

C.PCT 1235

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The Director General of the World Intellectual Property Organization (WIPO) presents his compliments to the Minister for Foreign Affairs and has the honor to enclose herewith document PCT/WG/3/2, entitled "The Need for Improving the Functioning of the PCT System". This document contains the study which was requested by the second session of the PCT Working Group concerning, *inter alia*, the problems and challenges facing the PCT system, possible options to address those problems and the impact of those options.

The Director General is pleased to invite representatives of all of the Permanent Missions to the United Nations Office and other International Organizations in Geneva to an informal session introducing the study from 10 am to 1 pm on Wednesday, May 12, 2010, in Room B of the headquarters of WIPO. Interpretation will be provided into English, French and Spanish.

This introduction will be followed, if desired, by further informal sessions for discussion of the content in early June, prior to its formal presentation to the third session of the PCT Working Group, to be held June 14 to 18, 2010.

for

May 6, 2010

PATENT COOPERATION TREATY (PCT) WORKING GROUP

Third Session Geneva, June 14 to 18, 2010

THE NEED FOR IMPROVING THE FUNCTIONING OF THE PCT SYSTEM

Study prepared by the International Bureau

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EXECUTIVE SUMMARY

1. At its second session in May 2009, the Working Group considered proposals relating to the PCT system, including a draft Roadmap by the International Bureau (document PCT/WG/2/3) seeking better compliance by major patent offices with their obligations as International Authorities. The Working Group decided that efforts should continue on improving the PCT, noting that the system can and should function more effectively on behalf of all stakeholders, within the existing legal framework, without limiting the freedom of Contracting States to control substantive patent law issues as well as national search and examination procedures.
2. The Working Group agreed that further dialog should be informed by an in depth study prepared by the International Bureau. The present document sets out this study. It is fairly lengthy because it seeks to cover all the elements which the Working Group requested to be dealt with in the study, namely, the background of the need to improve the functioning of the PCT system, the existing problems and challenges facing the PCT system, the causes underlying the problems, possible options to address the problems, as well as the impact of the proposed options.
3. The study is divided into six main parts:
 - (i) Part I contains introductory text and explains some abbreviations and terminology.
 - (ii) Part II discusses the PCT's two principal aims: first, to address procedures for obtaining legal protection for inventions (through applicants filing applications which are processed by Offices); and second, to encourage dissemination of technical information and the organization of technical assistance, particularly for developing countries.
 - (iii) Part III reviews the PCT's "track record" over more than three decades, asking whether its principal aims have been met.
 - (iv) Part IV examines certain challenges facing the system and analyzes some of the underlying causes, focusing – along the lines of the principle aims of the Treaty – on issues relating to the effective processing of patent applications by Offices, the use of the PCT as a filing tool for applicants, as well as the dissemination of PCT information and provision of technical assistance. Much of this is based on responses to a questionnaire sent to Offices, Contracting States and other interested parties.
 - (v) Part V addresses how future development of the PCT can be matched with applicable Development Agenda recommendations.
 - (vi) Finally, Part VI evaluates options to address the challenges facing the PCT system, again focusing – consistent with the principal aims of the Treaty – on ways to optimize effective processing of international patent applications, the use of the PCT as a filing tool for applicants as well as issues relating to PCT information and technical assistance.

4. The study demonstrates that, in relation to the processing of international applications, there is very little difference between the interests of developing and industrialized countries. All Offices need a higher quality of international work – especially international search – in accordance with the requirements of the Treaty. The differences among States lie in whether the improvements are primarily to deal with application backlogs, or to reduce the risk of granting invalid patents; but in either case the solutions are the same. Closer compliance with the existing requirements of the Treaty by receiving Offices and International Authorities could benefit all Contracting States without having to confront any issues regarding harmonization of national substantive patent laws, and without any change to the required substance of international reports.
5. Some simple changes to the Regulations and Forms may be desirable to make reports more useful to all stakeholders. For example, allowing third parties to comment on pending applications, and making national search reports available, could improve the quality of PCT work. In the same vein, applicants should be encouraged to file higher quality applications and to correct defects before entering the national phase. And there are probably ways to make the system more accessible to applicants of limited means.
6. The study underscores the need to coordinate with other development activities to ensure that Contracting States are able to find and use patent-related data effectively. This includes finding and understanding information, and discovering where it is protected and where it is not. Indeed, it may be possible under the PCT to encourage beneficial licensing of technology to States where it is needed.
7. The study concludes that technical assistance given in connection with the PCT should, as with any other technical assistance, be reviewed to ensure that it is effective and in line with national strategies.

I. INTRODUCTION

8. The Working Group at its second session considered various proposals for the future development of the PCT system, including a draft roadmap by the International Bureau (document PCT/WG/2/3) for improving the use of the PCT essentially within its existing legal framework, and proposals from Japan (document PCT/WG/2/8), the Republic of Korea (document PCT/WG/2/11) and the United States of America (document PCT/WG/2/12) for improvement to international search and preliminary examination by various changes to the timing and methodology of those processes. The matters considered and the results of their consideration at the second session of the Working Group are outlined in the report of that session (paragraphs 11 to 93 of document PCT/WG/2/14).
9. The second session of the Working Group concluded with the agreement that work should continue on improving the PCT, in accordance with the following principles and approaches (paragraphs 94 to 96 of document PCT/WG/2/14):
 - “94. The Meeting agreed that the relevant PCT bodies should continue their work to improve the PCT. The Meeting agreed that the PCT system can and should function more effectively, within the existing legal framework of the Treaty provisions,
 - “– to deliver results which meet the needs of applicants, Offices and third parties in all Contracting States;
 - “– without limiting the freedom of Contracting States to prescribe, interpret and apply substantive conditions of patentability and without seeking substantive patent law harmonization or harmonization of national search and examination procedures.

“95. The Meeting agreed that the relevant PCT bodies should discuss ways in which the objective set out in paragraph 94, above, could be achieved,

- “– taking an incremental approach;
- “– in a member-driven process, involving broad-based consultations with all stakeholder groups, including regional information workshops;
- “– taking into account the recommendations contained in the WIPO Development Agenda;
- “– taking into consideration the topics addressed in the draft roadmap proposed by the International Bureau in document PCT/WG/2/3, subject to the discussions set out in the Working Group’s report, taking note of certain concerns expressed by Contracting States, and taking note of any other topics which Contracting States may wish to address in order to achieve the objective set out in paragraph 94.

“96. The Meeting agreed that the work set out in paragraph 95, above, should be informed by an in-depth study factoring in, but not limited to, the following elements:

- “– outlining the background of the need to improve the functioning of the PCT system;
- “– identifying the existing problems and challenges facing the PCT system;
- “– analyzing the causes underlying the problems;
- “– identifying possible options to address the problems;
- “– evaluating the impact of the proposed options;
- “– defining and clarifying concepts, such as ‘duplication of work’, ‘unnecessary actions’ etc.

“The Meeting recommended that this study be prepared and submitted to the Working Group at least two months before the next Working Group meeting.”

10. The present document sets out the study prepared by the International Bureau, as requested by the Working Group.
11. In order to assist the International Bureau in the preparation of the present document, notably, in assessing the various needs and the impact of different possible measures which might be taken to address those needs, the International Bureau, in November 2009, sent out a Questionnaire (Circular C. PCT 1196), requesting information and views from Offices, Contracting States and other interested parties on the future of the PCT system. The suggestions made and themes and issues raised in the responses to the Questionnaire have been taken into account in the preparation of the present document.
12. In addition, the International Bureau has sought input into the preparation of the present document from the International Authorities under the PCT, which held their 17th Meeting of International Authorities (PCT/MIA) from February 9 to 11 in Rio de Janeiro, Brazil. On the basis of a document prepared by the International Bureau (“Input Into the Study on the Future of the PCT”, document PCT/MIA/17/4), the Meeting discussed issues and possible options which could help in addressing the problems and challenges facing the PCT system, notably those which are strongly related to the work of International Authorities and for which the International Bureau believed that it required further information from International Authorities before presenting a useful commentary or set of proposals to the Working Group. The Meeting’s discussions are summarized in the report of the session (paragraphs 45 to 71 of document PCT/MIA/17/12, reproduced in the Annex to document PCT/WG/3/3).

Abbreviations and Terminology

13. This study uses a number of abbreviations and specialized terms, some of which are defined and explained here.

“Contracting State”: A Contracting State of the PCT. References to “Member States” mean Member States of the World Intellectual Property Organization, except where another treaty or organization is specified.

“designated Office”: a national Office in its role processing an international application which has entered the national phase and is being assessed for patentability according to the national law.

“elected Office”: a term which is used instead of “designated Office” when the applicant has demanded international preliminary examination.

“IB”: *International Bureau*: The part of the International Bureau of WIPO responsible under Article 55 of the PCT with performing administrative tasks concerning the PCT Union.

“international preliminary examination”: An optional international examination under Chapter II of the PCT conducted at the request (“demand”) of the applicant, allowing the applicant to make amendments and arguments before a non-binding opinion on novelty, inventive step and other matters is established.

“IPEA”: *International Preliminary Examining Authority*: One of the Offices appointed by the Assembly to conduct international preliminary examination (since 2004, Offices can only be appointed as IPEA if also appointed as ISA).

“IPRP”: *international preliminary report on patentability*: a non-binding opinion by an International Authority on whether the claimed invention meets the requirements of novelty, inventive step and industrial applicability according to the definitions in the Treaty. It may also contain comments on other matters such as clarity or formalities defects. It is not permitted to give any statement on whether the claimed invention is patentable according to the national laws of any particular Contracting State (see also paragraph 85, below).

“ISA”: *International Searching Authority*: One of the Offices appointed by the Assembly to conduct international searches (since 2004, Offices can only be appointed as ISA if also appointed as IPEA).

“ISR”: *international search report*: a report established by the International Searching Authority for every international application (subject to limited exceptions) listing the disclosures considered relevant to novelty or inventive step according to the definitions under the Treaty, which are intended to be sufficiently broad as to embrace the definitions of relevant prior art which apply in any Contracting State.

“PCT-EDI”: a system for secure transfer of files between PCT Offices, normally between a national Office and the IB.

“prior art”: Disclosures which took place prior to the filing date or the priority date of the international application, which might therefore be relevant to whether the invention claimed in the international application is new and involves an inventive step (in which case it is referred to as “relevant prior art”). For the international phase of the PCT, patent applications which are filed before those dates but only published later, as well as oral disclosures, are not strictly referred to as prior art but are nevertheless treated in a similar way in the ISR. References to prior art in this document mean all such disclosures.

“questionnaire”: The questionnaire sent to Offices, Contracting States and other interested parties in preparation for this study, as referred to in paragraph 11, above.

II. THE PCT SYSTEM AS ENVISAGED BY ITS FOUNDERS

The Origins of the PCT

14. The origins of the PCT system go back to the mid-1960s. The Executive Committee of the International (Paris) Union for the Protection of Industrial Property adopted, on September 29, 1966, the following recommendation (see BIRPI document CEP/II/12, paragraph 46), which began the consultations leading up to the adoption of the PCT:

“The Executive Committee of the International (Paris) Union for the Protection of Industrial Property (Second Session, Geneva, September 29, 1966),

“*Having noted:*

“that all countries issuing patents, and particularly the countries having a preliminary novelty examination system, have to deal with very substantial and constantly growing volumes of applications of increasing complexity,

“that in any one country a considerable number of applications duplicate or substantially duplicate applications concerning the same inventions in other countries thereby increasing further the same volume of applications to be processed, and

“that a resolution of the difficulties attendant upon duplications in filings and examination would result in more economical, quicker, and more effective protection for inventions throughout the world thus benefiting inventors, the general public and Governments,

“*Recommends:*

“that the Director of BIRPI undertake urgently a study on solutions tending to reduce the duplication of effort both for applicants and national patent offices in consultation with outside experts to be invited by him and giving due regard to the efforts of other international organizations and groups of States to solve similar problems, with a view to making specific recommendations for further action, including the conclusion of special agreements within the framework of the Paris Union.”

The Aims of the PCT

15. The aims of the Treaty are further described in document PCT/PCD/2 “Summary and Advantages of the Patent Cooperation Treaty”, prepared by the International Bureau as a “Post-Conference Document”, following the Washington Diplomatic Conference in 1970 which led to the adoption of the PCT (paragraphs 4 to 13 of document PCT/PCD/2, reproduced in the “Records of the Washington Diplomatic Conference on the Patent Cooperation Treaty”, WIPO publication No. 313, published in excerpts on WIPO’s web site¹):
- “4. The Treaty has two principal aims, one in the field of *procedures* for obtaining legal protection for inventions, the other in the field of the dissemination of technical *information* and the organization of technical *assistance*, particularly for developing countries.

¹ http://www.wipo.int/export/sites/www/pct/en/texts/pdf/washington_p739_to_764.pdf

“Procedures

- “5. In the field of procedures, the Treaty has two principal aims. One is to save effort–time, work, money–both for the applicant and the national Offices in cases where patents are sought for the same invention in a number of countries.
- “6. The other is to increase the likelihood of granting strong patents, particularly in countries not having all the facilities necessary for a thorough search and examination. By “strong” patents is meant patents granted for inventions which by meeting all the conditions of patentability are likely to withstand challenge in the courts.
- “7. The saving of effort for the applicant consists primarily in allowing him to file on international application (in one place, in one language, for one set of fees) having–subject to certain conditions–the effect of a national application in each and all of the Contracting States in which he desires to obtain protection.
- “8. The saving of effort for the national Offices consists primarily in their receiving international search reports and possibly also international preliminary examination reports, both of which considerably reduce the work of examination.
- “9. The likelihood of granting strong patents follows from the fact that international search reports and international preliminary examination reports have to meet high standards which are internationally regulated, and that they are expected to be issued by authorities whose great expertise in the matter of searching and examining patent applications is amply proven and generally recognized and whose activities under the Treaty will be internationally coordinated.

“Information and Technical Assistance

- “10. The informational aim, in the language of the Preamble to the Treaty, is “to facilitate and accelerate access by the public to the technical information contained in documents describing new inventions.
- “11. Access to such information is facilitated not only by the publication of the international application but also by the fact that such publication is accompanied by the publication of an abstract and of the international search report. That report allows scientists and industrialists interested in the filed, including the applicant’s competitors, to understand the invention more easily and access its technical and economic significance.
- “12. Access to such information is accelerated by the fact that international applications are generally published upon the expiration of a fixed and relatively short period of time, namely, 18 months from the priority date.
- “13. Easier and more rapid access to technical information is of particular interest to developing countries, which are generally in urgent need of technology. The Treaty expressly deals with this interest of developing countries: it provides that the information services of the International Bureau must be operated “in a way particularly facilitating the acquisition by Contracting States which are developing countries of technical knowledge and technology, including available published know-how (Article 50(3)); and it provides for technical assistance for developing countries “in developing their patent systems individually or on a regional basis (Article 51(3)(a)).”

The Expected Advantages of the PCT

16. At the time of adoption of the PCT, in 1970, the *expected* main advantages of the Treaty were described in document PCT/PCD/2 as set out in the following paragraphs (paragraphs 84 to 132 of document PCT/PCD/2):

- “84. This Part of the present document enumerates the expected main advantages of the Patent Cooperation Treaty for examining Offices, for both examining and non-examining Offices, for the inventor or applicant, for developed countries, for developing countries, for technological information in general, for the public, and for the patent system in general.
- “85. Under the chapter dealing with the advantages for the inventor and the applicant, an analysis of the expected impact of the Patent Cooperation Treaty on the cost of patent prosecution is attempted.

“Advantages for Examining Offices

- “86. Examining Offices are able to make substantial economies since the system renders superfluous, for most applications filed by foreigners, all or most of the work of searching, and also – when an international preliminary examination report issues – most of the work of examination. In the overwhelming majority of countries, such applications exceed in number applications filed by nationals. Japan and the United States are among the rare exceptions but, in these countries, the absolute number of foreign applications is in itself impressive (28,000 and 31,000, respectively, in 1969) and has been approached or exceeded in only four countries (38,000 in the United Kingdom, 34,000 in Germany (Federal Republic), 32,000 in France, and 30,000 in Canada). Some of the Socialist countries are also among the exceptions but, owing presumably to the recent intensification of East-West trade and expanding scientific and technical cooperation, the number of foreign applications filed in those countries is constantly and rapidly growing. In the Soviet Union, for example, the number has more than tripled within the past five years.
- “87. Even national Offices which are distrustful – and, in the beginning, they might well be – as to the quality of the international search reports and preliminary examination reports, and which subject them to a certain control, have a “flying start” in their work, since such work is rather in the nature of completing, checking and criticizing than starting from scratch in complete isolation as national Offices do at present.

“Advantages for Both Non-Examining and Examining Offices

- “88. Both kinds of Offices make economies in the cost of handling applications, since their work of verification as to compliance with prescriptions of form becomes practically superfluous.
- “89. Both kinds of Offices can save part of the cost of publishing. If the international publication is in their national language, they can forgo republication altogether, or they can decide to publish only the abstracts in their national gazettes. This solution may be chosen even by countries which have a different language: they may find it sufficient to publish, in their national language, abstracts only, and to keep the complete translations in their files, copies of which may then be ordered by anyone who becomes interested on the basis of the abstracts or the full foreign texts.

“90. The system does not reduce the revenues of the national Offices unless they voluntarily decide to give a rebate on national fees in consideration of the savings they make through the Treaty and in order to make the use of the international application route more attractive to the applicant. Such rebates would be more than offset by savings in expenditure thanks to the Treaty. In any case, the most “profitable” source of revenue of most national Offices is the annual fees or renewal fees. The Treaty does not touch those fees either, unless, again, voluntary rebates are accorded.

“Advantages for the Inventor or Applicant

- “91. Applicants – that is, inventors or their employers or assignees – may file their applications in their own country with effect in foreign countries, have more time to make up their minds as to those foreign countries in which they want to seek protection, and in a typical case they have to spend much less money in the pre-grant (or pre-denial) stage than at present.
- “92. If the applicant is not following the international procedure offered by the Treaty, he must start preparations for filing abroad three to nine months before the expiration of the priority period. He must prepare translations of his application and must have them put in a more or less different form for each country. Under the Treaty, the applicant, within the priority year, makes only one application (the international application), which may be identical both as to language and form with his own national application, or which involves one – and only one – translation and redrafting. True, the cost of further translations has to be met eventually, but not until eight or more months later than under a procedure which does not use the Treaty, and only if, having seen the international search report, the applicant is still interested in the countries concerned. Moreover, the – even greater – cost of redrafting (recasting as to form and expression) for each and every country does not arise, even later, or arises only to a limited extent (when the claims or the description are amended).
- “93. The international search report helps the applicant to make up his mind whether it is worth while continuing his efforts. If he decides that it is not, he saves all subsequent costs, including the fee for a demand for an international preliminary examination report.
- “94. The international preliminary examination report also helps the applicant to make up his mind whether to press for patents and, if the report is unfavorable, he will think twice before he does.
- “95. All applicants residing near an International Preliminary Examining Authority are able to conduct their dialogue concerning the issuance of the international preliminary examination report in their own *language* and with the Authority with which they are most familiar and which is geographically near.
- “96. Even those applicants not residing nearby will frequently be able to use an International Authority in which they have special confidence, and which may be nearer than most of the countries in which they seek protection. They will deal in a language which may not be their own but, in any case, will be a world language generally known in scientific and technological circles.
- “97. It is true that, where complications arise, the applicant may have to operate, as he does without the Treaty, in unfamiliar and distant Offices and in languages with which he is totally unfamiliar. But by that time he has in his arsenal an international search report and possibly an international preliminary examination report, both of international standing. He, too, has a “flying start.”

