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IMPACT PROJECT AND PCT ELECTRONIC FILING PROJECT STATUS REPORTS

Document prepared by the International Bureau

1. In March 1998, the Assemblies of Member States of WIPO approved the PCT automation project now called IMPACT (Information Management for the Patent Cooperation Treaty). The Assemblies also agreed that the Assembly of the PCT Union should be kept informed of the development of the automated system (see documents A/32/5 – WO/BC/18/5 and A/32/7). The present document¹ contains a progress report on the development of the IMPACT Project. It also contains a progress report on the PCT E-filing Project which, originally, had been initiated within and managed as part of the IMPACT Project but recently has been established as a separate project within the IT Projects Division (see paragraphs 2 to 5, below). (Documents PCT/A/29/2 and PCT/A/29/2 Add² contain the previous progress reports to the Assembly.)

¹ WIPO's Internet site is at <http://www.wipo.int>. For this and other working documents for the Assembly's session, see http://www.wipo.int/eng/document/govbody/wo_pct/index_30.htm

² Available on WIPO's Internet site
http://www.wipo.int/news/en/index.html?wipo_content_frame=/news/en/conferences.html

2. It is recalled that, in its origin, one of the objectives of the IMPACT Project was to “create and make available to receiving Offices and PCT applicants electronic filing software” (see document A/32/5, paragraph 1). Furthermore, it was stated that:

“Existing standards for electronic filing, coding and transmission of data would be followed, and, where necessary, new such standards would be developed on the basis of international and industry standards, in order to ensure full compatibility of the system used in the International Bureau with those used in the national and regional Offices” (see document A/32/5, paragraph 8).

3. These two objectives have formed the basis of the PCT electronic filing activities as part of the IMPACT Project. Within the IMPACT Project, considerable progress was made in drafting a standard for the electronic filing and processing of international applications, in close consultation with PCT Offices and Authorities and other interested parties, with a view to identifying the system requirements for PCT electronic filing. In addition, a high-level project plan (see document PCT/A/29/2 Add.,³ Annex III) was prepared and noted by the PCT Assembly (see document PCT/A/29/4³, paragraph 12).

4. In December 2000, the Director General decided to make PCT Electronic Filing a separate project within the IT Projects Division. This was in recognition by the International Bureau of the importance of PCT electronic filing to Contracting States, as well as the complexity of the identified requirements. This restructuring is outlined in document WO/PBC/3/3⁴ which was discussed during the third session of the Program and Budget Committee. That meeting noted that PCT electronic filing was being considered a new budget activity (see document WO/PBC/3/5⁴, paragraph 74). In addition, the meeting noted that:

“... the PCT E-filing Project had been initiated within the IMPACT Project. Following the PLT meeting in June 2000 where issues were raised concerning the ability, in particular, for IP Offices and applicants from developing countries to access the relevant technology related to electronic filing of patents and the fact that the initial estimate for the PCT E-filing Project was found to be insufficient to meet the agreed scope, the Director General had decided that a project should be established independently of IMPACT. The project would, therefore, have a dedicated project manager and team, and a revised budget. It will be developed as rapidly as possible in response to demands from Member States” (see document WO/PBC/3/5, paragraph 74).

5. The present document thus contains separate status reports for both the IMPACT Project (see paragraphs 6 to 21 and paragraph 31, below) and the PCT E-filing Project (see paragraphs 22 to 30 and paragraph 31, below). Although formally separated, both projects still remain closely linked to each other. Furthermore, it is to be noted that the PCT E-filing project will need to rely on funding from the budget allocation within the IMPACT Project until such time as the funds requested initially in document WO/PBC/3/3 are made available.

³ Available on WIPO's Internet site at http://www.wipo.int/eng/document/govbody/wo_pct/index_29.htm

⁴ Available on WIPO's Internet site at http://www.wipo.int/eng/document/govbody/wo_pbc/index_3.htm

I. STATUS REPORT ON THE IMPACT PROJECT

6. The following report gives an update on the overall status of the project at the date of this document, followed by an update on project management activities, on the analysis, design and implementation activities related to both the first phase of the project, the so-called IMPACT Communication System, and the second and third phases of the project, the so-called IMPACT/IB (International Bureau) and IMPACT RO/IB (receiving Office/International Bureau) phases, and finally, an update on Change Management related activities within the project team and the Office of the PCT.

