

# **TRILATERAL STATISTICAL REPORT**

**2004 EDITION**



## PREFACE

Since the early 1980s, three key intellectual property offices in Asia, Europe and North America have combined their efforts to better understand and harmonize procedures and activities with respect to patent protection. Collaboration among the European Patent Office (EPO), the Japan Patent Office (JPO), and the United States Patent and Trademark Office (USPTO), has led to many accomplishments, especially in the area of patent statistics. The three offices, which are commonly referred to as the Trilateral Offices in the patent community, have once again jointly produced the Trilateral Statistical Report (TSR).

The TSR is an annual compilation of patent statistics that has been published since 1985. 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 each office's operations and to increase general awareness about patent grant procedures. This supplements the annual reports for each of the three offices and is also partially based on statistics from the World Intellectual Property Organization (WIPO) in Geneva.

Demand for patent rights among the Trilateral Offices went up again in calendar year 2004. Together the Trilateral Offices recorded a 3.6 percent increase in patent applications compared to 2003. The EPO experienced the greatest percentage growth in 2004, with total patent application filings increasing by 5.9 percent from 2003 levels. At the USPTO, patent application filings increased by 4.2 percent. Total patent application filings at the JPO increased by 2.4 percent. As expected, most filings were of domestic origin at each office, with the proportions ranging from a low of about 50 percent at the EPO to a high of 87 percent at the JPO. In terms of fields of technologies, as defined by International Patent Classification<sup>1</sup>, physics-related technologies represented the highest share at each office, and textiles and paper technologies represented the lowest. The offices granted a combined total of 347 200 patents in 2004, which is 1.2 percent below the 351 500 patents granted in 2003.

From a worldwide perspective, complete patent statistics are only available after a delay. In 2003, which is the most recent year with complete statistics, the demand for global patent rights continued to increase at a double-digit growth rate. Based on provisional WIPO data, total demand in 2003 increased by 16 percent over 2002 and reached 17 052 000. A large part of the total demand consisted of multiple country designations made via the Patent Cooperation Treaty (PCT)<sup>2</sup>. The centralised procedures allow users to request patent protection in several countries by filing one single application and designating those countries. On average in 2003, one application was filed to obtain patent protection in 14 countries.

There are a variety of factors that have influenced patenting trends in the past. Economic activity is often cited as a key factor. However, interpreting worldwide patenting activity in terms of economic factors is not an exact science. Other important factors, such as political and technological considerations, also need to be considered. With this understanding in mind, a brief overview of recent economic activity is presented.

Once again, the global economy expanded in 2004, and over the last two years it has gained momentum. Business and consumer confidence continued to strengthen, and investment growth improved in almost all regions. According to the International Monetary Fund (IMF), world output in calendar year 2004 increased by 5.1 percent over 2003 levels. The growth rate in 2003 was also healthy at a 4.0 percent annual rate.

This calendar year (2005), global economic activity continues to remain positive. European countries are expected to benefit more than in the recent past. Output in the Euro area should

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<sup>1</sup> IPC information is available at [www.wipo.int/classifications/ipc/en/index.html](http://www.wipo.int/classifications/ipc/en/index.html)

<sup>2</sup> Information on PCT is available at [www.wipo.int](http://www.wipo.int)

increase by 1.6 percent this year as compared to 2.0 percent in 2004. Growth in Asia will continue to be significant, especially in China and India where growth rates are expected to be 8.5 percent and 6.7 percent respectively. In the United States, the economic outlook also remains positive with a growth rate of 3.6 percent expected by the end of 2005. World output is expected to increase at a rate of 4.3 percent in 2005, and in 2006. Overall, the economic outlook is expected to be positive despite ongoing risks, such as the surge in oil prices that continue to reach new record highs.

There are many other factors that should be considered when examining patenting trends. In particular, measures of resources allocated to innovation-related activities and the perception of intellectual property in general are important factors. Research and development expenditures are often cited as a key measure of innovation. On a global scale, R&D expenditures have continued to trend upwards, but at a slower pace. Spending on innovation helps to fuel patenting, as intellectual property has continued to become more significant in a world with intensifying competition. Patents are increasingly being emphasized for a variety of business strategies, such as developing favourable partnerships and licensing agreements, capturing market share, and attracting new capital. With a greater emphasis on patenting, there is an expectation that demand will follow.

Globalisation of markets and production continue to be key business trends. Countries are continuing to join the PCT and the European Patent Convention (EPC). This goes together with a tendency to harmonize their patent laws towards common international standards. This has stimulated the flow of patent applications across borders. All of these factors together contribute to worldwide patent growth from year to year.

The Trilateral Offices hope that this report brings useful information to the reader. The offices will continue to improve and to refine the report to better serve expectations and objectives of the public. This report is also available on the web sites of the Trilateral Offices as listed on the back cover. An additional Annex appears in the web version that gives data from the report over several additional previous years.

Trilateral Statistical Report 2004 Edition  
Jointly produced by EPO, JPO, and USPTO  
with co-operation of WIPO

October 2005

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# Chapter 1

## INTRODUCTION

### DEFINITIONS OF TERMS

There are various 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 type, patents of invention.

Despite the existence of regional and international procedures, patent rights do differ between countries. 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 of:
  - **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 will be 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:

- Four geographical blocs are defined. The European **Patent Convention (EPC) contracting states**<sup>3</sup> (corresponding to the territory of all the states party to the EPC at the end of the reporting year), **Japan**, the **USA** and the rest of the world referred to as the bloc "**Others**".
- Demand for patent protection is considered principally by 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.

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<sup>3</sup> Referred as **EPC states** in the graphs.

- Filings of **PCT applications** are counted in the year of filing in the international phase, which is the first part of the PCT procedure.
- **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**. The subsequent filings usually have to be made within one year of the first 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<sup>4</sup>, and that PCT filings are subsequent filings.
- **Grants** are reported as recorded by the WIPO in its Industrial Property Statistics series<sup>5</sup>.
- 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 a filtered subset of patent families for which there is evidence of patenting activity in all trilateral blocs. Other types of filters can be applied to select patent families of high importance, for example, the subset of Trilateral patent families known as “Triadic patent families” that are currently reported in OECD publications. These require achievement of an application to the JPO and the EPO itself rather than to any patent office in the EPC contracting states. They also require that there be a grant at the USPTO rather than only an application there.

Further definitions for statistics on procedures are given in Annex 2.

## CHAPTER 2

In this chapter, a summary of the recent developments in the Trilateral Offices is presented. Further information on budget item definitions is given in Annex 1.

## CHAPTER 3

This chapter provides an assessment of worldwide patent applications. Statistics in this chapter are derived primarily from the Industrial Property Statistics of the 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

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<sup>4</sup> 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.

<sup>5</sup> see at <http://www.wipo.int/ipstats/en/statistics/patents/index.html>



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. Next, 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.

Statistics are given for applications filed with Trilateral Offices from each filing bloc, also showing domestic and foreign filings. Direct applications to the Trilateral Offices are counted at the date of filing. 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 generally 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 procedures 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 PCT impacts 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 the WIPO Industrial Property Statistics, as reported by each country and region. However, some statistics (e.g. national stage figures, international searches information, and international preliminary examination information) were provided by the Trilateral Offices.

## **CHAPTER 6**

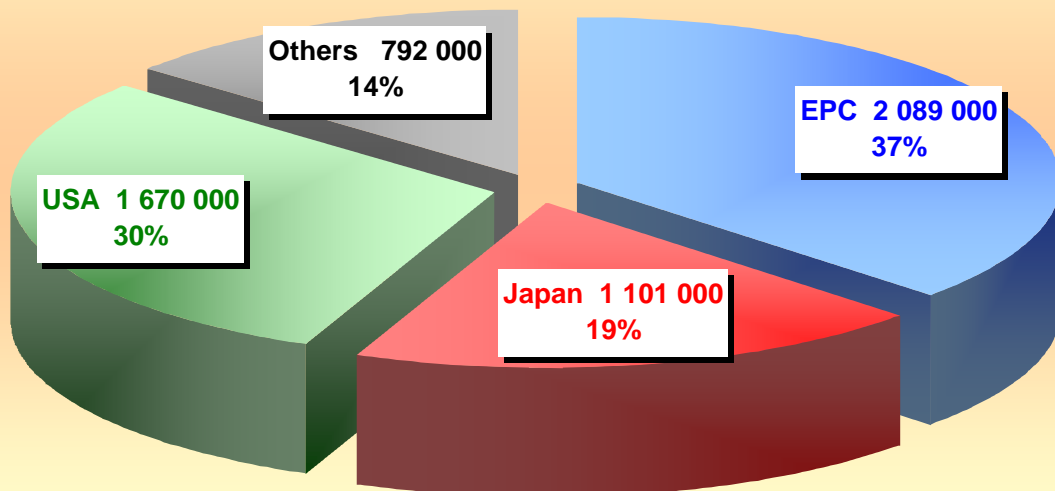
This last chapter is dedicated to the other activities the Trilateral Offices are performing that are not common to all three offices, as well as work related to other types of industrial property rights.

## Chapter 2

# THE TRILATERAL OFFICES

Patent rights are well used throughout the world. The most recent information on worldwide patent rights is available from the 2003 WIPO Industrial Property Statistics. At the end of the year 2003, a total of 5.6 million patents were in force. The EPC contracting states, the JPO and the USPTO, together cover about 86% of the total patents worldwide. In the EPC contracting states, patents are granted either by the national offices or by the EPO.

**Fig. 2.1 PATENTS IN FORCE WORLDWIDE IN 2003**



# EUROPEAN PATENT OFFICE

The European Patent Office (EPO), the main patent granting authority for Europe, is the result of successful economic and political cooperation, providing patent protection in up to 36 European countries on the basis of a single patent application and a unitary grant procedure. The EPO currently receives about 180 000 patent applications per year, twice as many as in 1996.

The Organisation continues to expand. In 2004, the European Patent Convention entered into force in Poland, Iceland and Lithuania. By the end of the year, 30 states were members of the underlying European Patent Organization:

<b>Austria</b>	<b>Belgium</b>	<b>Bulgaria</b>	<b>Cyprus</b>	<b>Czech Republic</b>
<b>Denmark</b>	<b>Ellas</b>	<b>Estonia</b>	<b>Finland</b>	<b>France</b>
<b>Germany</b>	<b>Hungary</b>	<b>Iceland</b>	<b>Ireland</b>	<b>Italy</b>
<b>Liechtenstein</b>	<b>Lithuania</b>	<b>Luxemburg</b>	<b>Monaco</b>	<b>Netherlands</b>
<b>Poland</b>	<b>Portugal</b>	<b>Romania</b>	<b>Slovakia</b>	<b>Slovenia</b>
<b>Spain</b>	<b>Sweden</b>	<b>Switzerland</b>	<b>Turkey</b>	<b>United Kingdom</b>

Other states have agreements with the EPO to allow extension of European patents to their territory. Such new agreements entered recently into force. At the end of 2004, extensions of European patent could be requested for:

**Albania, Bosnia-Herzegovina, Croatia, Latvia, the former Yugoslav Republic of Macedonia, and Serbia and Montenegro.**

Latvia joined the European Organisation to become the 31<sup>st</sup> contracting state on July 1, 2005.

Together, the above states build a market of about 590 million people.

## Grant Procedure

The mission of the EPO is to support innovation, competitiveness, and economic growth for the benefit of the citizens of Europe. Its main task is to grant European patents according to the European Patent Convention (EPC). Moreover, the EPO acts as a 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 at the request of third parties.

In 2004, the EPO conducted a large scale re-organisation. For the first time since the EPO was founded in 1977, all its patent examiners are now grouped together in a single Directorate-General, while the strategically important departments supporting the granting procedure, technical services and quality control are gathered in another Directorate-General. This far-reaching internal restructuring is designed to further streamline and support the patent granting process.

To keep pace with the higher demand for its services, the Office continued with its internal adjustments. With the nearing completion of the BEST<sup>6</sup> project, a number of changes have been made to the grant procedure to speed up patenting without sacrificing quality.

In July 2003, the EPO launched the extended European search report pilot project. For the European first filings, the search report is now supplemented with the first substantive examination communication. After a successful pilot phase with 90% approval from the users, this will be expanded to all European searches and become a standard in July 2005. Furthermore measures

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<sup>6</sup> Bringing Examination and Search Together

have been taken to shorten the administrative handling prior to the publication of the granted patent.

**Table 2.1: PRODUCTION INFORMATION EPO**

<b>PRODUCTION FIGURES</b>	<b>2003</b>	<b>2004</b>
<b>Filings</b>		
Total Euro-direct & Euro-PCT international phase	167 353	178 579
Total Euro-direct & Euro-PCT regional phase	116 791	123 706
<b>Searches carried out</b>		
European searches (Euro & Euro-PCT supplementary)	71 449	77 984
PCT international searches	69 098	65 898
Searches on behalf of national offices and other searches	18 084	21 964
<b>Total production search</b>	<b>158 631</b>	<b>165 846</b>
<b>Examination: final actions performed</b>		
European examination	73 776	76 328
PCT Chapter II	35 591	27 805
Opposition (final action)	1 872	1 979
<b>Total final actions examination / opposition</b>	<b>111 239</b>	<b>106 112</b>
<b>Appeals settled</b>		
Technical appeals	1 363	1 369
PCT protests	27	32
Other appeals	35	50
<b>Total decisions</b>	<b>1 425</b>	<b>1 451</b>

In Table 2.1, the latest production figures for search (European, PCT and national searches), for examination (European and PCT Ch. II), for opposition and for appeal in the European procedure are given for the years 2003 and 2004.

In 2004, the Office production in search increased by 5% to almost 166 000 completed searches. While the examination work under the PCT has been further reduced, the number of final actions in European examination increased by 3% to 76 300. In 2004, 1 450 decisions in appeal were completed (2% more than in 2003).

During the year, the EPO launched the EPODOS<sup>7</sup> project. The aim of this is to handle each application and the related documents and data electronically throughout the procedure.

## **Documentation**

The Office further improved the range and quality of its databases and online search tools. The EPO documentation database grew further in 2004. About 90 different databases with 237 million records can be searched. The EPO's master database DOCDB gives access to 56 million patent

<sup>7</sup> EPODOS: Electronically Prepared and Organised DOSsier

records. The non-patent literature now contains 54 million searchable abstracts. The full-text searchable database is made of 14.6 million patents and 1.4 million non-patent literature articles.

The digital collection in BNS<sup>8</sup> contained, at the end of 2004, 55.6 million facsimile patent documents and items of non-patent literature.

The EPO's in-house classification system (ECLA<sup>9</sup>) is an expanded form of the International Patent Classification (IPC). With 129 000 subclasses, it allows for fast and systematic access to the search documentation available in each technical field. The ECLA system is also used in esp@cenet, the free Internet service to access patent documents.

The electronic filing tool made available by the EPO received a growing response from the users, who made about 14% of their European applications using the online-filing offered within epoline<sup>®</sup>. The Online European Patent Register remains popular with 600 000 queries per week, and the online public file inspections rose to over 8 000 a day. The online fee payment service was further improved and transactions for more than 3 million Euros were completed on it during 2004.

## 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<sup>10</sup>. 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<sup>11</sup>) is one of the key elements for 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 EPO laid the legal and technical foundations for electronic publication. This should soon allow free publication of all European patent applications and patents on the Internet to replace the paper versions. The paper version of the European patent bulletin was discontinued at the end of 2004 and is replaced by the Internet version.

The annual EPIDOS conference was held in Prague and attended by 500 delegates and 43 exhibitors. The PATLIB conference took place in Vilamoura (Portugal), attracting 400 participants from 47 countries. A "Far East meets West" forum was organised in Vienna for patent information users from Europe, Japan, China and Korea.

The EPO website has now over 90 000 pages and attracted many more visitors, since 83 million hits and 4.5 million page visits have been recorded in 2004.

## Technical Cooperation

A total of 120 experts from the EPO were involved in technical cooperation projects in partnership with national or regional patent authorities, the EU Commission, the OHIM<sup>12</sup> and the WIPO in 45 countries throughout the world in 2004.

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<sup>8</sup> Backfile CONversion Numerical Service

<sup>9</sup> EPO CLAssification

<sup>10</sup> European Patent Information and DOcumentation Services - formerly INPADOC

<sup>11</sup> PATent LIBrary

<sup>12</sup> Office of Harmonization in the Internal Market

The extension of the ECAP-II<sup>13</sup> agreement with the European Commission allows further cooperation with Cambodia, Laos and Vietnam. The 15<sup>th</sup> bilateral meeting between the EPO and the China State Intellectual Property Office reached an agreement on training and patent information. A similar agreement led to a co-operation program with the Eurasian Patent Office. The EPO, together with the French Patent Office (INPI) and the African Intellectual Property Office (OAPI), supported the creation of a regional IP training centre in Cameroon.

In 2004, the EPO's "International Academy" offered 21 courses taken by staff from patent and trademark offices as well as patent attorneys, patent judges, government officials, and scientists. In December, the academy was integrated into the structures of the newly created European Patent Academy.

The LATIPAT<sup>14</sup> patent information server was presented during the fifth ELDIPAT<sup>15</sup> conference held in Lima in May 2004.

The EPO has pursued its cooperation with other European countries concerning IT infrastructure, promoting IP issues and modernising patent systems.

### **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 in the year 2004 (excluding investments) was EUR 932 million. This breaks down into EUR 712 million (76%) for personnel expenses, EUR 67 million (7%) for property and equipment (including depreciation), EUR 85 million (9%) for EDP equipment and maintenance (including depreciation), EUR 27 million (3%) for patent information and cooperation with the contracting states and EUR 41 million (4%) for general operating expenses.

Total income to the EPO in 2004 amounted to EUR 970 million.

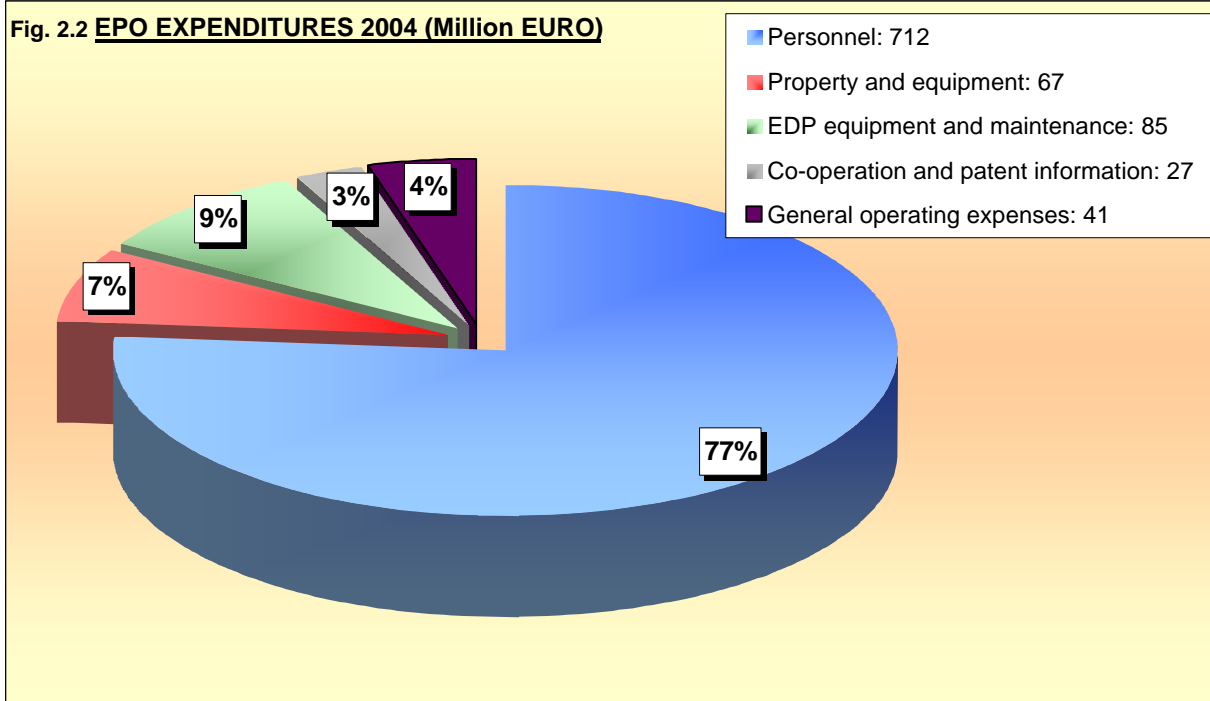
Detailed description of the budget items can be found in Annex 1.

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<sup>13</sup> EC-ASEAN Intellectual Property Rights Cooperation Programme

<sup>14</sup> Technical cooperation project between Europe and Latin America (database with bibliographical document data of Patents and Models of Latin American countries)

<sup>15</sup> Encuentro Latinoamericano de Divulgación de Información de PATentes (Latin American Encounter on Patents)



### EPO Staff Composition

During 2004, the EPO increased its number of employees by less than 2% and 64 new examiners have been recruited. By the end of the year, the staff reached a total of 5 918, including 3 365 examiners in search, examination, opposition, and 129 members of Boards of Appeal.

Further information can be found from the EPO's Homepage:

[www.european-patent-office.org](http://www.european-patent-office.org)



# JAPAN PATENT OFFICE

The Japan Patent Office (JPO) is committed to comprehensive development of industry through planning and carrying out examinations and appeals / trials under the system of industrial property rights, which includes patents, utility models, designs, and trademarks.