“98. *Expected Impact of the Treaty on the Cost of Patent Prosecution.* ...[The text of paragraphs 98 to 114, dealing with the estimated impact of the Treaty on the cost of patent prosecution up to grant, has not been reproduced here, noting that, by now, the cost factors used are way outdated.]

“Advantages for Developed Countries

“115. Developed countries have relatively large numbers of inventors. They would constitute the majority of the applicants filing international applications. The savings achieved for the applicant described above, as well as the savings of national Offices through the utilization of the international search and preliminary examination reports accompanying the applications filed by foreign applicants, will certainly more than counter-balance expenditure for the establishment and maintenance of the services provided for by the Treaty and may even save an outflow of money from their countries.

“116. By allowing stronger patents to be obtained (particularly in non-examining countries) with less effort and cost, the Treaty will induce inventors to seek protection in more countries, and for more inventions than at the present time. This would expand the export and foreign investment potential of the developed countries to which those inventors belong.

“Advantages for Developing Countries

“117. Most developing countries have a non-examining system. Whereas in developed countries the chances of granting worthless patents are diminished by the expertise both of the patent attorneys or agents assisting the applicant and of the courts, in many developing countries these safeguards are to a large extent missing. The need for examination is thus greater in developing countries but, because of the scarcity of technically trained persons and adequate documentation, and because of the high cost of examination, such countries are even less in a position to introduce an examining system – even if they joined efforts on a regional basis – than developed countries. In this respect the Treaty is especially helpful to developing countries in overcoming these problems so that they may develop and perfect their own patent systems.

“118. The Treaty offers a clear and simple interim solution, at least until such time as developing countries perfect their own patent systems, to the problem which a notable report of the United Nations Secretariat called the “dilemma (of the Governments of most developing countries) between the dangers of a distorted patent system and the practical difficulty, if not impossibility, of marshalling the broad range of highly qualified technicians and scientific source materials which would be needed to permit an adequate novelty search” (UN document E/4319 of March 27, 1967, page 24).

“119. The solution resides in the fact that, under the Treaty, developing countries do not need the persons and materials to make a novelty search because such a search – and, even more, the international preliminary examination – will be effected by the International Searching and Preliminary Examining Authorities; the solution further resides in the fact that their patent systems will not be “distorted” because international applications accompanied by international preliminary examination reports give a high degree of reliability to their patent grants. In fact, their patents will generally be just as reliable, justified and strong as those of the most developed countries having the most sophisticated corps of patent examiners.

- “120. Naturally, the system offered under the Treaty not only protects developing countries against granting patents to foreign applicants who do not deserve them and who could thus have imposed “unjustified monopoly restrictions” (*ibidem*) on their national economy, but it also ensures that their own inventors and industrialists receive patents on which they can rely and which do not crumble when foreign competitors attack them or enter the market.
- “121. Developing countries, by being able to offer meaningful protection to foreign entrepreneurs owning patented technology, will find such foreign entrepreneurs more willing to transfer (sell or license) the said technology and will, in general, attract more foreign investment. The industrialization of such countries will thereby be accelerated.
- “122. Developing countries will derive a special benefit from the Treaty as far as technical documentation is concerned. Assembling and using the world’s patent literature – a source *par excellence* of recent and valuable technological information – is costly and unwieldy and presents practically insuperable language problems. The Treaty will make available, in the form of international applications accompanied by international search reports and possibly also international preliminary examination reports and easy-to-handle technical abstracts, the cream of the inventions, classified according to branches of technology, and in world languages.
- “123. Provisions in the Treaty on technical services will particularly or exclusively benefit developing countries.
- “124. The patent information services, described above (paragraphs 63 and 64), although useful also to developed countries, will be particularly useful to developing countries as the Treaty expressly provides that they must be operated in a way particularly facilitating the acquisition by developing countries – provided they are party to the Treaty – of technical knowledge and technology, including available published know-how.
- “125. The technical assistance provided for in the Treaty and described in paragraphs 65 and 66, above, is, of course, for the special and sole benefit of developing countries.

“Advantages for Technological Information in General

- “126. The problems described in paragraph 122, above, are perhaps not insuperable for developed countries. But even for them, the Treaty will, as a kind of by-product, make access to most of the patent literature very much easier and cheaper than under existing conditions.
- “127. Similar considerations apply to the patent information services referred to in paragraphs 63 and 64, above.

“Advantages for the Public

- “128. The Treaty gives substance to the much quoted principle according to which applicants are granted patents in exchange for disclosure. In the present system, such disclosure frequently does not occur until many years after the date of the application, that is, at a time when it no longer reveals anything new. Under the Treaty, this can happen only in the most unusual circumstances, that is, when all of the designated States are States that have declared that they do not require the international publication of international applications. In most cases, at least one of the designated States is a State that has not made such a declaration. In all such cases, disclosure takes place in the form of the international publication of the international application in one of the world languages, with abstracts at least in English and French and probably other languages as well, promptly after the expiration of 18 months from the priority date.

“129. Naturally, the patent information services provided for in the Treaty will also be available and thus of advantage to the public.

“Advantages for the Patent System in General

“130. The patent system, as it exists today, is much criticized. It is said to be wasteful of human talent, to be expensive and slow, and to yield in the various countries patents of such differing value that they do not even deserve to be called by the same name.

“131. No attempt is made here to form a judgement on those accusations. But it is beyond doubt that the Treaty, by eliminating considerable duplication of effort, eliminates useless operations and reduces the cost of prosecuting applications. It is also certain that the Treaty generally shortens the time required for examination and the grant of patents and thus also shortens the period during which the applicant, would be licensees, and competitors are in a state of uncertainty, not knowing whether patents will be granted or not. It is also to be anticipated that the Treaty will make the value of patents more uniform.

“132. Should the Treaty succeed – as it is designed to succeed – in making the seeking and granting of patents simpler and cheaper, and in making the value of patents granted by different countries more similar and, generally, stronger, not only will the criticisms levelled against the existing situation be answered, but the patent system itself will become more useful. It will then be accepted in countries which are skeptical about its general usefulness, and it will be put to better use in countries where it exists. All this should contribute to the development of technological progress, which is so urgently needed to improve the living conditions of most of mankind.”

III. “TRACK RECORD” OF THE PCT

Statistics

17. Almost 32 years after the beginning of operations of the PCT system, it can be stated that not only have most (though not all) of the expectations of the founders of the PCT been met, many have been exceeded to an extent which the founders of the PCT could not have envisaged.
18. At the beginning of operations of the PCT system on June 1, 1978, 18 States were party to the Treaty (Brazil, Cameroon, the Central African Republic, Chad, the Congo, France, Gabon, Germany (Federal Republic of), Luxembourg, Madagascar, Malawi, Senegal, the Soviet Union, Sweden, Switzerland, Togo, the United Kingdom and the United States of America). A modest number of 636 international applications were filed in the first 6 months of operations until the end of 1978, and 2588 in 1979, the first complete year of PCT operations.
19. Today, almost 32 years later, 142 States are party to the Treaty, with developing countries making up the majority of the membership of the PCT.

Table 1: PCT Contracting States (142)

AE United Arab Emirates	EC Ecuador	LI Liechtenstein (EP)	RO Romania (EP)
AG Antigua and Barbuda	EE Estonia (EP)	LK Sri Lanka	RS Serbia ¹
AL Albania ¹	EG Egypt	LR Liberia	RU Russian Federation (EA)
AM Armenia (EA)	ES Spain (EP)	LS Lesotho (AP)	SC Seychelles
AO Angola	FI Finland (EP)	LT Lithuania (EP)	SD Sudan (AP)
AT Austria (EP)	FR France (EP) ²	LU Luxembourg (EP)	SE Sweden (EP)
AU Australia	GA Gabon (OA) ²	LV Latvia (EP) ²	SG Singapore
AZ Azerbaijan (EA)	GB United Kingdom (EP)	LY Libyan Arab Jamahiriya	SI Slovenia (EP) ²
BA Bosnia and Herzegovina ¹	GD Grenada	MA Morocco	SK Slovakia (EP)
BB Barbados	GE Georgia	MC Monaco (EP) ²	SL Sierra Leone (AP)
BE Belgium (EP) ²	GH Ghana (AP)	MD Republic of Moldova (EA)	SM San Marino (EP) ⁵
BF Burkina Faso (OA) ²	GM Gambia (AP)	ME Montenegro	SN Senegal (OA) ²
BG Bulgaria (EP)	GN Guinea (OA) ²	MG Madagascar	ST Sao Tome and Principe
BH Bahrain	GQ Equatorial Guinea (OA) ²	MK The former Yugoslav Republic of Macedonia (EP) ⁴	SV El Salvador
BJ Benin (OA) ²	GR Greece (EP) ²	ML Mali (OA) ²	SY Syrian Arab Republic
BR Brazil	GT Guatemala	MN Mongolia	SZ Swaziland (AP) ²
BW Botswana (AP)	GW Guinea-Bissau (OA) ²	MR Mauritania (OA) ²	TD Chad (OA) ²
BY Belarus (EA)	HN Honduras	MT Malta (EP) ²	TG Togo (OA) ²
BZ Belize	HR Croatia (EP) ³	MW Malawi (AP)	TH Thailand
CA Canada	HU Hungary (EP)	MX Mexico	TJ Tajikistan (EA)
CF Central African Republic (OA) ²	ID Indonesia	MY Malaysia	TM Turkmenistan (EA)
CG Congo (OA) ²	IE Ireland (EP) ²	MZ Mozambique (AP)	TN Tunisia
CH Switzerland (EP)	IL Israel	NA Namibia (AP)	TR Turkey (EP)
CI Côte d'Ivoire (OA) ²	IN India	NE Niger (OA) ²	TT Trinidad and Tobago
CL Chile	IS Iceland (EP)	NG Nigeria	TZ United Republic of Tanzania (AP)
CM Cameroon (OA) ²	IT Italy (EP) ²	NI Nicaragua	UA Ukraine
CN China	JP Japan	NL Netherlands (EP) ²	UG Uganda (AP)
CO Colombia	KE Kenya (AP)	NO Norway (EP) ³	US United States of America
CR Costa Rica	KG Kyrgyzstan (EA)	NZ New Zealand	UZ Uzbekistan
CU Cuba	KM Comoros	OM Oman	VC Saint Vincent and the Grenadines
CY Cyprus (EP) ²	KN Saint Kitts and Nevis	PE Peru	VN Viet Nam
CZ Czech Republic (EP)	KP Democratic People's Republic of Korea	PG Papua New Guinea	ZA South Africa
DE Germany (EP)	KR Republic of Korea	PH Philippines	ZM Zambia (AP)
DK Denmark (EP)	KZ Kazakhstan (EA)	PL Poland (EP)	ZW Zimbabwe (AP)
DM Dominica	LA Lao People's Democratic Republic	PT Portugal (EP)	
DO Dominican Republic	LC Saint Lucia		
DZ Algeria			

1 Extension of European patent possible.

2 May only be designated for a regional patent (the "national route" via the PCT has been closed).

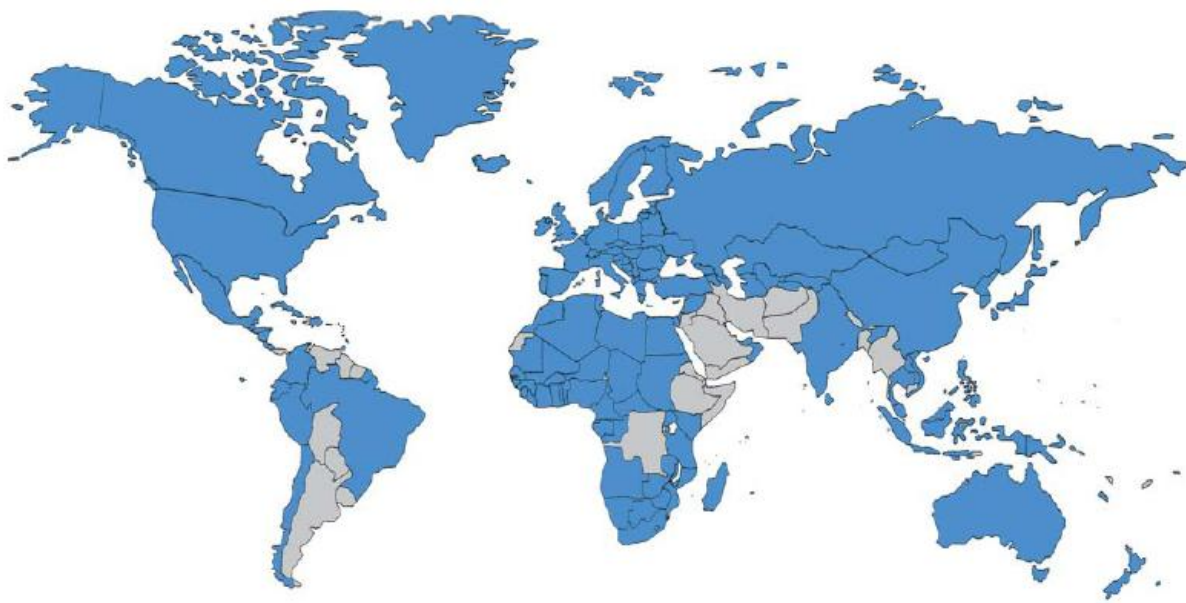
3 Only international applications filed on or after January 1, 2008, include the designation of this State for a European patent.

4 Only international applications filed on or after January 1, 2009, include the designation of this State for a European patent.

5 Only international applications filed on or after July 1, 2009, include the designation of this State for a European patent.

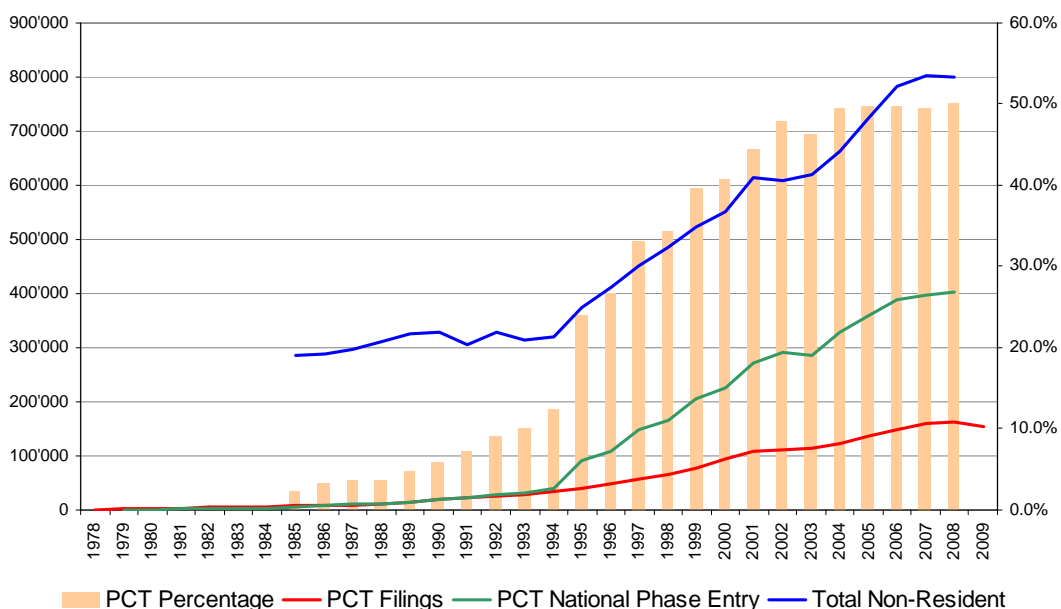
Where a State can be designated for a regional patent, the two-letter code for the regional patent concerned is indicated in parentheses (AP = ARIPO patent; EA = Eurasian patent; EP = European patent; OA = OAPI patent).

Figure 1: PCT Contracting States (142)



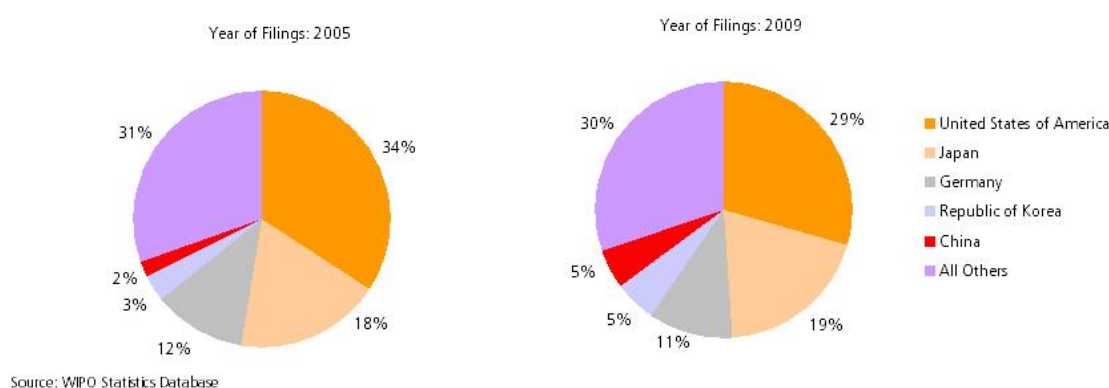
20. As shown in Figure 2, below, between 1978 and 2009, more than 1.8 million international applications have been filed under the PCT. Between 1978 and 2008, applicants initiated almost 3.9 million PCT national phase entries worldwide. Over the years, the use of the PCT procedure for foreign patent filings has increased steadily; the number of non-resident patent applications filed worldwide through the PCT system grew from 2.5% in 1985 (the first year for which statistics are available) to more than 50% in 2008.

Figure 2: Trends in PCT Applications, 1978 – 2009



21. Figure 3 shows the distribution of PCT applications in the international phase by country of origin focusing on the top 5 filing countries (2005 and 2009 figures). Applicants from the United States of America filed the largest share (29%) of PCT applications in 2009, followed by applicants from Japan and Germany. The combined share of the top 5 countries has remained the same, around 70%. However, United States and German shares of total PCT applications in 2009 decreased by 5 and 1 percentage points, respectively, whereas China, the Republic of Korea and Japan each saw their shares of PCT applications increase by 3, 2 and 1 percentage points, respectively.

