

TRILATERAL  
STATISTICAL  
REPORT

2006 EDITION

**Trilateral Statistical Report 2006 Edition**  
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## **Preface**

Since the early 1980s, three key intellectual property (IP) 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, an annual compilation of patent statistics, is released annually. In addition to 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. In order to do this, the report discusses background activities at each Office, reviews worldwide patenting activities and then describes the patent related work at the Offices in detail. The TSR supplements annual reports for each of the three Offices and is also partially based on statistics from the International Bureau of the World Intellectual Property Organization (WIPO) in Geneva.

Applications for patent rights among the Trilateral Offices once again increased in calendar year 2006. Together the Trilateral Offices recorded a 2.5 percent increase in patent applications compared to 2005. The USPTO experienced the highest percentage growth in 2006, with total patent application filings increasing by 9.0 percent from 2005 levels. At the EPO, patent application filings increased by 5.0 percent. Total patent application filings at the JPO decreased by 4.3 percent. JPO had the highest proportion of domestic filings, at almost 84.9 percent. The proportion of domestic filings at EPO was 48.5 percent and USPTO was 52.1 percent. In terms of fields of technologies, as defined by International Patent Classification (IPC), 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 377,950 patents in 2006, which is over 18.1 percent more than the 320,005 patents granted in 2005.

There are a variety of factors that have influenced patent filing trends in the past. These include changes to patent rules and fees. For example, the supranational systems such as the European Patent Convention (EPC) and the Patent Cooperation Treaty (PCT) where applicants have to choose those countries for which they intend to seek patent protection, have changed the steps to a full open option system allowing applicants to delay their decisions on the targeted markets. The average numbers of designated countries per application in these systems has increased over the recent years. This led progressively to a higher level of demand for patent rights. In 2004, the last constraint on designation choices in the PCT system was lifted and, unless applicants decide otherwise, all PCT member countries are automatically designated at the outset. The set of countries that is chosen still tends to be restricted later on when applicants have to formalize their geographical choice by paying designation fees as the application enters the national/regional phases of the granting procedure. In this edition of the report, the description of worldwide patenting activities in Chapter 3 has been refocused to emphasize counts of PCT applications as they enter the national/regional phase.

Economic activity is often also cited as a key factor on patenting levels. 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 follows.

According to the International Monetary Fund (IMF), world output in calendar year 2006 expanded vigorously, growing by 5.4 percent over 2005 levels<sup>1</sup>. This calendar year (2007), global economic activity continues to remain positive and world output is expected to increase by 4.9 percent in 2007. In fact, the IMF sees global economic risks as having declined in the last year and the continuation of strong global growth as the most likely scenario.

The IMF finds many worldwide signs of global economic health. Although the U.S. economy has slowed noticeably over the past year, the outlook remains positive. The Euro area is experiencing its fastest growth in six years, Japan's expansion has momentum, and emerging market and developing countries, most notably China and India, continue to enjoy remarkable growth. Overall, in the last five years, 2003 to 2007, the global economy is achieving its fastest pace of sustained growth since the early 1970s. This continuing world growth has benefited stock prices in most world markets, which have now experienced a long period of net appreciation. While this may continue for some time into the future, the markets may become more cautious. As 2007 progresses some structural issues are concerning investors, including problems in the U.S. housing market and the fact that prices may depend to some extent on relatively low exchange rates for both the Chinese and Japanese currencies.

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 IP in general are important factors. Research and development (R&D) 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 since 2002. According to the Organization for Economic Cooperation and Development (OECD), its member countries' R&D expenditures amounted to 2.26 percent of Gross Domestic Product<sup>2</sup>. Spending on innovation helps to increase the stock of knowledge, which fuels patenting. As IP continues to become more significant in a highly competitive global market, patents are increasingly being emphasized for a variety of business strategies, such as developing favorable partnerships and licensing agreements, capturing market share, developing markets to trade patent rights and attracting capital for other new ventures. With a greater emphasis on patenting, there is an expectation that demand will follow, especially from countries with rapidly expanding economies.

Strongly developing countries such as China and Republic of Korea record large growth rate increases in domestic patent filings. Globalization of markets and production continue to be key business trends. There is a continuing worldwide tendency to harmonize patent laws towards common international standards and stimulate further the flow of patent applications across borders. All of these factors contribute to worldwide patent growth from year-to-year.

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<sup>1</sup> All economic data from the IMF World Economic Outlook Database as of April 2007.

<sup>2</sup> OECD member countries include the U.S., Japan and many European countries. A complete list of countries is available at [http://www.oecd.org/pages/0,3417,en\\_36734052\\_36761800\\_1\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/pages/0,3417,en_36734052_36761800_1_1_1_1_1,00.html).

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 Trilateral Co-operation web site<sup>3</sup>. Material can be freely reproduced in other publications but we request that this should be together with a reference to the title and web site location of the report. An additional annex appears in the web version that give a glossary of patent related terms, and there is also a file that contains underlying statistical data comparable to that used in the report over several previous years.

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<sup>3</sup> <http://www.trilateral.net/tsr/>

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## **Chapter 1 INTRODUCTION**

### **DEFINITIONS OF TERMS**

There are various types of IP rights. They can be categorized as:

- Patents of invention
- Utility model patents
- Industrial design patents
- Trademarks
- Copyrights

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

Despite the existence of regional and international procedures, patent rights differ between countries. One reason is that patent law varies from country to 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 reasons for the larger numbers of patent applications in Japan compared to Europe and the U.S. Variation in the scope of applicability of patent rights compromises to some extent the ability to compare patents between 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, consisting of:
  - Regional procedures (for example the European, Eurasian or African Intellectual Property Organizations), and the
  - International PCT.

While applications filed under national procedures are handled immediately by national authorities, regional applications are first subject to a centralized procedure and only after they have eventually been granted do they enter the national post grant procedures. International applications filed under the PCT are first handled by appointed offices during the international phase. Then after about 30 months from the priority date, they enter the national/regional phase to be handled as national or regional applications in each designated office. Reference is often made to "direct regional" applications as opposed to "PCT regional phase" applications in order to distinguish the two subsets of applications handled by regional patent offices.

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:



- **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 the 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.
- Four geographical blocs are defined. The **EPC contracting states**<sup>5</sup> (corresponding to the territory of all the states party to the **EPC contracting states** at the end of the reporting year), **Japan**, the **U.S.**, 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 the **demand for patent rights**, after cumulating the number of designated countries in each supranational application.

Direct national and direct regional applications are counted in the year they are filed.

**PCT applications** are usually counted in the year they enter the national (or regional) phase. In some parts of this report they are counted by the year of filing in the international phase.

- **Grants** are generally reported as recorded by the WIPO in its Industrial Property Statistics series.<sup>6</sup> They are counted in the year they are issued or published.
- 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, a subset of Trilateral patent families known as “Triadic patent families” is currently reported in OECD publications.

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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. In the section on patent families, data are available on first filings as those that do not quote the priority of other filings.

<sup>5</sup> Referred to as “**EPC States**” in the graphs.

<sup>6</sup> WIPO’s Industrial Property Statistics are available at <http://www.wipo.int/ipstats/en/statistics/patents/index.html>.

<sup>5</sup> Web annex can be found at: [http://www.trilateral.net/tsr/tsr\\_2006/annex3.pdf](http://www.trilateral.net/tsr/tsr_2006/annex3.pdf) Estimated date: Nov. 1, 2007.

Further definitions for statistics on procedures are given in Annex 2. Definitions of patent related terms can be found in the glossary located in the web annex.

## **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 the development of worldwide patent applications. Statistics in this chapter are derived primarily from the Industrial Property Statistics of the WIPO.<sup>7</sup> Patent statistics are sometimes retrospectively updated, so where necessary and possible the counts have been augmented from other sources. But otherwise no estimated counts have been included to compensate for missing data.

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

Chapter 3 also provides 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.

Statistics are given for applications filed with Trilateral Offices from each filing bloc, also showing domestic and foreign filings. Direct applications to the 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 is not considered in this chapter. The demand at the EPO is given in terms of applications rather than in terms of designations.

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<sup>7</sup> The WIPO data used is as of June 17, 2007.

Statistics are provided on the breakdown of applications by fields of technology according to the IPC.

Although 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. Some indication of the services that have actually been demanded can be provided using statistics on granted patents.

Further analyses of patent grants are also provided, in terms of the blocs of origin of the grants and 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 the EPC contracting states.

To illustrate the similarities as well as the differences in the granting procedures at the three Offices, comparisons are given of the characteristics and statistics of the trilateral patent granting procedures in the last part of Chapter 4.

## **Chapter 5**

This chapter shows how the PCT impacts patenting activities, particularly at the Trilateral Offices. PCT work includes the actions required by the three Offices for PCT applications in the international phase as Receiving Office (RO), International Searching Authority (ISA) and International Preliminary Examining Authority (IPEA).

Most of the data were obtained from the WIPO Industrial Property Statistics, as collected from each country and region.

## **Chapter 6**

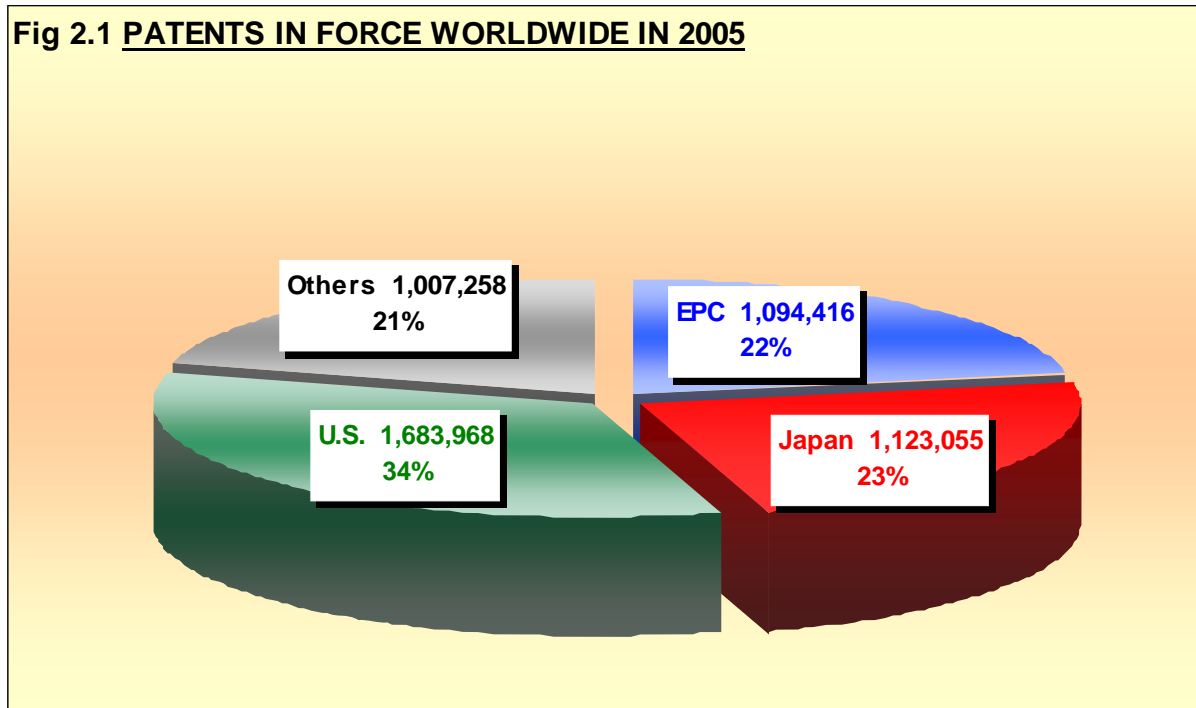
This chapter is dedicated to the other activities the Trilateral Offices are performing that are not common to all three Offices, as well as work related to other types of industrial property rights.

## Chapter 2

### THE TRILATERAL OFFICES

Patent rights are recognized throughout the world. The most recent information on worldwide patent rights is available from the 2005 WIPO Industrial Property Statistics. At the end of the year 2005, more than 4.9 million patents were in force.

**Fig 2.1 PATENTS IN FORCE WORLDWIDE IN 2005**



About 79 percent of the total patents in force worldwide were granted in either the EPC contracting states, Japan or U.S. This share has been continuously declining over the last five years. This may be due to a larger number of countries reporting from "Others" as well as to the increase of patenting there. In EPC contracting states, patents are granted either by the national offices or by the EPO.

## EUROPEAN PATENT OFFICE

The EPO, the main patent granting authority for Europe, represents a good example of economic and political cooperation, providing patent protection in up to 37 European countries on the basis of a single patent application and a unitary grant procedure. The EPO currently records more than 200,000 European patent application filings per year.

By the end of 2006, the 31 members of the underlying European Patent Organization were:

|                |          |             |        |                |           |
|----------------|----------|-------------|--------|----------------|-----------|
| Austria        | Belgium  | Bulgaria    | Cyprus | Czech Republic | Denmark   |
| Ellas (Greece) | Estonia  | Finland     | France | Germany        | Hungary   |
| Iceland        | Ireland  | Italy       | Latvia | Liechtenstein  | Lithuania |
| Luxembourg     | Monaco   | Netherlands | Poland | Portugal       | Romania   |
| Slovakia       | Slovenia | Spain       | Sweden | Switzerland    | Turkey    |
| United Kingdom |          |             |        |                |           |

In 2007, the EPC entered into force in Malta, which became the 32nd contacting state. Norway will become the 33<sup>rd</sup> member on January 1, 2008. Croatia recently expressed its intention to join the Organization. Other states have agreements with the EPO to allow applicants to request an extension of European patents to their territory. At the end of 2006, extensions of European patents could also be requested for:

Albania, Bosnia-Herzegovina, Croatia, the FYROM, and Serbia.

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

In June 2006, a strategic debate with the Organization's member states was concluded with the creation of the European Patent Network (EPN). Its objectives are to develop further synergy and cooperation between the EPO and the member states to foster innovation in Europe. The EPN shall work around five major topics: a pilot project on search report utilization, a common European quality system, a service consortium for EPO non-core work, an enhanced technical cooperation and a study on the future workload.

### 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 EPC. Moreover, the EPO acts as a receiving, searching, and examining authority under the PCT. 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.

To keep pace with the higher demand for its services, the Office carried out some internal adjustments in 2006. With the completed deployment of the BEST<sup>8</sup> project, all examiners now perform searches, examinations and oppositions on their dossiers. The examining units have

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<sup>8</sup> Bringing Examination and Search Together

been grouped under the same centralized authority in the Operational General-Directorate, while all the departments directly supporting the grant procedure are now grouped in the Operational Support General-Directorate.

In Table 2.1, the latest production figures for search (European, PCT and national searches), for examination (European and PCT Chapter II), for opposition and for appeal in the European procedure are given for the years 2005 and 2006.

**Table 2.1: EPO PRODUCTION INFORMATION**

| <b>PRODUCTION FIGURES</b>                                 | <b>2005</b>    | <b>2006</b>    |
|---|----------------|----------------|
| <b>Filings</b>  |                |                |
| Total Euro-direct & Euro-PCT international phase          | 197,391        | 208,502        |
| Total Euro-direct & Euro-PCT regional phase               | 128,754        | 135,183        |
| <b>Searches carried out</b>                               |                |                |
| European searches<br>(Euro & Euro-PCT supplementary)      | 74,068         | 75,727         |
| PCT international searches                                | 69,722         | 69,577         |
| Searches on behalf of national offices and other searches | 19,354         | 18,269         |
| <b>Total production search</b>                            | <b>163,144</b> | <b>163,573</b> |
| <b>Examination: final actions performed</b>               |                |                |
| European examination                                      | 84,056         | 83,067         |
| PCT Chapter II  | 18,023         | 14,574         |
| Opposition (final action)                                 | 2,354          | 2,641          |
| <b>Total final actions examination / opposition</b>       | <b>104,433</b> | <b>100,282</b> |
| <b>Appeals settled</b>                                    |                |                |
| Technical appeals   | 1,395          | 1,529          |
| PCT protests  | 37             | 24             |
| Other appeals   | 50             | 46             |
| <b>Total decisions</b>                                    | <b>1,482</b>   | <b>1,599</b>   |

In 2006, the Office production in search marginally increased by 0.3 percent to about 163,600 completed searches. While the examination work under the PCT has been reduced, the number of final actions in European examination slightly decreased by 1 percent to 83,000. In 2006, 1,600 decisions in appeal were completed (8 percent more than in 2005).

## **Documentation**

The Office further improved the range and quality of its databases and online search tools. At the end of 2006, the electronically searchable EPO database contained more than 57 million patent documents. The database now covers 78 countries and is accessible to the public via the World Patent Finder (esp@cenet). The literature documentation on patent and non-patent

literature now contains 71 million searchable abstracts, a 30 percent increase over 2005. Further efforts led to the acquisition of new databases in the fields of telecommunication standards and traditional knowledge.

The EPO citation database currently contains 70 million references relating to 14 million applications or publications. Quality control resulted in 240,000 manual corrections related to six million cited documents.

In 2006, a total of 331 million documents were viewed from the primary computer-based retrieval system by an average per month of 5,200 examiners in the EPO and in the countries using the tool for their searches.

An important activity regarding classification has been the implementation of the IPC reform.<sup>9</sup> Document re-classification will be a major concern in 2007.

By the end of 2006, 17 member states had received the EPTOS<sup>10</sup> tool set, helping them to handle patent procedures, including the World Patent Finder (esp@cenet) and the European Register.

The electronic filing tool epoline<sup>®</sup> received a growing response from the users. About one third of the European applications were filed online-via epoline<sup>®</sup>.

## **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.

A major enhancement to the World Patent Finder was an automatic translation feature from English into Spanish, French, German and vice versa. Since June 2006, the service also includes a Japanese language interface.

A new version of the World Patent Statistical Database (aka PATSTAT) was distributed in autumn 2006 incorporating amendments as suggested by the 27 institutions that had received it. It is planned to distribute two updates per year in future.

Finally, the optical disc based patent information products (ESPACE) are now available on-line.

## **Technical Cooperation**

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

The European Patent Academy organized over seventy seminars and launched the Innovative Support Training Programme designed to help national IP offices in supporting industries in the field of innovation and IP management. The first European Patent Summer Course was jointly

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<sup>9</sup> For more information please go to [http://www.wipo.int/classifications/ipc/en/reform/ipc\\_reform.html](http://www.wipo.int/classifications/ipc/en/reform/ipc_reform.html).

<sup>10</sup> Electronic Patent and Trademark Office System

organized with Bocconi and St. Gallen Universities to bring together IP experts with academics and researchers to discuss patent strategy and management.

Several seminars, conferences and fora took place in various European countries where the EPO took part as organizer or contributed by providing expertise.

In May, the first European Inventor of the Year award ceremony was jointly organized in Brussels with the European Commission. About 400 guests took part in the two-day event. The first day was dedicated to the development of a competitive patent system in Europe, while the second day dealt with IP protection in China. The PATLIB conference was held in Prague, the Patent Information Conference in Paphos in Cyprus and the European Round Table on Patent Practice in Ljubljana.

A conference on patent statistics for policy decision making was held in October in Vienna, in cooperation with OECD, WIPO, JPO, USPTO and the Austrian Patent Office. Another conference on the value of patents as tradable assets was held in London in November. Finally, in December, a conference on pharmaceuticals and patents was held to raise patent awareness among European parliament members.

Bilateral technical cooperation projects with China, India, Mexico, Republic of Korea, and Singapore were launched during the year, and negotiations were initiated with South Africa. Other technical projects were continued in Brazil, Mexico and with the ARIPO.<sup>11</sup>

## **EPO 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 (i.e. before grant) are paid to the EPO directly. On January 1, 2006 the EPO introduced International Financial Reporting Standards into its accounting system. Contrary to previous practice, this means that procedural fees are no longer recorded as income in the accounting year in which they are received, but are generally treated as deferred income, to be included in revenue in the year in which the relevant task is actually performed.

The renewal fees for European patents (i.e. after grant) are collected by the designated contracting states and determined by national law. From these renewal fees, 50 percent is kept by the national offices and 50 percent is transferred to the EPO.

Total expenditure in the year 2006 (excluding investments) was EUR 1,020 million. This breaks down into EUR 771 million (75 percent) for personnel expenses, EUR 81 million (8 percent) for general maintenance (including depreciation), EUR 96 million (9 percent) for EDP equipment and maintenance (including depreciation), EUR 26 million (3 percent) for patent information and cooperation with the contracting states and EUR 46 million (5 percent) for general operating expenses.