Overall Project Status

7. The IMPACT Project was originally planned to last three to four years once the international tender process was concluded. It was subsequently decided to redesign the project implementation approach and to deliver the project in three years, without reducing its scope, by running some of its phases in parallel. Actual development work on the project began in January 2000 after contract signature with the external suppliers and is currently running 3 to 4 months behind the previously published schedule. However, steps are being taken to ensure that the overall completion date of December 2002 is maintained, which will include a number of important deliverables during this period.

8. Due to the changes that have occurred within the PCT, in particular the need to provide sufficient computer infrastructure to cope with PCT growth and the need to support and develop the existing computer systems, the current expenditure level on the project will mean that the funding to complete the project as planned will be tight. In part, this is due to the time and materials approach adopted for the project, which it is felt does not provide the Systems Developer (SD) with the right motivation to deliver software in a timely manner; in light of this, the IMPACT project management is reviewing several options to accelerate the rate at which results are being delivered. A continual effort is being made to keep project delivery within budget and minimize the risk of over expenditure.

IMPACT Project Management

9. One of the important achievements of the project to date has been the establishment of a compendium of procedures for the guidance of the project. This covers practically all aspects from planning through building and testing as well as change management. Based on practical experience with these procedures to date, the project team recognizes that there is a need to give greater prominence to some and to de-emphasize others. Likewise, based on this experience, some are now being refined. This exercise has also benefited other projects at WIPO which have drawn up their own procedures based on those prepared for IMPACT.

10. The IT function in the Organization has been restructured and the IMPACT team has realigned itself with the new structure. The internal structure of the project team is made up of three units, one of them being the contractor in the role of Systems Developer (SD). The other two are the IMPACT Business Unit (IBU) and the IMPACT Technology Implementation Unit (ITIU). The IBU is primarily responsible for ensuring that the business requirements of the PCT are met and providing the interface between the project and the staff of the PCT. The ITIU, as the name implies, is primarily responsible for ensuring that the technology implemented for the system is sound and supports the business requirements. For some time, the IMPACT project management and the Systems Developer (SD) have recognized that it was important for the SD team to report to a full-time resident project

manager. To fill this role, the IMPACT project management and the SD have agreed to the appointment of such a person who has been acting in this function since the beginning of this year. There has also been some internal realignment in the project team with the result that the entire team is now clearly focussed on the objective of delivering the complete IMPACT system by the end of 2002.

First Phase of the IMPACT Project: IMPACT Communication System

11. It is recalled that the objective of the first phase of the IMPACT Project, the so-called IMPACT Communication System, is to establish a new system for the communication of certain PCT-related documents to designated/elected Offices, International Searching Authorities, International Preliminary Examining Authorities and/or national Offices of PCT Contracting States, as outlined in detail in one of the previous progress reports to the Assembly (see document PCT/A/29/2). Under this system, certain PCT related documents, such as pamphlets, copies of priority documents, international preliminary examination reports and translations thereof, and certain PCT Forms, will be available at the International Bureau in electronic form. As a result, the International Bureau will be in a position to offer several new options as to the form and format in which, and the means by which, those documents could be communicated to designated/elected Offices; in brief, as an alternative to receiving paper copies, any designated/elected Office, regardless of whether it has opted for Systematic Communication or Communication on Request⁵, will be able to receive documents in electronic form, in standard image formats such as TIFF and data formats such as XML, and to choose from the following means of communication: physical mailing (electronic data carriers such as CD-ROM/DVD), fax, e-mail with document attachment, on-line viewing via a web browser (including the ability to download and print documents locally) and, at a later stage, bulk electronic document exchange.⁶

12. As outlined in the previous progress reports to the Assembly (documents PCT/A/29/2 and PCT/A/29/2 Add), each of the IMPACT Project's 3 phases is again subdivided into planning, prototyping and development/deployment sub-phases. With regard to the IMPACT Communication System phase of the project, the planning and prototyping sub-phases have been completed. At the time of writing of this document, the development and deployment phase for the first deliverable of IMPACT Communication System phase of the project, the "IMPACT Scanning Office", is well under way. While originally, as indicated in the previous progress reports to the Assembly, delivery of the IMPACT Scanning Office was planned for the end of June, 2001, delays in the planning and prototyping phases have caused

