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RECENT DEVELOPMENTS IN INFORMATION TECHNOLOGY IN DEVELOPING
COUNTRIES; THE COLLECTIVE SYSTEM FOR THE MANAGEMENT OF SOCIETIES
AND INTELLECTUAL PROPERTY AUTOMATION PROJECTS: PROGRESS REPORT

Document prepared by the International Bureau of WIPO

Introduction

1. During recent years, the increasing awareness of intellectual property rights (IPRs) has encouraged more individuals and enterprises to seek protection of their IPRs. This awareness has created more complex demands for information about IPRs which often involve the need to search for information beyond national boundaries.
2. The tasks of administering, managing and providing IPRs information have increased significantly in many intellectual property offices. In many instances, due to staffing level ceilings, it has not been possible for the offices and organizations to increase their staff adequately to service the increased workloads. Automation support systems have been identified as one of the tools that can be implemented in an office or organization to assist significantly the administrative, management and information dissemination functions.
3. WIPO has been assisting offices with the introduction of automation and has provided practical assistance through various cooperation for development support programs. This document will present the progress and status of intellectual property automation initiatives in the countries of the African, Arab, Asian and the Pacific and the Latin American and Caribbean regions.

Collective Management of Copyright and Related Rights

4. A need to provide assistance in the collective management of copyright was identified at the copyright office of Burkina Faso, and WIPO has provided assistance in the development and enhancement of an automation solution. This has proved to be a successful tool and is now being upgraded to a new software version to be implemented in a number of national offices.
5. In broad terms, the software addresses three main issues in the collective management of copyright and related rights:
 - the bibliographic and administrative data relating to the authors or creators of works;
 - the bibliographic and administrative data relating to the works including declarations by the rights holders to the collective management society;
 - the bibliographic and administrative data relating to the identification of users of works (for example television and radio broadcasters and places of entertainment).
6. The system provides a registration facility that records the relevant bibliographic and administrative data. The system also enables the allocation of the CAE (Composers, Authors and "Editeurs" (Publishers)) list administered by the Swiss Society for Authors' Rights in Musical Works (SUISA) and World Work List (WWL) administered by the American Society of Publishers, Authors and Composers (ASPAC) in order to facilitate information exchange with other organizations and entities.
7. Since the original concept of this automation product in 1993, it has evolved through a number of versions and was given the name "AFRICOS". The product is available in either

an English or a French language version. The language choice depends upon the operating language of the particular implementing office. The current version of the product now provides its functionality in a contemporary multiple user environment that allows online access to databases. This functionality will allow the product to take advantage of the proposed external databases that will replace the CAE and WWL lists.

8. It is anticipated that future versions of the product will incorporate interfaces to financial software packages that will enable the more effective management of the collection and distribution of funds. The evolution of the WIPONET and Intellectual Property Digital Libraries (IPDL) Projects has been taken into consideration in enhancement planning and closer compliance with the requirements of those global projects and other relevant WIPO IP data standards is intended.

9. AFRICOS is now being implemented at three sites, namely in Burkina Faso, Malawi and Morocco. The Morocco implementation is the current version of the product. The Burkina Faso and Malawi installations will be upgraded to the new version in the near future.

10. The product has created a great deal of interest within the Africa Bureau and other Cooperation for Development Bureaus as it meets a vital need, and has become recognized as a practical product in the collective management area.

11. In addition to the upgrade of the implementations at Burkina Faso and Malawi, a further seven implementations are planned for this year. These implementations will be in Benin, Guinea, Madagascar, Mali, Mauritius, Niger and the United Republic of Tanzania.

12. In the Asia and the Pacific region, automation support has been provided in the shape of hardware and software and training to the copyright offices and collective management societies of several countries.

13. In the Latin America and Caribbean (LAC) region, a Regional System for the Collective Management of Copyright for the Caribbean countries is being implemented with the assistance of WIPO through a Regionally Focused Action Plan (RFAP). For additional information, see PCIPD/2/3.

