Bureau (as are any comments from the applicant in response). They are also actively forwarded to 11 designated Offices; most of the other designated Offices routinely retrieve them from the PATENTSCOPE website, where they are presented alongside the international search report and international preliminary report on patentability, or else automatically using PATENTSCOPE web services.

24. A detailed review of how the third party observation system was used during its first five years of operation is set out in Circular C.PCT 1527, dated January 31, 2018¹². A document setting out further information on the replies received in response to the Circular, notably on the feedback by designated Offices and user groups on how useful the system is perceived to be, will be submitted to the Working Group for discussion at its current session.

¹² <http://www.wipo.int/export/sites/www/pct/en/circulars/2018/1527.pdf>

Further Work

25. The working document that will be submitted to the Working Group for discussion at its present session will contain a recommendation as to the need for further changes to the third party observation system, based on the replies received in response to Circular C.PCT 1527.

26. In the context of work under way to improve access to citations listed in international search reports established by certain International Searching Authorities in XML format, the International Bureau intends to provide services combining the citations from the observations with those from international search reports, providing family matches of the citations to assist finding alternative language versions and offering links to cited patent documents.

The Surge in Worldwide Patent Applications

“149bis. It is recommended that a follow-up study be conducted by the IB, which should involve WIPO’s Chief Economist, to analyze the root causes behind the surge of patent applications and the consequent heavy load on the international patent system.”

27. The Chief Economist provided a study “The Surge in Worldwide Patent Applications” and a supplement in documents PCT/WG/4/4 and PCT/WG/5/4, which were considered in the fourth and fifth sessions of the PCT Working Group, respectively. Details can be found in the reports of the sessions (documents PCT/WG/4/17 and 5/22 Rev.).

RECOMMENDATIONS RELATED TO TIMELINESS IN THE INTERNATIONAL PHASE

28. Document PCT/WG/3/2 sought to emphasize that if the international phase work was to be useful, the international search report, written opinions and international preliminary reports on patentability needed to be delivered on time. However, this was not the sole responsibility of the International Authorities, but required effective work and cooperation by the receiving Office and the International Bureau as well. The Member States endorsed the following recommendations related to timeliness in the international phase (see paragraph 154 of document PCT/WG/3/2):

“154. Recommendations – The following recommendations are made in relation to ensuring that ISRs and IPRPs are delivered in accordance with the time limits set by the Treaty. For the reasons pointed out in paragraph 153 [of document PCT/WG/3/2], above, these recommendations are in very general terms:

“(a) Receiving Offices should ensure that they have adequate staff, facilities and training to receive and check international applications, and where necessary to send invitations for correction, promptly on receipt. They should also ensure that procedures, such as those for receiving fees, are easy to use for applicants and permit the Office to make the necessary checks quickly and accurately.

“(b) The IB and receiving Offices should ensure that applicants have access to accurate, up to date information on the filing requirements for international applications, especially fees, in order to minimize the number of defects which need to be corrected before the international application is forwarded to the ISA and the IB.

“(c) The IB should review the Receiving Office Guidelines to ensure that they are both up to date and easy to follow. The IB should also, where necessary in cooperation with national Offices and subject to the availability of resources, seek to make the Guidelines available in as many languages of publication as possible (at present, they are available in English, French, Japanese, Portuguese, Russian and Spanish).

“(d) International Authorities should ensure that they have adequate resources to conduct the expected number of international searches and international preliminary examinations in addition to their national work and that, in cases where backlogs do build up, international work is given appropriate priority to ensure that the results are available to designated and elected Offices in the national phase and, as far as possible, to third parties by the time of international publication.”

Progress

29. Considerable progress has been made on timeliness of international phase processing as a consequence of a combination of factors:

(a) Receiving Offices and International Authorities are more aware of the importance of timeliness and many national Offices have made significant efforts at the local level to improve the quality and timeliness of their international phase work.

(b) Systems for performing international phase processing and electronically transmitting the results have improved. Through ePCT, electronic international phase processing is now within the reach of all Offices and is used, to varying extents, by 76 Offices. The eSearchCopy service now permits search copies to be transmitted between a far wider range of receiving Office–International Searching Authority pairs than before.

(c) Increased use of electronic filing (now available at 55 receiving Offices) and the improved range of pre-filing checks, especially within ePCT, mean that receiving Offices have to deal with fewer corrections before transmitting documents.

(d) Development by the International Bureau of systems to monitor timeliness at various stages has allowed the issues to become more visible and identified problem areas to be addressed, allowing action to be targeted more specifically.

30. The exact figures for improvements to timeliness are difficult to quantify since both the bilateral work with Offices and the work to develop metrics to better monitor the processes revealed a range of issues such that older data may not be fully comparable with new data as well as issues with certain types of case which are still being worked on to provide accurate and meaningful measures. However, the following are examples of improvements in timeliness:

(a) The average time from the filing date for receipt of the record copy by the International Bureau has reduced from around 3.15 weeks in 2010 to 2.44 weeks in 2017.

(b) The average time from the date of receipt of the search copy to the establishment of the international search report (counting only the applications where the target in Rule 42 is 3 months from the former) has reduced from 4.19 months in 2010 to 2.95 months in 2017.

(c) The average time from the priority date to the date of receipt of the international preliminary report on patentability by the International Bureau has reduced from 30.8 months in 2010 to 27.1 months in 2016.

31. The reviews of Guidelines have so far been limited primarily to ensuring that the contents are up to date.

Further Work

32. In line with the spirit of the proposal by Japan, set out in its “PCT Kaizen (From Partial to Total Optimization)” document (PCT/WG/6/14 Rev.), to “create intelligence designed for analyzing and improving the PCT process”, the International Bureau continues to work on improving the data and systems for monitoring the progress of processing international

applications. It is expected to provide metrics to Offices in 2018 with significantly improved accuracy and presentation to assist the management of the work of receiving Offices and International Authorities as well as the International Bureau. Issues identified during the development of these metrics will continue to be raised with national Offices.

33. The International Bureau will seek to improve the content and linguistic diversity of Guidelines and manuals to ensure that Offices can easily understand what is required at all stages of processing.

RECOMMENDATIONS RELATED TO QUALITY OF INTERNATIONAL SEARCH AND EXAMINATION

34. In the discussions leading up to the endorsement of the PCT Roadmap recommendations in 2010, Member States universally agreed that international search reports (ISRs) and international preliminary reports on patentability (IPRPs) were useful in assisting their Offices to determine whether a claimed invention was patentable according to their national laws. However, it was recognized that the reports were not as useful as they should be because their quality was not consistently seen to be sufficiently high. Member States therefor endorsed recommendations to address the *actual* quality of ISRs and IPRPs, as well as the quality as *perceived* by designated Offices, the latter being important so that Offices had confidence in using a report from another Office.

35. In terms of actual quality, document PCT/WG/3/2 acknowledged that an international search should be *at least* as good as a search that an Office would conduct under its own national law for the purpose of deciding whether or not to grant a patent. Moreover, an international search needed to be more extensive than a national search as it needed to identify prior art which could be relevant under the national laws of any Contracting State, even if it might not be relevant under the Office's particular national law. As for perception of quality of individual reports and the work conducted by the Office, relevant factors identified were the actual citations included, the explanation of the relevance of the documents given in the associated written opinion and the information provided about the scope of the search (databases used, classification terms and search strategies) (see paragraphs 158 to 164 of document PCT/WG/3/2).

Internal Quality Management Systems of International Authorities

36. Against that background, Member States in 2010 endorsed the following recommendation (set out in paragraph 165(a) of document PCT/WG/3/2) in relation to internal quality management systems of International Authorities:

“165. (a) The International Authorities should continue to develop their internal quality management systems in accordance with the quality framework set out in Chapter 21 of the International Search and Preliminary Examination Guidelines such that their internal processes, including quality assurance processes, promote the establishment of high quality ISRs and IPRPs. The work should take into account the aim of developing useful and transparent quality metrics for measuring the usefulness of international reports in assisting the assessment of patentability by designated Offices.”

Progress

— Quality Management Systems

37. Since the establishment of the Quality Subgroup by the Meeting of International Authorities at its seventeenth session in February 2010, International Authorities have reported annually to the Subgroup on their internal quality management systems under Chapter 21 of the International Search and Preliminary Examination Guidelines. The reports were also made available on the WIPO website. Some Authorities have presented overviews of their quality management systems to share practical examples of implementation in their Offices. Moreover,

at the seventh and eighth informal meetings of the Quality Subgroup in February 2017 and February 2018, respectively, several Authorities undertook a paired review exercise, providing feedback orally on the quality management system of another participating Authority. This review exercise was found to be useful and will be repeated at future meetings of the Subgroup, with all International Authorities being invited to participate.

38. As the quality management systems of International Authorities have developed, the Subgroup has identified areas for improvement in their quality management systems, such as the issue of use of checklists in quality assurance processes, which has now been integrated into Chapter 21. Many Authorities have also attained external certification of their quality management systems, such as ISO 9001:2015, while some other Authorities have expressed intention to seek such accreditation in the future. Discussions on proposals to further strengthen the requirements of quality management systems under Chapter 21 are ongoing in the quality subgroup of the Meeting of International Authorities.

