TRILATERAL STATISTICAL REPORT

2001

PREFACE

The three major patent offices in the world decided about twenty years ago to join their effort to act towards a better mutual understanding and towards a greater harmonisation of procedures and activities with respect to patent protection. The trilateral statistical report is one of the fruits of trilateral cooperation between the European Patent Office (EPO), the Japan Patent Office (JPO) and the United States Patent and Trademark Office (USPTO). It was created shortly after the institution of the trilateral cooperation and has been published every year since.

Besides promoting a better understanding of the importance of patent rights in the world, the purpose of this report is to facilitate an understanding of the operations of each office and to increase general awareness about the patent grant procedures of the three offices. This joint annual Trilateral Statistical Report is a compilation of statistics that supplements the separate annual reports of each of the three offices and is also partially based on statistics from the World Intellectual Property Organization (WIPO) in Geneva.

We are taking the opportunity of the 20th anniversary of the current cooperation arrangements to update the presentations to some extent in this report. We hope that this will give clearer and more comprehensive information on worldwide patenting. Over the years, the format and the content of this report have changed. In the early nineties, coloured graphs were introduced, with perspective included some years later. The three offices also tried to follow the development of the patent systems all around the world in adjusting the content of the report to the subject of interest. So statistics from outside the trilateral regions have been taken into consideration, and statistics on high technology areas were also introduced. The three Offices decided that it was necessary to follow more precisely the applicant behaviour experienced over the last few years. This year an entirely new chapter is dedicated to the growing use of the Patent Cooperation Treaty (PCT).

This report is also available on the web sites of the Trilateral Offices. In addition to the text and statistics presented in the same way as in this paper edition, a new statistical annex is now available to give access to additional trilateral patent data.

To gain some insight on the patent statistics and trends contained in this report, a general overview of the world economy is now presented. However, interpreting worldwide patenting activity behavior in terms of economic developments is difficult because the relationships with the economic factors that influence the number of patent applications are not perfect. Political and technological considerations also need to be taken into account.

Global economic growth in 2001 was estimated as 2.5 percent, as reported by the International Monetary Fund (IMF). This was a continuation of the global slowdown, which started in the middle of 2000. The advanced economies had only an estimated 1.2 percent growth, compared to countries in transition, which came out with estimated growth rates between 4 and 5 percent. Japan experienced an especially bad year with an estimate of negative growth, whereas the United States was at the average of the advanced economies with 1.2 percent growth, which was bettered by the major European economies of United Kingdom, France and Italy with 2.2, 2 and 1.8 percent growth respectively. Germany was faced with a steep drop from 3 percent in 2000 to a 0.6 percent in 2001. This global decline seems though to be of a temporary character, according to forecasts by IMF and OECD, and global growth of 4 percent is estimated for 2003.

This year, the global economy is still in a slowdown and the advanced economies are the ones where this will be felt most (estimated growth in 2002; 1.7 percent), compared to the developing countries (estimated growth in 2002; 4.3 percent) and the countries in transition (estimated growth in 2002; 3.9 percent). Japan will still be fighting with a negative

development and a big economy like Germany is estimated to grow less than 1 percent in 2002. France and Italy are also facing a slow development. More positive is the situation foreseen in the United States, which is estimated to recover and have a growth of around 2.3 percent in 2002. Also countries like the United Kingdom and Canada are above the average for the developed economies, with 2.5 percent each.

As mentioned above, in 2003 worldwide growth is expected to be 4 percent. The advanced economies are estimated to grow with 3 percent, the developing economies 5.5 percent and the countries in transition around 4.4 percent. The United States and Canada seem to be the locomotives within the advanced economies with estimated growth of 3.4 and 3.6 percent respectively. Japan is assumed to recover, with a 0.8 percent increase, from a negative growth. In Europe France is expected to take the lead among the biggest economies with an estimated growth of 3 percent, followed by Italy (2.9), the United Kingdom (2.8) and Germany (2.7).

There are other key factors behind the development of patent applications, which include Research and Development and the importance of intellectual property in general. Worldwide expenditures on R&D have been trending upwards along with the global economy. Increased spending on innovation has continued to help fuel worldwide patenting. Intellectual property has continued to become more significant in a global economy with intensifying competition. Patents are increasingly being emphasized for a variety of business strategies such as developing favorable partnerships and licensing agreements, capturing market share or perhaps to attract new capital. With a greater emphasis on patenting, there is an expectation that demand will follow.

Globalization of markets and production continue to be key business trends. Countries continue to join the European Patent Convention (EPC) and the Patent Cooperation Treaty (PCT) and harmonize their patent laws towards common international standards. This has stimulated the flow of patent applications across borders. All these factors together have contributed to strong worldwide patenting growth in 2001.

Finally for the fourth time, a reader survey is attached to this edition of the report. The three offices would really appreciate receiving your comments on this joint publication. This is the page for readers to react on the content of the trilateral report and to give their suggestions and encouragements in order that the trilateral offices could continue to adjust the report to serve the expectations and objectives of the readers.

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Chapter 1
INTRODUCTION

Definitions of terms

There are various different types of intellectual property rights. They can be categorized as:

- patents of invention;
- utility model patents;
- industrial design patents;
- trademarks, and
- copyrights.

This report concentrates on the first kind, patents of invention.

Despite the existence of regional and international procedures, patent rights may differ among countries all over the world. One reason is that patent law is different in every country. With different patent laws and procedures, applications can have a different scope, e.g. with respect to the average number of claims included in one application. This is one of the basic reasons for the differences between numbers of patent applications in Japan compared to Europe and the United States. The existence of differences in the scope of applicability of patent rights compromises to some extent the ability to compare patents from different countries.

In order to get protection for their innovations, applicants may use the following types of granting procedures, or combinations of them:

- **national procedures**,
- **supranational procedures**, comprising:
  - **regional** procedures, (for example the European or the African Intellectual Property Organisation), and,
  - the **international** Patent Cooperation Treaty procedure (PCT).

In this chapter, the statistics presented in the report and the relations between them are briefly described. All statistics apart from some of those in Chapter 6 relate to patents of invention only.

Statistics are presented in accordance with the following definitions:

- Demand for patent protection is considered principally counting each **supranational application** only once. However alternative presentations are also given in some places in terms of **demand for patent rights** after cumulating the number of designated countries in each supranational application.
- Filings of **PCT applications** are counted in the year of filing in the international phase.
- **Domestic applications** are defined as all demands for patent rights made by residents of the country where the application is filed. For the purpose of reporting statistics for the EPC contracting states considered as a bloc, **foreign applications** are given with regard to the applications made by non-residents of the EPC bloc as a whole. For example,

applications made by French residents in one of the other EPC contracting states are counted as domestic demand in the EPC bloc.

- **First filings** are applications filed without claiming the priority of another previous filing, and all other applications are **subsequent filings**. In the absence of a complete set of available statistics on first filings, it is assumed in this report that domestic national filings are equivalent to first filings[i] and that PCT filings are subsequent filings.

- **Grants** are reported as recorded by WIPO in its Industrial Property Statistics.

- A **patent family** is a group of patent filings that claim the priority of a single filing, including the original priority forming filing itself and any subsequent filings made throughout the world. The set of distinct priority forming filings (that indexes the set of patent families) in principle constitutes a better proxy measure for the set of first filings than the set of aggregated domestic national filings added to first filings at the EPO. **Trilateral patent families** are patent families for which there is evidence of patenting activity in all trilateral blocs.

Chapter 2

In this chapter a summary of the recent developments in the Trilateral Offices is presented.

Chapter 3

The third chapter of the report provides an assessment of worldwide patent applications. Statistics in this chapter are derived primarily from the Industrial Property Statistics of WIPO.

The number of inventions for which a patent application is filed is less than the total number of applications made. Generally for each invention, one application is filed first in the country of residence, followed by applications to as many foreign countries as required, each such foreign application claiming the priority of the earlier application. First filings can be seen as an indicator of innovation and inventive activity, while foreign filings are a measure of international trade and globalisation.

This chapter also gives an indication of the interdependency and importance of the major geographical markets. The development of the total number of applications filed worldwide is given first. Then there is a discussion of bloc-wise patent activity (first filings, origins of applications, targets of applications, patent grants). This is followed by a description of inter bloc activity, firstly in terms of the flows of applications between the trilateral blocs, and then in terms of patent families.

Chapter 4

This part of the report considers the substantive activities of the Trilateral Offices. The aggregate demand for services in the patent procedures of the Trilateral Offices is not exactly equivalent to the overall demand for patent rights. For example, the designated Offices do not examine PCT applications definitively until they enter the national or regional phase.

[i] Except in the section on patent families, for estimation of the numbers of first filings in the EPC bloc, an approximation is made by adding first filings at the EPO to aggregated domestic national applications in the EPC contracting states.

Statistics are given for applications filed with Trilateral Offices from each filing bloc, also showing domestic and foreign filings. They are counted at the date of filing for direct national applications at the JPO and the USPTO, and for direct regional applications at the EPO. PCT applications are counted at the moment they enter the national or regional phase. Part of the demand for patent rights in the EPC contracting states is processed through the national offices, and therefore does not result in workload for the EPO. The demand at the EPO is given in terms of applications rather than in terms of designations.

Statistics are provided on the breakdown of applications by fields of technology according to the International Patent Classification (IPC).

Although the patent applications filed do indeed represent demands for services, the work is not always performed at a comparable point in time. Consequently neither the number of applications filed nor the number of requests for examination is a perfect basis for comparison. Taking into account the fact that the percentage of applications that are granted is rather constant in each of the three procedures, some indicator of services actually demanded can nevertheless be provided using statistics on granted patents.

An analysis of patent grants is also provided, both in terms of the blocs of origin of the grants and in terms of the distributions of numbers of grants per applicant. In Chapter 4 the numbers of grant actions by the Trilateral Offices themselves are described, even though grants by the EPO lead to multiple patents in the designated EPC contracting states.

To illustrate the similarities as well as the differences in the granting procedure of the three Offices, characteristics of the trilateral patent granting procedures are shown in the last section of Chapter 4.

Chapter 5

This chapter shows how the Patent Co-operation Treaty (PCT) impacts on patenting activities. PCT work includes the actions required by the three Offices for PCT applications in the international phase as international search authorities and international preliminary examination authorities.

Most of the data were obtained from WIPO Industrial Property Statistics, as reported by each country and region. However, some statistics were provided by the Trilateral Offices, such as national-stage figures or international searches and international preliminary examination information.

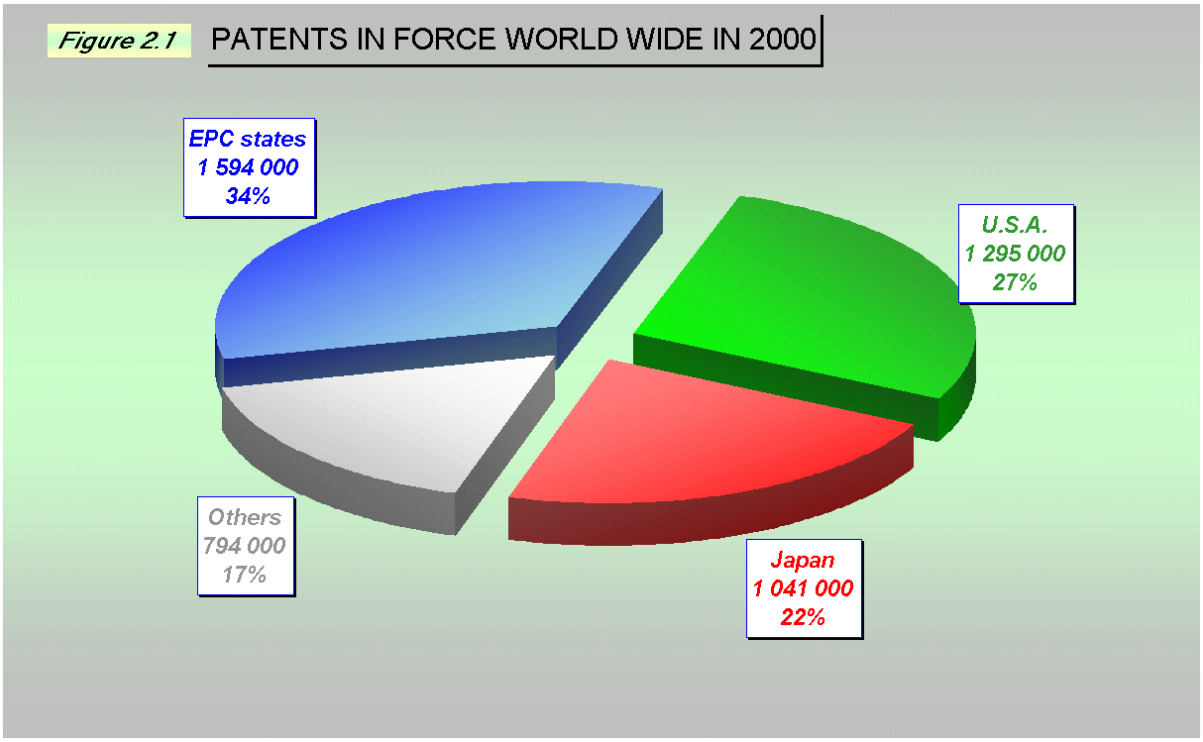
Chapter 6

This last chapter is dedicated to the other activities the trilateral offices are performing which are not common to all three offices, as well as work related to other types of industrial property rights.

Chapter 2
THE TRILATERAL OFFICES

Patent rights are well-used throughout the world. At the end of the year 1999, a total of about 4.7 million patents were in force. The contracting states of the European Patent Convention (EPC contracting states), the JPO and the USPTO, together cover about 84% of the total patents worldwide. In the EPC contracting states, patents are granted either by the national offices or by the EPO.

Figure 2.1 PATENTS IN FORCE WORLD WIDE IN 2000



EUROPEAN PATENT OFFICE

The European Patent Office (EPO) – the main patent granting authority for Europe - is a product of successful economic and political co-operation, providing patent protection in up to 26 European countries on the basis of a single patent application and a unitary grant procedure. The mission of the EPO is to support innovation, competitiveness and economic growth for the benefit of the citizens of Europe.

At the end of the year 2001, the following 20 states were members of the underlying European Patent Organisation:

Austria	**Finland**	**Ireland**	**Monaco**	**Switzerland**
Belgium	**France**	**Italy**	**Portugal**	**The Netherlands**
Cyprus	**Germany**	**Liechtenstein**	**Spain**	**The United Kingdom**
Denmark	**Greece**	**Luxembourg**	**Sweden**	**Turkey**

The following states agreed with the EPO to allow extension of European patent applications patents to their territory:

Albania, Latvia, Lithuania, the former Yugoslav Republic of Macedonia, Romania and Slovenia.

Together the above states build a market of about 485 million people.

Four countries joined the European Patent Organisation on July 1, 2002: Bulgaria, the Czech Republic, Estonia and Slovakia. Six other countries were invited to join: Hungary, Latvia, Lithuania, Poland, Romania, and Slovenia, and will probably do so later.

The mission of the EPO is to support innovation, competitiveness and economic growth for the benefit of the citizens of Europe. In its mission statement the Office has set out its fundamental strategy for fulfilling its responsibilities within the process of European integration and has rearranged its priorities. The new strategy is being put into effect through an intensive process of internal change.

Grant Procedure

The main task of the EPO is to grant European patents according to the European Patent Convention (EPC). Moreover, the EPO acts as receiving, searching and examining authority under the Patent Cooperation Treaty. A further task is to perform, on the behalf of patent offices of certain member states, state of the art searches for the purpose of national procedures and to carry out searches on request of third parties.

Efficient handling of the workload is one of the EPO's priorities. The ongoing substantial growth in the workload under the PCT has led the Office to design a more flexible approach for its work as a PCT authority. The PCT reform adopted in 2001 allowed the EPO to restrict its handling of PCT filings from countries with their own PCT authority. The streamlining of the internal procedure for issuing international preliminary examination reports will also help the EPO to cope with the increasing workload.

The EPO expects the unified search and examination process, the BEST project, to boost the efficiency of the grant procedure significantly. The process to Bring Examination and Search Together (BEST) was introduced Office-wide last year and should be completed within five years.

Table 2.1: PRODUCTION INFORMATION EPO

PRODUCTION FIGURES	2000	2001
Filings		
Total Euro-direct + Euro-PCT international phase	145 187	158 161
Total Euro-direct + Euro-PCT regional phase	100 709	110 025
Searches carried out		
European searches (Euro + Euro-PCT supplem.)	53 807	51 220
PCT searches (PCT-SAE + PCT-SA)	54 183	56 307
Searches on behalf of national offices	15 341	15 386
Other searches	4 692	4 523
Total production search	128 023	127 436
Examination: final actions performed		
European examination	45 881	55 284
PCT Chapter II	35 519	41 020
Opposition (final action)	2 351	2 091
Total final actions examination / opposition	83 751	98 395
Appeal settled		
Technical appeals	1 139	1 170
PCT protests	17	24
Other appeals	51	58
Total decisions appeal	1 207	1 252

In Table 1.1, the latest production figures for search (European, PCT and national searches), for examination (European and PCT Ch. II) and for opposition and appeal in the European procedure are given for the years 2000 and 2001.

In 2001, 127 436 searches have been completed, almost unchanged compared to 2000, the final actions in examination and opposition increased by 17.5% to 98 395, and 1 252 decisions in appeal have been completed (4% more than in 2000).

At the end of 2001, the number of documents searchable electronically rose to 29.1 million patent documents and 3.7 million technical or scientific articles. Through the EPOQUE system 35 million more articles are accessible on commercial databases. The digital library (BNS) contains 42.1 million facsimile documents. The collection has been extended to cover all US patents since 1836.

The EPO's in-house classification system (ECLA) is an expanded form of the International Patent Classification (IPC). With 125 000 additional subclasses, it allows for fast and systematic access to the search documentation available in each technical field. The system is also used in *esp@cenet*. The trilateral offices have launched a project aiming at progressive convergence of their classifications system. This “Harmony Project” will help to cope with the rising number of documents requiring classifications.

The systems for electronic searching are increasingly popular with examiners at the EPO and at the national patent offices. The retrieval program EPOQUE and BNS, the Digital Library, provides access to the Office’s facsimile collection of patent documents as well as technical and scientific literature.

Patent Information

The EPO is a producer of patent information products and services and has set up databases that are available not only for internal use, but also for dissemination by national offices. The products and services are presented under the acronym EPIDOS (European Patent Information and Documentation Services - formerly INPADOC). EPIDOS products and services are available both directly to users and to commercial data suppliers.

The linking up of national patent libraries to form an information network (PATLIB) is one of the key elements to the effective patent based transfer of knowledge in Europe. These information centres are equipped with CD-ROM workstations, which facilitate user access to patent documents.

The main events of 2001 in terms of patent information were the annual EPIDOS conference, held in Cardiff in conjunction with the EC's PATINNOVA conference and attended by 600 delegates, and the PATLIB conference in Dublin which attracted 200 participants from more than 30 countries.

The patent offices of Cyprus, Denmark and Finland signed co-operation agreements with the EPO during the year with the aim of strengthening their patent information activities.

In 2001, the use of the EPO's Internet-based patent information services rose again. esp@cenet ® was consulted on average by around 10 000 users daily carrying out a total of 60 000 searches. The Office's web site now offering some 2.1 GB of information was attracting around 1.5 million hits per week.

Technical Cooperation

In many countries and regions of the world, the EPO is involved in technical cooperation projects in partnership with national patent authorities, the EU Commission and the WIPO. In 2001, the EPO 's "International Academy" offered 18 courses attended by staff from patent and trademark offices along with patent attorneys, patent judges government officials and scientists from over 80 countries. In April, CEIPI together with the *epi* and the EPO organized a seminar on the EPC revision. In September, a symposium on the enforcement of industrial property rights was organized with support of the EU Commission, the member states, the *epi* and the Max Planck Institute. This was attended by 150 patent judges and IP experts.

The 16th RIPP Coordination Meeting, held in Bucharest on 21 November, marked the end of the EU-funded Regional Industrial Property Programme (RIPP) for central and eastern European countries which started in 1993.

The EPO took part in several training courses and seminars organised in various regions of the world on IPR, automation issues and modernising national patent systems and biotechnology.

The ECAP II project, run by the EPO in South-East Asia on behalf of the EU, was launched in June 2001. Training projects were also organised in Malaysia. The IPR component of the EU-China programme was conducted further by means of training seminars and symposia in Europe and in China. The programme has now been extended to the end of 2003.