Since February 2002, we in the government have strenuously and dynamically been striving to facilitate the creation, protection and exploitation of IP content in order to make Japan into an "IP-based nation," the future to which we aspire. Toward this end, the Japan Patent Office (JPO) instituted five programs that comprise the pillar of our efforts to construct an IP-based nation; namely:

- 1) acceleration of patent examinations,
- 2) the IP exploitation promotion program for regional, medium and small enterprises,
- 3) the establishment of Japanese brands,
- 4) countermeasures against counterfeits and pirated copies, and
- 5) environmental adjustment to activate the intellectual creation cycle.

We will continue to promote the corresponding programs even more aggressively this year.

## **Examination and appeal/trial examination**

In patent examination, the number of requests for examination has exceeded the number of first office actions for six years since 1999. Furthermore, due to factors such as the ever-increasing burden on examination power due to the increasing complexity and highly rising number of international search reports, we are in a more severe examination environment than ever. In addition, since the period to file a request for examination had been shortened in October 2001, the number of requests is beginning to increase at a high rate (an increase of 35%, from 243 836 in 2003 to 328 105 in 2004.)

Under these circumstances, the JPO has been making an effort to promote timely, high quality examinations through several approaches mentioned. As a result, the average pending period for examination in 2004 was kept at 26 months.

The total number of demands for appeal/trial in the year 2004 was 24 008, increasing by 1 791 over the previous year.

## **Achieving timely and high-quality patent examination at the highest level in the world**

To strengthen the examination system, the JPO has scheduled to employ 500 fixed-term examiners for 5 years since FY2004 in addition to increasing the number of regular examiners. The JPO has employed 98 fixed-term employees each in FY2004 and in FY2005. The JPO has also employed retired examiners and PhD holders in Science and Engineering as part-time assistants to support examinations. In addition, regarding outsourcing of prior art search, the instituting of registered search organization system began in October 2004, which enabled private research companies to join the ranks of registered search organizations. In order to smoothly institute this system, the National Center for Industrial Property Information and Training (NCIPI) is providing programs of capable searcher development with a sophisticated training curriculum that includes practice in the search process. The JPO is comprehensively executing these measures.

## **Reinforcing measures against counterfeits and pirated copies**

In recent years, there have been frequent infringements of trademark rights, design rights, patent rights and other rights resulting from the circulation of counterfeits mainly within the Asian nations. This has resulted in an adverse affect on the activities of Japanese enterprises through loss of market potential and deterioration of brand images. Therefore, the JPO shall reinforce the regulations at the border in cooperation with the relevant ministries and agencies. The JPO shall request the reinforcement of control over counterfeits to the governments of the region by utilizing frameworks of the bilateral and multilateral intergovernmental consultation and joining forces with the International Intellectual Property Protection Forum. The JPO will promote these aspects of providing information, consultation, etc. by utilizing the overseas offices of JETRO<sup>16</sup> and other organizations in order to support the efforts of Japanese enterprises. The JPO shall also strengthen support by providing human resource education for those engaged in the intellectual property infringement countermeasures, mostly in the Asian nations' courts, customs houses, police, intellectual property-related administrative offices, etc.

## **Electronic filing**

The JPO has promoted the Paperless Project since 1984, ahead of other countries, with the aim to improve efficiency of administrative processing, shorten the examination period, and expand industrial property information services. It started to accept electronic filing of patent and utility model applications in December 1990, and as of March 2005, about 34 000 applicants and representatives have taken electronic procedures with the JPO by using the PC electronic filing software distributed free of charge. These measures have proved effective, resulting in 97% of all patent and utility model applications being filed by the electronic filing procedures in 2004, which show that the system has penetrated widely among domestic users.

The JPO also started to allow electronic procedures for the filing of design and trademark applications, appeal procedures, and national procedures for PCT applications in January 2000. During 2004, a large proportion of the procedures have become digitized with 90% of design application filings, 83% of trademark application filings, 98% of appeal procedures, and 99% of national procedures for PCT applications conducted in electronic form.

In July 2003, the JPO adopted the format for the domestic application forms for patents and utility models to be the same as the format for the PCT international application, and also executed the international standardization in an electronic format (XML: eXtensible Markup Language).

The JPO is now developing an electronic filing system via the Internet, which is scheduled to begin operation in October 2005. The electronic filing system to be accessed via the Internet will utilize the Government Public Key Infrastructure (GPKI) to identify applicants electronically and to prevent electronic falsification. This will enable electronic cash payment through the electronic revenue payment system developed by the Ministry of Finance.

## **Providing for Industrial Property Information**

Industrial property information (IP information) is a compilation of technical information including the newest items, as well as a collection of useful information indicating the scope of industrial property rights. Therefore, promoting the active utilization of the IP information is important for determining both business and R&D strategies. The JPO has been providing the IP information in various ways in order to promote the active utilization by the public.

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<sup>16</sup> The Japan External Trade Organization

The JPO started the Industrial Property Digital Library (IPDL) services, which make the IP information available via the Internet free of charge, as early as in March 1999, to provide the public with better access to the IP information. The operation of this service was transferred to the National Center for Industrial Property Information and Training (NCIPI) in October 2004 and it is now provided on the NCIPI Website<sup>17</sup>. The IPDL services have been expanded year by year. In October 2004, Computer Software Database, (CSDB), a sub-menu of the IPDL services, was expanded to provide original documents with permission from copyright holders in addition to the bibliographic data (The CSDB is a database proprietarily constructed by the JPO and accumulates documents regarding software and so on.). As of April 2005, the IPDL English services include PAJ (Patent Abstracts of Japan) and FI/F-term search, Design Gazette database, English versions of trademark filing and registration information, and machine translation service for digitalized gazettes.

In addition to the Internet service, the IP information held by JPO is provided in standardized formats like XML at marginal cost in bulk form. Utilizing such bulk data has promoted the establishment of companies' own internal databases and encouraged private information providers to distribute high-value added and diverse services. In April 2005, it is scheduled to start providing the bibliographic data of publicly-known design materials and foreign design gazettes in bulk form.

Since January 2004, JPO's Unexamined or Registered Gazettes have been published in the XML format and, since July 2004, XML format publication has been expanded to the Granted Patent and the Utility Model Gazettes. At the same time, DVD-ROMs instead of CD-ROMs have been employed as publication media in order to facilitate easier access.

### **Cooperation with Developing Countries**

To help developing countries with the establishment and implementation of industrial property rights systems, the JPO, in a joint scheme with WIPO, JICA<sup>18</sup> and other organizations, received a total of 1 856 trainees from both the public and private sectors of 43 countries and regions between 1996 and March 2004. The JPO will continue its human resource development programs with an emphasis on IP enforcement so that IP-related laws will be implemented more effectively. The JPO also utilizes WIPO Funds-in-Trust / Japan and JICA expert dispatch schemes to send its staff members and other qualified people to developing countries as experts in various IP fields. The dispatched experts primarily provide practical day-to-day support in such areas as examination and appeal / trial procedures, computerization, and PCT operations. They also provide seminars designed to help establish as well as educate local people on industrial property rights systems.

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<sup>17</sup> [http:// www.ipdl.ncipi.go.jp/homepage\\_e.ipdl](http://www.ipdl.ncipi.go.jp/homepage_e.ipdl)

<sup>18</sup> Japan International Cooperation Agency

**Table 2.2: PRODUCTION INFORMATION JPO**

<b>PRODUCTION FIGURES</b>	<b>2003</b>	<b>2004</b>
<b>Applications filed</b>		
Domestic	362 711	368 416
Foreign	50 381	54 665
<b>Total</b>	<b>413 092</b>	<b>423 081</b>
<b>Grants</b>		
Domestic	110 835	112 527
Foreign	11 676	11 665
<b>Total</b>	<b>122 511</b>	<b>124 192</b>
Applications in appeal	22 217	24 008
(Acceptance)	(4 950)	(5 728)
Applications in opposition	3 896	n.a.
(Acceptance)	(837)	(714)

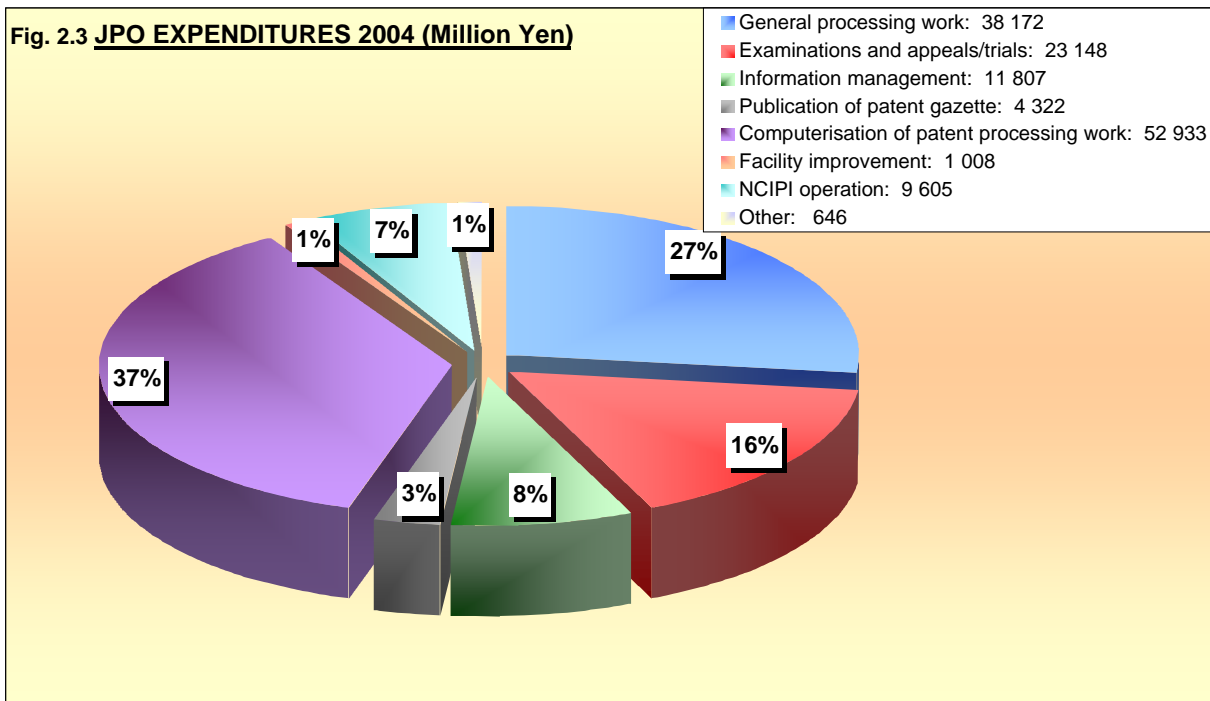
**Budget**

The JPO FY2004 budget totalled approximately 141 641 million yen. The breakdown of expenditures is as follows:

- 38 172 million yen for general processing work (includes personnel expense)  
(29 036 million yen for existing personnel)
- 23 148 million yen for examinations and appeals/trials, etc.
- 11 807 million yen for information management
- 4 322 million yen for publication of patent gazette, etc.
- 52 933 million yen for computerisation of patent processing work
- 1 008 million yen for facility improvement
- 9 605 million yen for operating for NCIP (subsidy)
- 646 million yens for others.

Detailed description of the budget items can be found in Annex 1.

**Fig. 2.3 JPO EXPENDITURES 2004 (Million Yen)**



### JPO Staff Composition

As of the end of FY2004, the JPO employed a total of 2 555 staff. This included an increased number of examiners and appeal examiners to further cut the time required for examination / appeal procedures.

Examiners:	1 442
Patent / Utility model:	1 243
Design:	51
Trademark:	148
Appeal examiners:	392
General staff:	721

Further information can be found from the JPO's Homepage:

JPO Homepage: [www.jpo.go.jp](http://www.jpo.go.jp)

# UNITED STATES PATENT AND TRADEMARK OFFICE

The mission of the USPTO is to ensure that the intellectual property system contributes to a strong global economy, encourages investment in innovation, and fosters entrepreneurial spirit. This mission is accomplished by the USPTO through its two businesses, Patents and Trademarks, which aim to:

- Promote the progress of science and the useful arts by securing, for limited times to inventors, the exclusive rights to their respective discoveries (Article 1, Section 8 of the United States Constitution).
- Provide businesses with enhanced protection of trademark rights and notices of the trademark rights claimed by others, as well as protect consumers against confusion and deception in the marketplace.

Since 1991, the USPTO has operated in much the same way as a private business, providing valued products and services to its customers in exchange for fees that are used to fund its operations. The powers and duties of the USPTO are vested in the Under Secretary of Commerce for Intellectual Property and Director of the USPTO, who consults with the Patent Public Advisory Committee and the Trademark Public Advisory Committee. The Commissioners of Patents and Trademarks act as the chief operating officers of the agency's two major business lines.

Over the past decade, the USPTO has faced unprecedented challenges, including soaring workloads, increasingly complex technology, and resource limitations. In response to customer demands for higher quality products and services and Congressional concerns about the agency's ability to continue to operate under a traditional business model, in June 2002 the USPTO implemented the 21st Century Strategic Plan, which is guided by the President's Management Agenda initiatives on strategic management of human capital, competitive sourcing, improved financial performance, expanded electronic government, and budget and performance integration.

The 21st Century Strategic Plan is a far-reaching and aggressive one designed to transform the USPTO into an organization that is responsive to the global economy in which it operates. In response to stakeholder input, the strategic plan was modified and re-released in February 2003. Under the 21st Century Strategic Plan, the USPTO is working with its Intellectual Property (IP) partners to improve its processing systems; to create more coordinated and streamlined work processes to increase the number of applications and communications received and processed electronically; and, to best position the USPTO for the globalization that characterizes the 21st century economy. The plan was internally adjusted in fiscal year 2004 to revise planned accomplishments to align with funding at the enacted level, which was lower than the agency's projected fee income. The Consolidated Appropriations Act, 2005, which gives the USPTO full access to projected fiscal year 2005 fee income, will enable the agency to commence full implementation of the 21st Century Strategic Plan and take the actions necessary to begin to reverse the upward trend in pendency that has been generated by filings increasing at a faster pace than the workforce and by the growing complexity of applications. When the strategic plan is fully implemented, market forces will drive the USPTO's business model, geography and time will be inconsequential when doing business with the agency, products and services will be tailored to customer needs, and agency resources will be better focused on its core expertise, examination.

On July 30, 2004, the USPTO reached a major milestone in maximizing electronic tools to make the patent examination process fully transparent to the public. Now, anyone with Internet access worldwide can use the USPTO's website to track the status of a published patent application, review documents in the official application file, and review all decisions made by patent examiners, including their reasons for making them.

The system, known as Public PAIR (Patent Application and Information Retrieval), offers the public an advanced electronic portal to PDF viewing, downloading, and printing an array of information and documents for patent applications not covered by confidentiality laws. As new applications become eligible for publication 18 months after the earliest effective filing date, they will be added to the database. The USPTO projects that about 300 000 application files will be added annually.

In August 2004, the Patents organization achieved another significant e-government milestone by completing deployment of the Image File Wrapper (IFW) system to all patent examiners, technical support staff, and other adjunct users. The IFW deployment schedule was coordinated with the move of several Technology Centers to the new headquarters in Alexandria, Virginia to eliminate movement of paper patent applications and to enable an end-to-end electronic patent process at the new location. The IFW system contains all new applications filed since June 30, 2003, and pending applications filed before that date were captured electronically during the IFW deployment. In addition to the IFW, the Patent organization no longer mails paper U.S. references to applicants, instead making the information available to applicants via the Internet.

## **International**

Throughout fiscal year 2004, strengthening intellectual property protection and enforcement was one of the main themes of USPTO efforts worldwide. Officials from the USPTO discussed ways of enhancing protection for copyrights, geographical indications, patents, trademarks, trade secrets and other forms of intellectual property in China, Brazil, Paraguay, Mexico, the Philippines, Eastern Europe, the Republic of Korea, and many other countries, and for the countries with which the United States is negotiating or has negotiated Free Trade Agreements (Morocco, Bahrain, Australia, Panama, Thailand, Chile, Jordan, Singapore, as well as the Andean countries and those of the Southern Africa Customs Union and Central America). Beginning in fiscal year 2005, the USPTO began expansion of its IP protection and enforcement program based on the provisions in the Consolidated Appropriations Act, 2005 (P.L. 108-447) to include training assistance programs, special work assignments aimed at enhancing technical assistance, a public awareness campaign, and studies on key intellectual property issues.

Piracy and counterfeiting continued as major concerns during the past year and the USPTO has worked closely with the State Department, the Office of the United States Trade Representative, the Department of Commerce, and others on these vital issues. The USPTO will continue to work with other countries to build a consensus and protect America's IP community.

**Table 2.3: PRODUCTION INFORMATION USPTO**

<b>PRODUCTION FIGURES</b>	<b>2003</b>		<b>2004</b>	
<b>Applications Filed<sup>19</sup></b>	342 441		356 943	
<b>First Actions</b>	288 033		288 530	
<b>Grants</b>				
U.S. Residents	87 901	52%	84 271	51%
Foreign	81 125	48%	80 022	49%
Japan	35 516	21%	35 350	22%
EPC states	28 209	17%	26 246	16%
Others	17 400	10%	18 426	11%
Total	169 026	100%	164 293	100%
PCT Chapter II	21 932		16 719	
<b>Applications in appeal and interference proceedings</b>				
Ex-parte Appeal Contested	2 683		2 387	
Ex-parte Appeal Disposed	3 737		3 355	
Inter-partes Appeal Contested	101		70	
Inter-partes Appeal Disposed	154		99	
<b>Patent Cases in Litigation</b>				
Cases filed	60		66	
Cases disposed	54		61	
Pending cases (end of calendar year)	39		42	

**USPTO's budget**

In calendar year 2004, USPTO expenditures reached \$1.3 billion. USPTO expenditures are divided into seven major categories: salaries and benefits, equipment, rent and utilities, printing, supplies and materials, contracts/services, and all other expenses.

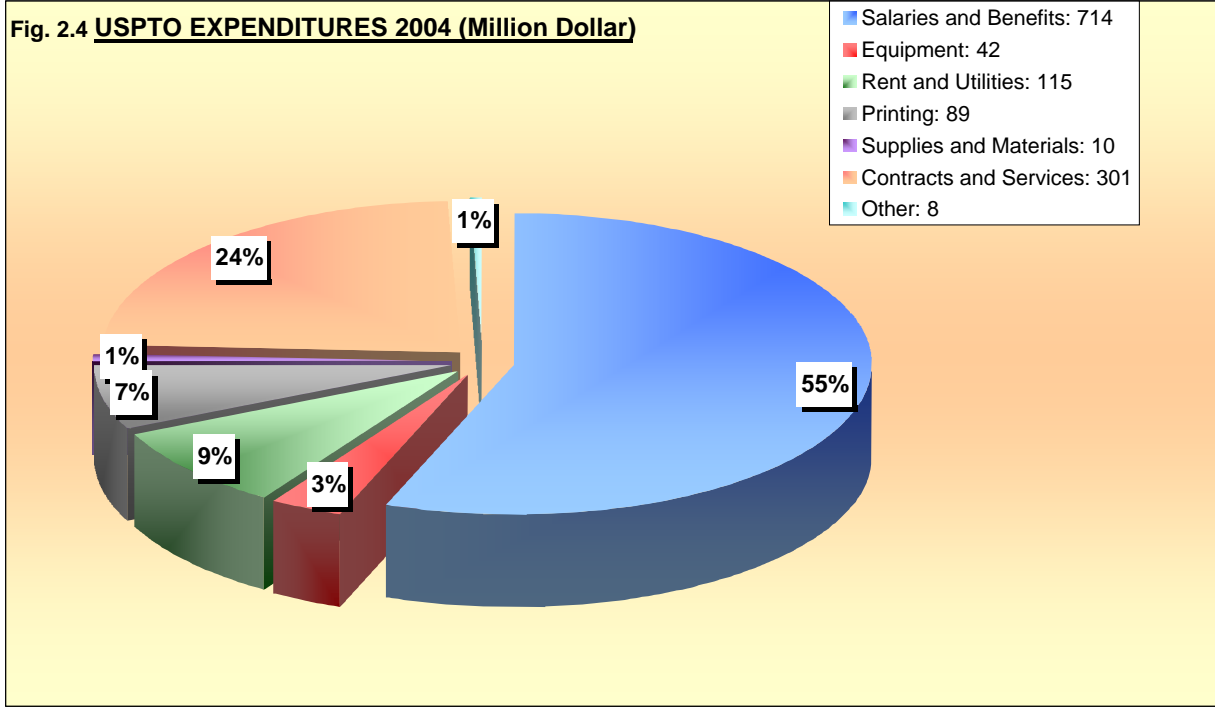
The majority of expenditures in 2004 were attributed to the USPTO's labor force. Salaries and benefits accounted for 55.8 percent of overall expenditures, or about \$714 million. Contracts and services were the second major expenditure, which represented about 23.5 percent of expenditures. Rent and utilities were the third largest at 9.0 percent. A breakdown of all the major spending categories is shown in Fig. 2.4.

Detailed description of the budget items can be found in Annex 1.