— *Developing Quality Metrics*

39. Since 2012, the International Bureau has been reporting each year on characteristics of international search reports established by all International Authorities, using data available from the European Patent Office's PATSTAT database and internal databases at the International Bureau. These reports originated from a pilot collaborative study on quality metrics of international search reports performed by the European Patent Office, initially for the Trilateral Offices and then for the IP5 Offices. The reports on characteristics include information on issues such as the average number of citations per search report, the percentages of search reports with X/Y citations, or the use of non-patent literature and language of citations. Although the characteristics are not a direct measure of the quality of international search reports, International Authorities have found them to be valuable, using them primarily as a self-assessment tool to compare practices and identify trends and discrepancies which can then be fed back into operational areas and quality management processes at the Authority.

40. In addition to the reports on characteristics of international search reports, the International Bureau has developed other reporting tools which provide information that can be used as metrics and for monitoring performance at International Authorities. Using data from national and regional IP Offices and the International Bureau, as well as the PATSTAT database, the WIPO IP Statistics Data Center provides a free online service for the public to access statistical data on IP activity, including activity by International Authorities in the PCT, covering a wide range of intellectual property information with a high degree of customization to meet particular needs, both in terms of the detail of the indicators (years, origins of applicants, Offices performing different roles) and their presentation (figures, maps, forms of chart). In addition, the ePCT system offers live reporting for receiving Offices and International Authorities of the latest information held by the International Bureau concerning applications filed, search copies pending delivery to the International Searching Authority and international search reports and international preliminary examination reports outstanding from International Authorities. The reports include both overviews and detailed lists at the level of individual international applications. Furthermore, in the Quality Subgroup, International Authorities have shared practices on the use of metrics in their own quality management and quality assurance processes.

Further Work

41. Almost all Authorities have now achieved full compliance with the requirements under Chapter 21 of the International Search and Preliminary Examining Guidelines. While there is potential to further strengthen the requirements and make further refinements to the reporting mechanism, time would appear to be ripe to shift the focus of the discussions on specific quality management activities with a view towards identifying best practices in the implementation of quality management systems of International Authorities.

42. Efforts by the International Bureau to improve the IP statistical reporting tools that it makes available to IP Offices, applicants and the public will continue, including efforts to provide additional services to International Authorities, such as a more interactive way of reporting of international search report characteristics, and sending general performance reports on periodic basis and alerts when any difficulties or unusual trends are seen from the performance data. However, the level of automation possible at present is a limiting factor. Updating databases such as PATSTAT requires significant manual work, resulting in time delays of several months to provide complete data for a given time period. Moreover, while data is available to the International Bureau from international applications, it is often not in a form which allows practical analysis. For example, only three International Authorities deliver international search reports to the International Bureau in XML format. To allow for increased automatic extraction and processing of data, efforts should thus focus on more International Authorities providing work products in XML format.

43. In addition, efforts should now be made to move beyond the mere reporting on characteristics of international search reports towards seeking metrics which are directly associated with the quality of the international phase work products, as had been envisaged at the beginning of the metrics discussions when the report on characteristics had been considered to be stage one of an intended three stage process. Interim work should focus on metrics which are able at least to assist the identification of areas of potential concern (whether for quality of final products or effectiveness of processes) so that International Authorities or the International Bureau can devote resources to areas where improvements can be made. A starting point for this work could be to investigate the value of reports in the national phase, such as the use of citations in the international phase by designated and elected Offices, and the extent to which patent families are cited for the first time in the national phase despite a document being publicly available at the time of international search or preliminary examination.

Effective Searching of Documentation in Languages other than the Official Languages of the Office

44. In relation to improving the searching of documentation in different languages, Member States in 2010 endorsed the following recommendation (set out in paragraph 165(b) of document PCT/WG/3/2):

“165. (b) International Authorities should continue to seek ways of effectively searching documentation in languages which are not official languages of their Office. This should involve both technical means and trials of arrangements whereby examiners in Offices with complementary skills work together to establish a report.”

Progress

45. To facilitate searching and translation of patent documentation in different languages, the International Bureau has developed various language tools in the PATENTSCOPE database. The Cross-Lingual Information Retrieval (CLIR) tool is available in 14 languages, allowing the user to search simultaneously using appropriate terminology in multiple languages by translating search keywords and generating synonyms. WIPO Translate, the machine translation tool in PATENTSCOPE, is specifically designed for patent documents. In October 2016, a ground-breaking new “artificial intelligence”-based translation tool for patent documents was added to WIPO Translate. Using neural machine translation (NMT), patent documents translated in WIPO Translate can be rendered in a second language in a style and syntax that closely mirrors common usage, outperforming previous statistical-based translation on distinct language pairs. Since September 2017, this tool, known as WIPO Translate NMT, has been available between English and all nine other PCT publication languages in both language directions. The user also has the opportunity to specify any one of 31 technical domains to improve the accuracy, or allow the system to detect the domain automatically based on the technical content of the source patent document.

46. The percentage of patent citations in non-official languages from an International Searching Authority is one of the indicators reported in the characteristics of international search reports (see paragraph 39, above). By following trends in the citation of documents in non-official languages, Authorities can see any effect of measures to improve the searching of documentation in different languages.

Further Work

47. All language pairs of the WIPO Translate NMT are available as a full version, except for Arabic-English and English-Arabic, which are only available on a public beta test platform. It is planned to roll out a full version of these pairs when the service has been sufficiently validated.

48. As regards the envisaged “trials of arrangements whereby examiners in Offices with complementary skills work together to establish a report”, the IP5 Offices are in the process of preparing a further collaborative search and examination pilot project (see the “PCT 20/20” proposals submitted by the United Kingdom and the United States of America (documents PCT/WG/5/18, 6/15 and 7/20), the “Proposals for Further Improvement of PCT Services and Products” submitted by the European Patent Office (document PCT/WG/5/20) as well as the “PCT Kaizen (From Partial to Total Optimization)” proposal submitted by Japan (document PCT/WG/6 Rev.)), which is provisionally scheduled to start in July 2018. This will be the third collaborative search and examination pilot project; the previous two pilots took place between 2010 and 2012 with the European Patent Office, the Korean Intellectual Property Office and the United States Patent and Trademark Office. All the IP5 Offices will take part in the third pilot and will be expected to contribute to the establishment of the collaborative work products. The pilot is due to run for at least three years up to a maximum of five years. This will therefore enable the effect in the national phase of the PCT of collaboration between examiners with different language backgrounds. For further information on the third pilot, see documents PCT/WG/10/11 and PCT/MIA/25/7; a further update report will be submitted by the European Patent Office to the Working Group for consideration at its present session.

Digitization of Patent Documents

49. In relation to digitization of patent documents, Member States in 2010 endorsed the following recommendation (set out in paragraph 165(c) of document PCT/WG/3/2):

“165. (c) Offices whose national patent collections are not readily available in electronic form should consider digitizing them (with the assistance of the IB, if desired) and making them available to International Authorities and other Offices for search purposes.”

Progress

50. At the time of the adoption of the PCT Roadmap in May 2010, eight national patent collections were available for searching on the PATENTSCOPE database. With the addition of the national patent collections of Brunei Darussalam, Cambodia, Philippines, Indonesia, Malaysia and Thailand in August 2017, those of India in March 2018 and of the dossier content from the United States Patent and Trademark Office in October 2017, data is available from 52 national/regional Offices, giving a total of more than 69 million patent records.

Further Work

51. The International Bureau continues to encourage Offices whose national patent collections are not readily available in electronic form to consult with the International Bureau on digitizing them and making them available to other Offices.

Feedback to International Authorities

52. In order to permit designated Offices to give feedback to International Authorities to help improve the quality of their work, Member States in 2010 endorsed the following recommendation (set out in paragraph 165(d) of document PCT/WG/3/2):

“165. (d) The IB should coordinate the development of a centralized system permitting designated Offices to give feedback to International Authorities.”

Progress

53. Little progress has been made in efforts to set up a system which would permit designated Offices to provide feedback on the international search report and written opinion to the International Searching Authority. Based on a proposal set out in the “PCT Kaizen (From Partial to Total Optimization)” proposal submitted by Japan (see document PCT/WG/6/14 Rev.) to further improve the quality of search and examination during the international phase by setting up feedback mechanisms between designated Offices and International Searching Authorities, the Japan Patent Office and the Swedish Patent and Registration Office carried out two small-scale pilot studies in 2014 and 2015, during which the Offices developed a feedback form to facilitate identification of cases with discrepancies between the results of the international and the national search. Results suggested that, where there were discrepancies, providing feedback was very time-consuming for the examiner at the designated Office, requiring an average of almost 60 minutes to complete the form (see paragraphs 14 and 15 of Annex II to document PCT/MIA/23/14). Similarly, the Vancouver Group of Offices (IP Australia, the Canadian Intellectual Property Office (CIPO) and the United Kingdom Intellectual Property Office (UKIPO)) reported on the results of trials, showing that, where CIPO acted as the International Searching Authority and the UKIPO as designated Office, the volume of cases to provide feedback on presented a challenge; moreover, the time lag between international search and national phase examination resulted in the International Searching Authority receiving feedback from the designated Office on issues that had already been resolved (see paragraph 21 of Annex II to document PCT/MIA/24/15).