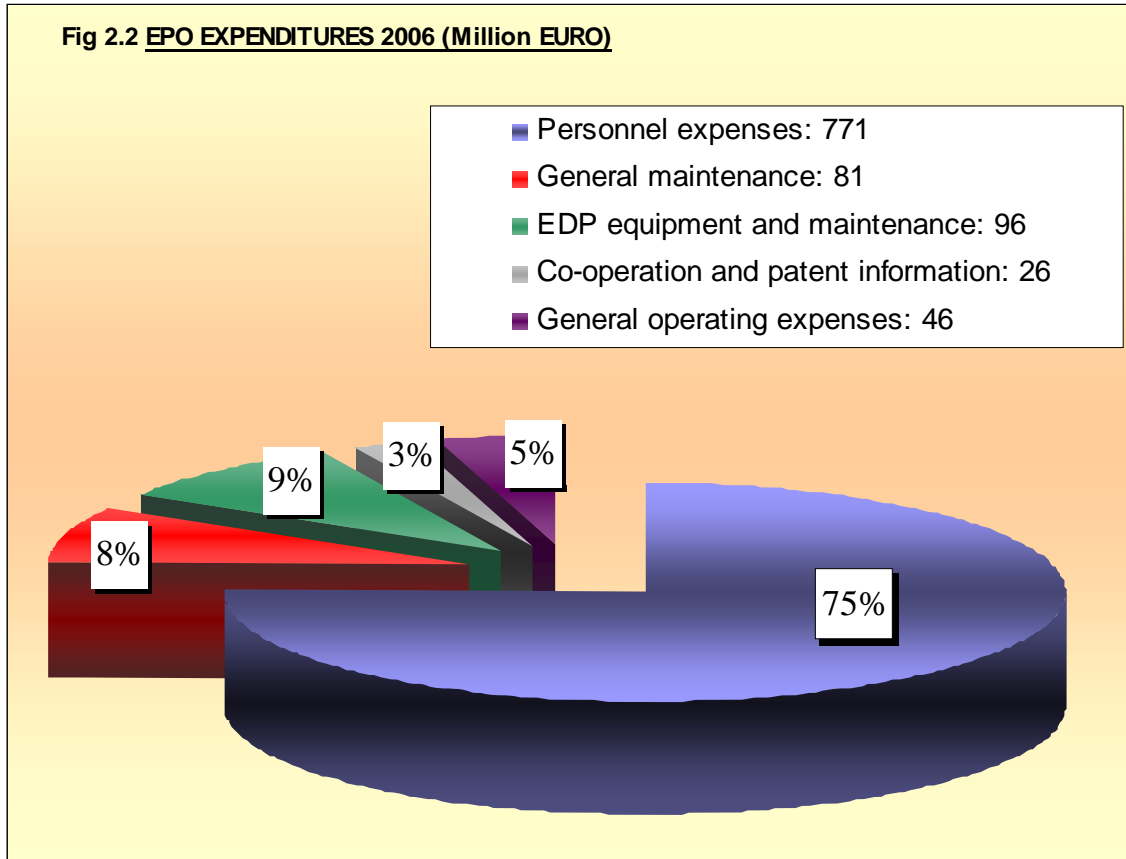
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<sup>11</sup> African Regional Intellectual Property Organization



Total income to the EPO in 2006 amounted to EUR 1,121 million (unadjusted for deferred income).

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



### **EPO Staff Composition**

During 2006, 325 employees were recruited of which 208 were examiners. By the end of the year, the staff reached a total of 6,319, including 3,555 examiners in search, examination, opposition, and 141 members of Board of Appeal.

### **More information**

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

[www.epo.org](http://www.epo.org)

## JAPAN PATENT OFFICE

The JPO is committed to comprehensive development of industry through planning and carrying out examinations and appeals under the system of IP rights, which includes patents, utility models, designs, and trademarks.

In order to ensure sustainable growth, it is essential for Japan to establish itself as an IP-based nation where the achievements of intellectual creation activities become the source of national wealth. It is necessary to establish “the intellectual creation cycle” of creation, protection and exploitation of IP in order to achieve an IP-based nation. To this end, the JPO, which is responsible for the core of the IP administration, shall continue specific measures to establish the human and system environments that will support the adequate protection and effective exploitation of IP.

### Further efforts toward expeditious and efficient patent examination

#### Securing the necessary number of examiners through the appointment of new fixed-term examiners

The JPO has established, ahead of other countries, the paperless system for all of the procedures, from the filing of an application to the examiner’s decision, which enables active promotion of the world’s first outsourcing of prior art searches to the private sectors. The resulting significant increase is evidenced by the JPO’s performance. The JPO’s number of patent examinations processed is two to four times the number processed in the EPO and the USPTO.

In (fiscal year) FY 2007 the JPO recruited 99 additional patent examiners, including 98 fixed-term examiners. It will continue to strive to secure the necessary number of examiners and fixed-term examiners in FY 2008. FY 2008 is the final year of the five-year-plan under which the JPO recruited fixed-term examiners in FY 2004.

**Table 2.2: JPO INCREASE IN THE NUMBER OF PATENT EXAMINERS**

|                      | FY 2004             | FY 2005             | FY 2006             | FY 2007            |
|----------------------|---------------------|---------------------|---------------------|--------------------|
| Regular examiners    | 1,145 (+19)         | 1,162 (+17)         | 1,174 (+12)         | 1,175 (+1)         |
| Fixed-term examiners | 98 (+98)            | 196 (+98)           | 294 (+98)           | 392 (+98)          |
| <b>Total</b>         | <b>1,243 (+117)</b> | <b>1,358 (+115)</b> | <b>1,468 (+110)</b> | <b>1,567 (+99)</b> |

#### Increase in outsourcing of prior art searches to the private sector

The JPO will continue to expand the number of prior art searches outsourced to the private sectors in FY 2007. One of the JPO’s goals is to increase outsourced prior art searches by 15 percent from FY 2006, to 226,000. This will include the highly efficient dialog-based type outsourcing searches with the expectation of the efficiency to increase by 18 percent over the FY 2006’s number of 185,000. The JPO will further redouble its efforts to promote the scale expansion and the efficiency. The JPO will also try work to increase the number of registered search organizations, aiming to have a total of five or more organizations, by adding at least one new entrant in FY 2007 to the four organizations currently registered.

## Maintenance and improvement of the quality of patent examinations

### Quality management system for patent examinations

In the course of promoting expeditious patent examinations, securing examination accuracy to prevent unnecessary ex-post disputes and unnecessary competition over filing of applications is one of the necessary requirements for maintaining a sound examination system. The JPO also established the Quality Management Office in the Patent Examination Department in April 2007. Using the quality management methods applicable to all technical fields this Office strives to maintain and improve the quality of examinations. The Quality Management Office also makes plans and proposals for quality management methods. For example, it provides feedback on the results of quality analyses to examiners by conducting sample checks and users surveys.

### Further increasing in the accuracy of prior art searches

With the acceleration of technological innovation and the continuing development of new technologies, the JPO's store of patent documents may prove insufficient. Because of the amount of patent documentation stored there may not be enough space for the field of new technologies for which the increasing number of applications have been filed amidst accelerating technological innovations. In order to carry out highly-detailed prior art and literature searches for accurate examinations it is necessary to conduct wide-ranging prior art searches including academic documents, such as academic papers and technical magazines. In FY 2007, the JPO will improve its search database for information on the latest technologies such as optical discs and flat panel displays, thereby further increasing the accuracy of prior art searches.

**Table 2.3: JPO PRODUCTION INFORMATION**

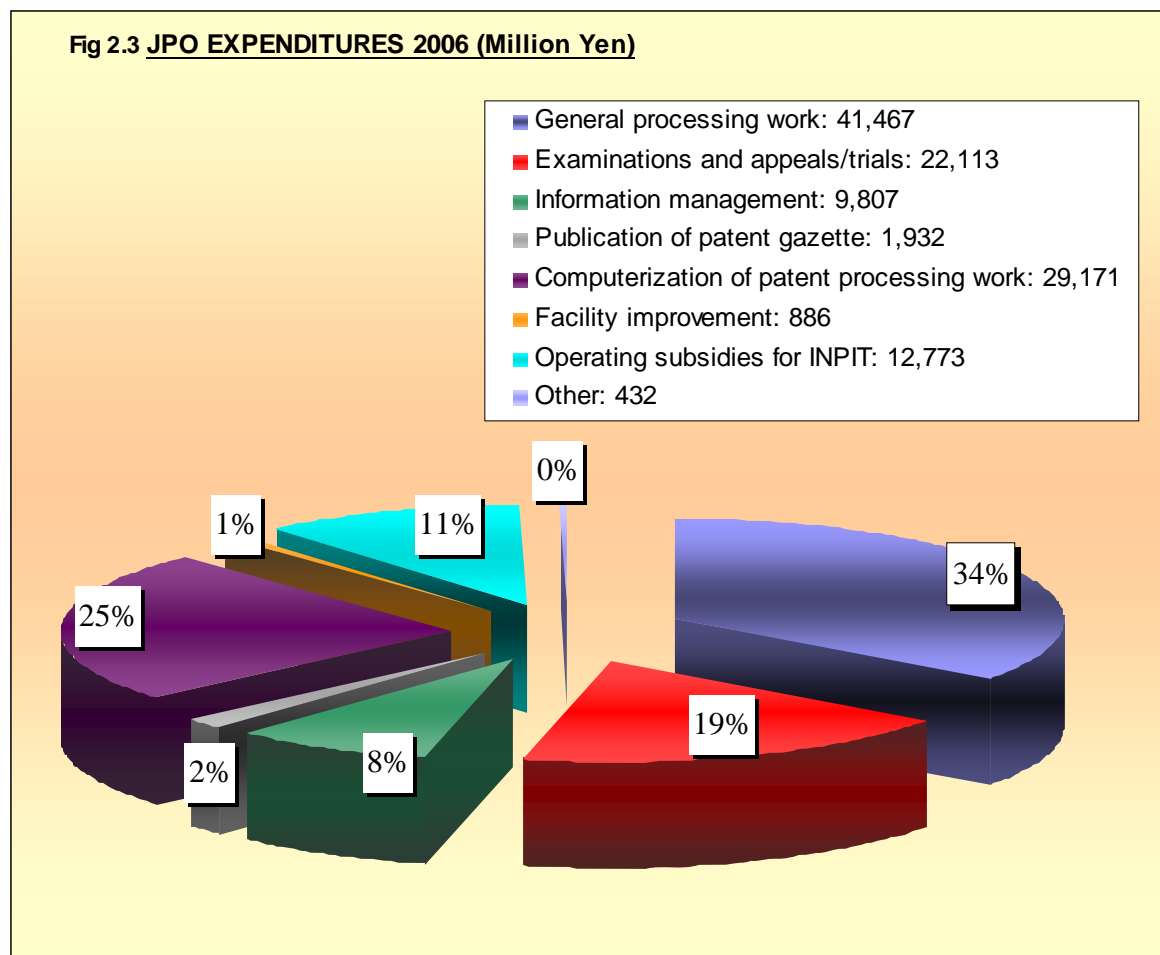
| <b>PRODUCTION FIGURES</b>     | <b>2005</b>    | <b>2006</b>    |
|-------------------------------|----------------|----------------|
| <b>Application filed</b>      |                |                |
| Domestic                      | 367,960        | 347,060        |
| Foreign                       | 59,118         | 61,614         |
| <b>Total</b>                  | <b>427,078</b> | <b>408,674</b> |
| <b>Grants</b>                 |                |                |
| Domestic                      | 111,088        | 126,804        |
| Foreign                       | 11,856         | 14,595         |
| <b>Total</b>                  | <b>122,944</b> | <b>141,399</b> |
| <b>Applications in appeal</b> | 23,054         | 26,373         |
| (Acceptance)                  | (5,712)        | (6,545)        |

## JPO Budget

The JPO FY 2006<sup>12</sup> budget totaled approximately 118,581 million yen. The breakdown of expenditures is as follows:

- 41,467 million yen for general processing work (includes personnel expenses) (31,450 million yen for existing personnel)
- 22,113 million yen for examinations and appeals/trials, etc.
- 9,807 million yen for information management
- 1,932 million yen for publication of patent gazette, etc.
- 29,171 million yen for computerization of patent processing work
- 886 million yen for facility improvement
- 12,773 million yen for operating for INPIT (subsidy)
- 432 million yens for other expenses.

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



<sup>12</sup> The period of JPO's FY 2006 is from April 1, 2006 to March 31, 2007.

## **JPO Staff Composition**

As of the end of FY 2006, the JPO employed a total of 2,716 staff. This includes 98 new fixed-term examiners to further cut the time required for examination.

|                         |              |
|-------------------------|--------------|
| Examiners:              | <b>1,668</b> |
| Patent / Utility model: | 1,468        |
| Design:                 | 51           |
| Trademark:              | 149          |
| Appeal examiners:       | 386          |
| General staff:          | 662          |

## **More information**

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

<http://www.jpo.go.jp>

# UNITED STATES PATENT AND TRADEMARK OFFICE

## Mission Statement

For over 200 years, the core mission of the USPTO has remained the same: “to promote the progress of science and the useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries” (Article 1, Section 8 of the U.S. Constitution).

The USPTO carries out the mission to foster innovation and competitiveness by:

- Providing high quality and timely examination of patent and trademark applications,
- Guiding domestic and international IP policy, and
- Delivering IP information and education worldwide.

## Services and Operations

As an agency of the U.S. Department of Commerce (DOC), the primary services provided by the USPTO are examining patent and trademark applications and disseminating patent and trademark information. The USPTO encourages technological advancement by providing incentives to invent, invest in, and disclose new technology by issuing patents.

The USPTO provides valued products and services to its customers in exchange for fees that are appropriated 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, Patents and Trademarks.

## USPTO Strategic Plan

During 2006 the USPTO was guided by the aggressive and far-reaching *21st Century Strategic Plan* that committed the agency to promote the IP systems of the future to keep American innovators competitive in the global economy and transform the agency into a quality-focused, highly productive and responsive organization. While following the *21st Century Strategic Plan*, the USPTO continued to enhance the quality of the search and examination processes, complete the transition to electronic processing of patent and trademark applications, and develop innovative plans for hiring programs that address pendency and patent backlogs by hiring, training, retaining employees and allowing them to work at home or off-site.

The USPTO is currently under a new *Strategic Plan* which covers 2007-2012<sup>13</sup>. This *Plan* builds upon our past successes with three complementary strategic goals: (1) optimizing patent quality and timeliness; (2) optimizing trademark quality and timeliness, and (3) improving IP protection and enforcement domestically and abroad; and a management goal to achieve organizational excellence. The *Plan* outlines approaches toward attaining these goals, articulates underlying challenges and opportunities, and identifies steps that can be taken toward implementation. It provides a framework for continuing to make measurable quality

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<sup>13</sup> <http://www.uspto.gov/web/offices/com/strat2007/stratplan2007-2012.pdf>

improvements, reducing patent application pendency, increasing the percentage of patent applications filed electronically and improving worldwide IP expertise.

## **Intellectual Property Protection**

In accordance with its mission, the USPTO delivered even more IP information and education worldwide in 2006. While the USPTO has long provided IP rights assistance and training, it is using a flexible team approach to meet the challenges of IP rights enforcement in today's global environment. This effort is accomplished by fulfilling existing obligations to assist nations in implementing accessible and effective IP rights enforcement systems; partnering to provide useful programs and training; and working to increase the accessibility, efficiency, and effectiveness of civil, administrative, and criminal enforcement mechanisms in global trade, foreign markets, and electronic commerce.

The USPTO has established the Global Intellectual Property Academy (GIPA), which consolidates and greatly expands USPTO's curriculum of training and capacity building programs on IP rights protection and enforcement. The USPTO responded to particular needs of countries and regions including drafting IP legislation for Vietnam, administrative enforcement of IP rights in Southeast Asia, commercialization of IP rights in Ukraine, and IP judicial education in Cambodia. In addition, the USPTO conducted specialized IP enforcement study tours for participants from the Middle East including one for librarians and another for judges and prosecutors.

The USPTO conducted China-focused IP Awareness Programs (How to do Business and Protect Your IP in China) in the U.S., Traditional Knowledge/Genetic Resources Workshops in Beijing and Kunming, China, and a Geographical Indications Workshop in Beijing. The USPTO also conducted IP Rights Enforcement programs in Bangkok for customs officials from nine Southeast Asia countries, workshops on criminal enforcement for judges and prosecutors in Hanoi, and the same workshops for judges from the Ministry of Justice in Morocco.

The USPTO partners with both the DOC U.S. and Foreign Commercial Service and the Department of State to post IP experts in select, high profile countries where IP challenges are greatest. In 2006, the USPTO posted experts in the countries of Brazil, India, Thailand, China and Egypt. These experts will advocate U.S. IP policy and interests, conduct training on IP rights matters, assist U.S. businesses and support the embassy or consulate action plan on IP rights.

In 2006, the USPTO continued with Strategy Targeting Organized Piracy (STOP!) the most comprehensive U.S. government-wide initiative created to combat trade in pirated and counterfeit goods. The related web site, [www.stopfakes.gov](http://www.stopfakes.gov), provides in-depth information about the STOP! initiative. One key feature of the web site is the country-specific "toolkits" that have been created by our overseas embassies to assist small- and medium-sized businesses to understand the atmosphere and how to protect and enforce their rights in a particular country.

**TABLE 2.4: USPTO PRODUCTION INFORMATION**

| <b>PRODUCTION FIGURES</b>                                  | <b>2005</b>    | <b>2006</b>    |
|--|----------------|----------------|
| <b>Applications Filed</b>                                  |                |                |
| Plant  | 1,222          | 999            |
| Reissue  | 908            | 1,285          |
| Design   | 25,553         | 25,515         |
| Provisional  | 114,839        | 124,425        |
| <b>Total Utility</b>                                       | <b>390,733</b> | <b>425,967</b> |
| <b>GRAND TOTAL</b>   | <b>533,255</b> | <b>584,373</b> |
| <b>First Actions</b>                                       | 302,659        | 323,379        |
| <b>Grants (Total)</b>                                      | 143,806        | 173,771        |
|  | U.S. Residents | 89,823         |
|  | Foreign        | 83,948         |
|  | Japan          | 36,807         |
|  | EPC States     | 22,043         |
|  | "Others"       | 25,098         |
| PCT Chapter II   | 11,427         | 7,124          |
| <b>Applications in appeal and interference proceedings</b> |                |                |
| Ex-parte Appeal Contested                                  | 2,834          | 3,349          |
| Ex-parte Appeal Disposed                                   | 2,937          | 2,874          |
| Inter-partes Appeal Contested                              | 94             | 129            |
| Inter-partes Appeal Disposed                               | 96             | 107            |
| <b>Patent Cases in Litigation</b>                          |                |                |
| Cases filed  | 47             | 64             |
| Cases disposed   | 53             | 59             |
| Pending cases (end of calendar year)                       | 47             | 58             |

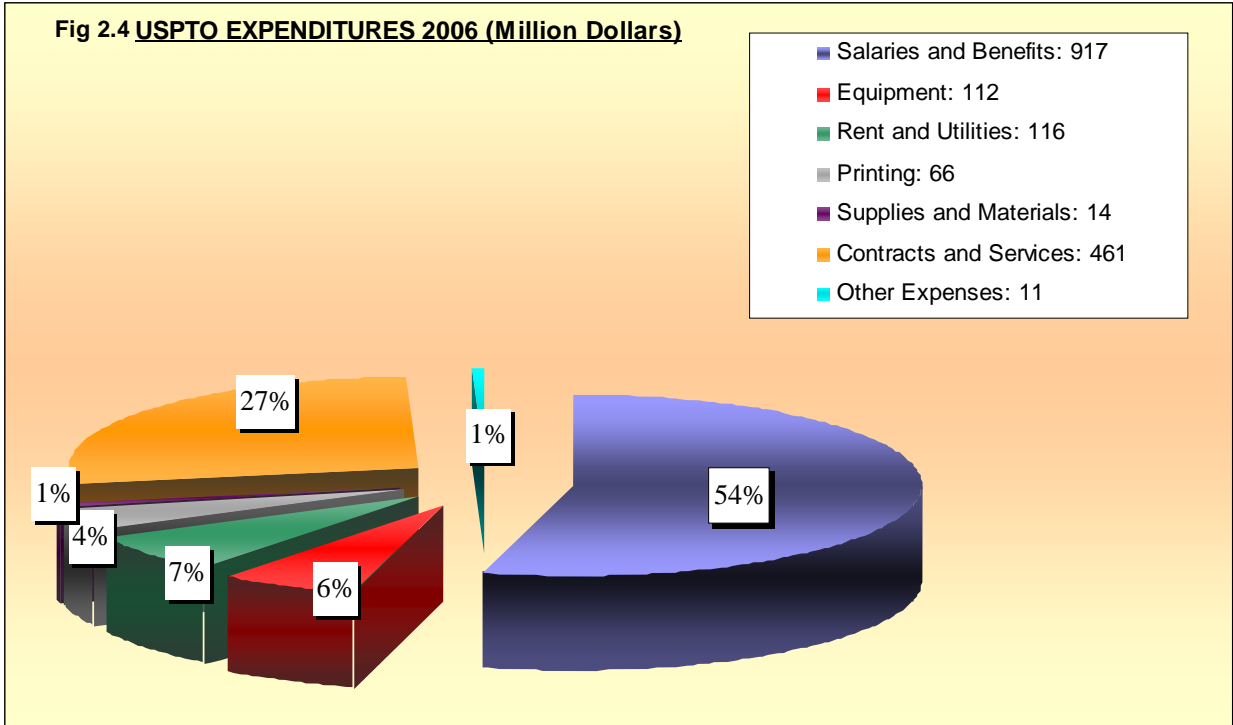
### USPTO budget

In calendar year 2006, USPTO expenditures reached \$1,697 million. 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 2006 were attributed to the USPTO's labor force. Salaries and benefits accounted for 54 percent of overall expenditures, or about \$917 million. Contracts and services were the second major expenditure, which represented about 27 percent of expenditures. Rent and utilities were the third largest at 7 percent. A breakdown of all the major spending categories is shown in Fig. 2.4.