<sup>19</sup> For utility patents only



**Fig. 2.4 USPTO EXPENDITURES 2004 (Million Dollar)**



### **USPTO Staff Composition**

In fiscal year 2004, the total staff at the USPTO was 6 627. The Patent staff total was 5 201. This total was comprised of 3 681 Utility, Plant and Reissue (UPR) examiners, 72 Design examiners, and 1 448 managerial, administrative and technical support staff. As reported in past Trilateral Statistical Reports, the Board of Patent Appeals and Interferences is no longer part of the Patent organization. It is now part of the Office of General Counsel (OGC), which has approximately 250 employees and consists of five organizations that are concerned with legal review of agency decisions, defense of agency decisions in court and administrative tribunals, internal agency legal advice, and regulation of persons practicing before the USPTO. The number of members on the Board of Patent Appeals and Interferences decreased in 2003 by one, and the total is now 109.

### **More Information**

Further information can be found from the USPTO 's Homepage:

[www.uspto.gov](http://www.uspto.gov)



## Chapter 3

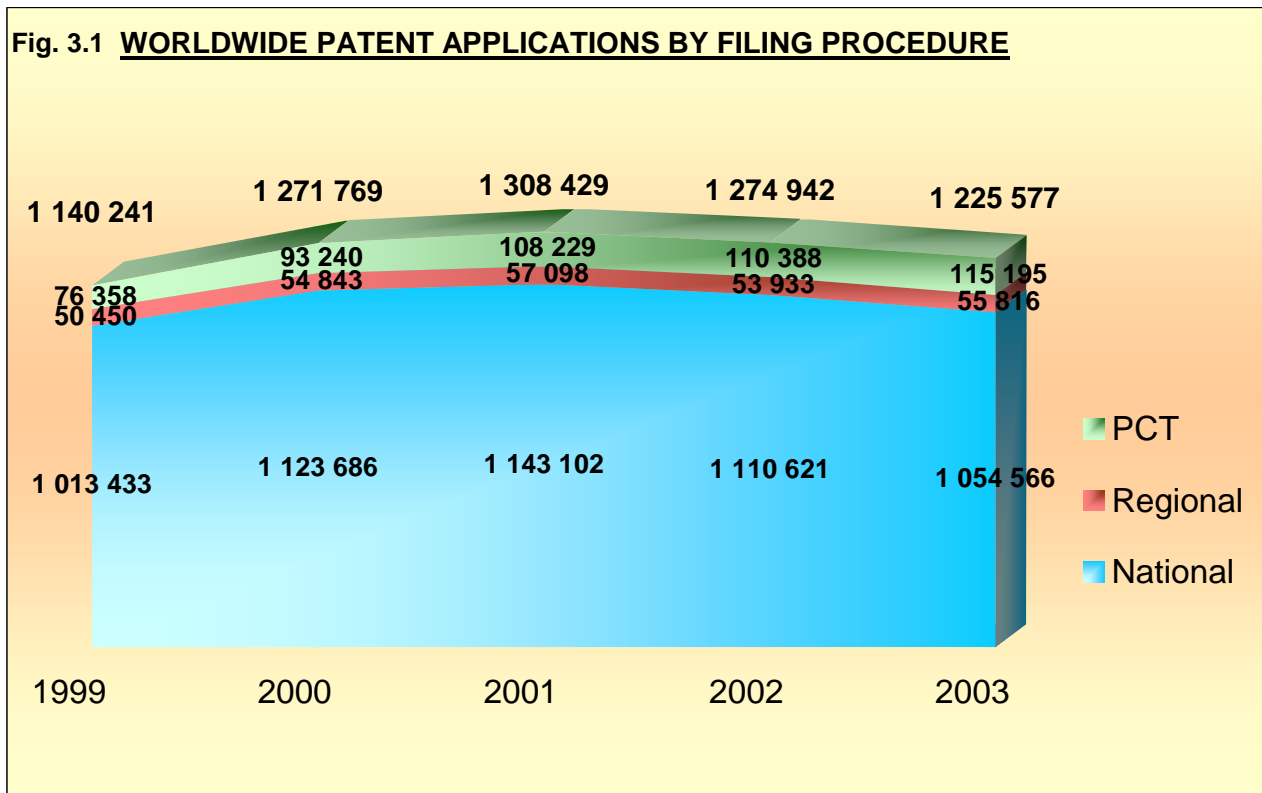
# **WORLDWIDE PATENTING ACTIVITY**

Although the Trilateral Offices represent a significant proportion of total patents worldwide, the global picture is not complete without including all other offices from around the world. This chapter examines worldwide patent activities in terms of patent applications and grants. The statistics mostly cover a five-year period from 1999 to 2003. More current and detailed data from the Trilateral Offices are presented in Chapter 4.

Applications reported hereafter are counted by the calendar year of filing and grants by the calendar year of granting. For supranational applications, it is possible to file a single application that designates a number of contracting states and the subsequent granted patent becomes a bundle of national patents in each designated country. The following statistics and graphs refer to patent applications or grants when such supranational applications are only counted once, and to patent rights when multiplying the supranational cases by the number of national jurisdictions that are covered, in order to reflect the corresponding equivalent numbers of effective national rights.

# PATENT APPLICATIONS FILED

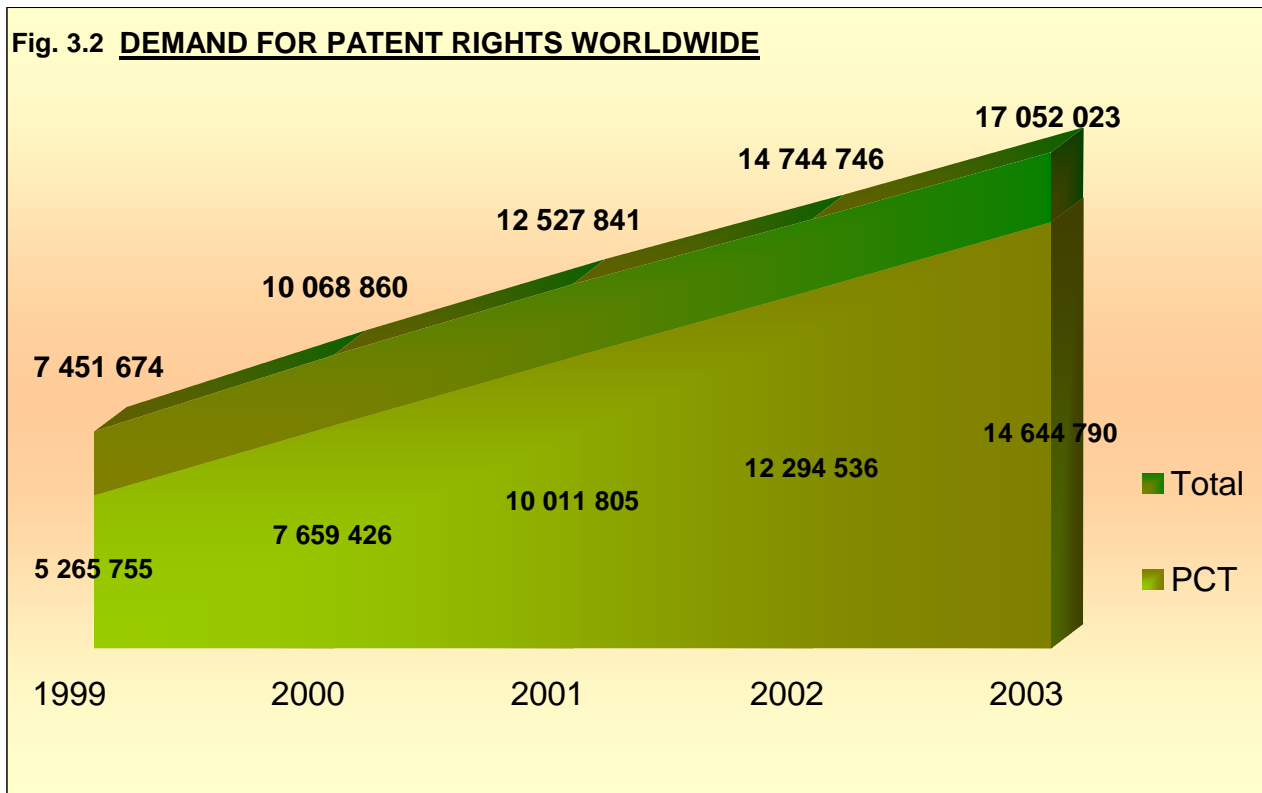
The data in Fig 3.1 below show the numbers of applications filed all over the world.



There were about 1 225 600 filings worldwide in 2003. This represents an average compound rate of increase of 1.8% per year since 1999. The peak annual rate of 11.5% occurred in 2000. Since that time the rate has continued to weaken and by 2002 the trend had actually reversed with filings dropping. Considering the absence of some offices data, one should be careful not to necessarily conclude that the figures indicate that in the near future patent applications will likely develop at a slower pace as compared to recent years.

Although most of the applications were filed according to national procedures (86% in 2003), an increasing proportion was made via the PCT, offering a broader range of options.

Fig 3.2 below shows the development of the worldwide demand for patent rights including cumulated supranational designations. This gives an indication of the number of individual patent applications that would be required if there were no supranational patent systems to obtain the same geographical coverage for inventions.



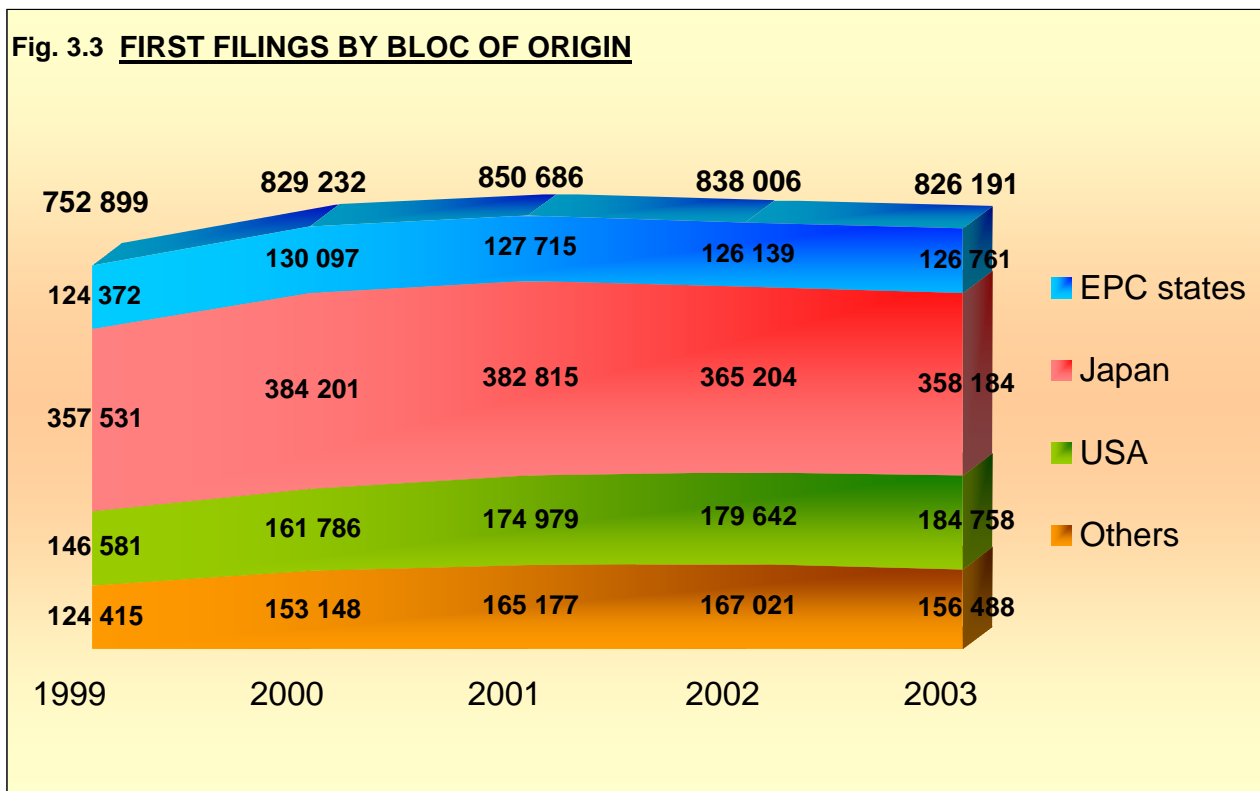
Demands for patent rights have been increasing at an average compound rate of 23% per year since 1999. In 2003 the total demand reached 17 052 000 of which 86% was made from multiple designations via the PCT route.

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 2003, 13.9 designations were made for each application. In 1999 the comparable figure was only 6.5 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 Fig 3.3.

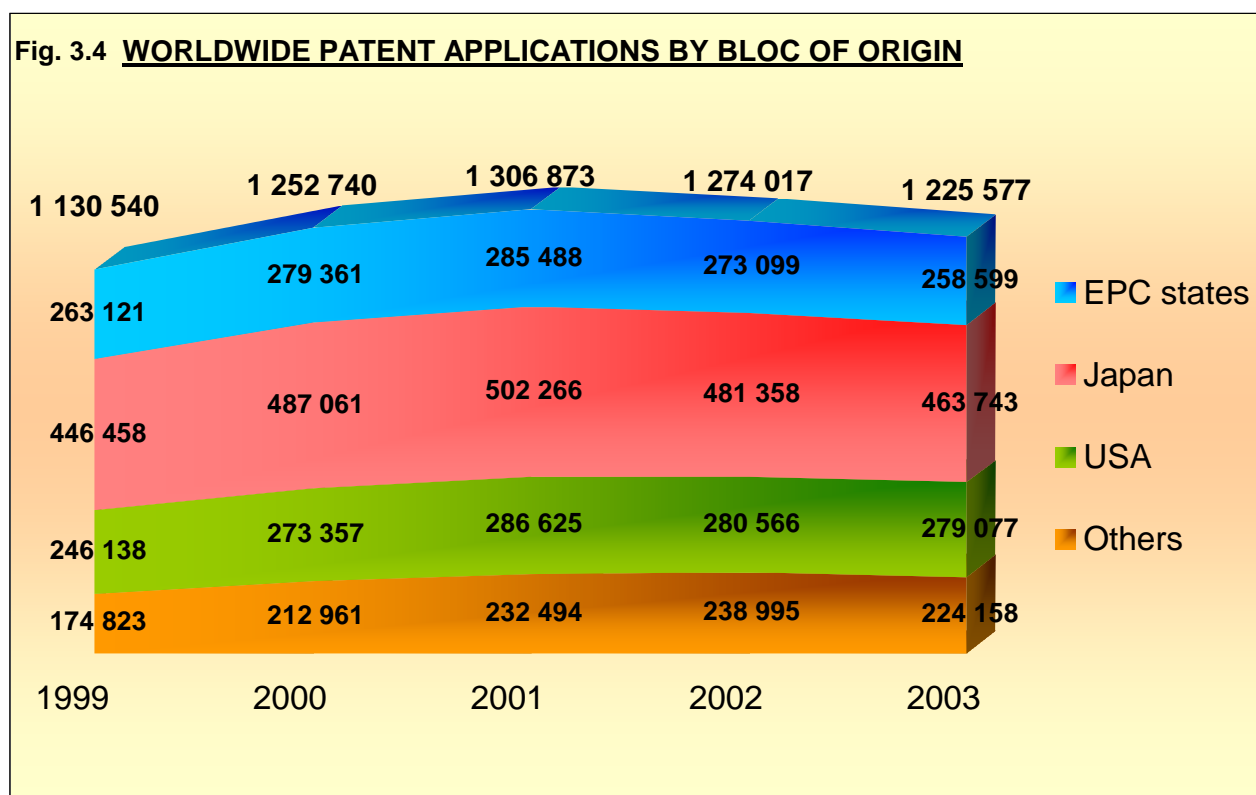


The number of first filings has stabilised. After a peak annual increase of 10.1% in 2000, a slowdown has occurred. The total number increased by only 2.6% from 2000 to 2001 and dropped by 1.5% in 2002 and 1.4% in 2003. Once again, Japan recorded the highest number of first filings in 2003, but the figure of 358 184 represents another decrease, with a peak occurring in 2000 when the total was 384 201. The EPC contracting states have experienced a slight increase in first filings in 2003 and the USPTO has recorded a further increase in first filings. The apparent decline in first filings in the bloc “Others” might be partly caused by the absence of some data.

The total number of first filings in 2002 was 838 006. From these first filings, one year later, in 2003, 399 386 subsequent filings were registered. Thus on average one invention, for which one first filing was made, led to 0.48 subsequent applications. Considering the demand for patent rights generated by one first filing, for one invention a first filing in 2002 led to 19.4 subsequent applications for patent rights. Three years ago, the rate was at 12.3. This shows the ongoing internationalisation of the patent system. So the apparent decline in the number of applications does not represent at all a decline of the worldwide patenting activity but most likely a greater propensity to use the international and regional patent systems available, which allow filing of fewer applications for a broader geographical coverage of the protected inventions.

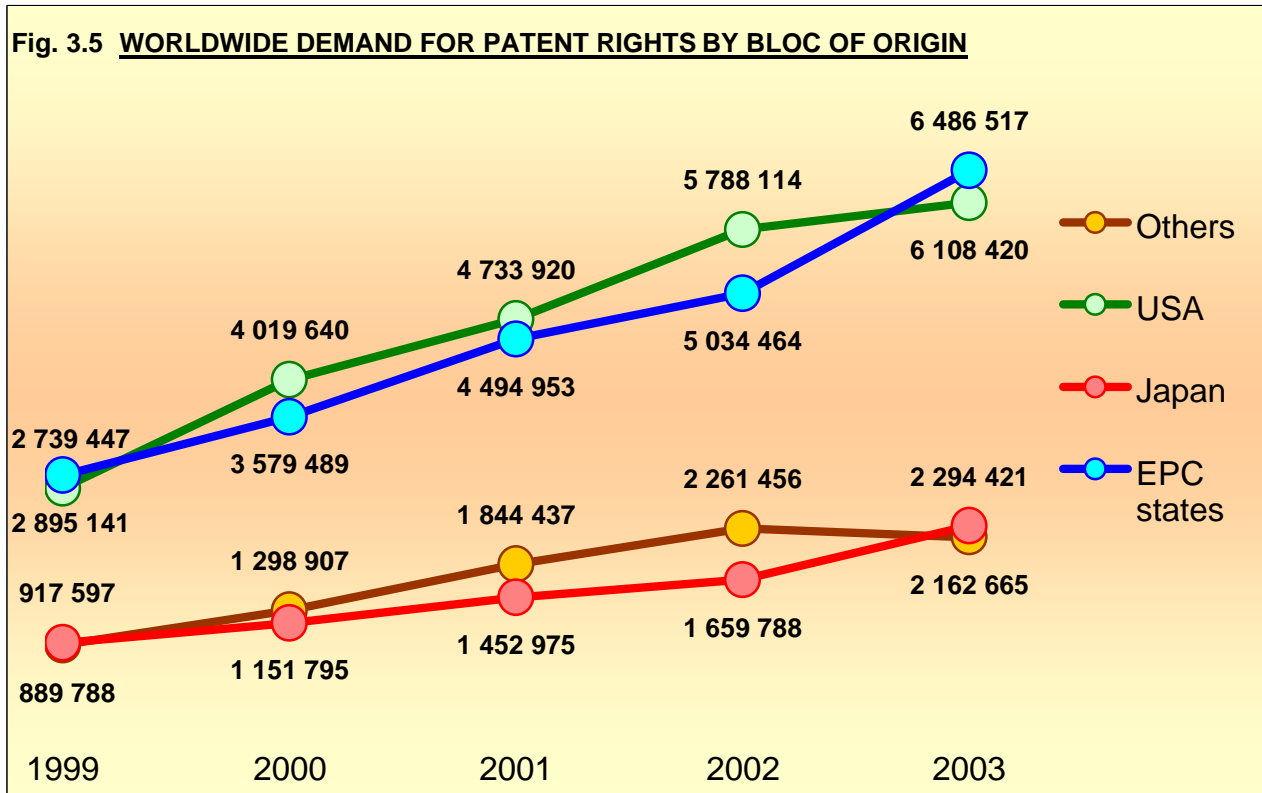
## ORIGIN OF THE APPLICATIONS

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



The number of filings worldwide has decreased by 3.8% from 2002 to 2003, with decreases observed in all four regions of origin. The relative decline was stronger in the case of the EPC countries and Japan than in the USA. The number of offices reporting patent statistics to WIPO changes from year to year. There are therefore only limited possibilities to compare statistical data on a year-to-year basis, in particular for the bloc "Others". Compared to Fig 3.1, applications for which the country of origin could not be determined were not taken into account in Fig 3.4.

Fig 3.5 shows the origin of the demand for patent rights including cumulated designations. Although the demand from residents in the USA was increasing (6%) in 2003, the demand from residents in Japan and in the EPC contracting states was increasing at an especially high rate (38% and 29% respectively).



### 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. Fig 3.6 shows, for applications made throughout the world by the residents of each bloc, the proportions of those applications that were made in bloc of origin.

The proportion of applications made in the bloc of origin is highest in Japan (77% in 2003), followed in order by “Others” (though decreasing to 70%), USA (increasing further to 66%) and EPC contracting states (increasing to 59%). The USA shows an upward trend, while Japan and EPC contracting states seem to have no clear trend.



