

# *IP5* Statistics Report

2012 Edition



**fiveIPoffices**

European Patent Office // Japan Patent Office //  
Korean Intellectual Property Office // State Intellectual  
Property Office of the People's Republic of China //  
United States Patent and Trademark Office

IP5 Statistics Report 2012 Edition

European Patent Office,  
Japan Patent Office,  
Korean Intellectual Property Office,  
State Intellectual Property Office of the People's Republic of China,  
United States Patent and Trademark Office

Edited by  
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## Executive Summary

The IP5 Statistics Report (IP5 SR) is an annual compilation of patent statistics for the five largest Intellectual Property offices - the Five IP Offices (IP5 Offices) - namely the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the State Intellectual Property Office of the People's Republic of China (SIPO), and the United States Patent and Trademark Office (USPTO).

- At the end of 2011, 7.9 million patents were in force in the world (+6.6 percent). 89 percent of these patents were valid in one of the IP5 Offices jurisdictions.
- In 2011, 1.8 millions patent applications were filed world wide, either as direct national, direct regional or international PCT applications of which 92 percent originated from the IP5 Blocs.
- In 2012, 1.875 million patent applications were filed at the IP5 Offices (+11 percent).
- The share of the PCT applications among the applications at each of the IP5 Offices continued to increase.
- Together the IP5 Offices granted 924 205 patents in 2012, (+17 percent).
- In 2012, the main developments at the IP5 Offices were:
  - IP5: A new version of the Common Application Format was introduced. A redrafted version of the Catalogue of the Differing Practices was issued. The fourth examiner's workshop was held at the SIPO. For the first time, a provisional 2012 key IP5 statistical data report was published.
  - EPO: A record number of 65 687 patents was granted. The Cooperative Patent Classification (CPC), based on EPO's ECLA system with best practice from the USPTO, was introduced. Chinese was added to EPO's Patent Translate service. A vote on the EU regulations to introduce a unitary patent will entrust the EPO with new tasks.
  - JPO: Through enhanced dialogue-type outsourcing, the JPO improved the search process efficiency. The international work sharing programmes helped to accelerate the examinations: 20.1 months on average, and 1.8 months after acceptance of a PPH request.
  - KIPO: The pendency period was reduced to 14.8 months. Also, the third generation of KIPOnet was introduced to provide prompt and precise examination services.
  - SIPO: A record number of 652 777 applications for invention patents were received (+24.4 percent) and 217 105 patents for invention were granted. Similar increases were reported for utility models and designs.
  - USPTO: In 2012 the USPTO exceeded the patent quality target by more than 50 percent and reduced first and final action pendencies to 21.9 and 32.4 months, respectively<sup>1</sup>. Concurrently, the backlog of unexamined applications was reduced to 608 283, the lowest level in several years despite significant increases in filings in 2011 and 2012.

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<sup>1</sup> Figures refer to FY 2012 (October 2011 - September 2012)

## Preface

The IP5 Statistics Report (IP5 SR) is jointly produced by the “IP5 Offices”, a group which includes the EPO, the JPO, the KIPO, the SIPO, and the USPTO along with the support of the International Bureau (IB) of the World Intellectual Property Organization (WIPO). It follows on from a provisional 2012 key IP5 statistical data report that was made earlier in 2013. Since the 2011 Edition, this report is an expansion of the former *Four Office Statistics Report* (FOSR) and *Trilateral Statistical Report* (TSR). This report, along with other data exchanges and information about the Group can be found at [www.fiveipoffices.org](http://www.fiveipoffices.org).

Collaboration between the IP5 Offices has proven to be successful in the area of patent statistics. In addition to promoting a better understanding of patenting activity both at the IP5 Offices and worldwide, the report explains each office’s operations and informs about patent grant procedures. In order to do this, the report discusses background activities at each office, reviews worldwide patenting developments and then compares the patent related work at the IP5 Offices. The IP5 SR supplements annual reports for each of the IP5 Offices and also presents specific statistics that are collected and published by the WIPO.

There seem to be diverse factors that influence patent filing trends. In the past, trend breaks have been caused by changes to patent rules and fees as well as by sudden changes in the economic climate. Every year there is a background of changes at one or more of the IP5 Offices. A major recent change is the Leahy-Smith America Invents Act (AIA) in the United States, which is currently being implemented. As the global patent system becomes more harmonised, common economic drivers have been a major influence on patent filings.

According to the World Economic Outlook<sup>2</sup> of the International Monetary Fund (IMF), the “*global prospects have improved again*”, “*emerging economies are doing well and in the major advanced economies, activity is expected to gradually accelerate, following a weak start to 2013*”. In line with the IMF Outlook, the data presented in this report show both a global rebound in patent filings since 2009 as well as regional differences in economic growth. Worldwide patent filings grew 11 percent in 2011. (At the time of publication of this report, the 2012 worldwide filing count is not yet available.) More recent data are however available from the IP5 Offices (see Chapter 2 of this report). In 2012, the filings grew 24 percent for the SIPO, 8 percent for the USPTO, 6 percent for the KIPO, 5 percent for the EPO, and remained stable for the JPO. The data showed a total annual growth of 11 percent for overall filings at the IP5 Offices.

Although economic growth is closely tied to patent filing, political and technological factors are also influential. Globalisation of markets and production continue to be key business trends. There is a worldwide tendency to harmonise patent laws with common international standards and to facilitate the flow of patent applications across borders. This has had a positive impact on worldwide patent growth over recent years.

The IP5 Offices hope that this IP5 SR 2012 brings useful information to the reader. The IP5 Offices will continue to improve and refine the report to better serve expectations and objectives of the public. Definitions related to the terminology used in the report are given in annex 1 and 2 attached at the end of this report.

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<sup>2</sup> World Economic Outlook April 2013, [www.imf.org](http://www.imf.org)

Materials from this report can be freely reproduced in other publications but we request that this should be accompanied by a reference to the title and the web site location of this report.

An additional annex appears in the web version, <http://www.fiveipoffices.org/stats.html> that gives a glossary of patent related terms, and there is also a file that contains statistics covering more years.

EPO, JPO, KIPO, SIPO, and USPTO  
With cooperation of WIPO  
November 2013

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## Chapter 1

# INTRODUCTION

Intellectual Property (IP) refers to a variety of mechanisms that have been established for protecting “creations of the mind”<sup>3</sup>, including:

- Patents for invention
- Utility model
- Industrial design
- Trademarks
- Geographic indications

to protect industrial innovations, and

- Copyrights

to cover literary and artistic creations.

This report focuses on industrial property rights and almost exclusively on patents for invention<sup>4</sup>. It is notable that the activity of patents for invention is recognised throughout the world as a useful indicator of innovative activity.

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

- National procedures
- Regional procedures (for example, those created by the European, Eurasian, African and Gulf region organisations)
- the International PCT procedure

Each country and region maintains its own patent procedures with the intent of encouraging innovative activities and optimising the regional benefits of innovation. Enhanced international cooperation led to the establishment of different regional and international patenting procedures, but nevertheless patent law varies from country to country. The scope of an individual patent application can also differ from place to place. These factors limit the degree to which the patenting activity in different countries and regions can be directly compared.

The patent systems are based on the first-to-file principle and acknowledge the Paris Convention. This drives to a large extent the usage of the patent systems worldwide. A first patent application is usually filed to the local authority to protect the invention, followed within the one year priority period by subsequent applications to expand protection to other countries.

Separate references are made to "direct" applications filed under national and regional procedures and to "PCT" international applications in order to distinguish the two subsets of applications handled by the patent offices. While applications filed under national procedures are handled by national authorities, regional applications are subject to a centralised

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<sup>3</sup> See also, World Intellectual Property Organization, “What is Intellectual Property”, <http://www.wipo.int/about-ip/en/>

<sup>4</sup> Patents for invention are called utility patents in the case of the USPTO. These are different from utility model patents as explained in Chapter 6.

procedure and usually only after grant do they fall under national (post grant) regulations. International applications, filed under the PCT, are first handled by appointed offices during the international phase. About 30 months after the first filing, the PCT applications enter the national/regional phase to be treated as national or regional applications according to the regulations of each designated office.

In this report, patenting activities are presented for the following six geographical blocs:

- the European Patent Convention (EPC) contracting states (EPC states in this report) corresponding throughout the period covered in this report to the territory of the 38 states party to the EPC at the end of 2012
- Japan (Japan in this report)
- People's Republic of China (P.R. China in this report)
- Republic of Korea (R. Korea in this report)
- United States of America (U.S. in this report)
- the rest of the world (Others in this report)

The first five blocs are referred to, together, as the "IP5 Blocs". These blocs are referred to as blocs of origin on the basis of the residence of the applicant (throughout the report) or as filing blocs on the basis of the place where the patents are sought.

The contents of each of the report chapters are briefly discussed below. With the exception of some items presented in Chapter 6, all statistics relate only to patents for invention.

Please refer to Annex 2 for explanations of many of the statistical and procedural terms used in the chapters. In addition, definitions of patent related terms can be found in the glossary located in the web version of this report<sup>5</sup>.

## **Chapter 2 - The IP5 Offices**

A summary of the recent developments in each of the IP5 Offices is presented. Definitions for budget item terminology appearing in the chapter are provided in Annex 1.

## **Chapter 3 - Worldwide Patenting Activity**

An assessment of worldwide patent activity is presented in this chapter. This covers not only patenting activity at the IP5 Offices but in the rest of the world as well.

There is some indication of the interdependence and importance of the major geographical markets. The total number of applications filed worldwide is presented in separate sections that use different methods for counting the applications. This is followed by a discussion of bloc-wise patent activity for applications and grants. Next, a description of inter-bloc activity is presented, firstly in terms of the flows of applications between the IP5 Blocs, and then in terms of patent families, where a patent family is a defined group of patent filings that claims priority to a single filing<sup>6</sup>.

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<sup>5</sup> <http://www.fiveipoffices.org/stats.html>

<sup>6</sup> For a further discussion of patent families, see the term definitions in Annex 2.

Statistics are derived primarily from the WIPO Statistics Database<sup>7</sup>, as collected from each country and region. Specific terminology and associated definitions, as used in Chapter 3, are provided in Annex 2.

## **Chapter 4 - Patent Activity at the IP5 Offices**

This part of the report presents the substantive activities of the IP5 Offices and gives statistics on patent application filings and grants at the offices.

In the first part of the chapter, the statistics give insight into the work that is requested and carried out at the IP5 Offices.

Statistics are given for requests for patents with the IP5 Offices, including domestic and foreign filing breakouts. Then, statistics are provided displaying the breakdown of applications by fields of technology according to the International Patent Classification (IPC)<sup>8</sup>.

Some comparative indication of the services that actually have been demanded may be seen in the statistics on granted patents. The numbers of grant actions by the IP5 Offices, broken down by the blocs of origin of the grants, are provided, and distributions by numbers of grants per applicant are described as well.

To illustrate the similarities as well as the differences in the granting procedures at the IP5 Offices, comparisons of the characteristics and statistics of the five patent granting procedures are given in the last part of the chapter. Work is not always performed at a comparable point in time at the various offices. Consequently, neither the number of applications filed nor the number of requests for examination is a perfect basis for a comparison of the offices.

Specific terminology and associated definitions, as used in Chapter 4 and in Table 4, are provided in Annex 2.

## **Chapter 5 - The IP5 Offices and the Patent Cooperation Treaty (PCT)**

In this chapter, the influence of the PCT on patenting activities is displayed through worldwide activities broken down by geographical blocs and IP5 Offices, particularly in terms of percentages of PCTs among international phase entries, national/regional phase entries and grants. As with Chapter 3, statistics are derived primarily from the WIPO Statistics Database, that are collected from each country and region. Statistics are also included to describe the PCT related activities of the IP5 Offices including activities as Receiving Office (RO), International Searching Authority (ISA), and International Preliminary Examining Authority (IPEA).

## **Chapter 6 - Other Work**

This chapter is dedicated to the other activities that are not common to all of the IP5 Offices, as well as to work related to other types of industrial property rights. The information is a supplement to the information provided in the rest of this report.