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





**USPTO Staff Composition**

In FY 2006<sup>14</sup>, the total staff at the USPTO was 8,189. The Patent staff total was 7,283. This total was comprised of 4,779 Utility, Plant and Reissue examiners, 104 Design examiners, and 2,400 managerial, administrative and technical support staff. The Board of Patent Appeals and Interferences is a segment of the Office of General Counsel, which has 228 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 employees on the Board of Patent Appeals and Interferences increased in 2006, to a total of 114.

**More Information**

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

<http://www.uspto.gov>

<sup>14</sup> The period of USPTO’s FY 2006 is from October 1, 2005 to September 30, 2006.

## 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 the 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 2001 to 2005. More current and detailed data from the Trilateral Offices are presented in Chapter 4. Comparable statistics on the usage of the PCT system appear in Chapter 5.

Applications reported hereafter are counted by the calendar year of filing and grants by the calendar year of granting.

Due to the complexity of the patent system several different representations of the patent filing process can be made. The following scheme can guide the reader to graphs that correspond to the different representations.

Figures 3.1, 3.4, 3.5, 3.7 show the **numbers of application forms filled out**. All of these are counted once only: (Direct national and direct regional filings, PCT international filings).

Figures 3.2, 3.11 show the numbers of **requests for patents** as they entered a grant procedure. Direct national and direct regional filings are counted once only. PCT national/regional phase filings are replicated over the numbers of procedures that are started.

Figures 3.3, 3.6, 3.8 show the equivalent numbers of **requests for national patent rights**. Direct national filings are counted once, PCT applications entering national procedures are replicated over the number of countries where they enter this phase. Direct regional filings and PCT regional phase filings are replicated over the number of countries designated in the application at the time it entered the regional procedure. This gives a representation in terms of national patent rights.

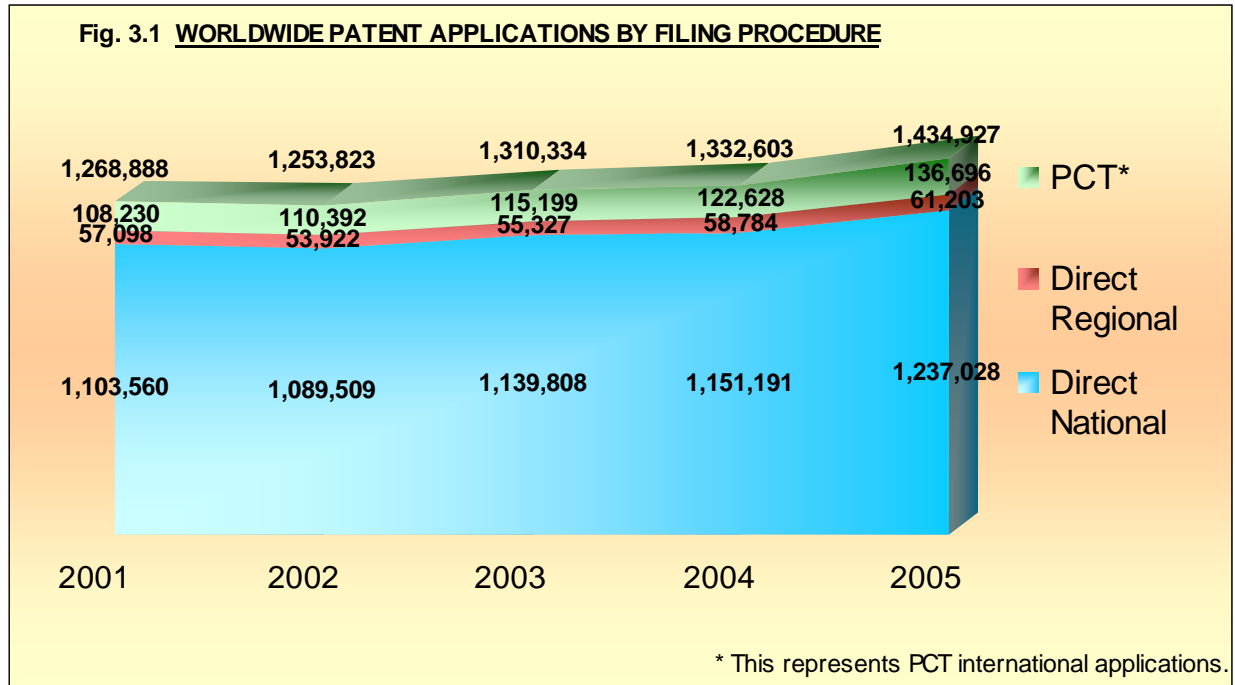
Figures 3.12, 3.13 show the **patent family** counts which are generated as the set of first filings, counted once each only, and documented in terms of the flows of priority rights from the first filings to subsequent filings in other countries.

Regarding grants, Fig. 3.9 shows the numbers of **granted patents**. All grants are counted once only.

Fig. 3.10 shows the numbers of **validated national patent grant registrations**. Direct national grants are counted once only, but regional office grants are replicated over the numbers of countries for which the grant provides valid registrations. This gives a representation in terms of national patent rights.

## PATENT APPLICATIONS FILED

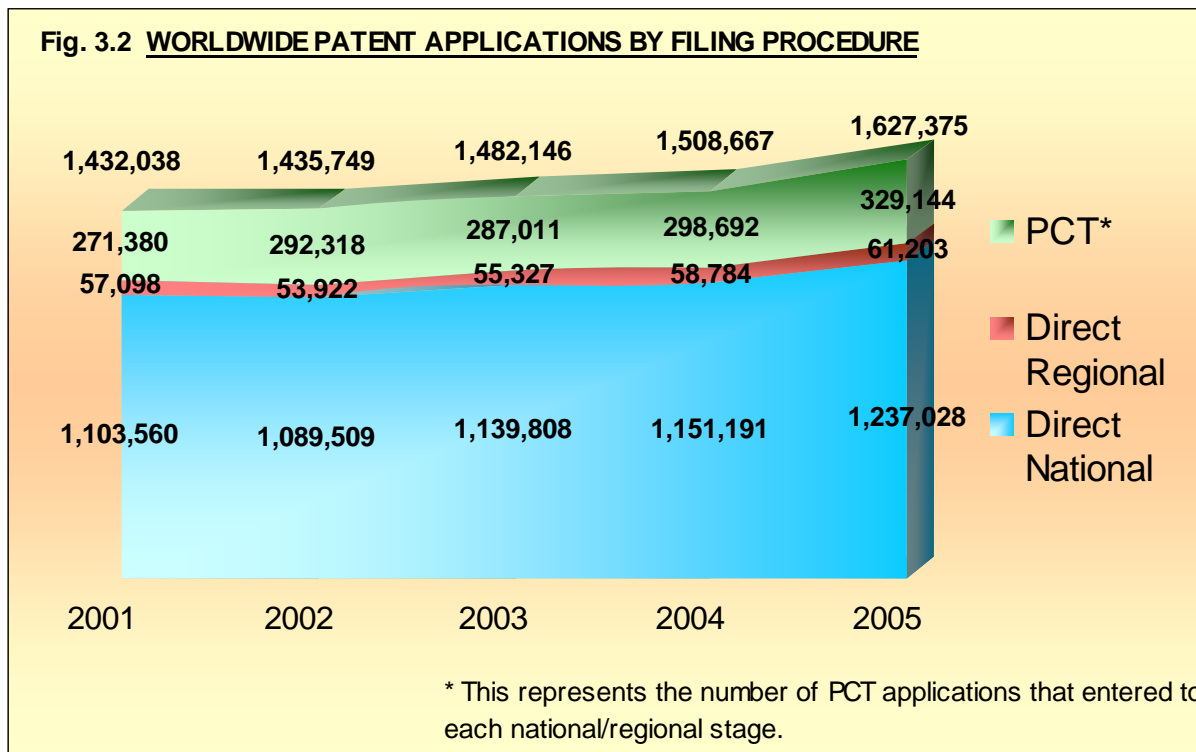
The data in Fig. 3.1 below show the numbers of applications filed throughout the world. The PCT number in Fig. 3.1 is the number of international applications, rather than designations. Prior to 2004, applicants chose specific designations; starting in 2004 all contracting states were automatically designated, unless the applicant requests otherwise.



More than 1.4 million applications were filed in 2005. This represents the number of actions taken in 2005 to protect inventions around the world. This is an increase of 7.7 percent since 2004. Although many of these applications were filed according to national procedures (86.2 percent in 2005), the growth in filings is also contributed to by the ever-increasing use of supranational systems and in particular the PCT system.

Considering that not all the offices report filing statistics on a regular basis, one should be careful in interpreting these data. It can at least be concluded that there is a continuing tendency to use the patent systems in the world and that this does not seem to decline over time.

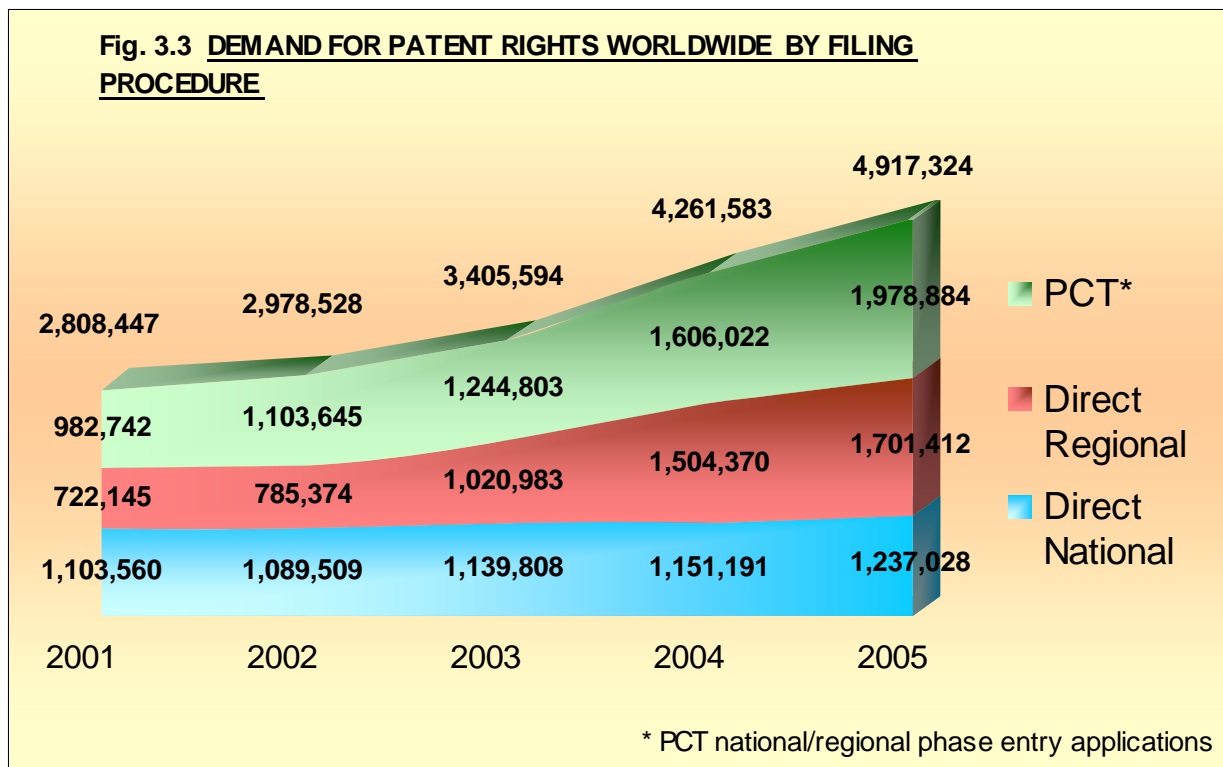
Fig. 3.2 shows the development of the number of requests for patents that entered a grant procedure. In this figure the PCT application numbers count the applications that entered a national/regional stage in the corresponding year. This leads to higher numbers because one PCT international filing usually enters into several national or regional procedures. For example, one PCT application as reported in Fig. 3.1 may result in an EPO PCT regional phase entry, a Germany PCT national phase entry, and an Italy PCT national phase entry, thus producing three PCT national/regional entry phase applications (shown in Fig. 3.2). As it is assumed in this report that PCT international phase applications are in general made as subsequent filings (at about 12 months after first filing), and that according to the regulations the national/regional phase begins 30 months after the first filing, this means that the entry into the national/regional phase generally takes place about 18 months after the PCT international filing.



There is a clear trend of annual increases. More than 1.6 million patent applications were filed in 2005. This represents an average compound rate of 3.2 percent per year since 2001.

Fig. 3.3 shows the evolution of the demand for patent rights resulting from the numbers of applications filed as shown in Fig 3.2. Filings counts are again based on PCT national/regional phase entry numbers for the world. But now, the applications for regional offices are expanded to cover the numbers of designations that can be counted under each regional patent system. This gives an estimate of the maximum number of patents that could be obtained later on from the filed applications in the corresponding years.

In this way the multiple country effects of the regional patent system are shown in terms of the underlying national patent rights. A single application may be counted multiple times, once per entry into the regional system or PCT national/regional phase. For example, one PCT application may lead to an EPO PCT regional phase filing that designates five EPC contracting states, a Japan PCT national phase entry, and an U.S. PCT national phase entry, thus producing a count of seven patent rights. A direct regional application may be to the EPO and designate three EPC contracting states, thus producing a count of three patent rights.



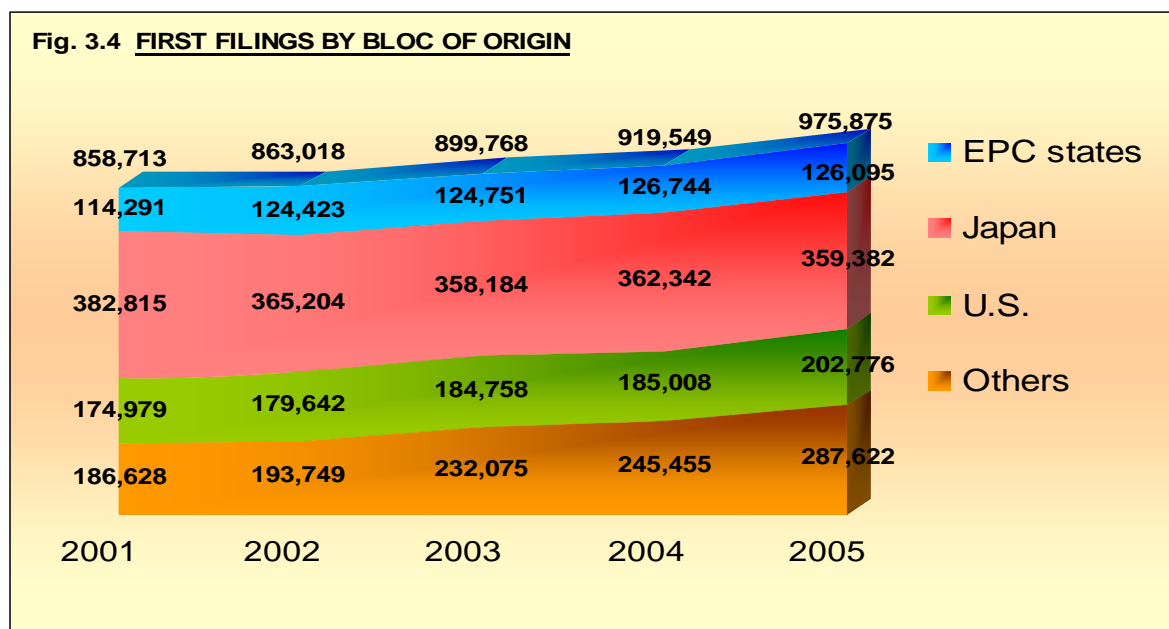
This representation shows the effect of the centralized procedures (regional and international) to help users of the system to expand their patent protection with a limited number of procedures.

The demand for patent rights increased substantially over the period with a 15.0 percent average growth rate. Numbers of PCT application and regional application increased from 2001 to 2005. This shows that the patent right demand was expanded via the regional patent systems.

## PATENT ACTIVITY BY BLOCS

### FIRST FILINGS

The process of patent protection starts with the 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. 3.4.



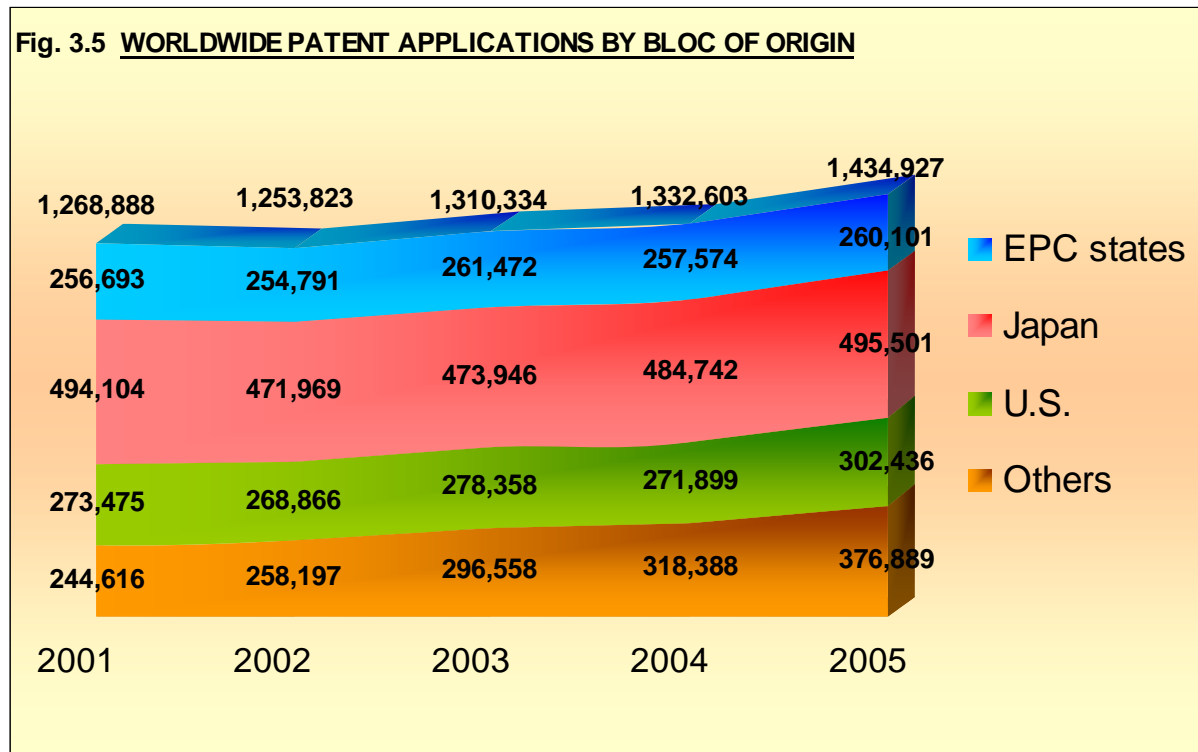
The total number of first filings increased by 6.1 percent from 2004 to more than 975,000 in 2005.