**Fig. 3.6 PROPORTION OF APPLICATIONS MADE IN THE BLOC OF ORIGIN**

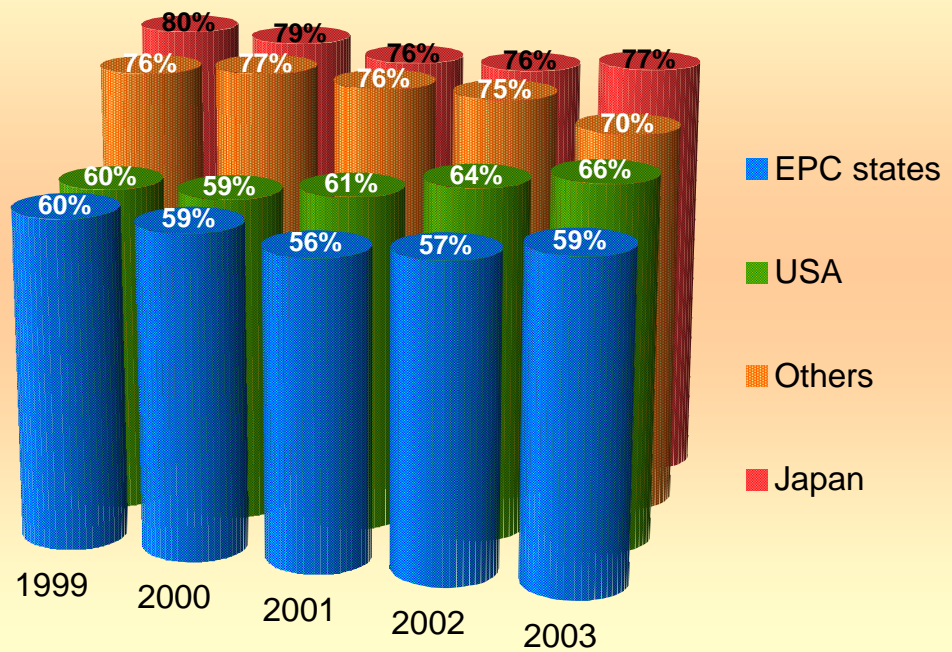
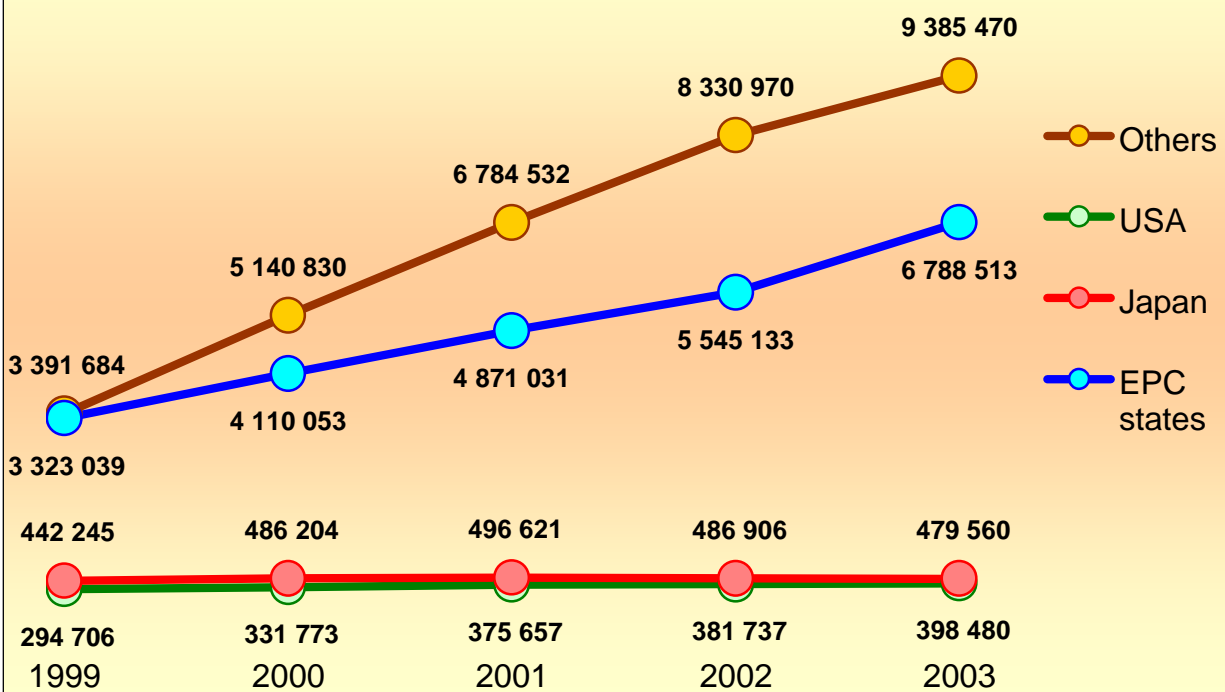


Fig 3.7 shows information on demand for patent rights including cumulated designations categorised by the target blocs in which patent rights are sought.

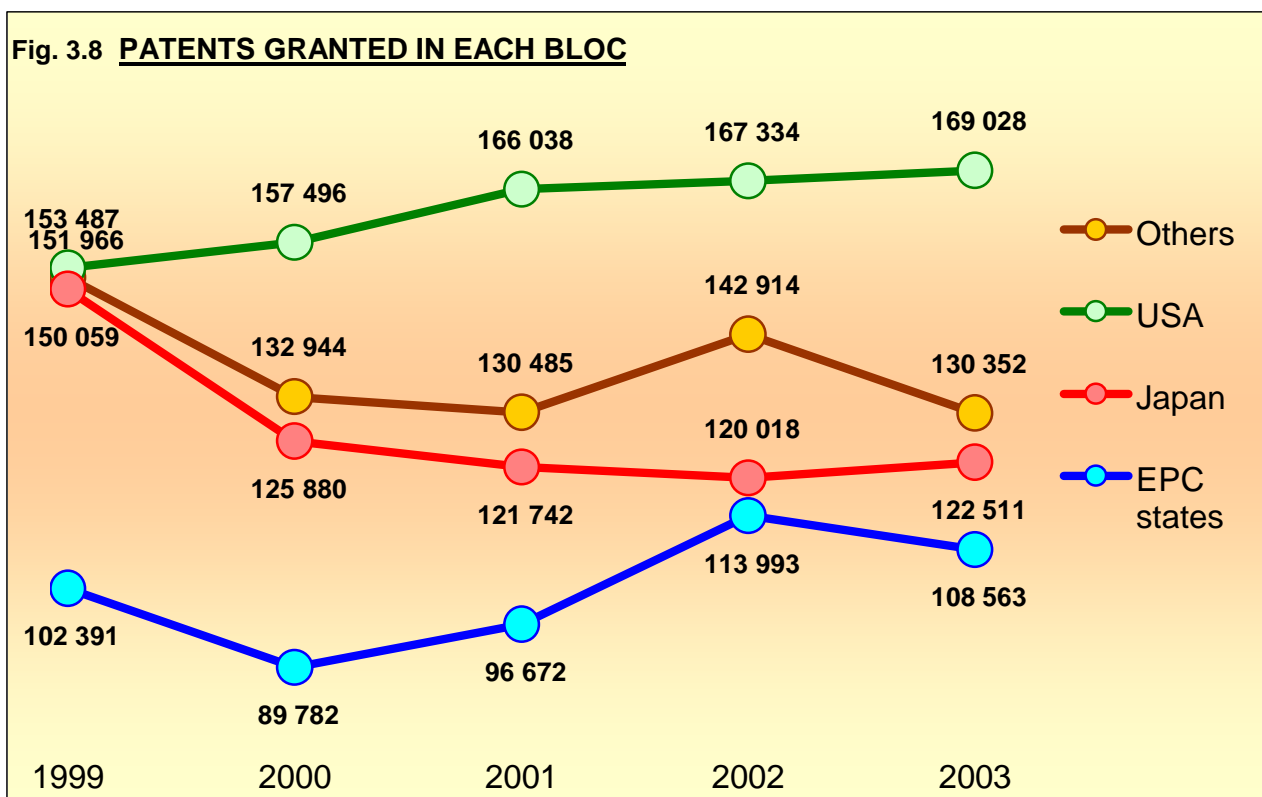
**Fig. 3.7 WORLDWIDE DEMAND FOR PATENT RIGHTS BY FILING BLOC**



Demand in "Others" is the highest followed by the EPC contracting states. The demand increased in all blocs over the period 1999-2003. Within the Trilateral blocs the relative change was the highest in the EPC contracting states (104% increase from 1999 to 2003), followed by the USPTO (35%), and Japan (8%). The development in bloc "Others" (177%) is due to several factors: higher attractiveness of certain markets, countries setting up new protection right systems, new memberships to the PCT.

## GRANTS

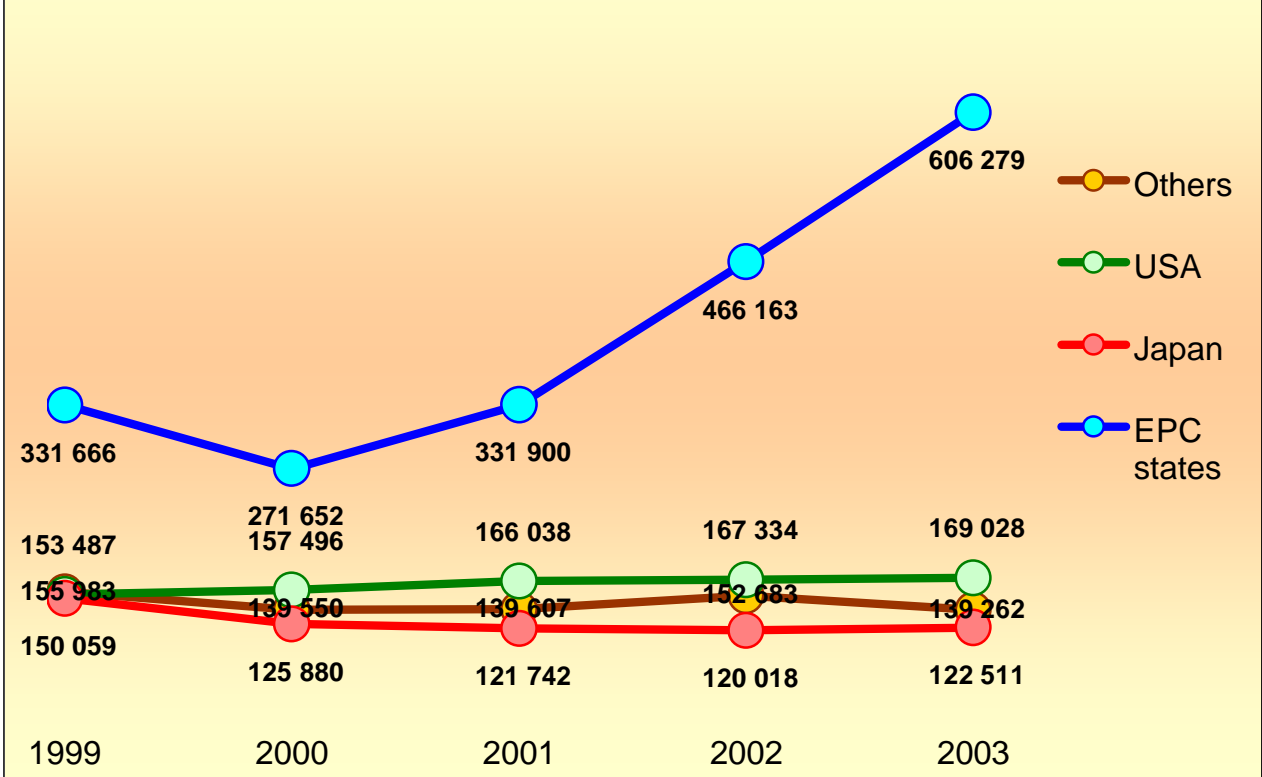
The development of the use of patent systems is shown in Fig 3.8 in terms of the cumulative numbers of patents granted by the various offices in each bloc.



There have been noticeable developments and changes in trends in the number of patent grants worldwide. Japan, which recorded an extremely high number of granted patents in 1999, has gradually declined since that time. EPC contracting states have shown an increasing trend between 2000 and 2002. The numbers of registrations (grants) in the USA kept rising, though at a lower pace since 2001.

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

**Fig. 3.9 PATENT RIGHTS GRANTED IN EACH BLOC**



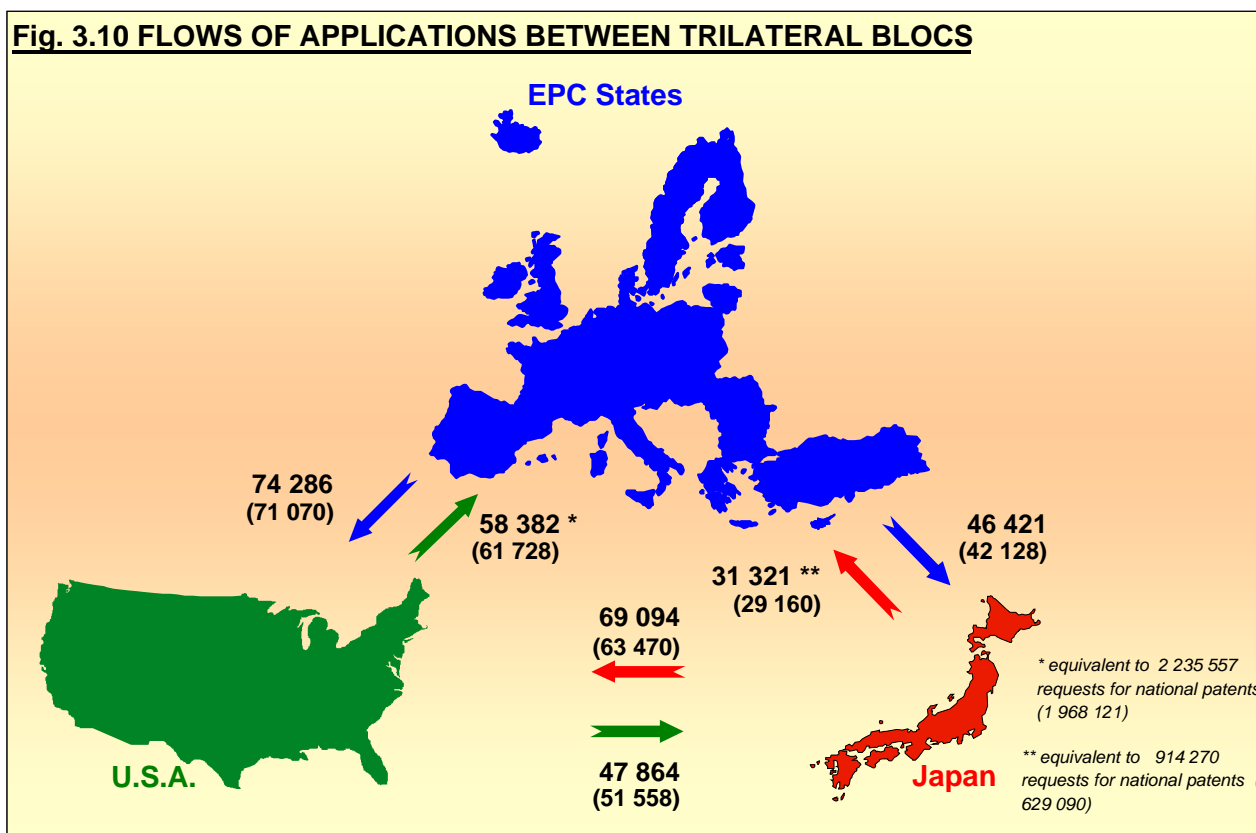
Total patent registrations have continued to increase and strengthen since 2000. In 2003 the growth rate was 14%, and about 1 037 000 patent rights were granted. Of all the blocs, patent rights granted in the EPC contracting states have increased the most (30%) in 2003. This indicates that more patents were obtained via supranational granting procedures.

# INTERBLOC ACTIVITY

## FLOWS OF APPLICATIONS

The flows of patent applications and requests for patent rights between the three major filing blocs are described next. Fig 3.10 shows details of the specific flows of applications between the trilateral blocs in 2003. The 2002 figures are given in brackets.

As in the 2002, 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.

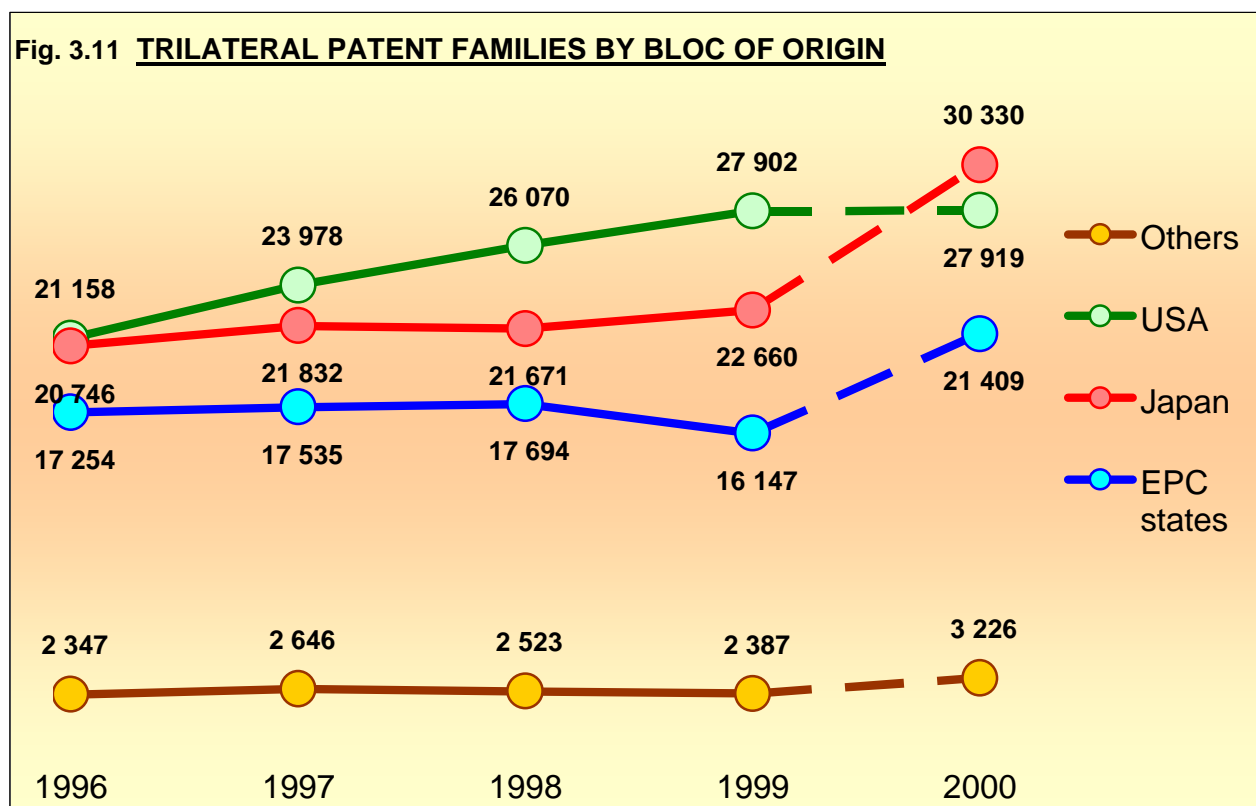


Notes (\*) and (\*\*) in the graph allow a comparison of the flows of applications to EPC contracting states with the equivalent flows expressed in terms of rights including cumulative designations. Applicants from USA filed 58 382 applications in the EPC contracting states, equivalent to 2 235 557 national patent applications (38.3 per application; 31.9 in 2002). Japanese applicants filed 31 321 applications in the EPC contracting states, equivalent to 914 270 national patent applications (29.2 per application; 21.6 in 2002).

## 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. Detailed tables that show the flows of patent families between blocs can be seen in the web based annex to this report.

The development over time of trilateral patent families is shown in Fig 3.11. Due to the delay in publication (from the moment of filing), the figures can only be reported with any degree of accuracy after several years of delay. The figures for references to priorities and flows between trilateral blocs are fairly accurate up to the year 2000, but the figures for trilateral patent families may not be accurate after the year 1999 because for them there needs to be time to gather the evidence of activity in all three blocs.