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<sup>7</sup> This edition refers to general patent data as of March 2013, and to July 2013 for PCT international applications, <http://www.wipo.int/ipstats/en/statistics/patents/>

<sup>8</sup> <http://www.wipo.int/classifications/ipc/en/>

## Chapter 2

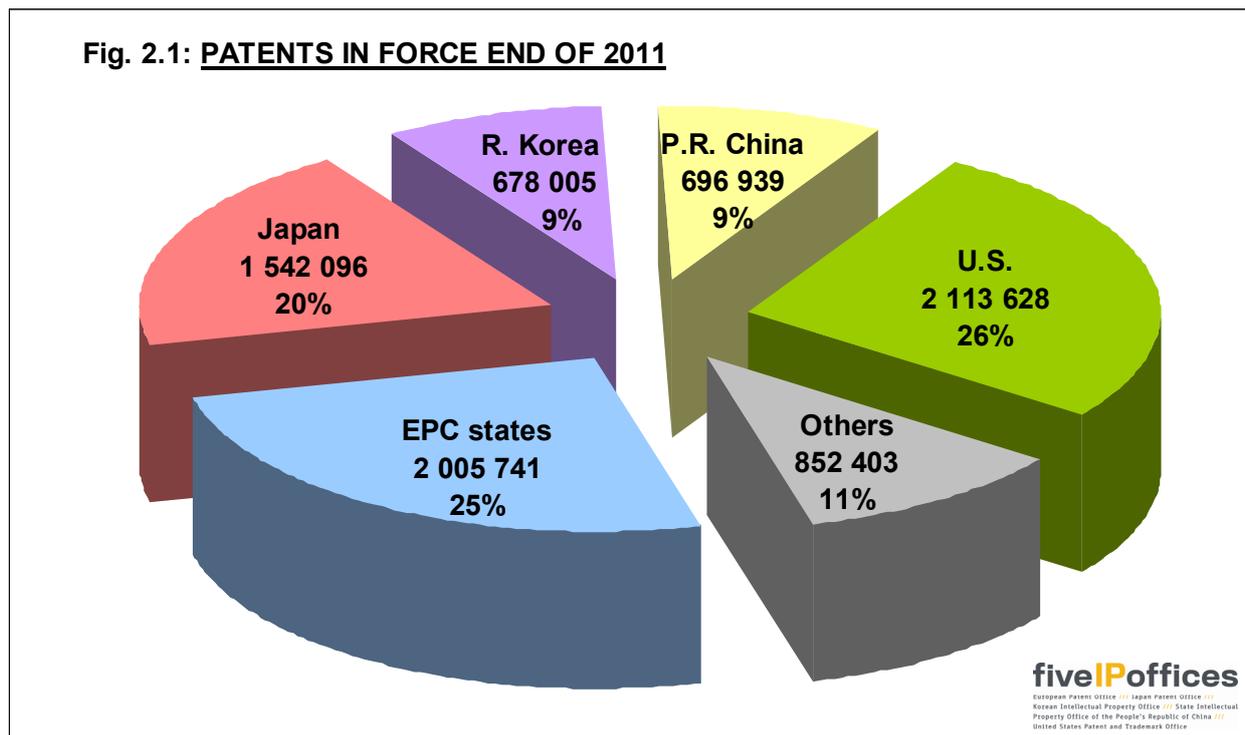
# THE IP5 OFFICES

The IP5 is the name given to the group made of the five largest intellectual property offices in the world (EPO, JPO, KIPO, SIPO and USPTO). The IP5 structure has been established to contribute to improving the efficiency of the examination process for patents worldwide.

As the world sees economic barriers between nations fade away, innovators want their intellectual creations to be protected concurrently in multiple major markets. An estimated 250 000 patent applications for the same inventions are filed each year in two or more of the IP5 Offices, contributing to increasing backlogs. To address this issue, the IP5 Offices are working together to reduce, to the maximum extent possible, the duplication of work which takes place at each office for these patent applications.

Patents are used to protect inventions, and their counts have been recognised throughout the world as a measure of innovative activity. The following figure shows the prominent role played by the IP5 Offices in terms of the worldwide number of patents in force at the end of 2011. The data are based on the most recent worldwide patent information available from the WIPO Statistics Database<sup>9</sup>.

Fig. 2.1 shows the number of patents in force by bloc in 2011.



At the end of 2011, 89 percent of the 7.9 million patents in force were valid in one of the IP5 Offices jurisdictions.

<sup>9</sup> <http://www.wipo.int/ipstats/en/statistics/patents/>. Data for patents in force for 2011 are missing for some countries in the WIPO data. Where available, the most recent previous year's data were substituted for missing 2011 data.

## EUROPEAN PATENT OFFICE

### Member states

The EPO is the central patent granting authority for Europe, providing patent protection in up to 40 European countries on the basis of a single patent application and a unitary grant procedure. This represents a market of more than 610 million people.

At the end of 2012, the 38 members of the underlying European Patent Organisation were:

Albania	Austria	Belgium	Bulgaria	Croatia
Cyprus	Czech Republic	Denmark	Greece	Estonia
Finland	France	Germany	Hungary	Iceland
Ireland	Italy	Latvia	Liechtenstein	Lithuania
Luxemburg	Malta	Monaco	Fyr of Macedonia	Netherlands
Norway	Poland	Portugal	Romania	San Marino
Slovakia	Slovenia	Spain	Serbia	Sweden
Switzerland	Turkey	United Kingdom		

Two other states have agreements with the EPO to allow applicants to request an extension of European patents to their territory:

Bosnia-Herzegovina and Montenegro

The EPO has so-called validation agreements, allowing the protection of a European patent beyond the borders of the Organisation. A first agreement was signed with Morocco that will soon come into force. Discussions with other countries are on their way.

The national patent offices of all the above states also examine patents. After granting, an EPO patent can become a bundle of national patents in all states that were designated at grant.

The mission of the EPO is to support innovation, competitiveness, and economic growth across Europe through a commitment to high quality and efficient services delivered under the EPC. Its main task is to grant European patents according to the EPC. Moreover, under the PCT the EPO acts as a receiving office as well as a searching and examining authority. A further task is to perform, on the behalf of patent offices of several member states - including France, Italy, the Netherlands and Belgium - state of the art searches for the purpose of national procedures. The EPO is also major actor in the patent information area, developing tools and data bases.

### Highlights of 2012

The EPO was again voted as the office delivering highest quality products and services, according to the 2012 Annual IP Executive Benchmarking Survey that was conducted jointly by Intellectual Asset Management magazine and Thomson Reuters.

At the end of 2012, the EPO and USPTO jointly introduced the Cooperative Patent Classification scheme (CPC) for patent documents. This is based on the European Classification (ECLA) and incorporates best practice from the USPTO, such as a detailed classification scheme for business methods. The system is the result of partnership between the EPO and the USPTO in their joint effort to develop a common, internationally compatible classification system for technical documents, in particular patent publications, which will be used by both offices in the patent granting process. The CPC entered into force on 1 January 2013.

On 11 December 2012 the European Parliament voted positively on the EU Council's proposals for two draft EU regulations on a unitary patent for Europe. The first draft regulation concerns unitary patent protection, and the second sets out the translation arrangements for such protection. With this decision, 25 EU member states have embarked on enhanced co-operation with a view to creating unitary patent protection for their territories. The Agreement on a Unified Patent Court was signed by 25 EU Member States. It will need to be ratified by at least 13 states (including France, Germany and United Kingdom) to enter into force.

The Regulation on the unitary patent provides that the participating Member States will entrust the EPO with new tasks such as, receiving requests for unitary effect, registering unitary effect, publishing translations during the transitional period, maintaining a new "Register for unitary patent protection", collecting annual fees for unitary patents and distributing part of the annual fees to the participating Member States. These new tasks will be carried out by the EPO on the basis of the internal rules of the EPO.

### Grant Procedure

All EPO activities dealing with search, examination, opposition or appeals are performed internally and not outsourced. The decision to grant or refuse a patent is taken by a board of three examiners. In Table 2.1, 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 2011 and 2012. There was a further increase in demand in 2012 as represented by the overall number of patent filings.

Table 2.1: EPO PRODUCTION INFORMATION

<b>EPO PRODUCTION FIGURES</b>	<b>2011</b>	<b>2012</b>	<b>Change</b>	<b>% Change</b>
<b>Patent filings (Euro-direct &amp; PCT international phase)</b>	244 934	257 960	13 026	+ 5.3%
<b>Searches carried out</b>				
European (including PCT supplementary)	104 638	103 601	- 1 037	- 1.0%
PCT international	75 274	76 825	1 551	+ 2.1%
On behalf of national offices and other	26 227	23 899	- 2 328	- 8.9%
<b>Total production search</b>	<b>206 139</b>	<b>204 325</b>	<b>- 1 814</b>	<b>- 0.9%</b>
<b>Examination - Opposition (final actions)</b>				
European examination	110 331	111 860	1 529	+ 1.4%
PCT Chapter II	7 529	7 995	466	+ 6.2%
Oppositions	2234	2 021	- 213	- 9.5%
<b>Total final actions examination-opposition</b>	<b>120 094</b>	<b>121 876</b>	<b>1 732</b>	<b>+ 1.5%</b>
<b>European patents granted</b>	<b>62 112</b>	<b>65 687</b>	<b>3 575</b>	<b>+ 5.8%</b>
<b>Appeals settled</b>				
Technical appeals	1 874	2 027	153	+ 8.2%
Other appeals	49	42	- 7	- 14.3%
<b>Total decisions</b>	<b>1923</b>	<b>2 069</b>	<b>146</b>	<b>+ 7.6%</b>

Status: May 2013

In 2012, the number of completed searches remained fairly stable at about 204 300 while the number of final actions in examination at the EPO, including the PCT work, increased by 1.5 percent to about 121 900. This change reflects a higher number of published granted patents

and a slight increase in the number of withdrawals by applicants. The EPO issues a search report with written opinion on patentability for first filings within 6 months. About 2 070 decisions in appeal were completed by the EPO boards of appeal in 2012. On average in 2012, a patent granted by the EPO designated 26 countries at the time of grant (23 in 2011).

The EPO fast track procedure, Program for Accelerated Prosecution of European Patent Applications (PACE), can be required without any additional fee and is open for any field of technology. PACE is requested for 7 to 8 percent of the patent applications every year. In 2012, the EPO received 16 800 PACE requests (6 400 searches, 10 300 examinations).

### **Patent Information**

The EPO is a producer of patent information products and services. It has established databases that are available not only for internal use, but also for dissemination by national offices. The EPO maintains a comprehensive collection of patent-related literature, making available more than 600 million records containing about 83 million patent documents, within 145 specialised databases. The main public database Espacenet is freely accessible 24 hours a day. Efforts have been made for improvement of these databases by focusing on machine translation of patents in order to reduce language barriers, as well as by improving the electronic search tools used by EPO examiners and by more than 45 patent offices world-wide, in particular for its search engine called EPOQUE.

The automatic translation system, Patent Translate, developed in partnership with Google Inc., was launched early 2012 and has since been further expanded to include Chinese, Japanese and further European languages. The service currently offers on-the-fly-translation from and into English for 22 languages. It is accessible on the EPO's free online patent database, Espacenet.

### **International and European Cooperation**

The EPO continues to be engaged in different types of cooperation programs in and outside Europe: including IP5, Trilateral Cooperation and bilateral agreements.

The EPO provides supports to patent offices in Europe through cooperative activities within the European Patent Network. The EPN entered a new cycle with the launch of the EPN Cooperation Roadmap 2012-2015, focusing on three main areas: information technology; training; patent awareness and patent information. The European Patent Academy has a very active role.

The EPO has a long experience in cooperative activities with many patent offices. In 2012, the JPO, the USPTO and the EPO celebrated the 30th anniversary of the Trilateral Cooperation. In 2012, agreements were signed with Russia on the automatic translation, with Brazil on enhanced cooperation. Memoranda of Understanding were signed with OECD, and WIPO to reinforce cooperation with these organisations.

### **EPO Budget**

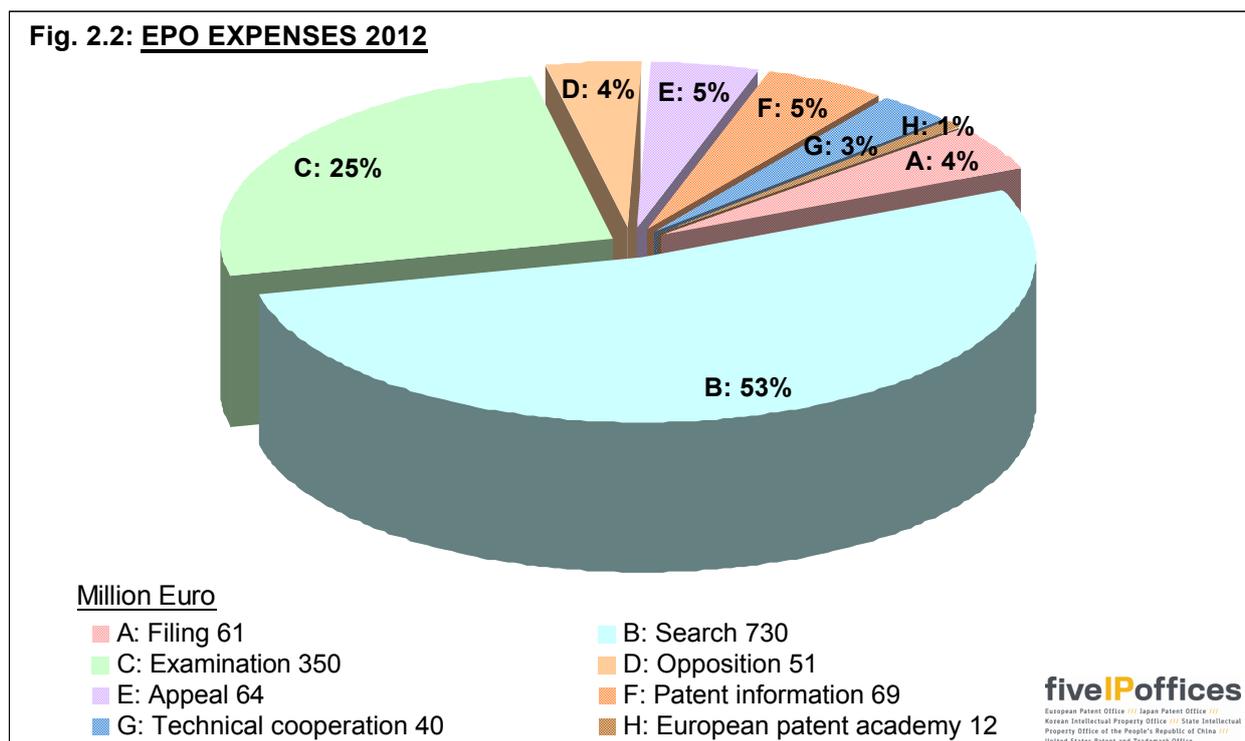
The EPO is financially autonomous and does not receive any subsidies from the contracting states of the Organisation. Expenses are to be covered entirely out of revenue obtained mainly from patent fees paid by applicants and patentees. In 2012, the EPO budget amounted to 1.823 billion EURO.