Figure 3: Distribution of PCT applications by country of origin, 2005 and 2009



22. Table 2 shows the number of PCT applications filed by the top 15 countries of origin from 2005 to 2009.

Table 2: PCT Applications by Country of Origin, 2005 to 2009

Country of Origin	Year of Filing					2009 Share (%)	Changed compared to 2008 (%)
	2005	2006	2007	2008	2009		
United States of America	46,857	51,296	54,038	51,664	45,790	29.4	-11.4
Japan	24,870	27,023	27,748	28,785	29,827	19.1	3.6
Germany	15,987	16,734	17,825	18,854	16,736	10.7	-11.2
Republic of Korea	4,689	5,946	7,065	7,900	8,066	5.2	2.1
China	2,512	3,937	5,465	6,127	7,946	5.1	29.7
France	5,756	6,264	6,570	7,073	7,166	4.6	1.3
United Kingdom	5,096	5,093	5,539	5,512	5,320	3.4	-3.5
Netherlands	4,504	4,550	4,422	4,339	4,471	2.9	3.0
Switzerland	3,294	3,613	3,814	3,749	3,688	2.4	-1.6
Sweden	2,887	3,333	3,658	4,136	3,667	2.4	-11.3
Italy	2,349	2,702	2,948	2,885	2,718	1.7	-5.8
Canada	2,320	2,573	2,847	2,912	2,572	1.6	-11.7
Finland	1,893	1,844	1,994	2,223	2,173	1.4	-2.2
Australia	2,001	2,003	2,053	1,946	1,800	1.2	-7.5
Israel	1,461	1,599	1,747	1,905	1,578	1.0	-17.2
All Others	10,277	11,159	12,216	13,233	12,382	7.9	-6.4
Total	136,753	149,669	159,949	163,243	155,900	100	-4.5

Source: WIPO Statistics Database

23. While the number of international applications coming from developing countries is still fairly low, there is a very high rate of increase in some developing countries.

Changes to the Legal Framework

24. To achieve this success, over the years, the system has been constantly improved, notably from the viewpoint of applicants. Mainly through amendments to the Regulations under the Treaty, the system has been modernized, made safer and more applicant-friendly: requirements as to form and contents of international applications have been further harmonized; safeguards for applicants have been added; procedures have been streamlined; new features, such as written opinions for all international applications as part of the Chapter I procedure, and optional supplementary international searches, have been added; time limits, notably for national phase entry, have been modified; modern means for the filing of applications in electronic form and by electronic means have been added; and fee reductions were introduced for certain applicants from developing and least developed countries.
25. In particular, a major process of reform of the PCT legal framework was launched by the 29th session of the PCT Assembly in September–October 2000 and continued until the 36th session of the PCT Assembly in September–October 2007, when the final recommendations of the Working Group on Reform of the PCT were adopted.
26. The proposal which launched the process (document PCT/A/29/3) envisaged a two stage process. The first stage would concentrate mainly on simplification of certain procedures and introducing safeguard procedures similar to those which appeared in the Patent Law Treaty, which had recently been adopted. The second stage would deal with more fundamental reforms.
27. Following consultations with the Contracting States, it was agreed that the reform process as a whole should address a wide range of objectives (paragraph 66 of document PCT/R/1/26, stated not to be necessarily in order of priority):
 - “(i) simplification of the system and streamlining of procedures, noting also that many PCT requirements and procedures will become more widely applicable by virtue of the Patent Law Treaty (PLT);
 - “(ii) reduction of costs for applicants, bearing in mind the differing needs of applicants in industrialized and developing countries, including individual inventors and small and medium-sized enterprises as well as larger corporate applicants;
 - “(iii) ensuring that PCT Authorities can meet their workload while maintaining the quality of the services provided;
 - “(iv) avoiding unnecessary duplication in the work carried out by PCT Authorities and by national and regional industrial property Offices;
 - “(v) ensuring that the system works to the advantage of all Offices, irrespective of their size;
 - “(vi) maintaining an appropriate balance between the interests of applicants and third parties, and also taking into account the interests of States;
 - “(vii) expanding programs for technical assistance to developing countries, especially in the area of information technology;
 - “(viii) alignment of the PCT, to the maximum extent possible, with the provisions of the PLT;
 - “(ix) coordination of PCT reform with the ongoing substantive harmonization work being carried out by WIPO’s Standing Committee on the Law of Patents;

- “(x) taking maximum advantage of modern information and communications technology, including the establishment of common technical and software standards for electronic filing and processing of PCT applications;
- “(xi) simplifying, clarifying and, where possible, shortening the wording of the provisions of the Treaty and the Regulations;
- “(xii) streamlining the distribution of provisions between the Treaty and the Regulations in order, in particular, to gain increased flexibility.”

28. The second stage of the PCT reform process was, in the end, not followed through and consequently some of these objectives were not pursued, notably those which either related to substantive harmonization or would require amendment of the Articles of the Treaty, Nevertheless, the first stage of the reform process resulted in several major simplifications, improvements in efficiency and service, and applicant safeguards introduced, including the following:
- (i) With effect from April 1, 2002, the time limit under Article 22(1) was modified to be 30 months from the priority date, the same period for entering the national phase under Chapter I as applied under Chapter II (documents PCT/A/30/4, 4 Add. and paragraphs 30 to 49 of document PCT/A/30/7). This eliminated a large source of unnecessary work for International Authorities caused by applicants requesting international preliminary examination solely to put off the costs of entering the national phase, without any intention of engaging in the process of international preliminary examination.
 - (ii) With effect from October 17, 2002 (documents PCT/A/31/10 and 10), fee reductions were introduced to encourage the use of electronic filing;
 - (iii) With effect from January 1, 2003, (documents PCT/A/31/6, 6 Add. 1, 6 Add. 2, 6 Add. 3 and 10), designated Offices were required to reinstate the rights of applicants who had missed the time limit for national phase entry either unintentionally or despite due care having been taken (at the choice of the Office).
 - (iv) With effect from January 1, 2004, an enhanced international search and preliminary examination system was introduced. The main feature of that new system, as still applicable today, was that one of the main elements of the present Chapter II procedure, namely, the establishment of an examiner's opinion, was in effect advanced and incorporated into the Chapter I procedure. Under the enhanced system, the ISA was made responsible for establishing a preliminary and non-binding written opinion on the questions whether the claimed invention appears to be novel, to involve an inventive step and to be industrially applicable. That written opinion of the ISA is to be used for the purposes both of Chapter I and, if the applicant files a demand for international preliminary examination, of Chapter II, thus combining the international search and international preliminary examination procedures to a much greater extent than was the case up to that point. (documents PCT/A/31/6, 6 Add. 1, 6 Add. 2, 6 Add. 3 and 10):
 - (v) With effect from January 1, 2004, an all-inclusive designation system was introduced. Since then, by filing an international application, the applicant obtains an automatic and all-inclusive coverage of all designations available under the Treaty, including all kinds of protection as well as both national and regional patent protection, without needing, at the time of filing the application, to designate individual Contracting States, to choose certain kinds of protection or to indicate expressly whether national or regional protection is sought. Such matters are left to be dealt with in the national phase.

- (vi) With effect from January 1, 2007, several changes were introduced into the PCT system aimed at aligning the provisions of the PCT, to the extent possible, with those of the Patent Law Treaty (PLT). The most important provisions so changed were those relating to missing elements and parts of the international application, the restoration of the right of priority and the rectification of obvious mistakes.
 - (vii) With effect from January 1, 2009, a system of supplementary international searches was introduced within the PCT, aimed at improving the quality of the international searches, noting that early identification of as much relevant prior art as possible is useful for applicants, designated and elected Offices and third parties alike. Under the supplementary international search system, an applicant has the option to request, in addition to the “main” international search, one or more supplementary searches to be carried out by International Authorities, other than the ISA that carries out the main international search.
29. The PCT reform process formally ended in 2007, when the PCT Assembly decided that the work of both the Committee on Reform of the PCT and the Working Group had been completed and that the mandate of both bodies had come to an end.

Procedures, Not Substance

30. One of the main reasons and an explanation for the success of the PCT system is that the Treaty focuses on procedures, preserving the Contracting States’ right to prescribe substantive conditions of patentability. It is a procedural Treaty, making available a *filing tool for applicants* for foreign patent filings and a *tool for effective processing of patent applications by Offices* of PCT Member States willing to exploit work done by others. The Treaty deals with requirements relating to *form and contents* of international applications. It does not deal with requirements of substantive patent law. Rather, it provides tools (the international search report and international preliminary report on patentability) which allow Contracting States to deal more effectively with the requirements of their substantive patent laws. This fundamental principal of the Treaty is enshrined in several Articles of the Treaty itself:
- (a) Article 27(1) expressly states that “[n]o national law shall require compliance with requirements relating to the form and contents of the international application different from or additional to those which are provided for in this Treaty and the Regulations”; the “Notes on the PCT” (document PCT/PCD/4, reproduced in the “Records of the Washington Diplomatic Conference on the Patent Cooperation Treaty”, WIPO publication No. 313) further explain that “[t]he words ‘form and contents’ are used merely to emphasize something that could go without saying, namely, that requirements of substantive patent law (criteria of patentability, etc.) are not meant.”
 - (b) Article 27(5) expressly states that “[n]othing in this Treaty and the Regulations is intended to be construed as prescribing anything that would limit the freedom of each Contracting State to prescribe such substantive conditions of patentability as it desires”; the “Notes on the PCT” further explain that “[c]onditions of patentability’ (other than requirements as to the form and contents of international applications) include novelty, inventive step (non-obviousness), industrial applicability, certain subject matter (for example, foods and beverages, chemical products, pharmaceutical products, and plant or animal varieties, are not patentable in some countries).”
 - (c) Article 27(6) expressly states that “[t]he national law may require that the applicant furnish evidence in respect of any substantive condition of patentability prescribed by such law.”

- (d) Article 33(1) expressly states that “[t]he objective of the international preliminary examination is to formulate a preliminary and non-binding opinion on the questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), and to be industrial applicable.”; Article 33(5) expressly states that “[t]he criteria described above [novelty, inventive step (non-obviousness), industrial applicability] merely serve the purposes of international preliminary examination. Any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed invention is patentable or not.”
- (e) Article 35(2) expressly states that “[t]he international preliminary examination report shall not contain any statement of the question whether the claimed invention is or seems to be patentable or unpatentable according to any national law. It shall state [...] in relation to each claim, whether the claim appears to satisfy the criteria of novelty, inventive step (non-obviousness), and industrial applicability, as defined for the purposes of the international preliminary examination in Article 33(1) to (4).”

PCT as a Filing Tool for Applicants

- 31. As outlined in document PCT/PCD/2 (see paragraphs 15 and 16, above), one of the main objectives of the PCT is to make available a *filing tool for applicants* who wish to seek patent protection in multiple foreign countries, saving applicants effort, time and money: applicants only need to file *one* international application, in *one* place, in *one* language, complying with *one* set of formality requirements and against payment of *one* initial set of fees, having the effect of multiple national or regional applications, which, without the PCT, would have had to be filed separately for each country or region. Moreover, before having to go to the effort and expense of having translations prepared, paying the national or regional fees and appointing agents in the various countries, the applicants' views are able to mature to a greater extent than would be possible without the PCT, not only because applicants have more time, but also because the ISR, the written opinion of the ISA, any supplementary ISR(s), and any IPRP (Chapter II of the PCT) constitute a solid basis on which applicants can judge their chances of obtaining protection and make decisions about the prosecution of an application before the various national patent Offices in the national phase of processing.
- 32. As a filing tool for applicants, the PCT has been extremely successful, best demonstrated by the developments in PCT filings since the system's beginning of operations in 1978.
- 33. In this context, it is worth noting that the PCT has also been very successful as a means of bringing together formal and procedural requirements of States in respect of national and regional applications filed outside of the PCT system. Many States have chosen, of their own accord, to adapt their national legislation applicable to national or regional applications to the requirements as to form or contents which apply to international applications filed under the PCT. In addition, the Patent Law Treaty (PLT), which entered into force in 2005, incorporates many PCT requirements relating to form and contents, thereby further standardizing formal requirements for national and regional applications and eliminating or at least greatly reducing procedural differences between national, regional and international patent systems.
- 34. However, despite its success as a filing tool, there remain a number of issues specific to the use of the PCT by applicants and Offices which need to be addressed, as further outlined in paragraphs 63 to 111, below.

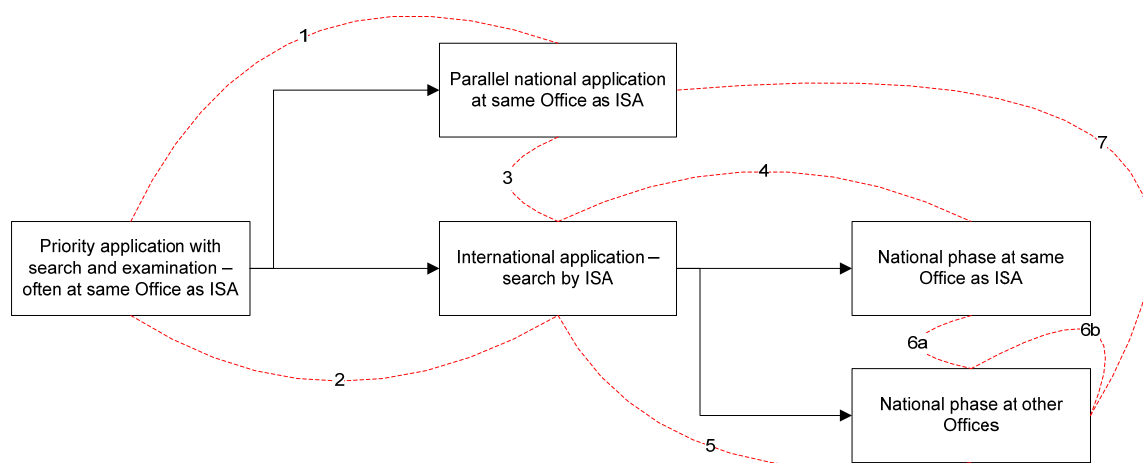
PCT as a Tool for Effective Processing of Patent Applications by Offices

35. The PCT was designed not only as a filing tool for applicants but also as a tool for effective processing of patent applications by Offices. As outlined in document PCT/PCD/2 (see paragraphs 15 and 16, above), there was the expectation that, while national Offices may very well be distrustful – at least in the beginning of the PCT – as to the quality of the ISRs and IPRPs and thus subject them to a certain control in national procedures, they nevertheless would have a “flying start” in their work, since such work was “rather in the nature of completing, checking and criticizing than starting from scratch in complete isolation as national Offices do at present.”
36. Unfortunately, while the PCT has been extremely successful as a filing tool for applicants, it has been much less successful as a tool for effective processing of patent applications by Offices. In practice, the potential advantages envisaged by the founders of the PCT have not been fully realized in many Contracting States. Rather than taking advantage of a possible “flying start”, many Offices still today remain distrustful of ISRs and IPRPs. Some of the possible causes for these shortcomings of the system are further outlined in paragraphs 63 to 102, below.
37. In this context, it is worth noting that projects such as the Patent Prosecution Highway (PPH) prove both that the effective processing of patent applications by Offices which was envisaged by the founders of the PCT is really possible and that at least some Offices are now willing to take action to achieve the type of benefits which were hoped for when the PCT system was first designed. Under the PPH project, a pair of Offices have a (possibly informal) bilateral agreement whereby if an applicant receives a ruling from one Office that at least one claim in an application is patentable, he may request that the other Office “fast track” the examination of corresponding claims in corresponding applications. This allows applicants in both countries to obtain corresponding patents faster and more efficiently, with the assistance of search and examination results obtained from the other Office.
38. The issues which prompted the adoption of the PCT in 1970 were the same as those which are now being attempted to be addressed by projects such as the PPH. This issue was at the heart of document PCT/WG/2/3 on the Future of the PCT, as discussed by the Working Group during its second session. As stated in that document, if there are concerns which prevent the PCT from being used as was envisaged by its founders to address the same relevant issues, it is essential that those concerns are dealt with directly within the PCT and are overcome quickly.
39. In this context, the term “duplication of work” requires further explanations. In document PCT/WG/2/3, the IB stated that it would be desirable to minimize duplication of work. This caused concern for representatives of applicants, Offices and Contracting States alike since both the terms “minimizing” and “duplication” could be interpreted several different ways, some of which would be clearly undesirable for applicants, States (Offices) or both.
40. The IB remains of the view that work-sharing lies at the heart of the PCT and that it can be of benefit to all users of the PCT system: States, Offices, applicants and third parties alike. However, it should be stressed that this does *not* mean that Offices should cease national search and examination. Rather, the intended principles were as follows:
 - (a) All parties to the PCT should seek to work in a way which *allows* Offices to use earlier work, especially ISRs and IPRPs, in a way which reduces the amount of work which they need to do while remaining at least as confident as at present (and preferably more so) that they are only granting patents which have been well examined in accordance with the specific national law.

- (b) The system should make it *possible* and *desirable* for Offices to reuse earlier work, but the actual extent to which this is done should (except as noted in paragraph 45(b), below) be a decision of the Office or State concerned as a matter of policy and efficiency.
- (c) The system should either discourage applicants from filing parallel applications for the same invention which take valuable resources in an Office to process or else, if a genuine benefit can be seen in having multiple applications, find an efficient way of handling the two applications to minimize the additional work involved.
- (d) *Similar* actions by different Offices can be very clearly *complementary* rather than *duplicative*, for example in the case of extending the search to cover documentation in a language which would not have been reliably covered by a search conducted by another Office. Where complementary work is carried out, this should, where practical and permitted under the relevant laws, be made available to other Offices to assist their work, allowing them to increase the quality of their own examination without the need to attempt to conduct such a search again for themselves.

41. The issue was illustrated by the following diagram, which represents the processing which may be carried out on different related applications or phases of an international application.