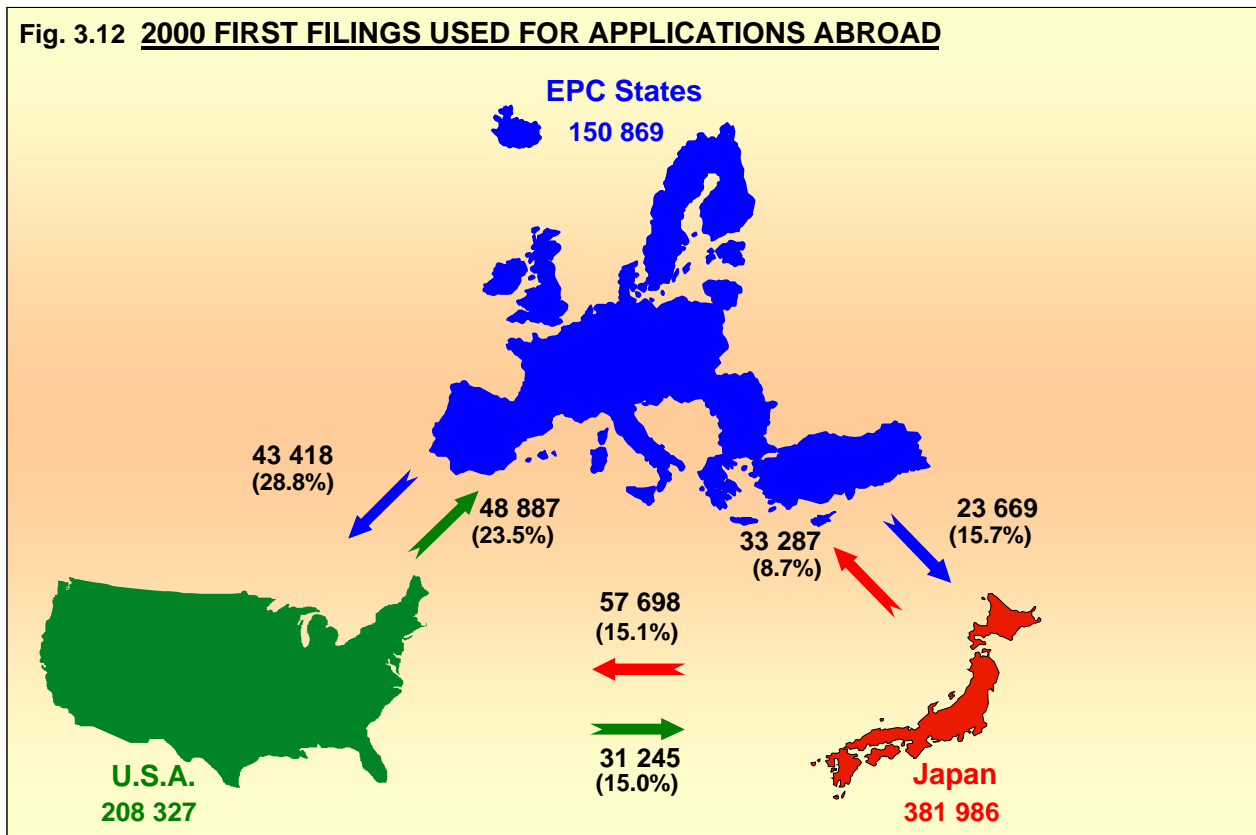


The trilateral patent families' data trended upwards for USA until 1999, while the data for EPC contracting states, Japan and other countries were fairly stable over the period to 1999. The total number of trilateral patent families in 1999 was 69 096, of which 23% originated from EPC contracting states, 33% from Japan, 40% from the USA and 4% from other states. The corresponding figures for 1998 were a total of 67 958 trilateral patent families, of which 26% originated from EPC contracting states, 32% from Japan, 38% from the USA and 4% from other states.

Out of all priority forming filings in the trilateral area in 1999, 9.8% formed trilateral patent families. The proportions differed considerably according to the bloc of origin of the priority forming filings. For EPC contracting states, 10.9% of priority forming filings formed trilateral patent families (was 12.3% in 1998); for USA 15.8% (was 16.7%); for Japan 6.3% (was 6.1%), and for other countries 1.2% (was 1.8%).

A striking feature of Fig 3.11 is that the numbers of trilateral patent families have strongly increased in the provisional data of 2000 for EPC contracting states, Japan and other states. This is unlikely to be an artefact, because USPTO started publishing applications for priority filings in 2000 and so the numbers of trilateral families coming from abroad will be more accurately reflected from 2000 onwards. Prior to 2000, there may have been a censoring effect against the other blocs since a patent application that terminated before grant in USPTO could not be counted as part of a trilateral patent family.

The flows of patent families between trilateral blocs are shown in Fig 3.12. The number given for each bloc is the total number of distinct references to priority filings in 2000. This can be taken as an indicator of the number of first filings in the bloc. The flow figures between blocs of origin and target blocs indicate the numbers of secondary filings in the target bloc that referenced priority filings from the bloc of origin in 2000.



From information tabulated in the web-based annex of this report, out of all first filings in the trilateral area in 2000, only 21.4% formed patent families including at least one other trilateral bloc. When considered by bloc of the priority applications, this proportion was much smaller for Japan than for the other blocs (30.3% for EPC contracting states, 15.9% for Japan, and 25.1% for USA). However the absolute number of such filings for Japan (60 655) was larger than the filings from the other blocs (EPC contracting states 45 678, USA 52 213) due to the large number of first filings in Japan. When the trilateral blocs receiving subsequent applications from the trilateral area are considered, a larger proportion of filings were received by USA than by the other blocs (13.9% by EPC contracting states, 15.3% by Japan, and 19.0% by USA). From all the priority forming first filings throughout the world in 2000, 18.2% formed patent families including at least one trilateral bloc.

## Chapter 4

# **PATENT ACTIVITY AT TRILATERAL OFFICES**

This chapter presents trends in patent application filings and grants at Trilateral Offices. These statistics are generally more up to date than those presented in Chapter 3, and information appears here for 2004. Regarding Europe, statistics are for EPO only and trends in EPC contracting states are not covered. Whereas the EPO is indicated from the viewpoint of an office, EPC contracting states are indicated as individual states from where applications for patent are originating.

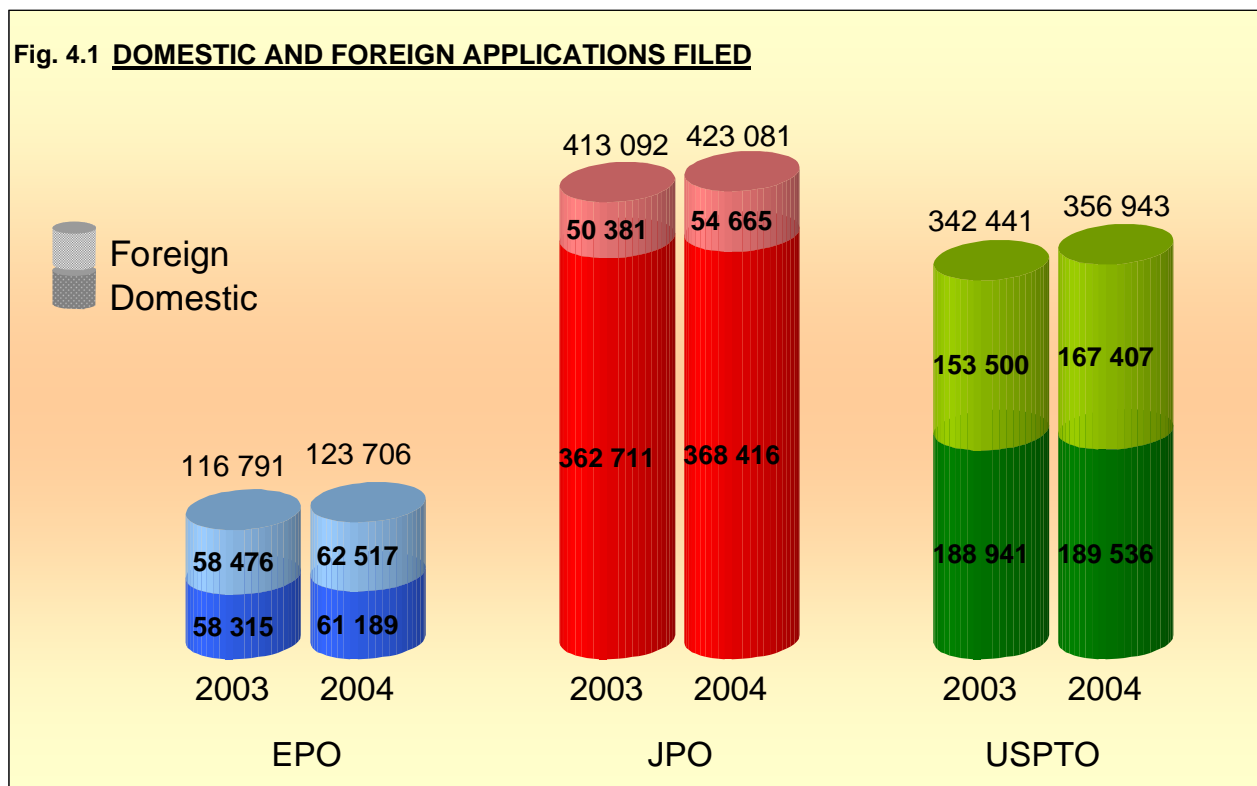
Demand at Trilateral Offices is demonstrated by statistics on patent applications. The total of direct national/regional applications filed and international applications entering the national/regional phase will hereinafter be called "patent applications filed", unless explicitly stated otherwise.

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 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.

# APPLICATIONS WITH THE TRILATERAL OFFICES

## PATENT APPLICATIONS FILED

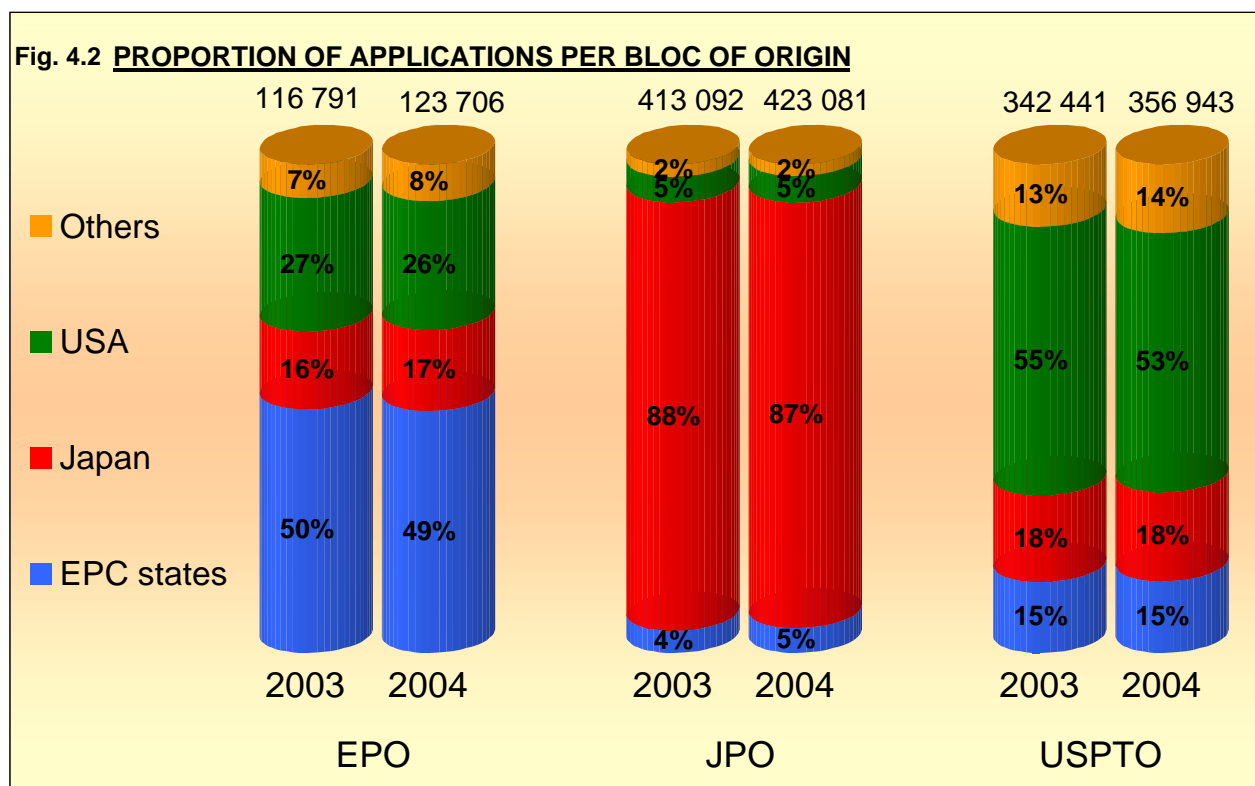
The numbers of domestic (residents of the country) and foreign (non-residents) patent applications filed with each one of the Trilateral Offices for the years 2003 and 2004 are shown in Fig 4.1.



There were a total of 423 081 patent applications filed with the JPO in 2004, which is an increase of 9 989 filings or 2.4% above 2003. The number of patent application filings at the EPO increased by 6 915 (5.9%). USPTO patent application filings also increased over 2003 levels by 14 502 (4.2%).



Fig. 4.2 shows the respective shares of patent application filings by origin relative to total filings at each office for 2003 and 2004.



Compared to 2003, the shares of patent application filings by bloc of origin at each office were little changed in 2004. As in the past, patent application filings of domestic origin continued to represent the most significant share of filings at each office. In 2004, the shares of domestic filings at the EPO, JPO and USPTO were 49%, 87% and 53%, respectively. The numbers of domestic filings at the JPO and the USPTO are approximately equivalent to the numbers 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 made to 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 direct first filings at the EPO from residents of EPC contracting states were 14 093 in 2003 and 15 262 in 2004, respectively 24.2% and 24.9% of all direct filings at the EPO by residents of the EPC contracting states.

Due to the differences in behaviour of the applicants from different countries, comparison of the numbers of applications at the Trilateral Offices should be made with caution. For example, the numbers of claims given in applications are significantly different among the three offices. On average, in 2004, an application filed at the EPO contained 18.0 claims (17.6 in 2003), one filed at the USPTO had 23.5 claims (23.4 in 2003), and one application at the JPO contained 7.9 claims (7.6 in 2003).

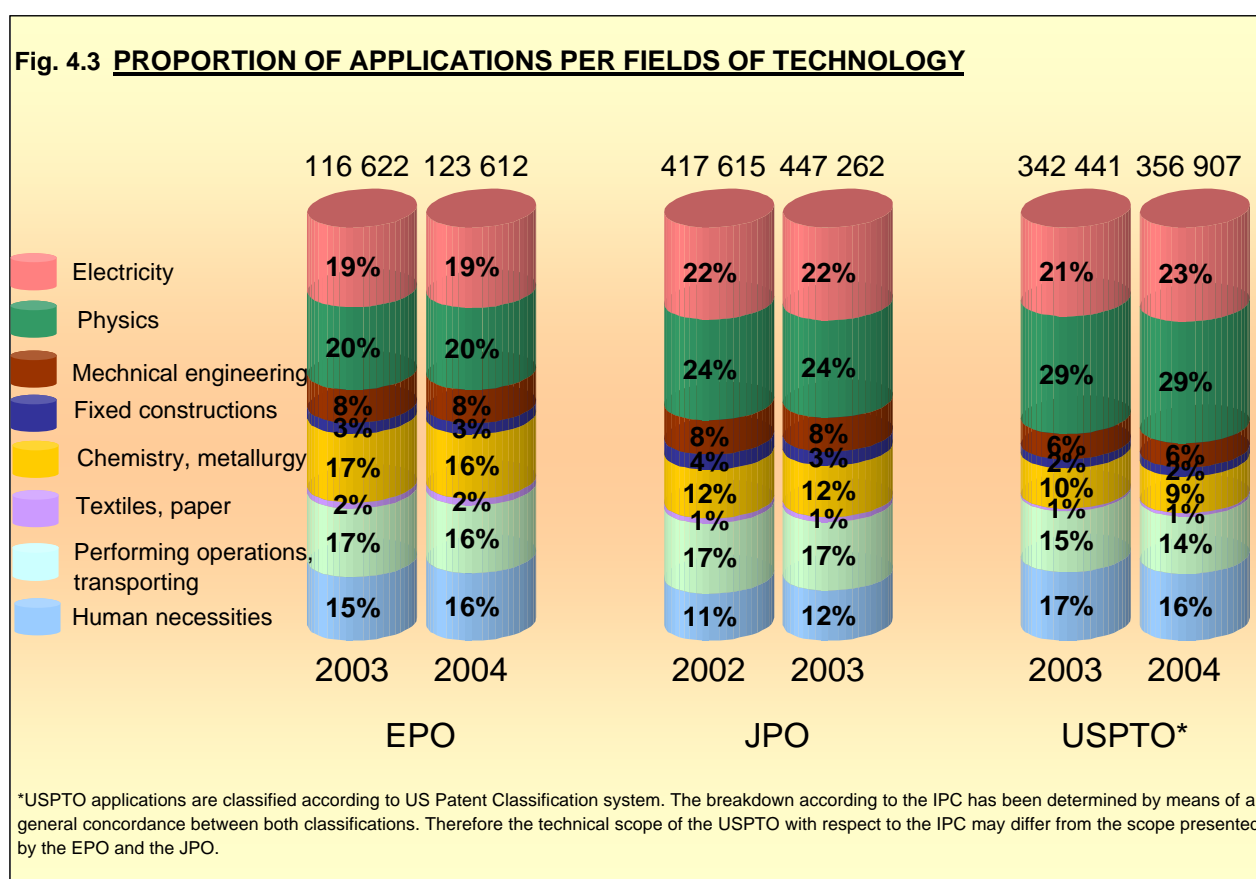
## APPLICATIONS BY FIELD OF TECHNOLOGY

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 office. Fig. 4.3 shows data for the EPO and the USPTO for the filing years 2003 and 2004, while for the JPO the breakdown is

given for the filing years 2002 and 2003. The JPO data for 2003 are the most recent available figures because the IPC assignment is completed just before the publication of the Unexamined Patent Application Gazette (after the expiration of 18 months from the filing date).

Fig. 4.3 indicates the share of applications by technological field at each Office. The following eight fields of technology are represented:

- 1) Human necessities
- 2) Performing operations, transporting
- 3) Textiles, paper
- 4) Chemistry, metallurgy
- 5) Fixed constructions
- 6) Mechanical engineering
- 7) Physics
- 8) Electricity



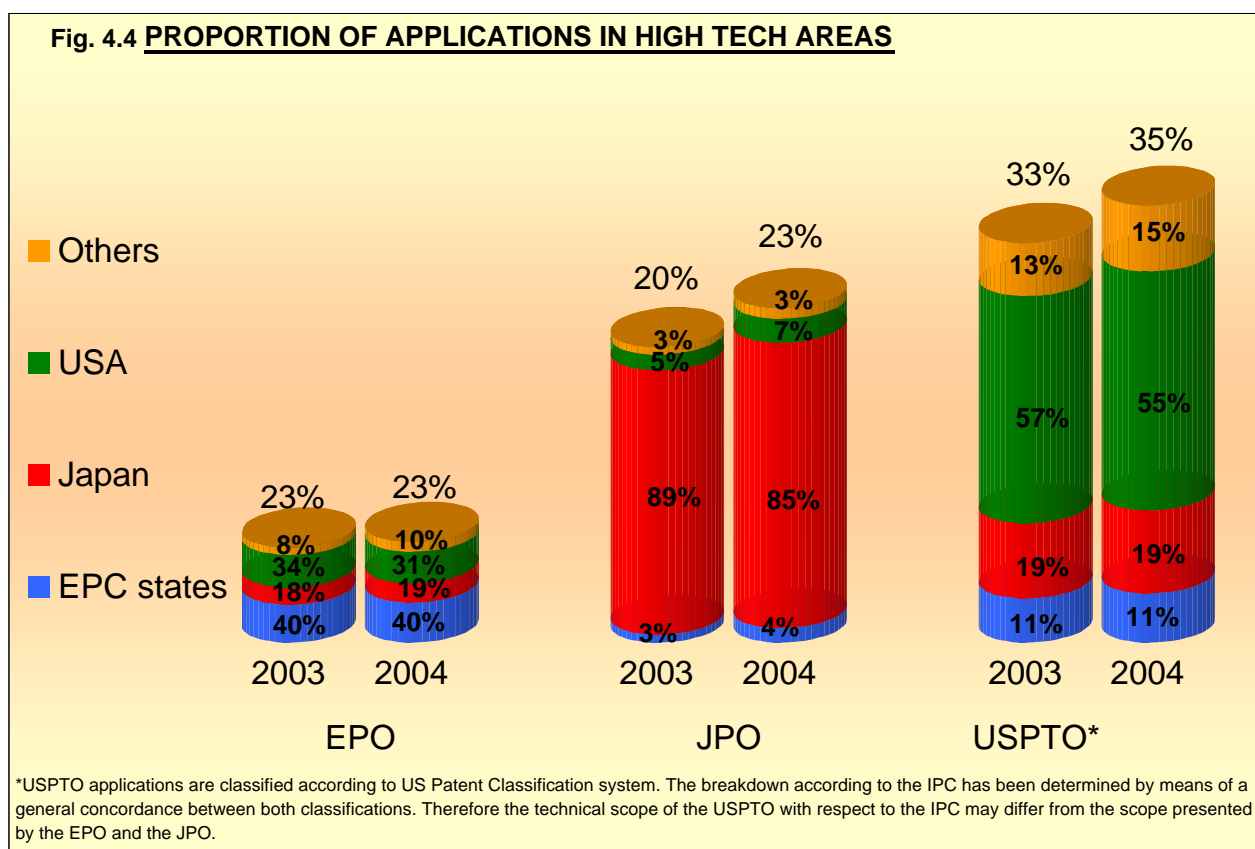
On a year-to-year basis, there is little change in the share these fields occupy at the Trilateral Offices. Although the field of *Physics* contributes to a smaller share of filings at the EPO than at the other Trilateral Offices, the field of *Chemistry, metallurgy* contributes a larger portion than at the JPO and the USPTO. *Human necessities* occupy a smaller share at the JPO than the other two offices.

Comparing 2004 to 2003, the share from *Electricity* increased by 2% at the USPTO and the *Chemistry, metallurgy*, *Performing operations, transporting* and *Human necessities* shares fell by about 1%. At the EPO, *Performing operations, transporting* and *Chemistry, metallurgy* decreased by 1% and *Human necessities* increased by 1%. From 2002 to 2003 at the JPO, there was an increase of 1% in *Human necessities* and a corresponding decline in *Fixed constructions*.

The patent classification does not itself define high technology fields. The Trilateral Offices, however, previously agreed to consider as high technology the following fields:

- Computer and automated business equipment,
- Micro-organism and genetic engineering,
- Aviation,
- Communications technology,
- Semi-conductors, and
- Lasers.