Fees related to the patent grant process, such as the filing, search, examination, and appeal fees as well as renewal fees for European patent applications (i.e. before grant) are paid to

the EPO directly. 50 percent of the renewal fees for European patents (i.e. after grant) is kept by the Contracting States of the Organisation where the European patent is validated after the central grant process.

On the expenses side, in addition to salaries and allowances that are often supported by a patent office, the EPO, as the office of an international organisation, also finances other social staff expenses such as pensions, sickness, long-term care as well as education costs for the children of the employees. The EPO is responsible for a community of more than 21 000 persons (mostly active staff, pensioners and family members).

Fig. 2.2 shows EPO expenses under the International Finance Reporting Standards (IFRS) by category in 2012.



A description of the items in Fig. 2.2 can be found in Annex 1.

### EPO Staff

At the end of 2012, the EPO staff totalled about 7 000 employees from 32 different European countries. During the year, 102 examiners were recruited. The total number of search, examination and opposition examiners reached a record figure of 3 987. Boards of appeal staff increased to 163. Staff complement in other areas was reduced.

Examiners are trained three years following their recruitment before being considered as fully productive. The staff work in the three official languages of the EPO (English, German, French) in their daily work.

### More information

Further information can be found on the EPO's Homepage:  
[www.epo.org](http://www.epo.org)

## JAPAN PATENT OFFICE

### Development of Intellectual Property Policy

Recently, due to advances in globalisation and the remarkable development of emerging countries, the competition over markets has become more intense not only among companies but also countries. Under this circumstance, in order for Japanese companies to win against the competition and to actively expand business overseas, a high-added value strategy taking advantage of Japanese technologies and attractive designs and brands is required. In addition, it is necessary to advance the development of an environment in which each company can strategically utilise its intellectual property in the global market.

Based on this, the “*Strategies to Revitalise Japan*” that were forged by the Cabinet on 5 August 2011, mentions the importance of promoting international IP strategies as a means to support companies in expanding their businesses overseas.

In addition, the Intellectual Property Strategic Program 2012 established by the Intellectual Property Strategy Headquarters, headed by the Prime Minister, states the two comprehensive intellectual property strategies that contribute to strengthen international competitiveness of Japan in the global network era: 1) enhancing strategies to create comprehensive intellectual property innovation; and 2) enhancing comprehensive strategies to develop content that will revitalise Japan.

### Efforts Related to Patents

The JPO has made various efforts for achieving its long-term target for reducing first action pendency to 11 months by FY 2013<sup>10</sup>, as indicated in the “Intellectual Property Strategic Program 2004” formulated by the Intellectual Property Strategy Headquarters in 2004. These efforts include the following.

#### 1. Efforts to Speed Up Patent Examination

##### Methods to Expedite Patent Examination

##### 1) Ensuring the Necessary Number of Examiners

While the JPO is working to raise the efficiency of the examination process, it still will need to increase the number of patent examiners so as to greatly enhance its examination capability in terms of examination. The JPO has significantly increased the number of examiners by hiring around 490 fixed-term examiners in five years, from FY 2004 to FY 2008. Moreover, since FY 2009, the fixed-term examiners who completed the five-year term were re-hired to maintain the JPO’s examination capabilities.

**Table 2.2: JPO NUMBER OF PATENT EXAMINERS**

Examiners	FY 2011	FY 2012	Change	% Change
Regular	1 221 (+ 8)	1 223 (+ 2)	2	0 %
Fixed-term	490	490	0	--
Total	1 711 (+ 8)	1 713 (+ 2)	2	0%

<sup>10</sup> The fiscal year (FY) begins in April at the JPO.

## 2) Increasing and Enhancing Outsourcing of Prior Art Document Searches

The number of prior art document searches outsourced in FY 2012 decreased by 1.2 percent to 239 000 due to the decrease in the number of patent backlogs, of which dialogue-type<sup>11</sup> outsourcing, with a high level of examination efficiency, was done in comparison with paper-type<sup>12</sup> outsourcing, which accounted for 92 percent, or 219 000 searches (the figures in FY 2011 were 89 percent and 214 000 searches, respectively). This shows an increase in dialogue-type outsourcing to the private sector and an improvement in efficiency. It is expected that examination efficiency will further improve through the JPO making use of dialogue-type outsourcing.

### 2. Efforts to Obtain Stable Rights

In order for companies to safely utilise their own intellectual property rights in the global market and to perform business activities, it is essential that the patent rights granted are stable and valid all over the world. Stable rights, to be valid in the world, require that there are no reasons anywhere for invalidation, that a clear line between other rights is set, and that the rights are not unnecessarily restrictive.

Therefore, it is important to deepen understanding of many factors such as technologies subject to examinations and related technical fields. In addition, it is important to conduct accurate prior art document searches including national and overseas documents, and implement quality control of patent examinations in a way that the results notified to applicants are based on high-quality examination procedures. In addition, it is necessary to review the examination standards, etc. where necessary in response to the opinions of users and the results of appeals/trials and judgments from the viewpoint of international system harmonisation.

#### a. Efforts for International Work Sharing

Following the global increase in the patent applications amidst the ongoing globalisation of economic and business activities, and the increasing importance of intellectual property along with such globalisation, the number of duplicate applications, i.e., the same invention being filed in multiple offices is increasing. In line with this increase, the examination workload at each office has also been increasing. Under this situation, the JPO is promoting work-sharing of patent examinations with various IP offices, using the framework of the Patent Prosecution Highway (PPH), to improve the accuracy and efficiency of examinations worldwide. The aim is to create an environment where applicants can tightly protect their intellectual property worldwide. Applicants can obtain considerable benefits from this program.

The first benefit is improved patent quality. Under PPH, since examiners in the office of earlier examination (OEE) and the office of later examination (OLE) examine the application based on the same claims in principle, it is more foreseeable for the applicant, to acquire a patent from both offices. This makes it possible to acquire a more stable right and the grant rate becomes higher in comparison with the number of patent applications as well.

The second benefit is accelerated examination. For example, in the JPO the average first action pendency was about 20.1 months in 2012, while the examination pendency of PPH

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<sup>11</sup> "Dialogue-type" outsourcing is a way of outsourcing by which the patent examiner receives a report on the prior art search result from the searcher, not only in writing but together with an oral presentation by the searcher based on the report. This is done in order to raise the understanding of the examiner on the details of the invention and prior art documents.

<sup>12</sup> "Paper-type" outsourcing is a way of outsourcing by which the results of prior art document searches are reported by only providing applicants paper-based search reports.

applications, from the acceptance of the PPH request up to the commencement of the examination was about 1.8 months in 2012.

The third benefit is reduced costs to acquire rights. It can be assumed that once a reason for refusal has already been sent by one office, it is not necessary for all the other offices to send notifications. As a result, average number of office Actions would be less rather than the ordinal patent applications, thereby reducing the cost. This enables the applicants to save costs when acquiring patents, allowing more investments to be made in additional R&D activities.

#### b. JP-Fast Information Release Strategy (JP-FIRST)

The JPO began implementing JP-FIRST in 2008, taking account of the patent system of the JPO. The JP-FIRST allows the Office of Second Filing (OSF) to make more use of examination results of the JPO, the Office of First Filing (OFF). This strategy is expected to enable Japanese applicants to acquire appropriate patent rights in foreign offices. Providing the results of the first action by the JPO earlier alleviates the amount of examination workload at all offices overall. Therefore, promoting the utilisation of these results in foreign offices is important.

### 3. Initiatives to Achieve Future Patent Strategies

The international landscape surrounding intellectual property is drastically changing because of economic globalisation and the expansion of emerging markets such as those in Asia. Japanese companies are expanding their intellectual property strategies on a global basis. Under such a situation, the number of applications filed by Japanese applicants to foreign offices has greatly increased. In addition, the regions where Japanese applicants file have changed, from the Trilateral Offices (the JPO, EPO and USPTO) to the IP5 Offices, namely the Trilateral Offices plus the KIPO and the SIPO.

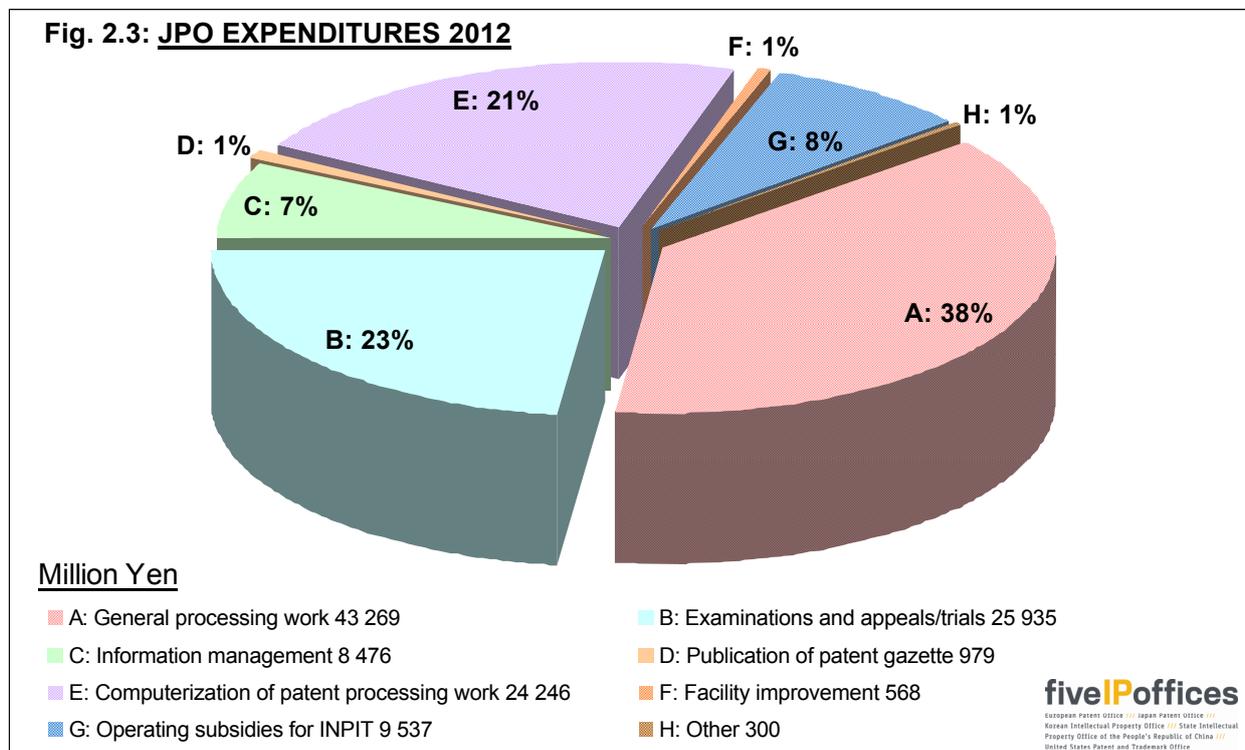
In view of these circumstances, the JPO has made various efforts for the purpose of creating a patent strategy that allows stable rights valid worldwide to be established in Japan and allows rights to be obtained accordingly in an expeditious manner in other countries so that Japanese companies can smoothly conduct businesses all over the world.

Table 2.3: JPO PRODUCTION INFORMATION

JPO PRODUCTION FIGURES	2011	2012	Change	% Change
<b>Applications filed</b>				
Domestic	287 580	287 013	- 567	- 0.2%
Foreign	55 030	55 783	753	+ 1.4%
Total	342 610	342 796	186	+ 0.1%
<b>Examination</b>				
Requests	253 754	245 004	- 8 750	- 3.4%
First actions	363 876	369 679	5 803	+ 1.6%
Final actions	364 712	380 964	16 252	+ 4.5%
<b>Grants</b>				
Domestic	197 594	224 917	27 323	+ 13.8%
Foreign	40 729	49 874	9 145	+ 22.5%
Total	283 323	274 791	36 468	+ 15.3%
<b>Appeals/Trials</b>				
Demand for Appeal against refusal	26 663	24 958	- 1 705	- 6.4%
Demand for Trial for invalidation	269	217	- 52	- 19.3%
<b>PCT activities</b>				
International searches	35 633	40 529	4 896	+ 13.7%
International preliminary examinations	2 198	2 702	504	+ 22.9%

### JPO Budget

Fig. 2.3 shows JPO expenditures by category in 2012.