Figure 4: Search and Examination of the Same and Equivalent Applications



42. The questions of what is “duplication” and whether work which could be considered duplication is undesirable, unnecessary, desirable or even necessary vary according to whether the actions are all carried out within the same Office, or else between different Offices. Also needing to be taken into account are:
- (a) the reason for which work similar to something which has previously happened (in the same or another Office) is undertaken;
 - (b) the relevance which that earlier work should have, assuming that it was undertaken correctly;
 - (c) the degree of confidence which the Office has in the way that the earlier work was undertaken.
43. As can be seen, *the same Office* may conduct search and examination on effectively the same application four (or even more) times, shown as dotted lines 1, 2, 3 and 4. While the internal efficiency of an Office is primarily of concern for itself and the applicants and third parties having interests in patents in that State, there are implications for other Offices and States, which make this matter worth discussing collectively:

- (a) The efficiency of an Office in handling related applications may have an effect on its capacity to perform its international functions under the PCT effectively, which can have direct consequences for other Contracting States who should be able to rely on the Office to perform its duties under the PCT in a timely and correct manner.
 - (b) If an Office is not seen to have full trust in its own work, it is likely that other Offices will assume that the reports issued by that Office are of low quality and that they will provide little or no benefit in assisting them in reaching their conclusions as to patentability under their own national laws.
44. Full search and examination *by the same Office* in these cases would clearly be unnecessary duplication in most cases. There will be exceptions where the application body (and especially the claims under consideration) have changed significantly between the different applications or different stages of processing, but usually the only additional search which ought to be necessary should be a “top-up” search to find any “secret prior art” which has been published in the meantime.
45. Clearly, a full search by a different examiner in the same Office might sometimes locate relevant prior art which had been overlooked by the earlier examiner, but this fact does not result in Offices having several different examiners each conduct a complete independent search on every national application: the first search is almost universally trusted for the remainder of the processing of the application (subject, as noted, to top-up searches and special cases such as where a new search is conducted because the scope of the claims has changed sufficiently to require this).
- (a) For efficiency within an Office, this logic should preferably apply to equivalent applications and stages of applications.
 - (b) For the confidence of other Offices in the quality of the international search, it is essential that the Office which acts as ISA should rely in the national phase on the results of an international search which it has itself carried out.
46. Search and examination of an application by *another Office* after a national or international search and examination elsewhere is less likely to be duplication. The examiners at that Office may have different language skills and access to different databases. There may be aspects of the national patent law which would result in a significantly different conclusion in some cases as to novelty, inventive step or other issues, such as excluded subject matter.
47. Furthermore, the national examiner is directly responsible for taking a decision on whether or not to grant a patent and it is a matter of law and policy for each Contracting State and designated Office to decide on the extent to which the examiner is permitted to rely on work carried out elsewhere to assist that decision. As discussed in paragraph 30, above, the PCT cannot require any national Office to rely on the results of substantive examination carried out by another Office. The aim of this exercise is to improve the *use* of the PCT system *within its existing legal framework* and the IB specifically does not intend to propose any change to that principle.
48. Various national Offices are seeking to share national search and examination reports for use in helping to improve the quality and efficiency of national patent examination. Projects are under way in the Latin American and Caribbean region and amongst the “Vancouver Group” (the Australian, Canadian and United Kingdom Offices) and other groups of Offices are considering similar initiatives.
49. In the context of search and examination relating to international applications, the key issue is improving the international search and examination work and related national processes to ensure that:

- (a) the definitions of what is to be done are relevant to giving the maximum assistance to national search and examination in designated Offices;
 - (b) the work is performed to a quality where designated Offices can have confidence that the international search will have covered the field of search indicated in the search report well in at least the languages of documentation which would be expected from the ISA; and
 - (c) where relevant additional work is performed by national Offices, this too should be made available, to the extent possible, for use by other national Offices.
50. This would provide an option for efficient and high quality national processing by including an element of work-sharing, but it would nevertheless, remain a national decision as to the extent to which international work can replace, rather than merely assist some or all of the national search and examination.

PCT Information and Technical Assistance

51. As regards the PCT's *informational aim*, namely, in the language of the Preamble to the Treaty, "to facilitate and accelerate access by the public to the technical information contained in documents describing new inventions" (see paragraph 10 of document PCT/PCD/2, reproduced in paragraph 15, above), the PCT has been extremely successful. The PATENTSCOPE[®] Search Service on WIPO's web site provides quick and easy access to, and full-text search in, over 1.7 million published international patent applications, including the latest bibliographic data and documents contained in the files, from the first publication in 1978 to the latest international applications published every week. Moreover, a wide range of PATENTSCOPE[®] publications assist users in finding technology using patent information to obtain technical data, legal information, business intelligence and public policy-relevant data. Just recently, WIPO launched full PCT public online file inspection, via the PATENTSCOPE[®] search service, of all published PCT applications filed on or after January 1, 2009, under which most of the file contents of applications are now available online free of charge.
52. More specifically, Article 50(3) provides that the information services by the IB shall be operated in a way particularly facilitating the acquisition by Contracting States which are developing countries of technical knowledge and technology, including available published know-how. As set out in document PCT/PCD/2 (paragraph 65), contemplated at the time of the adoption of the PCT were the following types of information to be provided by the IB: "identification of documents relating to a certain technical field or problem; identification of documents issued in different countries but relating to the same invention; identification of documents showing the same person as inventor or applicant; identification of patents in force or no longer in force at a given date in any given country." To that extent, the PATENTSCOPE[®] Search Service today provides for information that could not have possibly been envisaged by the founders of the PCT. In the context of specific action under the WIPO Development Agenda, the information provided through PATENTSCOPE[®] is essential to projects such as the Project on Developing Tools for Access to Patent Information, adopted by the Committee on Development and Intellectual Property at its fourth session (document CDIP/4/6).

53. In this context, related to the Treaty's informational and technical assistance aims, it is also worth noting that the WIPO's "Access to Research for Development and Innovation" (aRD_i) program, coordinated by WIPO together with partners in the publishing industry, aims to increase the availability of scientific and technical information in developing countries. By improving access to scholarly literature from diverse fields of science and technology, the aRD_i program seeks to reinforce the capacity of developing countries to participate in the global knowledge economy; and support researchers in developing countries in creating and developing new solutions to technical challenges faced on a local and global level. Currently, 12 publishers provide access to over 50 journals for 107 developing countries through the aRD_i program.
54. As regards the PCT's technical assistance aim, the Treaty provides for technical assistance for developing countries "in developing their patent systems individually or on a regional basis" (Article 51(3)(a)). At the time of adoption of the PCT, in 1970, such technical assistance was envisaged by, for example, assisting an existing industrial property office in a developing country in becoming a channel for technical information to local industry by selecting for and forwarding to such industry all patent documents coming from abroad which are of possible interest to that industry in keeping abreast with technological developments throughout the world. Moreover, a national or regional industrial property office could be assisted in procuring the materials and training the manpower necessary for effecting a meaningful examination of the technical aspects of inventions. For financing such assistance, it was envisaged that the IB would seek to enter into agreements with international financing organizations, the United Nations and agencies thereof, particularly the United Nations Development Programme (see paragraph 65 and 66 of document PCT/PCD/2). The Treaty itself provides, in Article 51(3)(b), that technical assistance shall comprise, "among other things, the training of specialists, the loaning of experts, and the supplying of equipment both for demonstration and for operational purposes".
55. In the years between the adoption of the PCT Treaty in 1970 and its entry into force in 1978, the "PCT Interim Committee for Technical Assistance (PCT/TAS)", originally set up in 1971 to prepare for the establishment of the Committee for Technical Assistance referred to in Article 51 of the Treaty, met seven times, with the original mandate to "assist and advise the International Bureau in relation to technical assistance to developing countries aiming at: (i) making the developing country's patent system more effective through the necessary legislative and administrative measures; (ii) adapting the developing country's patent legislation to the PCT; and (iii) establishing and administering new patent documentation collections and centers in developing countries. At its seventh and last session, held in 1978, the Interim Committee decided that, in view of the changes which had occurred in the field of cooperation with developing countries since the adoption of the PCT (including the creation of two new bodies, the WIPO Permanent Committee for Development Related to Industrial Property and the WIPO Permanent Committee on Patent Information), the tasks of the PCT Committee for Technical Assistance should be reoriented in order to avoid unnecessary duplication of efforts and the danger of conflicting decisions. Consequently, from that time, the guidance of the PCT Committee for Technical Assistance would be sought only on those aspects of technical assistance to developing countries which had a direct bearing on the use of the PCT by such countries (see the summary of the conclusions of the 7th session of the PCT Interim Committee for Technical Assistance, published in "The First Twenty-Five Years of the Patent Cooperation Treaty (PCT) 1970-1995" (WIPO publication No. 844)). Since then, the Treaty's aim of providing technical assistance for developing countries has been pursued in WIPO's Permanent Committee for Development Related to Industrial Property (PCIPD) and, more recently, in WIPO's Committee on Development and Intellectual Property (CDIP).

56. Today, WIPO works to assist all nations, particularly developing and least developed countries, to use the intellectual property system, to promote economic, social and cultural development. WIPO's extensive activities in support of development goals are guided by the strategic goals and objectives agreed by Member States in the Program and Budget of the Organization. More specifically, WIPO's Technical Assistance and Capacity Building Sector, working through its regional bureaus and Least Developed Countries Division, and in close cooperation with the recently established Development Agenda Coordination Division, is responsible for programs of technical assistance to developing countries, as well as other aspects of WIPO's wider activities to promote intellectual property as an aid to social and cultural development, economic growth and wealth creation. To finance such technical assistance programs, WIPO relies, to a great extent, on PCT fee income. These technical assistance programs include PCT specific activities, such as training for Office staff in PCT related matters, user seminars, assistance in adapting national legislation to PCT requirements, and supply of IT equipment, jointly developed and implemented by the Technical Assistance and Capacity Building Sector and the PCT Sector of WIPO.
57. Issues facing the PCT system specific to the PCT's informational and technical assistance aims are further set out in paragraphs 115 to 117, below.

IV. EXISTING PROBLEMS AND CHALLENGES FACING THE PCT; ANALYZING CAUSES

58. By the end of the PCT reform process, many of the major concerns with the international legal framework covering the operation of the system had been addressed. The remaining issues had been set aside, either because no consensus between the Contracting States was foreseen on the appropriate way forward, or else it was considered that the desired outcome could not be achieved effectively without amendment of the Articles of the Treaty. It has been observed that the Rules actually became more complex rather than less so, but this is mainly a reflection of the need to achieve compatibility with the differing laws of Contracting States if there is either not the desire (for policy reasons) or the ability (for reasons of the practical difficulties) to change national laws. This point is considered further below.
59. Despite the successes in addressing many of the issues with the legal framework, the IB observed that many of the same underlying challenges remained. In its view, most of these challenges could be tackled effectively with little or no further development of the international legal framework, but this would require a will on the part of all the participants in the system to use the system as it had been intended.
60. Documents PCT/MIA/16/9 and PCT/WG/2/3 set out the main challenges seen by the IB to be facing the PCT, presented a draft roadmap containing the general outlines of a plan which could address those known challenges, and sought comments. The issues on which feedback were required were at several different levels.
- (i) whether the issues which the plan sought to address were the correct ones and whether others had been omitted;
 - (ii) whether the general proposals were practical or if better solutions to the problems could be seen; and
 - (iii) the details of how some of the general proposals might best be implemented.
61. As noted in paragraph 11, above, in addition to the discussion in the Working Group, the IB issued a questionnaire to all Offices, foreign ministries and Geneva missions of Contracting States and organizations invited as observers to the PCT Working Group.

62. Taking into account the responses to the questionnaire, as well as information otherwise available from public sources, the following are now seen as the major issues facing the PCT system directly, or else facing PCT Contracting States in respect of the aims of the PCT and the matters which the PCT was intended to address. The issues are grouped into sections which are related either by the nature of the issues or by the groups most affected by them, but are not intended to represent an order of priority, importance or ease of treatment.

Issues Relating to Effective Processing of Patent Applications by Offices

63. Many of the issues in this section are problems facing Offices in administering their national patent systems generally. These problems are generally not directly caused by the PCT. Rather, they are essentially the same problems which the PCT was originally intended to help address, but which still remain and grow.

Backlogs in Patent Offices

64. The backlogs in many (but by no means all) Offices of PCT Contracting States continue to increase, both in terms of absolute numbers and in terms of pendency. The problem of backlogs is most visible in the larger Offices, but is shared by Offices of all sizes in industrialized and developing countries alike.
- (a) In most of the very large Offices, the number of pending applications has at least doubled over the last 10 years, according to figures provided by those Offices for the questionnaire. The effect on average pendency of applications has varied considerably according to whether the Office has been able to recruit and train new examiners sufficiently quickly. For example, the State Intellectual Property Office of the People's Republic of China has actually decreased average processing time since 2004 despite the number of applications pending having risen by a factor of around three in the same time. The average processing time in the United States Patent and Trademark Office, on the other hand, has risen greatly.
 - (b) There have also been significant rises in the number of pending applications in a large proportion of medium-sized Offices which responded to the questionnaire, the majority of exceptions being Offices in States which are part of a regional patent system. Like the large Offices, the effect of these rises in number on the time taken to process an application varies considerably.
 - (c) Very few small Offices were able to provide detailed figures on backlogs. However some Offices commented that, even though their total number of applications is relatively small, their ability to process these applications is extremely limited. One Office reported that, over the previous 10 years, it had been able to complete the processing of less than 10% of the applications which had been filed and it particularly needed examination results on equivalent applications pending before other Offices to assist the process.
65. Obviously, the fundamental issue is that – for some Offices – the number of applications being filed is increasing at a rate greater than the Office is able to increase its rate of processing the applications. The detailed reasons for the increases (and, where relevant, decreases) in backlogs vary from Office to Office as described below, but some general factors apply to many Offices:

- (a) The total number of patent applications is rising in almost all States (taking into account applications being processed by any regional Office in addition to those purely national applications). Member States reported 1,854,416 patent applications in 2007 (the latest figures available)², a 60% increase over the figure in 1997.
 - (b) Patents are being sought for a larger number of inventions. In 2005, 876,432 distinct patent families were identified, a 43% increase over 1995³.
 - (c) Patent filings are becoming increasingly globalized. In 2007, 43% of applications were reported as having been filed by non-residents, compared to 39% in 1997 and 30% in 1987². These applications are particularly likely to have equivalent applications being pursued in other Offices, including the country of origin of the applicant.
66. Some of the special conditions which may affect the backlogs in some Offices other than simply increasing the number of examiners relative to the number of applications being filed include:
- (a) The State may have introduced new laws with different requirements, such as more stringent examination or else a change in timing of procedures which result in large temporary increases or decreases in workload (for example, changing the deadline for requesting examination in cases where the backlog is measured in terms of applications where examination has been requested).
 - (b) The Office may have taken measures to increase the amount of work which can be done per regular member of Staff, such as introducing more effective IT systems or outsourcing of work to other Offices. Outsourcing might be done either directly by entering into an agreement with another Office, or else indirectly by unilaterally deciding to use to some extent the search and examination work conducted by other Offices where equivalent patent applications exist.
 - (c) There may be changes in use of the system by applicants which result in applications on average taking more or fewer actions by the examiner to reach a final conclusion on whether or not a patent should be granted.
 - (d) The State may have joined a regional patent system.
67. The effect of backlogs is to maintain uncertainty in whether a patent will be granted in that State and in what form. This may be either good or bad for individual applicants, depending on the particular strategy which they wish to pursue. On the other hand, lengthy backlogs are almost universally bad for third parties, who are left uncertain for extended periods whether it is safe to enter a particular market without either negotiating a licence with the potential patent owner or going further than ought to be necessary to “design around” the potential patent. It is also difficult to assess an appropriate level of royalties which ought to be paid on a patent the scope of which has not yet been fixed. From the point of view of States, this problem can be seen not only for the specific companies attempting to bring products to market but more broadly as a barrier to technology transfer.

² Source: WIPO Statistics Database, June 2009.

³ Source: WIPO Statistics Database, June 2009.

68. It should be noted that backlogs in the national Office of one State can represent not only a problem for that Office and State and the applicants seeking protection there, but also for companies in other States wishing to invest or trade in that market.
69. One recent estimate⁴ suggested that the overall costs of an additional year of pendency in each of the "Trilateral Offices" (European Patent Office, Japan Patent Office and United States Patent and Trademark Office) would amount to around GBP 7.6 billion *per annum*. While the methodology of this estimate has not yet been widely reviewed and agreed, and the study itself notes that the costs in terms of the impact of the uncertainty on innovation are not taken into account, it is clear that the costs to both (some) applicants and to society at large of excessive patent pendency could be very high indeed.

Timeliness of the International Phase

70. The ISRs and IPRPs are intended to be useful to applicants, designated Offices and third parties alike in evaluating the likely scope and validity of any patent which might be granted. The time limits for establishing and making these reports available are set taking this into account. The following list summarizes the intended effects of the rules in a normal case (it is an approximation of the actual rules, ignoring extensions to the intended limits resulting from delays at earlier stages of the international processing and certain rare special cases).
 - (a) The ISR (and written opinion of the ISA) should be available to the applicant within 16 months from the priority date so that he can make appropriate decisions as to further processing, including considering withdrawing it before international publication;
 - (b) The ISR should be published along with the international application at 18 months from the priority date so that third parties are able to make a realistic assessment of the potential scope of any patent which might be granted if the international application enters the national phase;
 - (c) The IPRP should be available to the applicant by 28 months from the priority date so that he is able to make a more informed decision on whether it is worth entering the national phase and to designated and elected Offices;
 - (d) The IPRP should be available to designated and elected Offices 30 months from the priority date so that it can be taken into account in national phase processing.
71. These targets are missed in a large number of cases⁵. In 2009, 26% of international applications were published without the ISR attached: this represents a substantial improvement over preceding years, but remains a very large number. In the same year, over 6% of ISRs were delivered more than 30 months from the priority date, that is, at a time when the international application might already have been required to enter the national phase. Nearly 15% of IPRPs (Chapter II) were delivered more than 30 months from the priority date.
72. As a result, a significant number of applicants and third parties have difficulty in assessing international applications at the time when they need to make commercial decisions. Furthermore, national Offices may need either to delay national processing or to conduct national search and examination without any assistance from the international work products.

⁴ *Patent Backlogs and Mutual Recognition*, London Economics, January 2010 at page 67.

⁵ *PCT Quarterly Report: Performance Indicators*

73. It should be noted that not all of the delays are directly attributable to the International Authorities responsible for establishing the reports. They may sometimes be unable to begin the international search or international preliminary examination on time as a result of delays in receiving information, documents or fees from the applicant, receiving Office or IB. Part of the delay comes from the time taken to process the applications within the Office, including any correspondence required with the applicant. Another part comes from sending documents in paper form, which can take a very long time by surface mail between a receiving Office and an International Authority in different regions.