Japan recorded 359,382 first filings (about 37 percent of the whole), the highest number of first filings by bloc in 2005; although this was a decline from their 2004 total. The EPC contracting states had 126,095 first filings, slightly lower than their in 2004. The U.S. with 202,776 first filings showed a modest growth rate of more than 9 percent from 2004. The highest growth, more than 17 percent, was in the “Others” bloc. Both China and the Republic of Korea contributed a significant amount to “Others”. China made up 46 percent of “Others” and about 10 percent of the total for 2005. The Republic of Korea made up 47 percent of “Others” and about 10 percent of the total for 2005.

The total number of first filings in 2004 was 919,549. From these first filings, one year later, in 2005, Fig. 3.1 shows that 459,052 subsequent filings were filed. Thus on average each first filing led to almost 0.50 subsequent applications in the following year (was almost 0.46 for first filings in 2003). But Fig. 3.2 shows that this corresponds to almost 0.71 subsequent applications entering a grant procedure (was 0.74), and Fig. 3.3 shows that it corresponds to 5.04 subsequent requests for patent rights throughout the world (was 4.63). This illustrates the fact that greater usage of the international and regional patent systems allows for the filing of fewer applications for a broader geographical coverage of the protected inventions.

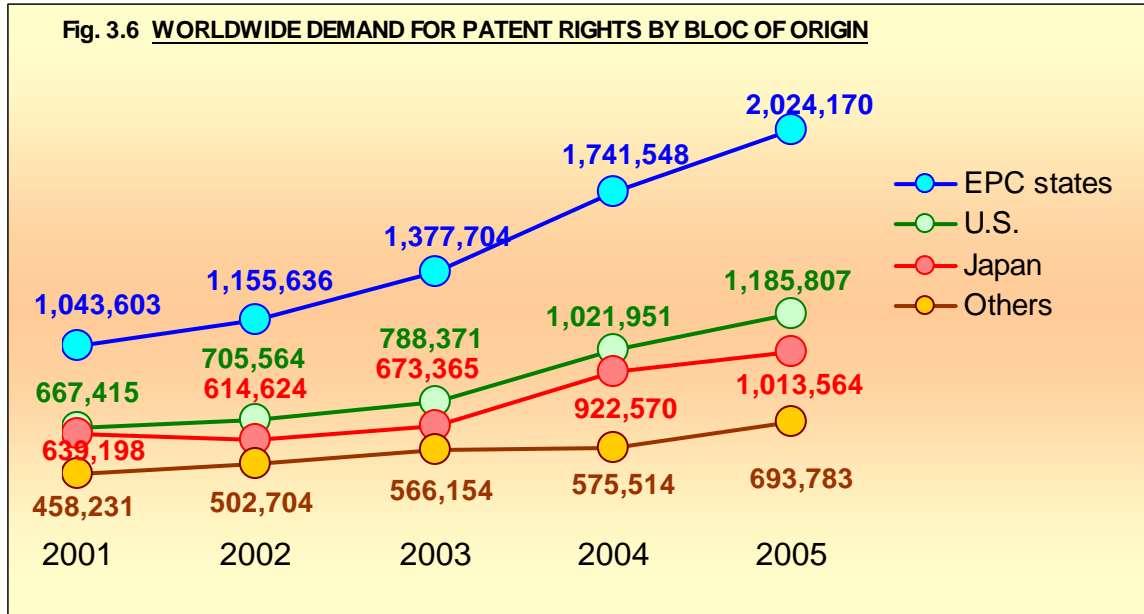
## ORIGIN OF THE APPLICATIONS

Fig. 3.5 is tied to Fig. 3.1 but displays the worldwide patent applications according to area of origin.



Japan remains the bloc from which the largest share of applications was originating, even though the share from the “Others” bloc is increasing. The number of applications filed by residents of Europe has declined since 2003. Applicants from the U.S. show a modest growth.

Fig. 3.6 shows the trend for the demand of patent rights by blocs of origin of the applicants. This graph is related to Fig. 3.3, since it uses the same broader definition of regional and PCT applications that show the demand for patent rights.



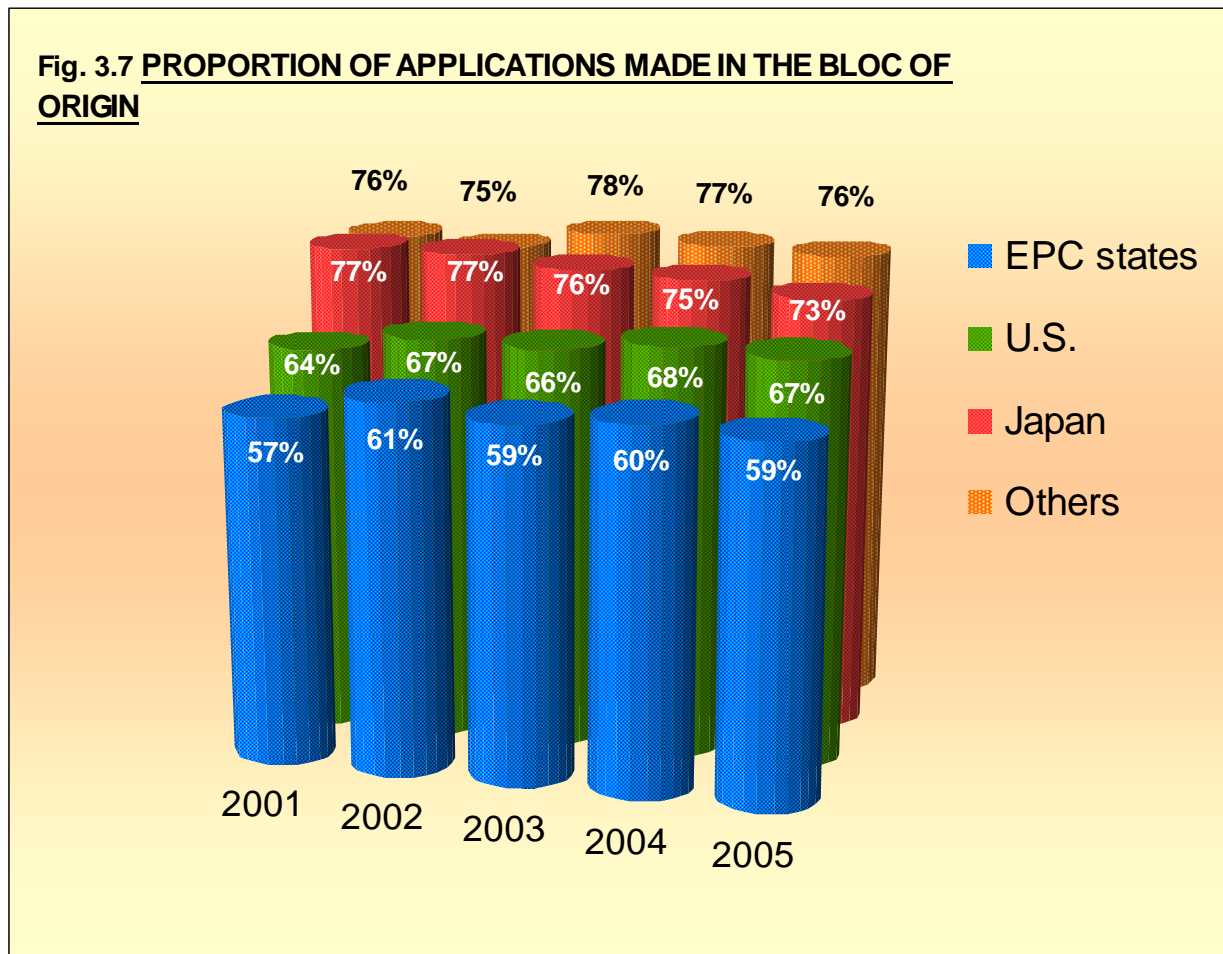
From 2004 to 2005 the EPC contracting states, U.S., and Japan showed an increase of 16, 16, and 10 percent, respectively. “Others” showed an increase of 21 percent.

Despite the apparent decline in 2005 for the numbers of applications filed by residents of the EPC contracting states in Fig 3.5, the level of demand for patent rights there remains high and constantly increasing.



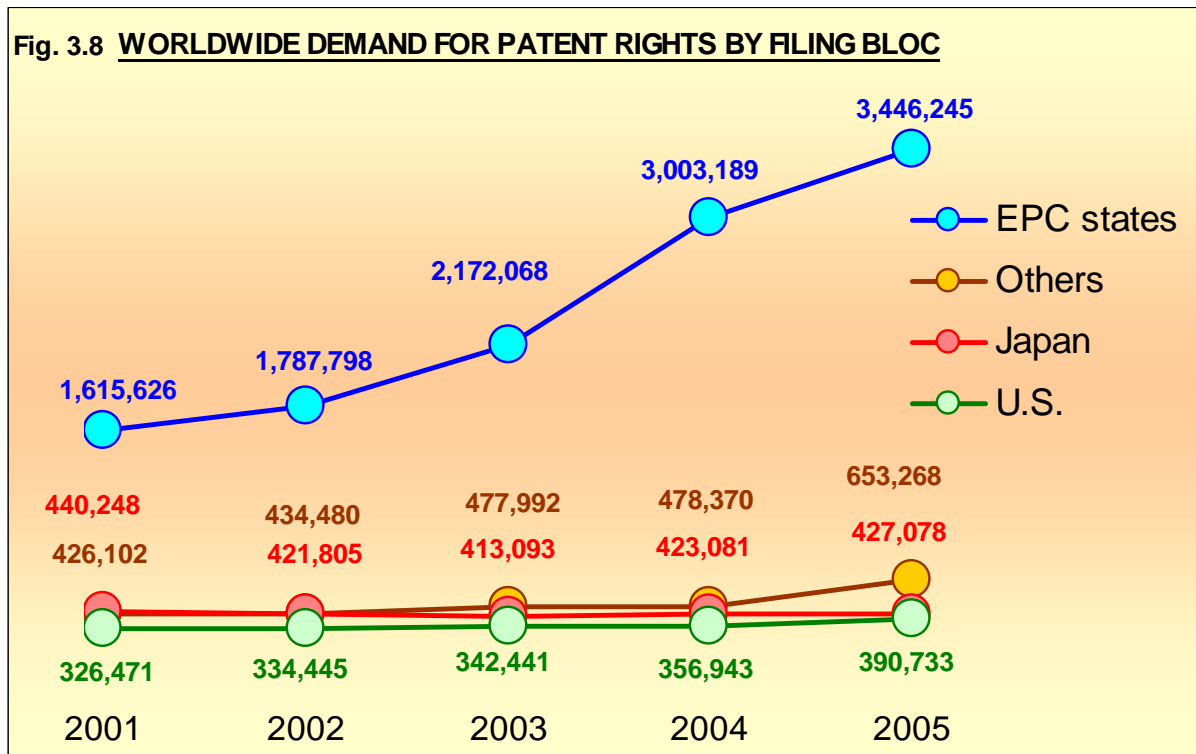
## TARGETS OF THE APPLICATIONS

Fig. 3.7 shows the proportions of applications filed at home by the residents of each bloc. This graph is related to numbers of application forms filled out as described in Fig. 3.1.



In most cases, the first filing is made in the country of residence and subsequent applications are made to protect the invention abroad. The proportions of applications made at home have decreased. This is yet another indication of the globalization of the demand for patent rights.

Fig. 3.8 shows the distribution of the demand for patent rights according to the targeted regions. This graph is related to Fig. 3.3.

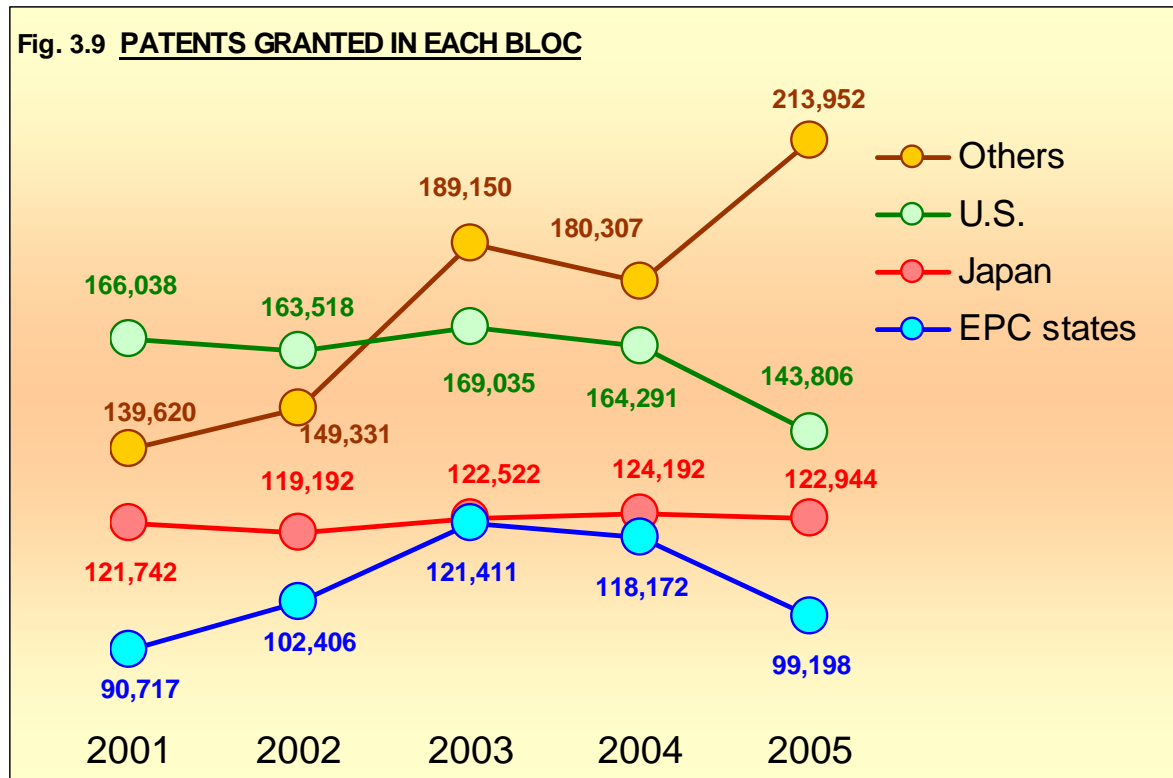


This shows that most of the patent rights are sought for in the EPC, because it is composed of 31 states. The influence of regional patent systems occurs especially in the EPC contracting states and to a much lesser extent in “Others”.

Within the Trilateral blocs over the period 2001 to 2005, the relative change was highest in the EPC contracting states (115 percent increase overall, 20.9 percent compound increase per year). This reflects an increase in the use of both the regional and the PCT systems.

## GRANTS

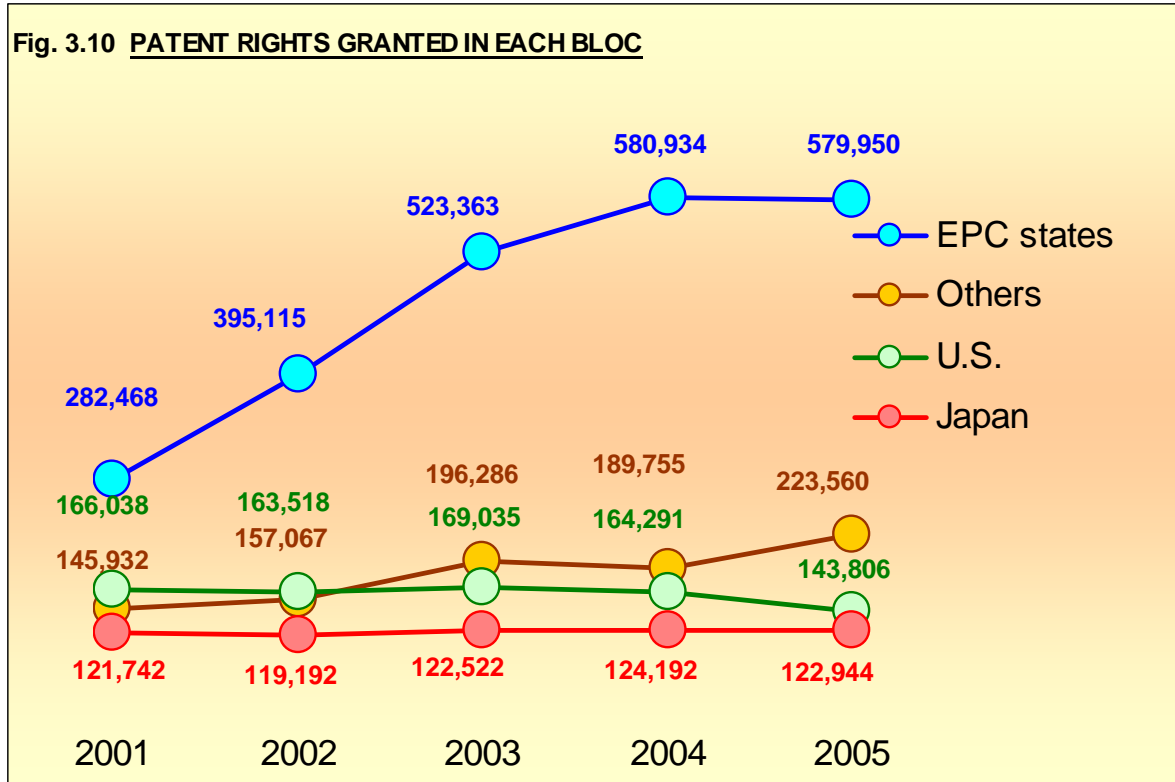
The development of the use of patent systems is shown next in terms of grants. Fig. 3.9 displays the cumulative numbers of patents granted by the various offices in each bloc. Granted patents are counted here.



The worldwide number of grants decreased from the 2004 total of 586,962 to 579,900 in 2005. The number of patents granted in the EPC contracting states in 2005 decreased by 16 percent since 2004. The number of patents granted in Japan has remained fairly constant since 2001 though there was a slight decrease in 2005. The U.S. and EPC contracting states have granted 12 and 16 percent, respectively, fewer patents in 2005 than in 2004.

The numbers of patents granted in the “Others” bloc has increased significantly over the period. 2005 patents granted from China made up about 25 percent of “Others” and about 9 percent of the total. Also in 2005 patents granted from Republic of Korea made up about 34 percent of “Others” and about 13 percent of the total. The number of patents granted in the “Others” bloc rose 19 percent in 2005 over their 2004 total.

Regional granting procedures lead to multiple patent rights in the various designated states within the region concerned. Fig. 3.10 illustrates the development of the validated national grants resulting from the decisions reported in Fig. 3.9. This affects the EPC contracting states and "Others".