⁵ In general, designated/elected Offices have two options as to how they wish to receive documents relating to international applications in which the Office concerned is designated/elected: "Communication on Request" and "Systematic Communication" (or any combination thereof). Many designated/elected Offices have opted to waive the systematic receipt of PCT related documents in order to avoid having to deal with large quantities of paper relating to international applications which may not subsequently enter the national phase before those Offices, and instead have decided to receive such documents only upon specific request in relation to particular international applications, for example, those for which the applicant has performed the necessary acts for entering the national phase of processing before the Office concerned ("Communication On Request"). Other designated/elected Offices (that is, those Offices which have not waived the systematic receipt of those documents) systematically receive all documents during the international phase relating to each international application in which the States concerned are designated ("Systematic Communication").

⁶ It is to be noted that a final decision as to which forms, formats and means will become available depends largely on the finalization of the PCT Electronic Filing Standard.

that date to be moved to August, 2001. The IMPACT Scanning Office will start with the conversion into electronic form (scanning) of priority documents received at the International Bureau in paper form; the first new IMPACT Communication System product, PCT related priority documents in electronic form on CD-ROM/DVD, will be available for delivery to designated/elected Office in September, 2001. As the IMPACT Project progresses, the IMPACT Scanning Office will convert into electronic form more and more documents for communication to Offices and PCT Authorities under the IMPACT Communication System and, eventually, under the IMPACT/IB and RO/IB phases, for the establishment of electronic dossiers of international applications to be processed at the International Bureau.

13. As regards the second and third deliverables of the IMPACT Communication System phase, the so-called “Communication on Request System” and the “Systematic Communication System”, at the time of writing of this document, the development phase for those deliverables is also well under way. While originally, as indicated in the previous progress reports to the Assembly, planned to be delivered in August 2001 and October 2001, the slight delays in the project mentioned above will also cause the dates for these deliverables to be moved towards the end of this year.

14. Concerning the deployment of the hardware infrastructure for the IMPACT system, it is recalled that, for various reasons (as explained in the previous status reports to the Assembly), the project team had decided to put in place substantially all of the hardware for the entire project (that is, including the hardware needed for the IB and the RO/IB phases of the project) already during the first phase of the project (the IMPACT Communication System phase). In the course of the last year, this task has been achieved. A high availability hardware and software infrastructure has been put in place that will host the entire IMPACT system, including a new IMPACT internal network infrastructure and two new computer rooms, equipped with servers, storage area network facilities, optical storage and tape libraries for long term archiving. These facilities are distributed between two WIPO buildings in order to provide good disaster recovery measures.

15. In order to involve designated/elected Offices in the project, in particular in terms of validating the functionality and services that will be offered under the IMPACT Communication System, the International Bureau invited twenty designated/elected Offices, representing a cross-section of Offices which either already have or in the future will opt for Communication on Request, Systematic Communication or a mixture thereof⁷, to participate in an “IMPACT External User Focus Group”. Following positive feedback to this invitation, the External User Focus Group was established earlier this year and now serves as a forum for future users to test and give feedback on envisaged online functionality (such as online ordering/viewing/ downloading of PCT-related documents) as well as proposed new PCT communication products (such as DVDs/CD-ROMs containing PCT-related documents in electronic form). It operates mainly by way of electronic communication, with access to a prototype of the future “IMPACT Communication System Homepage” on the Internet and comments/feedback is exchanged via e-mail.

⁷ The following designated/elected Offices were invited to participate in the IMPACT External User Focus Group: African Intellectual Property Organization, African Regional Industrial Property Organization, Australia, Brazil, China, Eurasian Patent Organization, European Patent Office, Germany, Hungary, Israel, Japan, Mexico, Poland, Republic of Korea, Singapore, South Africa, United Kingdom, United States of America, Vietnam.