A description of the items in Fig. 2.3 can be found in Annex 1.

### JPO Staff Composition

As of the end of FY 2012, the total number of staff at the JPO was 2 880. This includes 490 fixed-term patent examiners.

Examiners:	Patent / Utility model:	1 713
	Design:	51
	Trademark:	147
Appeal examiners:		387
General staff:		582
Total:		2 880

### More information

Further information can be found on the JPO's Homepage:  
[www.jpo.go.jp](http://www.jpo.go.jp)

## KOREAN INTELLECTUAL PROPERTY OFFICE

### Mission Statement

KIPO is the government agency in charge of IP matters in R. Korea. Its mission statement is as follows:

*To contribute to technological innovation and industrial development by facilitating the creation, commercialisation and utilisation of intellectual property and by strengthening the protection of intellectual property.*

KIPO strives to fulfil its mission by implementing diverse policies focused on timely, high-quality examinations.

### Statistical Overview of 2012

The number of patent applications increased by 5.6 percent in 2012, to 188 915. PCT applications increased by 14.0 percent in 2012 to 11 869.

The number of first actions on patent applications decreased by 6.3 percent to 163 246 in 2012 compared to the previous year. The average first action pendency calculated from the point of request for examination to the time of first action was 14.8 months for patent and utility models.

The number of international search reports of international patent applications under the PCT increased by 29.2 percent from 2011 to 29 919 in 2012. PCT international preliminary examination reports increased by 12.9 percent from 2011, to 253.

### International Cooperation

KIPO expanded the number of countries for Patent Prosecution Highway (PPH) and PCT-PPH. It has implemented PPH with eleven countries. In March 2012, the PPH with P.R. China went into effect, and Mexico was added in July 2012. The other nine countries are Japan, the United States, Denmark, the United Kingdom, Canada, Russia, Finland, Germany and Spain. It also executed PCT-PPH with P.R. China and Japan in March and July 2012, respectively, increasing the number of countries to three (including the United States).

As for the IT-related cooperation between the IP5 Offices, of the ten foundation projects of the IP5, six are dedicated to automation. As lead office for the machine translation project, KIPO successfully completed the error checking project for IP5 machine translations in 2011. In 2012, KIPO implemented a Korean to English (K2E) machine translation improvement project to reflect the results of the error checking. The office also evaluated the machine translation quality of three Asian patent offices with the participation of European and U.S. examiners in the second half of 2012. Through KIPO's evaluations, it confirmed that all three Asian patent offices reached the "quality for possible utilisation in prior art search" set as a target for the mutual machine translation project in 2008.

In addition, KIPO successfully completed the development of the One Portal Dossier in December 2012, providing examiners with immediate access to all information on examination progression at the IP5 Offices. KIPO plans to open the dossier during the second half of 2013 after running tests among the offices from April to June 2013.

As the mutual cooperation among the IP5 Offices has become materialised since 2009, the IP5 Offices are making efforts to harmonise the examination standards and build trust among the

offices in terms of examination results through comparison on similarities and differences in examination practices, cross-participation in examination training courses, and hosting of joint examiner workshops.

In addition, patent examination experts in R. Korea, P.R. China and Japan have created a working group to strengthen the cooperation of those three offices. The expert group collectively reviewed differences in examination standards and actual examination practices by comparing the assessment results of inventiveness among the three offices in 2011 and of novelty in 2012 on hypothetical cases from the offices, in order to establish the foundation of the utilisation of the examination results among the offices.

### **IP Office Automation System**

In 1999, KIPO launched the KIPOnet system, an internet-based e-filing and work processing system for the filing and receipt, examination, registration, trial, and publication of applications for patent, utility model, design, and trademark rights. The constant improvement of this system has led to the development of the 3rd generation KIPOnet (KIPOnet III) beginning in 2009. The subsequent version to the original version of 2009 was released on 1 January 2012 and reflected the amendments of the Patent, Trademark and Industrial Design Protection Acts in order to cope with the international harmonisation and simplification of Intellectual Property Rights (IPR) and the R. Korea-U.S. Free Trade Agreement. It provided a more simplified e-filing software suite and Easy-Web filing system, both of which support an automated search function for similar prior patents of each application.

In 2012, a series of improvements were made in services of the PCT system, trials, the Madrid system for international trademark filings, and Patent Road (e-filing portal).

As for Patent Road, which went through a complete overhaul in January 2013, KIPO, for the first time as a government organisation, introduced a system for applicants to pay their fees in foreign currency of Swiss Francs (CHF) for PCT application fees. Also, the office implemented the online authentication certificate system so that only the certificate can be used for user authentication. KIPO expects to complete the building of an international patent system as well as a trial and international trademark system to finally launch the third generation KIPOnet in June 2013.

### **Providing Comprehensive IP Support to SMEs**

To provide support for IP creation by small and medium-sized enterprises (SME), KIPO has established 31 regional IP centres nationwide where patent, brand, and design experts provide consultations on various IP issues. In addition, KIPO provided 201 sessions of IPR training for 4 157 people to foster IP manpower in SMEs in 2012. KIPO plans to continue these efforts throughout 2013.

### **IP Policies**

In 2008, KIPO's IPR examination policy underwent a paradigm shift. The focus shifted from high-speed examinations to a customer-oriented approach to examination and trial systems.

1) Customized three-track patent examination and Super-accelerated examinations for green technology

Through the customized three-track patent and utility model examination system that we have executed since October 2008, patent clients can freely select from accelerated, regular,

and customer-deferred examination and use the system according to their patent strategies. If clients request a speedy evaluation, they can get examination services within about three to five months from their request. If clients request a customer-deferred examination, they can get examination services within three months from the desired examination grace period (possible selection between 24 months from the examination request date to five years from the date of application).

Meanwhile, since the introduction of the super-accelerated examination system for green technologies in October 2009, we have provided faster examination results (within a month of request) than regular preferential examinations for newly researched and developed technologies (greenhouse gas reducing technology, technology enhancing energy use efficiency, etc.) according to the state strategy of “low carbon, green growth.”

## 2) Three-track patent trial system

In KIPO’s former preferential patent trial system, some types of cases took priority over general cases. However, in November 2008, KIPO adopted a patent trial system with three separate tracks: a regular track, an accelerated track, and a super-accelerated track. The super-accelerated trial proceeds as follows: after both parties have applied for a super-accelerated trial, an oral hearing is held within a month of the deadline for submitting a written reply, and a trial decision is made within two months of the oral hearing. Thus, the parties are informed of the trial decision within four months of requesting the trial. An accelerated trial generally takes six months, and a regular trial takes about nine months.

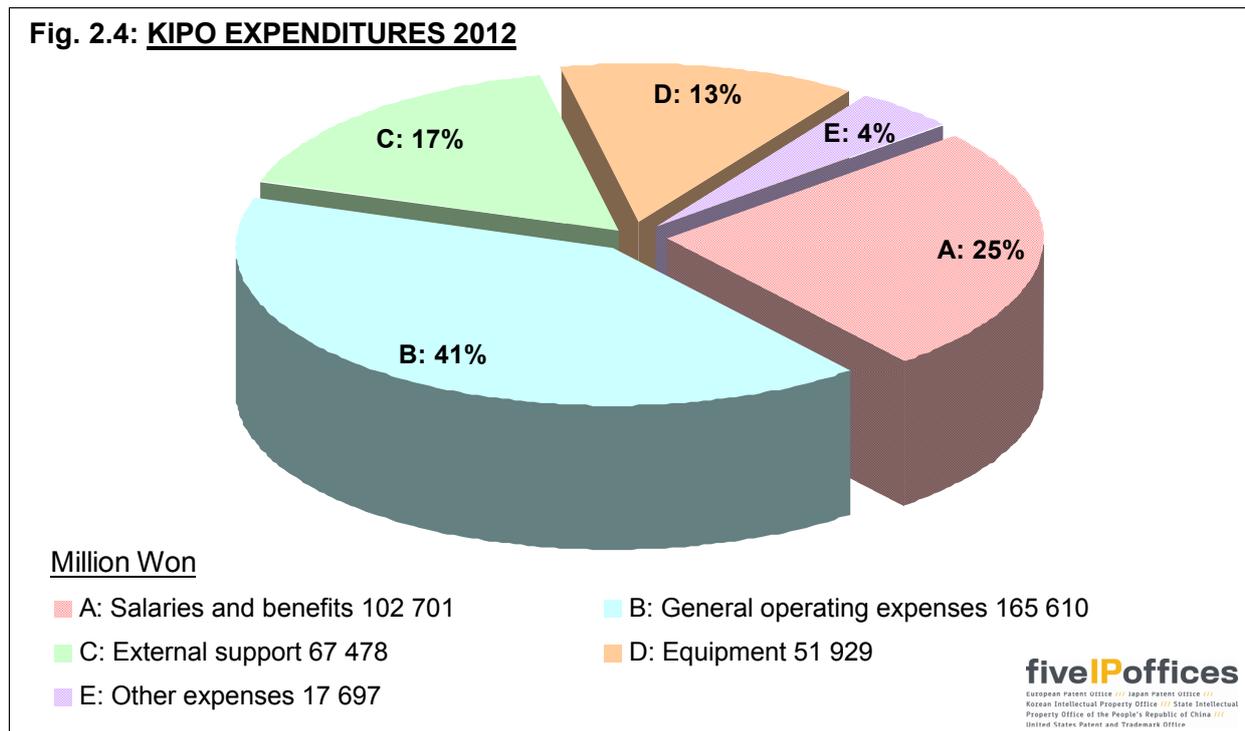
**Table 2.4: KIPO PRODUCTION INFORMATION**

<b>KIPO PRODUCTION FIGURES</b>	<b>2011</b>	<b>2012</b>	<b>Change</b>	<b>% Change</b>
<b>Applications filed</b>				
Domestic	138 034	148 136	10 102	+ 7.3%
Foreign	40 890	40 779	- 111	- 0.3%
Total	178 924	188 915	9 991	+ 5.6%
<b>Examination</b>				
Requests	149 987	155 566	5 579	+ 3.7%
First actions	174 283	163 246	- 11 037	- 6.3%
Final actions	151 184	163 912	12 728	+ 8.4%
<b>Grants</b>				
Domestic	72 258	84 061	11 803	+ 16.3%
Foreign	22 462	29 406	6 944	+ 30.9%
Total	94 720	113 467	18 747	+ 19.8%
<b>Applications in appeal</b>	9 664	10 039	375	+ 3.9%
<b>PCT activities</b>				
International searches	23 166	29 919	6 753	+ 29.2%
International preliminary examinations	224	253	29	+ 12.9%

## KIPO’s Budget

In 2012, KIPO had total expenditures of 405 415 million won. 25 percent of those expenditures were allocated to salaries and benefits, 41 percent to general operating expenses, 17 percent to external support, 13 percent to equipment, and 4 percent to other expenses.

Fig. 2.4 shows KIPO expenditures by category in 2012.



A description of the items in Fig. 2.4 can be found in Annex 1.

### KIPO Staff Composition

At the end of 2012, KIPO had a total staff 1 579. The breakdown is as follows.

Examiners	
Patents and Utility Model	813
Designs and Trademarks	145
Appeal examiners	99
Other staff	522
Total	1 579

### More information

Further information can be found on KIPO's Homepage:  
[www.kipo.go.kr](http://www.kipo.go.kr)

## **STATE INTELLECTUAL PROPERTY OFFICE OF THE P.R. CHINA**

### **Organisational Structure and Personnel**

The SIPO has seven functional departments, a supervision department, a retired personnel department, and subsidiaries as the Patent Office, the Patent Re-examination Board, some public institutions and social organisations. In total, the SIPO has 9 755 full-time employees.

The Patent Office, an organisation under the SIPO with 16 departments and one affiliated enterprise, is mainly responsible for receiving and examining patent applications, granting patents and handling other administrative matters entrusted by the SIPO. It has a staff of 3 140 at present, among which 2 058 employees are examiners for invention patents, 260 employees are for utility models and designs, 295 employees are for preliminary examination and work-flow management. Moreover, 303 employees work in support departments (i.e. patent documentation, automation, examination affairs administration) and 224 employees are responsible for general administration. The four Patent Examination Cooperation Centres, as institutions affiliated to the Patent Office, share the responsibility of patent examination, among which the Beijing Centre was founded in 2001 and has 3 051 employees at present, the Jiangsu Centre was founded in 2011 and has 676 employees, the Guangdong Centre was founded in 2011 and has 635 employees, and the Henan Centre was founded in 2012 and has 1 employee. The China Patent Technology Exploitation Enterprises, as the mere enterprise under the Patent Office, has 457 employees.