Further Work

54. Efforts should continue to design an effective centralized feedback system that allows designated Offices to transmit relevant information to International Authorities while minimizing the time required by an examiner to complete feedback forms and avoid unnecessary effort in communicating information on issues that have since become obsolete. Offices should therefore continue to share experiences of feedback across the pre-grant process and consider future steps, such as developing a standard feedback form that would be straightforward for an examiner to complete and clearly communicate the information that will be useful to the International Authority, and determining ways in which designated Offices could easily identify applications where feedback would be useful and bring about improvements in the work of International Searching Authorities, noting that time constraints and backlogs would make it unrealistic for most designated Offices to provide feedback in respect of all applications which have entered the national phase.

Perceived Quality of International Search Report and International Preliminary Reports on Patentability

55. In order to address the quality of international search reports and international preliminary reports on patentability as *perceived* by designated Offices, but also to improve the actual quality of reports, Member States in 2010 endorsed the following recommendations (see paragraph 170 of document PCT/WG/3/2):

“170. (a) Offices which act as International Authorities should recognize the quality of their own work and not routinely conduct more than a “top up” search when an international application for which they acted as International Authority enters their

national phase. This should, of course, not prevent examiners from conducting whatever searches are necessary to ensure a high quality granted patent in individual cases where it can be seen that the scope of the international search was deficient, or where there is other need for additional searching, such as because the scope of the claims has significantly changed or because some inventions were not searched due to a lack of unity of invention.

“170. (b) International Authorities should seek to make available more information relating to search strategies so that examiners in designated Offices can more easily assess the scope of the international search which has been conducted.

“170. (c) International Authorities should seek to cite documents from a wide range of sources, where this is possible without reducing the quality of the search.

“170. (d) International Authorities should encourage their examiners to give good explanations of the relevance of cited documents, especially in cases where the examiner considers that there is either a lack of inventive step, or else that the documents together show all the features of the claims but the examiner nevertheless considers that the combination is inventive over those disclosures (since an examiner from another jurisdiction might either come to a different conclusion, or else it might take a significant amount of analysis to reach the same conclusion).”

Progress

— Availability of Search Strategies of International Searching Authorities

56. In relation to the recommendation in paragraph 170(b) of document PCT/WG/3/2 reproduced in paragraph 55, above (followed up by a proposal included in the “PCT 20/20” proposals submitted by the United Kingdom and the United States of America (see documents PCT/WG/5/18, 6/15 and 7/20)), in recent years, International Authorities have shared more information relating to their search strategies. In addition to increasing the transparency of the international search, this should facilitate the assessment of international search reports by designated or elected Offices when examining applications in the national phase. There are however, differences in the information that International Authorities make available. In a nutshell, the different approaches chosen by Authorities can be summarized as follows:

(a) a group of Authorities records the fields searched as required in Form PCT/ISA/210 – this includes the documentation searched by classification symbol, and names of electronic databases consulted, along with the search terms used, where practicable;

(b) the European Patent Office, following a pilot program which was concluded at the end of 2017, provides information on key aspects of the search strategy in a separate sheet – this includes the databases where an examiner conducted the search, the classification symbols defining the extent of the search, and the keywords or other elements featuring the invention to be searched and used when retrieving the relevant prior art; and

(c) a group of six Authorities provides full search records in whatever format they are produced for sharing on PATENTSCOPE.

— Citation of Documents from a Wide Range of Sources

57. In terms of the recommendation set out in paragraph 170(c) of document PCT/WG/3/2, reproduced in paragraph 55, above, the different sources of documents cited in international search reports are included in the reports on characteristics of international search reports produced each year by the International Bureau, as described in paragraph 39, above.

International Searching Authorities are therefore in a position to review the use in their international search reports of patent documents from different publication sources and non-patent literature, as well as the percentage of patent citations in non-official languages of the International Searching Authority.

Further Work

58. Given the different approaches to sharing search strategies, it should be considered whether the International Bureau should conduct a survey to determine the most useful form and content of search records by seeking the views of the different types of users of search reports, such as applicants, Offices in their capacity as International Preliminary Examining Authorities and designated Offices, and user groups. To that extent, the Quality Subgroup has begun discussions on the scope and formulation of questions that could form part of the survey so as to ensure that the survey asks appropriate questions and that users understand the currently existing forms of search strategies and their differences so as to be able to give an informed response.

RECOMMENDATIONS RELATED TO INCENTIVES FOR APPLICANTS TO USE THE SYSTEM EFFICIENTLY, AND TO SKILLS AND MANPOWER SHORTAGES

Creating Incentives for Applicants to Use the System “Efficiently”

59. Document PCT/WG/3/2 recognized that Offices, third parties, and applicants would benefit if international applications were filed with few defects, and if defects were corrected during the international phase. This would help International Searching Authorities in performing the international search, provide more certainty for third parties on the scope of the invention likely to be granted, and facilitate the determination by designated Offices of whether an application met requirements under national law (see paragraphs 173 to 175 of document PCT/WG/3/2).

60. Consequently, in relation to improving the quality of international applications during the international phase, Member States endorsed the following recommendations (see paragraph 176 of document PCT/WG/3/2):

“176. (a) The IB and national Offices should recommend to applicants that they prepare applications in good time and conduct their own prior art search before drafting their claims.

“176. (b) International Authorities should offer applicants a good opportunity for dialogue with the examiner during international preliminary examination, including at least one written opinion before establishing a “negative” IPRP.

“176. (c) Contracting States should consider possible incentives which could be introduced either internationally or at the national level to encourage applicants to file higher quality applications and to have defects corrected in the international phase.”

Progress

— *Preparation of applications in good time and applicants conducting their own prior art searches*

61. In relation to the recommendation in paragraph 176(a) of document PCT/WG/3/2, reproduced in paragraph 60, above, since the adoption of the PCT Roadmap recommendations in 2010, the coverage in the PATENTSCOPE database has risen from eight to 52 national and regional patent collections. By accessing PATENTSCOPE, which is available in the 10 PCT publication languages, applicants can, free of charge, search more than 69 million patent documents, including more than 3.3 million published PCT applications, many of which are searchable in full-text format. In addition to the recent developments in WIPO Translate

(see paragraph 46, above), a chemical structure search facility was added to PATENTSCOPE in October 2016, allowing users to draw or edit a chemical structure, convert a name of a chemical compound into a structure, or upload a structure from a file for use in a patent search. A new series of video tutorials was added to PATENTSCOPE in January 2018 to provide step-by-step instructions and tips on how to use the database. Further information on PATENTSCOPE is available on the WIPO website at <http://www.wipo.int/patentscope/en/>.

— *Extending Opportunity for Dialogue between the Applicant and Examiner during International Preliminary Examination*

62. In relation to the recommendation in paragraph 176(b) of document PCT/WG/3/2, reproduced in paragraph 60, above, at the nineteenth session of the Meeting of International Authorities in 2012, Authorities discussed practices in relation to giving applicants an extended opportunity for dialogue during the international preliminary examination procedure. In particular, where the applicant has attempted to overcome any deficiencies in the international application identified in the written opinion of the International Searching Authority (normally also the first written opinion of the International Preliminary Examining Authority) by way of arguments or amendments, a second written opinion should be issued where the International Preliminary Examining Authority still considers the application to be deficient. While some Authorities follow this practice, Authorities did not wish such a second written opinion to become mandatory but rather remain optional to avoid unnecessary repetition or delay, potentially resulting in additional late reports (see paragraphs 9 and 10 of document PCT/MIA/19/2 and paragraphs 41 and 42 of document PCT/MIA/19/14).

— *Incentives to Encourage Higher Quality Applications and have Defects Corrected in the International Phase*

63. One possible incentive for the applicant to file higher quality applications and have defects corrected in the international phase is by offering fee reductions in the national phase for applications which enter the national phase with an entirely positive Chapter I or Chapter II international preliminary report on patentability. A proposal for an amendment of the PCT Regulations to that effect was included in the “PCT 20/20” proposals submitted by the United Kingdom and the United States of America (see documents PCT/WG/5/18, 6/15 and 7/20)) but only received very limited support in the Working Group.

64. A proposal to make it mandatory for the applicant to respond to any outstanding negative indication in the Chapter I or Chapter II international preliminary report on patentability when entering the national phase was included in the “PCT 20/20” proposals submitted by the United Kingdom and the United States of America (see documents PCT/WG/5/18, 6/15 and 7/20, and document PCT/WG/6/16) as well as in the “Proposals for Further Improvement of PCT Services and Products” submitted by the European Patent Office (document PCT/WG/5/20) but met with concerns by a number of Contracting States. Nevertheless, a number of Contracting States have now unilaterally implemented such a requirement in their applicable national laws and have reported a positive impact on their national patent granting procedures (see, for example, the report by the EPO set out in document PCT/WG/8/24).