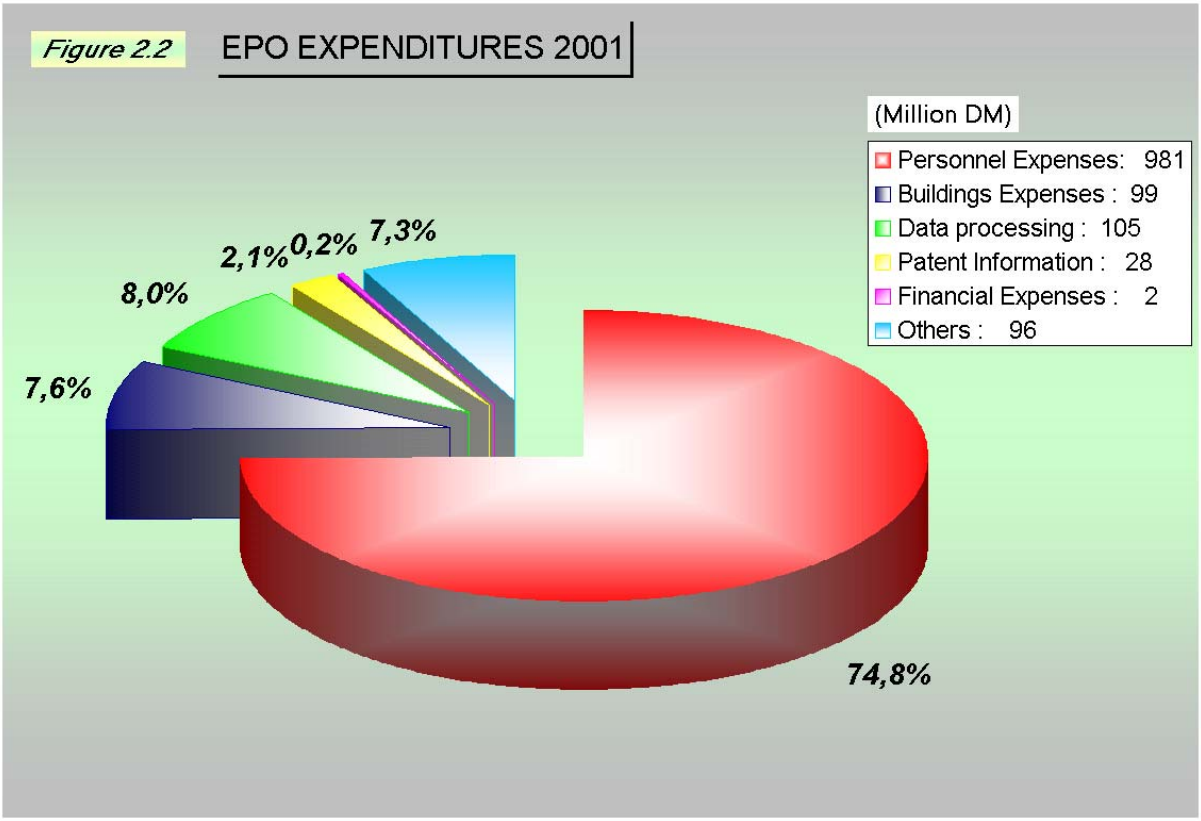
EPO 's budget

The EPO is financially autonomous. Expenditure is met entirely out of income, mainly consisting of fees paid by applicants and patentees. Procedural fees such as the filing, search, examination, appeal fees and renewal fees for European patent applications are paid to the

EPO directly. These fees are recorded as income for the accounting year, irrespective of the fact that they may partly relate to work to be performed only in the subsequent year. On the other hand, the renewal fees for European patents are collected by the designated contracting states and determined by national law. From these renewal fees, 50% is kept by the National Offices and 50% is transferred to the EPO.

Total expenditure 2001 (excluding investments) was DEM 1 311 million. This breaks down into DEM 981 million (74.8%) for Personnel expenses, DEM 99 million (7.6%) for Buildings and equipment (including depreciation), DEM 105 million (8.0%) for Data processing (including depreciation), DEM 28 million (2.1%) for Patent information including co-operation with the contracting states, DEM 2 million (0.2%) for Financial expenses, and DEM 96 million (7.3%) for Others.

Total income to the EPO in 2001 amounted to DEM 1 619 million, of which DEM 308 million constituted the operating surplus.



EPO Staff Composition

The EPO was obliged to tackle the increase in capacity bottlenecks by continuing its vigorous recruitment drive. In 2001, more than 400 patent examiners joined the EPO. By the end of the year, the staff reached a total of 5 069, including 2 917 examiners in search, examination and opposition and 114 members of Boards of Appeal.

Further information can be found from the EPO 's Homepage: *http://www.european-patent-office.org.*

JAPAN PATENT OFFICE

The Japan Patent Office (JPO) contributes to the industrial development of Japan through planning, examinations and appeals in the field of industrial property rights, namely patents, utility models, designs and trademarks.

Although the first year of the 21st century brought with it a difficult economic and geo-political situation, the number of applications filed in Japan recorded a steady increase. For the purpose of recovering the vitality of the Japanese economy as well as industry, the JPO will continue working toward an intellectual property system even more deeply rooted in society.

Legal Amendments

Accompanying rapid developments in the field of information technology (IT), along with carrying out adjustments to the legal system in response to the needs of network society, it is necessary to rethink the scope of intellectual property rights. International system harmonization, reduction of costs to the applicant and examination effectiveness are also needed. To achieve these goals, the patent and trademark law amendment bills consisting of the below items were submitted to the 154th ordinary session of the Diet,. These became law on April 11, 2002 and were proclaimed on April 17. Main elements of the amendments are scheduled for implementation in fall, 2002.

- Promotion of Electronic Commerce and Strengthening of Patent Protection of Information Assets contained on Software
The fact that computer programs as such are protected under the Patent Law was clarified. Electronic commerce was promoted through clarification of the fact that network transmission of patented programs without the permission of the right holder constitutes infringement.

- Expansion of Indirect Patent Infringement
The scope of indirect Patent infringement was expanded to include the act of providing important parts while knowing that they are patented and will be used for the purpose of infringement.

- Strengthening of Protection of Trademarks used in E-commerce
The fact that trademark right protection is granted not only to tangible goods but also to trademarks displayed on such media as computer screens for the purpose of E-commerce was clarified.

- Promotion of Speedy and Accurate Examination as well as Reduction of Costs to Applicants
  - Separation of the claims request from the specification
  - Extension of the period to submit domestic documents of PCT applications
  - Introduction of a disclosure system on prior art document information
  - Introduction of an individual fee payment system for international trademark registration applications

Moreover, based on the June, 2001 Recommendations of the Justice System Reform Council and the December, 2001 resolution of the Intellectual Property Committee of the Industrial Structure Council, a bill to partially amend the Patent Attorney (benrishi) Law was submitted to the 154th ordinary session of the Diet, became law on April 11, 2002 and was proclaimed six days later. This bill was to the effect that the right to act as legal representative in intellectual property right infringement lawsuits (limited to cases in which a lawyer serves as representative in the litigation) would be granted to patent attorneys (benrishi) after carrying out skill-obtaining measures consisting of training and testing.

Responses to Revolutions in Technology

The JPO has been taking a wide variety of measures to properly respond to the revolutionary technology of recent times. As information technology develops and becomes widely available, business method patents have generated increased interest. The JPO revised and promulgated its Examination Guidelines in December 2000 in order to clarify its practices on business method patents. In response to the rapidly increasing number of applications in this field, the JPO also has established systems of administration, which can respond to changes in technology. Electronic Commerce Technology Division, for example, which focuses on examination of business method patent applications, was set up in April 2001.

International Harmonization

Aside from Trilateral meetings and Informal Meetings of the Heads of Patent Offices in Developed nations, in 2001 the JPO invited the representatives of intellectual property Offices of ASEAN countries, the People's Republic of China and the Republic of Korea to participate in The 1st Meeting of the Intellectual Property Offices of the ASEAN+3 Countries held in Tokyo. Reflecting the increasing importance of the role played by the intellectual property in the promotion of the technological revolution and the development of economies of countries nations in the Asian region, the Meeting was held with the objective of spreading recognition of related global issues and confirming the tendency toward regional cooperation.

Also relevant to international harmonization is the June 28, 2001 JPO-State Intellectual Property Office of the Republic of Croatia (CROffice) signing of the "Joint Memorandum concerning the Use of Examination Results". As a result of this Memorandum, the JPO has become an elected office stipulated in the modified substantive examination (MSE) system of Croatia. Concretely speaking, by submitting a Patent Gazette for a granted patent in Japan along with its translation to the CROffice, an applicant who has filed a corresponding patent application with CROffice can obtain a Croatian patent in a speedy fashion.

Electronic Applications

As a pioneer in the concept of "E-Government", the JPO has accumulated 11 years of experience regarding online application filing. In addition to patents and utility models, online receipt of procedures related to designs, trademarks, the domestic phase of international applications and appeals was inaugurated in January 2000. Evidence of the firm establishment of online applications lies in the fact that 97% of patent applications were filed online in 2001. In accordance with the e-Japan focus plan, which aims to enable by 2003 digital receipt of all procedures undertaken to the Japanese Government, the JPO is proceeding with preparations to enable online receipt of all procedures that it handles.

Patent Information

In 1999, the JPO established the free of charge Industrial Property Digital Library (IPDL), which includes an industrial property information search service. In addition to information related to patent, utility model, design and trademark gazettes, applications, registrations and appeals, as well as guides to laws and regulations, search services for beginners are also offered. In terms of English-language search services, PAJ is offered, as is an unexamined patent gazette translation service. The utility of information provided has been increased through not only the availability of English-language since March 2001, but also through the expansion of the scope of PAJ information offered to include patent abstracts since 1976. Accompanying the expansion of services offered, the number of users has increased. As of July 2001 roughly 2 million searches a month were being carried out.

International Cooperation

In order to support developing nations obligated to implement the WTO/TRIPS Agreement, between 1996 and March 2001 the JPO received 1 207 trainees from both the public and private sectors of 40 nations and 1 region. In the future, along with providing intellectual property right system adjustment support to recently developing countries facing a 2006 deadline to implement the WTO/TRIPS Agreement, with the goal of efficient working of laws, the JPO is proceeding with human resource development activities focusing on exercise of rights.

Also, an international cooperation dispatch scheme has been activated under the WIPO Funds in Trust/Japan to send to developing countries personnel such as JPO staff as experts and seminar organizers. The work of dispatched personnel centres on examination and PCT affairs as well as digitization. Moreover, in 2001 IPR seminars for enforcement related personnel were held in Singapore and Korea.

In response to the increase in counterfeit-related damages suffered by Japanese companies, the JPO implements comprehensive anti-counterfeit measures mainly toward neighboring countries. To support Japanese companies exercising their rights when counterfeit-related damages are incurred, the JPO has prepared damages status reports and policy manuals. Japan intends to further concretize encouragement of anti-counterfeit crackdowns by central governments of counterfeit producing nations through focusing efforts on collection of concrete information.

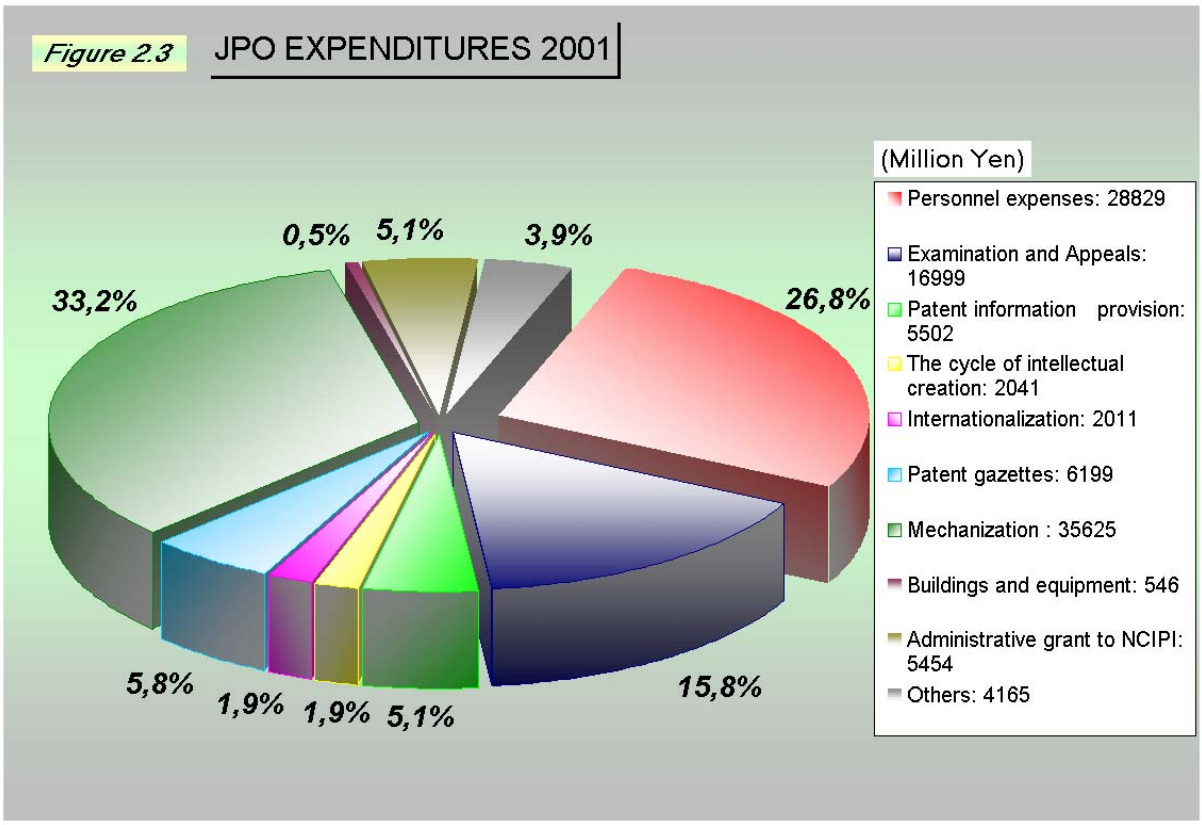
Table 2.2: PRODUCTION INFORMATION JPO

PRODUCTION FIGURES	2000	2001
Applications filed		
Domestic	387 364	386 767
Foreign	49 501	52 408
Total	436 865	439 175
Grants		
Domestic	112 269	109 375
Foreign	13 611	12 367
Total	125 880	121 742
Applications in appeal	16 948	19 962

JPO ‘s Budget

The FY 2001 Japan Patent Office budget was 107.371 billion yen. The breakdown of expenses is as follows:
Expenses necessary for speedy and accurate examination: 16.999 billion yen Expenses necessary for provision of user-friendly patent information: 5.502 billion yen
Expenses necessary for adjustments toward the cycle of intellectual creation: 2.041 billion yen
Expenses necessary for internationalization of industrial property rights: 2.011 billion yen
Expenses necessary for publication of patent gazettes: 6.199 billion yen
Expenses necessary for mechanization of patent affairs: 35.625 billion yen
Expenses necessary for adjustments to the JPO facility: 546 million yen

Administrative grant to the National Center for Industrial Property Information (an independent administrative authority): 5.454 billion yen
Personnel expenses: 28.829 billion yen



JPO Staff Composition

JPO has increased the number of examiners and appeal examiners for the purpose of reducing the examination and appeals period. At the end of FY 2001 JPO staff totaled 2 469. There were 1 096 examiners handling patents and utility models, 51 examiners handling designs and 146 examiners dealing with trademarks for a total of 1 293 examiners carrying out substantive examination. In the Appeals Department 393 examiners are devoted to appeals and appeal/trial examinations.

The JPO also employs a total of 783 general clerical staff.

More information

A wide variety of the latest information regarding the JPO is available on our Homepage. Please go to the URL below to access the information you need.

JPO Homepage: *http://www.jpo.go.jp*

UNITED STATES PATENT AND TRADEMARK OFFICE

The mission of the United States Patent and Trademark Office (USPTO) is to promote industrial and technological progress in the United States and strengthen the national economy by administering the laws relating to patent and trademarks while ensuring the creation of valid, prompt, and proper intellectual property rights; and to advise the Administration on all domestic and global aspects of intellectual property.

The USPTO accomplishes its mission through the examination of patent and trademark applications, issuance of patents and registration of trademarks, dissemination of patent and trademark information to the public, and encouraging a domestic and international climate in which intellectual property can flourish. The goals of the agency are to: 1) enhance the quality of USPTO products and services, and 2) minimize patent and trademark applicant processing time.

Over the past decade, the USPTO has faced unprecedented challenges, including soaring workloads, increasingly complex technology, growing demands from our customers, resource limitations, our establishment as a performance based organization and new legislative mandates. In response, the USPTO has refocused its management practices and is committed to performance goals that are customer-oriented, results-driven and dedicated to making a difference in areas that matter to the public. Recognizing the importance of customer satisfaction and enhanced service delivery, the USPTO has placed a greater focus on the provision of high quality products and services, partnerships, use of information technology and customer service.

The aforementioned USPTO performance goals build upon the agency's strategic and annual performance plans produced as a result of GPRA (the Government Performance and Results Act of 1993) as well as ongoing quality improvement efforts. The USPTO is a strong advocate of this process and has incorporated these goals in its corporate and annual performance plans, which can be viewed on the Internet at http://www.uspto.gov/. USPTO's contribution and support of the Department of Commerce's (DOC) mission can be viewed in the DOC strategic plan at the Internet address http://www.doc.gov/.

In addition to processing the growing annual application volumes (11 percent in 2001, 12 percent the preceding year), significant accomplishments in the Patent Area this year include the publication of patent applications 18 months after filing, unless the applicant requests otherwise upon filing and certifies that the invention has not and will not be the subject of an application filed in a foreign country, pursuant to the American Inventor's Protection Act (AIPA) of 1999.

The agency has been recognized for its work in implementing e-government initiatives, especially with regard to trademark applications. The USPTO has applied technology that has facilitated examiners' searches of prior art relevant to patentability and of potentially conflicting marks relevant to the registrability of trademarks, and allowed for the filing of both patent and trademark applications over the Internet, thereby enhancing the efficiency of interactions between the public and the USPTO.

The USPTO receives patent applications from all over the world. International applicants file roughly 45 percent of patent applications, with 55 percent filed by United States applicants. All three of the trilateral partners have experienced the rapid increase in demand for intellectual property. The USPTO has been working with the JPO and the EPO to address the increasing amount of work in each of the offices and seeking opportunities for work sharing and efficiency. Progress on issues such as harmonizing classification systems and electronic filing systems could garner substantial efficiencies for all three offices and their customers.

Table 2.3: PRODUCTION INFORMATION USPTO

PRODUCTION FIGURES	2000		2001	
Applications filed[1]	**295 926**		**326 508**	
First Actions	**238 438**		**249 649**	
Grants				
U.S. Residents	85 072	*54.0%*	87 607	*52.8%*
Foreign	72 425	*46.0%*	78 432	*47.2%*
Japan	31 296	*19.9%*	33 223	*20.0%*
EPC states	26 324	*16.7%*	28 459	*17.1%*
Others	14 805	*9.4%*	16 750	*10.1%*
Total	157 497	*100.0%*	166 039	*100.0%*
PCT Chapter II	15 443		18 179	
Applications in appeal and interference proceedings				
	Appeals	Interference	Appeals	Interference
Contested	2 860	137	3 762	126
Disposed	5 134	189	4 978	180
Patent cases in litigation				
Cases filed	60		49	
Cases disposed	49		62	
Pending cases (end of calendar year)	49		40	

1: For utility patents only.

USPTO 's budget

The USPTO funding is derived from user fees collected from its customers. During 2001 USPTO expenditures was comprised of patent expenditures of $ 957 million dollars and the trademark expenditures of $122 million dollars. Expenditures for salaries and benefits constituted the largest cost at 53% of overall expenditures. A breakdown by major spending categories is shown in the Figure 2.4 .