The Patent Re-examination Board, affiliated directly with the SIPO, has a staff of 262, and is responsible for processing requests for patent re-examination and invalidation of patent rights.

### **Patent Examination Status**

In accordance with the Patent Law of the People's Republic of China, the SIPO is the authority to receive and examine applications for invention, utility model and design patents and to grant patent rights in compliance with the Patent Law. The mechanism of earlier publication and request for substantive examination applies when processing invention patent applications, while the duration of patent rights for invention is 20 years, counted from the date of filing. The preliminary examination mechanism applies when processing utility model and design applications, while the duration of patent rights for utility models and designs is 10 years respectively, counted from the date of filing.

### **Patent Applications Received in 2012**

In 2012, the SIPO received 2 050 649 applications for the three kinds of patents representing an increase of 26 percent compared with the previous year. 652 777 applications were for invention patents, an increase of 24 percent compared with the year before, 740 290 for utility model patents, an increase of 26 percent, and 657 582 for design patents, an increase of 26 percent.

### **Patents Granted in 2012**

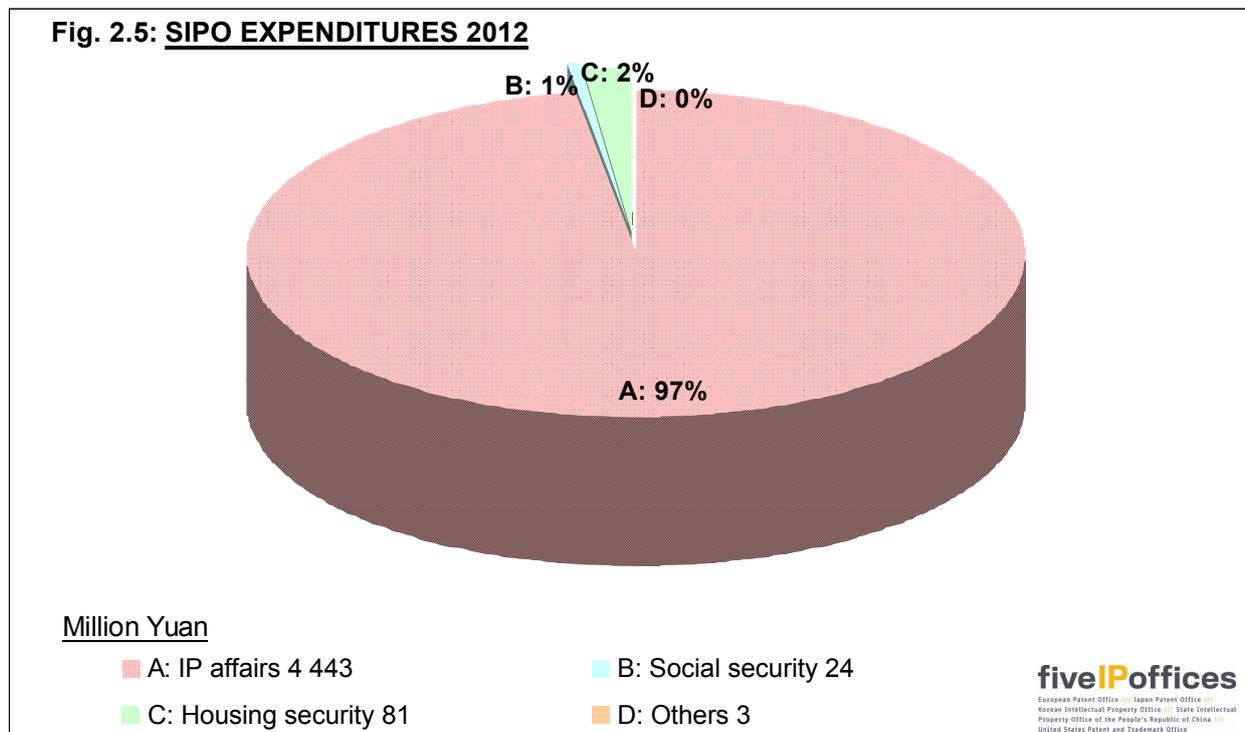
In 2012, the SIPO granted 1 255 138 patents reflecting an increase of 31 percent compared with the previous year. Of these 217 105 were for invention patents, an increase of 26 percent compared to the year before, 571 175 for utility model patents, 466 858 for design patents, increasing by 40 percent and 23 percent respectively.

Table 2.5: SIPO PRODUCTION INFORMATION

SIPO PRODUCTION FIGURES	2011	2012	Change	% Change
<b>Applications filed</b>				
Domestic	415 829	535 313	119 484	+ 28.7%
Foreign	110 583	117 464	6 881	+ 6.2%
Total	526 412	652 777	126 365	+ 24.0%
<b>Examination</b>				
Requests	292 157	338 407	46 250	+ 15.8%
First actions	271 202	344 541	73 339	+ 27.0%
Final actions				
<b>Grants</b>				
Domestic	112 347	143 847	31 500	+ 28.0%
Foreign	59 766	73 258	13 492	+ 22.6%
Total	172 113	217 105	44 992	+ 26.1%
<b>Re-examination and invalidation</b>				
Re-examination requests	12 850	17 238	4 388	+34.8%
Invalidation requests	566	602	36	+ 6.4%
<b>PCT activities</b>				
International searches	14 553	18 025	3 472	+ 23.9%
International preliminary examinations	325	436	111	+ 34.2%

SIPO Budget

Fig. 2.5 shows SIPO expenditures by category in 2012.



A description of the items in Fig. 2.5 can be found in Annex 1.

### SIPO Staff Composition

At the end of 2012, the SIPO had a total staff of 9 755. The breakdown is as follows.

SIPO Functional Department	93
Patent Office: Examiners:	
Invention	2 058
Utility Model & Design	260
Preliminary Examination and Flow Management	295
Supporting Departments	303
General Administration	224
Total	3 140
Patent Re-Examination Board	262
Other Subordinate Unites Under the Office	6 260
Total	9 755

### More information

Further information can be found on the SIPO's Homepage:  
[www.sipo.gov.cn](http://www.sipo.gov.cn)

## UNITED STATES PATENT AND TRADEMARK OFFICE

### Mission Statement

The mission of the United States Patent and Trademark Office is:

*Fostering innovation, competitiveness and economic growth, domestically and abroad by delivering high quality and timely examination of patent and trademark applications, guiding domestic and international intellectual property policy, and delivering intellectual property information and education worldwide, with a highly skilled, diverse workforce.*

The USPTO is pivotal to the success of innovators. In fulfilling the mandate of Article 1, Section 8, Clause 8, of the U.S. Constitution, “To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries” the USPTO is on the cutting edge of the United States’ technological progress and achievement.

As an agency of the U.S. Department of Commerce, the primary services provided by the USPTO are examining patent and trademark applications and disseminating patent and trademark information. 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 USPTO operates with two major business lines, Patents and Trademarks.

### USPTO Strategic Plan

In FY<sup>13</sup> 2010, the USPTO issued its *2010-2015 Strategic Plan*, which recognises that innovation has become the principal driver of our modern economy by stimulating economic growth and creating high-paying jobs. The *Plan* communicates the USPTO’s priorities and directions, and serves as the foundation for programmatic and management functions. The *Plan* is designed to strengthen the capacity of the USPTO, to improve the quality of patents and trademarks that are issued, as well as to shorten the time it takes to obtain a patent. The *Plan* outlines a focused, specific set of goals and the steps that must be taken to reach those goals.

- Goal 1: Optimize Patent Quality and Timeliness.
- Goal 2: Optimize Trademark Quality and Timeliness.
- Goal 3: Provide Domestic and Global Leadership to Improve IP Policy, Protection and Enforcement Worldwide.
- Management Goal: Achieve Organizational Excellence.

### Agency News

On 16 September 2011, President Obama signed into law (P.L. 112-29) the Leahy-Smith America Invents Act (AIA). Since its enactment the USPTO has worked diligently to implement the AIA’s statutory requirements to improve patent quality, reduce the backlog of patent applications, reduce domestic and global patenting costs for U.S. companies, provide greater certainty in patent rights, and offer effective alternatives to costly and complex litigation.

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<sup>13</sup> The fiscal year (FY) begins in October at the USPTO.

Some of the key provisions of the AIA include:

- Transitioning the U.S. to a first-inventor-to-file system.
- Providing an enhanced grace period for inventors to safeguard patent rights against disclosures made by the inventors one year or less before the effective filing date, which allows inventors to engage in crucial negotiations with potential buyers or investors without fear of losing their right to a patent.
- Consistent with international norms, the definition of prior art now includes non-printed disclosures, including oral disclosures, made available to the public anywhere in the world.
- Providing prior art effect to U.S. patent applications as of their foreign priority dates, thus eliminating the *Hilmer* doctrine.
- Eliminating the requirement for inventors to set forth the best mode to carry out the invention as a defense in infringement actions or in post grant review.
- Providing a 75 percent discount for patent fees to all applicants that qualify as micro entities.

The changes created by the AIA help the U.S. to better align with international norms, which provides a renewed opportunity to harmonize the international patent system and facilitate office cooperation through worksharing with other patent offices.

Section 10 of the AIA also authorizes the Director of the USPTO to set or adjust by rule all patent and trademark fees established, authorized, or charged under Title 35 of the U.S. Code and the Trademark Act of 1946 (15 U.S.C. § 1051 et seq.), respectively. When fees are set, the aggregate revenue from the patent fees may only recover the aggregate estimated cost of the patent operations, including administrative costs to the USPTO. Likewise, the aggregate revenue from the trademark fees may only recover the aggregate estimated cost of the trademark operations, also including administrative costs to the USPTO. In FY 2012, the USPTO introduced a proposed re-structure of certain patent fees and engaged in a comprehensive collaborative exchange with stakeholders and the public towards publishing a final fee structure in FY 2013.

### **International Cooperation and Work-sharing**

Alongside the AIA reforms, the USPTO continues to promote international cooperation by emphasizing work sharing among patent offices as a key to efficient management of office workloads, reduction of backlogs and pendency, and improvement of the international patent system. The USPTO's primary work sharing vehicle - the PPH - has proven to be a major success, producing significant efficiency gains in terms of higher allowance rates, fewer office actions per disposal, and substantially lower percentages of appeals and continuation applications for applications making use of this vehicle. This translates into measurable cost savings for applicants, and provides them with additional flexibility when developing their IP strategy.

The USPTO is currently partnering with 24 other patent offices around the world on the PPH allowing applicants to fast-track examination in one office after a finding by another office that one or more corresponding claims are allowable. In FY 2012, more than 5 000 requests were filed in the USPTO, a 43 percent growth from the prior year. These work-sharing programs reduce re-work, increase collaboration, and provide consistency between IP offices. In FY 2012, the USPTO expanded work-sharing efforts with new partnerships with other IP offices and published preliminary research showing PPH partnerships have a beneficial impact on efficiency and quality.

The USPTO furthers IP policy goals through training foreign officials, providing domestic and international educational outreach, launching strategic cooperation projects between national

IP offices, deploying IP Attachés to critical regions of the world, and advising on the IP aspects of U.S. trade efforts. The USPTO, through the Global IP Academy (GIPA), provides expertise on administration, protection, and enforcement in all areas of domestic and international IP. In FY 2012, the GIPA conducted 140 training programs for foreign government officials, reaching an audience of more than 9 000 foreign government officials from 130 countries.

### **Patent Quality and Timeliness**

Amidst AIA changes, the USPTO surpassed patent pendency, quality, and backlog targets in FY 2012. The USPTO exceeded the patent quality target by more than 50 percent, reduced first action pendency to 21.9 and total pendency to 32.4 months while at the same time reducing the backlog of unexamined applications to 608 283, the lowest level in several years despite significant increases in filings last year and this year.

At the end of FY 2011 the USPTO introduced an additional patent filing option "Track One" which prioritizes applications to reach final disposition in just 12 months. Since the program's inception through FY 2012 nearly 6 000 Track One patent applications have been received with an average pendency to final disposition of 5.8 months.