Automation of Intellectual Property Offices in all Regions

14. Some fundamental non Information Technology (IT) technical aspects elements that deliver success in the implementation of IP automation systems are:

- the establishment of bibliographic data that is reliable and accurate. (This enhances the management of the national registers and decision making. It also ensures official publications can be read with confidence, and supports reliable information dissemination);
- adequate staff skill levels in the industrial property classification systems. (These are the International Patent Classification (IPC), the International Classification of Goods and Services for the Purposes of the Registration of Marks, the International Classification of the Figurative Elements of Marks and the International Classification for Industrial Designs under, respectively, the

- Strasbourg, Nice, Vienna and Locarno Agreements. Adequate knowledge in the use of the relevant codes and their searching techniques makes a major contribution to examination and information dissemination tasks); and
- modernized workflows that minimize redundant processes and optimize the benefit that can be derived from the investment in automated support.
15. During the last year, the Africa Bureau embarked upon a program to address the data collection problems that faced many of the industrial property offices. As a first stage, the key documents are scanned and the imaged documents stored for subsequent data entry once the proposed industrial property databases are put in place. This program has now been implemented at four offices, namely in Botswana, Kenya, Mauritius and Namibia.
16. A training program that will provide skills upgrades in the classification systems and searching techniques, and in reviewing workflows is being developed. It is anticipated that the training program format and likely venues will be announced shortly.
17. Considerable progress has been made with a generalized industrial property software product developed by a private firm in Cairo, Egypt. Initial discussions between the Arab Bureau and the developer took place at the end of 1997, and the resultant product has now been implemented at six industrial property offices, namely in Algeria, Egypt, Oman, the Palestinian National Authority (PNA), Qatar and Tunisia.
18. The product is designed to meet the more significant needs in administering and managing industrial property applications and registrations. The product can be scaled from a single PC workstation to an extensive multiple user network. It provides extensive search capability that gives considerable assistance to examiners and other researchers. The image storage and retrieval capability enable Marks Similarity Searching to be supported.
19. The product has been designed so that it can be rapidly implemented and achieve a useful operational level in a short space of time. Typically, the product takes one or two weeks to install at the industrial property office (including user staff training). The use of contemporary proven software development tools and techniques enables rapid installation and enhancement. "Fine Tuning" the installed software is a relatively simple process and enhancements to meet national requirements after the initial installation can be made using Internet connections, or by means of other electronic media.
20. The end-user language interfaces currently available are Arabic, English and French. These interfaces are available to the user for monolingual operation or in bilingual (Arabic-English or Arabic-French) combinations. The user is able to select the required language (or language combinations) at the beginning of the working session. The technique used for providing these language interfaces is one that can be readily adapted for introducing further language options, for example, Portuguese, Russian or Spanish.
21. All of the current installations are processing marks and, additionally, one office has implemented the patents database features. None of the current industrial property offices or those that plan to implement the product during the next few months have requested an industrial designs database facility.