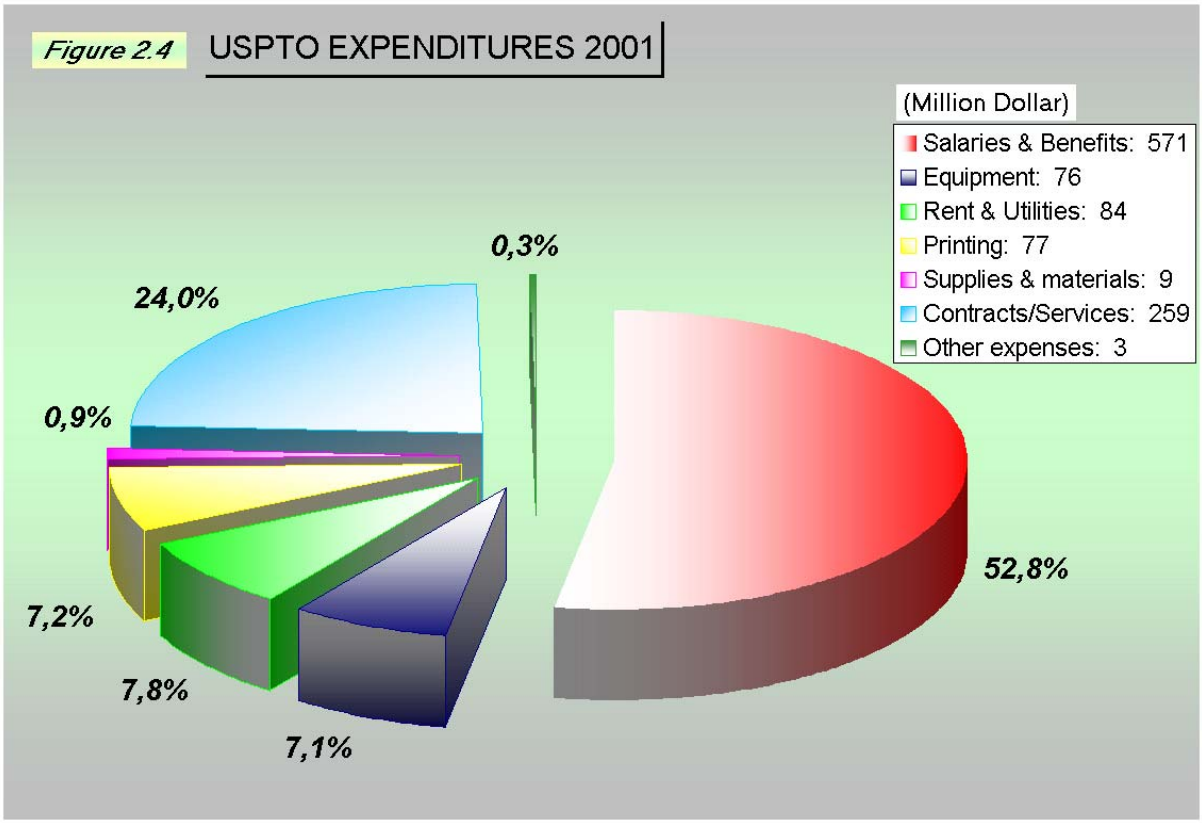
USPTO Staff Composition

At the end of the Calendar Year (December 31, 2001), the total staff at the USPTO was 6 559. The Patent staff total was 4 361. This total was comprised of 3 165 Utility, Plant and Reissue (UPR) examiners, 59 Design examiners, 918 managerial, administrative and technical support staff, 24 members of the Patent Quality Review staff, and 114 members of the Board of Patent Appeals and Interferences[1].

1 Interference is generally defined as when two or more patent applications conflict because of claims of the same invention.

Further information

Additional statistical information on the USPTO can be found at our homepage http://www.uspto.gov by selecting "statistics". The statistics link will take you to our Annual Reports and Calendar Year Patent Statistics where you can access our online brochure of product and services or related patent statistical reports.



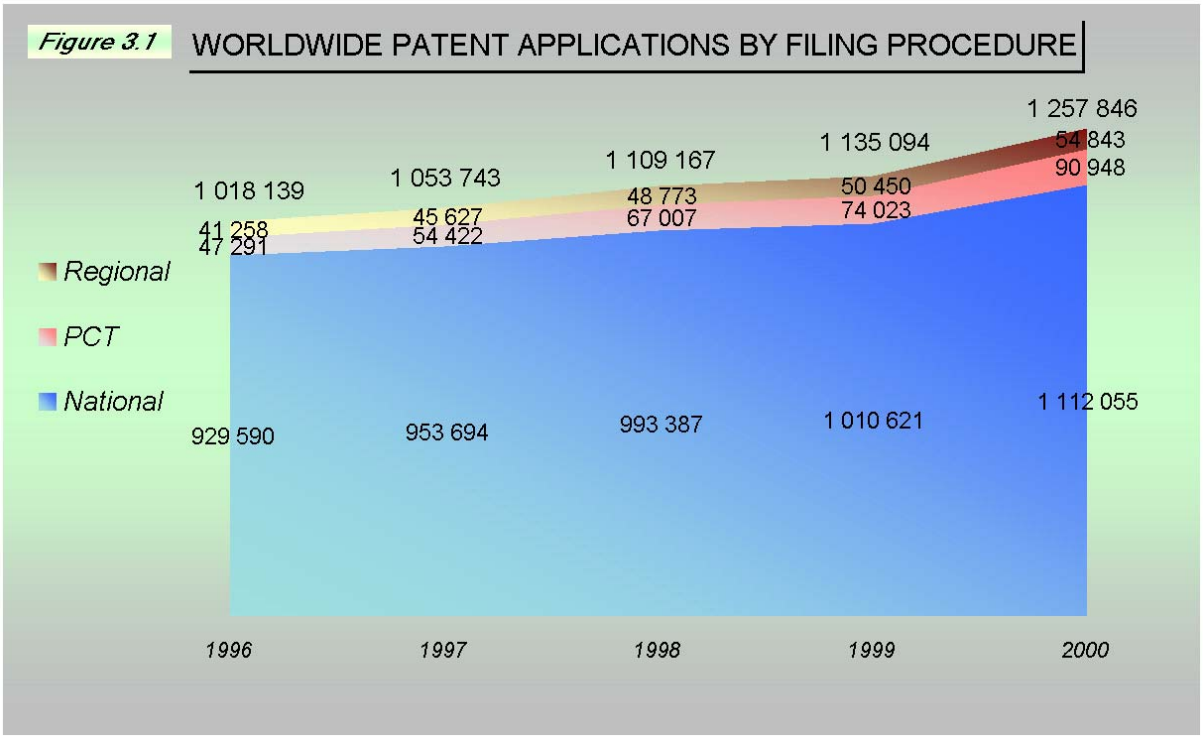
Chapter 3
WORLD WIDE PATENTING ACTIVITIES

In addition to the statistics from the Trilateral Offices, statistics from other Offices are necessary in order to present a picture of worldwide activities in terms of patent applications and grants. The statistics in this chapter mostly cover a five-year period from 1996 to 2000. Data for the year 2000 are the most recent data available on patent filings.

This chapter considers **applications** counted by the calendar year of filing, and grants by the calendar year of granting. For supranational applications, it is possible to make a single application that designates a number of member states, and the subsequent grants become a bundle of national patents in the various designated countries. In this chapter graphs and statistics are presented with each such application counted once, but where relevant parallel graphs and statistics are also presented for **patent rights**.

PATENT APPLICATIONS FILED

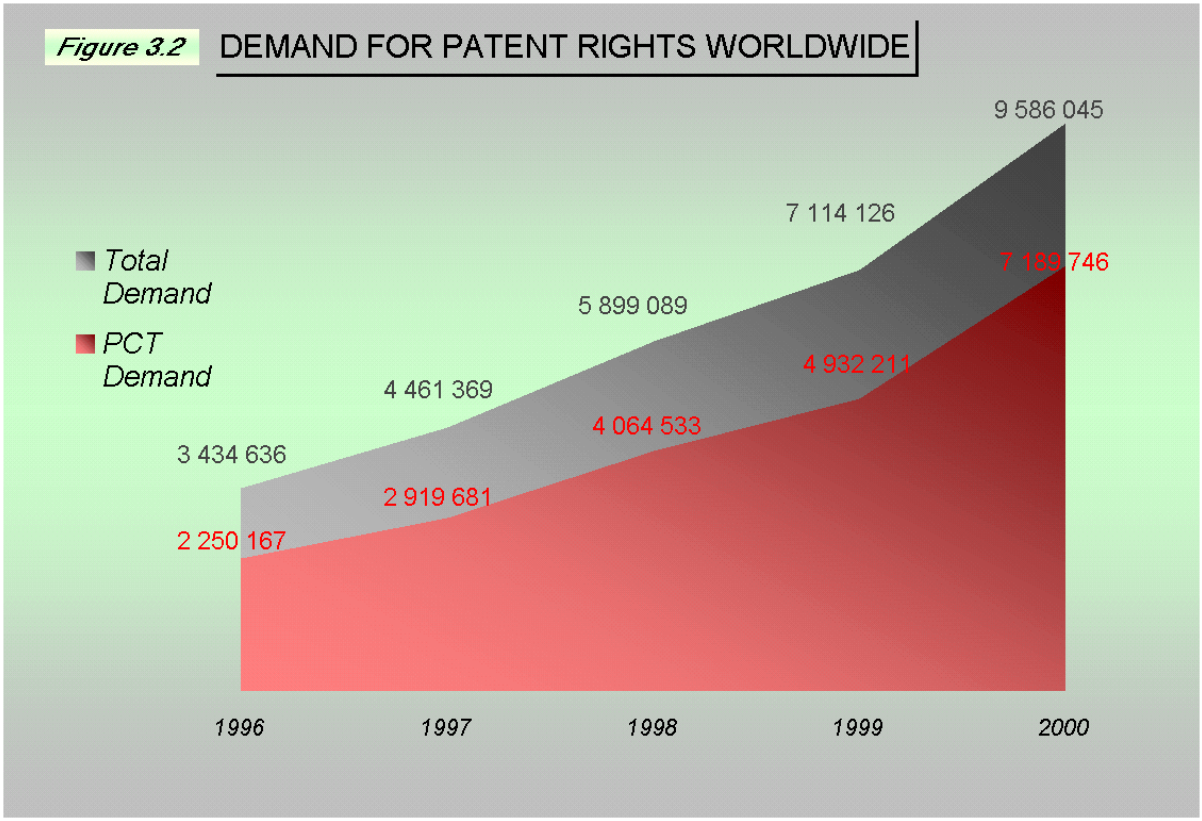
These data show the numbers of applications filed for patent rights all over the world. The development is shown in the Figure 3.1 below:



The total number of applications rose from 1 018 139 in 1996 to 1 257 846 in 2000, an increase of 24% that corresponds to a compound annual average increase of about 5.4%. The total number of applications in 2000 was 10.8% higher than the total in 1999.

Though most of the applications were filed according to national procedures (88% in 2000), an increasing proportion was made via the PCT.

Figure 3.2 below shows the development of the worldwide demand for patent rights including cumulated supranational designations.



The demand for patent rights rose at a higher pace in 2000 (35%) than in the previous two years (32% in 1998 and 20% in 1999). From 1996 to 2000, the overall demand for patent rights rose from 3 434 636 to 9 586 045, which is an increase of 179% corresponding to a compound annual average increase of about 29%. This rate is much higher than that reported for applications above, because of a trend towards designating more countries in applications.

Although most of the applications were filed according to national procedures, in fact a large part of the demand arises from multiple designations under the PCT system. On average in 2000, 7.6 designations were made for each application. In 1996 the comparable figure was only 3.4 designations for each application.

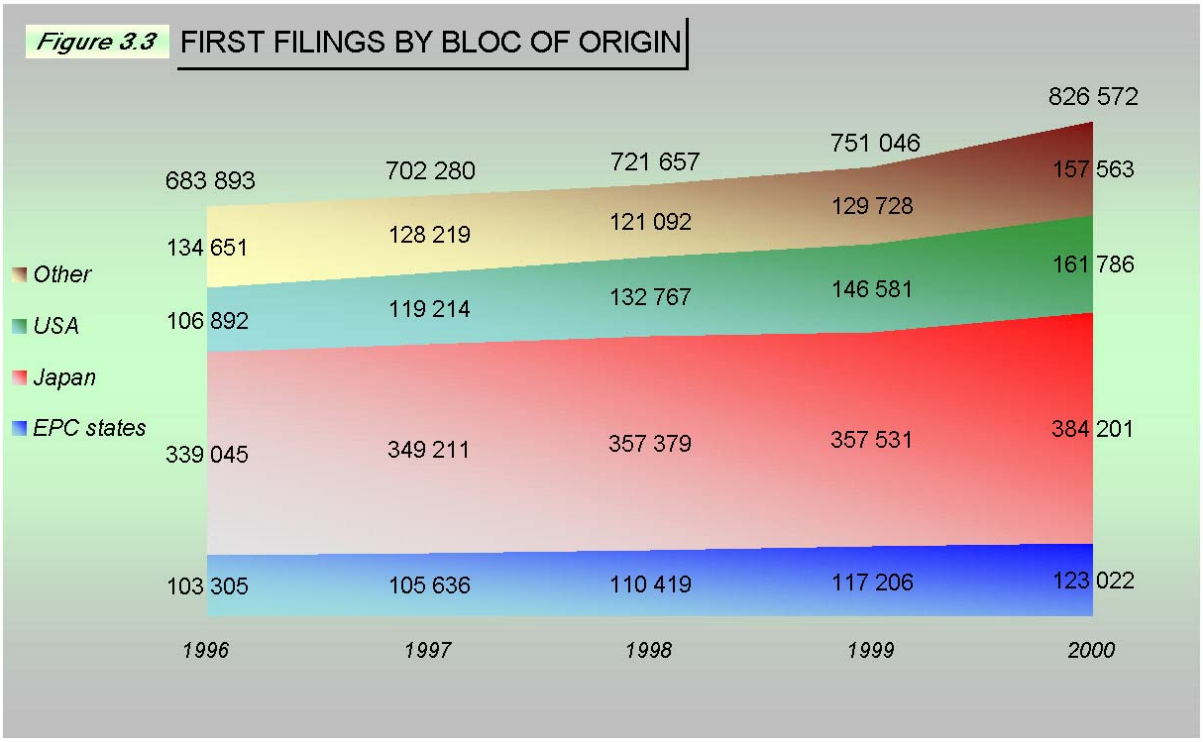
PATENT ACTIVITY BY BLOCS

FIRST FILINGS

The process of patent protection starts with first filing, an initial patent application made to protect an invention or an innovation prior to any subsequent filing to extend the protection to other countries. The development of first filings in the major filing blocs is shown in Figure 3.3.

The global total of first filings shows a steadily increasing trend since 1996, growing 10.1% from 1999 to 2000. The highest number of first filings occurs in Japan. In 2000 compared to 1999, first filings in Japan increased by 7.5%, by 10.4% in the USA, and by 5% in the EPC

contracting states. For “Others”, the number of first filings increased by 21.5% in 2000.



The number of first filings in 1999 was 751 046. From these first filings, one year later (2000) 431 274 subsequent filings were registered. Thus on average one invention, from which a first patent filing was made, led to 0.57 subsequent applications. The same exercise carried out by considering the demand for patent rights generated from first filings shows that one first filing led to 11.7 subsequent applications for patent rights. Three years ago, the rate was at a lower level of 5.5. This shows the ongoing internationalisation of the patent system.

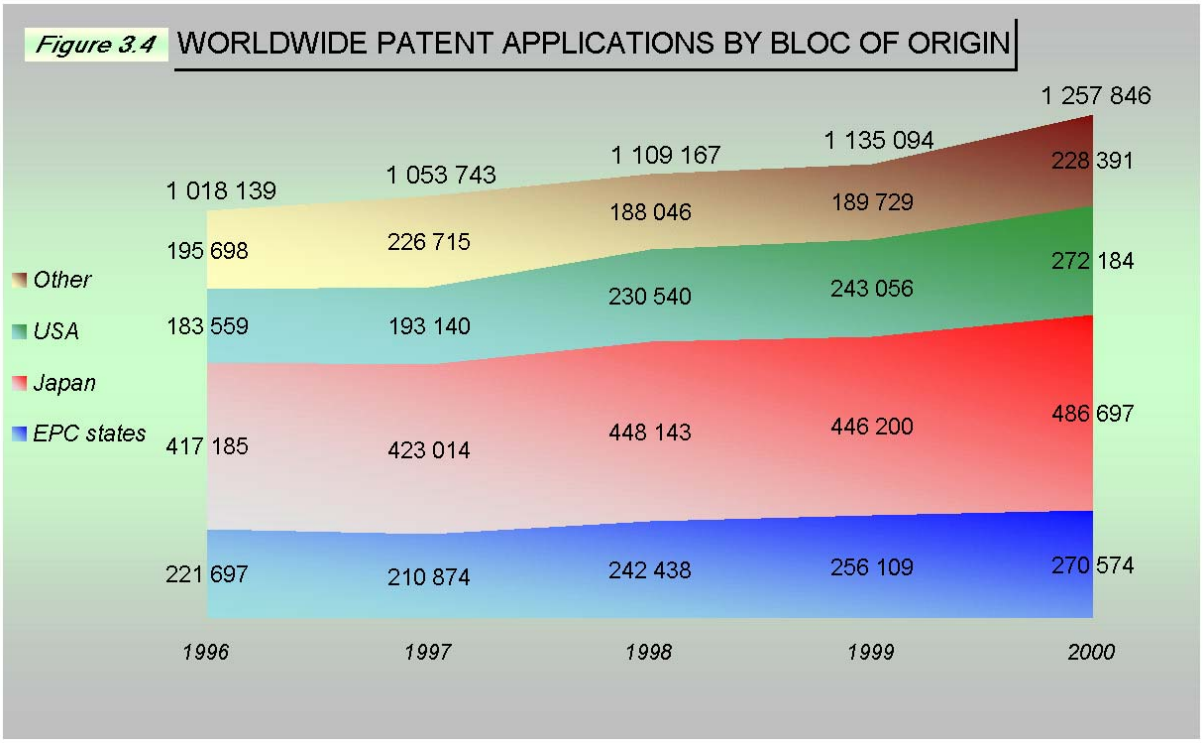
ORIGIN OF THE APPLICATIONS

Figure 3.4 shows the worldwide numbers of applications, categorised by the blocs of origin of the applicants.

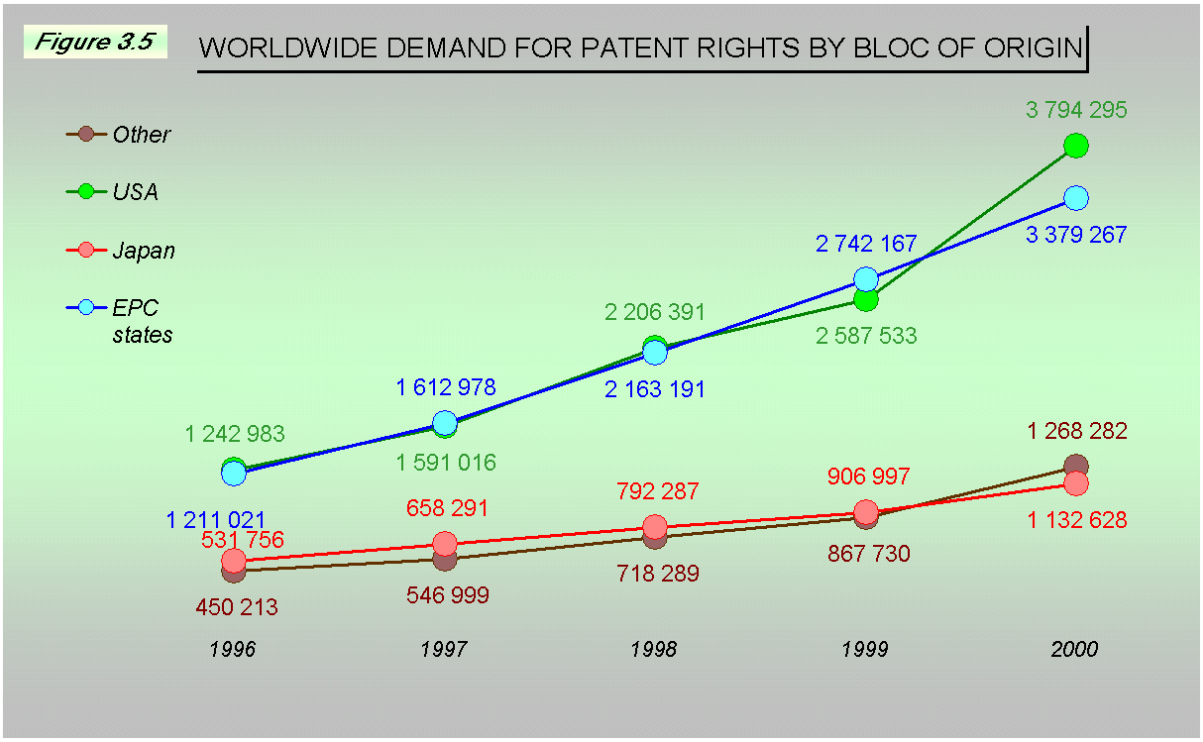
The numbers continue to increase in all blocs. The number of applications made by residents of the United States increased by 12% in 2000. The Japanese applicants made 9.1% more applications and residents of the EPC contracting states increased by 5.6% their number of applications world wide.

Based on the data available, the number of applications originating from the rest of the world increased by more than 20% in 2000. It should be born in mind that these data are subject to reporting deficiencies and the number of reporting offices may differ from year to year, limiting the comparability of the data over time.

Figure 3.5 shows the origin of the demand for patent rights including cumulated designations. The curves show that demand has been increasing from residents of all blocs over the period.