Table 2.6: USPTO PRODUCTION INFORMATION

USPTO PRODUCTION FIGURES	2011	2012	Change	% Change
<b>Applications filed</b>				
Utility (patents for invention) <sup>14</sup>	503 582	542 815	39 233	+ 7.8%
Plant	1 139	1 149	10	+ 0.9%
Reissue	1 151	1 231	80	+ 7.0%
<i>Total Utility, Plant, Reissue</i>	<i>505 872</i>	<i>545 195</i>	<i>39 323</i>	<i>+ 7.8%</i>
Design	30 467	32 799	2 332	+ 7.7%
Provisional	153 630	163 415	9 785	+ 6.4%
<b>Total</b>	<b>689 969</b>	<b>741 409</b>	<b>51 440</b>	<b>+ 7.5%</b>
<b>PCT Chapter I Searches</b>	<b>50 037</b>	<b>52 484</b>	<b>2 447</b>	<b>+ 4.9%</b>
<b>PCT Chapter II Examination</b>	<b>1 448</b>	<b>1 385</b>	<b>- 63</b>	<b>- 4.4%</b>
<b>First actions (includes utility, plant, and reissue applications)</b>	<b>579 088</b>	<b>550 363</b>	<b>- 28 725</b>	<b>- 5.0%</b>
<b>Grants (total)</b>	<b>224 505</b>	<b>253 155</b>	<b>28 650</b>	<b>+ 12.8%</b>
U.S. residents	108 622	121 026	12 404	+ 11.4%
Foreign	115 883	132 129	16 246	+ 14.0%
Japan	46 139	50 677	4 538	+ 9.8%
EPC states	32 761	38 198	5 437	+ 16.6%
R. Korea	12 262	13 233	971	+ 7.9%
P.R. China	3 174	4 637	1 463	+ 46.1%
Others	21 547	25 384	3 837	+ 17.8%
<b>Applications in appeal and interference proceedings (includes utility, plant, and reissue applications)</b>				
Ex Parte Cases Received	13 365	13 093	- 272	- 2.0%
Ex Parte Cases Disposed	7 861	7 608	- 253	- 3.2%
Inter Partes Cases Declared	73	142	69	+ 94.5%
Inter Partes Cases Disposed	54	95	41	+ 75.9%
<b>Patent Cases in Litigation (includes utility, plant, and reissue applications)</b>				
Cases filed	136	174	38	+ 27.9%
Cases disposed	111	157	46	+ 41.4%
Pending cases (end of calendar year)	197	216	19	+ 9.6%

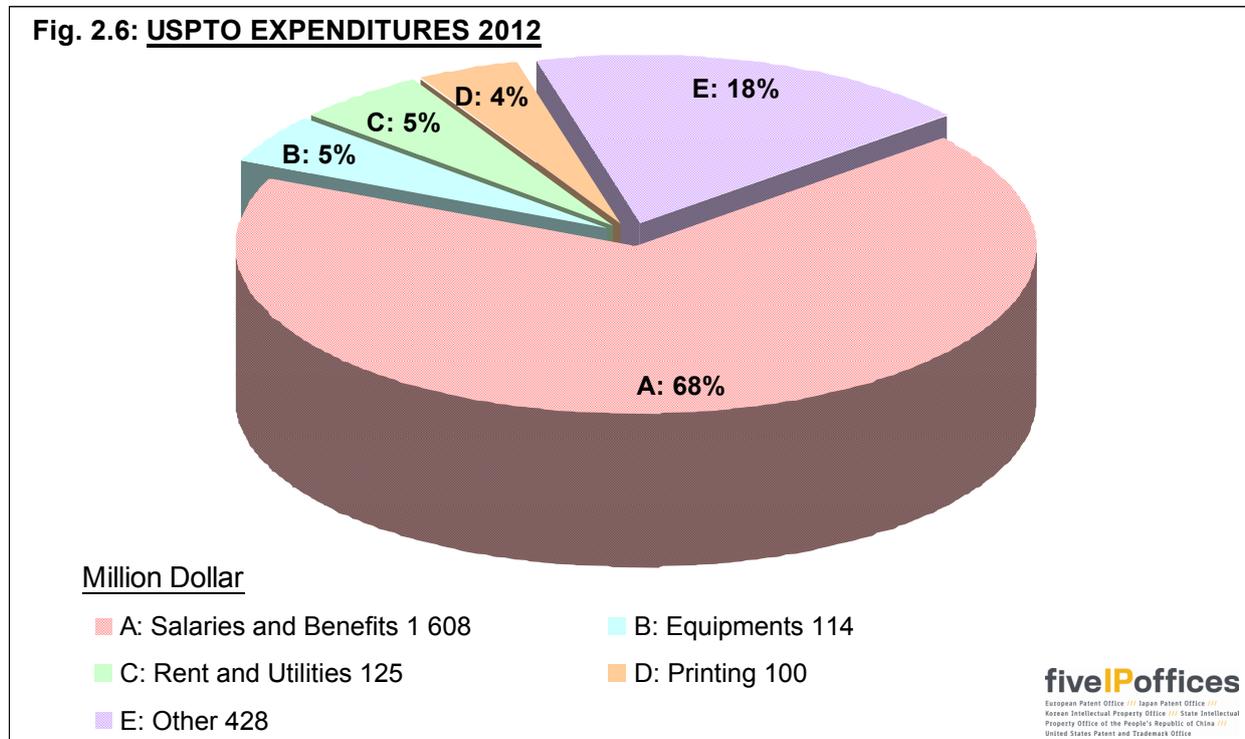
## USPTO Budget

The USPTO utilizes an activity based information methodology to allocate resources and costs that support programs and activities within each of the three strategic goals. In FY 2012, USPTO expenditures totalled \$2 374.8 million. Agency-wide, 12 percent of expenditures was allocated to IT security and associated IT costs.

<sup>14</sup> Unless otherwise noted, the USPTO statistics presented elsewhere in this report are limited to utility patent applications and grants.

Goal 1 - Optimize Patent Quality and Timeliness	\$2 112.8 million
Goal 2 - Optimize Trademark Quality and Timeliness	\$ 216.9 million
Goal 3 - Provide Domestic and Global Leadership to Improve IP Policy, Protection and Enforcement Worldwide	\$ 45.1 million

Fig. 2.6 shows USPTO expenditures by category in 2012.



A description of the items in Fig. 2.6 can be found in Annex 1.

### USPTO Staff Composition

At the end of FY 2012, the USPTO work force was composed of 11 531 federal employees. Included in this number are 7 831 Utility, Plant, and Reissue patent examiner staff and 104 Design examiners; 386 Trademark examiner attorney staff, and 3 210 managerial, administrative and technical support staff.

### More Information

Further information can be found on the USPTO's Homepage:  
[www.uspto.gov](http://www.uspto.gov)

## Chapter 3

# WORLDWIDE PATENTING ACTIVITY

Patent activity is recognised throughout the world as an indicator of innovative activity. This chapter examines worldwide patent activities in terms of patent applications and grants. The statistics mostly cover the five-year period from 2007 to 2011. The effects of the recent worldwide recession in 2009 are visible in this chapter. After a decrease in patent applications in 2009, generally attributed to the worldwide recession, the number of patent applications rebounded in 2010 and have grown further since. This suggests that the effects of the recession on the patenting activities have been limited. 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 grant. Statistics are derived primarily from the WIPO Statistics Database<sup>15</sup>, as collected from offices all over the world. Patent statistics are sometimes retrospectively updated, and where necessary and possible missing counts have been supplemented using other sources, but otherwise no estimated counts have been included to compensate for missing data. Considering that not all the offices report filing statistics on a regular basis, some of these data should be interpreted with care, especially when referring to countries outside the IP5 Blocs.

It should be noted that the number of inventions that lead to patent applications is less than the total number of applications filed. This is because the first filing with respect to an invention is usually made in one office, and often followed by applications made to many other offices within one year, each such application claiming the priority of the earlier first filing. First filings can be thus seen as an indicator of innovation and inventive activity, while foreign filings are an indicator of an intention for international trade and of globalisation.

While demand for patent protection is considered principally by counting each national, regional or international application only once, alternative representations are also given in this chapter in terms of the demand for rights, after cumulating the number of designated countries over applications within regional procedures.

In this chapter, applications are counted in terms of patent filings; first filings; patent applications entering a grant procedure; and demand for national patent rights. These counting methods are associated with separate sections within the chapter.

- "*Patent filings*" include direct national, direct regional, and international PCT applications;
- "*First filings*" include initial patent applications filed prior to any later subsequent filings to extend the protection to other countries;
- "*Patent applications entering a grant procedure*" include direct national, direct regional, national stage PCT, and regional stage PCT applications;
- "*Demand for national patent rights*" includes direct national, designated regional, national stage PCT, and designated regional stage PCT applications.

The counts of patent grants in this chapter are based on extractions from the WIPO Statistics Database. They are counted in the year that the grants are issued or published. As with the applications, alternative presentations are also given in this chapter for grants in terms of the demands for rights, after cumulating the number of designated countries over applications within regional procedures.

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<sup>15</sup> See footnote p.3.

The last part of this chapter discusses inter-bloc patent activity in terms of application flows between blocs and in terms of patent families. 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 measure for first filings than aggregated domestic national filings. IP5 Patent families are a filtered subset of patent families for which there is evidence of patenting activity in all IP5 Blocs.

## GUIDE TO FIGURES IN CHAPTER 3

Due to the complexity of the patent system, different representations of the patent filing process are made to illustrate complementary parts of the process. The following scheme can guide the reader to graphs that correspond to the different representations. This aims also at describing the terminology used throughout the Chapter 3.

- **Figs. 3.1, 3.2, 3.3 and 3.4** show the numbers of **patent filings** in terms of application forms filled out. All of the following are counted once only: Direct national, direct regional filings (filed with the EPO, EAPO, ARIPO<sup>16</sup>), and PCT international filings.
- **Figs. 3.5, 3.6 and 3.12** show the numbers of requests for patents as **patent applications** that entered a grant procedure. 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. Direct national and direct regional filings are counted once only. PCT filings are replicated over the numbers of national/regional procedures that are started.
- **Figs. 3.7, 3.8 and 3.9** show the equivalent numbers of **demands for national patent rights**. Direct national filings are counted once only. The counts for PCT applications entering national procedures are replicated over the number of countries where they enter this phase. The counts for direct regional filings and PCT regional phase filings are replicated over the number of countries designated in the applications at the time that they enter the regional procedure. This gives a representation in terms of national patenting.
- **Figs. 3.13, 3.14, 3.15** and **Table 3** show the numbers of **patent families** that are generated as the set of first filings, counted once each only, and also show the flows between blocs in terms of the first filings for which claims to priority rights were made with subsequent filings in other countries.
- Regarding grants, **Fig. 3.10** shows the numbers of **granted patents**. All grants are counted once only (in an analogous way to Figs. 3.5, 3.6 and 3.12 for applications).
- **Fig. 3.11** shows the numbers of **validated national patent grant registrations**. Direct national grants are counted once only, but counts for 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 (analogous to Figs. 3.7, 3.8 and 3.9 for applications).

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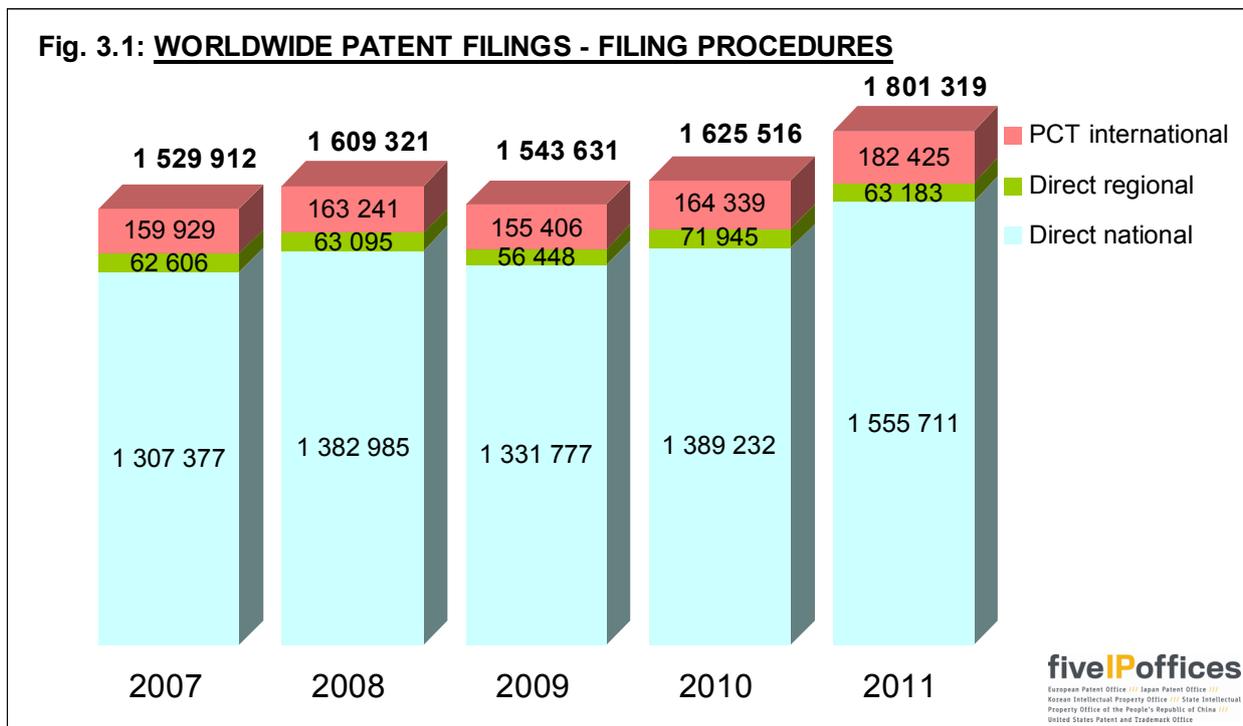
<sup>16</sup> The EAPO is the Eurasian Patent Office. The ARIPO is the African Regional Intellectual Property Office.

## PATENT FILINGS

Patent filings counted in this section include direct national, direct regional, and initial PCT applications.