22. The advantage of multiple industrial property office installations is that it allows the developer to draw upon the experience gained from those installations and to plan effective product improvements that reflect the opinions and needs of the user community. The product also adopts the relevant WIPO industrial property data standards and endeavors to ensure close compliance with the WIPONET and IPDL Project requirements.
23. The planned implementations for the first half of this year are for Bahrain, Saudi Arabia, Sudan, Syria and Yemen. All of these implementations will have the marks database facilities and one industrial property office will also implement the patents database. The acceptance of this automation product by 11 individual industrial property offices gives a strong indication of its general acceptability and fitness for use.
24. In the Asia and the Pacific region, projects for the development and operationalization of automation projects have seen quite a diverse approach. Tailor-made and country-specific, rather than common solutions, have been explored and recommended. This is attributable to the diversity in the systems of laws, regulations and procedures, the levels of development of the national intellectual property systems, and consequently in the size of the offices and their operations and different languages spoken. In providing the assistance on automation, local suppliers and experts have been used, as far as possible, for procurement of hardware and for the development of software and training, under the overall guidance of WIPO experts.
25. Contemporary industrial property automation support systems are pivoted on databases that enable the storage and retrieval of the key bibliographic data, images of drawings, formulae and representations, that support classification activities, assist substantive examination, the production of official publications and the maintenance of legal history, in addition to the other standard activities such as file tracking, register maintenance, action reminders and public information.
26. In the Asia and the Pacific region, industrial property automation systems that provide this kind of functionality have been successfully implemented in China (marks and patents), the Democratic People's Republic of Korea (patents and marks, including an IP library management system), India (a patent information system and an integrated marks system), the Philippines (IP management information system), the Republic of Korea (patents and marks) and Singapore (patents and marks). Considerable progress has been achieved in office automation in countries like Malaysia, Thailand and Viet Nam.
27. Furthermore, there are currently a number of automation systems under implementation that are expected to be operational in 2001. These are Bangladesh (marks), Bhutan (patents, marks and designs), Iran (Islamic Republic of) (patents and marks), Mongolia (patents, marks and designs), Pakistan (marks), the Philippines (marks image database and searching facility) and Sri Lanka (marks). Assistance is being provided to the Lao People's Democratic Republic in the development of their website.
28. Other automation related projects that have featured in the region involve preparation of feasibility studies, strategic plans for office modernization, tactical or action plans for automation implementation, needs assessments and advice on corrective action, assistance with the development of requests for tender or quotation and their consequent evaluation. In all cases, potential compatibility with WIPONET and other IT-related projects is ensured.

29. Assistance has been provided to India in the review and enhancement of a national study addressing the issue of modernization of the patent office and its follow up. India also requested and received advice regarding further modernization of the trademark registry. Assistance was also provided to Indonesia for the development of a strategy to facilitate the modernization of intellectual property administration, management and education. This assistance included support to successful negotiations with the World Bank for assistance. An action plan was developed for the establishment of a new patent system in Singapore which paved the way for the present highly automated operations of the office.

30. WIPO implemented components of the EC-ASEAN Patents and Trademarks Programme, which included the figurative elements of marks search and examination software now implemented in Malaysia and proving the viability of the development of a prototype ASEAN Marks CD-ROM. Automation project management training was also provided by WIPO under that program.

31. Technical assistance has been provided under the Japanese Funds-in-Trust program for the development of a Request for Quotation for an industrial property management system software that will be available for deployment, initially at the intellectual property office of Thailand and subsequently in other countries, as requested.

32. Active discussions are taking place within the South Asian Association for Regional Cooperation (SAARC) to establish a South Asian Intellectual Property Network that will complement WIPONET and offer enhanced services. A project focused on the modernization of the IP system in the South Pacific countries is being considered with the assistance of IP Australia, apart from assistance on automation to several countries from that sub-region. Similarly, automation projects are being developed for Bangladesh, Cambodia (patents), Democratic People's Republic of Korea, Lao People's Democratic Republic, Nepal and Pakistan.

33. The Cooperation for Development Bureau for Latin America and the Caribbean has carried out technical cooperation activities in the area of automation of intellectual property offices and use of information technology in the LAC region since the nineties. Those cooperation activities were carried out upon specific requests from Governments and through the implementation of WIPO-administered technical cooperation projects financed from various sources including contributions from the beneficiary countries.

34. In recent years those activities have included, *inter alia*, the assessment of needs and the elaboration of proposals for the development and/or the upgrading of automated information systems for intellectual property operations; the advice on the provision of basic network connectivity of intellectual property offices to the WIPONET, and/or the upgrading of their current computer networks; the drafting of technical specifications and the evaluation of offers for the purchase of computer equipment and basic software; the preparation of terms of reference for the work to be undertaken by international consultants, local consultants and firms involved in software development and the assessment of the work undertaken by such consultants and firms; the advice on the production of information products on industrial property; the advice in preparing "home pages" of intellectual property offices on the Internet, and in using e-mail, and/or private virtual networks, within the Internet, for the exchange of information among the offices and for online access to information contained in the databases of those offices; the preparation and standardization of intellectual property

data collections and online information services accessible through WIPONET, as well as other electronic databases to be available on the Internet.