65. A proposal to allow for limited amendments of the application during Chapter I was included in the “PCT 20/20” proposals submitted by the United Kingdom and the United States of America (see documents PCT/WG/5/18, 6/15 and 7/20) but met with concerns by a number of Contracting States. Discussions on related proposals to allow for the incorporation by reference of “correct” elements and parts in the case of erroneously filed elements and parts of the application are continuing in the Working Group.

66. On November 1, 2014, the European Patent Office (EPO) launched a new service called “PCT Direct” where the EPO acts as the International Searching Authority. Under PCT Direct, an applicant filing an international application claiming priority from an earlier application

searched by the EPO is able to submit, at the time of filing the international application, informal comments aimed at overcoming objections raised in the search opinion drawn up for the priority application, thus simplifying the assessment of the international application and adding to the value of the international search report and written opinion. A similar service is being offered by the Israel Patent Office acting as an International Searching Authority (see documents PCT/WG/8/17 and PCT/WG/9/21) and envisaged to be offered in the future by the Nordic Patent Institute (see paragraphs 77 to 81 of document PCT/WG/9/27).

67. Another incentive for the applicant to file higher quality applications and have defects corrected in the international phase is by offering accelerated processing of the application in the national phase if certain criteria are fulfilled. One example of such accelerated treatment is the Patent Prosecution Highway (PPH), under which an applicant can request accelerated processing in the national phase based on work products from other Offices, including the written opinion by the International Searching Authority and the International Preliminary Examining Authority, and the international preliminary report on patentability under Chapters I or II ("PCT-PPH"). Since the establishment of the so-called Global PPH Network in 2014, which currently involves 25 Offices, international work products from the 14 International Authorities which are members of the Global PPH Network are accepted as the basis of a PCT-PPH request at any of the other participating Offices. PCT-PPH is also a part of the IP5 PPH network, under which all IP5 Offices (European Patent Office, Japan Patent Office, Korean Intellectual Property Office, State Intellectual Property Office of the People's Republic of China and the United States Patent and Trademark Office) accept PCT-PPH requests based on international work products drawn up by any of the other IP5 Offices. Since 2011, the number of PCT-PPH requests has almost doubled, from 2,954 requests in 2011 to 5,808 in 2015¹³.

68. A proposal to formally integrate PCT-PPH into the PCT was included in the "PCT 20/20" proposals submitted by the United Kingdom and the United States of America (see documents PCT/WG/5/18, 6/15 and 7/20)) and further detailed in documents submitted by both countries to the Working Group in 2013 (see document PCT/WG/6/17) and in 2014 (see document PCT/WG/7/21). However, concerns were expressed by certain Contracting States so that the Working Group was not able to reach consensus on the proposal (see paragraphs 196 to 230 of document PCT/WG/7/30).

Further Work

69. Noting the improvements in timeliness in transmission of IPRPs under Chapter II (the average time taken to transmit IPRPs under Chapter II to the International Bureau in 2011 was 31.6 months, with only 68.8 per cent of IPRPs being transmitted within 28 months from the priority date; in 2017, the average time taken to transmit IPRPs under Chapter II to the International Bureau was 27.1 months, with 89.3 per cent being transmitted within 28 months from the priority date), International Authorities that do not routinely issue a second written opinion where there are deficiencies in the application after an applicant makes a *bona fide* attempt to overcome any objections raised in the first written opinion may wish to consider following this practice. This would allow the applicant further opportunity to amend the application and could lead to more applications entering the national phase with a positive IPRP.

70. Moreover, International Searching Authorities which so far do not offer a service similar to the PCT Direct Service offered by the EPO and others may wish to consider offering such service, that is, to provide the option for applicants to submit informal comments on a search performed by the Office on an earlier national application, which can then be taken into account during the international search. In addition, Offices may wish to consider extending this service to allow for informal comments to be submitted on earlier applications that have been performed

¹³ See Patent Prosecution Highway Portal website at <https://www.jpo.go.jp/pph-portal/statistics.htm>.

by an Office other than the International Searching Authority, particularly where the priority application and national search report and any opinion on patentability have been drawn up in the same language, thereby taking full advantage of new PCT Rule 23*bis*, in force since July 1, 2017, under which earlier search results and classification information are transmitted by the receiving Office to the International Searching Authority.

71. As regards PPH, Member States may wish to revisit the proposal to provide for expedited national phase processing through formal integration of the PPH into the PCT (see paragraph 68, above). This would allow the possibility for accelerated processing of applications at any designated or elected Office where the International Searching Authority or International Preliminary Examining Authority had issued a positive opinion under PCT Article 33(2) to (4) in respect of the claims being processed in the national phase. With greater possibilities for fast-track processing, this could further encourage applicants to amend the application during the international phase with a view to obtaining a positive report, thereby reducing processing costs in the national phase.

Addressing Skills and Manpower Shortages

72. Document PCT/WG/3/2 acknowledged some of the difficulties in the training of staff in search and examination at national and regional Offices. For example, small Offices often do not have examiners with the appropriate skills that are available to conduct their own internal training. In addition, Offices that can offer training to other Offices have limited available resources to offer assistance in this area. Moreover, while the International Bureau has some staff with experience of search and examination work, it is not able to maintain the necessary expertise to provide direct training to other Offices. The PCT Roadmap also pointed out that training negotiated bilaterally between Offices could lead to overlap and duplication (see paragraphs 178 to 180 of document PCT/WG/3/2).

73. Against that background, Member States endorsed the following recommendation (see paragraph 181 of document PCT/WG/3/2) in relation to improving the coordination of training in search and examination:

“181. Consequently, it is recommended that national Offices which are able to offer training in search and substantive examination should consider coordinating their activities in order to provide complementary training which can bring benefits to as wide a range of recipient Offices as possible. This might include indicating the amount and type of training which they were able to offer; allowing requests for training to be matched to the courses available; and running regional rather than national training where several Offices are found to have similar language and substantive needs. The IB should consider a similar approach in relation to training in PCT procedural processes such as the work of a receiving Office.”

Progress

74. In relation to the recommendation in paragraph 181 of document PCT/WG/3/2, reproduced in paragraph 73, above, the International Bureau prepared a document for the twenty-first session of the Meeting of International Authorities under the PCT in 2014 to initiate a dialogue with International Authorities and all Member States on (i) how technical assistance activities around examiner training might be improved; (ii) the extent to which Member States could support such technical assistance activities; and (iii) the role that the International Bureau could play to facilitate international cooperation in the area of examiner training and the sharing of tools and training materials (see document PCT/MIA/21/4).

75. As recommended by the Meeting of International Authorities at its twenty-first session, the International Bureau prepared proposals for better coordination of examiner training between national Offices, taking into account questions of effective long term planning, sharing of experience in delivering effective training and matching needs for examiner training with Offices

able to supply the relevant needs. These proposals were discussed at the sessions of the Meeting of International Authorities and Working Group that took place in 2015 (see documents PCT/MIA/22/5 and PCT/WG/8/7). The Working Group expressed its strong support for the International Bureau to increase its role in coordinating patent examiner training between Offices, and requested the International Bureau to issue, as a first step, a Circular requesting information from Offices on examiner training activities carried out by Offices for the benefit of other Offices, notably from developing countries, in order to better inform the next phase of discussions on how the International Bureau could act as a coordinating body to most useful effect (see paragraph 46 of document PCT/WG/8/25).

76. At the ninth session of the Working Group in 2016, the International Bureau reported on the different types of training activities in provided by Offices, and proposed certain follow-up recommendations, which were endorsed by the Working Group (see document PCT/WG/9/18).

77. One of the recommendations requires the International Bureau to conduct annual surveys to invite Offices to report on any training activities it carries out or receives and to make a compendium of such activities available on the WIPO website (see paragraph 45 of document PCT/WG/9/18). Consequently, the International Bureau sent a survey to Offices to invite them to report on training activities for 2016. The survey also followed up certain other recommendations, including the compiling by the International Bureau of self-study training material and courses offered by Offices. The International Bureau presented an evaluation of the survey to the tenth session of the Working Group in May 2017 (see document PCT/WG/10/7) and has compiled a list of e-learning resources and made it available on the website at [http://www.wipo.int/meetings/en/wg10/e-learning resources](http://www.wipo.int/meetings/en/wg10/e-learning%20resources).

78. The Working Group, at its ninth session, also invited the International Bureau to develop a concept for improved coordination of training of substantive patent examiners with a particular view to coordination of donor Offices, for discussion by the Working Group at its next session (see paragraph 50 of document PCT/WG/9/18). In addition, the International Bureau was invited to explore the development and management of a learning management system and prepare a concept for discussion by the Working Group at its next session (see paragraph 65 of document PCT/WG/9/18). Proposals in these areas, including the development of competency framework for substantive patent examiners, were presented to the tenth session of the Working Group in May 2017 (see document PCT/WG/10/9). The matter will again be on the agenda of the Working Group at its present session.

Further Work

79. The International Bureau will continue to report annually on training activities taking place between Offices, and will report on further progress in the development of a competency framework for substantive patent examiners and learning management system to the present (eleventh) session of the Working Group.