An increasing proportion of applications filed with the Trilateral Offices are from high technology areas. In Fig. 4.4, this proportion is given for each office in 2003 and 2004, together with their origin.

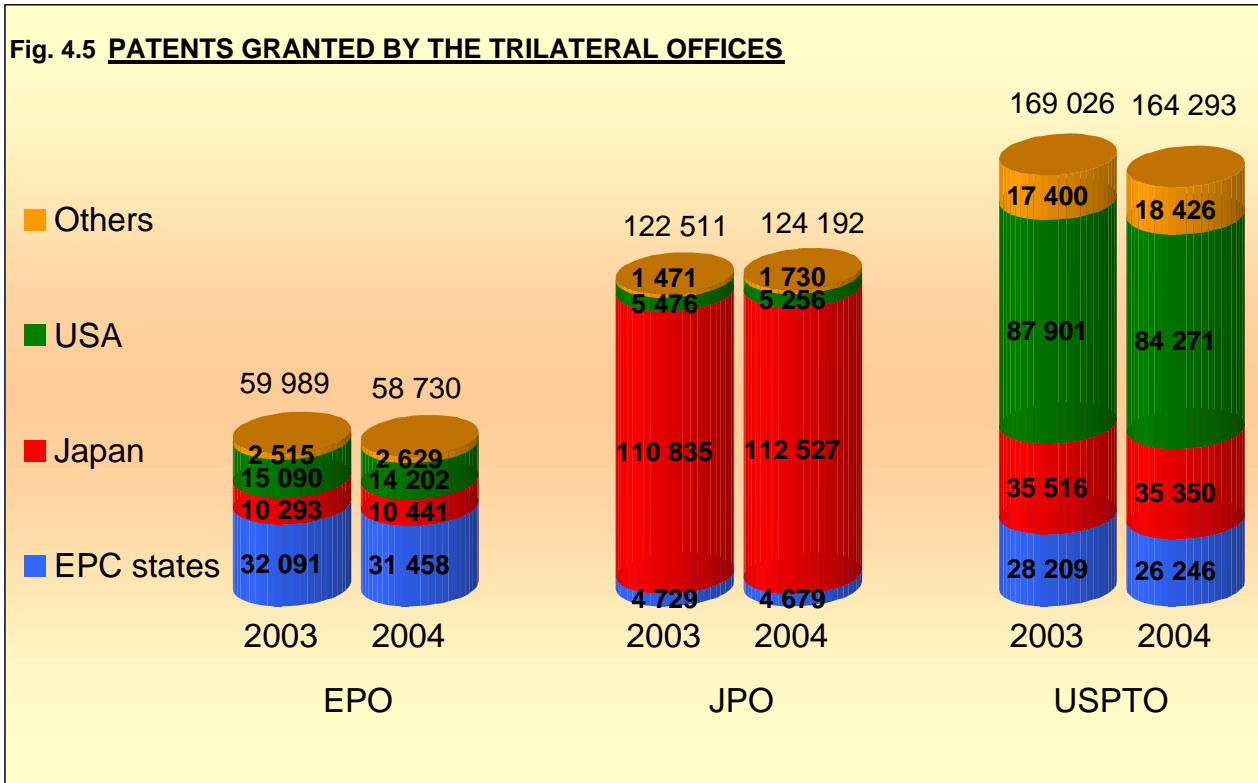


The USPTO has the highest share of patent applications in the high technology fields, with 35% of all applications occurring in this area. Of this number, 55% are from domestic applicants. At the JPO, where high technology patent applications represented 23% of all applications in 2004, 85% of applications are from domestic applicants. At the EPO, the share of high technology applications remained stable at 23%, with 40% coming from applicants resident in EPC contracting states.

It is noticeable that the share of applications at the EPO from EPC contracting states in high technology is below their share on average in all filings at the EPO and at the USPTO (as shown in Fig. 4.2). The share of the USA applicants in high technology is higher at the EPO than that for all applications filed. The shares of Japanese applicants in high technology are almost the same as their overall share of applications at the other Trilateral Offices.

## PATENTS GRANTED BY TRILATERAL OFFICES

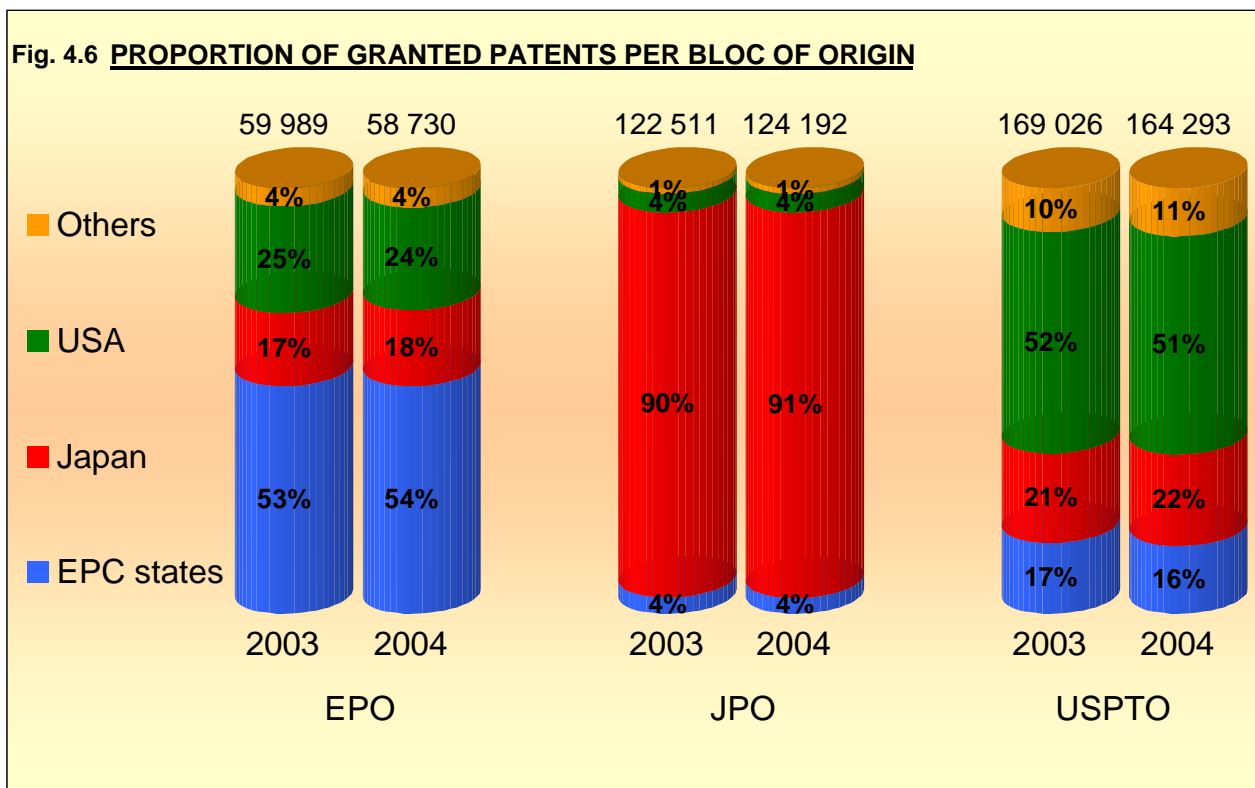
Fig. 4.5 shows the number of patents granted by the Trilateral Offices. The overall figure decreased by 5% from 2002 to 2003 and by a further 1% from 2003 to 2004. Together the Trilateral Offices granted 347 200 patents in 2004, about 4 300 fewer than in 2003.



After reversing the trend in 2003, the number of patents granted by the JPO increased again in 2004 by 1.4%. The EPO experienced a slight decrease in 2004 to 58 730 published granted patents, 2.1% down, after a 26.6% increase in 2003. With 164 293 registrations in 2004, the USPTO granted the highest number of patent among the Trilateral Offices. Nevertheless this was 2.8% less than in 2003.

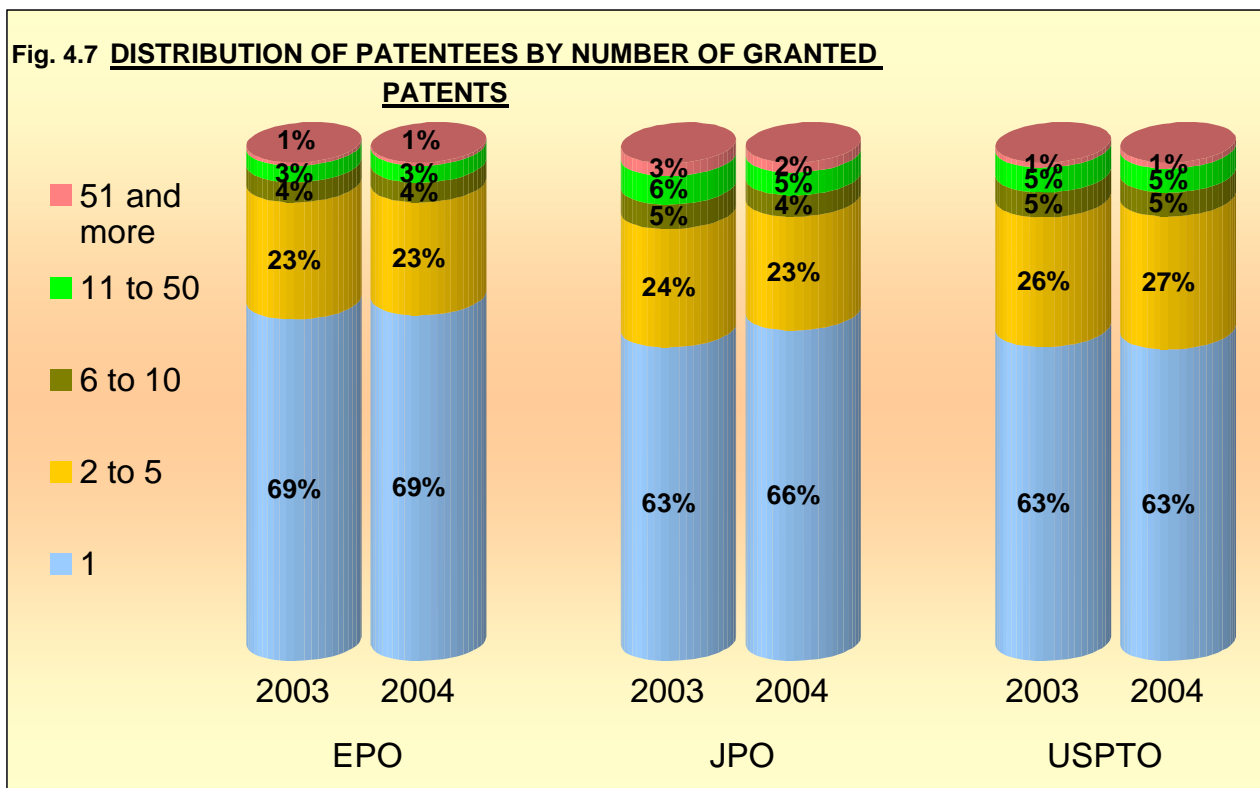
The differences between the Trilateral Offices regarding the absolute numbers of patents granted can only be partially explained by the differences in the number of corresponding applications. These numbers are also affected by different grant rates and different durations to process applications by the Trilateral Offices reflecting differences in the trilateral patent granting procedures (see section below on “*Trilateral Patent Procedures*”).

Fig. 4.6 presents the percentage shares of total patents granted by origin. 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 Fig. 4.2. However, comparison of the figures shows that the shares by domestic origin within the numbers of patent grants at EPO and JPO are slightly higher than the comparable shares within the numbers of applications filed, while for USPTO this share is slightly lower.



In 2004, the maximum number of patents granted to a single applicant was 794 at the EPO, 4 125 at the JPO, and 3 248 at the USPTO.

The breakdown of patentees by numbers of patents granted is shown in Fig. 4.7.

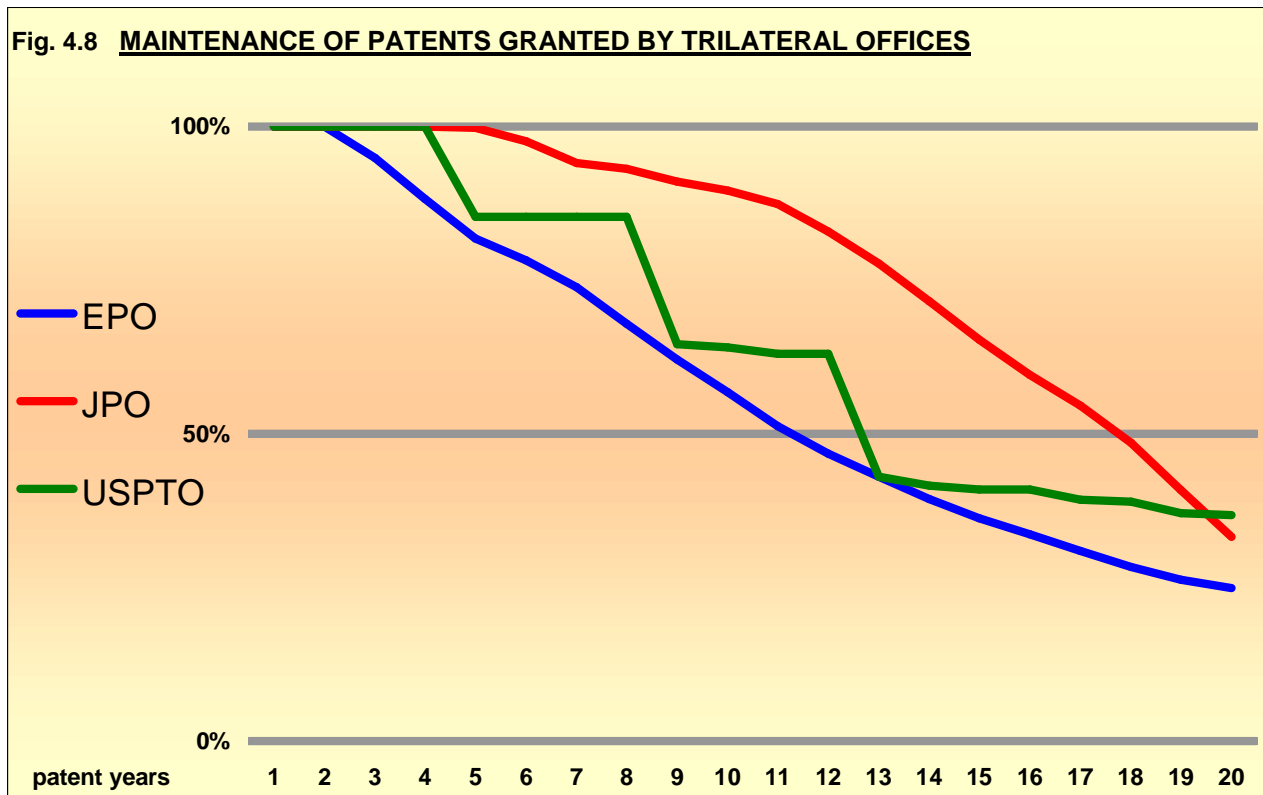


In the three Offices, around two thirds of the patentees received only one granted patent and almost one fourth received 2 to 5 patents. The proportion of patentees receiving one patent grant in 2004 is slightly higher at the EPO (69%) than at the JPO (66%) or the USPTO (63%). The proportion of patentees receiving six or more patents is lower at the EPO than at the JPO and the USPTO.

The distribution of patentees with six or more patents remained essentially the same between 2003 and 2004 at EPO and at the USPTO. It declined slightly at the JPO.

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 countries to which the protection pertains. Maintenance systems differ from country to country.

Fig. 4.8 shows the proportions of patents granted by each Trilateral Office that are maintained for differing lengths of time. 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 countries to which the protection pertains. Maintenance systems differ from country to country.



In all three offices, a patent has a twenty-year term from the date of filing.

For a European patent, renewal fees are payable to the EPO from the third patent year onwards to maintain the application. 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.

For a Japanese patent the first three years' fees after patent registration are paid together, and for subsequent year's fees the applicant can pay either yearly or in advance.

In the United States, patent maintenance requires payment of fees in three stages: 3.5 years, 7.5 years, and 11.5 years after grant.

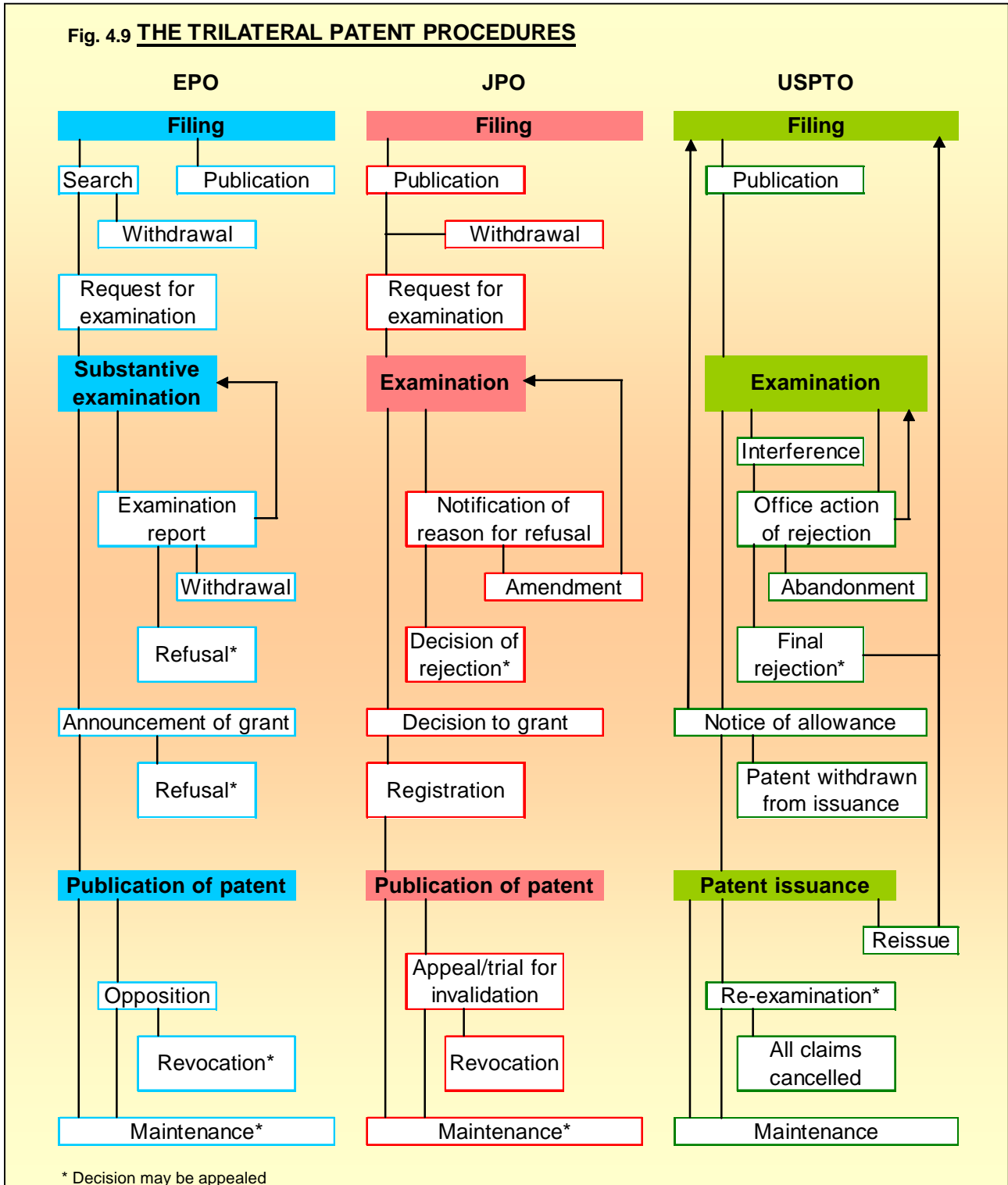
In the three procedures, if a renewal fee is not paid in due time, the protection right expires. Fig.4.8 compares the rate of granted patent registrations existing and maintained each patent year. These figures are calculated from the year of application for the EPO and the JPO and from the year of registration (grant) for the USPTO.

In the United States over 50% of the patents granted are maintained for at least 12 years compared to 11 years for the European patents and 17 years for the Japanese patents.

# TRILATERAL PATENT PROCEDURES

## THE PROCEDURES

The grant procedures are not totally identical in the Trilateral Offices. The major phases are outlined in the Fig. 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. At 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 no later than six months after publication of the search report. Filing of a national application with the JPO does not imply a request for examination; this may be filed up to three years after the date of filing (this period was reduced from seven years in 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 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 by the applicant (EPO: Withdrawal; JPO: Withdrawal or Abandonment; USPTO: Abandonment). In addition, if no request for examination for an application is filed to the EPO or the JPO within the prescribed period (EPO: six months after publication of the search; JPO: three years from the date of filing), 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**

JPO deleted the patent opposition system on 1<sup>st</sup> January 2005.

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 procedure in the EPO. 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 lifetime 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 the 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 description of the claims 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 the final decision.

## **STATISTICS ON PROCEDURES**

The 2003 and 2004 values of the basic characteristics of trilateral procedures are shown in Table 4. The definitions and further explanations on the statistics including changes in the compilation of these statistics are given in the Annex 2.

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 the lowest because applicants have substantially more time in which to evaluate whether to maintain the application or not.

The grant rate in the EPO procedure, as defined in terms of decisions, decreased to 55.2%. The number of decisions to grant taken in 2004 was lower than in 2003.