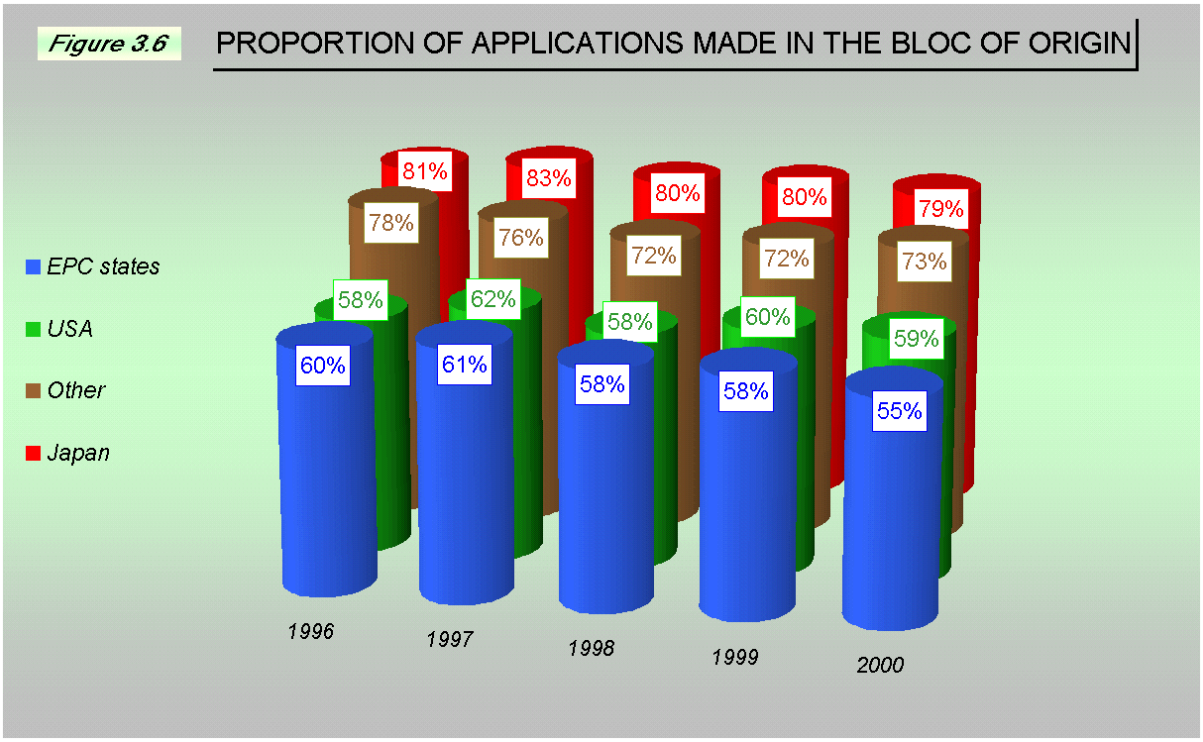


There has been a similar strong development of the demand for patent rights from residents of the EPC contracting states and USA. Residents of Japan and “Others” have also followed a similar development of increasing demand, but at a somewhat lower level.



TARGETS OF THE APPLICATIONS

Although the first filing is generally made in the country of residence and subsequent applications are made to protect the innovation abroad, a substantial part of the applications remain in the bloc of origin. Figure 3.6 shows, for applications made throughout the world by the residents of each bloc, the proportions of those applications that were made in the bloc of origin[ii].

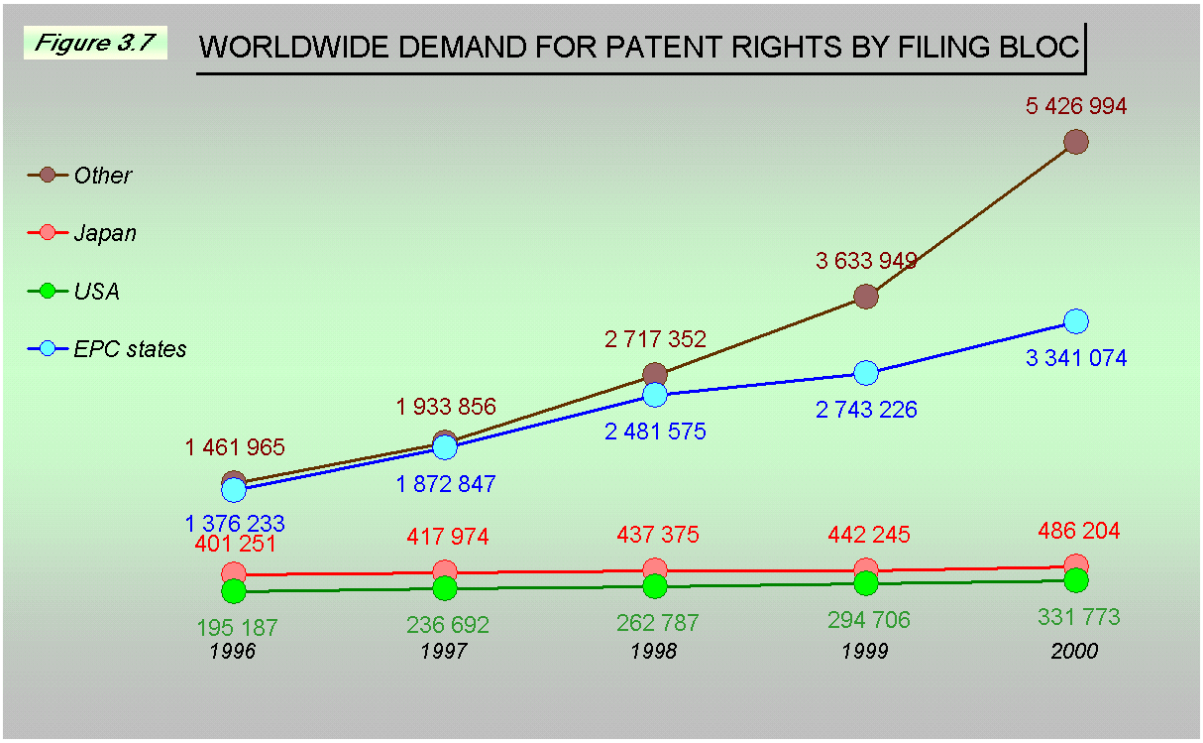


The proportion of applications made in the bloc of origin is highest in Japan, followed in order by “Others”, USA and EPC contracting states. A declining trend can be seen for EPC contacting states and “Others”. Japan and USA are stable, but there is quite a lot of variability from year to year in USA.

Figure 3.7 shows information on demand for patent rights including cumulated designations categorised by the target blocs in which patent rights are sought.

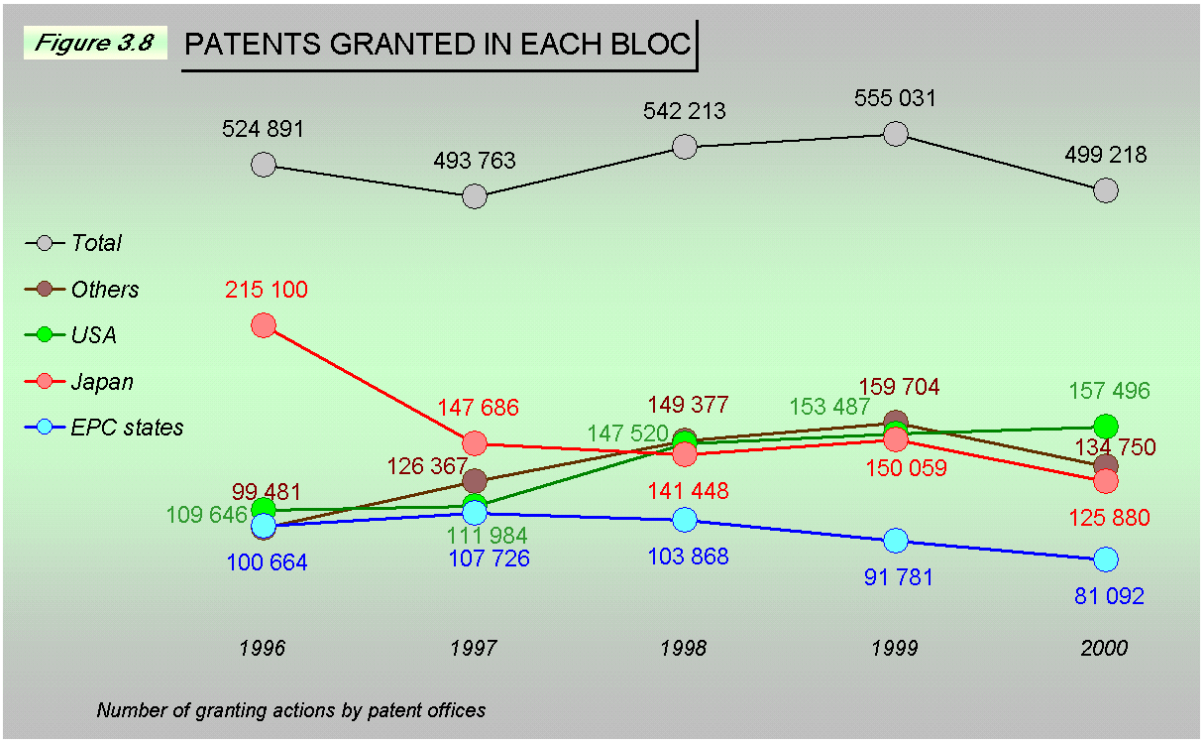
Demand in "Others" is the highest followed by the EPC contracting states (being the sum of the demand for national patent rights in all Contracting States), followed by Japan and the USA. The demand increased in all blocs over the period 1996-2000. Within the trilateral blocs the relative change was the highest in the EPC contracting states (143% increase 1996-2000), followed by the USA (70%), and Japan (21%). The development in bloc "Others" (+271%) is due to several factors. Countries setting up new protection right systems, new memberships to the PCT, and statistics becoming available for more countries are the main reasons to explain the large increase for some countries. In some other countries the demand simply increased based on unchanged systems.

[ii] PCT applications are considered to be outside the bloc of origin.



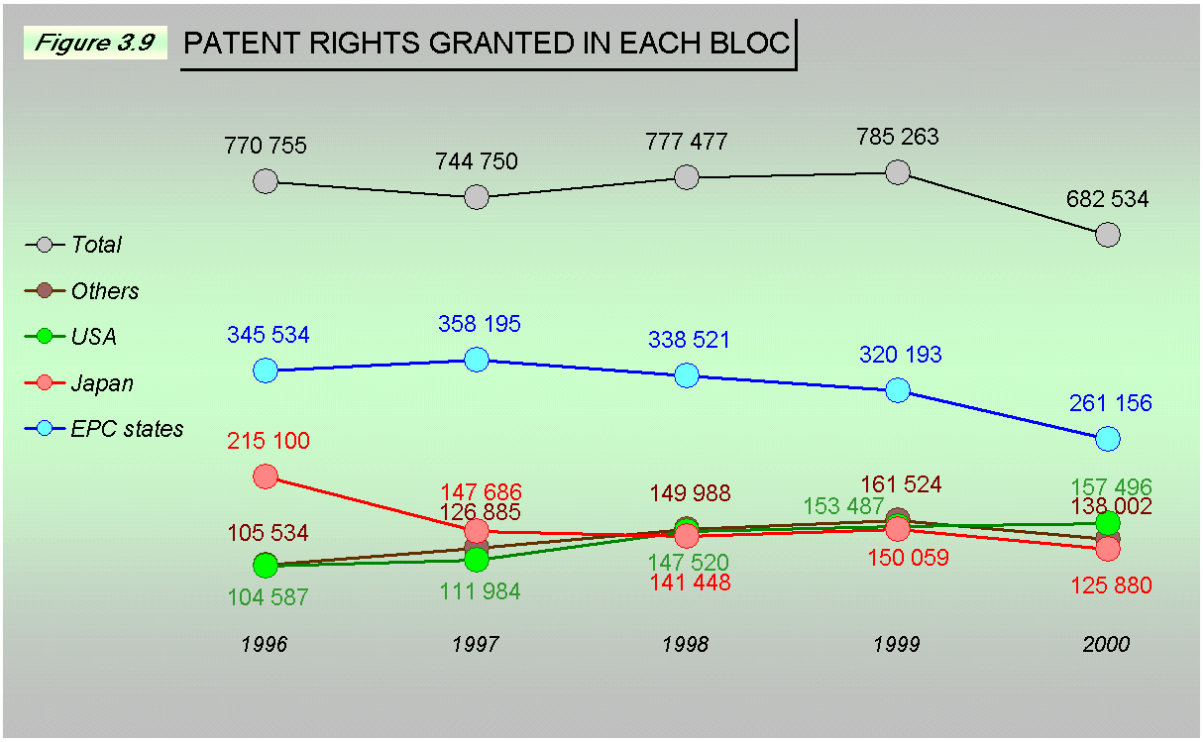
GRANTS

The development of the use of patent systems is shown in Figure 3.8 in terms of the cumulative numbers of patents granted by the various offices in each bloc.



The development of the world wide number of patents granted oscillated over the period 1996 to 2000. Following increases of 9.8% in 1998 and 2.4% in 1999, there was a decline of 8.6% in 2000. Exceptionally, the number of granted patents in the USA has increased continually over the period. In Japan there was an unusually high number of grants in 1996, followed by a relatively stable phase. In EPC contracting states, the numbers of grants have been declining since 1997.

Regional granting procedures lead to multiple patent rights in the various designated states within the region concerned. Figure 3.9 shows the development of grants as reflected in these rights, and differs from Figure 3.8 only for blocs where regional procedures exist in addition to national ones.



The total numbers of resulting patent rights granted only increased by 1.9% between 1996 and 1999 to reach 785 263 granted rights, and declined by 13% to 682 534 in 2000. In the EPC contracting states the number steadily decreased since 1997, by about 6.8% each year.

INTERBLOC ACTIVITY

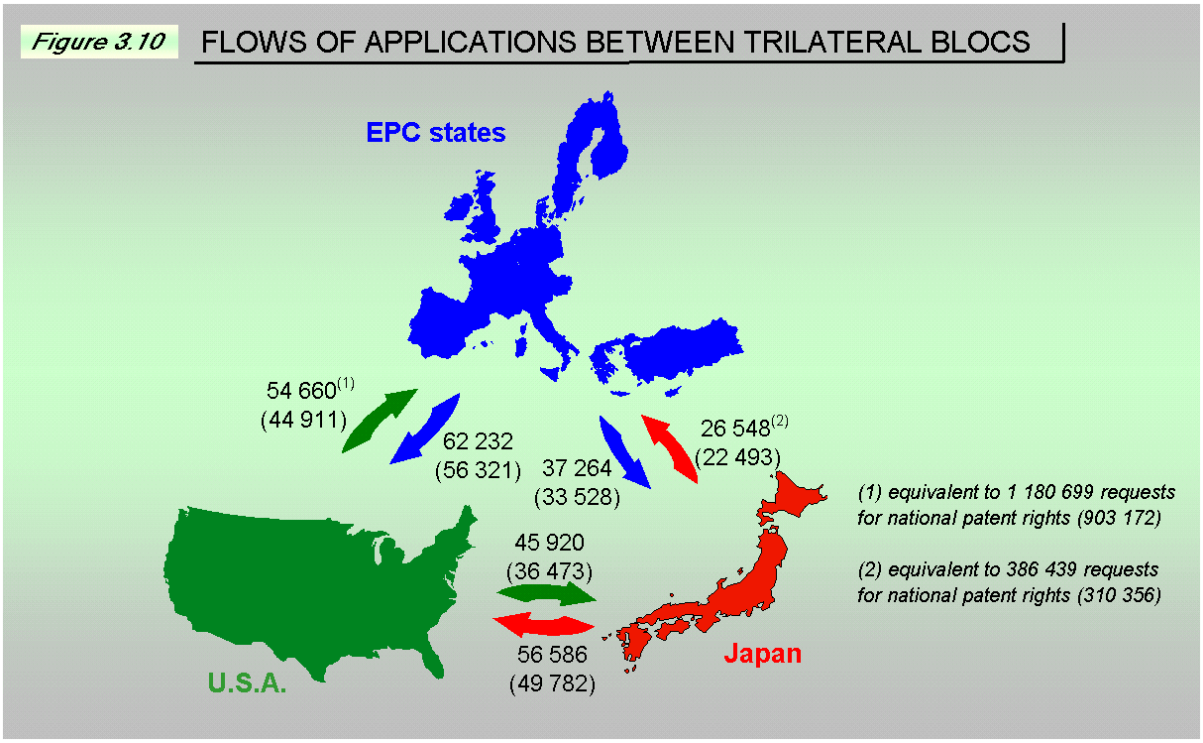
FLOWS OF APPLICATIONS

Important flows of patent applications and requests for patent rights exist among the three major filing blocs. Figure 3.10 shows details of the specific flows of applications between the trilateral blocs in 2000. The 1999 figures are given in brackets.

Japanese applicants file more applications in the USA than in the EPC area. US applicants tend to apply more in the EPC area than in Japan. Residents of EPC contracting states seek much more protection in the USA than they do in Japan.

Japanese applicants file more applications in the USA than the US applicants do in Japan. While applications from USA to Japan increased by 26%, applications from Japan to USA increased by 14%, reducing the gap in filings between the two countries.

The gap in the balance of applications between the EPC contracting states and the USA was somewhat reduced in 2000 compared to 1999. Applications from the USA to the EPC contracting states increased by 22%, and applications from the EPC contracting states to the USA increased by 11%. The strongest flow among the three blocs remains that of filings from the EPC area to the USA.



Applicants from EPC contracting states make more applications in Japan than Japanese applicants do in the EPC contracting states, and the gap in the balance of applications between Japan and the EPC contracting states was reduced in 2000. While applications from Japan to the EPC contracting states increased by 18%, applications from the EPC contracting states to Japan increased by 11%.

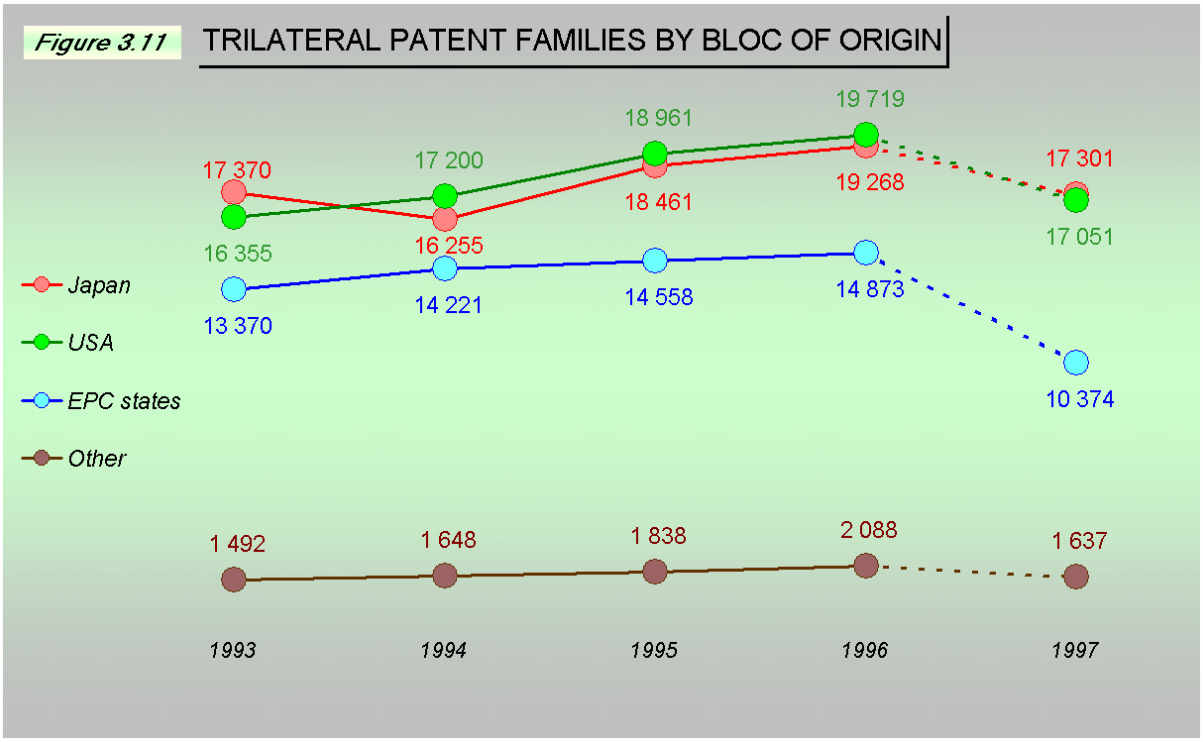
Notes (1) and (2) in the graph allow a comparison of the flows of applications to EPC contracting states with the equivalent flows expressed in terms of rights including cumulative designations. US applicants filed 54 660 applications in the EPC contracting states, equivalent to 1 180 699 national patent applications (21.6 per application; 20.1 in 1999 [iii]). Japanese applicants filed 26 548 applications in the EPC contracting states, equivalent to 386 439 national patent applications (14.6 per application; 13.8 in 1999). One of the reasons for the high number of designations per application in applications at the EPO is that an applicant for a European patent may delay his final choice of the contracting states to be designated until the time that he requests the substantive examination, at which point designation fees must be paid.