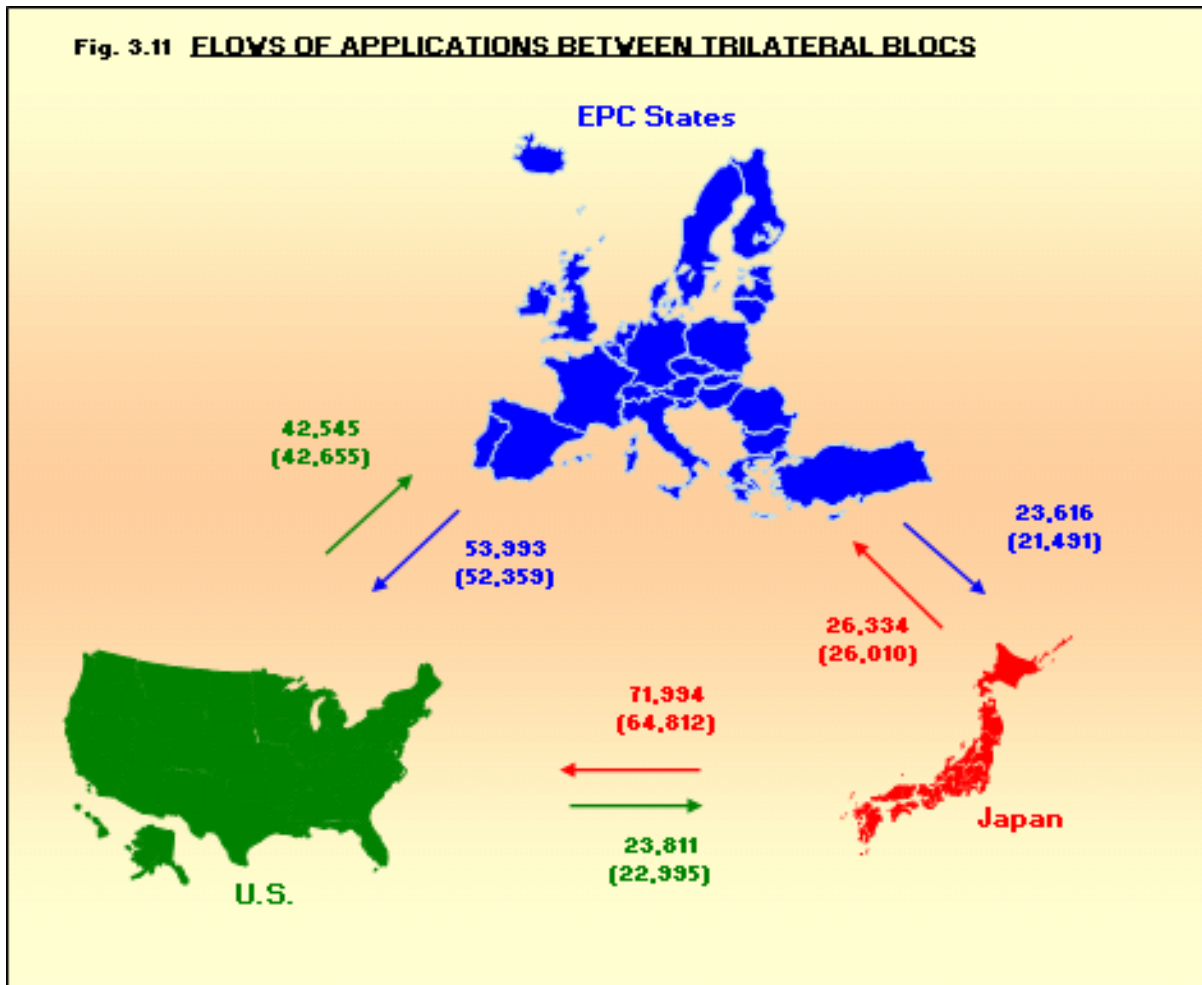


There has been a steady growth of the number of patents granted in the EPC contracting states. A growing number of patents were granted via the regional procedure, after entry to the EPO either directly or via the PCT system.

## INTERBLOC ACTIVITY

### FLOWS OF APPLICATIONS

The flows of patent applications between the three major filing blocs are described next. Fig. 3.11 is based on the distinct applications entering a grant procedure (as in Fig. 3.2) and shows details of the specific flows of applications between the trilateral blocs in 2005. The 2004 figures are given in parentheses.

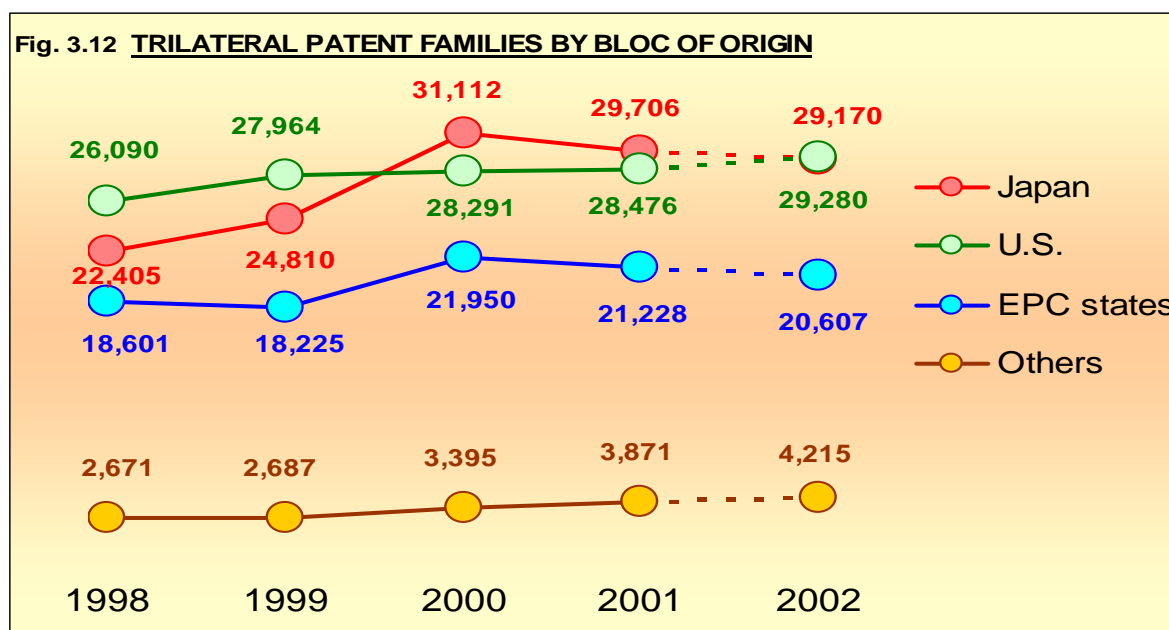


The filing behavior in 2005 is quite similar to what it was in 2004. Japanese applicants filed many more applications in the U.S. than in the EPC bloc. As before, U.S. applicants applied more in the EPC bloc than in Japan. Residents of the EPC contracting states filed many more applications in the U.S. than they did in Japan.

## 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 to some extent from the statistics earlier in this chapter, which were 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<sup>15</sup> to this report.

The development over time of trilateral patent families is shown in Fig. 3.12. 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 references to priorities and flows between trilateral blocs are fairly accurate up to the year 2002, but the numbers for trilateral patent families may not be accurate after the year 2001 because more time is needed to gather the evidence of activity in all three blocs.

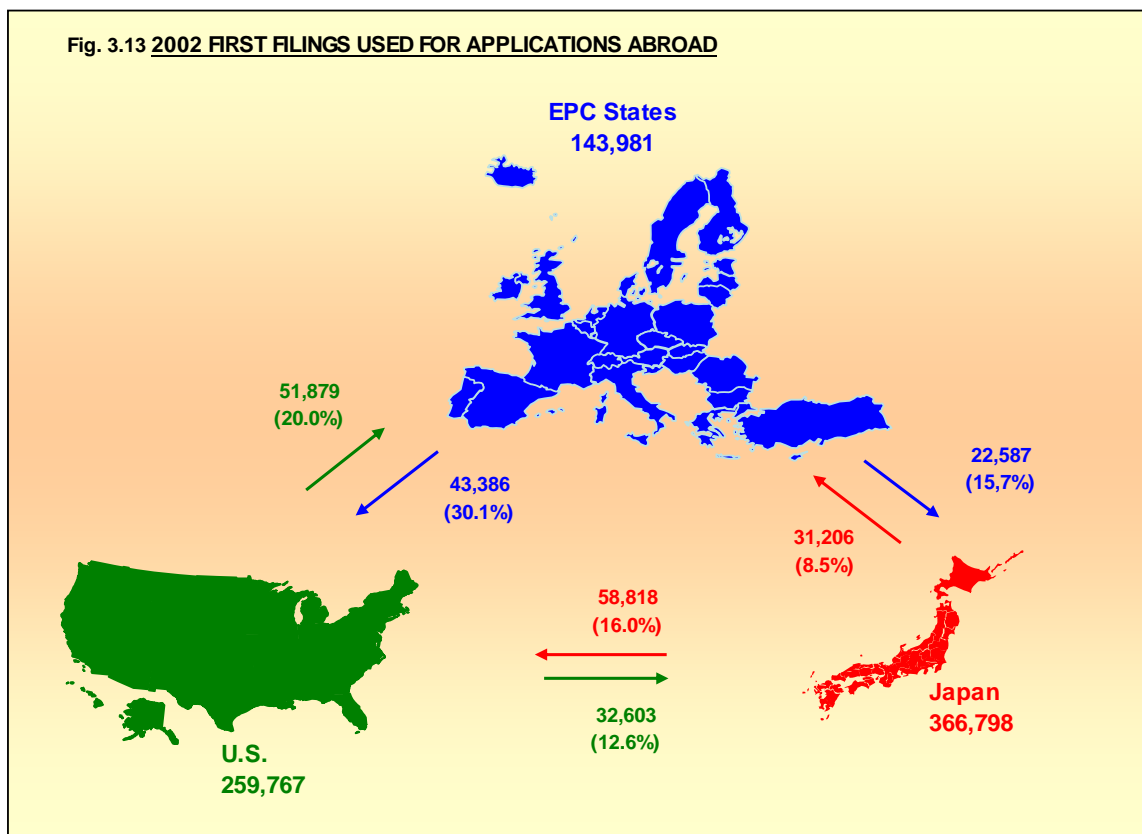


The trilateral patent families' data turned down for Japan and the EPC contracting states from 2000 to 2001, while the data for the U.S. and "Others" showed a small increase. The total number of trilateral patent families in 2001 was 83,281, of which 25.5 percent originated from the EPC contracting states, 35.7 percent from Japan, 34.2 percent from the U.S. and 4.6 percent from "Others".

Out of all priority forming filings in the trilateral area in 2001, 10.1 percent formed trilateral patent families. The proportions differed considerably according to the bloc of origin of the priority forming filings. For the EPC contracting states, 14.2 percent of priority forming filings formed trilateral patent families; for the U.S. 11.2 percent; for Japan 7.7 percent, and for "Others" 1.6 percent.

<sup>15</sup> This can be found at [www.trilateral.net/tsr/tsr\\_2006/web\\_annex/web\\_annex.xls](http://www.trilateral.net/tsr/tsr_2006/web_annex/web_annex.xls).

The flows of patent families from first filings to subsequent filings between trilateral blocs are shown in Fig. 3.13. The number given for each bloc is the total number of distinct references to priority filings in 2002. 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 2002.



From information that is tabulated in the file of statistical data that is connected to the web based version of this report, out of all first filings in the trilateral area in 2002, only 20.9 percent formed patent families which included at least one other trilateral bloc. When considered by bloc of the priority applications, Japan has the smallest proportion. Although there was an increase for each, the proportions are similar to the 2001 levels. The EPC contracting states had 31.5 percent in 2002 up from 31.0 percent; Japan had 16.6 percent (was 15.5 percent); the U.S. had 21.3 percent (was 21.0 percent). Also as in 2001, for secondary filings Japan had the largest number of priorities claimed. Japan had 60,854; the EPC contracting states had 45,366; the U.S. had 55,202.

When the trilateral blocs which received subsequent applications from the trilateral area are considered, a larger proportion of filings were received by the U.S. than by the other blocs (13.3 percent by the EPC contracting states, 13.7 percent by Japan, and 20.0 percent by the U.S.). From all the priority forming first filings throughout the world in 2002, 17.9 percent 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 available on a more up-to-date basis than those presented in Chapter 3; most information that appears here covers 2006 as well as the years up to 2005. Regarding Europe, statistics are for EPO only and trends in the patent offices of the EPC contracting states are not covered in this chapter. Whereas the EPO is indicated from the viewpoint of a Trilateral Office, the EPC contracting states are still also indicated as a bloc from which patent applications are originating.

The statistics give insight into the work that is carried out at the Trilateral Offices, rather than on numbers of individual patent rights. The representations are analogous to those of Figures 3.2 and 3.11 in Chapter 3.

Demand at Trilateral Offices is demonstrated by counts of numbers of patent applications that were filed. These counts represent the total of direct national/regional applications filed and PCT applications entering the national/regional phase.

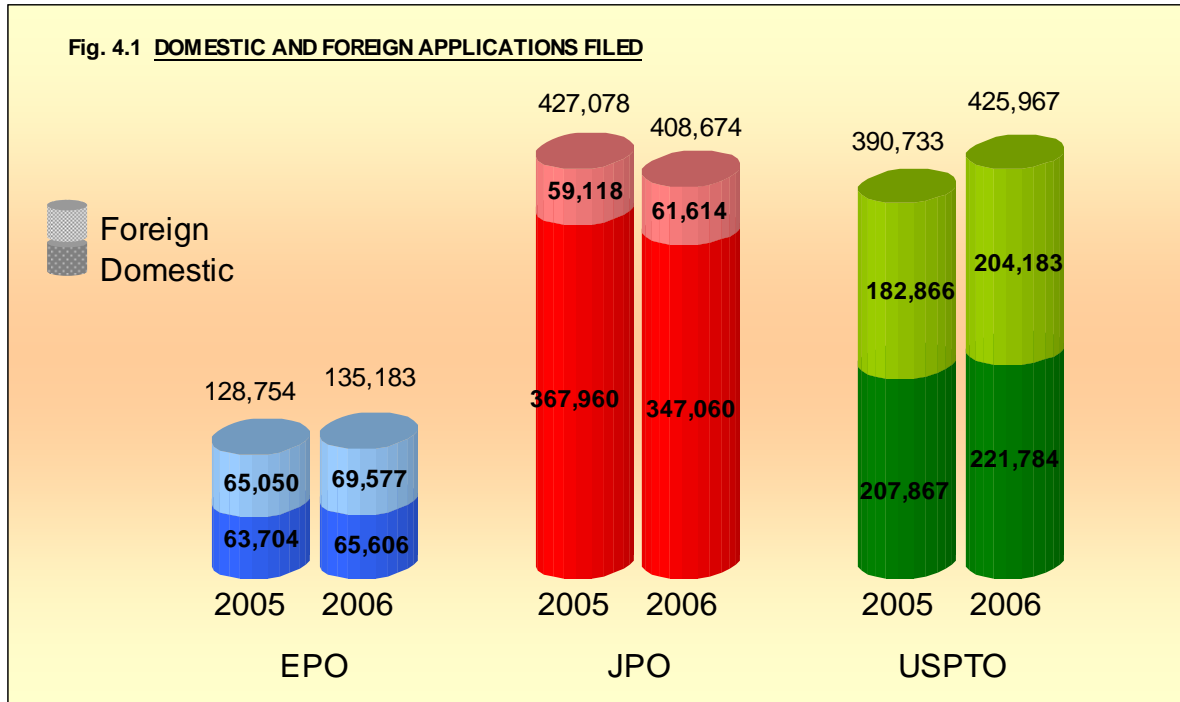
For granted patents, the statistics involve direct, regional and PCT applications by year of grant. The representations here are similar to Fig. 3.9 in Chapter 3, except that for EPC contracting states only the EPO is considered as the granting authority. Hereinafter "patents granted" will correspond to the number of grant actions (issuances or publications by the Trilateral Offices).



## APPLICATIONS WITH THE TRILATERAL OFFICES

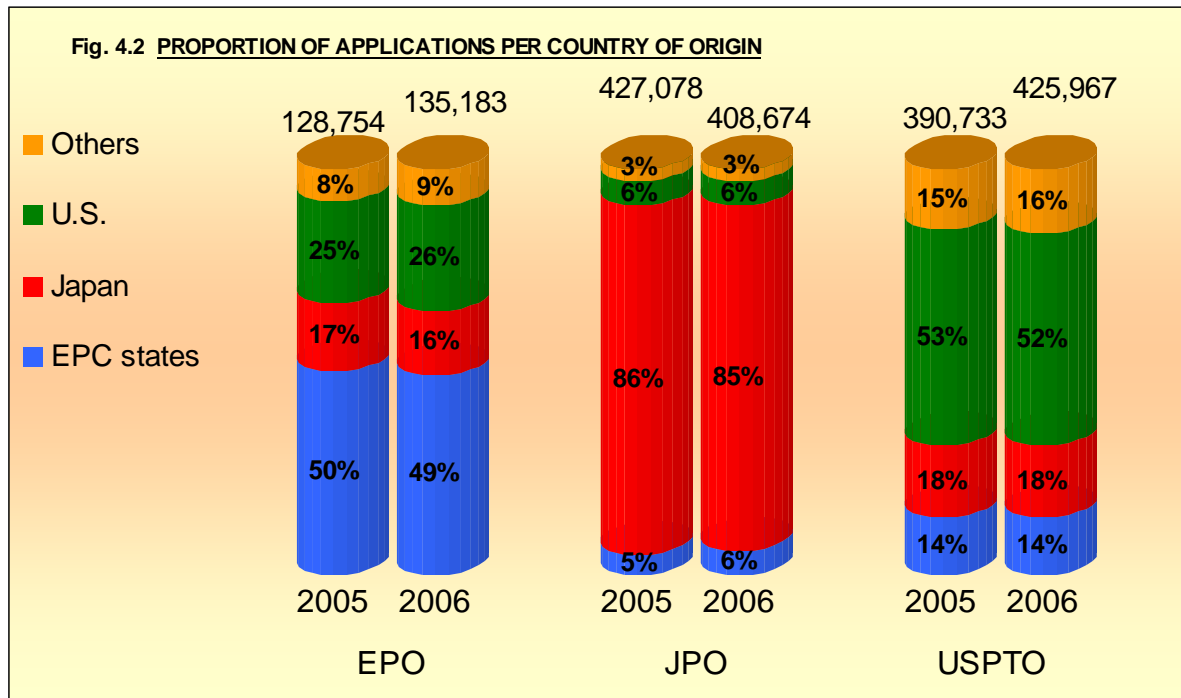
### PATENT APPLICATIONS FILED

The numbers of domestic (residents of the country) and foreign (non-residents) patent applications filed with each of the Trilateral Offices for the years 2005 and 2006 are shown in Fig. 4.1.



There were a total of 135,183 patent applications filed with the EPO in 2006, which is a growth of 3.4 percent. The number of patent application filings at the JPO decreased by 4.3 percent to 408,674. USPTO saw 425,967 patent application filings in 2006, a 9.0 percent increase over 2005 levels.

Fig. 4.2 shows the respective shares of patent application filings by origin relative to total filings at each Office for 2005 and 2006.



Due to the differences in behavior of the applicants from different countries, comparison of the numbers of applications at the Trilateral Offices should only be made with caution. For example, the numbers of claims given in applications are significantly different among the three Offices. On average, in 2006, an application filed at the EPO contained 18.2 claims (18.05 in 2005), one filed at the JPO contained 9.5 claims (9.5 in 2005), while one application at the USPTO had 20.5 claims (20.6 in 2005).

The shares of patent application filings by each bloc of origin are quite consistent for 2005 and 2006. EPO and USPTO show an increase in the number applications from the “Others” bloc. As in the past, patent application filings of domestic origin continue to represent the most significant share of filings at each Trilateral Office. In 2006, the shares of domestic filings at the EPO, JPO and USPTO were 48.5, 84.9 and 52.1 percent, 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 the EPC contracting states. Only part of these are first filings to the EPO, which is explained by the fact that in the 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 in other European countries. 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 the EPC contracting states were 15,299 in 2005 and 16,859 in 2006, respectively 24.0 percent and 25.7 percent of all direct filings at the EPO by residents of the EPC contracting states.