Second and Third Phases of the IMPACT Project: IMPACT/IB and IMPACT/RO/IB

16. It is recalled that the objective of the second and third phases of the project, the so called IMPACT/IB phase and the IMPACT RO/IB phase, is to establish a new system for the processing of international applications within the International Bureau (apart from the International Bureau as receiving Office), including the automated publication of international applications, and within the International Bureau as receiving Office, respectively. At the time of writing of this document, both stages were still in the planning phase, with the aim of finalizing the detailed planning by October 2001.

17. In order to meet the objective of delivering the complete IMPACT system by the end of 2002, a strategy of beginning with the construction of some basic IMPACT/IB building blocks (in advance of a more detailed specification of the IB and RO/IB requirements for the system) has been adopted and put in motion. This approach will allow the project to save time by beginning with the construction of components supporting generic functionality in advance of detailed user requirements having been captured and agreed. Based on a high level implementation strategy, which has been agreed with the Office of the PCT but so far has not yet been verified from the bottom up, a first intermediate version of the IMPACT/IB system will be delivered in June 2002. The final version including all the required functionality, including those for the RO/IB, will be delivered in December 2002.

Change Management Activities

18. It is worth recalling that it is not the aim of the IMPACT Project to impose a technology on the users but rather to study the administrative and document-handling processes in order to derive a solution for an integrated change in which the users adapt to new technologies customized for them within an organization which aims to better respond to the needs of applicants, national Offices and the internal users themselves in the OPCT. Nor is the aim of the project to simply automate the current processes (which are based on paper-handling) but rather to re-examine the current procedures and to arrive at a new process model that is better suited to the use of the proposed technology within the existing legal framework. The deployment of such a solution implies that major changes will need to be absorbed by the staff affected by the project who, therefore, must be supported during all the various stages of the project development. Consequently, apart from the activities associated with deployment of a new IT system, the IMPACT project team as well as the Office of the PCT have always seen "Change Management" activities as an integral part of the project.

19. During the course of the last year, the project team and the Office of the PCT realized that, in order to take full advantage of the IMPACT system, the organizational culture within the Office of the PCT has to become more capable of embracing change. Overcoming history and resistance are important issues in order to increase flexibility towards the future. A new organizational design for the Office of the PCT was developed to address this issue, roles and procedures were redefined and simplified, and workflow and work processes adjusted. These preparatory changes have to happen in parallel with the development of the IMPACT Project and will serve to ease the introduction of the new system.

20. Under the proposed new organizational structure of the Office of the PCT, the Office of the PCT will move away from the current hierarchical organizational structure, which is rigid and task-specific, to a more team-oriented approach. By progressively merging staff of the current Examination and Publication Sections into operational processing teams, with staff organized in three levels of processing corresponding to grade/responsibility criteria, the aim

is to arrive at a more flexible organizational structure that allows for innovative new functions and services to be introduced without continually having to change the basic organizational design. Within the proposed processing team structure, staff can progressively be trained to learn a range of new tasks in parallel with the phasing out of old tasks that are gradually being automated. Moreover, in such an environment, staff are exposed to many more aspects of processing international applications than in the current task-specific structure, resulting in higher job satisfaction and increased career development opportunities.

21. In order to offset the risks associated with the introduction of a new organizational structure in a mission-critical operation such as the Office of the PCT, and bearing in mind that business as usual must be maintained at all costs, it was deemed advisable first to achieve proof of concept of the new organizational design in practical terms within a limited yet flexible environment. The chosen approach has been to establish an initial team of users regrouped according to the proposed new team-oriented structure, the so-called IMPACT Processing Team (or "Pilot Team") and to test the concept to the full before gradually extending this design to include increasing numbers of PCT Operations staff. This Pilot Team has started its work on May 1, 2001, and will report and give recommendations to the project team and the Office of the PCT on a monthly basis. It is important to note that, for the time being, this exercise is going ahead more or less independently of the fact that a new IT system is being developed within the IMPACT Project. The Processing Team is making use of the current IT systems and has no additional technology at its disposition, while at the same time trying to simulate certain workflow aspects that will only be available when aspects of IMPACT functionality become available.

II. STATUS REPORT ON THE E-FILING PROJECT

Overall Project Status

22. The overall status of the project, as at the end of June 2001⁸, is the following:

(i) The project is delayed by approximately four months in relation to the high-level plan (see document PCT/A/29/2 Add., Annex III).