[iii] The figure of 21.6, being the average number of designations per application for USA applicants filing in the EPC contracting states in 2000, is actually greater than the number of EPC contracting states (20). This is due to the possibility of making parallel applications for the same invention using a combination of National, European and PCT routes.

PATENT FAMILIES

The information in this section was obtained from the DOCDB database of worldwide patent publications. The statistics are based on references to priorities given in published applications and differ slightly from the statistics earlier in this chapter, which are based on counts of patent applications provided by individual patent offices.

The development over time of trilateral patent families is shown in Figure 3.11. Due to the delay in publication (from the moment of filing), in particular in the patent system of the USA where up to 2000 patents have been published only after grant, the figures are given for priority forming applications from 1993 to 1997. The data on publications for 1997 are provisional; they may be incomplete, explaining the apparent decline in numbers of patent families from 1996 to 1997.



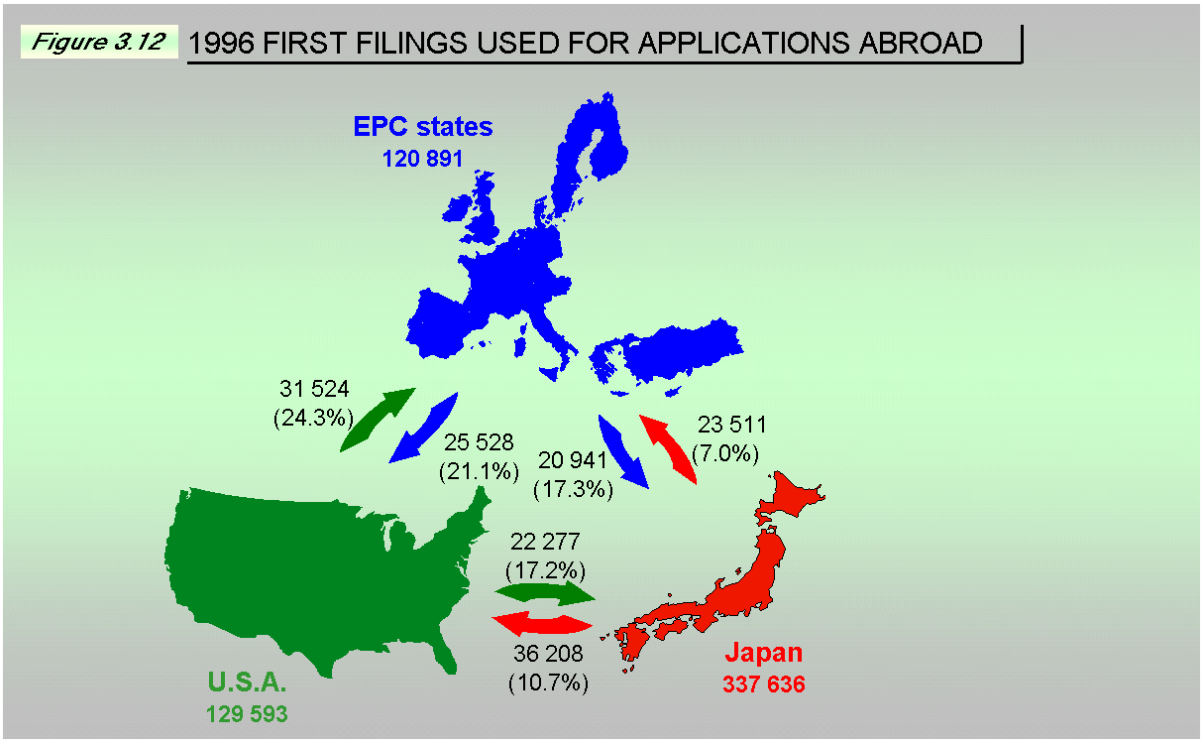
The data for Japan recorded a low point in 1994 (this low point also appears in independent data on first filings from Japan). The trilateral patent families data for all other blocs trended upwards over the period considered, particularly for families originating in the USA. The total number of trilateral patent families in 1996 was 55 948, of which 27% originated from EPC contracting states, 34% from Japan, 35% from the USA and 4% from other states. The corresponding figures for 1995 were a total of 53 818 trilateral families, with the same percentages per bloc of origin as in 1996.

The flows of patent families between trilateral blocs are shown in Figure 3.12. The number given for each bloc is the total number of distinct priorities that were referenced in 1996. This can be taken as an indicator of the number of first filings in the bloc, although it differs slightly from the corresponding number given earlier in Figure 3.3 due to the different data source. The flow figures between blocs of origin and target blocs indicate the numbers of secondary filings in the target bloc quoting priority from the bloc of origin.

Out of all first filings in the trilateral area in 1996, only 18.0% formed patent families including at least one other trilateral bloc. However, when considered by bloc of the priority applications, this proportion was much smaller for Japan than for the other blocs (26.1% for EPC contracting

states, 12.0% for Japan, 26.3% for USA). On the other hand, the situation was reversed when considered in terms of the blocs receiving the subsequent applications, with a larger proportion of world wide first filings received by Japan than by the other blocs (11.8% by EPC contracting states, 17.3% by Japan, 13.5% by USA). Out of all priority forming filings in the trilateral area, 9.2% formed trilateral patent families.

Figure 3.12 1996 FIRST FILINGS USED FOR APPLICATIONS ABROAD



From all first filings throughout the world in 1996, 16.0% formed patent families including at least one trilateral bloc, and 7.7% formed trilateral patent families. The proportions forming trilateral patent families differed considerably according to the bloc of origin of the priority forming filings. For EPC contracting states, 12.3% of priority forming filings formed trilateral families (was 13.0% in 1995); for USA 15.2% (was 13.7%); for Japan 5.7% (was 5.6%), and for other countries 1.5% (was 1.4%).

Detailed statistics on the flows of patent families between blocs can be seen in the web based annex to this report.

Chapter 4
PATENT ACTIVITY AT TRILATERAL OFFICES

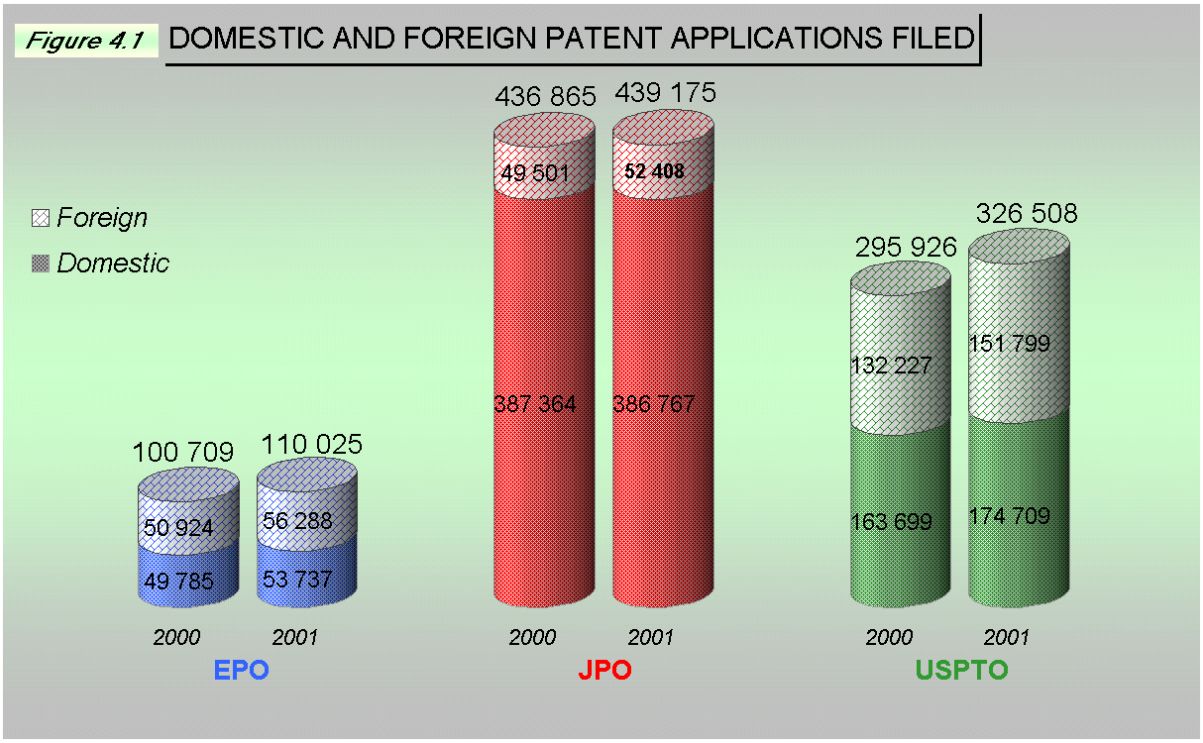
Demand at Trilateral Offices is demonstrated by statistics on patent applications. The total of direct national/regional applications filed and international applications entering the national/regional phase will hereinafter be called "patent applications filed", unless explicitly stated otherwise.

In the statistics on grants, direct, regional and international applications granted are taken into account. Since in this context the statistics are meant to give an insight to the work involved rather than the number of resulting individual patent rights, hereinafter "patents granted", will correspond to the number of grant actions.

Up-to-date information is generally available within the Trilateral Offices, therefore data can be given for 2001, as opposed to Chapter 3 where data could only be given for 2000.

APPLICATIONS WITH THE TRILATERAL OFFICES

Figure 4.1 shows that the number of applications filed with Trilateral Offices increased in 2001 compared to 2000.

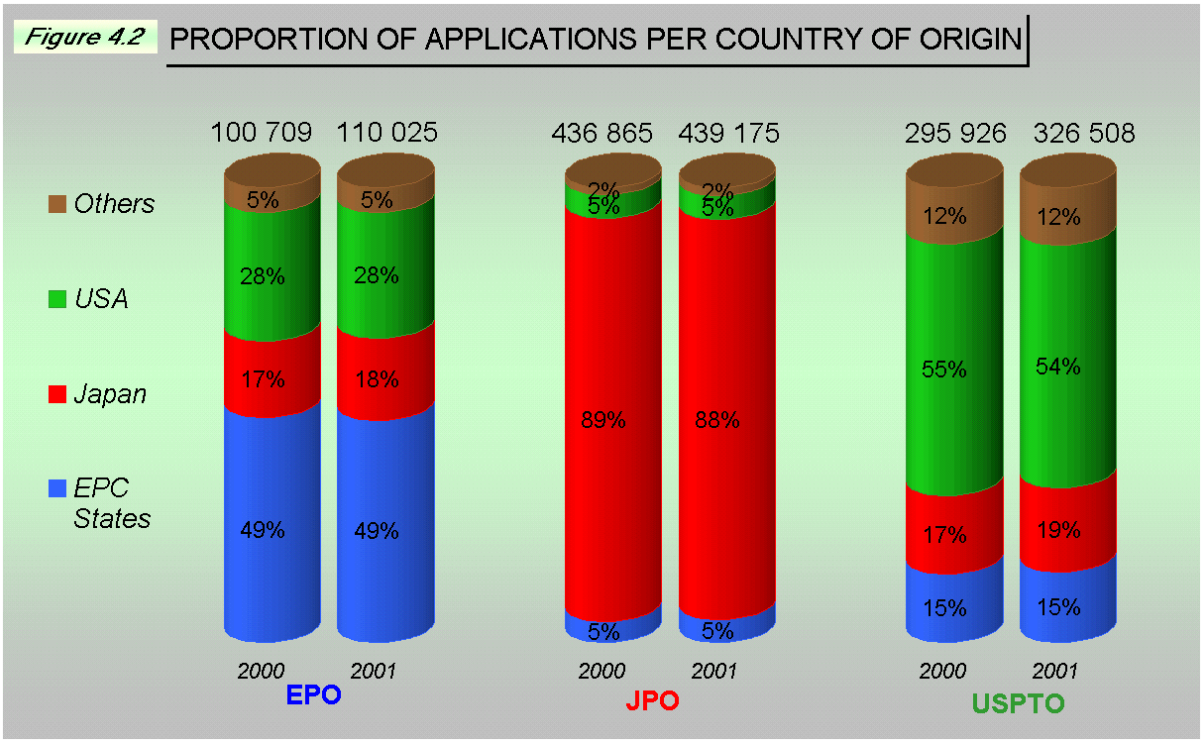


The number of applications filed at the JPO increased by 2 310 or 0.5%. The number of applications filed at the EPO increased by 9 316 or 9.3%. The number of applications filed at the USPTO increased by 30 582 or 10.3%.

In 2001, domestic filings in the JPO formed 88% of total filings; for the USPTO and the EPO they formed 54% and 49% of total filings respectively. The numbers of domestic filings in the JPO and the USPTO are approximately equivalent to the number of first filings. Domestic EPO

filings are defined as the total of EPO filings by residents of EPC contracting states. Only a low proportion of these are first filings at the EPO, which is explained by the fact that in EPC contracting states the first application is generally filed at a National Office. A subsequent filing at the EPO follows if the invention is judged to be worthy of protection throughout Europe. Consequently, the number of domestic filings at the EPO is not equivalent to the number of first filings. The first filings with the EPO from residents of EPC contracting states were 8 289 in 2000 and 9 326 in 2001, respectively 16.6% and 17.4% of domestic European filings.

The breakdown of applications in trilateral offices by country of origin in 2000 and 2001 is given in Figure 4.2.



Compared to 2000, the share of filings from EPC contracting states remained the same at all three Offices. The share of filings from Japan increased by 2% in the USPTO, increased by 1% in the EPO and declined by 1% at the JPO. The share of filings from the United States is unchanged in the JPO and the EPO and decreased by 1% at the USPTO. The shares of filings from outside the trilateral blocs remained the same at all three Offices.

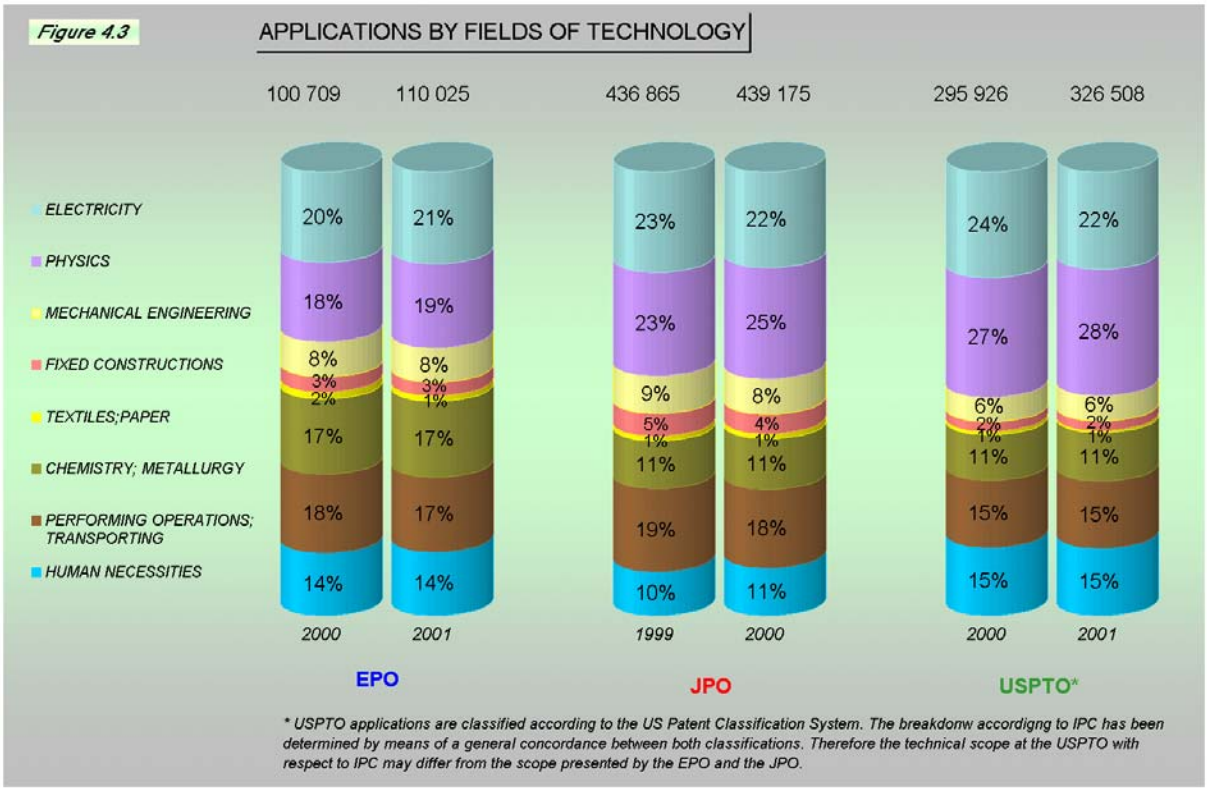
Due to the differences in behaviour of the applicants from different countries, comparison of the number of applications at the trilateral offices should be made with caution. For example the number of claims given in applications are significantly different among the three offices. On average in 2001 an application filed at the EPO contained 15.3 claims (16.7 in 2000), one filed at the USPTO had 20.5 claims (20.4 in 2000) and one application at the JPO contained 7.6 claims (7.2 In 2000).

APPLICATIONS BY FIELDS OF TECHNOLOGY

Patents are classified by the Trilateral Offices according to the International Patent Classification (IPC). This takes place at a different stage of the procedure in each of the Office and this affects the comparability of the data reported. Figure 4.3 shows data for the EPO and the USPTO for the filing years 2000 and 2001, while for the JPO the breakdown is given for the

filing years 1999 and 2000[iv].

A large proportion of the applications filed within the Trilateral Offices are related to Physics and Electricity. They account for 50% at the USPTO, 47% at the JPO and 40% at the EPO. The proportion of *Human Necessities* is higher in the USPTO (15%) and the EPO (14%) than in the JPO (11%). The proportion of *Performing Operations/Transporting* is higher in the JPO (18%) and the EPO (17%) than in the USPTO (15%). The proportion of *Chemistry/Metallurgy* is higher in the EPO (17%) than in the JPO (11%) and the USPTO (11%). In the other sections, the proportions are lower and are roughly the same in the three blocs.



Among all applications filed at the Trilateral Offices, an increasing proportion relates to high technology areas. In Figure 4.4, this proportion is given for each office for applications filed in 2001 and 2000, together with their origin. The patent classification does not itself define which of the technical fields correspond to high technology. The Trilateral Offices agreed to consider as high technology the following fields:

Computer and automated business equipment;
Microorganism and genetic engineering;
aviation;
communications technology;
semi-conductors;
lasers.

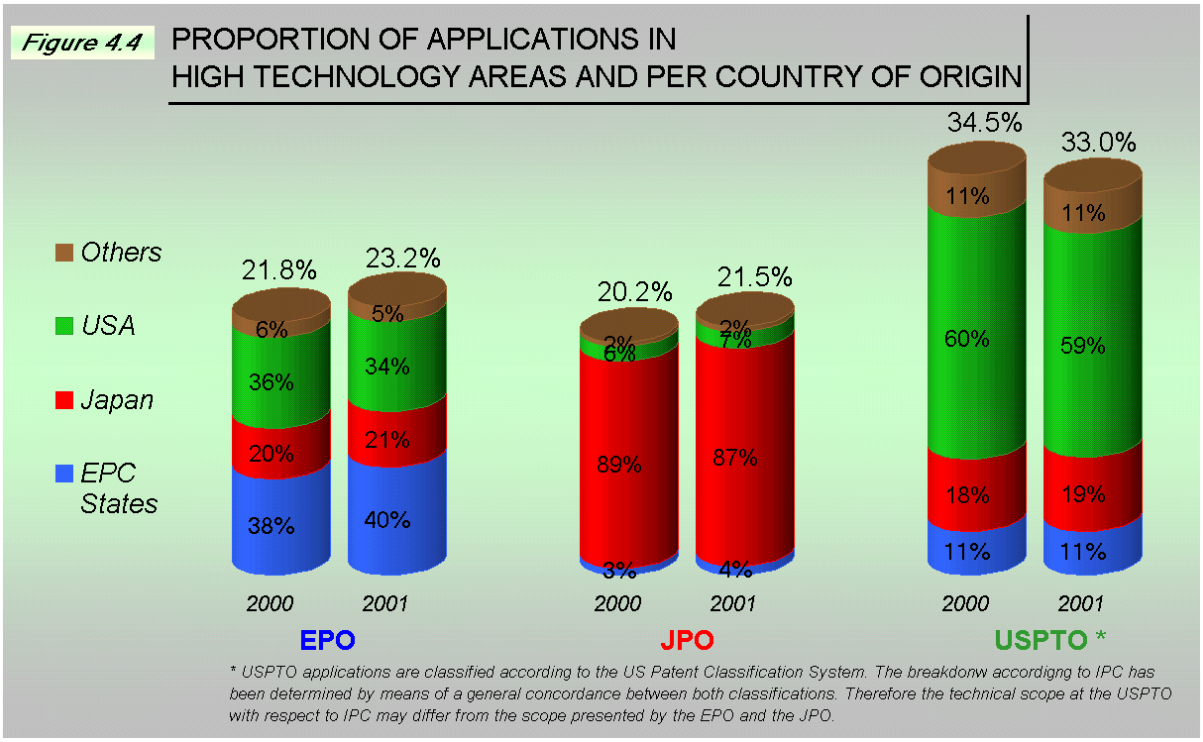
In 2001, 23.2% of the EPO applications were filed in these fields, of which 40% came from EPC applicants, 34% from US applicants and 21% from Japanese applicants. At the JPO, 21.5% of the filings in 2001 related to high technologies; of which 87%% originated from

[iv] The figure for 2000 is the most recent figure because the IPC is assigned just before the publication of Unexamined Patent Gazette (after the expiration of 18 months from the filing date). The JPO figures were as of May 10, 2002.