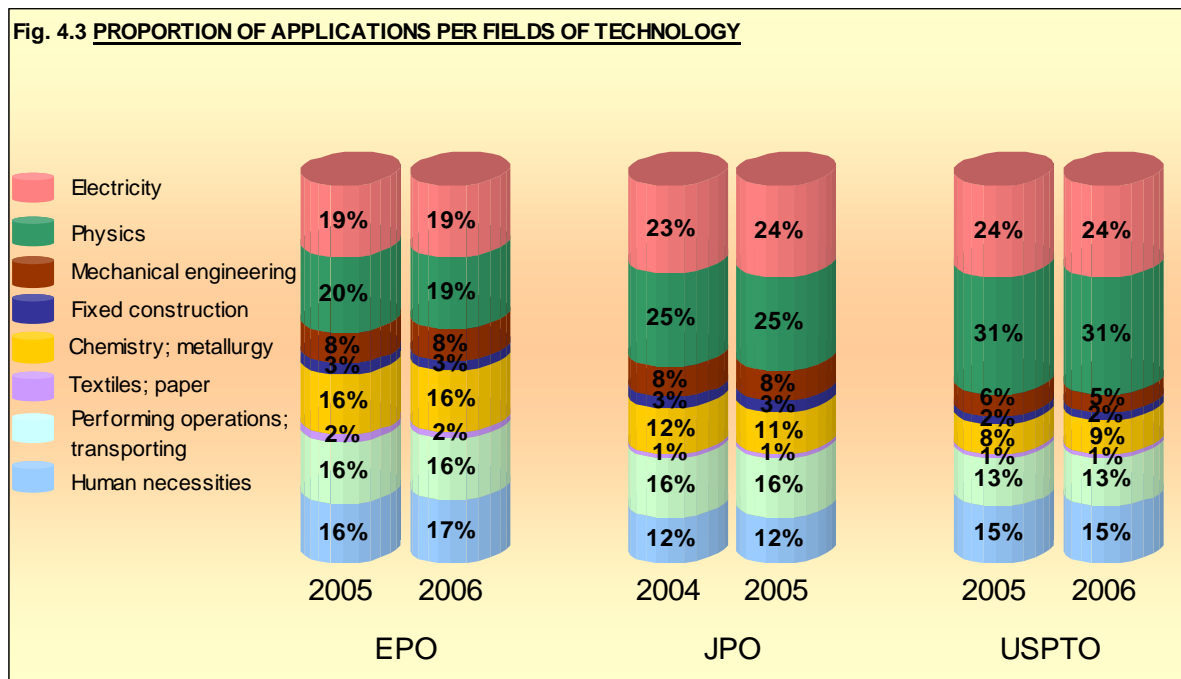
## APPLICATIONS BY FIELD OF TECHNOLOGY

Patents are classified by the Trilateral Offices according to the IPC. Fig 4.3 shows the distribution of applications according to the main sections of the IPC. The classification 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 2005 and 2006, while for the JPO the breakdown is given for the filing years 2004 and 2005. The JPO data for 2005 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 first filing).

USPTO applications are classified according to U.S. Patent Classification system. The breakdown according to the IPC has been determined by means of a general concordance between both classifications. Therefore the technical scope of the USPTO with respect to the IPC may differ from the scope presented by the EPO and the JPO.

Fig. 4.3 indicates the share of applications by technological field at each Trilateral Office. The shares are determined for all applications for which a classification is available.

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

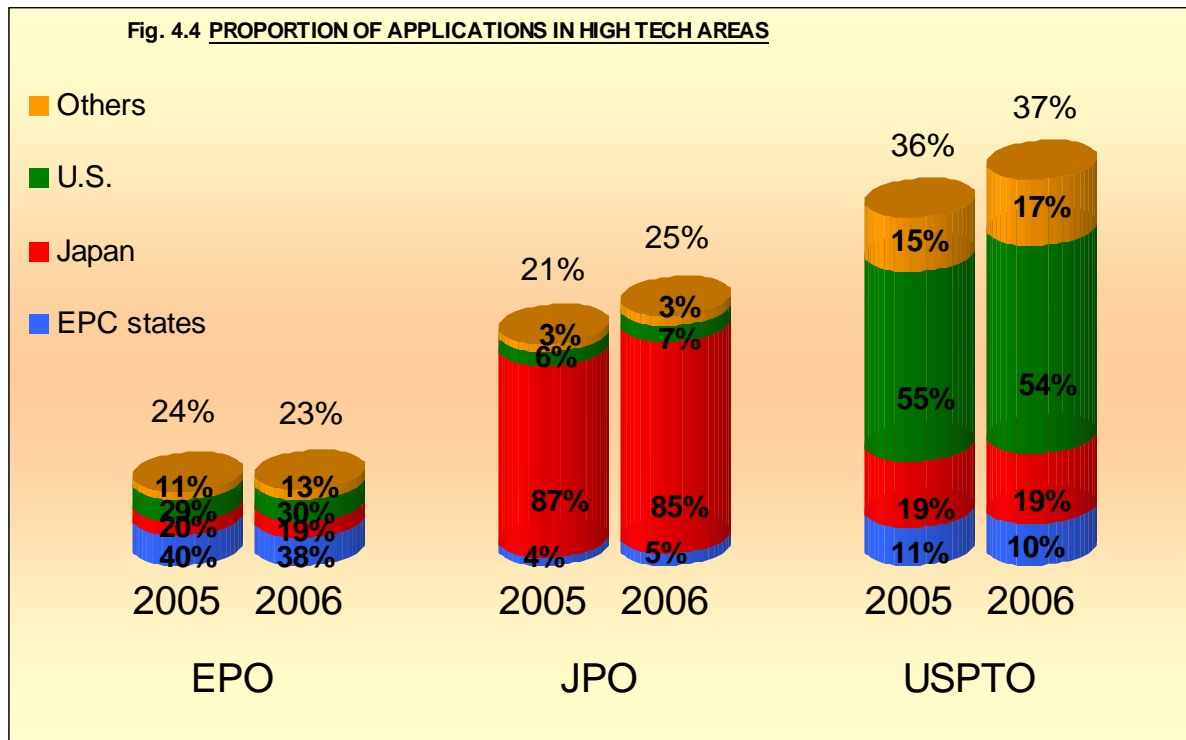


On a year-to-year basis, there is little change in the share that these fields occupied at the Trilateral Offices.

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.

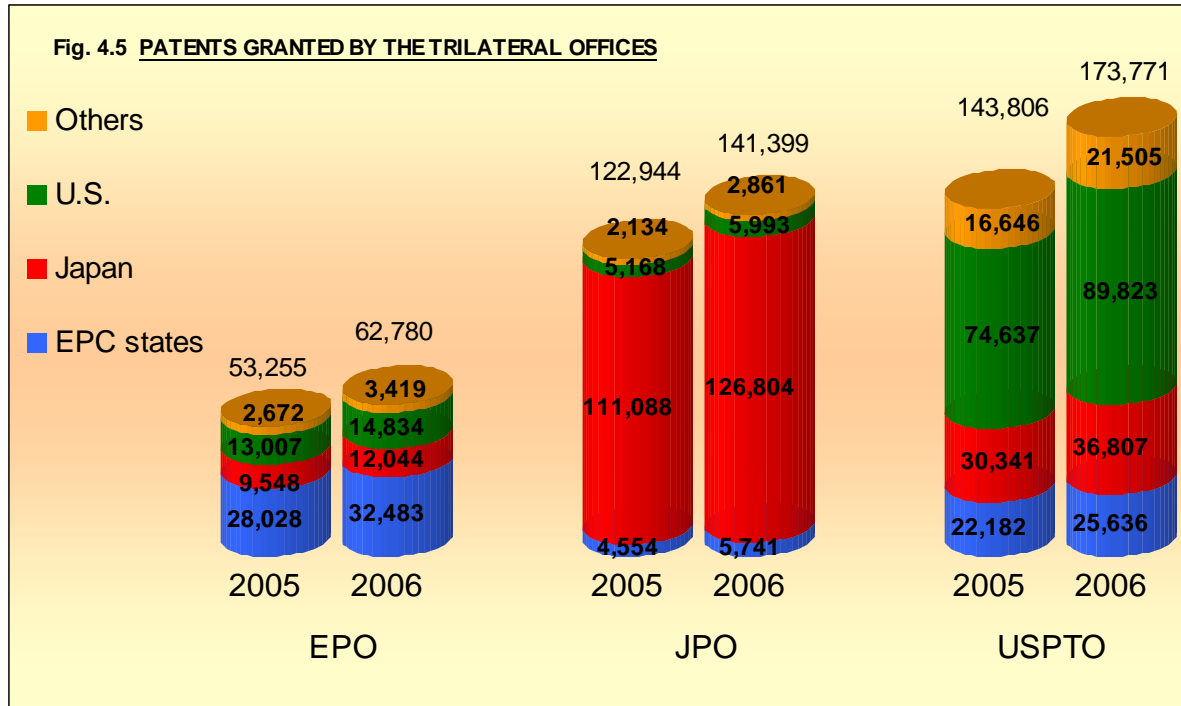
Usually an increasing proportion of applications filed with the Trilateral Offices are from high technology areas. In Fig. 4.4, this proportion is given for each Office in 2005 and 2006, together with their origin.



The USPTO has the highest share of patent applications in the high technology fields, with 37 percent of all applications occurring in this area. Of this number, 54 percent are from domestic applicants. At the JPO, the share of high technology applications increased to 25 percent in 2006, and 85 percent of such applications are from domestic applicants. At the EPO, the share of high technology applications remained nearly stable at 23 percent, with 38 percent coming from applicants resident in the EPC contracting states.

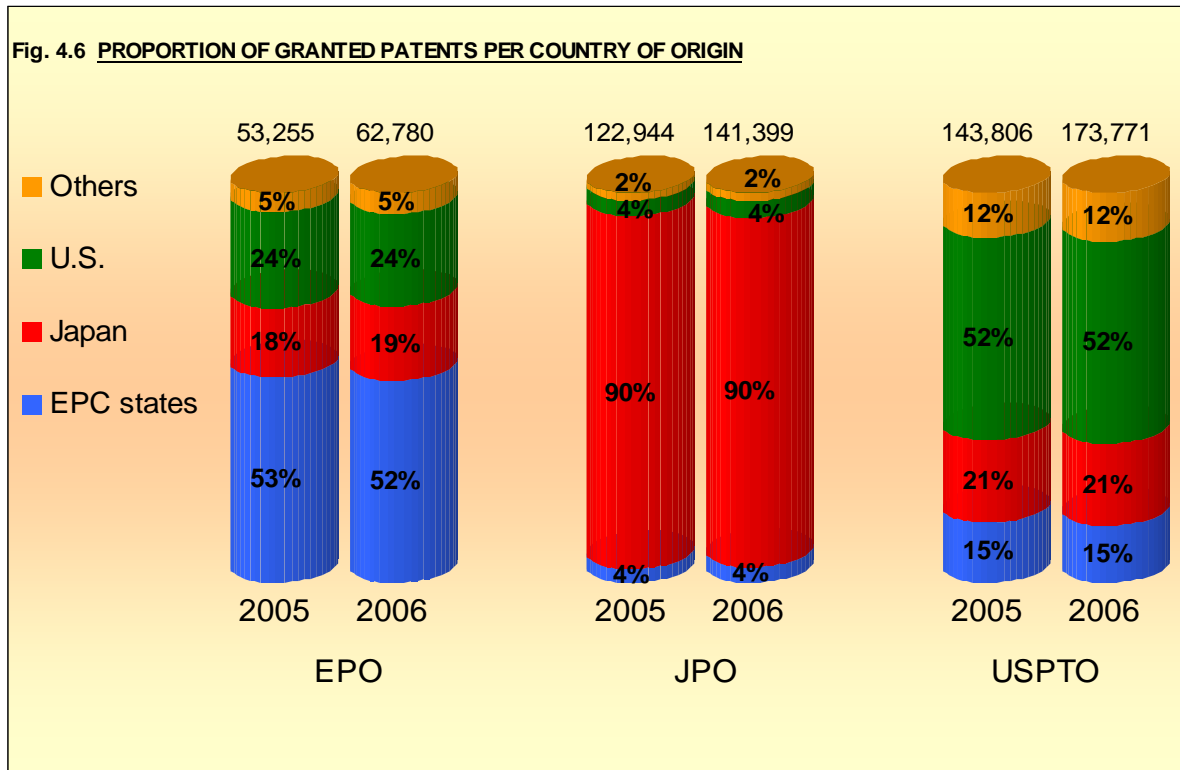
## PATENTS GRANTED BY TRILATERAL OFFICES

Fig. 4.5 shows the numbers of patents granted by the Trilateral Offices. There is an overall growth of more than 18 percent. Together the Trilateral Offices granted 377,950 patents in 2006, 57,945 more than in 2005.



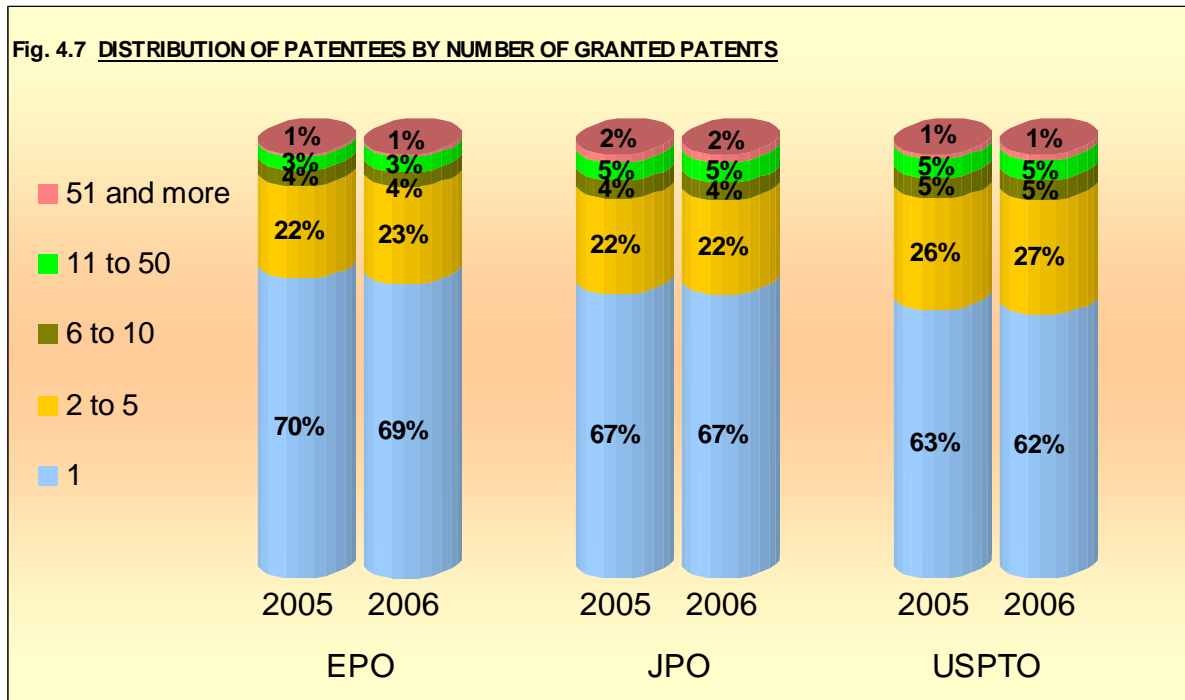
The number of patents granted by the JPO increased in 2006 by 15 percent. The EPO granted 9,525 more patents in 2006 than in 2005, an increase of almost 18 percent. The USPTO granted 173,771 the highest number of patents among the Trilateral Offices, an increase of 21 percent since 2005. The differences 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, which themselves reflect 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 not far away from those observed for the filings in each Office 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 2006 the USPTO's share is slightly lower.

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



In the three Offices, most of the patentees received not more than five patents. The proportion of patentees receiving one patent grant in 2006 is higher at the EPO (69 percent) than at the JPO (67 percent) or the USPTO (62 percent). The proportion of patentees receiving two to five patents is larger at the USPTO than in the other two Trilateral Offices. The proportion of patentees receiving six or more patents is lower at the EPO than at the JPO and the USPTO. In 2006, the maximum number of patents granted to a single applicant was 879 at the EPO, 4,155 at the JPO and 3,621 at the USPTO.

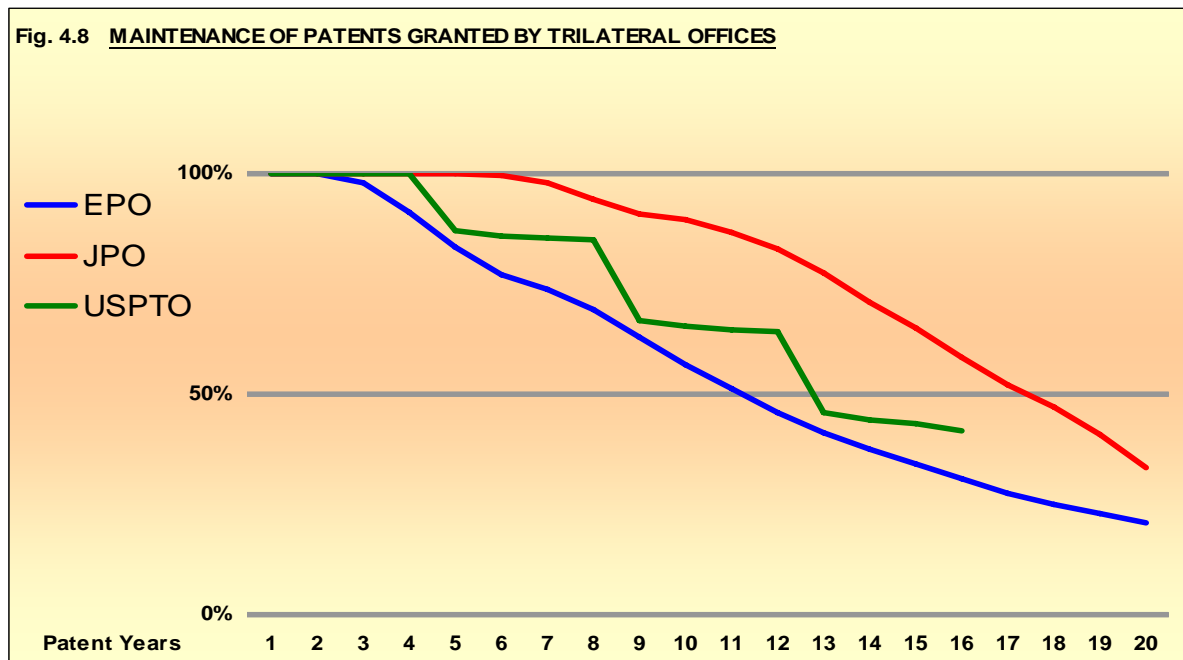
A patent granted by an Office has a maximum term fixed by law. In all three Offices this is a twenty year term from the date of filing the application. In order to maintain the protection right during this period, the applicant has to pay renewal fees, annual fees or maintenance fees in the countries to which the protection pertains. Maintenance systems differ from country to country. In the three procedures, if a renewal fee, an annual fee or maintenance fee is not paid in due time, the protection right expires.

For a European patent, renewal fees are payable to the EPO from the third patent year onwards to maintain the application. After the patent has been granted, annual renewal fees have to be paid to the national office of each designated EPC contracting state in which the patent has been registered. The equivalent national patents are not necessarily maintained for the same period in each contracting states. Therefore the proportions shown in Fig.4.8 for the EPO represent an average ratio of maintenance in the EPC contracting states.

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

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

Fig. 4.8 shows the proportions of patents granted by each Trilateral Office that are maintained for differing lengths of time. It 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.

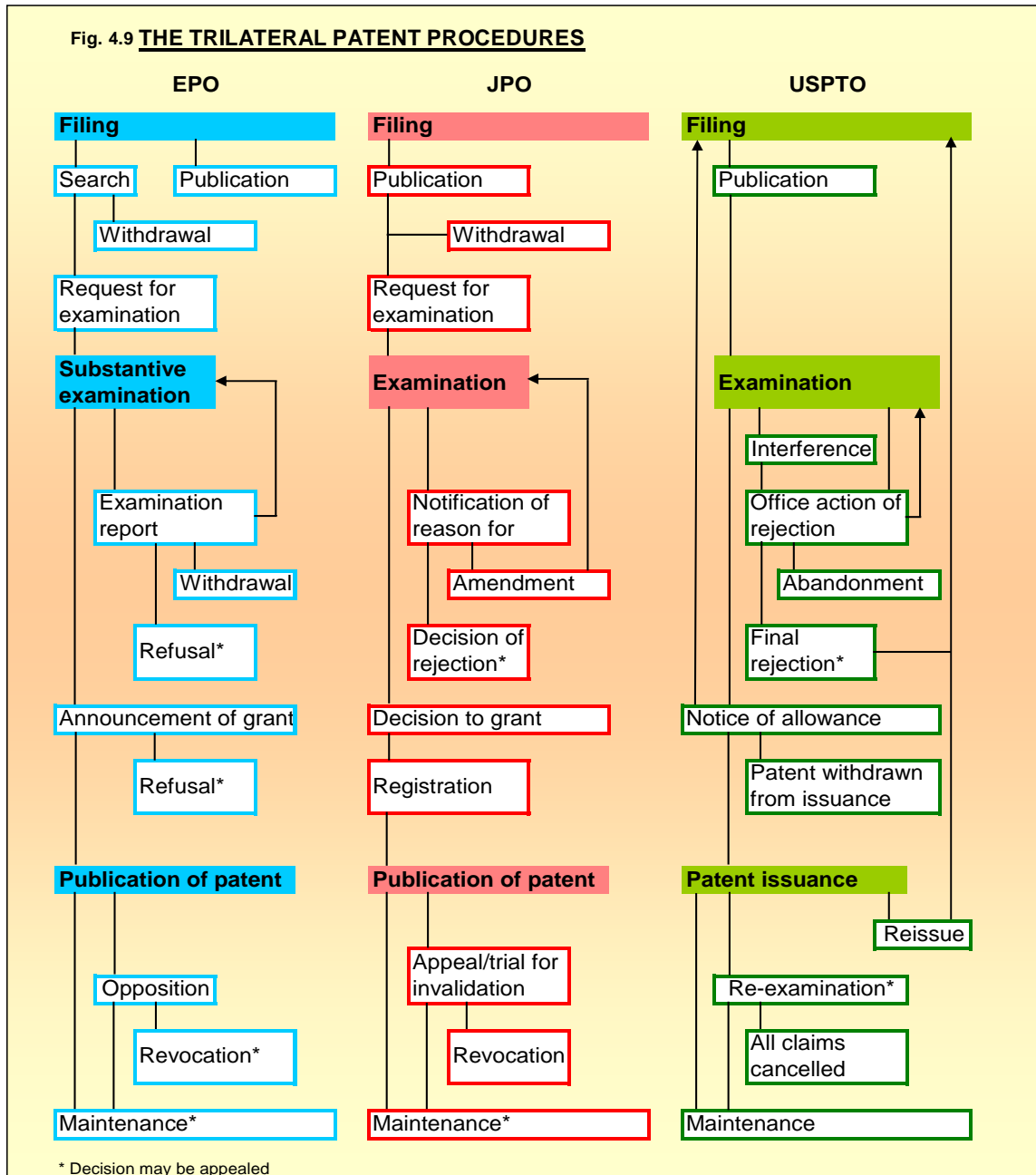


In Japan, over 50 percent of the patents granted are maintained for at least 17 years compared to at least 11 years for the European patents and at least 12 years for the U.S. patents.