(ii) The project is on budget.

23. The delay mentioned above can be attributed to the following factors:

(i) The level of activity required in the area of drafting and consultation in developing a technical standard and legal framework⁹ for PCT Electronic Filing has been higher than estimated. This can be attributed to the complexity of the problem as well as the diversity of requirements identified by Contracting States and other interested parties. For example, the revision published in January 2001 resulted in eight comment papers and approximately 150 requests for clarification, and led to the requirement for a further round of drafting and consultation.

⁸ This report substantially reproduces that contained in document SCIT/ITPWG/1/5 dated July 9, 2001

⁹ Proposed new Part 7 and Annex F of the PCT Administrative Instructions

(ii) The engagement of four full-time Technical Support Services (TSS) consultants for the project team was delayed by four weeks.

Summary of Progress Since the Last Review

24. Key tasks completed to the end of June 2001 are summarized in the table below:

Task	Date completed
Web site for publication of draft modifications of the PCT Administrative Instructions (Part 7 and Annex F) established.	June 1, 2000
Revised Part 7 and Annex F designed to implement procedures for the electronic filing and processing of international applications under the PCT, including the storage and records management of such applications, were prepared for discussion at a PCT Informal Consultation Meeting on Electronic Filing held in Geneva from July 11 to 14, 2000.	June 9, 2000
The draft modifications were again revised by the International Bureau and made available on WIPO's Internet site for comment as "Rev.1" versions.	August 4, 2000
The draft modifications were again revised by the International Bureau and made available on WIPO's Internet site for comment as "Rev.2" versions.	January 30, 2001
User survey on electronic filing completed.	January 31, 2001
EXtensible Markup Language (XML) development, repository and publishing tool selected. ¹⁰	April 25, 2001
Image-based Document Type Definitions (DTDs) for Priority Documents, International Preliminary Examining Reports (IPERs), Translated IPERs, the Pamphlet and the Application Status form delivered to the IMPACT Project.	May 10, 2001
XML data model for the PCT Application (comprising eight DTDs) available for verification.	May 23, 2001
Establishment of the PCT Electronic Filing lab for the prototyping, development and testing of software.	June 1, 2001
United States Patent and Trademark Office (USPTO) Electronic Filing Software (EFS) installed for prototyping, and evaluation for possible customization.	June 15, 2001
XML development, repository and publishing tool loaded.	June 18, 2001

25. Key tasks in progress at the end of June 2001 are summarized in the table below:

Task	Expected Date
Project workshop on roles and responsibilities concluded.	July 30, 2001

¹⁰ Also selected by the United States Patent and Trademark Office (USPTO)

Task	Expected Date
Project workshop on technical architecture concluded.	July 30, 2001
Project workshop on XML authoring concluded.	July 30, 2001
The draft modifications are again being revised by the International Bureau and will be made available on WIPO's Internet site for comment as "Rev.3" versions.	July 31, 2001
DTD for the PCT Demand Form available for verification.	August 31, 2001
European Patent Office (EPO) epoline® software installed for prototyping, and evaluation for possible customization.	August 31, 2001
Final round of RFPs for third party suppliers issued.	August 31, 2001
Project procedures (based on IMPACT Quality Procedures) finalized.	August 31, 2001
Publish revised version of the High-Level Project Plan.	August 31, 2001
Specification of requirements for a PCT XML Authoring tool produced.	August 31, 2001
First validation of XML data model for the PCT Application.	September 30, 2001
Technical architecture plan produced.	September 30, 2001
Web site portal established for electronic dissemination of DTDs.	September 30, 2001

Project Milestones/deliverables planned and achieved

26. The status of project milestones planned for the period up to the end of June 2001 are summarized in the table below in the same sequence as published in document PCT/A/29/2 Add., Annex III. Original information from this document is reproduced in the *Milestone* and *Estimated date* columns, and the *Percent Complete* and *Comment* columns summarize progress for each milestone:

Milestone	Estimated date	% Complete¹¹	Comment
Scope definition document made available for comment.	November 2000	100	
System requirements document made available for comment.	November 2000	10	Pending near finalization of Annex F.
Contracts in place for third party developers.	December 2000	50	4 of 7 contracts in place.
Inputs delivered to third party developers (conforming with IMPACT quality procedures, e.g., specification of requirements, use case scenarios, implementation plan).	December 2000	10	Prototyping activities to date have been performed in-house. ¹²
Contents of Part 7 and Annex F finalized. ¹³	January 2001	50	Rev.2 drafts produced; additional round of drafts required before finalization.
Third party developers start.	January 2001	10	See footnote 12.
Scope definition document finalized.	January 2001	50	Pending near finalization of Annex F.
System requirements document finalized.	January 2001	10	Pending near finalization of Annex F.
Core team for E-filing finalized.	February 2001	100	
Development plans submitted by third party developers.	February 2001	N/A	Milestone removed. ¹⁴
Third party developers begin construction of prototypes.	March 2001	10	See footnote 12.
E-filing prototype database for RO/IB available.	May 2001	10	First prototype made available June 2001 for evaluation, second expected August 2001.
Extended PCT-EASY prototype software ready.	May 2001	10	

¹¹ Based following: 0% = Not started, 10% = Started, 50% = Ongoing, 100% = Complete

¹² Software harmonization activities have resulted in prototyping based on existing electronic filing solutions, and less third party development than estimated

¹³ The exact date will depend on the progress of consultations with Contracting States and PCT users on the draft texts of Part 7 and Annex F

¹⁴ Due to a refinement in the project procedures, this milestone is no longer applicable

Milestone	Estimated date	% Complete¹¹	Comment
RO/IB ready to issue prototype Low-Level digital certificates.	May 2001	10	Prototype made available for evaluation June 2001.
RO/IB prototype server ready to receive electronically filed international applications.	May 2001	10	First prototype made available for evaluation June 2001, second expected August 2001.

Project Milestones/Deliverables for the Next Period (Three Months)

27. The project milestones planned for the period up to the end of September 2001 are summarized in the table below in the same sequence as published in document PCT/A/29/2 Add., Annex III:

Milestone	Estimated date
Third party developers begin construction of prototypes.	August 2001
E-filing prototype database for RO/IB available.	August 2001
Extended PCT-EASY prototype software ready.	September 2001
RO/IB ready to issue prototype Low-Level digital certificates.	September 2001
RO/IB prototype server ready to receive electronically filed international applications.	September 2001

Key Issues and Actions Taken or Recommended

28. Key issues: following consultations with offices who have produced electronic filing software, and taking into account the submissions by several non-governmental organizations concerning the electronic filing of patent applications (see documents PCT/R/1/23¹⁵ and PCT/R/1/26¹⁵), it has emerged that in order to ensure a certain degree of software harmonization, various analysis, software modification and verification activities (involving these offices and the International Bureau) will take place up to April 2002.

29. The project team is analyzing the impact of these activities on the high-level project plan which was published in September 2000. Key issues arising out of these activities include:

(i) The harmonization activities are expected to lead to various benefits to applicants and offices. For example, electronic filing software being produced by the USPTO, the EPO and WIPO is expected to inter-operate.

(ii) The International Bureau expects that certain components of Annex F such as the protocol for the transmission of data, data packaging and the Application Document Type Definitions (DTDs), will be further elaborated.

¹⁵ Available on WIPO's Internet site at http://www.wipo.int/pct/en/reform/index_1.htm

(iii) The International Bureau has been prototyping and evaluating the possibility of customizing USPTO and EPO electronic filing software to meet PCT requirements. The versions of software used for these activities will be modified to comply with the transmission protocol and packaging components of Annex F as they emerge.

(iv) The International Bureau expects certain components of its beta and pilot activities to be delayed as a result of the modifications by the EPO and USPTO of their products. It should nevertheless be borne in mind that the delays will be compensated by the benefits that software harmonization will bring.

30. Action taken: a revised version of the high-level plan, which takes into account the impact of all the issues raised in paragraph 29, will be published on WIPO's web site¹⁶ in August 2001.

31. The Assembly of the PCT Union is invited to take note of the progress reports on the IMPACT Project and the Electronic Filing Project contained in this document.

[End of document]

¹⁶ Available on WIPO's Internet site at http://pcteasy.wipo.int/efiling_standards/EFPage.htm