Japanese applicants, 4% from EPC applicants and 7% from United States applicants. High technology represented 23.6% of all filings at USPTO; of which 60% originated from United States applicants, 18% originated from Japanese applicants and 12% from EPC applicants. In 2001, the high technology area shares increased at the EPO and at the JPO and decreased in the USPTO.

The share of applicants from EPC contracting states in high technology is below their share in all filings at the EPO and at the USPTO. The share of United States applicants in high technology is higher at the EPO and the USPTO than on average. The share of Japanese applicants in high technology is slightly higher at the EPO than that in all filings and almost at the same level as in all filings at the USPTO.

For the JPO, it should be noted that only the number of applications for which a classification was given was used to form the denominator for the percentages reported.



PATENTS GRANTED BY TRILATERAL OFFICES

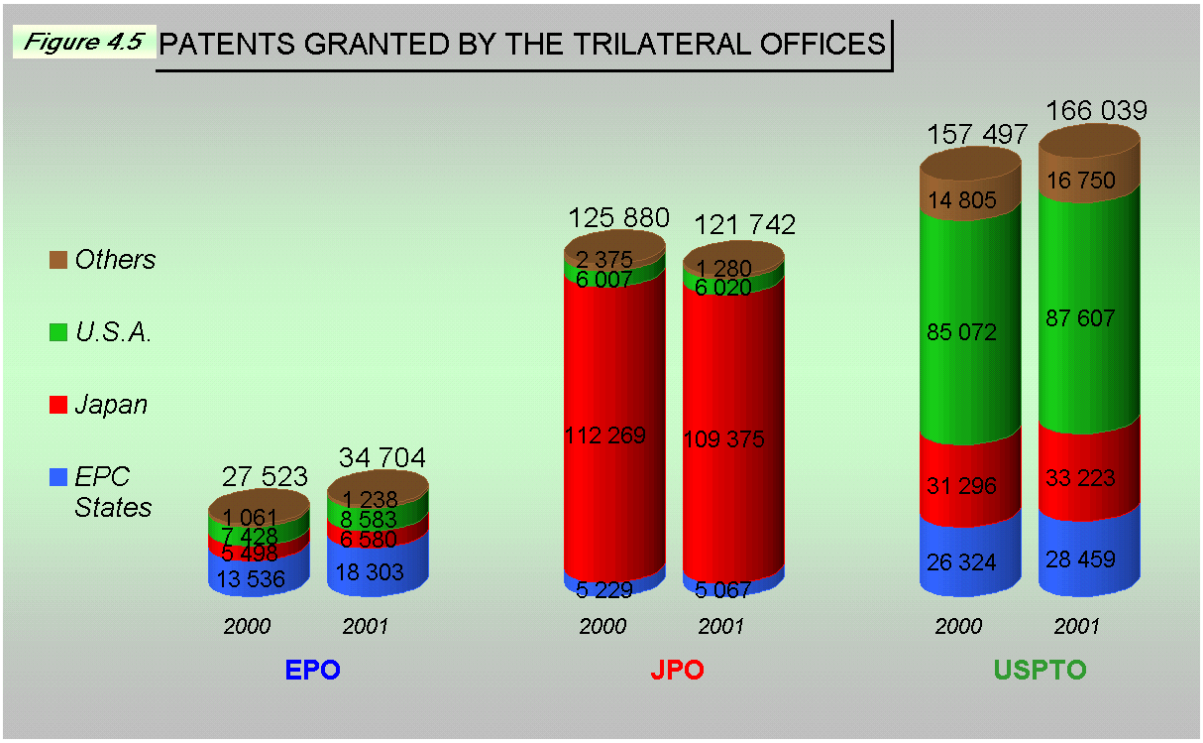
The development in the number of patents granted by Trilateral Offices is shown in Figure 4.5. The Trilateral Offices together granted 3.8% more patents in 2001 then in 2000.

The number of patents granted by the JPO decreased by 3% to 121 742 in 2001. There have been 34 704 patents granted by the EPO in 2001 which is 26% more than 2000. This was due to a much higher number of decisions in 2001. At the USPTO, the number of granted patents increased by 5.4%, to 166 039.

As indicated in Figure 4.6, the shares from the different filing blocs are more or less comparable to those observed for the filings in the JPO and the USPTO as presented in Figure 4.2.

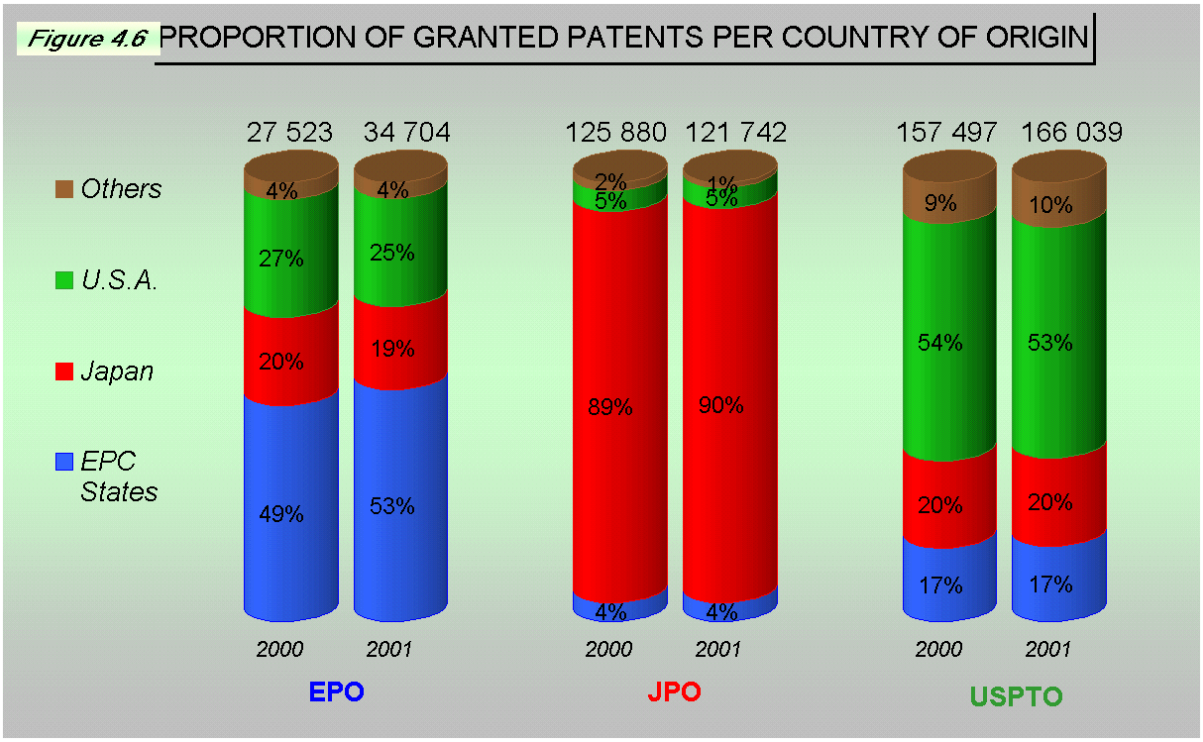
The differences among the Trilateral Offices in the number of patents granted broadly follow the differences in the number of applications filed.

Figure 4.5 PATENTS GRANTED BY THE TRILATERAL OFFICES



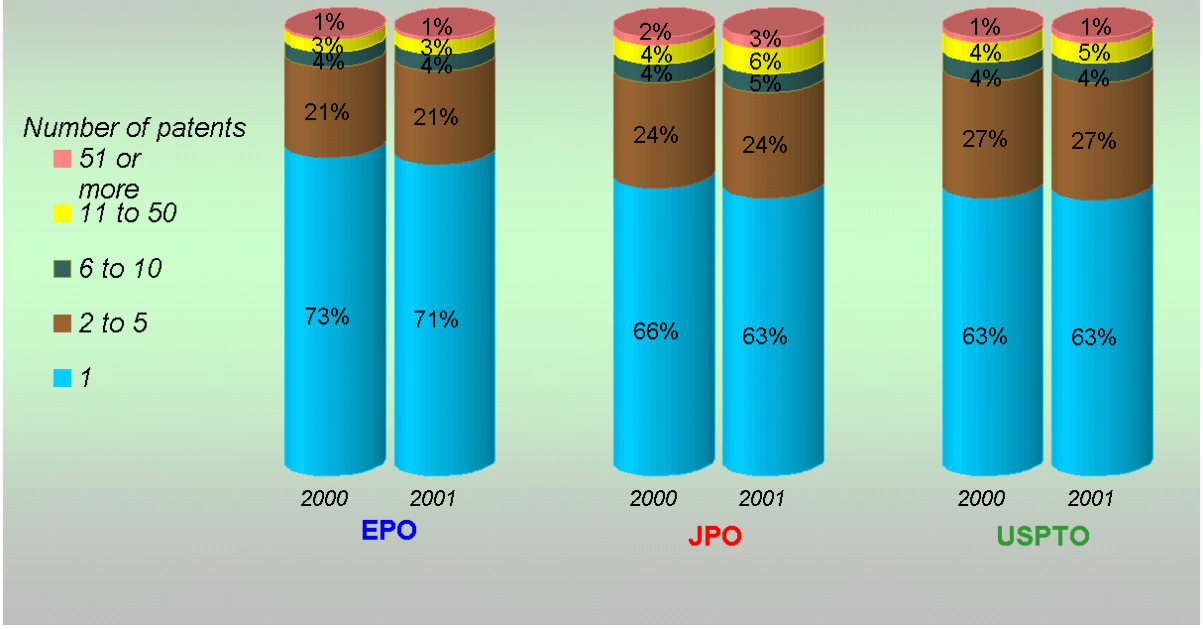
At the three offices, most of the patentees received a limited number of grants. In 2001, the maximum number of patents granted to a single applicant was 618 at the EPO, 4 956 at the JPO and 3 411 at the USPTO.

Figure 4.6 PROPORTION OF GRANTED PATENTS PER COUNTRY OF ORIGIN



The breakdown of patentees by numbers of patents granted is shown below.

Figure 4.7 DISTRIBUTION OF PATENTEES BY NUMBER OF GRANTED PATENTS



The proportion of patentees receiving one patent grant is lower in the JPO (63%) than in the EPO (71%) and the USPTO (70%).

The distribution of patentees remained unchanged at the USPTO. The proportion of applicants receiving only one granted patent decreased by 2% at the EPO, and by 3% at the JPO. The proportion of patentees receiving more than 10 granted patents increased at the JPO. The other categories remained unchanged. Less than 3% of patentees received more than 50 grants at any of the Trilateral Offices.

A patent granted by an office has a maximum term fixed by law. In order to maintain the protection right, the applicant has to pay renewal fees in the country where the protection was obtained. Maintenance systems differ from country to country.

In the United States, a patent filed after June 8, 1995 has a term of 20 years from the date of earliest filing. Patent maintenance requires payment of fees in three stages: 3.5 years, 7.5 years and 11.5 years after grant.

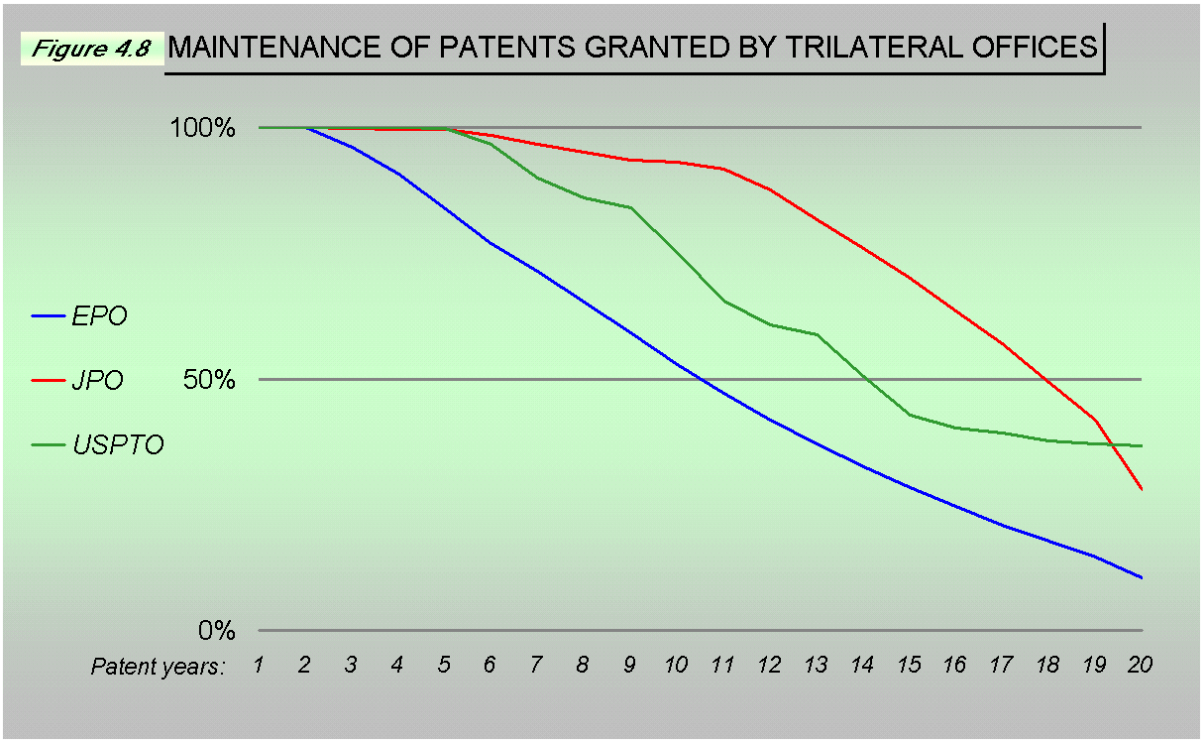
A European patent has a twenty-year term from the date of filing and renewal fees have to be paid to the EPO from the third patent year onwards to maintain the protection. After the application has been granted, annual renewal fees have to be paid to the national office of each designated contracting state where the patent is to be maintained.

The term of a Japanese patent is twenty years from the date of filing. The first three years' fees are paid together, and for subsequent fees the applicant can pay either yearly or in advance.

In the three procedures, if a renewal fee is not paid in due time, the protection right expires.

Figure 4.8 indicates the proportion of those granted patents that were maintained in each patent year (measured from filing for the EPO and the JPO and from grant for the USPTO). In the United States more than 50% are maintained at least 14 years; 50% of EPO patents are

maintained at least 10 years; and in Japan more than 50% of the patents are maintained for 18 years.



TRILATERAL PATENT PROCEDURES

THE PROCEDURES

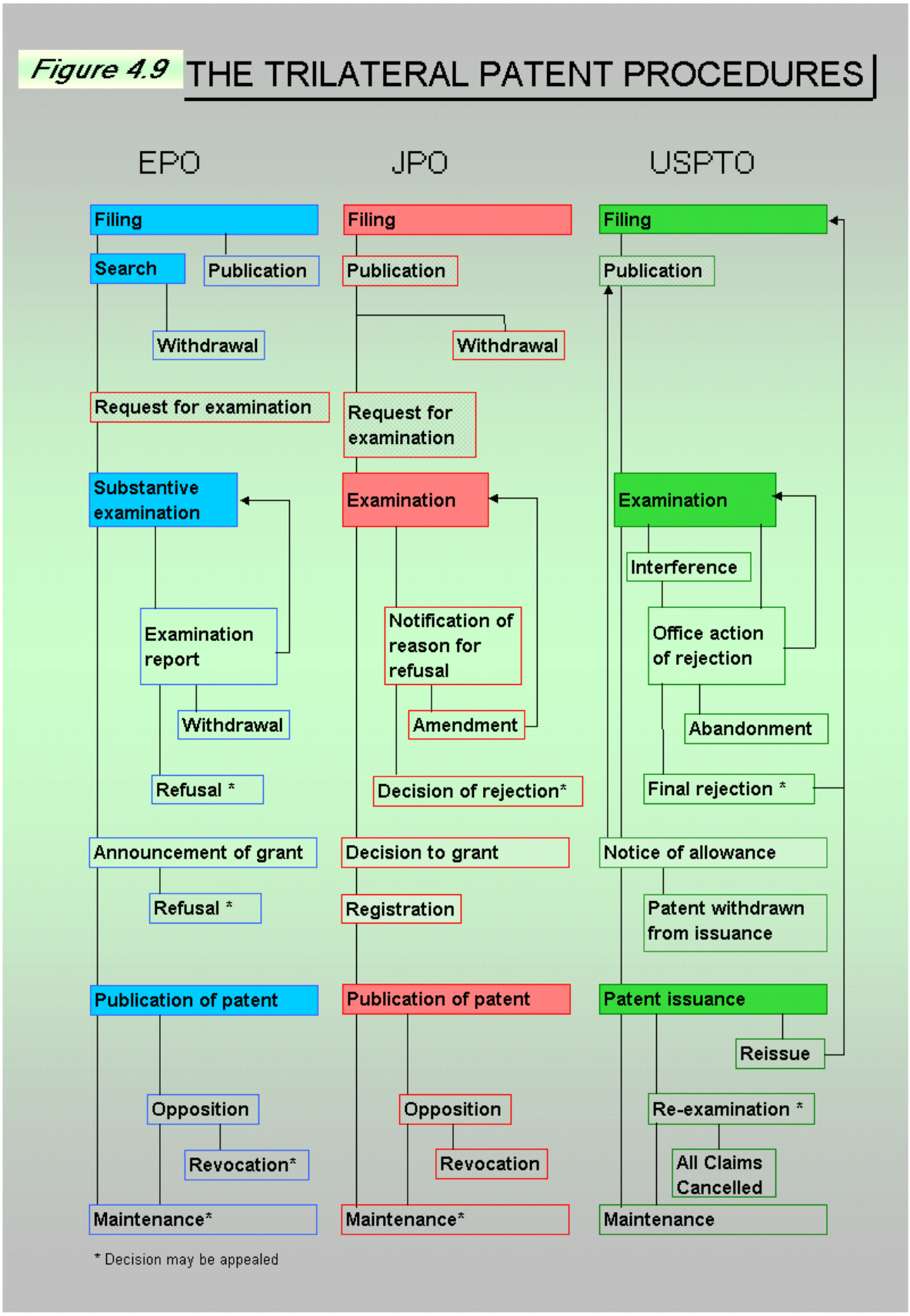
The grant procedures are not totally identical in the Trilateral Offices. The major phases are outlined in the Figure 4.9.

Examination: search and substantive examination

Each of the trilateral offices will examine a filed patent application based upon novelty, inventive step and industrial applicability. In the EPO this examination is done in two phases: first a search is done in order to establish the state of the art with respect to the invention. In a second phase the inventive step and industrial applicability are examined in the substantive examination. In the national procedure before the JPO or the USPTO, the search and substantive examination are undertaken in one phase. The international searches and international preliminary examinations carried out by the three Offices are not included in the flow chart, since for PCT applications the granting procedure starts at the moment they enter the national or regional phase.

Filing of a European application with the EPO is taken to imply a request for search, but not a request for substantive examination. For the latter, a separate request has to be filed not later than six months after publication of the search. Filing of a national application with the JPO does not imply a request for examination; this may be filed up to seven years after the date of filing (but this delay was reduced to three years as from October 2001).

Filing of a national application with the USPTO is taken to imply a request for examination.



Publication

In the Trilateral Offices the application is to be published at the latest at 18 months from the date of filing or priority date. The application can be published before 18 months at an applicant's request. In the USPTO, an application that has not and will not be the subject of an application filed in foreign countries does not need to be published if an applicant so requests.