35. As a result of those activities, the LAC Bureau has been involved, over the years, in the development of the information systems of the intellectual property offices of most countries in the region. Today, out of the 33 countries in the region, automated trademarks systems are operational in 24 countries and automated patent systems are operational in 17 of them. The latest versions of the developed systems, have been implemented using the latest information technology, consisting of Windows applications using relational databases or desktop databases depending both on the size of the office in general, and on the capacity of its automation department. Those automated systems have been developed either in English or Spanish, depending of the country.

36. At present, trademark automated systems are operational in Argentina, Barbados, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Trinidad and Tobago, Uruguay and Venezuela.

37. Patent automated systems are operational in Argentina, Bolivia, Brazil, Chili, Colombia, Costa Rica, Cuba, Dominican Republic, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay and Venezuela.

38. In the field of office automation, the automated information systems developed through the above-mentioned technical cooperation projects address the following issues:

- (a) building of databases in electronic media which include all administrative and technical data, with text and graphic information;
- (b) implementation of file tracking and flow mechanisms;
- (c) production of official documents and official publications, on paper or electronic carriers;
- (d) supporting of substantive examination of trademarks and patent applications, through the search for prior art. The trademark automated systems perform an automatic similarity search of phonetic and figurative elements as well as assisted search using combinations of codes of the Vienna Classification. In the case of patents those systems perform an assisted search using combinations of codes of the IPC and words of the abstract of the patent document;
- (e) supporting of remote access to consult the intellectual property databases for external users as part of effective information services;
- (f) assistance in the production of collections of patent and trademark documents in CD-ROM media;
- (g) assistance in the electronic storage of paper documents (not all systems);
- (h) providing access to general office information, and to databases (some sites) through the Internet.

39. Special mention is made of work undertaken by the LAC Bureau in supporting the development of a trademark search system which is being used by the overwhelming majority (21 offices) of trademark offices in the region. The system is based on very elaborated algorithms that make use of phonetics, and provides a result file ordered by percentages of

similarity. This search algorithm has been implemented in various platforms, from desktop databases (FOXPRO) to relational databases (ORACLE, INFORMIX).

40. With relation to the administration of copyright and related rights by copyright or intellectual property offices in the LAC region, the LAC Bureau is currently assisting some of those offices to develop information systems allowing them to register any type of work identified by their national legislation in a database, and produce all related official documents. WIPO is assisting the copyright offices of Colombia, Guatemala and Honduras in developing copyright automated systems.

41. WIPO's future cooperation in this field will be guided by the requests made by the Governments of the region in different recent fora and Government meetings for policy coordination. The Heads of Intellectual property offices of Latin America during their last meeting held in November, 2000, in El Salvador, requested WIPO to assist them in the implementation of private virtual networks using encryption mechanisms through the WIPONET, in setting up modules to perform electronic filing of applications and other documents (see document OMPI/JPI/SAL/00/4). The Governments of the English-speaking Caribbean countries also requested WIPO, during the Ministerial Level Meeting on Intellectual Property, held in October, 2000, in St. Lucia, to assist them in developing a regional information system for the full automation of the intellectual property offices, using latest information technologies and taking into account the WIPONET (see document WIPO/MIN/CAT/00/3).

Conclusion

42. This Progress Report has provided a summary of the major automation implementation activities supported by Cooperation for Development Sectors. The Report has highlighted the significant features of the automation products now operationally able to support collective management and industrial property office procedures. An indication of the proposed continuing implementations during the current year has also been provided.

43. The Permanent Committee is invited to note the information contained in this document and make any comment it may wish on the content thereof.

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