Quality of Work

74. The patent system generally is frequently criticized for allowing too many patents to be granted which are invalid according to the relevant national laws as well as for the time and cost involved in challenging patents which are believed to be invalid. While it is impossible to be completely certain that an invention is new and non-obvious, there is a strong desire for improvement in search and examination processes to help ensure that invalid patents are either not granted, or else can be removed easily and effectively.
75. The PCT was intended to assist national Offices in improving the quality of granted patents, most notably by ensuring that the Office has a search report of the highest possible standard available to them (see paragraphs 9 and 86 to 87 of PCT/PCD/2 "Summary and Advantages of the Patent Cooperation Treaty", reproduced under paragraph 15, above). This requirement is set out in four main provisions of the Treaty and Regulations:
- (a) The definition of relevant prior art for the purpose of international search in Rule 33 is intended to cover all matter which could be relevant to novelty or inventive step under the national laws of any Contracting State.
 - (b) Article 15(4) requires that the ISA "shall endeavor to discover as much of the relevant prior art as its facilities permit, and shall, in any case, consult the documentation specified in the Regulations."
 - (c) The minimum documentation specified by Rule 34 of the PCT Regulations sets out search requirements which are significantly wider than were searched even by many large Offices at the time that the PCT was set up. Even though the Internet and private database suppliers have now made prior art (especially patent documents) more easily available, this minimum documentation is still considerably more extensive than most national Offices are able to search, according to a survey recently carried out by the IB (Circular CN.3027: see document SCP/14/3, paragraphs 10 and 35). Most International Authorities have access to (and are required by Article 15(4) to search) a great deal of documentation beyond that minimum documentation.
 - (d) The requirements in Rules 36 and 63 for being appointed as an International Authority mean that their examiners should have exceptional knowledge of their technical fields, good tools for conducting searches and knowledge of how to use those tools effectively. The Authorities should also have effective quality management systems to review their processes and make continual improvements.
76. The responses to the questionnaire confirmed that national Offices agreed that the definition of prior art for the purpose of international search was sufficient to cover all the prior art which could be relevant to their national laws on patentability (though one Office suggested that it might be useful to clarify Rule 33.1(c), concerning citing earlier applications).

77. However, while the definition of prior art for the purpose of international search seems to meet the needs of all Contracting States, there is a distinct gap between that definition and the perceived quality of search which is conducted by the International Searching Authorities. Some of the main issues which affect Offices' and applicants' perception of the international search include:
- (a) Most Authorities cite mainly documents from their own Office – some Authorities are perceived as citing almost exclusively their own documents.
 - (b) Some Authorities seem to cite only a very limited amount of non-patent literature.
 - (c) Documents are occasionally cited as category "A" (document defining the general state of the art which is not considered to be of particular relevance") when under the designated Office's national law they might be considered category "X" (the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone). This problem is made worse by the fact that the written opinion sometimes (and usually in the case of "A" documents) provides little detail on why the document is, or is not, considered to be relevant.
 - (d) The quality of international search is seen to vary significantly between International Authorities.
 - (e) Unless the working languages of the ISA match those of the designated Office, it is likely that the designated Office's national collection will not have been as completely searched as would be done by that designated Office.
 - (f) The ISR is established at a time when much of the potential "secret prior art"⁶ has not yet been published. It is recalled that proposals have been made by Japan and the Republic of Korea to address this point (documents PCT/WG/2/8 and 11). However, these proposals involve more fundamental restructuring of the work of the international phase than had been envisaged by the IB as part of this exercise and their consequences are not reviewed as part of this study.
 - (g) The level of detail in written opinions, which accompany and help to explain the ISRs, is perceived to vary significantly between International Authorities.
 - (h) Some International Authorities are perceived as establishing international reports at least to some extent in accordance with their national practices rather than according to the PCT.

⁶ "Secret prior art" is a commonly used informal term for patent applications with earlier priority than the international application which had not yet been published by the priority or filing date of the international application. In many Contracting States, these can be cited against the international application in a manner equivalent to a novelty objection and in some States also for inventive step.

- (i) The quality of the international search is difficult to assess because there is usually only a very limited record of the search strategy available (the classification terms and databases used in the search, as shown in Figure 5, below).

Figure 5: "Fields Searched" portion of the ISR

B. FIELDS SEARCHED
Minimum documentation searched (classification system followed by classification symbols)
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

- (j) The reports would be easier to assess and use if they offered more direct access to the cited documents (for example, by hyperlinks).
78. With regard to the perception of examiners predominantly citing documents from their own Office compared to non-patent literature or patent documents from other applications, to some extent this is unsurprising. The same aspect of technology may sometimes be described in several different places, no one being "better" or "worse" than another. Examiners will typically be most effective at finding the disclosure and describing its relevance in documents in their own language and in the format with which they are most familiar. This issue is also partially offset by the fact that many Authorities append a list of family members of cited documents, which may help in finding equivalent disclosures made in other languages. Also, in some technologies, a large majority of developments are either patented or appear in defensive publications in certain States so that it is possible to cite documents from those States in preference to others without any loss in quality. However, an overwhelming predominance of citations across the board from one Office or in one language may well be suggestive that the overall scope of the search might be limited.
79. It is uncertain how these perceptions relate to any objective measure of quality of international reports. It is very difficult to measure accurately either the degree of compliance of a report with the requirements of the Treaty or the degree of relevance which international reports from different Authorities have to the assessment of novelty and inventive step before any particular national Office. Also, individuals tend to recall cases where there are significant errors and omissions more than those which are trouble free. It should also be considered that if an international search risks being deficient because it focuses too much on documents published in one Office or language, the same is also likely to be true of the search conducted by any national Office – the difference lies only in the particular material which is most likely to be overlooked. Effective quality assessment requires a large investment of time by skilled examiners, of which there are already an insufficient number, and there is no agreement on appropriate methodology to allow easy comparison of results of the work done by individual Offices' quality assessment programs.
80. However, it needs to be recognized that when it comes to States and Offices placing confidence in international reports established by other Offices (and, similarly, applicants and third parties having confidence in this or any other part of the patent system), the *perception* of quality and usefulness is essential. Measures of quality are useful ways of boosting that perception, but are difficult to establish in an objective and universally relevant manner and are only one factor amongst many others.

81. Despite the above concerns, all Offices which responded to this part of the questionnaire stated that they found the ISR to be useful. On the other hand, their degree of reliance on the results of the international search varied considerably. Common arrangements include the following:
- (a) A full search is carried out in all cases. The ISR is used to assist in determining the most appropriate places to search and as a cross-check on the results of the national search.
 - (b) The international search is usually considered to be adequate, at least in respect of that part of the PCT minimum documentation published in the language of the ISA, but a search is routinely carried out on documents published in the national language of the designated Office.
 - (c) A top-up search is routinely conducted to find “secret prior art” published since the international search was conducted. A more general further search is considered on a case-by-case basis according to the examiner’s experience and knowledge of the field of technology and his assessment of matters in the ISR, such as the field of search, indicators of search strategy and the range of documents cited.
 - (d) The ISR is accepted without question, either as a matter of desired policy or out of necessity because the designated Office does not have sufficient capacity to conduct further searches.
82. Amongst those Offices where the examiner decides on the appropriate amount of additional searching in any particular case, it was observed that ISRs where only “A” category documents are cited are likely to be treated with more suspicion and additional searching than those where “X” and “Y” category documents have been found. The Intellectual Property Office of Singapore also commented on the arrangement in that Office where an applicant himself can either rely on the international search or else, if he lacks confidence in the results, request a further, independent search and examination.
83. The aspects of quality of an IPRP which are usually most important depend critically on the quality of the international search on which the report is based. This study does not consider all of the related issues in detail, since it seems premature to attempt to address them in advance of achieving greater confidence in the quality of the international search. However, some of the more general aspects are considered in the section “Relevance of International Preliminary Reports on Patentability”, below.

Relevance of International Preliminary Reports on Patentability

84. Leaving aside any concerns which stem from the quality of the underlying international search, the responses from Offices to the questionnaire showed a significant variation in the degree to which they found the IPRP to be useful in determining the patentability of the international application in accordance with their particular national law.
85. By way of background, the following points should be noted about IPRPs.
- (a) The IPRP (with a few exceptions) contains a statement of whether each claim appears to satisfy the requirements of novelty, inventive step and industrial applicability as defined for the purposes of the international phase. These definitions are not identical to the laws of any Contracting State, but should provide a useful guideline in a large proportion of cases: most of the differences lie at the borderlines of inventive step and in the treatment of a few specific subject matters.
 - (b) The IPRP may also, at the discretion of the examiner, include comment on certain other matters, such as clarity and whether the claims are supported by the description.

- (c) There are two forms of IPRP:
 - (i) the IPRP (Chapter I), established by the IB on the basis of the written opinion of the ISA if the applicant does not demand international preliminary examination;
 - (ii) the IPRP (Chapter II), established by the IPEA following international preliminary examination, including the opportunity for the applicant to have arguments and amendments taken into account before a final report is established.
 - (d) The IPRP (Chapter I) was introduced mainly at the request of small Offices with limited examination capacity which relied heavily on the international preliminary examination report (the name in the Treaty for the report now referred to as the IPRP (Chapter II)) for helping to determine whether an international application meets the requirements of their national law; these Offices were concerned that the change to the time limit in Article 22(1) (see paragraph 28(i), above) would result in fewer international applications being issued with international preliminary examination reports. As a consequence, all international applications now have an IPRP. The two forms of IPRP are supposed to have the same contents, save that:
 - (i) in the case of the IPRP (Chapter I), the examiner may not yet have access to the priority document if he needs to state a view on whether the priority date is valid; and
 - (ii) the IPRP (Chapter I) is based on the international application as filed, whereas the IPRP (Chapter II) is able to take amendments into account, which may potentially overcome any defects identified in the international application as filed.
 - (e) The IPRP is specifically prohibited from making any statement on whether the claimed invention is patentable or unpatentable according to any individual national law (Article 35(2)).
86. None of the Offices which responded to the questionnaire considered that the matters which were reviewed in IPRPs were, *in principle*, unsuitable for assisting their assessment of whether international applications met their national requirements for patentability. However, a number of comments were made on the quality, consistency and thoroughness of the reports as discussed below, as well as comments on some matters which are currently not addressed in reports which might be useful. One Office indicated that, while it had no specific concerns other than the issue of subject matter which is excluded in certain States (see paragraph 88(j), below), it might be useful to arrange discussions of patentability criteria, for example as applied in different developing countries, to assist in determining whether the criteria applied in ISRs and IPRPs could be refined to be more useful.
87. Most Offices which made comments on this subject in the questionnaire agreed that the IPRP was helpful at least to the extent of providing greater insight into why the examiner at the ISA considered the cited documents to be relevant. Some Offices indicated that their first national examination report was usually very closely based on the IPRP, or even a simple statement that the issues in the IPRP need to be addressed, though a few of these Offices indicated that this was limited to the case where the IPRP had been established by one or more specific International Authorities.

88. Comments in response to the questionnaire on difficulties with the IPRP included the following:
- (a) The IPRP is usually overall less useful than the ISR, partly because the views on novelty and inventive step may have been made in accordance with standards which differ from those under the relevant national law, but also (and, according to some Offices, more importantly) because many Authorities are believed to provide less detail in the reasoning than would be the case for a typical national examination report.
 - (b) The quality and thoroughness of IPRPs is perceived to vary significantly between International Preliminary Examining Authorities. One Office suggested that the fact that the IPRP is not binding means that some Authorities do not place sufficient importance on ensuring that the report is of high quality. Some Offices indicated that applicants are entitled to a fee reduction if the international application is accompanied by an IPRP from certain International Authorities.
 - (c) Several national Offices which indicated that they were usually able to rely largely or entirely on the IPRP for the purpose of determination of novelty and inventive step under their national law indicated that they nevertheless routinely needed to perform additional examination in relation to clarity and sufficiency. Some Offices suggested that comments on clarity and sufficiency might be made a requirement in the reports, rather than being at the discretion of the International Authority.
 - (d) One Office also commented that the word “defect” in Box VII of the IPRP (which relates to matter of form and contents) sounds more serious than the word “observations” in relation to Box VIII (which relate to matters such as clarity and support in the description), even though the latter are typically a more serious impediment to grant of a valid patent. The reason is that form and content can actually be a defect in terms of what is required by the Treaty, whereas clarity and support are substantive matters on which the International Authority can only make observations, but the actual effect of which are entirely a matter of national law. However, this fine legal distinction might give a misleading impression to the reader.
 - (e) One Office indicated that it would find it useful to have more detail of formalities defects in the application which were not required to be corrected by the receiving Office. The receiving Office is supposed to check physical defects only to the extent necessary to permit satisfactory reproduction or reasonably uniform international publication. International Authorities are permitted to comment on formal defects but are only required to do so to the extent that this needs to be explained as the reason for which an ISR has not been established or no opinion has been established on novelty and inventive step for at least some of the claims.
 - (f) Several Offices noted that an IPRP (Chapter II) was typically more useful than an IPRP (Chapter I) because the applicant had had the opportunity to submit observations and make amendments during the international phase. As a result, the international application was more likely to have had major defects eliminated before entry to the national phase. Moreover, some Offices considered that remaining objections in the IPRP were likely to be more clearly stated, though other Offices indicated that they did not routinely see any such difference in quality of the statements of objection.

- (g) A majority of Offices indicated that they usually still found the IPRP useful in cases where the application is subsequently amended, whether in the international phase under Article 19 compared to an IPRP (Chapter I) or after entering the national phase, since it can provide a good idea of the type of amendment which is needed. This can then be compared with the amendments which are actually received. However, some Offices with limited examination capacity indicated that they sometimes needed further assistance in determining whether amendments were acceptable, such as by requesting another Office to conduct a further examination. One Office noted that Article 19 offers the applicant the option of providing an explanation of amendments made to the claims, but that this is not a requirement; without such an explanation, the amendments might be more difficult to assess.
 - (h) In cases where the international application lacks unity of invention, the report may not reflect the claimed inventions which are actually the subject of proceedings in the national phase (it should be noted that this problem applies equally to the ISR).
 - (i) In cases where no ISR is established, the IPRP is essentially useless, usually covering only the reason for which no opinion has been established on novelty, inventive step and industrial applicability. One Office suggested that applicants and Offices would find it more clear if no IPRP was issued at all in these circumstances.
 - (j) There is no warning to the designated Office that the subject matter of the invention relates to one of the fields defined in Rules 39 and 67 (subject matters which are unpatentable in many, but not all, Contracting States) if the particular International Authority carries out search and international preliminary examination on the matter relevant to that particular international application. This means that designated Offices require more scrutiny of the international application to ensure that they devote special attention to such cases, which are likely to have a significantly different result according to the national law.
 - (k) The reasoning in an IPRP is considered less likely to give a reliable indication of whether the requirements of a particular national law would be met in respect of matters of inventive step than for novelty, since the tests for inventive step (both as applied by different International Authorities and by different designated Offices) differ to a larger extent.
 - (l) While most Offices were generally content with the content of the IPRPs (subject to concerns about quality in some cases and a desire for more detailed reasoning and more comments on matters such as clarity and support in the description), many Offices expressed a wish for the format to be updated to ensure that comments on specific items are properly grouped, providing a continuous document rather than items being split between a main part and supplementary sheets.
89. One developing country Office commented that the use which can be made of an international report is as much a political issue as a technical one. Clearly, it is up to each Contracting State to decide on the extent to which an international report is used to assist or replace specific national examination, and this decision could, in principle, be taken on purely practical grounds or purely political grounds. Nevertheless, in either case, both practical matters (does the national Office have the skill and capacity to do a better assessment on a specifically national basis?) and political matters (pressure from other governments and lobby groups; how the national patent system is seen to fit into broader policy on trade, industry and research) will be there in the background.

Practical Difficulties in Communication

90. The IB transmits various documents relating to international applications to designated and elected Offices at different times and by different methods: online or on physical media; systematically (where all the relevant documents for all international applications where the Office is designated are sent every time) or on request (where the Office requests specific documents when they need them).
91. Noting that different documents are supposed to become available at different times and that many documents are delivered late, it can be necessary to consult several different CDs if trying to create an application file from documents delivered on physical media and it can sometimes not be clear whether further documents can be expected in the future.
92. More generally, a large number of documents are transmitted between the receiving Offices, ISAs, IPEAs and IB in the international phase. While a majority of documents are now transferred electronically, a large number of documents are still sent on paper by surface mail, adding to delays. In some cases, the documents are held electronically by the first Office, but printed out, posted and then scanned in again at the next Office, causing additional work and loss of image quality in the documents.
93. These issues are not addressed directly in this study, but should be noted as matters which require attention and which can have a strong effect on other matters discussed. The IB is seeking solutions to some of these problems, both through development of systems which more closely meet the needs of affected Offices and through technical assistance programs to help develop the technical capacity of Offices who wish to use electronic communication with the IB and with their applicants.

Skills and Manpower Shortage in Offices

94. Offices of all sizes in both developing and industrialized countries may have a shortage of skills and manpower to run their patent systems effectively and especially to conduct searches and substantive examination which are timely and minimize the risk of invalid patents being granted. The most noticeable effects of this are in increasing backlogs and in increasing concern from third parties (and, in some cases, applicants) over granted patents which are believed to be invalid.
95. The causes of these shortages vary from Office to Office, but include:
 - (a) The Office may lack the authority to recruit sufficient staff.
 - (b) The Office may not have sufficient funding to pay additional staff.
 - (c) The Office may have difficulty in attracting staff with appropriate skills.
 - (d) The Office may not be able to train staff effectively: to do this internally generally requires an existing body of trained staff.
 - (e) The Office may not be able to retain staff once they have been trained since their skills may be valued by the private sector.

Access to Effective Search Systems

96. Many Offices have limited access to effective search systems.
97. When the PCT was conceived, searching on the basis of global (rather than merely local) novelty and inventive step necessarily required a very large collection of paper documents which needed to be arranged in a way suitable for searching. This required large buildings and staff dedicated to maintaining the collection, which could only be afforded by the very largest Offices.

98. Now, searching of paper documents is the exceptional case for international searches. The majority of the PCT minimum documentation is available in electronic form either freely (particularly in the case of patent documents) or from publicly-accessible paid databases, which allow much more wide-ranging, and often far more effective, searches to be conducted in a given amount of time than searching through paper collections. However, efficient and effective novelty and inventive step searching requires:
- (a) search systems which are more secure and sophisticated than most of the free search tools available;
 - (b) results which provide confidence in the date of publication of a particular disclosure, which can be a difficulty with some non-patent literature;
 - (c) consolidation of the documentation to be searched into a reasonably small number of databases (or groups of databases which can be searched simultaneously) so that the examiner does not need to repeat the search many times over using different tools;
 - (d) examiners highly skilled in the use of all the necessary search tools (which may vary according to the relevant subject matter).
99. However, while systems meeting the needs of all of items (a) to (c), above, can be accessed from anywhere without the need for large "library" buildings or local staff to maintain a physical collection of documents, it is still enormously expensive to develop the search systems, maintain the databases and provide sufficient server capacity to perform the searches.
100. Consequently, only a very small number of Offices are able to develop and maintain their own search systems specific to their requirements – and even these Offices have to rely on external databases for at least some parts of some searches since they do not have the resources or permission to convert and load some documentation into their own databases. Other Offices may use a combination of private-sector databases and search systems licensed from a large Office, such as EPOQUE from the European Patent Office.
101. Whichever option is taken, the cost of using such search systems is very high. Search costs purely from the charges for search processing and viewing of documents, without taking into account the examiner's time and other expenses can easily reach many hundreds of US dollars per application, which usually need to be recouped by the Office through fees. It is often more difficult for small Offices to recover these costs effectively for a variety of reasons, including that:
- (a) it may be more difficult for a small Office to negotiate favorable rates for the level of database use which they have compared to large Offices;
 - (b) there may be a policy need to set relatively low fees in order to make them affordable by local applicants in countries with lower GDPs;
 - (c) searches are, on average, carried out at a loss by most examining Offices and subsidized by renewal fees: in countries where the use of the patent system is growing significantly, there may be many applications being processed at a loss and not enough granted patents yet being renewed in order to offset that loss.
102. As a result, in a survey recently carried out by the IB (Circular CN.3027: see document SCP/14/3, paragraphs 10 and 35) nearly half of the responding Offices did not have access to the whole of the PCT minimum documentation and only around 3% were able to search the full text of patent applications online. This emphasizes the importance of a high quality international search to these Offices if they are to avoid granting invalid patents, as well as showing the need to improve access to good search databases for national Offices.