# TRILATERAL PATENT PROCEDURES

The grant procedures are not totally identical in the Trilateral Offices. The major phases are outlined in 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. Firstly, a search is done in order to establish the state of the art with respect to the invention. The applicant receives a search report accompanied by an initial opinion on patentability. In a second phase, the inventive step and industrial applicability are examined in the substantive examination. In the national procedures 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 yet 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. 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 after 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. 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**

There is no longer an opposition system at JPO.

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 its 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 the opposition procedure at 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 an application or revoke a patent, while opponents can appeal decisions to maintain a patent. The procedure is in principle similar for the three Offices. The examining department first studies the argument 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 2005 and 2006 values of the basic characteristics of trilateral procedures are shown in Table 4 (below). The definitions and further explanations on the statistics including changes in the compilation of these statistics are given in Annex 2.

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

### **Rates**

The examination rate in the USPTO is 100 percent, 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. At the EPO the growing proportion of PCT applications in the granting procedure led to an increase of the examination rate. In the Japanese procedure, the examination rate is the lowest because applicants have substantially more time (three years) in which to evaluate whether to maintain the application or not.

The grant rate in the EPO procedure, as defined in terms of decisions, increased to 55.9 percent in 2006. In the JPO, the grant rate decreased to 48.5 percent in 2006. In the USPTO, the allowance rate decreased to 53.1 percent in 2006.

The opposition rate at the EPO decreased marginally in 2006 to 5.4 percent, and 72.5 percent of the opposed patents were maintained, although in some cases in amended form.

In the EPO, about 32.7 percent of decisions in examination to reject the application were subject to an appeal in 2006. In the USPTO, about 2.2 percent of final rejections were appealed.

In the EPO, 47.8 percent of the decisions taken during the opposition procedures were appealed in 2006.

The total number of appeals in the JPO against decisions in examination, including decisions on applications against which oppositions had been filed, increased to 26,373 in 2006 from 23,054 in 2005.

### **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 (per stage of procedure) from the patent grant procedure in each Trilateral Office. This is not a particularly good indicator 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 decreased by 1 percent to about 111,600 in 2006, and pendency time in search decreased to about 18 months.

The number of pending applications awaiting a request for examination by the applicant increased at the EPO to around 19,290 cases.

In the JPO, the number of applications awaiting a request for examination, 1,805,194, is substantively higher than those in the EPO due to the period during which requests for examination can be filed. This is a 7.6 percent decrease for JPO since 2005.

The number of pending applications in examination increased at the EPO by 7 percent to about 304,100 in 2006, and the total pendency time in examination increased by 8 percent to about 44 months in 2006. The pendency time to first office action decreased by 9 percent to 23.8 months at the EPO.

In the JPO, the number of pending applications increased to 837,887, an increase of almost 11 percent over 2005. JPO's total pendency continues to be stable at 31.8 months. The JPO's pendency time to first office action was 25.6 months.

The USPTO number of pending applications continues to increase. In 2006 there were 701,301 applications waiting to be examined, more than 16 percent more than in 2005. Total pendency at the USPTO rose slightly from 30.6 months in 2005 to 31.3 months. USPTO's pendency to first office action was 23.4 months.

Pendency time in opposition reduced at the EPO to 16.7 months in 2006.

**Table 4: STATISTICS ON PROCEDURES**

| Progress in the procedure        |   | Year | EPO     | JPO       | USPTO   |
|----------------------------------|---|------|---------|-----------|---------|
| <b>Rates in percentage</b>       |   |      |         |           |         |
| Examination                      |   | 2005 | 94.6    | 66.6      | 100.0   |
|                                  |   | 2006 | 94.2    | 67.1      | 100.0   |
| Grant <sup>16</sup>              |   | 2005 | 53.3    | 49.1      | 58.9    |
|                                  |   | 2006 | 55.9    | 48.5      | 53.1    |
| Opposition                       |   | 2005 | 5.5     | -         | -       |
|                                  |   | 2006 | 5.4     | -         | -       |
| Maintenance after opposition     |   | 2005 | 78.5    | n.a.      | -       |
|                                  |   | 2006 | 72,5    | n.a.      | -       |
| Appeal                           | on examination  | 2005 | 36.5    | -         | 2.3     |
|                                  |   | 2006 | 32.7    | -         | 2.2     |
|                                  | on opposition   | 2005 | 48.3    | -         | -       |
|                                  |   | 2006 | 47.8    | -         | -       |
|                                  | on examination and opposition <sup>17</sup>             | 2005 | -       | 23,054    | -       |
|                                  |   | 2006 | -       | 26,373    | -       |
| <b>Pendency in the procedure</b> |   |      |         |           |         |
| Search                           | Number of pending applications                          | 2005 | 112,415 | -         | -       |
|                                  |   | 2006 | 111,557 | -         | -       |
|                                  | Pendency time in search (months)                        | 2005 | 19.6    | -         | -       |
|                                  |   | 2006 | 17.7    | -         | -       |
| Examination                      | Number of applications awaiting request for examination | 2005 | 18,561  | 1,954,334 | -       |
|                                  |   | 2006 | 19,290  | 1,805,194 | -       |
|                                  | Number of pending applications                          | 2005 | 284,414 | 755,138   | 603,773 |
|                                  |   | 2006 | 304,116 | 837,887   | 701,301 |
|                                  | Pendency time to first office action (months)           | 2005 | 26.1    | 25.8      | 21.8    |
|                                  |   | 2006 | 23.8    | 25.6      | 23.4    |
|                                  | Pendency time in examination (months)                   | 2005 | 40.6    | 31.8      | 30.6    |
|                                  |   | 2006 | 43.9    | 31.8      | 31.3    |
| Opposition                       | Number of pending applications                          | 2005 | 2,403   | n.a.      | -       |
|                                  |   | 2006 | 3,300   | n.a.      | -       |
|                                  | Pendency time in opposition (months)                    | 2005 | 17.6    | n.a.      | -       |
|                                  |   | 2006 | 16.7    | n.a.      | -       |

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

<sup>16</sup> The USPTO reports an allowance rate.

<sup>17</sup> For JPO, only numbers rather than percentages are available.

## **Chapter 5**

### **USE OF THE PATENT COOPERATION TREATY**

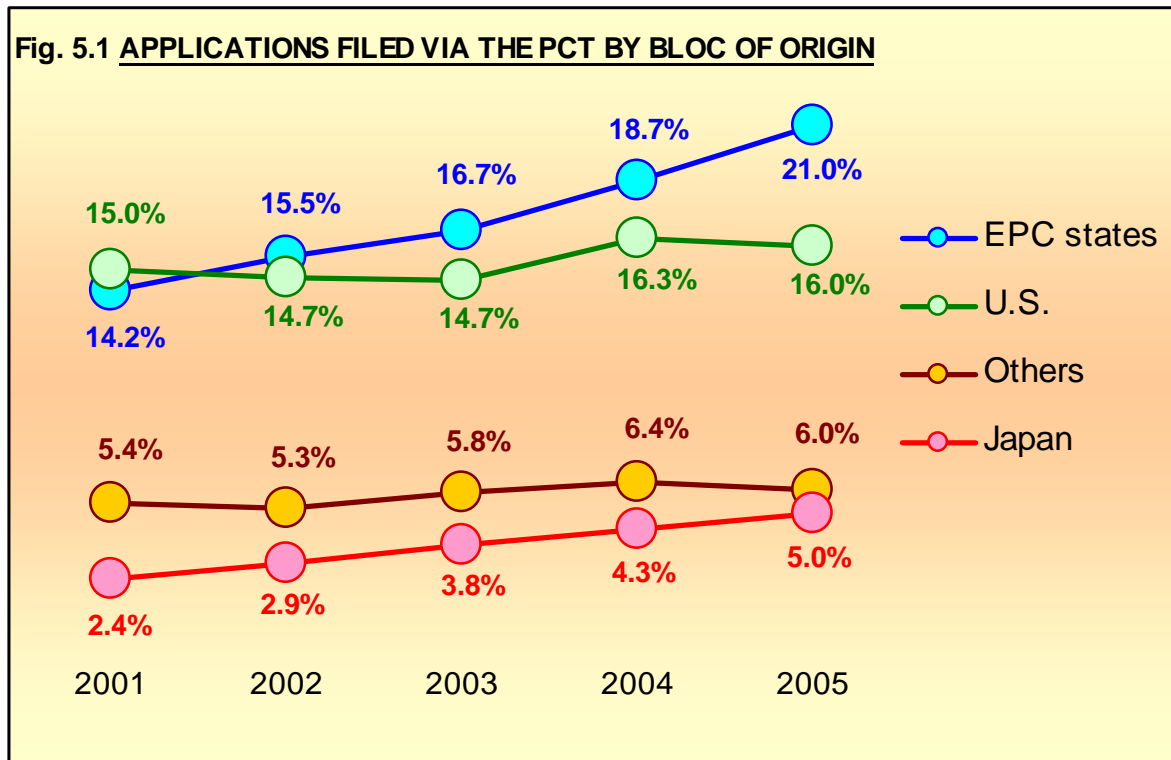
This chapter shows statistics that emphasize the relative importance of the various activities of the Trilateral Offices that relate to the PCT system. The graphs cover five-year periods that include the latest year for which reliable data are available.

Graphs are presented to display the shares of patent applications and grants using the PCT filing route by origin. Descriptions are then included of additional activities of the Trilateral Offices under the PCT as Receiving Offices (RO) for applicants in their respective territories, as the major International Search Authorities (ISA) and as International Preliminary Examining Authorities (IPEA). PCT searches are a significant additional workload item to what has already been described in Chapter 4.

## 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 Fig. 3.1 of Chapter 3) that are PCT international applications. Applications are counted in the year of filing.



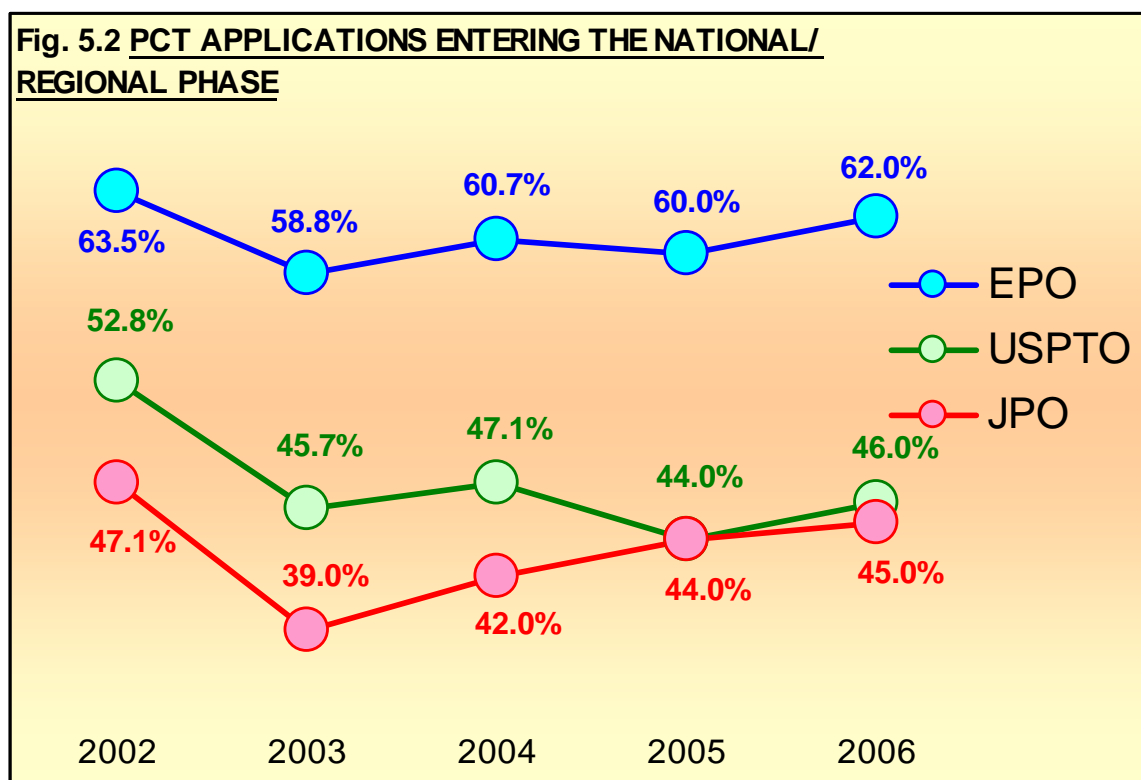
From 2004 to 2005, the share of PCT applications slightly increased in both the EPC contracting states and Japan. For those applications filed in the U.S. and in the “Others” bloc there was a slight decrease. Overall, the use of the PCT as a route for filing patent applications has continued to increase.



## 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 made for each country or regional organization. If the decision is made to proceed further, the applicant has to fulfill the various national or regional requirements of the selected PCT contracting states or organizations. The application then enters the national or regional phase. In most of the EPC contracting states, the applicants have a choice of proceeding either in individual countries or at the EPO. However, some of the EPC contracting states cannot be designated individually under the PCT. Also, some PCT applications have entered the national phase procedures in distinct countries and not the regional phase 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.

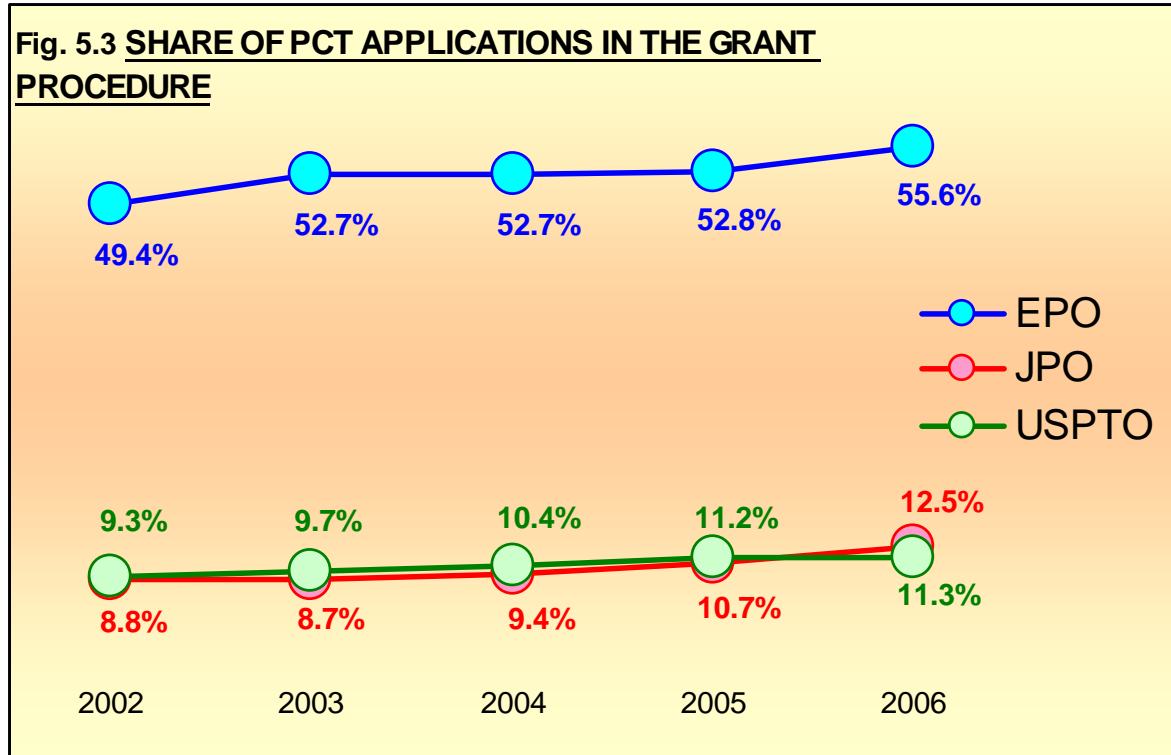
A higher proportion of PCT applications entered the regional phase at the EPO than entered the national phase either at the USPTO or the JPO. This is due to the supranational dimension of the EPO, which provides an opportunity to proceed further with a unique procedure for several countries.



In 2006, the rate increased by 2.0 percent at both the EPO and the USPTO to 62.0 percent and 46.0 percent respectively, and increased by 1.0 percent at the JPO to 45.0 percent.

## PCT APPLICATIONS AT THE TRILATERAL OFFICES

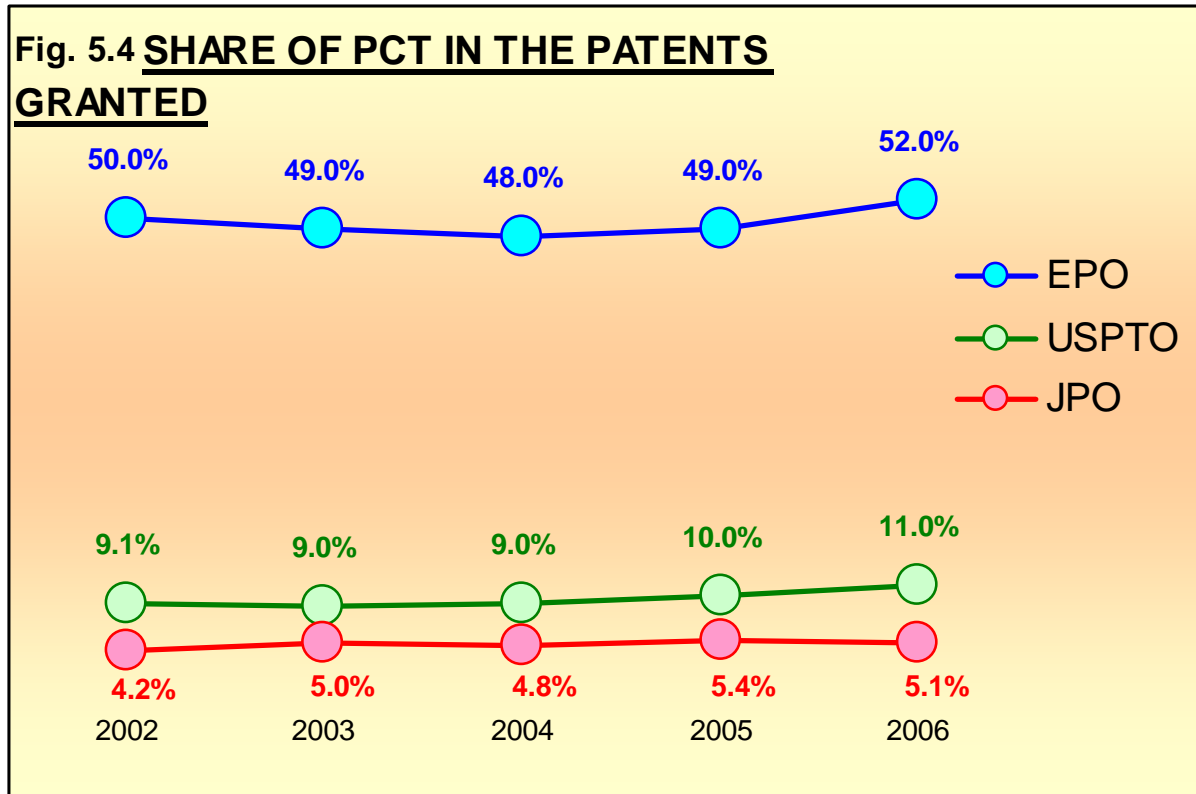
Fig. 5.3 shows the proportions of PCT applications within the overall applications that entered the grant procedure at each Trilateral Office as presented in Fig. 4.1 of Chapter 4.