80. The International Bureau will also continue to seek to improve its own delivery of training, taking into consideration the development of IT tools available, by reviewing its own documentation and by providing training directly, whether on site or remotely through webinars and the like.

Addressing Access to Effective Search Systems

81. Document PCT/WG/3/2 discussed initiatives to improve accessibility to effective search systems for national Offices. In particular, information was provided on the Access to Research for Development and Innovation (ARDI) program launched in July 2009, a public-private partnership with leading patent information providers that allows eligible IP Offices in developing countries to receive free or low-cost access to sophisticated tools and services for retrieving and analyzing patent data, and on the development of the PATENTSCOPE database (see paragraphs 183 and 184 of document PCT/WG/3/2).

82. Consequently, in relation to improving the addressing access to effective search systems, Member States endorsed the following recommendation (see paragraph 185 of document PCT/WG/3/2):

“185. It is recommended that the International Bureau and Contracting States continue to seek practical and affordable ways for national Offices to develop online searching capabilities.”

Progress

83. The ARDI program continues to offer access to scientific and technical information in developing countries for not-for-profit academic and research institutions and national IP Offices. Through the ARDI program, over 100 publishers provide access to around 30,000 journals, books and reference works for 121 developing countries and territories. Eligibility to access the resources made available depends on gross national income (GNI) per capita, Human Development Index (HDI) figures and UN Least Developed Country (LDC) status. One group of countries has free access through ARDI, while a second group has access for 1,500 United States dollars per institution per calendar year.

84. The Access to Specialized Patent Information (ASPI) program also contributes to developing online search capabilities for 80 registered institutions in 30 developing countries and least developed countries. Through the ASPI program, eligible patent Offices as well as academic and research institutions in developing countries can benefit from access to patent data search and analysis products offered by patent information providers free-of-charge or at a reduced cost. Currently, eight commercial database providers offer their patent search and analysis systems through the program as contributing partners. Access for one account for each database service is provided free-of-charge to patent Offices as well as academic and research institutions in least developed countries; for selected middle-income countries, access for patent Offices as well as academic and research institutions is offered for 1000 Swiss francs per account per calendar year for a maximum of three accounts for each patent database service; and for other selected countries, access is provided for a maximum of three accounts for each patent database service for patent Offices only at a cost of 3000 Swiss francs per account per calendar year.

85. Further information on the ASPI and ARDI programs is available on the WIPO website and is reported in paragraph 36 of the Director General's Report on Implementation of the Development Agenda (document CDIP/21/2), which will be presented to the twenty-first session of the Committee on Development and Intellectual Property (CDIP) in May 2018.

86. The International Bureau has continued to develop the PATENTSCOPE database, as described in paragraph 61, above.

Further Work

87. The International Bureau will continue to work with database providers and Offices to offer improved access to technical information for IP Offices, particularly in developing countries. IP Offices in developed countries could also explore possibilities of making their electronic search databases available to IP Offices in developing and least developed countries at reduced subscription rates.

RECOMMENDATIONS RELATED TO COST AND OTHER ACCESSIBILITY ISSUES, AND TO CONSISTENCY AND AVAILABILITY OF SAFEGUARDS

Availability of Fee Reductions

88. Recognizing that PCT fees remain a significant barrier to entry into the PCT system for some applicants, document PCT/WG/3/2, in paragraphs 187 to 190, elaborated on the need to provide further assistance to certain applicants, including small and medium sized enterprises

and academic institutions, taking into account a variety of issues, including the fact that PCT fees were only a very small part of the total cost of seeking international patent protection and that thus the level of those fees alone would not solve the problem of access to the patent system more generally, and the likely impact on PCT fee income and thus the effects on the finances of the Organization.

89. Against that background, Member States in 2010 endorsed the following recommendation (set out in paragraph 191 of document PCT/WG/3/2):

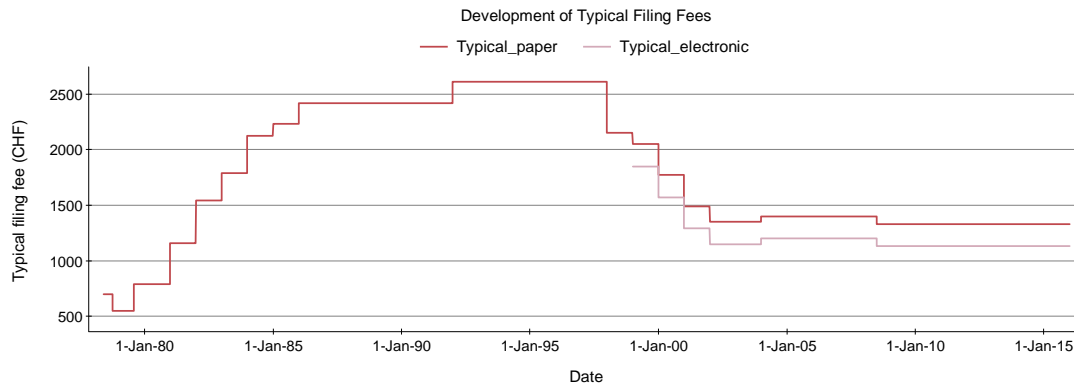
“191. It is recommended that the IB and Contracting States further review the level of fees for different types of applicant and seek innovative solutions to the problem of ensuring that applicants are not excluded from use of the system by the level of the fees.”

Progress

— Level of PCT Fees in General

90. At the outset, it should be recalled that, over the years, the typical international filing fee for all types of applicants has gone down substantially, taking into account the changes in the structure of the international filing fee over the years. Before the maximum number of designation fees was introduced, the average number of designations rose from five in 1978 to 10 by 1984. Assuming a steady rise in number of designations between these dates and an average length for an international application of 30 pages, the chart below shows how the fee for a typical international application has evolved in the case of a paper filing and in the case of a filing in electronic form, taking into account the most common fee reduction for electronic filing (200 Swiss francs). It can be seen that the typical international filing fee is now only half what it was in 1992.

Figure 19: Development of Typical Filing Fees from 1978 to Present



91. Taking further into account that most applicants benefit from a fee reduction of at least 200 Swiss francs for electronic filing and that, with inflation, 2,612 Swiss francs in 1992 is equivalent to around 3,100 today, the effective fee has reduced to about a third of its level in the early 1990s. The fact that the International Bureau managed to continue administering the system despite the effective fee income per application having been reduced to about a third of its levels in the early 1990s is testament to the efficiency savings which have been achieved at the International Bureau through better management practices and the introduction of electronic processing systems over the years.

— Criteria for Eligibility for Fee Reductions for Applicants from Certain States

92. Based on recommendations by the Working Group agreed at its June 2014 session, the PCT Assembly, at its forty-sixth session held in September 2014, adopted proposed amendments to the PCT Schedule of Fees, resulting in the introduction of new criteria for determining the States whose nationals and residents may be eligible for a 90 per cent

reduction in the international filing fee and certain other fees payable to the International Bureau. The practical effect of this change was that, with effect from July 1, 2015, applications by natural persons who are nationals of and resident in 10 additional States became eligible for the fee reduction and applications by applicants who are nationals of and resident in two States ceased to be eligible.

93. As had been agreed by the Working Group at its seventh session, a progress report on the implementation of the amendments to the PCT Schedule of Fees was presented to the Working Group in May 2017, two years after the implementation of the amendments (see document PCT/WG/10/20). In that progress report, the International Bureau concluded that it was not possible for it to make a finding on the effects of the changes in eligibility criteria beyond observing that:

- (a) the availability of the fee reduction would appear to affect the tendency to file international applications in the name of a natural person where possible; but
- (b) any change in *overall* number of filings as a result of the fee reduction appeared often to be much smaller than the effects of other factors occurring in the economic and policy space of the countries concerned.

94. Further information will be presented to the PCT Working Group at the present session for information. Under item 5 of the Schedule of Fees as amended, the revised criteria for fee reductions set out in sub-items 5(a) and (b) of the Schedule of Fees are to be reviewed by the Assembly every five years. A first review by the Assembly of the revised criteria will thus take place in 2020, five years after the entry into force of the revised criteria on July 1, 2015.

— *Fee Reductions for SME, Universities and Public Research Institutes*

95. The PCT Working Group at its sixth and seventh sessions held in 2013 and 2014, respectively, discussed the possible introduction of PCT fee reductions for SMEs, universities and not-for-profit research institutes, including issues such as: (i) the rationale and effectiveness of differentiated fees for SMEs, universities and not-for-profit research institutes; (ii) the potential impact of such fee reductions on PCT income and possible ways to introduce such fee reductions in a financially sustainable, income-neutral way; (iii) possible eligibility criteria for such fee reductions; and (iv) implementation issues that would need to be addressed. The introduction of such fee reductions for SMEs had also been one of the proposals included in the “PCT 20/20” proposals submitted by the United Kingdom and the United States of America (see documents PCT/WG/5/18, 6/15 and 7/20).