Issues Relating to the PCT as a Filing Tool for Applicants

103. Most of the issues listed above as concerning the effective processing of patent applications by Offices have a direct effect on applicants (and also third parties) in terms of the service which they are able to receive and the risks and benefits which can be offered by the system. This section covers some further matters which are more specific to the use of the PCT by applicants for patents.
104. This section includes some comments on accessibility of the international patent system generally, not only through the PCT, but focuses primarily on aspects where the PCT was intended to assist and on ways in which the PCT is seen to be difficult or expensive.

Cost and Accessibility of Patent Protection

105. It is generally recognized that filing an international application is typically more complicated and expensive than filing an application for protection of the same invention using any single national patent system. Much of the complexity is a result of the compromises which are necessary in order to provide a patent application and associated bibliographic information which is sufficient to satisfy the requirements of all the Contracting States. Points of that nature probably cannot be addressed without a fundamental change in the system, including greater harmonization of national laws, and are therefore not considered here since this review of how the system is used is intended to be conducted within the existing legal framework. In any case, it should be remembered that applicants who need to file in many different countries are likely to be faced with such differences and complexities anyway at a later stage.
106. The overall cost of international patent protection is extremely high, including official fees, translations and the need for local professional representation in most States where protection is sought.
107. The PCT originally aimed to address this issue in several ways, including the following:
 - (a) Many of the costs for the applicant are deferred until it is time to enter the national phase (originally at least 20 or 25 months from the priority date; now at least 30 months from the priority date). By this time, the applicant should have more information both on the commercial relevance of the invention and on the likely scope of patent which might be granted. This gives an opportunity to avoid many of the costs entirely if seeking a patent does not seem to be justified in some or all of the originally considered States. This has been very successful and is one of the main reasons for many applicants to use the PCT.
 - (b) The ISR and IPRP were intended to reduce the cost to a national Office of determining whether the application meets the requirements of the national patent law, while simultaneously raising the quality of granted patents by virtue of the fact that an international search is supposed to be of higher quality than most national Offices would be able to perform. This has been less successful, since most States which have the capacity to perform effective national search and examination either lack the confidence in the quality of the international reports to use them to good effect, or else consider it important for policy reasons to conduct a complete national search and examination in all cases anyway. Consequently, there is generally little or no reduction of the national fees in recognition of the work done in the international phase.

- (c) Chapter II (international preliminary examination) offers the opportunity to eliminate many of the defects found in the international application as originally filed in a single procedure in the international phase. As such, assuming that the international search was of sufficient quality, the international application can enter the national phase in a condition where it should usually be found to meet the requirements of the national law with little or no additional work, reducing the cost of processing for the Office and the cost of representation for the applicant. However, only around 11% of applicants now actually choose to demand international preliminary examination. Some applicants have stated (in the response to the questionnaire and in various PCT meetings – see, for example PCT/WG/1/16, paragraph 51) that they would use international preliminary examination more if it represented better value, but cite the high official fees of international preliminary examination compared to national examination fees, the fact that they consider that some Offices do not offer sufficient opportunity for discussion between the agent and examiner before a final report is established, and the fact that many elected Offices do not give significant attention to the international reports. In addition, some applicants specifically wish to tailor their claims to be different in different States.
108. It should be observed that some States may have valid policy reasons not to wish patents to become too cheap. However, even where that applies, the view of what is “too” cheap will vary and needs to be weighed against policy pressure to provide a very cheap, potentially even subsidized, patent system, for example, to support innovative small businesses.
109. Noting the requirement of national treatment under the Paris Convention and the requirement for at least World Trade Organization Member States to provide protection without discrimination as to the field of technology, it needs to be recognized that high fees and difficult procedures will, in practice, tend to make the patent system much less accessible to small businesses than to big business, since the latter will be much more able to raise the large sums of money required to get started in the patent process, are much more easily able to set off the costs of patenting inventions which turn out to be unprofitable against other patents and income, and will have the familiarity with the system necessary to deal with the difficult procedures.
110. The PCT has gone some way towards addressing the issue of accessibility during the international phase in various ways, including the following:
- (a) Many formalities requirements have been harmonized for the national phase of international applications as well as the international phase. This effect has flowed through into largely consistent formal requirements for normal national applications, an effect which is reinforced by the Patent Law Treaty.
 - (b) Reductions have been provided on the fees payable to the IB and some International Authorities for certain applicants from developing countries.
 - (c) Certain safeguard provisions have been introduced to allow applicants – especially inexperienced applicants – a better chance of recovering from some types of procedural errors which would otherwise have resulted in them losing all rights (see paragraphs 28(iii) and (vi), above for examples of recent such provisions).

111. However, these measures are only a partial response to the problems which are perceived:
- (a) The fee reductions do not apply to all of the applicants for whom Contracting States have suggested that assistance is appropriate (such as small and medium-sized enterprises and academic institutions) and the fees involved in any case represent only a small proportion of the total costs.
 - (b) The safeguard procedures generally are only effective if they are recognized and implemented by Contracting States and do not cover all the potential dangers. In general, it would be preferable if actions could be taken to make it less likely that inexperienced applicants make errors in the first place, especially ones which might result in loss of rights.

Complexity of the Legal Framework

112. The PCT Regulations, as well as the Administrative Instructions, have gradually been built up over time to deal with new issues as they arise. The requirements for some processes have been written by reference to other processes "*mutatis mutandis*". The result is quite complicated to read and there are periodically calls for simplification. However, the structure of the Regulations is closely linked to that of the Treaty itself, which cannot be changed and is well known to many regular users of the system.
113. Furthermore, most applicants do not directly read the Regulations themselves unless there is a particular need to closely analyze a point. Rather, they look at associated Guidelines and Forms, including those which they fill in themselves and those which they receive from Offices to acknowledge receipt of documents and inform them of actions which need to be taken.
114. Simplifying the Regulations themselves, while desirable in principle, will only have a beneficial effect if this flows through into simpler procedures for applicants and Offices. These need to be accepted by Offices and Contracting States as still meeting their needs.

Issues Relating to the PCT and Technical Assistance

Effective Technology Transfer

115. The PCT was intended to encourage technology transfer by a variety of means, most significantly by providing an effective source of up-to-date technical information from which third parties may derive knowledge and by encouraging direct technology transfer from companies willing either to invest in infrastructure in a country or to sell or license technology to companies in that country based on patents.
116. Many interested parties in developing countries and industrialized countries alike benefit both from accessing the technical information in international applications which is freely available through the PATENTSCOPE[®] website and from entering into agreements with individuals and companies which have developed new technology.
117. One aspect of technology transfer which has been sought by many developing countries is better information on what technologies can be used freely by their nationals without seeking a license. For this to be truly useful, they need to know the patent situation not only within their own country but also in countries with which they may wish to trade. However, for many States, it is very difficult to find out whether an international application has entered the national phase (or a direct national patent application has been made), whether a patent has been granted and, if so, whether the patent has lapsed.

Local Knowledge of Patent System

118. The patent system is of limited benefit to a country unless the appropriate people have sufficient knowledge of the relevant aspects of the system. For policy makers, this means knowing how to develop patent policy so as to provide the best environment for encouraging innovation and investment in the context of broader policy on trade, industry, research, health care and other potentially affected areas. For innovators this may mean simply being aware of the system and having access to good advice when it is required on whether and how to use it. Any particular company may require either very extensive knowledge or else no knowledge at all of patents, depending on what they are trying to achieve, but it is desirable that they have access to good information on the patent system: (i) as potential applicants, for research to consider developing or using new products or methods, and (ii) to avoid infringement if entering a new market. Patent professionals will need a detailed knowledge of both local and international laws and an understanding of how they can best be used to the advantage of their clients.
119. In most Contracting States, there are at least some sectors which are perceived to be either losing opportunities or else risking infringement of others' patents as a result of insufficient knowledge of the patent system. In some States, this is primarily a matter of the difficulty in making the proprietors of small business aware of patent issues, given the limited amount of time which they have to devote to such matters. In other States, there may be a more wide scale problems.

V. DEVELOPMENT AGENDA RECOMMENDATIONS

Ensuring that the Process Meets Development Agenda Recommendations

120. In identifying the needs falling into areas which could be assisted by the PCT, as well as in identifying possible solutions, the following recommendations of the Development Agenda set out in Table 3, below, were considered to be particularly relevant to the general objectives of the PCT and a review of how it could be used more effectively for the benefit of Contracting States, Offices, applicants and third parties (including civil society generally) alike.

Table 3: List of Particularly Relevant Recommendations of the Development Agenda

Cluster A: Technical Assistance and Capacity Building

1. WIPO technical assistance shall be, *inter alia*, development-oriented, demand-driven and transparent, taking into account the priorities and the special needs of developing countries, especially LDCs, as well as the different levels of development of Member States and activities should include time frames for completion. In this regard, design, delivery mechanisms and evaluation processes of technical assistance programs should be country specific.
4. Place particular emphasis on the needs of small and medium-sized enterprises (SMEs) and institutions dealing with scientific research and cultural industries and assist Member States, at their request, in setting-up appropriate national strategies in the field of intellectual property.
8. Request WIPO to develop agreements with research institutions and with private enterprises with a view to facilitating the national offices of developing countries, especially LDCs, as well as their regional and sub-regional intellectual property organizations to access specialized databases for the purposes of patent searches.
9. Request WIPO to create, in coordination with Member States, a database to match specific intellectual property-related development needs with available resources, thereby expanding the scope of its technical assistance programs, aimed at bridging the digital divide.
10. To assist Member States to develop and improve national intellectual property institutional capacity through further development of infrastructure and other facilities with a view to making national intellectual property institutions more efficient and promote fair balance between intellectual property protection and the public interest. This technical assistance should also be extended to sub-regional and regional organizations dealing with intellectual property.
11. To assist Member States to strengthen national capacity for protection of domestic creations, innovations and inventions and to support development of national scientific and technological infrastructure, where appropriate, in accordance with WIPO's mandate.
12. To further mainstream development considerations into WIPO's substantive and technical assistance activities and debates, in accordance with its mandate.
13. WIPO's legislative assistance shall be, *inter alia*, development-oriented and demand-driven, taking into account the priorities and the special needs of developing countries, especially LDCs, as well as the different levels of development of Member States and activities should include time frames for completion.

Table 3: List of Particularly Relevant Recommendations of the Development Agenda

<p><i>Cluster B: Norm-setting, flexibilities, public policy and public domain</i></p> <p>16. Consider the preservation of the public domain within WIPO's normative processes and deepen the analysis of the implications and benefits of a rich and accessible public domain.</p> <p>19. To initiate discussions on how, within WIPO's mandate, to further facilitate access to knowledge and technology for developing countries and LDCs to foster creativity and innovation and to strengthen such existing activities within WIPO.</p> <p>23. To consider how to better promote 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.</p>
<p><i>Cluster C: Technology Transfer, Information and Communication Technologies (ICT) and Access to Knowledge</i></p> <p>25. To explore intellectual property-related policies and initiatives necessary to promote the transfer and dissemination of technology, to the benefit of developing countries and to take appropriate measures to enable developing countries to fully understand and benefit from different provisions, pertaining to flexibilities provided for in international agreements, as appropriate.</p> <p>26. To encourage Member States, especially developed countries, to urge their research and scientific institutions to enhance cooperation and exchange with research and development institutions in developing countries, especially LDCs.</p> <p>28. To explore supportive intellectual property-related policies and measures Member States, especially developed countries, could adopt for promoting transfer and dissemination of technology to developing countries.</p> <p>30. WIPO should cooperate with other IGOs to provide to developing countries, including LDCs, upon request, advice on how to gain access to and make use of intellectual property-related information on technology, particularly in areas of special interest to the requesting parties.</p> <p>31. To undertake initiatives agreed by Member States, which contribute to transfer of technology to developing countries, such as requesting WIPO to facilitate better access to publicly available patent information.</p>
<p><i>Cluster D: Assessment, Evaluation and Impact Studies</i></p> <p>33. To request WIPO to develop an effective yearly review and evaluation mechanism for the assessment of all its development-oriented activities, including those related to technical assistance, establishing for that purpose specific indicators and benchmarks, where appropriate.</p> <p>37. Upon request and as directed by Member States, WIPO may conduct studies on the protection of intellectual property, to identify the possible links and impacts between intellectual property and development.</p> <p>38. To strengthen WIPO's capacity to perform objective assessments of the impact of the organization's activities on development.</p>
<p><i>Cluster E: Institutional Matters including Mandate and Governance</i></p> <p>41. To conduct a review of current WIPO technical assistance activities in the area of cooperation and development.</p>

121. Many of the above recommendations, and especially certain of those from Clusters A and C are pertinent to the issues which the review proposed in document PCT/WG/2/3 were intended to address. It is essential for all Contracting States, industrialized and developing countries alike, that the patent system works effectively in several respects, especially the following:
- (a) The system should help national Offices to review patent applications effectively so as to avoid granting patents which are invalid according to the relevant national law (Recommendations 10, 11). This is important for protecting the public domain (Recommendation 16).
 - (b) The system should work to promote the effective dissemination of technical knowledge to the public (Recommendations 8, 19, 23, 25, 26, 30, 31).
 - (c) The system should be accessible to innovators from different States (including industrialized and developing countries) and of different types (including multinational companies, small and medium-sized enterprises and academic institutions) (Recommendation 4).
122. The issues referred to in paragraph 121, above, are not generally referred to separately as development issues in this study since they apply to all Contracting States and to all Offices to a greater or lesser extent. This is confirmed by the responses to the questionnaire which tended to relate to very similar problems in these areas irrespective of whether they come from industrialized or developing countries. Rather (as would be suggested by Recommendation 12), the development issues are “mainstreamed” and an integral part of the core proposals. Nevertheless, attention is especially drawn to certain aspects of the issues which may be felt particularly strongly by developing countries compared to at least those industrialized countries which have a relatively large and well-developed patent Office, including:
- The capacity of national Offices to use electronic communications (paragraphs 93 and 201(d));
 - Skills and manpower shortages in Offices (paragraphs 94 to 95 and 178 to 182);
 - Access to effective search systems for Offices and for institutions seeking to use technical knowledge from, or related to, the patent system (paragraphs 96 to 102 and 183 to 185);
 - Access to information and advice on how to use the patent system effectively (paragraphs 118 to 119 and 201 to 204).
 - Cost of use of the international patent system (paragraphs 105 to 111 and 186 to 191).
123. Apart from the direct services of processing international applications and making the technical information available to the public, it is important that the assistance offered to Offices and States more generally under the PCT, such as training, legal advice, assistance in policy development and assistance in provision and use of IT systems, is appropriate to the needs of those States (Recommendations 1, 4, 9, 13, 33, 38, 41). Again, while aspects of these issues are referred to in paragraphs 201 to 204 as “technical assistance” and tend to be used more by developing countries, these services are offered to all Contracting States and the principles expressed in the Development Agenda recommendations apply equally to services rendered to industrialized countries and their Offices.

124. On the other hand, while the general issue of making information on technology available to the public has been central to PCT work for many years, there have been specific requests by developing countries to take this further in two particular aspects of assisting technology transfer:
- identifying technology which is not only useful, but free to use (Recommendations 16, 19, 30, 31); and
 - encouraging pro-competitive IP licensing practices to assist technology transfer to developing countries (Recommendations 23, 28).
125. This study begins to consider these points more specifically in terms of the recommendations of the Development Agenda and related issues raised by Offices of developing countries in the questionnaire in paragraphs 205 to 212.

Avoiding Extension of the Process into Norm-Setting

126. The recommendations of the Development Agenda set out in Table 4, below, *ought not* to be relevant to the review which is proposed by the International Bureau. While it is always open to Contracting States to make whatever proposals they wish, this review is specifically intended not to include any norm-setting activities. Rather, it considers how effectively Offices perform the activities required of them under the Treaty for the benefit of other Contracting States and interested parties and other ways in which the Treaty *in its current form* can be used more effectively. Nevertheless, these recommendations should be kept closely in mind to ensure that if needs are identified which cannot be addressed without norm-setting activities, they are recognized as such and discussed in an appropriate manner.