The total number of PCT applications increased slightly in 2006 as compared to 2005 at all offices. The EPO has a high proportion of PCT applications, while the proportions at the JPO and the USPTO are lower. Both the USPTO and the JPO remained consistent with previous years. The EPO increased to 55.6 percent; the JPO increased to 12.5 percent; and the USPTO had only a slight increase.

## 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.

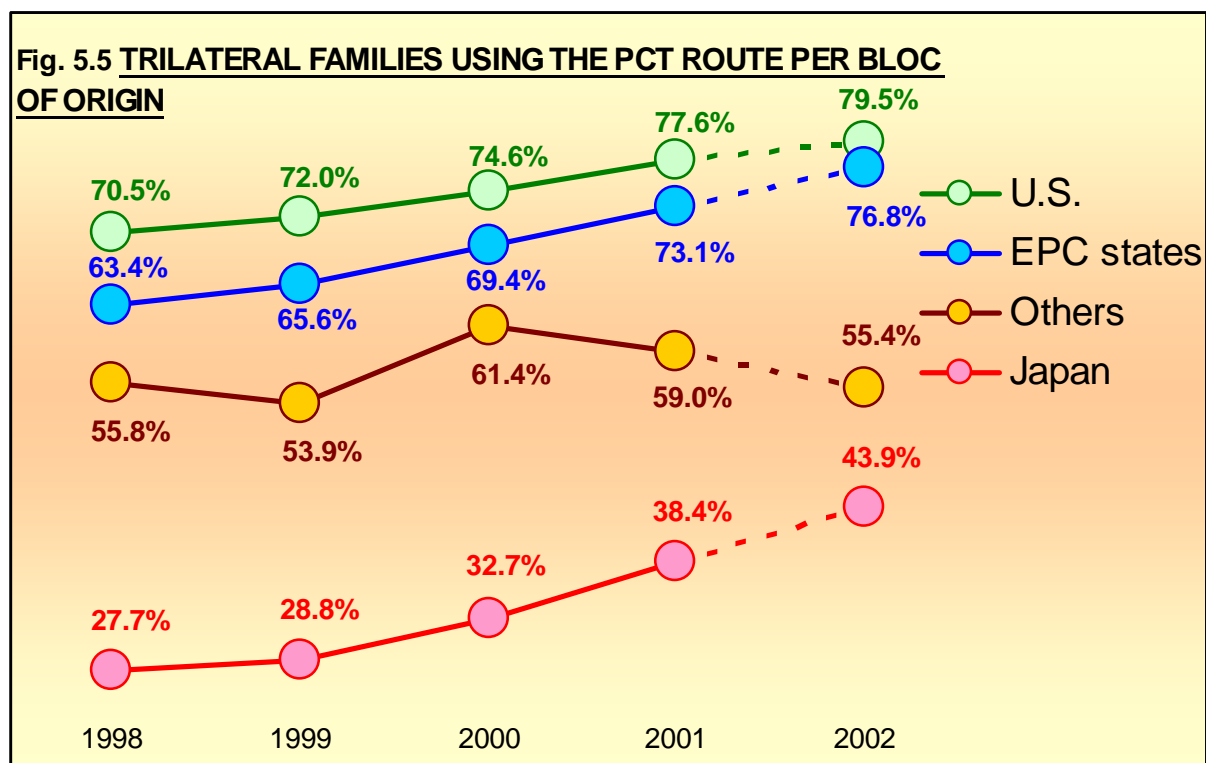


At all three of offices, the shares of PCT applications among all applications receiving a patent grant have remained stable since 2002. Shares are somewhat below those of applications (see Fig. 5.3), since granted patents relate to applications filed three to five years earlier when the proportions 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 statistical data that is annexed in the web based version of this report.

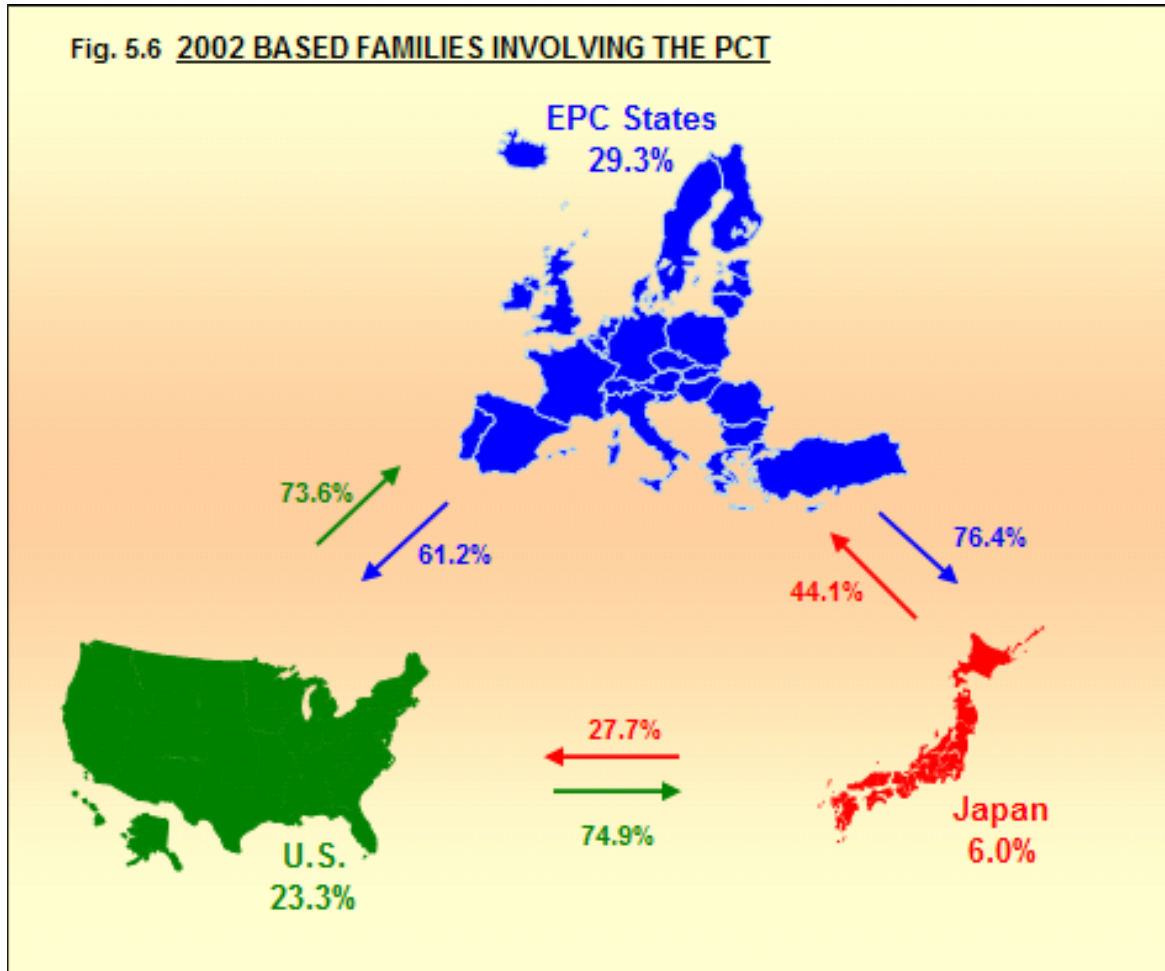
Fig. 5.5 shows the proportions of trilateral patent families (as given earlier in Fig. 3.12) that use the PCT system. As discussed earlier, the data for 2002 is provisional.



Usage of the PCT system was fairly widespread in trilateral patent families, though still at a somewhat lower level in Japan. The proportions have generally trended upwards for all the trilateral blocs, but have had a two year decline in non-trilateral countries of origin. In 2001, out of all trilateral patent families, 61.6 percent made some use of the PCT system. 77.6 percent of trilateral patent families originating from the U.S. and 73.1 percent of trilateral patent families originating from the EPC contracting states involved PCT applications. This compares to 38.4 percent from Japan and 59.0 percent from other countries.

Fig. 5.6 shows the percentages of PCT system usage in the flows of all patent families between trilateral blocs in 2002, and can be compared with Fig. 3.12.

The percentage given next to 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.



Applicants from U.S. and the EPC contracting states prefer to use the PCT system to a greater extent than Japanese applicants do. However, the participation rate of Japanese applicants is increasing, particularly when making filings abroad.

## THE TRILATERAL OFFICES AS PCT AUTHORITIES

Under the PCT, each Trilateral Office acts as RO, mainly for applicants from its own geographical zone, as ISA and IPEA. The following graphs show the trend over the years 2002 to 2006 of the activities of the Trilateral Offices as PCT authorities.

In 2006, two thirds of the PCT international filings were filed in one of the Trilateral Offices.

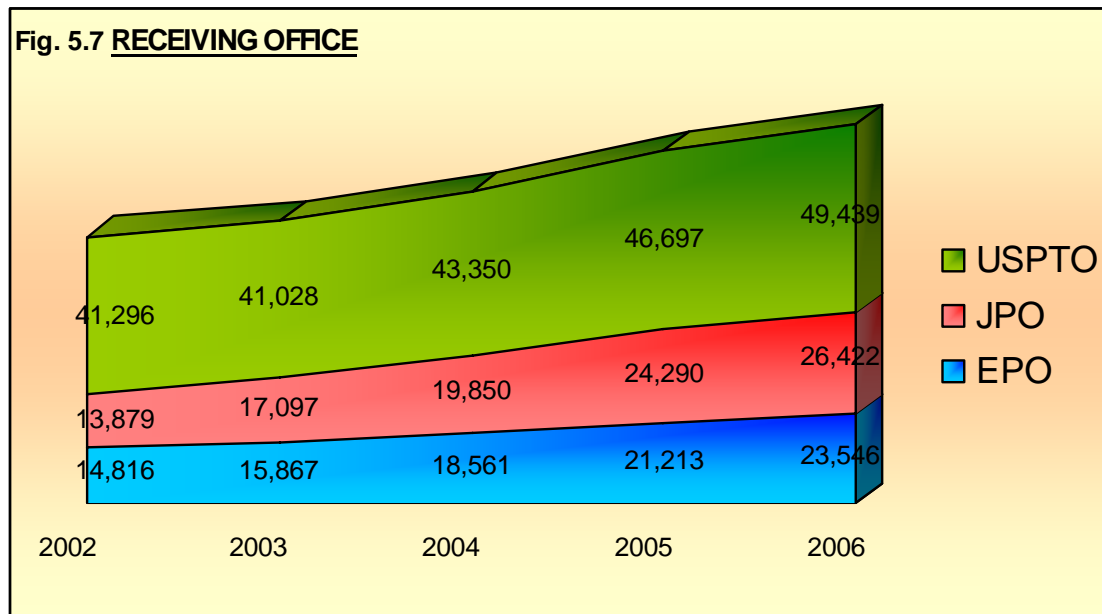


Fig. 5.7 shows that the USPTO received 49,439 international PCT applications in 2006. The EPO and the JPO received far fewer international applications, but experienced large increases to 23,546 and to 26,422 respectively.

Together, the Trilateral Offices received 85 percent of the PCT international search requests in 2006.

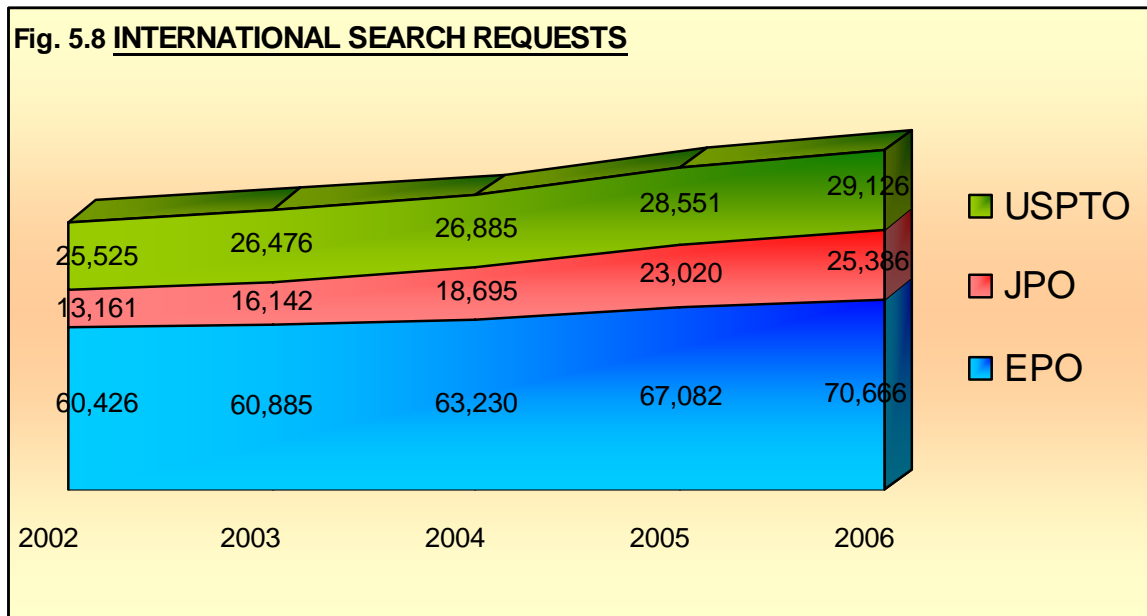


Fig. 5.8 shows that, in 2006, the EPO received 70,666 international search requests, followed by the USPTO with 29,126 and the JPO with 25,386. Although the JPO received fewer requests, it experienced the largest increase from 2002 to 2006.

Together the Trilateral Offices were in charge of 83 percent of the work as IPEA in 2006.

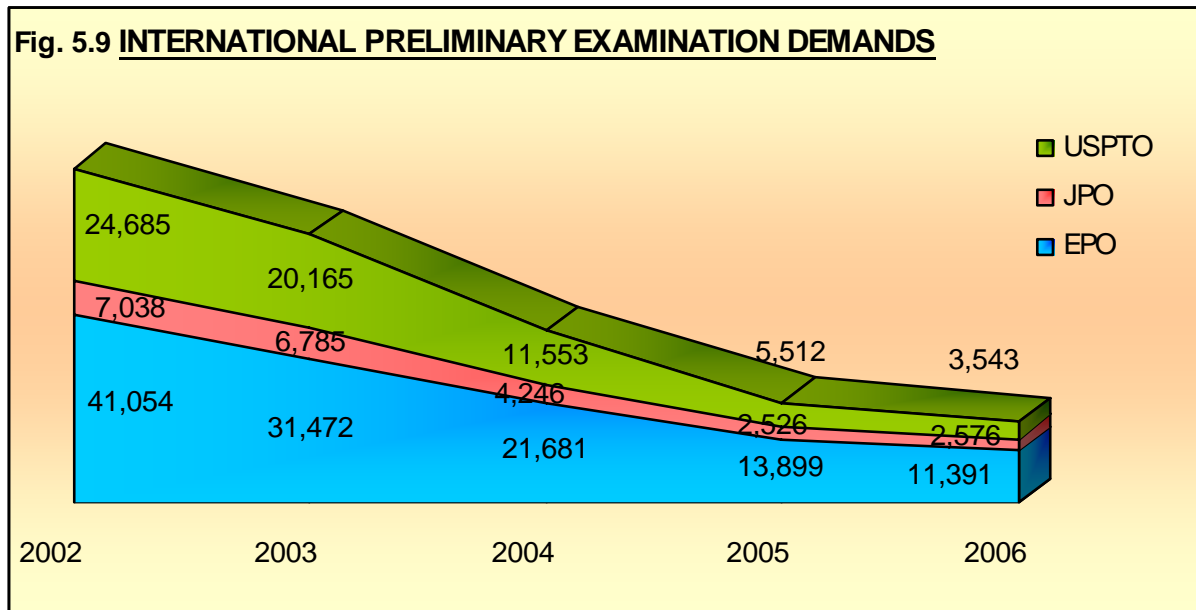


Fig. 5.9 shows that the number of demands for international preliminary examination declined since 2002 at all three Trilateral Offices. This is due to rule changes that took place in the PCT system regarding time limits to enter the national or regional phase, and also to the introduction of a written opinion on patentability with the international search report.

The EPO was IPEA for 11,391 international applications in 2006, which represents a decline of 213 percent compared to 2002. The USPTO was IPEA for 3,543 applications in 2006, which represents 384 percent less demands than in 2002. The JPO is less often chosen as IPEA and, since 2002, has experienced a 177 percent decline to 2,576 demands in 2006.



## 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 supplementary to the information already presented earlier in this report.

Other work includes applications for plant patents and reissue 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 2005 and 2006.

**Table 6: STATISTICS ON OTHER WORK**

| <b>Activities</b>                           | <b>YEAR</b> | <b>EPO</b> | <b>JPO</b> | <b>USPTO</b> |
|---|-------------|------------|------------|--------------|
| Searched for National Offices/Third Parties | <b>2005</b> | 19,354     | --         | --           |
|   | <b>2006</b> | 18,269     | --         | --           |
| Design Applications                         | <b>2005</b> | --         | 39,254     | 25,553       |
|   | <b>2006</b> | --         | 36,724     | 25,843       |
| Utility Model Applications                  | <b>2005</b> | --         | 11,387     | --           |
|   | <b>2006</b> | --         | 10,965     | --           |
| Plant Patent Applications                   | <b>2005</b> | --         | --         | 1,222        |
|   | <b>2006</b> | --         | --         | 1,138        |
| Re-Issue Patent Applications                | <b>2005</b> | --         | --         | 908          |
|   | <b>2006</b> | --         | --         | 845          |
| Trademark Applications                      | <b>2005</b> | --         | 135,776    | 334,741      |
|   | <b>2006</b> | --         | 135,777    | 360,273      |

## **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; purchases below capitalization threshold (750 EUR); licenses; 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; and 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 rented offices

- 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 parliament examination

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

- Infrastructure improvement for examination and appeals/trials

- Disposition of examination and appeals/trials

- Execution of PCT

- Patented micro organisms deposition organization

##### Information management

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

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

#### **Computerization of patent processing work**

#### **Facility improvement**

#### **INPIT operation**

#### **Others**

## **USPTO expenditures**

### **Salaries and Benefits:**

Compensation directly related to duties performed for the Government by Federal civilian employees. Also included are benefits for currently employed Federal civilian personnel.

### **Equipment:**

Property of a durable nature, which is defined as : 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. Also included is 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. Including:

- 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, Native American/Native Alaskan 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.

## **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 six months after publication of the search, the rate for 2006 relates to applications mainly filed in the years 2005 and 2006.

For the JPO, the period to file a request for examination has been three years from filing date since October 2001. The rate for 2006 relates to applications filed in the year 2003. (The rate for 2005 relates to applications filed in the year 2002.)

### **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, an allowance rate is reported, which 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 90 percent of patent applications, and over 90 percent 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.

This rate does not apply to the JPO, nor to the USPTO, since there is no opposition procedure there.

## **MAINTENANCE RATE IN THE OPPOSITION PROCEDURE**

The maintenance 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, yet they 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**

At the EPO, for applications filed since July 2005, the search report that is sent to the applicant is accompanied by an opinion on patentability. As long as the applicant then makes a request for examination, this opinion is then resent as the first communication in examination. The pendency first office action is the average time measured from filing at the EPO to issue of this first communication 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 IN 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.

## **TRIADIC PATENT FAMILIES**

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.