96. As regards the possible introduction of PCT fee reductions for SMEs, the Working Group recognized that many issues needed to be carefully considered and resolved before new fee reductions for such groups of applicants could be introduced, notably the need to develop and agree on a common definition of what constituted a small and medium-sized enterprise for the purposes of PCT fee reductions, as well as the need to find possible ways to introduce such fee reductions in a financially sustainable, income-neutral way for the Organization. Discussions on this matter concluded at the seventh session of the Working Group with the agreement that there was no clear way forward and that no further work on the issue would thus take place until a Member State would make a concrete proposal.

97. The Working Group at its ninth session in 2016 discussed one such concrete proposal, namely, a proposal by Brazil to introduce PCT fee reductions for Universities and Public Funded Research Institutes. The proposal envisaged such fee reductions to be introduced in two phases, with fee reductions proposed to be granted in a first phase to Universities and Public Funded Research Institutes from certain countries only, notably developing and least developed countries. A possible extension of such fee reductions would take place, in a second phase, to Universities and Public Funded Research Institutes from all other countries, but only after an evaluation of the results of the first phase. Discussions on the proposal by Brazil continued in

the Working Group at its tenth session in 2017, albeit limited to possible fee reductions for Universities only, and will continue in a workshop devoted to the matter, to be held during the present session of the Working Group, and in the session of the Working Group itself.

Further Work

98. As noted in paragraph 97, above, discussions on the proposal by Brazil for the possible introduction of fee reductions for Universities will continue in the PCT Working Group at the present session.

99. As noted above, the typical international filing fee paid by applicants is presently around half (or a third, adjusted for inflation) of what it was in the mid-1990s. The efficiencies which have been achieved at the International Bureau in processing mean that this remains affordable for the present. However, a number of issues may need to be considered:

- When 95 per cent of applicants pay a reduced fee (because they benefit from electronic filing-related fee reductions), the “normal” fee is no longer normal. The original objective of encouraging electronic filing has been accomplished and the benefits to applicants of electronic filing are such that few, if any, applicants would return to paper filing even if the fee levels were the same. A readjustment of the levels might be proposed in the coming years.
- The highest level of reduction for electronic filing (300 Swiss franc for filing in XML format) is offered to achieve a service-oriented goal of being able to provide 100% accurate full text application bodies for the benefit of designated Offices and patent information providers, rather than because they are cheaper to process than filings in PDF format (provided that the bibliographic data from the request is in XML format). While XML filing tools are being improved and this route promoted, financial projections assume a gradual move towards XML.
- While the “typical” international filing fee is significantly lower than the levels in the mid-1990s, the rate is greater than would have been paid for the (old) basic fee and up to four designation fees. This can be seen as a small disincentive to use the system when intending to enter the international phase in only a small number of countries, particularly if the applicant is certain of the countries where protection will be sought and does not need to prepare translations. In principle, it would be desirable to ensure that the system is valuable to *any* applicant considering international patent protection. However, given that processing costs are now almost entirely independent of the number of designations or national phase entries, it is difficult to see how this can be affordably achieved by means of a meaningful fee incentive based on limitation to a small number of designations.

100. Regarding the other fee components, now that few paper copies are printed and mailed, the processing cost of lengthy international applications for the International Bureau is only marginally greater than for short ones. However, there is a public policy value in encouraging disclosures to be concise, rather than burying the important information in a large volume of less relevant text. Consequently, while there may be scope for making adjustments to the extent to which the per-page fee component applies to the PCT request form, it is desirable not to make any fundamental reforms to this part of the fee.

101. In summary, the levels of fees will need to be monitored carefully and changes to the structure may be appropriate or indeed required in the future. However, in view of the sensitivity of any change and to avoid multiple sets of negotiations over different issues, it is proposed to postpone any consideration of structural change until a revision becomes necessary, for example because the projected level of use of the XML filing option suggests that the current model will become unsustainable.

Simplification of Forms, Procedures and Online Services

102. While noting that much of the complexity of the PCT Regulations was a result of the need to find solutions which meet the needs of all Contracting States in the different areas, document PCT/WG/3/2 emphasized the desirability to nevertheless simplify forms and procedures wherever possible and to provide simple guidelines which avoided that applicants had to deal with the detail of the Regulations as far as possible; similarly, electronic systems should be developed with interfaces and immediately accessible help which made it clear what was needed in the administrative processes without recourse to the Rules in all but exceptional cases.

103. Against that background, Member States in 2010 endorsed the following recommendations (set out in paragraph 193, 194 and 195 of document PCT/WG/3/2):

“193. It is recommended that the IB and Contracting States bring to the attention of the International Bureau any ways in which they consider procedures could be simplified for applicants without needing to change national laws.

“194. It is recommended that the IB review the PCT Applicant’s Guide to ensure that it is up-to-date and provides useful, easy to understand information.

“195. It is recommended that the IB and Offices developing online PCT systems ensure that, when updating Forms and online systems, special attention is given to ensuring that the language, interfaces and associated help mean that it is not necessary to consult the Regulations in most cases.”

Progress

104. When endorsing the above recommendations, Member States recognized that it would be a long term project to improve individual forms, system functions and sections of the Applicant’s Guide, noting the limited staff resources available to the International Bureau, which would bear most of the burden of implementing these recommendations; changes would be introduced when forms, system functions and the *PCT Applicant’s Guide* (“the *Guide*”) needed attention for other reasons, rather than made across the board in the short term (see paragraph 196 of document PCT/WG/3/2).

105. In accordance with the recommendation 194 of document PCT/WG/3/2, the International Bureau has reviewed the *Guide* to ensure that it is as up to date as the International Bureau can make it. As indicated in 2011 in document PCT/WG/4/3, paragraph 86, the Annexes to the *Guide* (which contain specific information about individual Offices and Authorities) are updated on an ongoing basis, with updated material published weekly, as soon as possible after it is received by the International Bureau.

106. In this context, it is important to note that the *Guide*, in relation to the data on the various details concerning each IP Office in their roles as PCT Offices and Authorities, can only be as complete as the data provided to the International Bureau by Offices and Authorities. At present, there are more than 20 Contracting States in relation to which there are significant gaps in the data.

107. Having in particular noted that designated Offices occasionally fail to inform the International Bureau when new laws and procedures are introduced affecting international applications which have entered the national phase before those Offices, the International Bureau has sent a reminder by way of a PCT Circular on national phase data (Circular C. PCT 1506, dated March 30, 2017, “Reminder to designated and/or elected Offices to provide complete and up-to-date information on national phase requirements to the International Bureau so that it can be reflected in the PCT Applicant’s Guide and on the WIPO website”).

108. As indicated in document PCT/WG/4/3, work towards development of a system which holds all “PCT reference data” which is used in the *PCT Applicant’s Guide*, the *PCT Newsletter*, the *Official Notices (PCT Gazette)*, ePCT and International Bureau’s internal PCT application processing systems has continued. This database, once fully functional, will serve as the “single source” for all data elements required throughout International Bureau’s systems and publications, and will enable the International Bureau to much more efficiently handle that data, minimize duplication and help ensure consistency.

109. With regard to updating of PCT Forms and online systems, as recommended, the International Bureau has endeavored to give special attention to the language and associated help messages offered in order to minimize the need for applicants to consult the applicable PCT Regulation.

110. The services provided through ePCT have opened up the possibilities for more national Offices to prepare forms electronically and to ensure that data which needs to be reused in processing by the International Bureau or other Offices can be imported directly into the systems to assist the relevant processes. However, the practical result of this is so far limited in view of the fact that Office processing within the ePCT system represents only a small fraction of the total international applications.

111. The “PCT 20/20” proposals submitted by the United Kingdom and the United States of America encouraged the International Bureau to introduce more “self-service” options within the PCT (see paragraph 8 of document PCT/WG/7/20). The ePCT service has introduced a variety of new features where applicants enter data which can be directly imported into the system, most notably the action to specify a change under PCT Rule 92bis. This has reduced the action needed by the International Bureau in most cases to a single click to confirm that the data may be accepted and that the associated forms can be issued. However, concerns over checking the validity of signatures, as well as for data quality have prevented this and other actions from becoming fully self-service.

Further Work

112. The International Bureau has and will continue to reach out to the Offices concerned, inviting the furnishing of the missing information and Annexes, and sending drafts prepared by the International Bureau based on its own research for approval by the Office. The International Bureau again requests the cooperation of all PCT Offices and Authorities in resolving instances of missing information.

113. Now that ePCT is able to offer web services, allowing real time machine to machine interactions between Offices, it may be practical to resume consideration of how processing could be adjusted to be driven by effective sharing of data to achieve the required results, rather than the content and structure of the current Forms which are used to reflect the underlying processes. This could have major long term benefits for national Offices and the International Bureau alike, increasing processing efficiency and reducing the time and cost of keeping Forms up to date. However, it would require significant coordination in order to ensure that the most useful processes were targeted first and that Offices were able to move smoothly from traditional Forms to replacement services at different paces.

Notifications of incompatibility

114. Noting that, in 2009, approximately 150 reservations, notifications and declarations of incompatibility were in force relating to various PCT Articles, Rules and Administrative Instructions, which meant that the Treaty could have inconsistent effects between States as seen by the applicant, in particular as the large majority of these related to various safeguard provisions which had been introduced to allow applicants to recover from accidental errors which might otherwise be fatal to their application, Member States in 2010 endorsed the following recommendation (set out in paragraph 198 of document PCT/WG/3/2):

“198. It is recommended that Contracting States review their compatibility with the Regulations and Administrative Instructions and seek to determine whether they can withdraw notifications of incompatibility.”