Table 4: List of Recommendations of the Development Agenda Relating to Processes to Be Considered in Avoiding Extending the Review Into Norm-Setting Areas

<p><i>Cluster B: Norm-setting, flexibilities, public policy and public domain</i></p> <p>15. Norm-setting activities shall:</p> <ul style="list-style-type: none">• be inclusive and member-driven;• take into account different levels of development;• take into consideration a balance between costs and benefits;• be a participatory process, which takes into consideration the interests and priorities of all WIPO Member States and the viewpoints of other stakeholders, including accredited inter-governmental organizations (IGOs) and NGOs; and• be in line with the principle of neutrality of the WIPO Secretariat. <p>17. In its activities, including norm-setting, WIPO should take into account the flexibilities in international intellectual property agreements, especially those which are of interest to developing countries and LDCs.</p> <p>20. To promote norm-setting activities related to IP that support a robust public domain in WIPO's Member States, including the possibility of preparing guidelines which could assist interested Member States in identifying subject matters that have fallen into the public domain within their respective jurisdictions.</p> <p>21. WIPO shall conduct informal, open and balanced consultations, as appropriate, prior to any new norm-setting activities, through a member-driven process, promoting the participation of experts from Member States, particularly developing countries and LDCs.</p> <p>22. WIPO's norm-setting activities should be supportive of the development goals agreed within the United Nations system, including those contained in the Millennium Declaration.</p> <p>The WIPO Secretariat, without prejudice to the outcome of Member States considerations, should address in its working documents for norm-setting activities, as appropriate and as directed by Member States, issues such as: (a) safeguarding national implementation of intellectual property rules; (b) links between intellectual property and competition; (c) intellectual property-related transfer of technology; (d) potential flexibilities, exceptions and limitations for Member States; and (e) the possibility of additional special provisions for developing countries and LDCs.</p>
<p><i>Cluster E: Institutional Matters including Mandate and Governance</i></p> <p>44. In accordance with WIPO's member-driven nature as a United Nations Specialized Agency, formal and informal meetings or consultations relating to norm-setting activities in WIPO, organized by the Secretariat, upon request of the Member States, should be held primarily in Geneva, in a manner open and transparent to all Members. Where such meetings are to take place outside of Geneva, Member States shall be informed through official channels, well in advance, and consulted on the draft agenda and program.</p>

VI. IDENTIFYING POSSIBLE OPTIONS TO ADDRESS THE PROBLEMS; EVALUATING THE IMPACT OF PROPOSED SOLUTIONS

Options to Assist Effective Processing of Patent Applications by Offices

General: National Solutions

127. It is desirable to ensure that national Offices are developed to the point where they are able to provide a high quality service in accordance with the needs, laws and policies of the particular Contracting State. It would, in principle, be possible to solve all of the problems of backlogs and quality of national granted patents by each national Office recruiting, training and equipping a sufficient number of examiners, fully trained in search techniques and the application of national patent law and covering a very wide range of language skills in order to ensure that their national searches are of the highest possible quality.
128. However, in practice, this would be extremely expensive and is not practical for most Offices, especially in respect of skills in searching for earlier disclosures in languages which are not commonly spoken or taught in that country. Moreover, the aim of the PCT is to encourage *cooperation* between Offices and States in order to produce a result which is more efficient and improves quality, that is, results in fewer invalid patents being granted (or, in the case of registration systems, a better understanding of the likely extent of validity and easier revocation of registered patents which are invalid).
129. Consequently, while:
- (a) it remains open to any Contracting State to take all local measures which they deem appropriate to tackle issues of quality of granted patents, backlogs and general usefulness of the patent system to their nationals and residents; and
 - (b) action will usually be necessary at a local level for any international solution to be made useful to a particular State,

this study focuses only on matters where collective action may be appropriate, noting that this includes not only international work relating directly to processing of international applications but also technical assistance from the IB or between Contracting States in the broad context of the PCT.

Addressing Backlogs; Improving Quality of Granted Patents

130. The purpose of examination is to minimize the risk that invalid patents are granted, which, as referred to in paragraph 74, above, are an unjustified burden to third parties seeking to use technology which should be available to them. This risk cannot be eliminated entirely and there are diminishing returns in an examiner spending ever more time looking for relevant prior art. Furthermore, Offices have a limited capacity for search and examination and, as pointed out in paragraph 67, above, long delays in examination cause uncertainty which is also bad for third parties.
131. It is a policy choice for individual States to what degree – if at all – they conduct search and examination. They need to provide examiners and associated staff and infrastructure to conduct the necessary degree of search and examination. This has fairly high setup costs, which most States seek to recoup through fees, though this is again a matter of national policy. Offices in turn need to take a practical decision on the best way of using their resources to achieve the best quality examination possible and minimize backlogs. This includes both the use of their examiners' time and the tools which are made available to them. This study considers only the ways in which the PCT and related services provided by the IB or other Contracting States can assist the process of national examination or of assisting the development of a national Office.

132. Addressing backlog problems is essentially a matter of ensuring that the capacity to process applications exceeds the rate at which new applications are received, without reducing quality of service in ways which cause problems at a later time. The quality of some work – especially, but not limited to, that of International Searching Authorities – can affect not only the Office (and State) in which the work was conducted, but also the Offices of other Contracting States.
133. Capacity and quality issues can be addressed together in several different ways, including:
- (a) Hiring, training and retaining new staff to perform the relevant duties. This is a difficult and expensive process. Many of the Offices which are suffering backlog problems are unable to do this for a variety of reasons, including:
 - (i) funding and manpower limits for the Office;
 - (ii) in some cases, low rates of pay and other conditions of service compared to private sector opportunities with similar skill requirements;
 - (iii) difficulties in training large numbers of staff while continuing to process applications;
 - (iv) lack of suitably qualified applicants (most commonly a problem in specific fields of technology where private sector demand is high at the time, which often also equates to large numbers of patent applications in that field).

This option need not be independent of other approaches, but the extent to which it is used is primarily a matter for consideration at a national level in accordance with domestic resources and priorities and is considered in this study only to the extent of the assistance which might be given in training (see paragraphs 178 to 182 and 201 to 204, below) and the effects on a State and the other Contracting States of not addressing any problems.

- (b) Outsourcing work to another Office with spare capacity. This can be a good option for small Offices which can find a trusted partner with the necessary language skills. The PCT goes some way towards promoting this approach by providing for “international-type searches”⁷. It is particularly useful for dealing with applications from domestic applicants which do not have equivalent applications pending in other Offices. However, in the case of applications which have equivalents elsewhere, this approach risks simply moving the problem rather than addressing the underlying issues. Even if the relevant level of trust can be found, the total spare examining capacity of Offices without backlog problems is believed to be less than the deficit in capacity of those with capacity problems and simply outsourcing work does not generally make the results usable in other Offices which are attempting to process essentially the same application.

⁷ Article 15(5) envisages the possibility of national laws requesting “international-type” searches to assist the processing of direct national applications. This is essentially a private arrangement between two Offices or States. The main relationship of this system with the remainder of the PCT is that using PCT forms and procedures means that the results should have a known quality and presentation, which may be easier for an Office to use than other styles of report if the Office is not able to negotiate an arrangement to supply reports according to its own specific national laws and report formats.

- (c) Using IT systems to make the processes more efficient and effective. The work which is under way and further work which could be considered in respect of making effective search systems available to national examiners is considered in paragraphs 183 to 185, below.
 - (d) Using reports established by other Offices to reduce the amount of work needed per application to conduct an examination which addresses the requirements of the particular national law to the required extent.
134. As pointed out above, the PCT can provide assistance with *certain aspects* of the approaches mentioned in paragraphs 133(a) to (c), but in general, these are matters for national or bilateral discussions rather than international issues. On the other hand, the approach in paragraph 133(d) is central to the purpose for which the PCT was originally set up.
135. Considering a report established by another Office on the same or related application has a number of beneficial effects:
- (a) It will typically bring additional arguments and prior art to the examiner's attention. In many cases, the other Office may have additional language skills or access to other databases, making it possible to find relevant prior art which is otherwise effectively unavailable to the examiner.
 - (b) It may, depending on the law and policy of the particular Office and the perceived quality and relevance of reports from the other Office, allow the examiner to omit some of the national search and/or examination process. This will give more time to focus on other issues, such as:
 - (i) searching in areas not covered by the other Office's search, such as specific language collections;
 - (ii) aspects of the national law which differ significantly from the PCT or national law under which the other report was established; or
 - (iii) search and examination of other applications, for which no other Office has established a report.
 - (c) Seeing the types of arguments made by examiners in a variety of different Offices will broaden the experience of examiners in Offices of States where the case law and procedures are less developed, allowing them to consider better how to formulate arguments appropriate to their specific national law.
136. It should be emphasized again that using a report from another Office does not necessarily mean relying exclusively on that report with no further examination, but using it to the extent considered appropriate to achieve more efficient and/or high quality results in accordance with the requirements of national policy and law.
137. Using reports from other Offices is not an option limited to the PCT. It can also be used in any situation where related applications are being processed by more than one Office, as can already be seen in administrative arrangements such as the Patent Prosecution Highway (see paragraph 37, above) and even directly in national laws, such as Section 28 of the Singapore Patents Act, which allows, *inter alia*, national examination to be replaced by submission of a national report from a prescribed patent Office. A number of projects are under way to allow Offices to share national search and examination reports effectively without needing to request the applicant to obtain and transmit copies of these reports to all of the interested Offices. It would be desirable if relevant national reports could similarly be made available to assist national Offices in the national phase of the PCT, particularly where additional searching is conducted in a designated Office.

138. The main benefits of PCT reports compared with national search and examination reports for this purpose are as follows:
- (a) The reports relate not simply to similar applications, but to exactly the same application in every State (subject to amendments and translations submitted on entry into the national phase).
 - (b) The reports are established by Offices which meet at least a minimum requirement in terms of examining staff, resources and quality management processes, appointed collectively by the Contracting States to perform that function.
 - (c) The reports are all translated into English and established in a standard format which allows a lot of significant information to be understood without needing to fully understand either the original language or English.
 - (d) The reports, while specifically not making statements on patentability according to any individual national law, contain information which is designed to be useful for all Contracting States and, if it is not, each Contracting State has the right to propose changes to the content of the report, which is obviously not true of national reports from other Offices.
139. In relation to the final point, all of the Offices which responded to the relevant portion of the questionnaire indicated that the matters which are *supposed* to be reported in ISRs and IPRPs are useful for assisting their national examination process. The main problems which Offices expressed related to:
- (a) the quality and consistency of the work actually performed by some International Authorities, particularly in respect of the perceived quality of search and the variable amount of explanation which is given for the relevance of the citations to novelty and inventive step; and
 - (b) certain matters which they would find useful to add to the reports, including:
 - (i) comments on clarity and support for the claims – these are matters which are *permitted* but *not required* to appear in the IPRP and the typical extent of such comments varies greatly between the International Authorities;
 - (ii) comments on whether the claimed invention might be considered to fall into one of the commonly excluded types of subject matter, such as business methods or plant and animal varieties – at present, subject matter is only reported if it is the reason why no report has been established on some or all of the claims; subject matter of such types is not commented on if the particular International Authority does perform search and examination on that type of subject matter.
140. The only drawback in using a report from another national Office to *assist* national search and examination is that it takes time to consider the report and the associated citations and to assess their relevance in terms of the specific national law. If the quality of a particular report is insufficient, or if it is prepared according to a national law which is too much different from the local law in a respect which is significant to the particular international application, the time taken to assess the report may be longer than any benefits which can be gained from it. Nevertheless, in a majority of cases, it will be relatively quick to determine whether an application falls into a category where the national law is too different from the standards applied under the PCT or other law under which the report was established.

141. Using a report from another Office to entirely replace national search and examination would naturally require a greater degree of confidence in both the quality of the report and in the similarity of the relevant laws. This remains an option which should be considered by Contracting States which cannot justify the expense and difficulty of setting up an Office with the skills and capacity to fully examine all applications, but which wish to ensure that patents are not simply registered with no indication of their likely validity. However, as indicated in paragraph 30, above, this is not something which can be required by the PCT and is solely a matter for a national policy decision.
142. A final problem with patent quality is that there are some disclosures – especially oral disclosures and cases of prior use of an invention – which are very unlikely to be recorded in any databases searched by examiners. If a disclosure is unknown to the examiner then clearly it cannot be taken into account when deciding whether or not to grant a patent. In some jurisdictions, third parties (normally competitors) are permitted to bring such prior art to the attention of the examiner so that it can be taken into account during examination instead of having to bring an opposition or action for revocation themselves at a later time if they wish to challenge the patent. Such an arrangement could similarly be introduced during the international phase, permitting third parties to bring the prior art to the attention of examiners in all Contracting States, as well as in the IPEA, where applicable.
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.
144. *Alternatives* – There are no real alternatives to item (a) of this recommendation if the PCT is to continue to have a meaningful function in the way that it was intended. If the international search does not offer the applicant and third parties a very good indication of whether a valid patent could be granted on the international application in any Contracting State (at least for someone with the appropriate knowledge of national laws), the PCT is reduced to essentially a system for providing a 30 month priority period without the guarantee of any effective review being carried out during this time. While this would in itself be beneficial to some applicants, it would be detrimental to third parties, who would face increased uncertainty in developing and using new technologies.

145. As regards items (b) to (d), according to the existing Treaty, Offices are free to use international reports in any way which they wish – from using them to totally replace national reports to totally ignoring them. However, for those Offices who wish to or need to rely on these reports to a large extent, it is sensible to give feedback to the International Authorities on ways in which the reports could be made more useful and that these comments should be reviewed and acted on.
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.
148. *Alternative* – The alternative to this recommendation is that any Offices which wish to use other Offices' national reports to improve the quality of their own national examinations would need to request applicants to provide copies of such reports themselves (the reports are only effectively available from the small number of Offices which currently provide online file inspection services; obtaining the reports would involve conducting a family match and then going to each national system separately; the national systems may then have an interface in an unfamiliar language and there would be no certainty whether that Office had yet conducted any national search or examination for a report to be found). This is certainly a possible option, which is followed by some Offices, but it is inefficient both for applicants and Offices and there is a strong risk that reports would not be submitted to the Office in time to be of any use, especially in cases where the national phase is pursued by different applicants in different States.
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).
150. *Impact* – As pointed out in paragraph 142, the only way that examiners are likely to find out about some types of disclosure is if a third party draws their attention to them. Given the timing of international search, it is likely that most third party observations would not be reviewed by an examiner in the international phase. Consequently, an examiner at the designated Office would need to review them particularly carefully if they are to be taken into account for the purpose of determining patentability according to the national law. This could take a significant amount of time and effort. However, it would be up to the Office to decide on the extent to which such disclosures should be reviewed. Moreover, based on experience with national systems for third party observations, it is likely that only a relatively small number of applications would attract significant numbers of observations.

Consequently, this would offer an opportunity for Offices to consider disclosures which would not normally be found by examiners when conducting a patent search with only a limited impact on the amount of time typically taken to conduct an examination.

Addressing Timeliness in the International Phase

151. As noted in paragraph 70, above, the time limits set for various actions in the international phase are important to meeting the legitimate expectations of applicants, Offices and third parties, who may attempt to make plans on the assumption that these time limits will be respected. While there are proposals from Japan and the Republic of Korea to review some of these time limits (documents PCT/WG/2/8 and PCT/WG/2/11), it is important that the system delivers results in accordance with the time limits where any person may be relying on those results.
152. This requires timely and accurate work by the applicant and all Offices which have a responsibility in the international phase:
 - (a) *The applicant* should try to ensure that the international application is filed in compliance with the formal requirements, that all fees are paid correctly and on time and that any required translations are filed within the time limits prescribed in the Regulations. Errors and delays, together with the resulting correspondence with the receiving Office, can result in significant delays in sending the search copy to the ISA.
 - (b) *The applicant* should ensure that he is eligible to file at the particular receiving Office: transfer of an international application under Rule 19.4 to the IB as receiving Office can result in significant delays.
 - (c) *The receiving Office* must perform checks on the documents received quickly and accurately and issue any necessary invitations to correct defects immediately: many of the time limits for correcting defects begin only when the invitation to correct is issued and run for either one or two months, again introducing delays.
 - (d) *The ISA and IPEA* need to ensure that they have sufficient resources to deal with their workload, and that international searches and international preliminary examinations are given sufficient priority, with special attention given to international applications which are received by them late.
 - (e) *The IB* needs to ensure that documents are transmitted or made available to Offices and third parties in a timely fashion and that necessary translations are made of ISAs and IPRPs.
 - (f) *All Offices* should seek to transmit documents electronically between the IB and themselves or between one another using suitable secure online systems, such as PCT-EDI. The IB should provide suitable support in setting up such communications.
153. It is a matter for individual Offices to decide how they meet these responsibilities, but it should be observed that Offices with responsibilities in the international phase usually also have similar responsibilities with respect to processing of national or regional applications, which may be received either through the PCT or as conventional national applications. The international phase functions of the Offices will generally compete for resources with the national processing functions and consequently, a satisfactory solution to timeliness in the international phase may require the Office to address questions of effective processing of national work as well. This is a matter which is closely related to other aspects of this study.

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, 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.
155. *Impact on national Offices* – Improving timeliness in the actions of both receiving Offices and International Authorities has a beneficial effect both for applicants and for third party competitors, provided that the improvements are not made at the expense of quality. These benefits are shared to some extent by all Contracting States, but there tends to be a particular benefit to the Office's State, given that Offices tend to act mainly for their own nationals and residents and that applicants tend to seek protection in their own State.
156. Some Offices already meet all the necessary time limits except in exceptional cases where it is almost impossible to do so⁸. In these case, very little action is required and there is effectively no impact from these recommendations. Other Offices will need to consider whether they have sufficient staff and how their staff are deployed, which could also affect their ability to perform their responsibilities under their national laws.
157. *Impact of taking no action* – Delays in processing at any stage which result in late issuance of ISRs or IPRPs can significantly reduce the value of the system to applicants, who may be relying on these reports to make business decisions or, in some cases, to help convince potential investors that it is worth investing in the production of the invention. Furthermore, the uncertainty for third parties can create difficulties for competitors in the form of a burden on them using technology which ought to be in the public domain. As noted in paragraph 155, above, this may affect all Contracting States, but will particularly affect applicants and third parties in the State of the Office.

⁸ For example, one case where it is almost impossible to meet time limits is where the international application needs to be transferred to the receiving Office of the International Bureau under Rule 19.4.

Addressing the Quality of International Search and Preliminary Examination

158. As pointed out in paragraphs 74 to 83, in their responses to the questionnaire, large and small Offices, from developing and industrialized countries alike agreed that the ISR and IPRP were useful in assisting them to determine whether a claimed invention was patentable according to their national laws. However, it was also indicated that the reports are not as useful as they should be because their quality is not consistently seen to be sufficiently high.
159. As pointed out in paragraphs 78 to 80, there are often good reasons for some of the differences between ISRs from different International Authorities and between ISRs and national search reports established by a particular designated Office that do not necessarily reflect actual differences in the quality and completeness of the underlying search. However, it is extremely difficult to prove that an ISR is of high "real" quality, meaning that it contains all the information necessary to conduct an assessment of patentability according to any particular national law which is at least as good as if the relevant national Office had conducted a search, whereas it can easily be shown that in certain cases important prior art is not found by one Office which is found by another Office (though it should be recalled that either one of those Offices might be an International Authority or any other national Office).
160. In principle, each International Authority should conduct a search which is *at least* as good as a search which would be conducted under its own national law for the purpose of deciding whether or not to grant a patent (save that, given the time at which the ISR is established, it would usually be necessary to conduct a further search at a later stage for "secret prior art"). Furthermore, the search should actually be slightly more extensive than a normal national search since it is supposed to identify prior art which could be relevant under the national laws of any Contracting State, even though it might not be relevant under the Office's particular national law.
161. Consequently, the main areas in which a properly conducted international search might be lacking compared to a national search conducted by a designated Office are in patent documents which are not part of the PCT minimum documentation and in non-patent literature which is in a language in which the designated Office is skilled but not the ISA. These are areas where it may be useful to improve the documentation and tools available to the International Authorities (as well as other national Offices, if possible). The IB has assisted a number of States in digitizing their national patent document collections and would be willing to extend this service to other Offices, within the limits of the resources available. Furthermore, there will always be cases where a second Office will be able to find relevant prior art which is not found by the first Office. The issue will be a question of whether the frequency with which this happens in practice justifies the additional effort involved in further searching.
162. For an Office to have confidence in using a report from another Office to an extent which allows efficiency gains as well as quality improvements, it is just as important that the *perception* of quality of both individual reports and the work conducted by the Office in general is good, as that the actual quality of the work is good. The perception of individual searches can be affected by the actual citations which are 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). The perception of the quality of the Office as a whole is generally based on the number of times that an examiner finds prior art which is significantly more relevant than anything cited in the ISR, but also by the occasions when documents are indicated as being relevant but in fact turn out not to be.