This section (with Figs. 3.1, 3.2, and 3.3) shows the numbers of patent applications that were filed throughout the world. These can be filed according to the direct national, direct regional, or PCT international procedures. These applications are counted once only. The number of countries designated by regional filings and the number of countries associated with the PCT filings are not used in determining these counts. The number of applications filed represents a measure of the overall numbers of actions taken to assert IP rights around the world, although some inventions lead to filings in more than one office.

Fig. 3.1 shows the breakdown of applications filed by the three types of filing procedures.

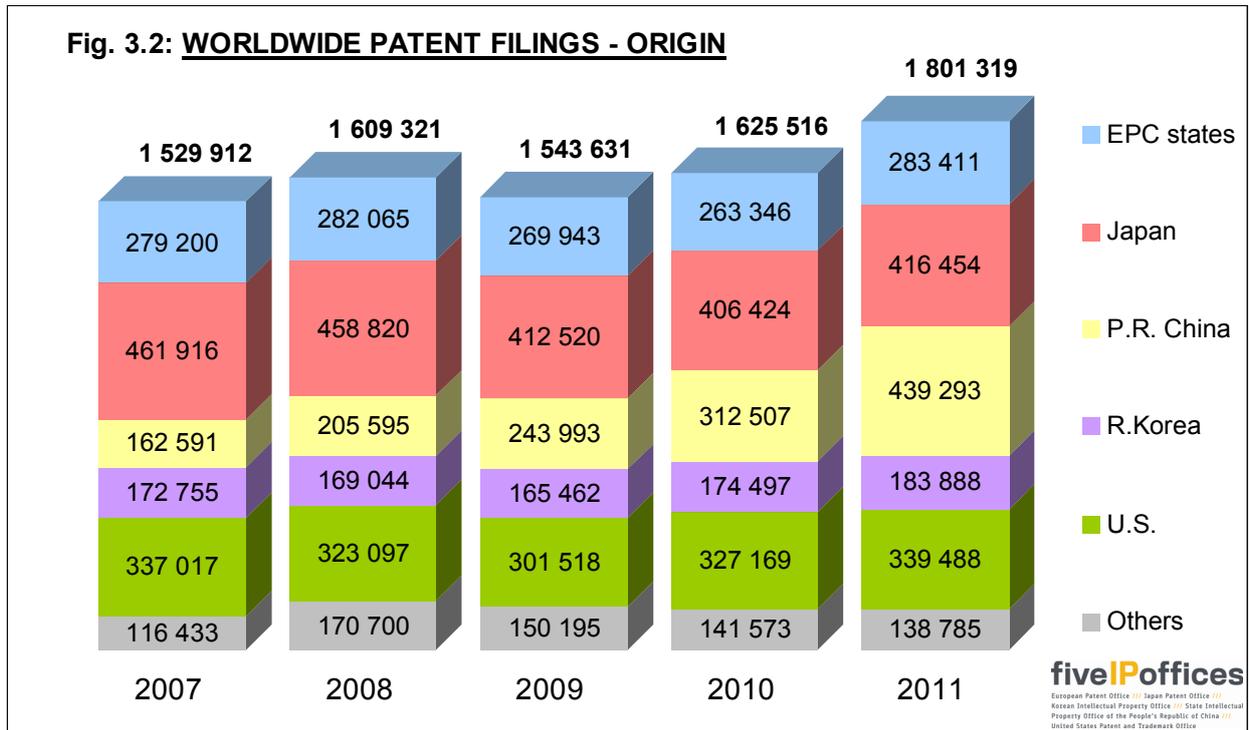


The number of patent filings in 2011 increased by 11 percent to 1.8 million.

In 2011, the number of PCT international, and direct national applications increased by 12 percent and 11 percent respectively. The decline in the number of direct regional applications by 12 percent is a consequence of an earlier temporary surge in regional direct applications in 2010 in response to a rule adjustment on filing divisional applications at the EPO. In 2011, 86 percent of the applications were filed according to direct national procedures.

Relatively speaking, the PCT system continues to make an important contribution that will be discussed later.

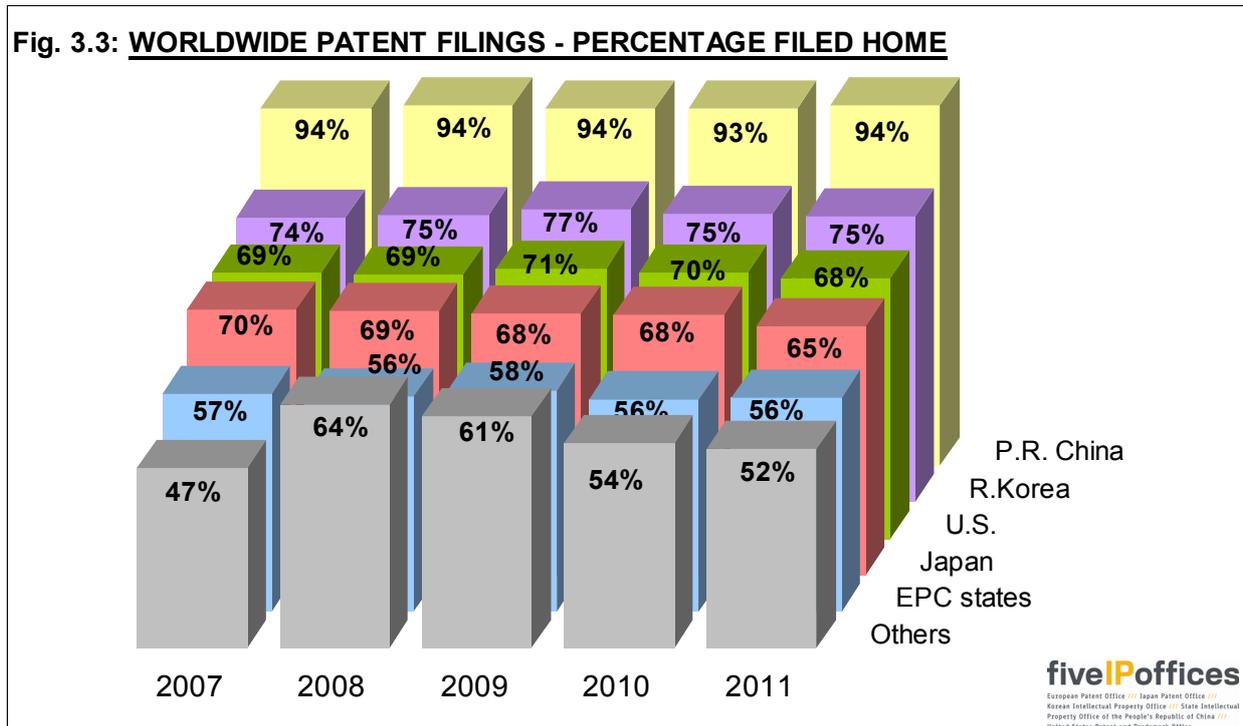
Fig.3.2 shows the breakdown of the worldwide patent filings of Fig. 3.1 by bloc of origin (residence of first-named applicants or inventors).



The IP5 Blocs were the origin of 91 percent of the patent filings overall from 2007 to 2011. The annual share grew from 89 percent in 2008 to 92 percent in 2011. The number of patent filings originating from each IP5 region increased in 2012.

Most national applications are made by residents of the countries concerned. To a large extent, applications abroad are made using regional or international procedures.

Fig. 3.3 shows the proportion of patent filings throughout the world that are filed within the home bloc of origin (residence of first-named applicants or inventors).



The proportion of patent filings made at home remains stable, except for Japan and the U.S. where it declined somewhat in 2011 compared to 2010. For the IP5 Blocs, P.R. China had the largest proportion of filings made at home in 2011 with 94 percent. The EPC states<sup>17</sup> had the lowest proportion with 56 percent in 2011.

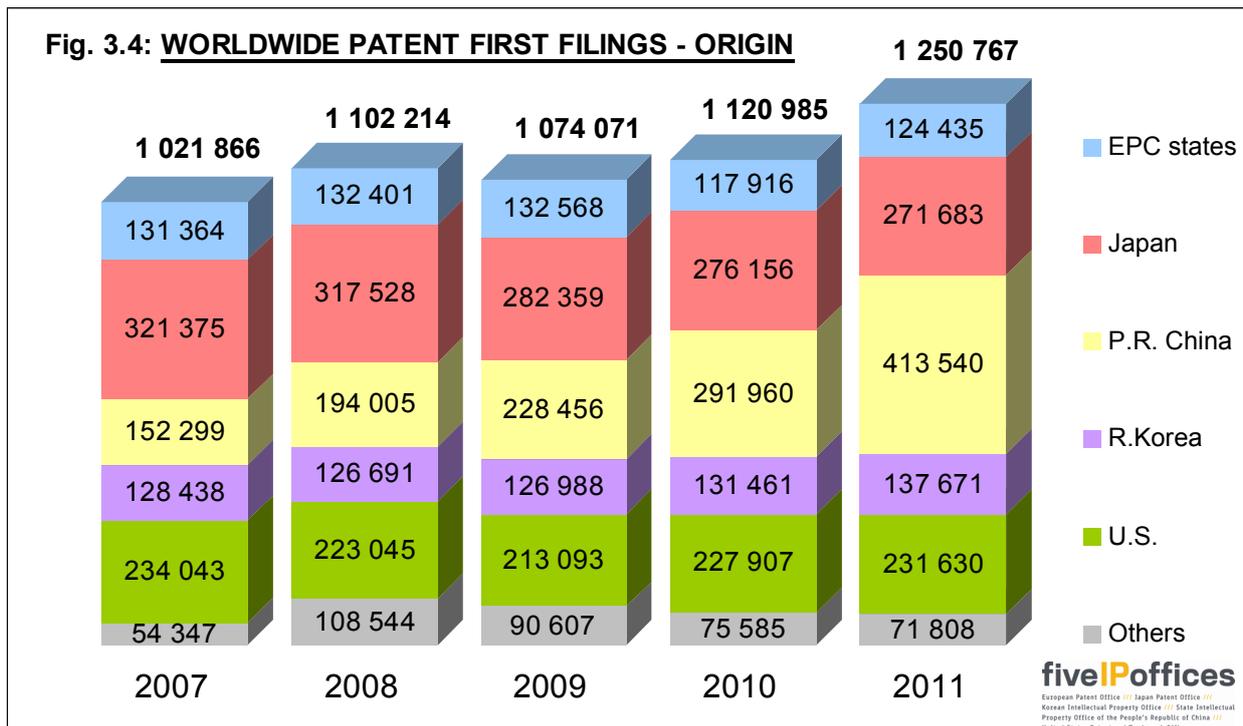
<sup>17</sup> For the purpose of reporting statistics for the EPC states considered as a bloc, an application by a resident in an EPC state to another EPC state or to the EPO is considered to be filed within the bloc of origin. See the EPO section of Chapter 2 for a listing of EPC states.

## FIRST FILINGS

Patent filings counted in this section (with Fig. 3.4) consist of initial applications. All of the following are counted once only: Direct national, direct regional filings, and PCT international filings.

The process of obtaining patent protection starts with the first filing, an initial patent application made to protect an invention or an innovation prior to any later subsequent filings to extend the protection to other countries.

Fig. 3.4 shows the development of first filings in the major filing blocs of origin (residence of first-named applicants or inventors).



P.R. China recorded 413 540 first filings in 2011, the highest number of first filings by any bloc within the IP5 area. This was an increase of 42 percent compared to 2010 number. There were also increases in first filings from the EPC states, the U.S. and R. Korea of 6 percent, 2 percent and 5 percent respectively in 2011, while Japan had a decrease of 2 percent. Overall, first filings increased by 12 percent between 2010 and 2011.