Progress

115. The list of currently outstanding national legal incompatibilities with relation to applicable PCT Regulations is available on the main PCT page of the WIPO website¹⁴, in a combined list with outstanding reservations under PCT Article 64. Some progress has been made on the reduction of the number of outstanding incompatibilities since the endorsement by the Working Group of the recommendation set out in paragraph 198 of document PCT/WG/3/2. Since 2010, the following incompatibilities in relation to PCT Rules and Administrative Instructions have been withdrawn by 11 PCT Contracting States:

2010: GB (Rule 49.6); ES (Rule 20.8(a) and (b));

2011: HU (Rule 20.8(a) and (b); Rule 26bis.3(j); Rule 49ter.1(g); Rule 49ter.2(h); Rule 51bis.2(c) and 3(c));

2012: JP (Rule 20.8(a) and (b); Rule 49.6); LT (Rule 49ter.2); PH (Rule 20.8(a) and (b));

2013: ES (Rule 26bis.3(j); Rule 49ter.1(g) and .2(h); Rule 51bis.1(f));

2014: US (Rule 49ter.1(g) and 2(h));

2015: AU (Section 703(f) of the Administrative Instructions); JP (Rule 26bis.3(j); Rule 49ter.1(g) and Rule 49ter.2(h)); KR (Rule 51bis.3(c));

2016: no withdrawals, but amendments to the PCT Regulations added another series of Rule incompatibilities (Rule 23bis.2(b) and (e)), with 10 Offices making corresponding notifications;

2017: CA (Section 703(f) of the Administrative Instructions);

2018: BE (Rule 20.8(a); Rule 26bis.3(j)).

116. With effect from July 1, 2017, the incompatibility provisions in relation to Rules 4.10(d) and 51bis.1(f) have been deleted from the Regulations following the withdrawal of the last outstanding notifications of incompatibility under those Rules.

117. As of April 1, 2018, there remain 94 individual national law incompatibilities in relation to the PCT Regulations and two more in relation to the Administrative Instructions (this count does not include PCT Article 64 Reservations).

¹⁴ See http://www.wipo.int/pct/en/texts/reservations/res_incomp.html

Further Work

118. Good progress has been made by Contracting States in their efforts to review their national legal frameworks and withdraw, where possible, any notifications of incompatibility. However, from the perspective of the International Bureau, it would appear that more could be done in relation to this PCT Roadmap recommendation. The International Bureau would thus like to encourage Contracting States to renew their efforts to review their outstanding legal incompatibilities with the PCT Regulations and Administrative Instructions, and seek to determine whether they can withdraw notifications of incompatibility, in order to be able to facilitate the operation of the PCT in a more uniform and predictable fashion for its users. It is also important to note that many of the PCT Rules in relation to which there are outstanding national law incompatibilities create protections for applicants when errors occur, such as the missing of a time limit; uniform application of these protections by all PCT Offices and Authorities is in the best interests of the PCT's users.

RECOMMENDATIONS RELATED TO TECHNICAL ASSISTANCE; PCT INFORMATION AND TECHNOLOGY TRANSFER

Technical Assistance

119. As outlined in document PCT/WG/3/2 and, in more detail, in document PCT/WG/5/6, since the start of operations of the PCT system in 1978, the organization of technical assistance for developing countries within WIPO in the area of patents, as envisaged by PCT Article 51, has been coordinated with other development cooperation activities in the field of industrial property under the responsibility of the appropriate WIPO body established for organizing and supervising technical assistance activities for the benefit of developing countries. Thus, since the start of operations of the PCT system in 1978, besides being the largest income generator for WIPO and thus the main source of funding for most of the development cooperation activities, the main technical assistance activities directly delivered by the PCT were—and still are today—limited to aspects which have a direct bearing on the use of the PCT by developing countries, such as offering legal advice to countries considering accession to the PCT on the compatibility of national laws and practices; offering PCT specific training for Office staff and applicants and potential applicants to increase awareness and understanding of the system; and assisting Offices in the use of IT systems to improve communications and increase access to technical information, including assisting with the work of digitizing and making available national patent collections, and making information available concerning national phase entries. There are many other aspects of technical assistance specifically to developing countries which are in some way related to the PCT, but most of these are more properly dealt with by the more general technical assistance programs within WIPO.

120. Against that background, Member States in 2010 endorsed the following recommendations (set out in paragraph 204 of document PCT/WG/3/2 and paragraph 129 of document PCT/WG/3/14 Rev.; the latter recommendation was treated as having been inserted into document PCT/WG/3/2 as paragraph 204*bis*):

“204. It is recommended that, when requesting technical assistance in the context of the PCT, just as in any other area, Offices and Contracting States ensure that the purpose of the request is clear and that the International Bureau is aware of related national policies. The International Bureau should make sure that advice, training and systems which are delivered take the needs and national policies properly into account.

“204bis. It is recommended that a study be conducted by the IB to look into the issue of coordination of technical assistance for developing countries as envisaged in Article 51 of the PCT, in a focused manner and guided by the Development Agenda recommendations, and to make recommendations on “terms of reference” for the possible establishment of the Technical Assistance Committee. This study will be presented for decision to the 4th session of the Working Group.”

Progress

121. Like all technical assistance provided by WIPO, technical assistance activities which have a direct bearing on the use of the PCT by developing countries are guided by the principles of the Development Agenda. As far as possible, the International Bureau plans and delivers the activities in accordance with both the WIPO country plan process as well as the WIPO framework on designing national IP strategies for development, so as to ensure that they are development-oriented, demand-driven and transparent, based on country needs and level of development, and country-specific with respect to design, delivery and evaluation. The country plan and the national IP strategy approaches are interlinked, as one informs the other.

122. Within WIPO, various units from different Sectors are involved in the detailed internal planning, coordination and eventual delivery of such technical activities which have a direct bearing on the use of the PCT for developing countries. These are, in addition to the various PCT Divisions involved in such activities (notably, the PCT International Cooperation Division, which usually takes the lead in organizing such activities, the PCT Legal Division and the PCT Business Development Division), the Patent Law Division (within the Patents and Technology Sector), the Development Sector (notably, the regional Bureaus), the Department of Transition and Developed Countries, and the Global Infrastructure Sector.

123. The focus of the technical assistance activities which have a direct bearing on the use of the PCT is on assisting developing countries to make best use of the PCT system, taking into account specific country needs, notably the level of development of its national patent system and the level of its participation in any regional patent cooperation and the international patent system. At the fifth session of the PCT Working Group in 2012, at which the Working Group agreed that reports on technical assistance projects relating to the PCT should be included as a regular agenda item for future sessions of the Working Group. The International Bureau has since submitted detailed information on all PCT-related technical assistance activities for developing countries to each session of the Working Group, as well as the work plan covering such activities planned to be carried out in the remainder of the respective year. For further details, see documents PCT/WG/6/11, PCT/WG/7/14, PCT/WG/8/16 and PCT/WG/9/6 and PCT/WG/10/19.

124. Similarly, since 2012, the International Bureau has also submitted detailed information to each session of the Working Group on those technical assistance activities related to the PCT that are carried out under the supervision of other (non PCT) WIPO bodies, notably the Committee on Development and Intellectual Property (CDIP), the Committee on WIPO Standards (CWS) and the WIPO General Assembly. Further detail on those activities reported to the Working Group in 2013, 2014, 2015 and 2016 can be found in paragraph 13 of document PCT/WG/6/11, paragraph 7 of document PCT/WG/7/14, paragraph 6 of document PCT/WG/8/16, paragraph 6 of document PCT/WG/9/6 and paragraph 9 of document PCT/WG/10/19.

125. As regards the study by the International Bureau on the issue of coordination of technical assistance for developing countries as envisaged in Article 51 of the PCT, that study ("Coordination of Technical Assistance and Financing of Technical Assistance Projects for Developing Countries under Article 51 of the PCT") was submitted by the International Bureau to the Working Group at its fourth session and considered by the Working Group at both its fourth and fifth sessions (see documents PCT/WG/4/5 and PCT/WG/5/6, respectively).

Further Work

126. As agreed at the fifth session of the PCT Working Group in 2012, reports by the International Bureau on technical assistance projects relating to the PCT are included as a regular agenda item for future sessions of the Working Group; the International Bureau will thus continue to submit to the PCT Working Group detailed information on all PCT-related technical assistance activities for developing countries.

127. With regard to technical assistance activities around examiner training, see the status update on the recommendation set out in paragraph 181 of document PCT/WG/3/2, above (see paragraphs 72 to 79, above).

PCT Information and Technology Transfer

128. Document PCT/WG/3/2 recognized that developing countries had long requested information on what technology was freely available to use without needing licenses but that it was impossible to determine this without knowing the status of all related patent applications in all the States where a party might be interested in doing business. It further noted that this information was not easily available from most Contracting States since there was no specific obligation for an Office under the Regulations to provide details of national phase entries to the International Bureau. While a number of Offices provided updates on national phase entry at various frequencies, the information provided was often not sufficient to determine the current status of the application in different Offices and did not cover related applications which may have been made directly to the national Office.