Grant, refusal/rejection, withdrawal

When an examiner intends to grant a patent, this information is communicated to the applicant (EPO: Announcement of grant; JPO: Decision to grant; USPTO: Notice of allowance). If a patent cannot be granted in the form as filed before the Office, the intention to reject the application is communicated to the applicant (EPO: Examination Report; JPO: Notification of reason for refusal; USPTO: Office action of rejection). The applicant may then make amendments to the application, generally in the claims, after which examination is resumed. This procedural step is iterated as long as the applicant continues to make appropriate amendments. Then either the patent is granted (see above) or the application is finally rejected (EPO: Intention to refuse; JPO: Decision of rejection; USPTO: Final rejection) or withdrawn (EPO: Withdrawal; JPO: Withdrawal or Abandonment; USPTO: Abandonment) by the applicant. In addition, if no request for examination for an application is filed to the EPO and the JPO within the prescribed period (EPO: six months after publication of the search; JPO: three years from the date of filing, seven years until September 2001), the application will be deemed to have been withdrawn. Furthermore, in all three procedures, an applicant may withdraw or abandon the application at any time before the application is granted or finally refused.

After the decision to grant the patent, the patent specifications are published if certain administrative conditions are fulfilled. (EPO: Publication of patent; JPO: Publication of patent; USPTO: Patent issuance).

Opposition

Any person may file an opposition to the JPO against a grant of patent within six months from the publication of the Gazette containing the patent. Opposition can lead either to a maintenance or revocation of the patent.

At the EPO, the period for filing opposition(s) begins after granting of the patent rights and lasts nine months. If successful, the opposition can lead to a revocation of the patent or to maintenance in amended form.

In the procedure before the USPTO, there are two features that may lead to the cancellation of a granted patent: interference proceedings and re-examination. These features are not comparable to opposition procedures in the EPO and the JPO. In the USPTO, the first feature is a priority contest between applicants/patentees seeking to protect the same invention and the second feature may be requested by third parties or by the patentee during the life-time of a granted patent.

Appeal

An appeal can be filed by any of the parties concerned against a decision taken by the Trilateral Offices. In practice applicants can appeal decisions to reject the application or revoke the patent, while opponents can appeal decisions to maintain the patent. The procedure is in principle similar for the three Offices. The examining department first studies the arguments brought forward by the appellant and decides whether the decision should be

revised. If not, the case is forwarded to a Board of Appeal which may take a final decision or refer the case back to the examining department.

In the JPO, generally appeal examiners examine the supplementary reasons brought forward by the appellant and decide whether the decision can be overturned. However, in the case that amendments of the specifications or the drawings have been made within 30 days from the filing date of an appeal against a decision to refuse the application, the examiner first re-examines the amendment brought forward by the appellant in order to decide whether the decision can be overturned. If not, the case will be forwarded to the appeal examiners for a final decision.

STATISTICS ON PROCEDURE

The 2000 and 2001 values of the basic characteristics of trilateral procedures are shown in Table 4. The definitions and further explanations on the statistics are given in the ANNEX, DEFINITIONS FOR STATISTICS ON PROCEDURE.

Definitions are not always identical in the three Offices. This should be considered when seeking to make comparisons between the Offices based on the provided information.

Rates

The examination rate in the USPTO is 100%, since filing implies a request for examination in the USPTO procedure, whereas in the EPO and the JPO a specific request for examination has to be made. In the Japanese procedure the examination rate is lowest because applicants have substantively more time in which to evaluate whether to maintain or drop the application.

The grant rate in the EPO procedure, as defined in terms of decisions, increased to 60%. The number of decisions taken in 2001 was higher than in 2000.

In the JPO, the grant rate decreased further to 55.4% in 2001.

In the USPTO, the grant rate is related to the decisions made in the examination procedure, and it decreased to 70% in 2001.

The opposition rate in the EPO remained stable in 2001 at 5.7%, and 69% of the opposed patents were maintained even though in some cases in amended form.

In the EPO, 450 appeals were received in 2001 i.e. about 48% of decisions in examination to reject the application (941). In the USPTO, 3 762 appeals were received being 5% of final rejections (78 807).

In the EPO, 49% of appealable decisions in the opposition procedure (2 471 in 2001) were appealed against, the number of appeals being 1 209.

The total number of appeals in the JPO against decisions in examination, including decisions on applications against which oppositions had been filed, increased further to 19 962 in 2001 (16 498 in 2000).

Pendency

In the successive stages of the procedure, there are pending applications awaiting action in the next step of the procedure. The number of pending applications gives an indication of the workload (per stage of procedure) from the patent grant procedure in the three Offices. This is not a good indication for the backlog in handling applications within the Offices since a substantive part of pending applications are awaiting action from the applicant, for instance a request for examination (which can take seven years from the date of filing, three years since October1, 2001 in the JPO), or responding to actions communicated to the applicant.

Table 4: STATISTICS ON PROCEDURES

Progress in the procedure **Rates in percentage**		**Year**	**EPO**	**JPO**	**USPTO**
Examination		2000	91	53.3	100
		2001	90	54.1	100
Grant		2000	57	59.4	71
		2001	60	55.4	70
Opposition		2000	5.7	3.9	-
		2001	5.7	3.3	-
Maintenance after opposition		2000	68.3	n.a.	-
		2001	69.0	n.a.	-
Appeal	on examinations	2000	46	-	4.0
		2001	48	-	5.0
	on oppositions	2000	45	-	-
		2001	49	-	-
	on examinations and oppositions∗	2000	-	16 948	-
		2001	-	19 962	-
Pendency in the procedures					
Search	Number of pending applications	2000	90 100	-	-
		2001	109 800	-	-
	Pendency time in search (months)	2000	20.6	-	-
		2001	27.3	-	-
Examination	Number of applications awaiting request for examination	2000	15 790	2 152 416	-
		2001	15 760	2 175 739	-
	Number of pending applications	2000	191 600	433 020	547 626
		2001	212 200	478 363	n.a.
	Time to first office action (months)	2000	20.7	21.1	13.0
		2001	20.7	22.0	14.4
	Pendency time in examination (months)	2000	50.1	26.9	24.7
		2001	46.1	27.7	24.7
Opposition	Number of pending applications	2000	2 470	n.a.	-
		2001	1 360	n.a.	-
	Pendency time in opposition (months)	2000	11.6	n.a.	-
		2001	6.6	n.a.	-

n.a. : indicates unavailable data *- : indicates not applicable*

∗ for JPO only numbers are available

The pendency in search at the EPO increased from 90 129 in 2000 to 109 800 in 2001 (+22%), and increased in months from 20.6 to 27.3.

The number of pending applications awaiting a request for examination by the applicant remained stable at the EPO with around 15 800 cases.

In the JPO, the number of pending applications (2 175 739) is substantively higher than those in the EPO and the USPTO, due to the period during which requests for examination can be filed. This was previously seven years and was reduced to three years for applications filed since October 2001.

The number of pending applications in examination increased in the EPO to about 212 000 in 2001, and the pendency in months decreased to 46.1 months, since more decisions were taken in 2001. In the JPO, the number of pending applications increased by 10% to about 478 400. In the USPTO, the average time for either abandoning or issuing an application is about 24.7 months.

The pendency to first office action in 2001 was stable at 20.7 months in the EPO. It increased slightly in the JPO to 22 months and to 14.4 months in the USPTO.

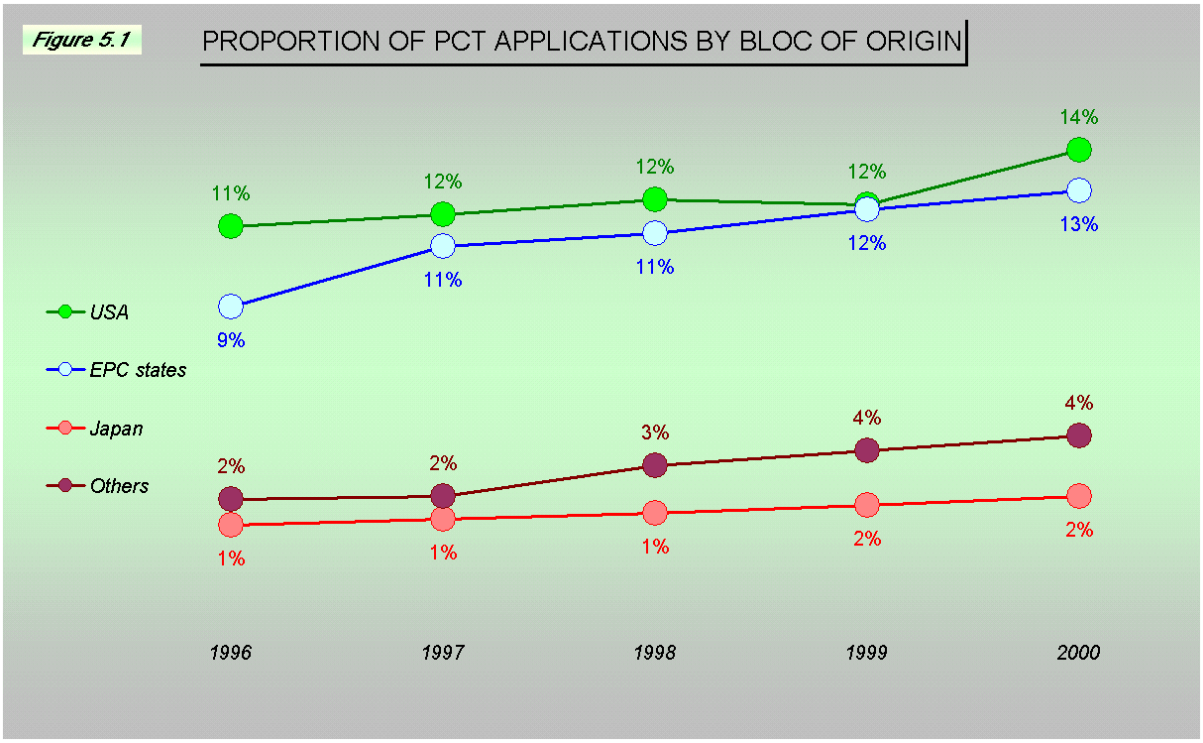
Pendency in opposition decreased significantly at the EPO to 6.6 months in 2001.

Chapter 5
USE OF THE PATENT COOPERATION TREATY

As shown in Figure 3.2, a substantial proportion of the demand for patent rights is requested via the Patent Cooperation Treaty. In 2000 this proportion reached 75%. The following statistics display the increasing use of the PCT process internationally and within the states covered by the trilateral offices over the 5-year period, 1996-2000. The analysis and terms used follow those employed in the earlier chapters.

THE PCT AS A FILING ROUTE

Figure 5.1 shows, for each bloc, the proportions of all patent applications filed (as given in the Chapter 3) that are PCT international applications. Applications are counted in the year of filing.



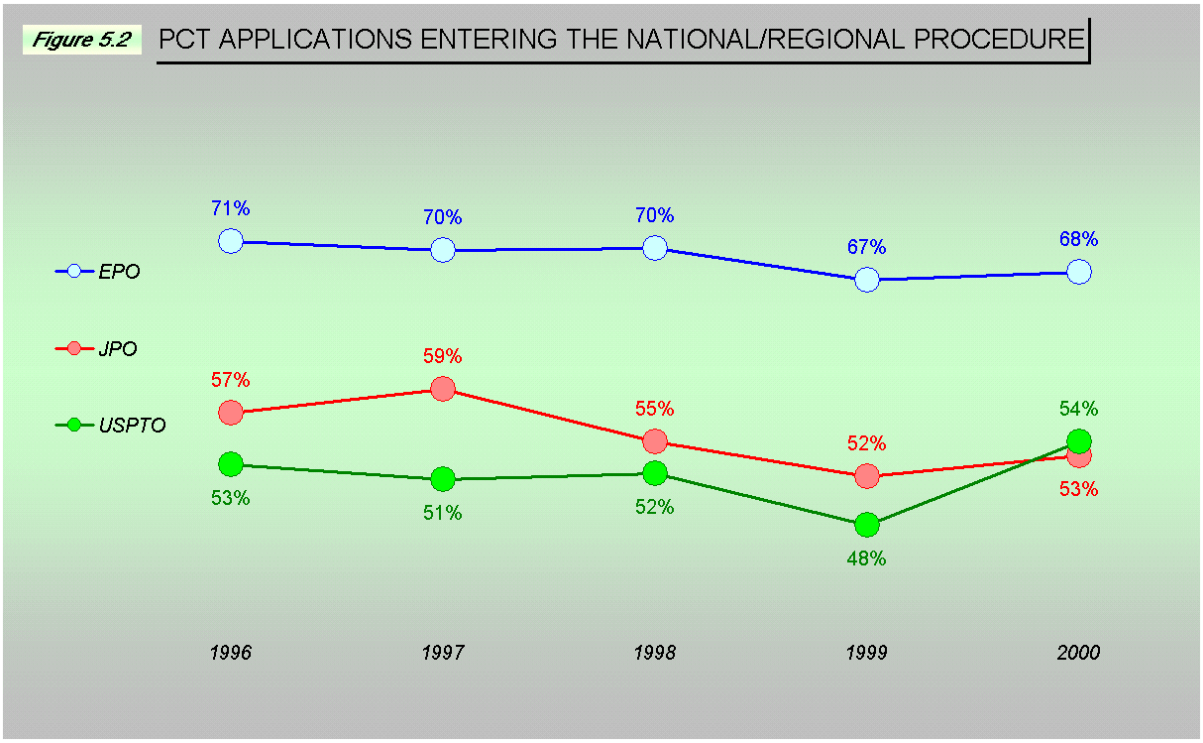
There has been an increase in the use of the PCT as a route for filing patent applications. The EPO experienced a significant increase from 1996 to 1997 of 2.1%. The JPO has shown a small but consistent growth over the years. Levels at the USPTO have increased but there was a very slight decrease in 1999.

PCT APPLICATIONS ENTERING THE NATIONAL/REGIONAL STAGE

After the international phase of the PCT procedure, applicants have to decide whether their applications are maintained in each of the national/regional procedure of the PCT contracting states they had designated. In the EPC contracting states, this can be either in individual

countries or at the EPO. The proportions of all PCT applications that have entered the national or regional phase at each Trilateral Office are presented in Figure 5.2. Applications are counted in the year they are expected to enter the national or regional stage.

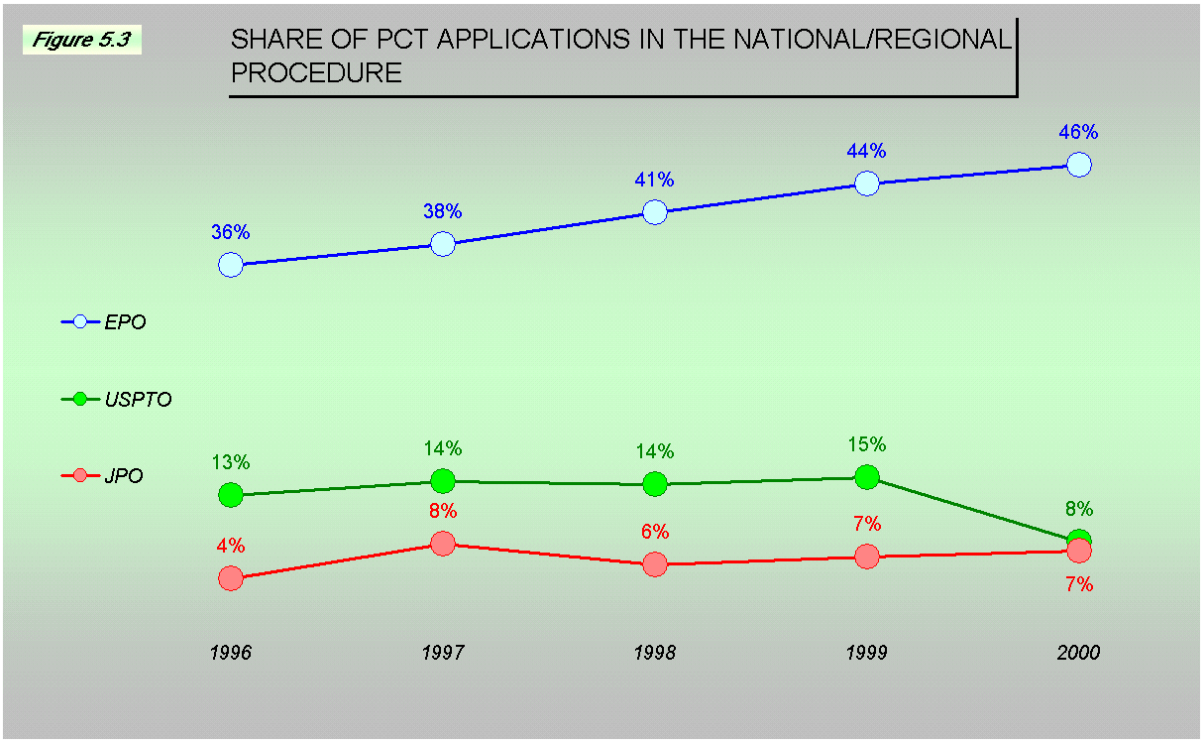
A higher proportion of PCT applications entered regional phase at the EPO than entered the national phase either at the USPTO or the JPO. This is probably due to the supranational dimension of the EPO, which gives the opportunity at this late stage of the procedure to select target countries within the EPC contracting states.



There was a slight decline of the proportion of applications entering the regional phase at the EPO, from 71% in 1996 to 68% in 1999. For the applications designating Japan, the proportion decreased between 1997 and 1999 and slightly increased in 2000. At the USPTO, the proportion showed a significant decrease in 1999, and increased again in 2000.

PCT APPLICATIONS AT THE TRILATERAL OFFICES

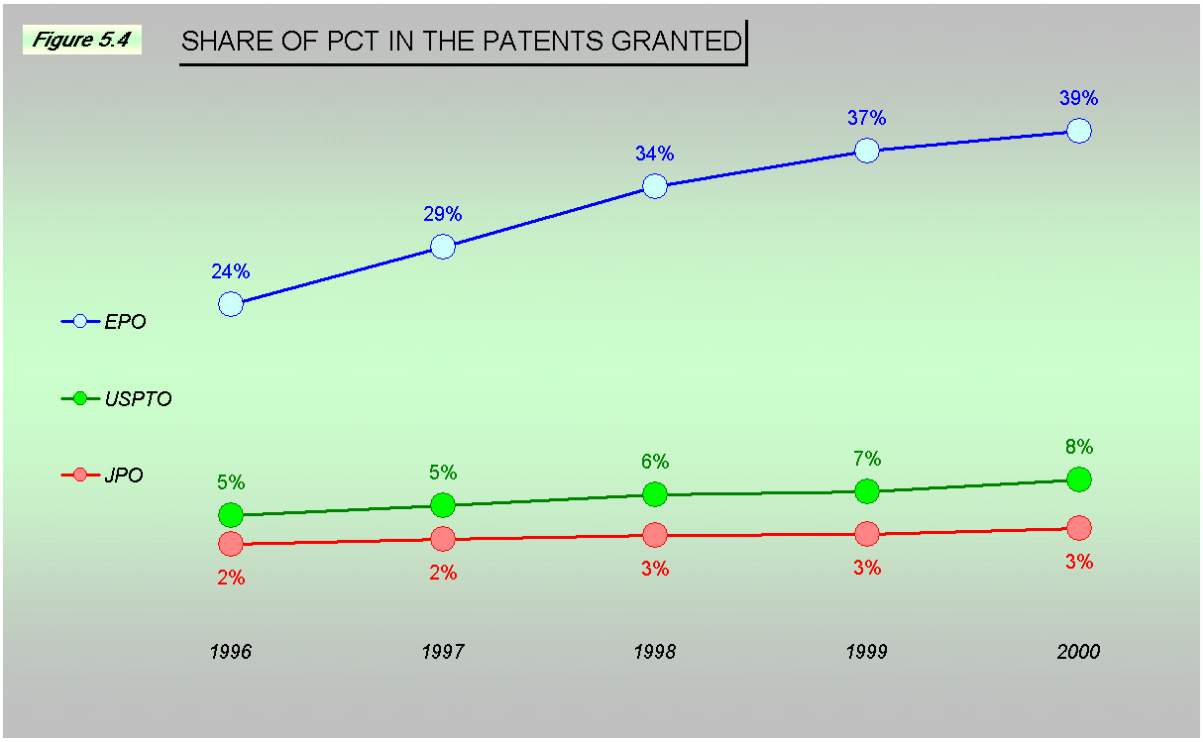
As a consequence of the increasing use of the PCT route, the numbers of PCT applications entering in each procedure increased and represented a slightly growing share of the applications in the trilateral offices (as given in Chapter 4). This was especially the case at the EPO, where the PCT applications represented only a third of the applications at the EPO in 1996 but 46% in 2000. As indicated in Figure 5.3, the shares were at a lower level at the JPO with 7% and at the USPTO with 15%. Nevertheless, the share of PCT application at the USPTO increased from 13% in 1996 to 15% in 1999.



PCT GRANTS BY TRILATERAL OFFICES

Figure 5.4 shows the percentage of patents granted by each Trilateral Office that were based on PCT applications.