In the JPO, the grant rate decreased further to 49.5% in 2004.

In the USPTO, the grant rate decreased to 61.2% in 2004.

The opposition rate at the EPO increased slightly in 2004 to 5.3%, and 64.5% of the opposed patents were maintained, although in some cases in amended form.

In the EPO, 658 appeals were received in 2004 i.e., about 40% of decisions in examination to reject the application (1 628). In the USPTO, 2 387 appeals were received, being 2.5% of final rejections (96 442).

In the EPO, 50% of appealable decisions in the opposition procedure (2 247 in 2004) were appealed against; the number of appeals was 1 215.

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 24 008 in 2004 (22 217 in 2003).

**Table 4 STATISTICS ON PROCEDURES**

<b>Progress in the procedure</b> (rates in percentage)		Year	EPO	JPO	USPTO
Examination		2003	87.5	53.8	100.0
		2004	88.3	55.4	100.0
Grant		2003	58.6	50.5	64.2
		2004	55.2	49.5	61.2
Opposition		2003	5.2	3.5	-
		2004	5.3	-	-
Maintenance after opposition		2003	64.0	n.a.	-
		2004	64.5	n.a.	-
Appeal	On examination	2003	43.1	-	2.9
		2004	40.4	-	2.5
	On opposition	2003	50.5	-	-
		2004	49.7	-	-
	On examination and opposition <sup>20</sup>	2003	-	22 217	-
		2004	-	24 008	-
<b>Pendency in the procedures</b>					
Search	Number of pending applications	2003	102 709	-	-
		2004	104 413	-	-
	Pendency time in search (months)	2003	18.5	-	-
		2004	17.4	-	-
Examination	Number of applications awaiting request for examination	2003	21 272	2 181 211	-
		2004	20 171	2 105 255	-
	Number of pending applications	2003	232 085	522 285	n.a.
		2004	263 475	605 949	n.a.
	Pendency time to first office action (months)	2003	24.9	25.0	18.3
		2004	21.7	26.0	20.0
	Pendency time in examination (months)	2003	37.7	31.1	26.7
		2004	41.4	31.6	28.0
Opposition	Number of pending applications	2003	1 630	n.a.	-
		2004	2 403	n.a.	-
	Pendency time in opposition (months)	2003	8.8	n.a.	-
		2004	11.8	n.a.	-

In the above table, "n.a." means "not available" and "-" indicates a "not applicable" item.

### Pendencies

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

<sup>20</sup> Numbers available for JPO only

(per stage of procedure) from the patent grant procedure in the Trilateral Offices. This is not a good indication for the backlog in handling applications within the offices since a substantial part of pending applications are awaiting action from the applicant, for instance a request for examination (which can take three years from the date of filing in the JPO), or responding to actions communicated to the applicant.

Pending applications in search at the EPO increased by 2% to about 104 400 in 2004, and Pendency time in search decreased to about 17 months.

The number of pending applications awaiting a request for examination by the applicant decreased at the EPO with around 20 170 cases.

In the JPO, the number of pending applications (about 2 105 000) is substantively higher than those in the EPO due to the period during which requests for examination can be filed.

The number of pending applications in examination increased in the EPO to about 263 500 in 2004, and the Pendency time in examination increased to about 41 months, although more decisions were taken in 2004 than in 2003. In the JPO, the number of pending applications increased by 16% to almost 606 000, and pendency was about 32 months. In the USPTO, the average time for either abandoning or issuing an application was about 28 months.

The Pendency time to first office action decreased in 2004 to about 22 months at the EPO. It increased slightly at the JPO to 26 months, and to 20 months at the USPTO.

Pendency time in opposition increased at the EPO to nearly 12 months in 2004.

## Chapter 5

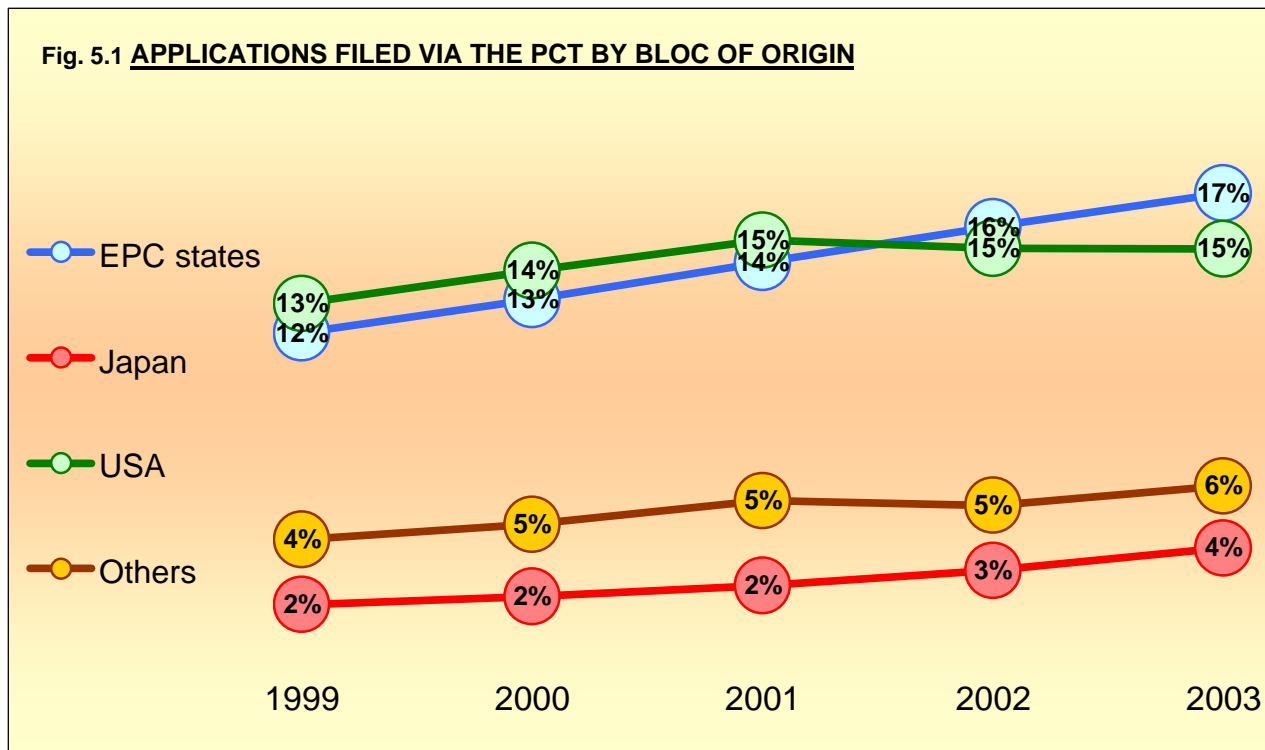
# **USE OF THE PATENT COOPERATION TREATY**

As described in Chapter 3, a substantial proportion of the demand for patent rights is requested via the Patent Cooperation Treaty (PCT). The Trilateral Offices also act under the PCT as receiving offices, mainly for applicants resident in their respective territories, and as the major international searching and examining authorities. This chapter shows statistics that indicate the impact of the intensified use of the PCT system that relate to the activities of the Trilateral Offices. Graphs are given to display the shares of patent applications and grants using the PCT filing route by origin. Then graphs appear to indicate the various activities of the Trilateral Offices that relate to the PCT system. The graphs cover five-year periods that include the latest year for which reliable data are available.

# THE PCT AS A FILING ROUTE

## APPLICATIONS FILED

For each bloc of origin, Fig 5.1 shows the proportions of all patent applications filed (as provided in Chapter 3) that are PCT international applications. Applications are counted in the year of filing.

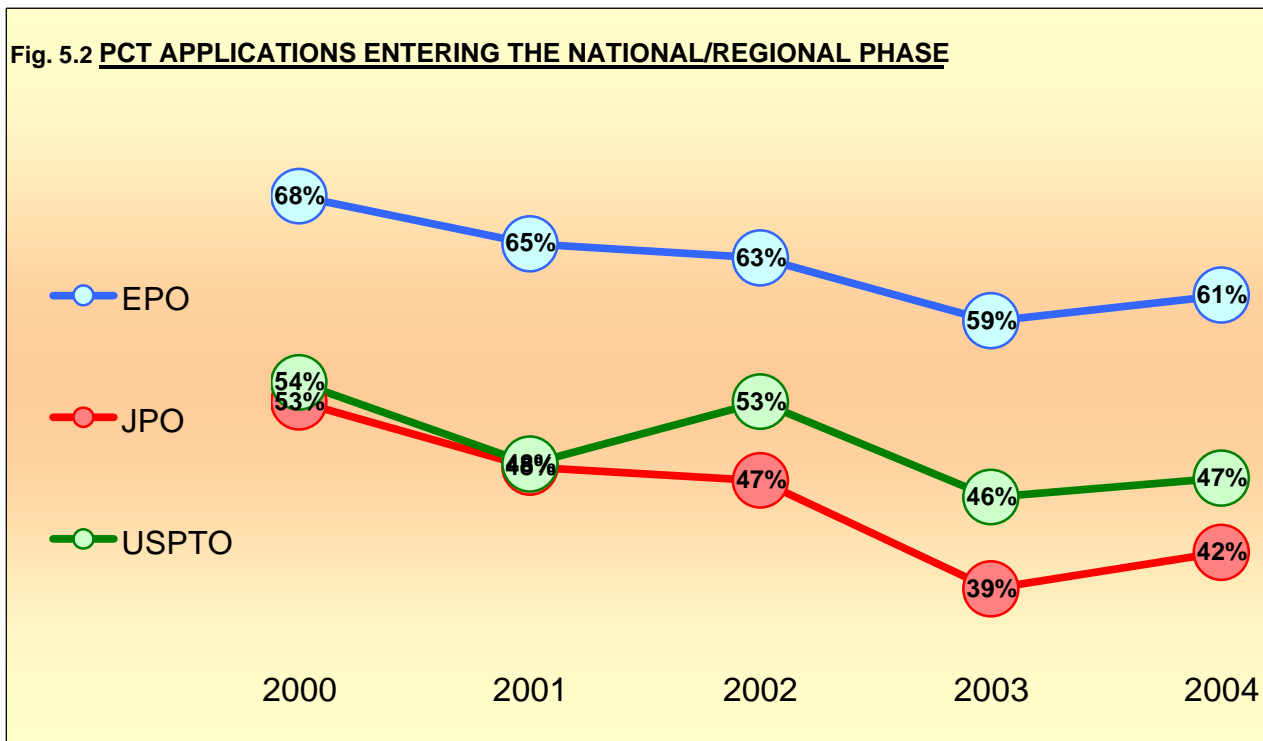


Overall, the use of the PCT as a route for filing patent applications has continued to increase since 1999. From 2002 to 2003, the shares of PCT applications from the EPC contracting states, Japan and “Others” increased. From the EPC contracting states, Japan and “Others”, the shares increased by about 1% and the share from filings originating from the USA remained unchanged.

## PCT APPLICATIONS ENTERING THE NATIONAL/REGIONAL PHASE

After the international phase of the PCT procedure, applicants decide whether they wish to continue further with their applications. A decision has to be taken for each and every country and regional organisation designated in the international application. If the decision is made to proceed further, the applicant has to fulfil the various national or regional requirements of the selected PCT contracting states or organisations. The applications then enter the national or regional phase. In most of the EPC contracting states, the applicants have a choice of proceeding in either 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 Fig 5.2. Applications are counted in the year they are expected to enter the national or regional phase.

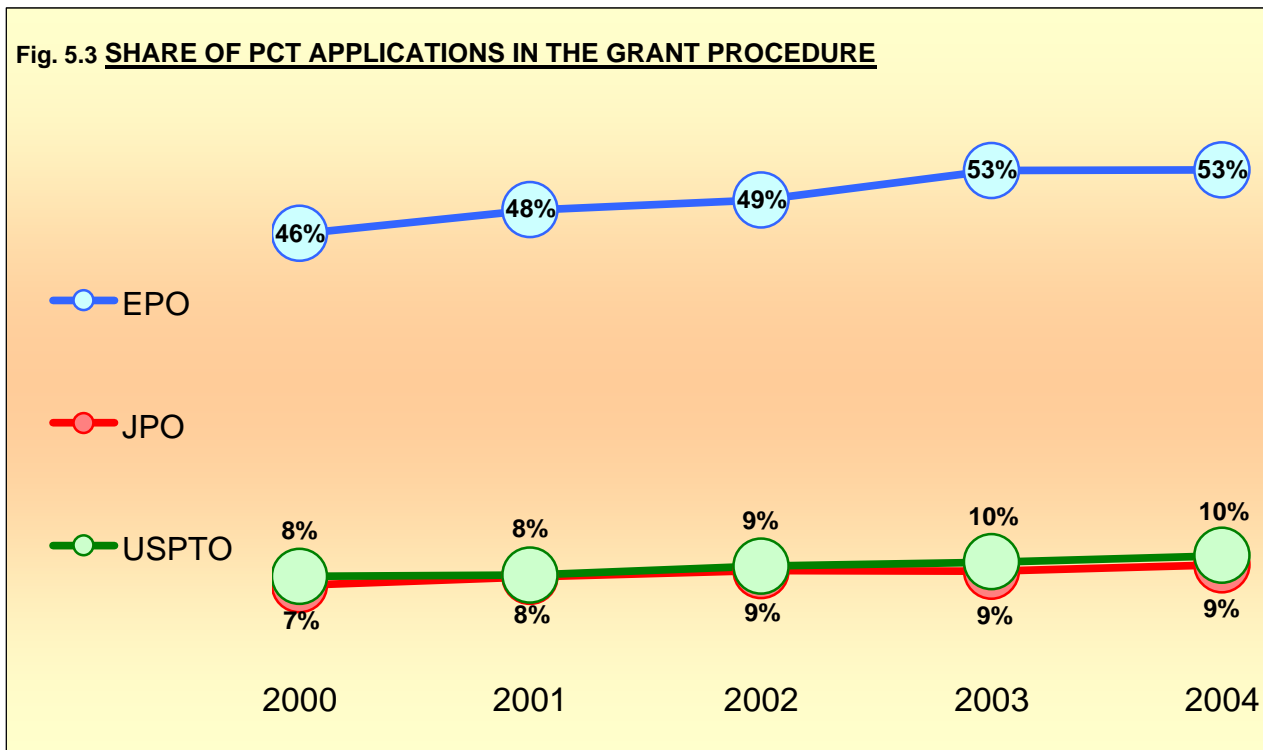
A higher proportion of PCT applications entered the regional phase at the EPO than entered the national phase either at the USPTO or the JPO. This is due to the supranational dimension of the EPO, which gives the opportunity to proceed further with a unique procedure. Furthermore, some EPC contracting states can not be designated individually under the PCT.



The proportions of applications that continued in the national or regional phase tended to decline over the last five years. However, the rate seems to have stabilised in 2004, having increased by 3% points at the JPO to 42%, by 2% at the EPO to 61% and by 1% at the USPTO to 47%.

## PCT APPLICATIONS AT THE TRILATERAL OFFICES

Fig 5.3 shows the proportions of PCT applications within the overall applications at each Trilateral Office as presented in Chapter 4. As in Chapter 4, only PCT applications entering the national or regional phase are taken into account.

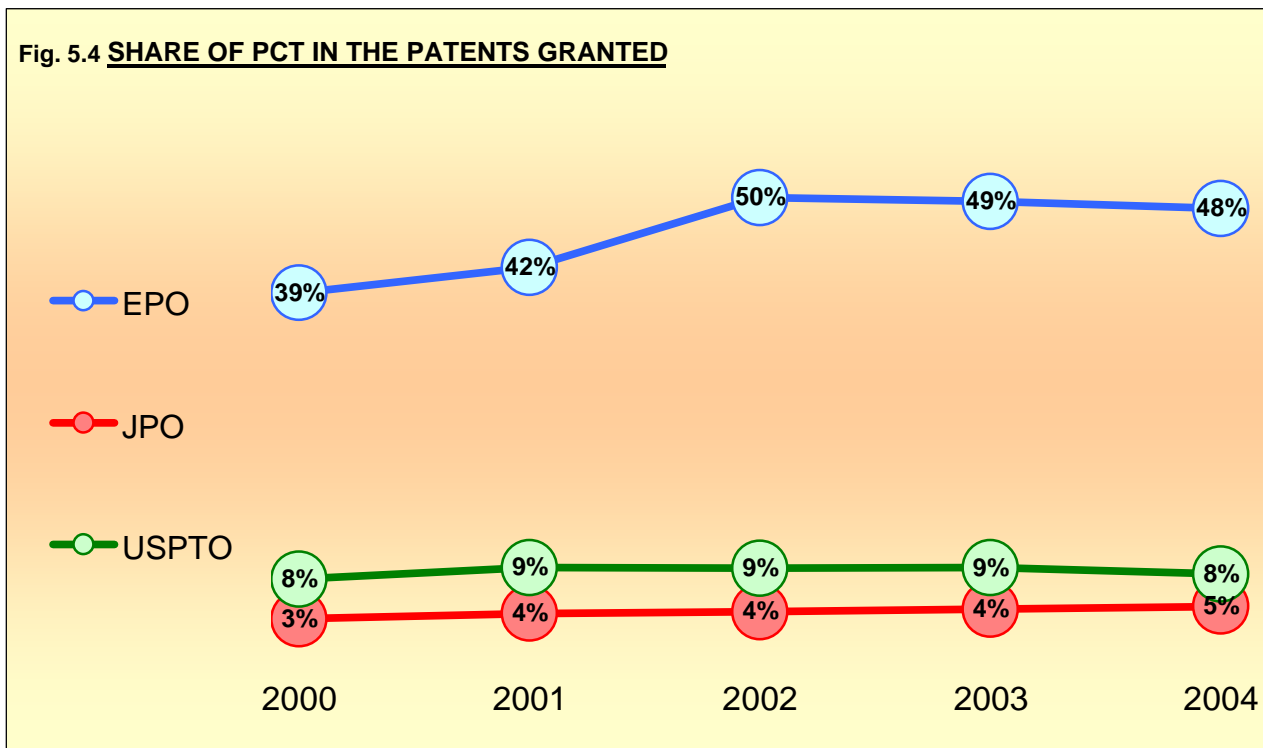


The proportions of PCT applications remained unchanged in 2004 compared to 2003 at all offices. For the reasons given earlier, the EPO has a high proportion of PCT applications, while the proportions at the JPO and the USPTO are low and nearly equal.



## PCT GRANTS BY THE TRILATERAL OFFICES

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

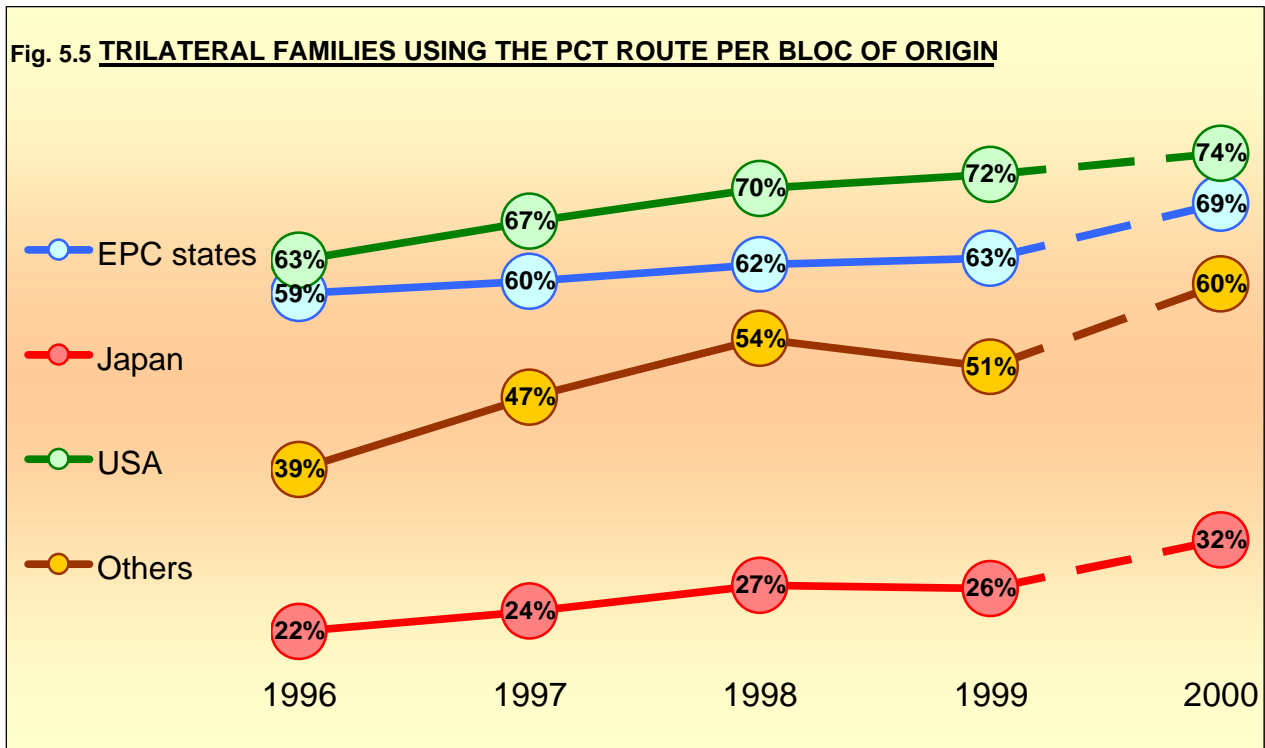


After an increase up to 2002, the EPO experienced a slow down in the share of PCT applications among all applications leading to the granting of a European patent. On the other hand, at the JPO and USPTO the proportions in the share of PCT applications among all applications receiving a patent grant have remained stable. Shares are below those of applications (see Fig. 5.3), since granted patents relate to applications filed 3 to 5 years earlier when the proportions of PCT applications were lower.