129. Document PCT/WG/3/2 further recognized that developing countries had also sought the promotion of pro-competitive intellectual property licensing practices, particularly with a view to fostering creativity, innovation and the transfer and dissemination of technology to interested countries, in particular developing countries and LDCs (Development Agenda Recommendation 23). While the International Bureau had not been able to identify a reliable way of integrating this recommendation into the PCT, noting that the PCT did not deal with patents as such, only with applications for patents, and that it was quite possible for patents based on a single international application to be granted to different people in different States, who might have different licensing policies, it nevertheless appeared possible to contemplate that the international phase might include a register of some sort which allowed applicants to signal their willingness to license their potential patents.

130. Against that background, Member States in 2010 endorsed the following recommendations (set out in paragraphs 207 and 211 of document PCT/WG/3/2, and in paragraph 129 of document PCT/WG/3/14 Rev.; the latter recommendation was treated as having been inserted into document PCT/WG/3/2 as paragraph 211bis):

“207. It is recommended that the IB work with national Offices to deliver effective patent status information covering not only PCT applications and subsequently granted patents but also normal national applications, and to integrate this information into a search system allowing technology which has fallen into the public domain to be identified more readily.

“211. It is recommended that Contracting States consider whether a system for promoting licensing could be beneficial in the international phase of the PCT and, if so, whether this could be addressed solely by introduction of a technical system or whether it would need to be supported by appropriate national policies in Contracting States.

“211bis. It is recommended that a follow-up study be conducted by the IB to review and assess how well the PCT system has been functioning in terms of realizing its aim of disseminating technical information and facilitating access to technology as well as organizing technical assistance for developing countries.

“The study should also propose recommendations and suggestions on how to improve the realization of that aim, including on sufficiency of disclosure, for consideration by Contracting States at the 4th session of the PCT Working Group, recognizing that action on certain issues may require discussion in other WIPO fora.

“In this context, appropriate changes should be made in the proposed form for third party observations (document PCT/WG/3/6 Annex 2, p.2), including “sufficiency of disclosure” aspects, for discussion at the next session.”

Progress

131. As regards the recommendation, set out in paragraph 207 of document PCT/WG/3/2, that the International Bureau should work with national Offices to deliver effective patent status information, and to eventually integrate this information into a search system allowing technology which has fallen into the public domain to be identified more readily, reference is made to the recent adoption by the WIPO Committee on WIPO Standards (CWS), at its May 2017 session, of new WIPO Standard ST.27 “Recommendation for the exchange of patent legal status data”. Recognizing that the availability of up-to-date, reliable, and understandable legal status information on IP rights is necessary if individuals are to be able to avoid IP right infringement, and that intellectual property Offices (IPOs) currently provide this information in various formats and languages, inconsistently, and in an untimely manner due to the difference of national and regional patent laws and practices, the purpose of the new standard is to promote the efficient exchange of patent legal status data in a harmonized manner between IPOs in order to facilitate access to that data by IPOs, IP information users, IP data providers, the general public and other interested parties. This standard, which will improve worldwide availability, reliability and comparability of patent legal status data in a timely manner, is an important first step in the efforts to integrate this information into search systems, notably PATENTSCOPE, allowing technology which has fallen into the public domain to be identified more readily.

132. At its forty-seventh session in October 2015, the PCT Assembly approved amendments to PCT Rule 95, requiring designated Offices to transmit timely information concerning national phase entries, national publications and grants of international applications from July 1, 2017. This should greatly improve the quality and completeness of the information concerning national phase entry provided in ePCT and PATENTSCOPE, as well as in bulk form to Offices and patent information providers.

133. As regards the recommendation set out in paragraph 211 of document PCT/WG/3/2 to improve the availability of patent status information by introducing a system whereby applicants can indicate on a register their willingness to license their potential patents, it is recalled that a new feature to implement this recommendation has been added to PATENTSCOPE in January 2012 which allows applicants to indicate their willingness to license the invention and information on any licensing terms. Licensing indications can be submitted electronically or by surface mail or fax at any time from the filing of the international application until the expiration of the period of 30 months from the priority date. The licensing indication is reflected in the bibliographic data of the application with a link to allow third parties to access its content, but the indication is not part of the published international application itself. The existence of licensing indications has also been added to the list of search criteria on PATENTSCOPE. Since this new feature has been added to PATENTSCOPE, a total of 868 licensing indications have been made publically available.

134. As regards the recommendation set out in paragraph 211*bis* of document PCT/WG/3/2 that that a follow-up study be conducted by the International Bureau to review and assess how well the PCT system has been functioning in terms of realizing its aim of disseminating technical information and facilitating access to technology as well as organizing technical assistance for developing countries, that study (“The PCT’s Aims of Organizing Technical Assistance for Developing Countries, Disseminating Technical Information and Facilitating Access to Technology; Sufficiency of Disclosure”) was presented by the International Bureau to the PCT Working Group, and noted by the PCT Working Group, at its fifth session (see document PCT/WG/5/6). Noting the (at the time) ongoing discussions in the WIPO Committee on Development and Intellectual Property (CDIP) on the “External Review of WIPO Technical

Assistance in the Area of Cooperation for Development” (document CDIP/8/INF/1) (“the External Review”), the Working Group at its fifth session agreed to await the outcome of those discussions before considering how to proceed with regard to the technical assistance related parts of the PCT Roadmap recommendations.

135. At the sixth and subsequent sessions of the Working Group, the International Bureau provided an update on the discussions of the External Review and related documents by the CDIP. At its most recent (tenth) session, the Working Group noted the update report by the International Bureau on the ongoing discussions in the CDIP at its eighteenth session, held in Geneva from October 31 to November 4, 2016. At that session, the CDIP decided to close its discussions on the “External Review” and to instead open discussions on WIPO technical assistance in the Area of Cooperation for Development focused on the so-called “revised Spanish Proposal” (as attached in Appendix I of the Summary by the Chair CDIP/17), for the next six coming sessions of the CDIP).

136. In view of those ongoing discussions in the CDIP, the update report by the International Bureau to the tenth session of the Working Group (document PCT/WG/10/19) included the recommendation that, in order to avoid duplication of effort, the Working Group may wish to await the outcome of the discussions of the revised Spanish proposal in the CDIP and its final implementation along with related documents on technical assistance, including the External Review, before considering how to proceed with regard to the technical assistance related parts of Recommendation 211*bis* of the PCT Roadmap recommendations. Document PCT/WG/10/19 was noted by the Working Group.

Further Work

137. Entry into force of both new WIPO Standard ST.27 “Recommendation for the exchange of patent legal status data” as well as new PCT Rule 95 “Information and Translations from Designated and Elected Offices” should, over time, greatly improve the quality and completeness of the information concerning national phase entry, national phase processing and national phase legal status provided in ePCT and PATENTSCOPE.

138. However, while the delivery of national phase information has improved, a great deal of work remains to be done in this area. A separate report on this subject will be submitted to the present session of the Working Group.

139. As regards the outstanding consideration by Member States as to how to proceed with regard to the PCT technical assistance related parts of the recommendation set out in paragraph 211*bis* of document PCT/WG/3/2, as had been suggested in document PCT/WG/10/19, so as to avoid duplication of effort, Member States may wish to await the outcome of the discussions of the revised Spanish proposal in the CDIP and its final implementation along with related documents on technical assistance, including the External Review.

Language coverage of Working Group Documents

140. The Working Group at its third session endorsed the following recommendation to increase the availability of PCT Working Group documents in other official languages of the United Nations (see paragraph 129 of document PCT/WG/3/14 Rev.; this recommendation was treated as having been inserted into document PCT/WG/3/2 as paragraph 213):

“213. Noting the desire by many Contracting States to have all working documents of the PCT Working Group available in the six official languages of the United Nations, so as to encourage and facilitate engagement in the discussions by all Contracting States, it is recommended that this issue be included in the study by the IB on the overall WIPO language policy currently under way.”

Progress

141. The Assemblies of the Member States of WIPO at their meeting in 2011 approved a recommendation of the Program and Budget Committee (see paragraphs 173 to 184 of document A/49/18) to extend the language coverage for documentation for meetings of the WIPO Main Bodies, Committees and Working Groups, as well as for core and new publications, to the six official languages of the United Nations (Arabic, Chinese, English, French, Russian and Spanish), in a phased manner that commenced in 2011. In accordance with that decision, the language coverage for documentation for the PCT Working Groups was extended to all six official languages of the United Nations in 2014.

Further Work

142. Member States may wish to consider whether the language coverage for meetings of the PCT Working Group should be further extended to not only cover the documentation for the meetings of the Working Group but also the interpretation of the deliberations in the Working Group to all six official languages of the United Nations (at present, interpretation is only offered in English, French and Spanish), subject to approval of the necessary resource requirements. A proposal to that effect will be submitted to the Working Group for consideration at its present session.

[End of Annex II and of document]