As a direct consequence of the larger use of the PCT in filing at the EPO, the share of PCT based applications in the patents granted is much higher at the EPO (39% in 2000), than at the

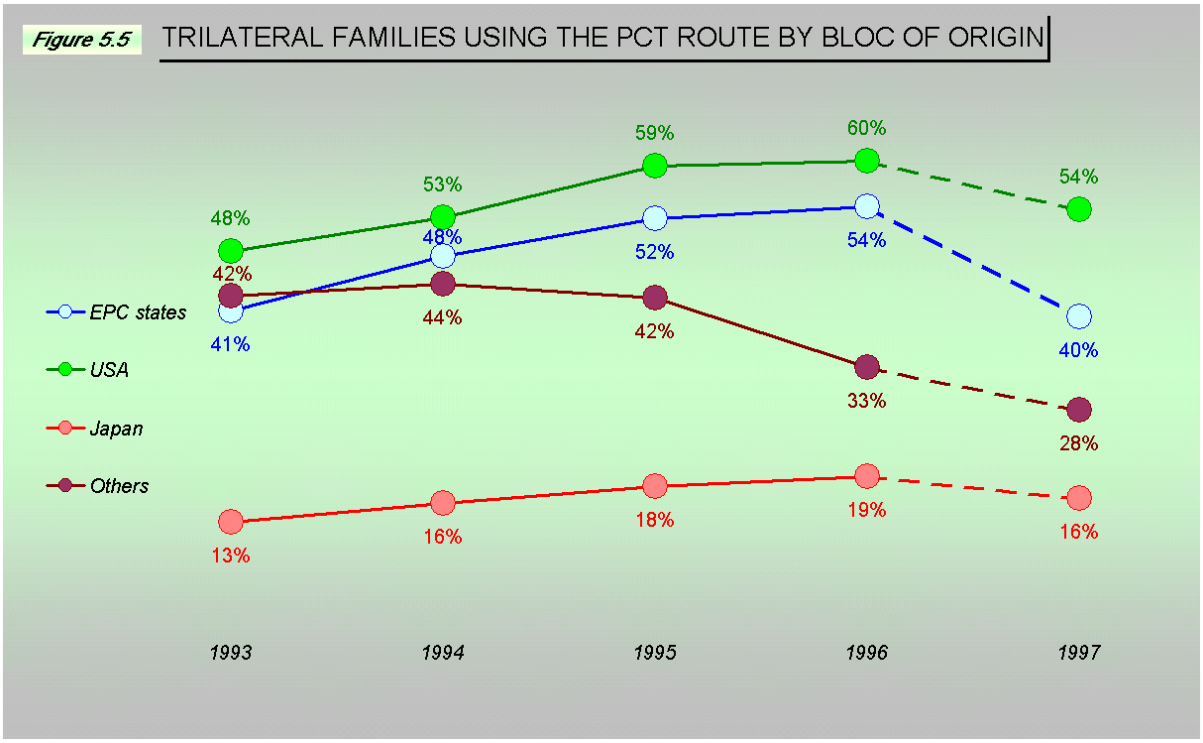


USPTO and the JPO (8% and 3% respectively in 2000). In terms of absolute numbers of PCT patents granted, the USPTO experienced the largest growth – from 5 059 granted in 1996 to 12 308 granted in 2000. In terms of proportions, however, EPO had the fastest percentage increase over that same time period – from 19% to 39%. The proportion of PCT patents granted by USPTO and JPO rose more slowly.

PATENT FAMILIES INVOLVING PCT APPLICATIONS

The PCT system provides a good way to make subsequent patent applications in a large number of countries. Therefore, it can be expected that many patent families flowing between blocs will use the PCT route. In this section, the use of the PCT system implies that at least one PCT application has been made within the family of filings for the same invention.

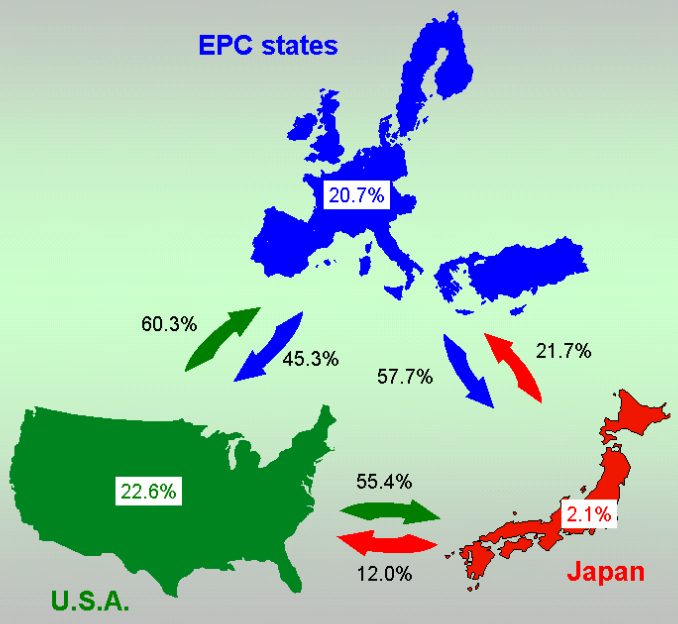
Figure 5.5 shows the proportions of trilateral patent families (as given earlier in Figure 3.11) that use the PCT system. As discussed earlier, the data for 1997 are provisional.



Usage of the PCT system is fairly widespread in trilateral patent families originating in all blocs except Japan. The proportions have trended upwards for all the trilateral blocs, but have trended downwards for other countries. In 1996, out of all trilateral patent families, 43.3% made some use of the PCT system. About 60% of trilateral patent families originating from the U.S.A. and about 54% of trilateral patent families originating from EPC contracting states involved PCT applications. This compares to about 19% from Japan and about 33% from other countries.

Figure 5.6 following shows the percentages of PCT system usage in the flows of patent families between trilateral blocs as described in Figure 3.12. The percentage given in the centre of each bloc is the proportion of distinct referenced priorities for the bloc that generated families using the PCT route. This is an indicator of the proportion of the total first filings in the bloc that motivated use of the PCT system.

Figure 5.6 PROPORTION OF 1996 BASED FAMILIES INVOLVING THE PCT



Out of all first filings in the trilateral area in 1996, 9.1% formed patent families that made some use of the PCT system. From those first filings in the trilateral area that resulted in filings in other trilateral blocs, 38.0% made some use of the PCT system. However, when considered by bloc of the priority applications, this proportion varied widely (47.6% from EPC contracting states, 14.3% from Japan, 57.7% from USA). When considered in terms of the blocs receiving the subsequent applications, the proportion making use of the PCT system was a little more stable (43.8% in EPC contracting states, 53.4% in Japan, 25.5% in USA). Out of all trilateral patent families, 43.3% made some use of the PCT system (54.1% from EPC contracting states, 19.0% from Japan, 60.0% from USA, 33.2% from other countries).

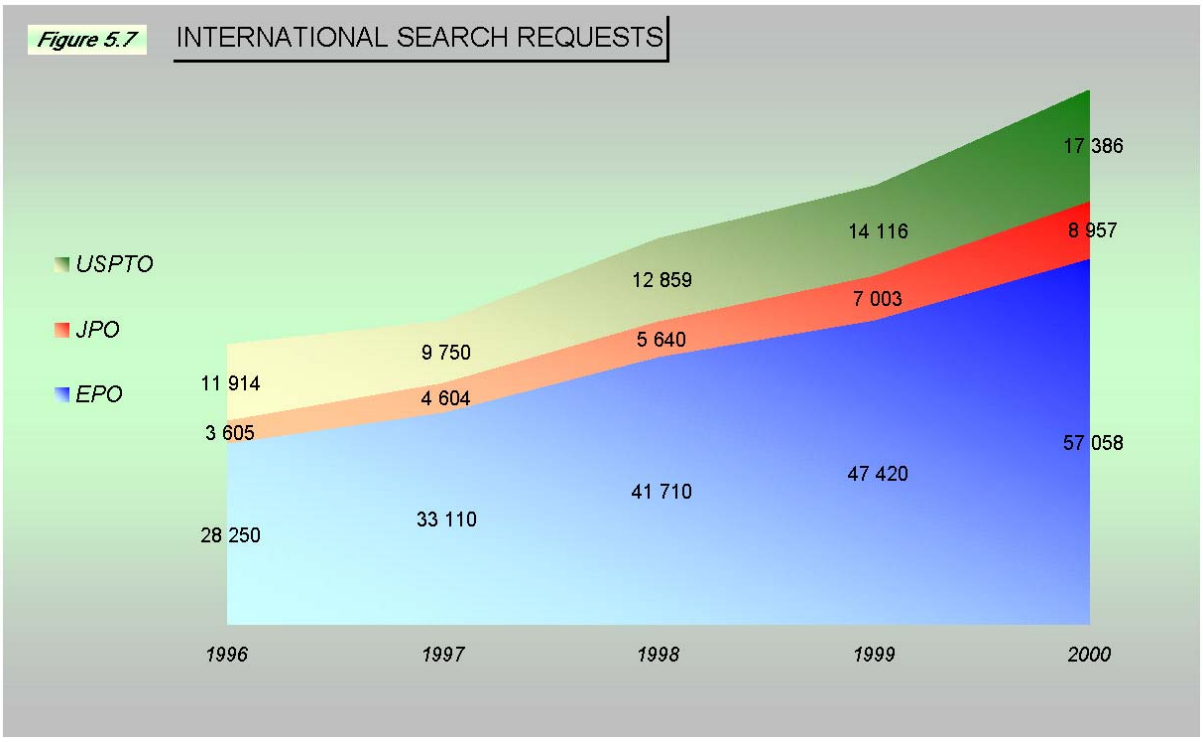
These statistics illustrate the fact that the PCT system tends to be used when making patent applications abroad. Applicants from the EPC contracting states and, particularly, the U.S.A. favor the PCT system. In contrast, Japanese applicants tend to avoid its use. The proportions of PCT usage among trilateral patent families are higher than among the various kinds of bilateral flows to only one other of the trilateral blocs.

Further details of PCT usage in patent families flows can be found in the web based annex to this report.

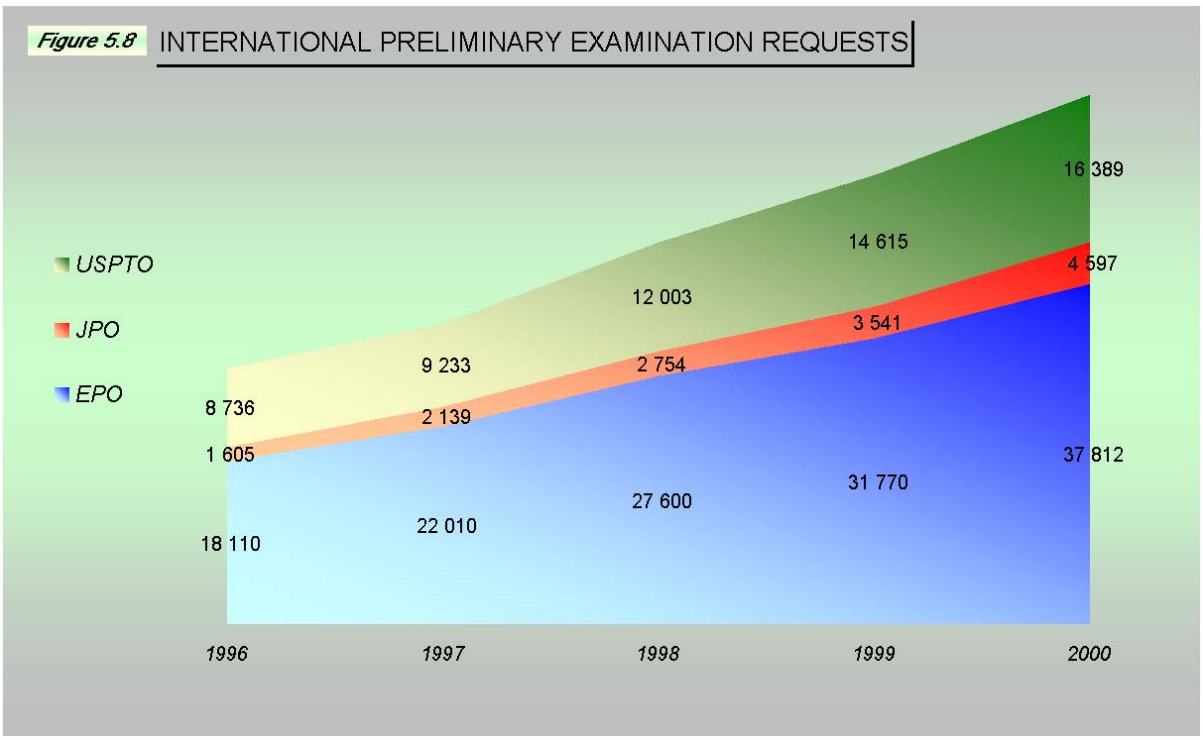
THE TRILATERAL OFFICES AS PCT AUTHORITIES

The following figures indicate the numbers of international searches and the numbers of preliminary examinations requested to the EPO, USPTO, and JPO in their quality of International Searching Authority (ISA) and International Preliminary Examination Authority (IPEA) under the PCT. There was a rapidly increasing awareness and use of both.

The EPO is the most highly used ISA. The use of USPTO as ISA declined slightly from 1996 to 1997, but then rose quickly to 17 386 searches requested in 2000. The number of searches requests at the EPO doubled over the five-year period to 57 058. The number of requests at the JPO more than doubled, reaching 8 957.



The number of requests for an international preliminary examination (IPE) increased substantially at the trilateral offices. The greatest rise was at the JPO, with a yearly increase



above 30% to reach 4 597 requests in 2000. The use of the USPTO as IPEA did increase less regularly but nevertheless went up by almost 90% over the period. The number of requests doubled at the EPO, and with 37 812 requests in 2000, the EPO is the most frequently used IPEA.

Chapter 6
OTHER WORK

This chapter contains statistics on other work requested from Trilateral Offices such as requests for search or granting of rights that are not common to all three offices. The data presented below are additional to the information already presented earlier in this report.

Other work includes applications for plant patents and re-issue patents in the USPTO and also applications for patents other than those for inventions: utility models in the JPO, design patent and trademarks in the JPO and the USPTO. The searches on behalf of national offices and searches for third parties are special work requested from the EPO.

The numbers of requests received for all these types of other work are shown in the table below for 2000 and 2001.

Table 6: STATISTICS ON OTHER WORK

Activities		EPO	JPO	USPTO
Searches for National Offices/Third Parties	2000	18 890	-	-
	2001	18 480	-	-
Design Patent Applications	2000	-	38 496	18 292
	2001	-	39 423	18 820
Utility Model Patents Applications	2000	-	9 587	-
	2001	-	8 806	-
Plant Applications	2000	-	-	797
	2001	-	-	944
Re-Issue Applications	2000	-	-	761
	2001	-	-	823
Trademark Applications	2000	-	145 668	361 775
	2001	-	123 755	294 358

Annex
DEFINITIONS FOR STATISTICS ON PROCEDURES

EXAMINATION RATE

This rate shows the proportion of those applications for which the period to file a request for examination expired in the reporting year, that resulted in a request for examination up to and including the reporting year.

For the EPO, where the request for examination has to be filed not later than 6 months after publication of the search, the rate for 2001 relates to applications mainly filed in the years 2000 and 2001.

Since the JPO has been allowing a seven-year period to file a request for examination, the rate for the JPO in 2001 relates to applications filed in and after 1994.

GRANT RATE

This is the number of applications that were granted during the reporting period, divided by the number of disposals in the reporting period (applications granted plus those abandoned or refused).

The grant rate given for the USPTO includes plant patents and re-issue patents in addition to utility patents. However, since utility patents comprise over 99% of patent applications, and over 99% of issued patents, the USPTO grant rate is almost identical to a grant rate based strictly on utility patents.

OPPOSITION RATE

The opposition rate for the EPO is the number of granted patents for which the opposition period ended in the reporting year and against which one or more oppositions are filed, divided by the total number of patents for which the opposition period ended in the reporting year.

The opposition rate for the JPO is calculated by dividing the number of applications against which one or more oppositions were filed during the reporting year by the total number of decisions to grant patents during the reporting year.

This rate does not apply for the USPTO since there is no opposition procedure there.

MAINTENANCE RATE IN THE OPPOSITION PROCEDURE

The rate for the EPO is the number of decisions (in the opposition procedure) to maintain, possibly in amended form, a patent during the reporting year, divided by the total number of decisions in the opposition procedure during the reporting year.

This rate does not apply for the USPTO since there is no opposition procedure there.

APPEAL RATE

For the EPO, appeal rates are given for examination and opposition, being the number of decisions in the examination, opposition procedure respectively, against which an appeal was lodged in the reporting year, divided by the number of all decisions for which the time limit for appeal ended in the reporting year.

For the JPO, the total number of appeals is shown instead of the appeal rate. The JPO does not make a distinction between inter-partes trials and appeals in which no defendants exist.

In the United States Patent system, there is no opposition procedure prior to patent issue. The USPTO appeal rate, which includes utility, plant, reexamination and reissue categories, is reflective of the number of appeals supported by appellant's briefs filed after an examiner's decision to issue a final rejection against a patent application in which the examiner chooses to write an answer to the brief. The rate is defined as the number of examiner answers written during the year in response to appeal briefs divided by the number of final rejections issued that year.

PENDENCY IN THE SEARCH PROCEDURE

This only applies to the EPO. Pending applications in search is the number of applications received up to and including the reporting year for which a search report has not been made by the end of the reporting year. Pending searches in months is defined as the number of pending applications in search by the end of the reporting year divided by the average monthly number of disposed searches in the reporting year.

In the case of Euro-direct applications, there is a target to produce the search report by the time of the publication of the applications.

PENDENCY APPLICATIONS AWAITING REQUEST FOR EXAMINATION

This only applies to the EPO and the JPO.

This statistic indicates the number of filed applications awaiting a request for examination by the applicant: for the EPO after publication of the search report and for the JPO at any time during seven years after filing.

For the EPO, pending applications awaiting request for examination is the number of applications for which the search report has been published by the end of the reporting year and for which the prescribed period for the request has not expired (six months after publication of the search).

For the JPO, pending applications awaiting request for examination indicates the number of applications for which no request for examination has been filed by the end of the reporting year, and for which the prescribed period for the request has not expired (seven years from the date of its filing).

Explanation:

Applications filed 1995-2001	:	2 821 029
Thereof requests for examination 1995-2001	:	645 290
Applications awaiting request for examination	:	2 175 739

PENDING EXAMINATIONS

This only applies to the EPO and the USPTO.

Pending applications in examination is the number of applications filed (in the USPTO), or the number of requests for examination filed (in the EPO), which have not been disposed of (granted or abandoned) by the end of the reporting year.

For the EPO, pendency examination in months is the number of pending applications in examination as of the end of the reporting year, divided by the average monthly number of disposals (decisions to grant or refuse, withdrawals, abandonments) during the reporting year.

For the USPTO, pendency examination in months for utility, plant and reissue applications is calculated by measuring the time from filing to abandonment or issue for all applications that are abandoned or issued during a three month period. The average of these times is the pendency in months.

PENDENCY FIRST OFFICE ACTIONS

For the EPO and the JPO, pendency first office action is the average time period, in months, from the request for examination to first office action in examination.

In the USPTO, this is the average amount of time, in months, from filing to first office action on merits (FAOM). A FAOM is generally defined as the first time an examiner either formally rejects or allows the claims in a patent application.

PENDENCY OPPOSITIONS

This only applies to the EPO.

Pending applications in opposition is the number of patents against which one or more oppositions have been filed and for which no final decision has been taken by the end of the reporting year.

Pendency opposition in months is the number of pending applications in opposition at the end of the reporting year, divided by the average number of disposals in opposition per month in the reporting year.

READER SURVEY

The European Patent Office (EPO), the Japan Patent Office (JPO), and the United States Patent and Trademark Office (USPTO) would appreciate receiving your answers to the following questions. Your comments will contribute to enhance further the content of future editions of the Trilateral Statistical Report (TSR). This questionnaire can be found under: www.european-patent-office.org/tws/sr-2.htm.

Please cross all boxes as appropriate.

1. I receive this report from
   - *the EPO*
   - *the JPO*
   - *the USPTO*
   - *Via Internet*
   - *Other:* _____

2. The TSR Is a source of information for:
   - *Statistics*
   - *Offices' details*
   - *Patent procedures*
   - *Other:* _____

3. I would like to see in this report more detailed information on:
   - *Patent applications*
   - *Granted patents*
   - *Patent families*
   - *Users of patent systems*
   - *Granting procedures*
   - *PCT procedure*
   - *Offices' details*
   - *Other:* _____

4. My organisation is active in?
   - *Industry*
   - *Services*
   - *Government*
   - *Intergovernmental organisations*
   - *Research*
   - *Education*
   - *Other:* _____

5. I am resident of: _____

6. I or my organisation has already applied for patents? If Yes where?
   - *no*
   - *yes,*
     - *at the EPO*
     - *at the JPO*
     - *at the USPTO*
     - *elsewhere*

7. I have the following comments regarding the content and the presentation of the report:

Once completed, please return this form to:

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