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

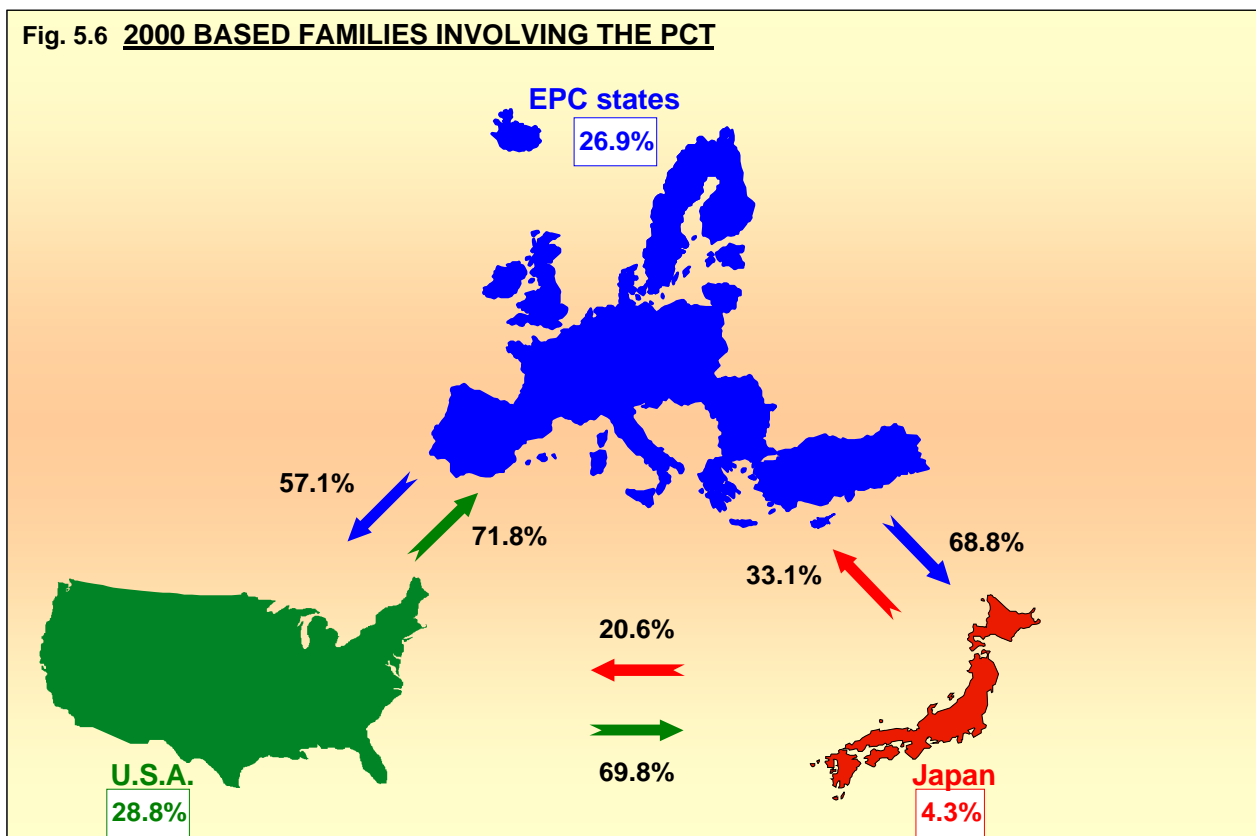
Fig 5.5 shows the proportions of trilateral patent families (as given earlier in Fig 3.11) that use the PCT system. As discussed earlier, the data for 2000 are provisional (see page 28).



Usage of the PCT system was fairly widespread in trilateral patent families originating in all blocs except Japan. The proportions have generally trended upwards for all the trilateral blocs, though there was a small dip for other countries in 1999. In 2000, out of all trilateral patent families, 54.1% made some use of the PCT system. About 72% of trilateral patent families originating from the USA and about 63% of trilateral patent families originating from EPC contracting states involved PCT applications. This compares to about 26% from Japan and about 51% from other countries.

Fig 5.6 shows the percentages of PCT system usage in the flows of all patent families between trilateral blocs in 2000, and can be compared with Fig 3.12.

The percentage given in a box for 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 led to the use of the PCT system.

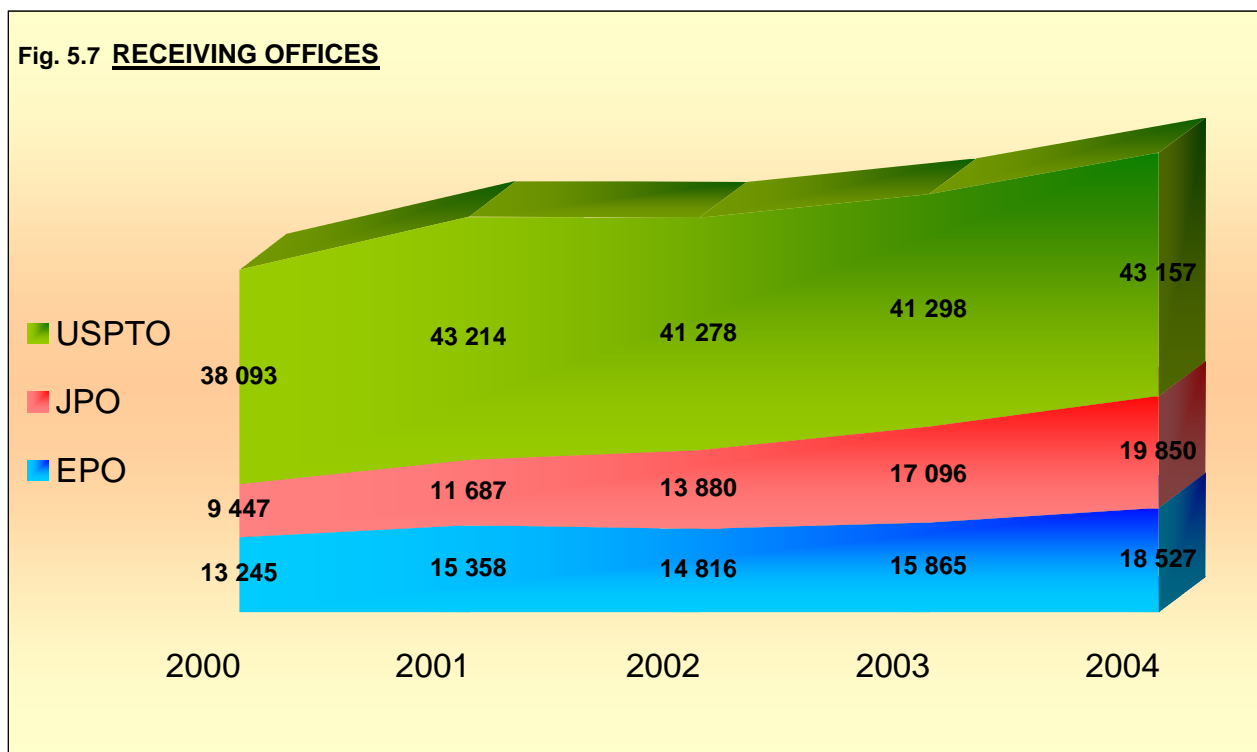


From information tabulated in the web-based annex of this report, out of all first filings in the trilateral area in 2000, 15.8% formed patent families that made some use of the PCT system. From those first filings in the trilateral area that resulted in filings in other trilateral blocs, 47.5% made some use of the PCT system. However, when considered by bloc of the priority applications, the proportions varied widely (56.5% from EPC contracting states, 21.9% from Japan, and 69.3% from USA). When the trilateral blocs receiving subsequent applications from the trilateral area are considered, the degree of variation in the proportions making use of the PCT system was slightly less (56.1% in EPC contracting states, 69.4% in Japan, and 36.3% in USA).

These statistics illustrate the fact that the PCT system is used on an increasing basis when making patent applications abroad. Applicants from USA and the EPC contracting states favour the PCT system. In contrast, Japanese applicants tend to use the system to a somewhat lesser degree, both in percentage and absolute terms, although their participation is increasing.

## THE TRILATERAL OFFICES AS PCT AUTHORITIES

Under the Patent Cooperation Treaty, each Trilateral Office acts as Receiving Office (RO), mainly for applicants from their own geographical zones, as International Searching Authority (ISA) and International Preliminary Examining Authority (IPEA). The following graphs show the trend over the years 2000 to 2004 of the activities of the Trilateral Offices as PCT authorities.



The USPTO received 43 157 international PCT applications in 2004, a 4.5% increase over 2003. The EPO and the JPO received far fewer international applications, but experienced large increases with 16.8% to 18 527 and 16.1% to 19 850 respectively.

Fig. 5.8 shows that, in 2004, the EPO received 62 957 international search requests, followed by the USPTO with 26 572 and the JPO with 18 693. Although the JPO received fewer requests, it experienced the largest increase from 2000 to 2004, with a rise of about 109% from the 2000 value.

Fig. 5.8 **INTERNATIONAL SEARCH REQUESTS**

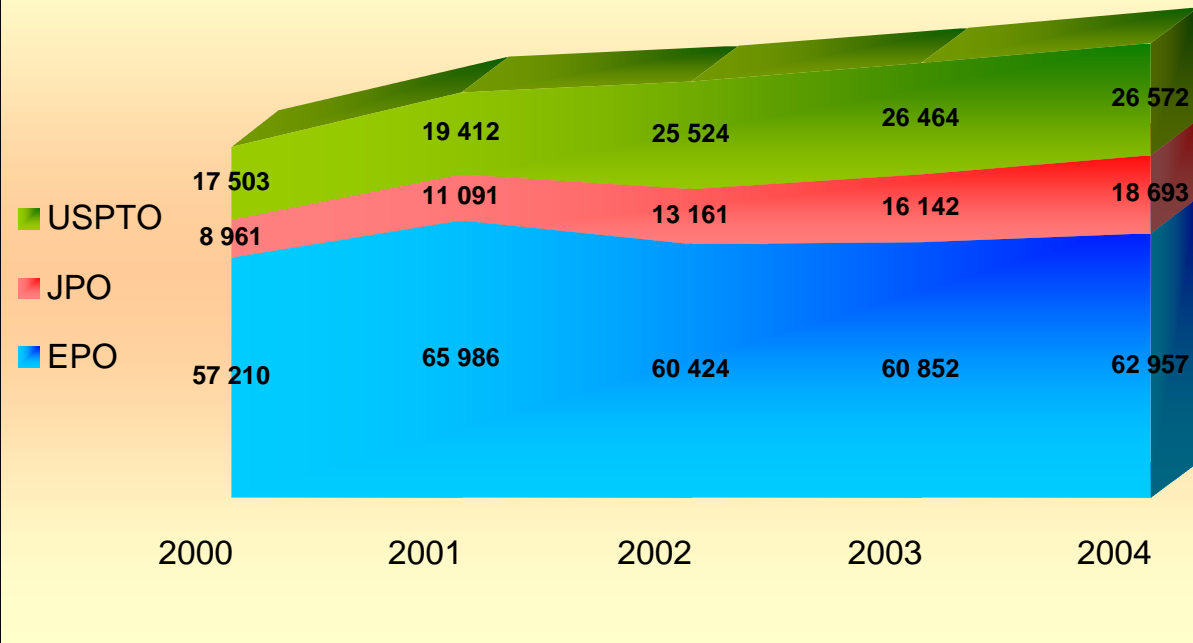
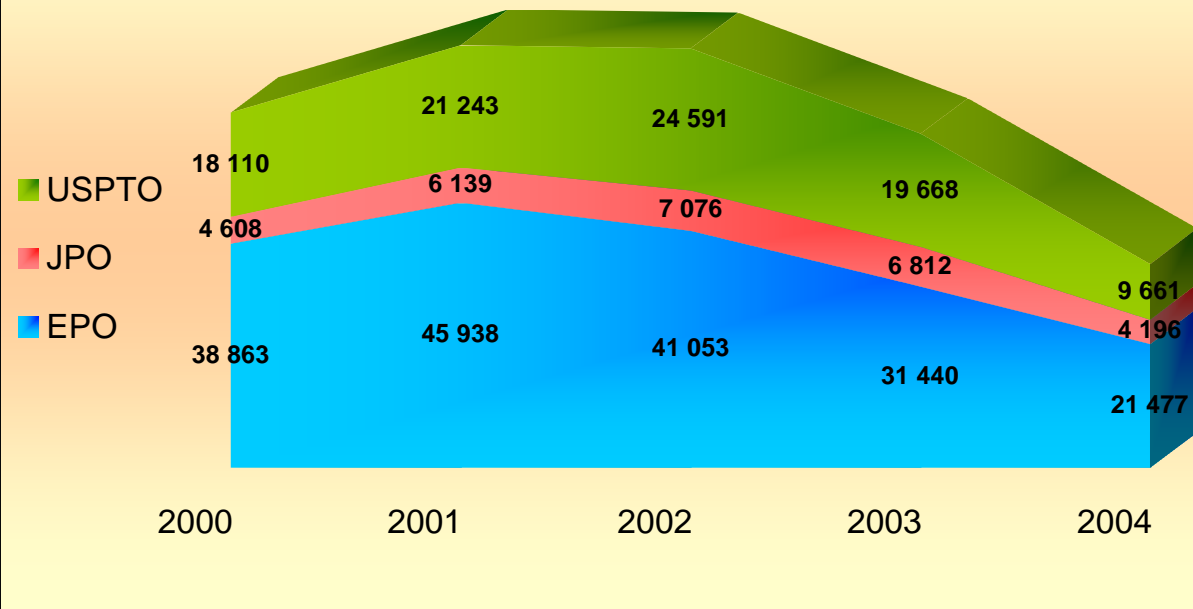


Fig 5.9 shows, that the number of demands for international preliminary examination declined since 2001 at the EPO and since 2002 at the JPO and the USPTO.

Fig. 5.9 **INTERNATIONAL PRELIMINARY EXAMINATION DEMANDS**



The EPO was IPEA for 21 477 international applications in 2004, which represent a decline of 53% compared to 2001. The USPTO was IPEA for 9 661 applications in 2004 which represents 61% less demands than in 2002. The JPO is less often chosen as IPEA and experienced since 2002 a 41% decline to 4 196 demands in 2004.



## Chapter 6

### OTHER WORK

This chapter contains statistics on other work done by the Trilateral Offices, such as 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, designs and trademarks in the JPO, and design patents and trademarks in the USPTO. The searches on behalf of national offices as well as searches for third parties are special items of work done at the EPO.

The numbers of requests received for all of these types of other work are shown in the table below for 2003 and 2004.

**Table 6: STATISTICS ON OTHER WORK**

<b>Activities</b>	<b>Year</b>	<b>EPO</b>	<b>JPO</b>	<b>USPTO</b>
Search for National Office and Third Parties	2003	18 080	-	-
	2004	21 960	-	-
Design Applications / Design Patent Applications	2003	-	39 267	22 602
	2004	-	40 756	23 975
Utility Model Applications	2003	-	8 169	-
	2004	-	7 986	-
Plant Applications	2003	-	-	985
	2004	-	-	1 221
Re-issue Applications	2003	-	-	1 051
	2004	-	-	934
Trademark Applications	2003	-	123 325	273 715
	2004	-	128 843	304 461





## Annex 1

# **DEFINITIONS FOR OFFICES EXPENDITURES**

### **EPO expenditures**

#### **Personnel:**

Salaries and allowances of permanent staff as well as of all categories of temporary staff; employer's contributions to sickness, death, invalidity, long-term care and pension schemes; recruitment, transfer and leaving costs; medical care; staff welfare; training; European School and crèches.

#### **Property and equipment:**

Operating costs related to the maintenance of buildings, technical installations, equipment, furniture and vehicles, such as rent, cleaning, repairs and depreciation; electricity, gas, water.

#### **EDP equipment and maintenance:**

Operating costs related to the maintenance of EDP hardware and software including depreciation; purchases below capitalization threshold (750 EUR); licences; programming costs of self-developed systems as far as they do not qualify for capitalization.

#### **Co-operation and patent information:**

Published patent documentation on all media; public information; public relations and representation; meetings; costs of supervisory bodies; co-operation with contracting states including outsourced work and financial support to national patent offices; assistance to third countries.

#### **General operating expenses:**

Travel; non-EDP purchases below capitalization threshold; supplies; security and messenger services; consultants; external audit; other contract work; postage and telecommunications; documentation costs such as books, technical journals and external database interrogation; insurance; taxes and public levies; third-party funded projects; other miscellaneous small-scale expenditure.

## **JPO Expenditures**

### **Expense for JPO's business**

#### **Expense for business processing**

##### General processing work

- Existing personnel (including increase and transfer)

- General administration

- Various councils

- Encouragement of guidance including patent management

- External rental office

- Internationalization of industrial property administration

- Project for supporting medium and small company's applications

- Data communication system for accounting work in government

- Live telecast system for the National Diet discussion

- 120th Anniversary project of industrial property system

##### Examination and appeals/trials, etc.

- Infrastructure improvement for examination and appeals/trials

- Disposition of examination and appeals/trials

- Execution of Patent Cooperation Treaty

- Patented micro organisms deposition organization

##### Information management

- Management of information for use in examination and appeals/trials

##### Publication of Patent Gazette, etc.

#### **Computerisation of patent processing work**

#### **Facility improvement**

#### **NCIPI operation**

#### **Others**

## **USPTO expenditures**

### **Salaries and Benefits:**

Compensation directly related to duties performed for the Government by Federal civilian employees, military personnel, and non-Federal personnel. Also included are benefits for currently employed Federal civilian, military and certain non-Federal personnel.

### **Equipment:**

- Personal property of a durable nature, that is, property that normally may be expected to have a period of service of a year or more after being put into use without material impairment of its physical condition or functional capacity.
- The initial installation of equipment when performed under contract.

### **Rent & Utilities:**

Payments for the use of land, structures, or equipment owned by others and charges for communication and utility services.

### **Printing:**

Printing and reproduction obtained from the private sector or from other Federal entities. Include:

- Typesetting and lithography.
- Duplicating.
- Standard forms when specially printed or assembled to order and printed envelopes and letterheads.
- Publication of notices, advertising, radio and television time.
- Photo composition, photography, blueprinting, photostating, and microfilming.
- The related composition and binding operations performed by the Government Printing Office, other agencies, or other units of the same agency on a reimbursable basis, and commercial printers or photographers.

### **Supplies & Materials:**

Commodities that are:

- Ordinarily consumed or expended within one year after they are put into use.
- Converted in the process of construction or manufacture.
- Used to form a minor part of equipment or fixed property.
- Other property of little monetary value that does not meet any of the three criteria listed above, at the option of the agency.

### **Contracts and Services:**

Services acquired by contract from non-Federal sources (that is, the private sector, foreign governments, State and local governments, tribes), as well as, from other units within the Federal Government. This object class consists of three types of services:

- Management and professional support services.
- Studies, analyses, and evaluations.
- Engineering and technical services.

### **Other**

All other expenses not covered by the above.



## Annex 2

# **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 no later than 6 months after publication of the search, the rate for 2004 relates to applications mainly filed in the years 2003 and 2004.

Since the JPO has allowed a three-year period to file a request for examination since October 1, 2001, but a seven-year period before that, the rate for the JPO in 2004 still relates to applications filed since 1997.

### **GRANT RATE**

For the EPO, 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).

For the JPO, the grant rate is now defined as the number of decisions to grant a patent divided by the number of disposals in the reporting year (decisions to grant or to refuse and withdrawals or abandonment after first office action).

For the USPTO, the rate is based on applications allowed to be granted divided by the number of disposals. This rate includes plant patents and reissue patents in addition to utility patents. However, since utility patents comprise over 98% of patent applications, and over 98% of issued patents, this rate is almost identical to a 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. However, the JPO deleted the opposition system on 1<sup>st</sup> January 2005.

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.

Data are not available for the JPO and this rate does not apply to the USPTO.

## **APPEAL RATE**

For the EPO, appeal rates are given for examination and opposition, being the numbers of decisions in the examination and opposition procedures 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.

The USPTO appeal rate, which includes utility, plant, and reissue categories, captures the number of appeals filed after an examiner's decision to issue a final rejection against a patent application. The rate is the number of examiner answers written during the year in response to appeal briefs divided by the number of final rejections issued that year.

For all Trilateral Offices, any subsequent litigation proceedings in national courts are not included.

## **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 three 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 (three years from the date of its filing).

## **PENDING EXAMINATIONS**

For the EPO, pending applications in examination are applications filed for which the search was completed and the request for examination was filed which have not been disposed of (granted, refused or abandoned) by the end of the reporting year.

For the JPO, pending applications in examinations are applications for which the requests for examination were filed and which have been waiting for a first action and have not been subject to a final action such as withdrawal or abandonment 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 JPO, pendency examination in months is the total amount of months for disposing applications as final actions (decisions to grant or to refuse, withdrawals or abandonments) in the reporting year, divided by the average monthly number of final actions 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, pendency first office action is defined as the average time period, in months, from the date of payment of the request for examination to the date of the communication of the first action in examination.

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

For the USPTO, pendency first office action 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.