163. The seventeenth session of the Meeting of International Authorities agreed that confidence in ISRs “would be best served by an effective evaluation of the value of international reports for the purposes of assisting national phase processing” (paragraph 29 of document PCT/MIA/17/12), but concluded that, while this was the appropriate end goal, it was not yet realistic to attempt a full scale evaluation. Consequently, the Meeting set up a quality subgroup to improve communication between Authorities in matters of helping one another develop their individual quality management systems.
164. The Meeting also recommended that a system be provided permitting designated Offices to give feedback to International Authorities in order to help improve the quality of their work.
165. The following *recommendations* are therefore made to address the *actual* quality of ISRs and IPRPs:
 - (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.
 - (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.
 - (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.
 - (d) The IB should coordinate the development of a centralized system permitting designated Offices to give feedback to International Authorities.
166. *Impact* – The first two recommendations require significant investment by International Authorities. However, an effective quality management system is an obligation assumed by all International Authorities on their appointment or reappointment and it is important to show this commitment to other Contracting States if the international search and international preliminary examination are to have any real meaning. Furthermore, effective search of documentation in different languages is already a goal of those Offices able to maintain and develop their own databases and search systems, in order to improve their national patent searches as well as international searches. Consequently, this need not represent any additional investment in terms of the systems within a single Office.
167. On the other hand, Offices working together to achieve a single result is a possibility which has been suggested in the past but never seriously attempted. Technical trials to discover the difficulties and discover the extent of the benefits which could be achieved in practice would be useful, but should not, at least if conducted under the PCT, affect the general legal position that the end result would be used by other national Offices only to the extent which they saw fit: any use over and above what is done with a current international report must remain a national decision based on the perceived relevance for the national phase, rather than being a requirement.

168. Digitization of national patent collections can be a time-consuming and costly operation. Exactly how time-consuming will depend on the format and quality of the paper collection which is used. However, national patent collections can provide a major historical and technical information source. The IB has experience in digitizing patent documents in a wide range of languages, including languages written in different scripts and ones which are not PCT languages of publication. The IB is willing to undertake much of the work of digitization and is able to assist in providing a national Web portal for such documentation in addition to distributing it to International Authorities to assist in searching.
169. Giving feedback to International Authorities will take time for designated Offices. This will inevitably be optional and it is unlikely that examiners from any Office will give frequent personal feedback on individual applications. Nevertheless, it is important that some form of feedback is given if international reports are to be made more useful to national Offices. A proposal on this subject will need to minimize the effort involved for designated Offices while ensuring that any feedback which is sent to International Authorities can be easily processed to flow through into improvements in future work.
170. The following *recommendations* are made primarily to address the quality of ISRs and IPRPs as *perceived* by designated Offices, but should also improve the actual quality of reports:
 - (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.
 - (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.
 - (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.
 - (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).

171. *Impact* – For most International Authorities, an international application where they act as competent ISA is likely to enter the national phase before that Office⁹. Establishing an ISR and IPRP which are of sufficient quality and content to act as a first national action (subject to any minor revisions needed as a result of a top-up search) should therefore involve less work overall than conducting most of the work again in the national phase. Providing sufficient information for examiners in designated Offices to assess the relevance of cited documents to novelty and inventive step according to their own national laws may involve additional work for the International Authority, but should reduce the total amount of work needed across all Offices.
172. Even where an international application does not enter the national phase, the work done in the international phase should not be seen by the International Authority as “wasted”. In general, if the PCT had not been used, equivalent applications would probably have been pursued up to the equivalent point in several national Offices, including the one which acted as International Authority and then abandoned. While the Office will not have received any national processing fees and will probably make a loss on processing the application (as most Offices do with national applications which are not granted and renewed for several years), in general, international search fees tend to be higher than national search fees so the loss will not be so great and, taking the system as a whole, other Offices will have been saved unnecessary work. If an application is going to be abandoned, it will generally be done at an earlier time (and consequently with smaller losses to the Offices involved) if all the relevant prior art is presented and explained sufficiently well at the first action – that is, by the ISA.

Creating Incentives for Applicants to Use the System “Efficiently”

173. The PCT offers the best benefits to Offices, third parties and at least some applicants if the international application has few defects when it is filed and those defects are amended or corrected before the application enters the national phase. Where this happens:
- (a) the ISA is able to perform a reliable search across the full scope of the claims;
 - (b) third parties can see clearly from an early stage the scope of the invention for which a patent is likely to be granted instead of having to guess which direction any amendment might take, based on the ISR; and
 - (c) designated Offices will usually be able to confirm whether the international application meets the requirements of the national law in a minimum of time and with a minimum number of examiner actions.
174. This is particularly important for small Offices with a limited examination capacity, which may have difficulty in assessing the validity of major amendments or conducting high quality additional searches when this is needed because amendments change the scope of the claimed invention to fall outside the scope of the international search. However, it is also significant for third parties and for addressing workload and efficiency issues in larger Offices.

⁹ In the Japan Patent Office or the United States Patent Office it is common for national and international applications to be pursued in parallel. In International Authorities which are national Offices of States party to the European Patent Convention, it is common for an international application to enter the regional phase rather than the national phase.

175. In principle, it might be expected that applicants would also wish to make the application as good as possible in the international phase, since it would minimize the cost of professional fees for each action, which make up a large proportion of the total cost of international filings. However, there are a number of factors which make this either difficult or undesirable for applicants, such as:
- (a) Most international applications are prepared with the assistance of an agent who knows the requirements of drafting an international application. Nevertheless, patent applications are frequently filed at the last minute before the end of a priority period or before making a public disclosure which might invalidate a patent: it may not be possible to prepare "perfect" applications in the time available. In particular, it is very common to file "informal" drawings and replace them with better versions later. It can sometimes be time-consuming to check that these drawings do not add subject matter.
 - (b) Applicants may have a good general idea of the extent of the prior art in his technical field, but cannot know everything. Furthermore, they will wish to gain the widest protection that can be justified. Consequently, it is a normal practice to draft initial claims which are as broad as possible with the intention of narrowing them down based on what is found in the international search.
 - (c) There is a limited amount of time available in the international phase in which to make amendments. Some International Authorities seek to minimize the amount of dialogue between the applicant and the examiner in international preliminary examination before a final report is established, making it difficult to rely on achieving a "clean" IPRP.
 - (d) The cost of international preliminary examination is usually quite high and there is not generally any concrete benefit to entering the national phase with a "clean" IPRP other than indirectly through reduced professional and translation costs.
 - (e) Applicants may wish to be free to draft different claims for different jurisdictions, either because of differences in the local market, or else because of differences in how claims are interpreted. This is not an issue which can easily be addressed at an international level without some degree of further harmonization of patent law or issues outside the patent system entirely. Consequently, this is not considered further in this study.
 - (f) Applicants may actively wish to leave their competitors uncertain as to the eventual scope of a future patent or to have freedom to adjust the exact scope depending on how the market develops. This is understandable, but is not behaviour which the system should encourage. It should be noted that accelerated national processing, which is the main incentive currently used by Offices to encourage applicants to obtain a positive report from another Office before commencing examination in another Office, is unlikely to attract this type of applicant.
176. Consequently, the following *recommendations* are made in respect of improving the quality of international applications during the international phase:
- (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.
 - (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.

- (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.

177. *Impact* – Any action which can be taken to increase the quality of international applications either at the time of filing or by the time of entry into the national phase can only serve to reduce the number of invalid patents which are granted and, while possibly increasing the workload of International Preliminary Examining Authorities, should also bring benefits to elected Offices in terms of the work involved in assessing the patentability of an international application according to national law. It should be noted that the IPEA will usually also be an elected Office and be able to recoup some of the extra work carried out in the international phase.

Addressing Skills and Manpower Shortage

178. Recruitment of staff is a national issue. Once suitable staff have been found, they will require training, which is difficult for small Offices which do not already have a strong body of examiners with the appropriate skills. Some experience can be gained directly from the use of PCT reports (see paragraph 135(c), above), but formal training is essential for effective use of search systems and examination. There is a limited amount which the IB is able to do directly to help national Offices address such training needs since, while the IB has a number of staff with experience of search and examination work, this is not a function in which it has sufficient direct activity to maintain the necessary expertise.
179. On the other hand, many medium and large national and regional Offices offer training to examiners from other Offices both by bringing examiners to the headquarters of the assisting Office to join training there, and by sending trainers out to other Offices to deliver training on-site. Noting that some of the largest Offices are themselves having difficulty training enough examiners, the availability of this training is limited.
180. While the IB assists with such training on request to the extent permitted by its capacity (for example, providing simultaneous training on PCT procedures as part of such courses), in general such training tends to be negotiated bilaterally without the IB or other Offices being aware that it is taking place. As a result, some Offices which make requests for training might receive assistance in overlapping areas from several different Offices and for others it may not be possible to arrange anything. It might be desirable if there were more communication between Offices in arranging such training in order to maximize the benefits of courses run and make them available to more Offices.
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.
182. *Impact* – In the short term, such an approach would inevitably reduce the ability of Offices to respond quickly to training requests from other Offices. However, in the long term it would encourage effective planning and analysis of needs by small Offices and provide a more transparent means of delivering effective assistance as widely as possible in an area where the capacity of even the largest Offices is very limited.

Addressing Access to Effective Search Systems

183. With regard to obtaining access to effective search systems for national Offices, it is recalled that the Access to Research for Development and Innovation (aRDi) program was launched in July 2009 and currently provides free or greatly-reduced rate access to over 50 journals from 12 publishers for patent Offices and academic and research institutions in 107 developing countries. This program is continuing to negotiate with publishers to increase the range of documentation available for both patent searching and technical information purposes. A number of similar initiatives exist, operated by other intergovernmental organizations and non-governmental organizations and are, as far as possible, closely coordinated with aRDi.
184. The International Bureau continues to develop its PATENTSCOPE[®] search services and makes these available freely for searching patent information. On request by national Offices, it has assisted in digitizing national patent collections and provided Offices with online portals allowing users access specifically to the national patent collection in addition to integrating the collection into the broader PATENTSCOPE[®] service for allow it to be searched at the same time as other patent collections.
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.

PCT as a Filing Tool for Applicants

Addressing Cost and Other Accessibility Issues

186. As discussed in paragraph 103, many of the issues which have been discussed in terms of benefits to Offices in paragraphs 127 to 185, above, would also benefit applicants (and third parties) by:
 - (a) providing better information in the international phase on which to base the decision whether to enter the national phase;
 - (b) allowing defects to be identified and corrected at an earlier stage; and
 - (c) potentially reducing the time and cost involved in using the system generally.
187. In addition to the cost savings which could potentially be made as a result of a higher quality international search and more effective international preliminary examination, initial fees remain a significant barrier to entry to the system for some applicants. As pointed out in paragraphs 110 and 111, large reductions to the international filing fee have been offered to certain applicants from developing countries, but these do not extend to all groups for which Contracting States have suggested that assistance would be appropriate, including small and medium-sized enterprises and academic institutions.
188. Given that the international fees are only a very small part of the total cost of seeking international patent protection, considering these fees alone will not solve the problems of access to the patent system more generally. However, it is clear that an applicant who cannot afford to use the international filing system will also not be able to bring most products to market internationally on a scale which would make patent protection worthwhile without partners of some type. An international application gives time before the greater costs need to be paid and may give assistance in finding such partners. Consequently, while a relatively small part of the total cost, accessibility to this stage of the patent procedure may be particularly important for some innovators.

189. There is no simple solution to the question of the international fees. According to the funding model set up by the Contracting States, the PCT fees fund not only the operation of the PCT itself, but also a large part of the other operations of WIPO. These reduced-fee applications are processed at a considerable loss even taking into account only the direct cost of running the PCT and this can only be afforded because they still form a relatively small proportion of the total number of applications, though this is changing quickly. To offer reductions to potentially large categories of further applicants on the basis of the type of applicant rather than on methods of application which cost less to process (as with the reductions for filing applications in electronic form) would require careful study of the effects on the finances of the Organization and at least one of the following would need to take place:
- (a) a large increase in use of the PCT by applicants paying the full fees;
 - (b) a reduction in either the amounts by which fees are currently reduced for developing country applicants or in the extent to which they are available;
 - (c) a reduction in the other activities of WIPO which are funded by PCT fees; or
 - (d) a major increase in the contributions made by WIPO Member States.
190. Given the differences in definitions of small and medium-sized enterprises between Contracting States, the lack of clear information on how many applications such entities file and other difficulties in defining and identifying the relevant applicants, it is not clear how many applications would be involved. A practical and acceptable solution may require a more innovative approach to be found than simply extending the availability of fee reductions, especially in view of the difficulty which has been found in identifying an appropriate way to define the reductions which should be available for applicants from developing countries.
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.
192. As discussed in paragraphs 112 to 114, above, much of the complexity of the Regulations is a result of the need to find solutions which meet the needs of all Contracting States in the different areas. The present review is not intended to require Contracting States to change their laws in any significant respect unless their consideration of the subject means that they conclude for themselves that this would be desirable. Consequently, it is not envisaged that major simplifications to the Regulations should be attempted in the near future. On the other hand, it is always desirable to simplify forms and procedures where possible and to provide simple guidelines which avoid applicants having 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 makes it clear what is needed in the administrative processes (as distinct from drafting effective application bodies, which will inevitably require detailed specialized knowledge) without recourse to the Rules in all but exceptional cases.
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.

196. *Impact* – These recommendations are very general, but if implemented well should result in the system being simpler for applicants to use and fewer mistakes being made which are time-consuming for applicants and Offices alike to resolve. Most of the burden of making such improvements falls on the IB. Given the limited staff resources available, it is envisaged that this would be a long term project to gradually improve individual Forms, system functions and sections of the Applicant's Guide when they need attention for other reasons, rather than changes being made across the board in the short term.

Addressing Consistency and Availability of Safeguards

197. There are around 120 notifications of incompatibility currently in force which mean that the Treaty can have inconsistent effects between States as seen by the applicant. The large majority of these relate to various safeguard provisions which have been introduced to allow applicants to recover from accidental errors which might otherwise be fatal to their application.
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.
199. *Impact* – The provisions referred to are ones which were agreed by all the Contracting States as being beneficial in principle. The notifications of incompatibility were intended to be a temporary measure, relating to the fact that it is difficult and time-consuming to change some of the relevant provisions in national laws, rather than because States had any fundamental objections to them. Removal of the notifications would provide more consistent safeguards and effects across the Contracting States without any obvious detriment to their policy considerations. While these notifications are unlikely to be considered a high priority in legislative programs of Contracting States, it would be useful to address these points on occasions when changes to the law are being made anyway for other reasons.
200. This recommendation is not intended to suggest that Contracting States should feel under pressure to withdraw any of the reservations which have been made in accordance with Article 64 of the Treaty. While it may be worthwhile to look at these reservations and check whether the policy considerations which applied at the time that the reservation was made have changed, it is much less likely to be the case for these more fundamental differences.

Technical Assistance

201. As observed in paragraph 55, above, it was recognized that, while the PCT had an important role to play in technical assistance, it would only be effective if the assistance activities were properly coordinated with other related activities within WIPO. Certain aspects of the PCT can provide direct benefits to developing countries in coordination with appropriate national policies (note, in particular, the sections above on improving the quality of granted patents, addressing skills and manpower shortages, addressing access to effective search systems and, addressing cost and other accessibility issues, which could be considered technical assistance activities), the specific PCT technical assistance programs are focused primarily on making the PCT more useful to a State (not necessarily developing countries), such as, on request:
- (a) offering legislative advice to Contracting States and potential Contracting States;
 - (b) offering seminars to applicants and potential applicants to increase awareness and understanding of the system;
 - (c) offering training in receiving Office functions and in certain formalities functions of operating as a designated Office;

- (d) assisting 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 (see also paragraphs 161, 165 and 168, above) and making information available concerning national phase entries.
202. 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 and by the Committee on Development and Intellectual Property where they can be considered in a broader context.
203. The main issue which need to be taken into account in all of these situations is that technical assistance which is given needs to be effective. This means that it has to be appropriate to the particular needs of the Office or State. Furthermore, given the limited resources available, it needs to be delivered efficiently.
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.

PCT Information and Technology Transfer

205. The PATENTSCOPE[®] website and similar systems provide a wealth of technical information and the International Bureau is seeking to make this information better known and easier to access. Similarly, WIPO's aRDi program and the related projects referred to in paragraph 53 seek to make other technical information available. However, it remains unclear to readers whether they are free to use this information (including information obtained from non-patent literature, since this could, of course, also be covered by patents).
206. Developing countries have long requested information on what technology is freely available to use without needing licences. However, it is 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. This information is not easily available from most Contracting States. PCT Rule 86.1(iv) envisages that national Offices provide details of national phase entries to the International Bureau and that this information is published in the PCT Gazette, but there is no specific obligation for an Office to do so. At present, 42 Offices provide updates on national phase entry at various frequencies. However, even where this information is provided, it is not sufficient to determine the current status of the application in different Offices and this does not cover related applications which may have been made directly to the national Office.
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.
208. *Impact* – The significance of this issue is multinational since it is not generally sufficient for a person to know the status of a patent in his own country, which information can usually be furnished by a national patent Office. For large scale use of a technology, it is essential also to know the patent status in other countries where a person may wish to do business. For developing countries to receive the information which they need, it will be therefore be necessary for them to provide reliable status information on applications which are pending, refused, granted and lapsed in their own countries, including family information so that their national applications can be matched with equivalent family members in other

States. If this is genuinely desired, IB and other technical assistance programs seeking to improve IT infrastructure in national Offices will need to take this into account in a project which will inevitably take several years before sufficient additional information becomes available as to be of significant benefit.

209. Developing countries have 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). The International Bureau has not yet identified a reliable way of integrating this recommendation into the PCT. One particular issue is that the PCT does not deal with patents as such, only with applications for patents. Another is that it is 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.
210. Nevertheless, it could be contemplated, for example, that the international phase might include a register of some sort which allowed applicants to signal their willingness to license their potential patents. This might in itself be sufficient to assist some additional licensing to take place, which would begin to address the question of technology transfer, though it would be desirable if national policies could be formulated to provide encouragement and incentive for this to be done in a way which was particularly beneficial to developing countries.
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.
212. *Impact* – A system which assisted patentees to license their patents in a way which promoted technology transfer could in principle be beneficial for the patentee, local licensees and society in the countries involved alike in cases where this was used. However, the International Bureau has not yet identified specific ways in which this could be done in the context of the PCT. It is not possible to make a realistic assessment of the impact without further consideration of the specific goals and possible means of achieving them within the PCT system.

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