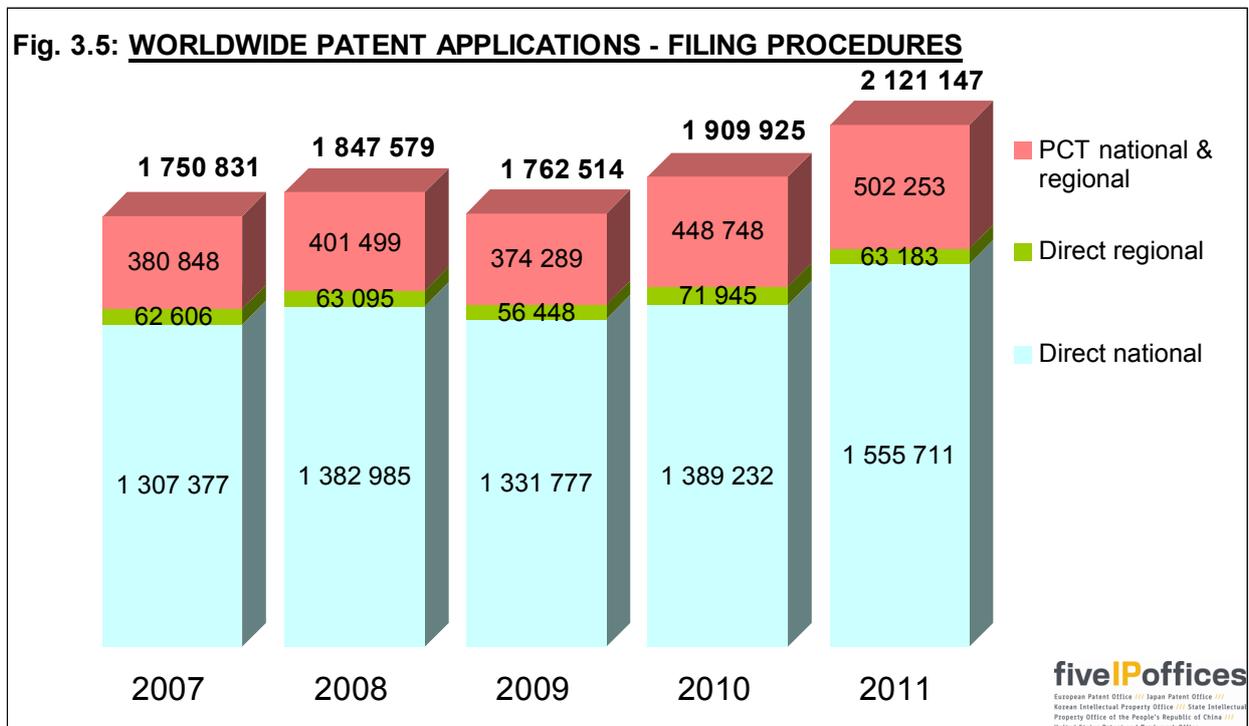
Comparison of Figs. 3.2 and 3.4 demonstrates that there are considerable numbers of subsequent filings, where the first filing for an invention at one office leads on to further filings.

## PATENT APPLICATIONS ENTERING GRANT PROCEDURES

Patent applications counted in this section include direct national, direct regional, national stage PCT, and regional stage PCT applications.

This section (with Figs. 3.5 and 3.6) describes the development of the number of requests for patents that entered a grant procedure. Note that direct national and direct regional applications enter a grant procedure when filed, while in the case of PCT applications, the grant procedure is delayed to the end of the international phase. In the following figures, the PCT application numbers count the applications that entered a national/regional stage in the corresponding year. This leads to higher numbers than in the previous section, 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 U.S. PCT national phase entry, and an Australian PCT national phase entry, thus producing three PCT national/regional entry phase applications.

Fig. 3.5 shows the development of worldwide patent applications by filing procedure.

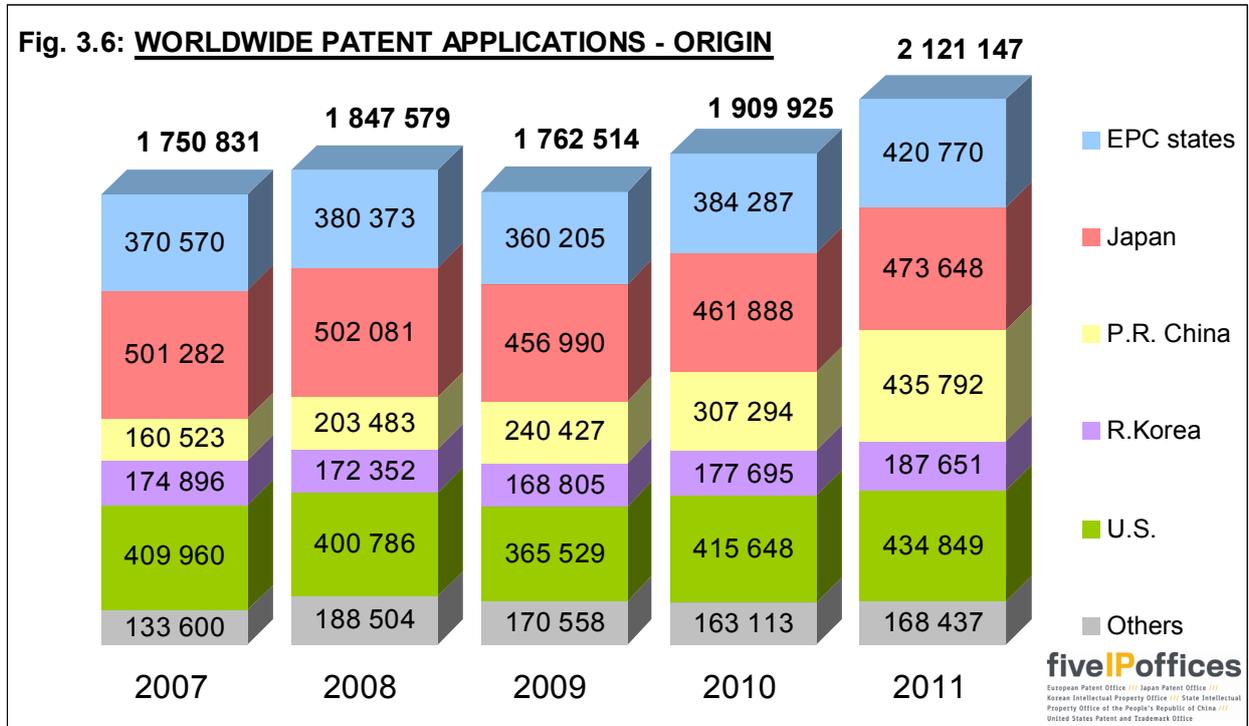


In 2011, more than 2.1 million patent applications were filed worldwide. This represented an 11 percent increase compared to 2010.

While the number of direct regional applications decreased in 2011 as a consequence of a change in regulations at the EPO<sup>18</sup>, both the numbers of direct national and of PCT national/regional applications increased further by 12 percent.

<sup>18</sup> See page 29 for an explanation.

Fig. 3.6 shows the origin (residence of first-named applicants or inventors) of the worldwide patent applications of Fig. 3.5 entering a national or regional granting procedure.



The number of patent applications increased for each of the IP5 Blocs in 2011, with Japan remaining the region from which the largest share of applications originate. The largest percentage increase in applications by origin in 2011 came from P.R. China (42 percent).

These data should be interpreted with caution as the origins of the PCT applications entering national procedures are not reported in detail by all offices outside the IP5.

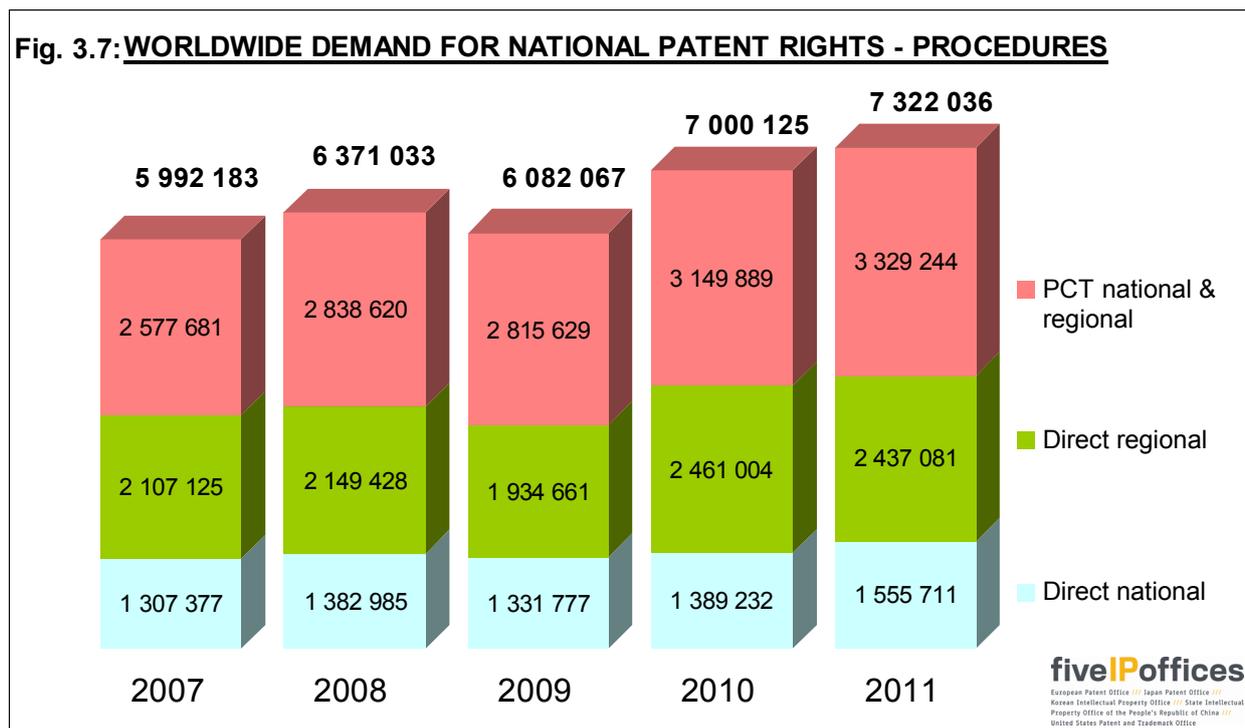
## DEMANDS FOR NATIONAL PATENT RIGHTS

Patent applications counted in this section (with Figs. 3.7, 3.8 and 3.9) include direct national and national stage PCT applications, and designated countries in regional and in regional stage PCT applications.

With an increasing use of international and regional systems, and also the increasing number of countries joining such systems, the number of applications filed corresponds to a far larger number of demands for national patent rights. This cumulates the number of designated countries over applications. It effectively measures the number of national patent applications that would have been necessary to seek patent protection in the same number of countries if there were no international or regional systems.

The direct national applications have effect in one country only, as does any PCT application entering one national phase procedure. But direct regional applications and PCT applications entering in a regional system are demands for almost each and every individual member country. So, demand counts for regional offices are expanded to the numbers of countries covered by regional systems<sup>19</sup>.

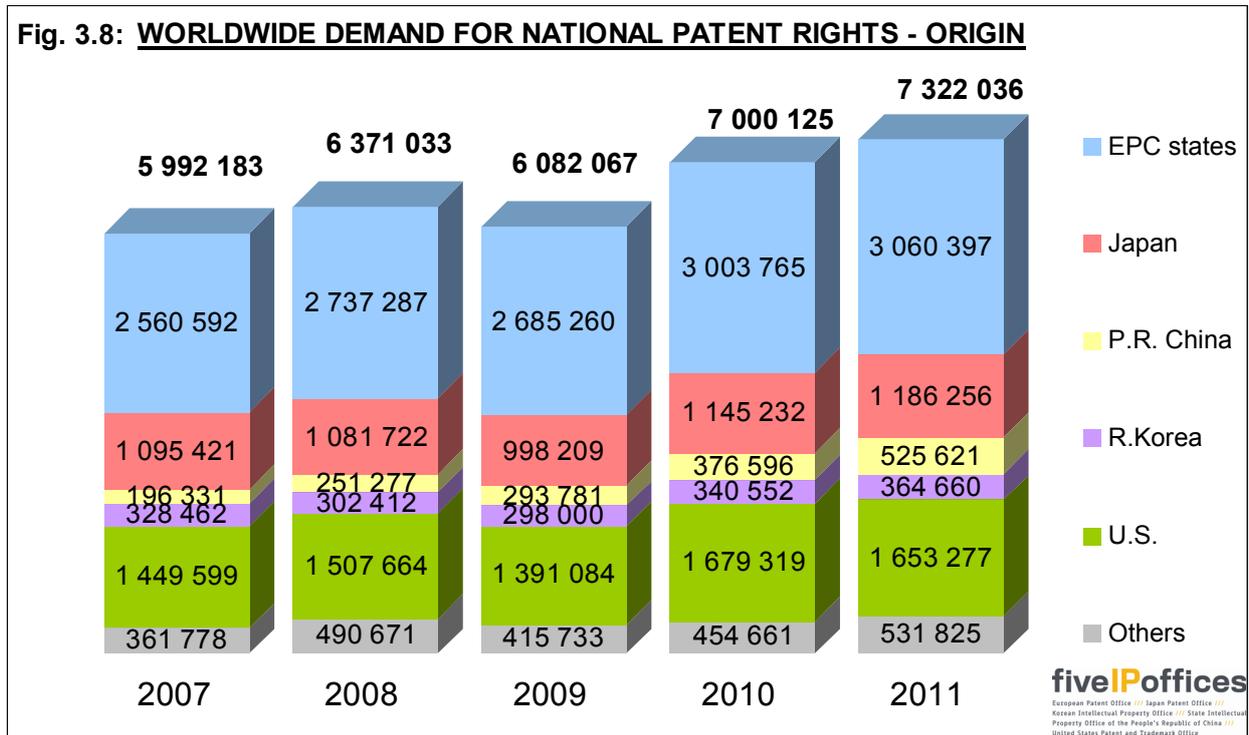
Fig. 3.7 shows the development of demand for national patent rights broken down by filing procedures.



The demand for patent rights measured in terms of equivalent national patent rights increased by 4.6 percent from 2010 to 2011. In addition to the growing number of patent filings, the ongoing growth shown on Fig 3.7 illustrates the effect of the centralised procedures (regional and international) to help users of the system to expand their patent protection without needing to make separate applications to every country of interest.

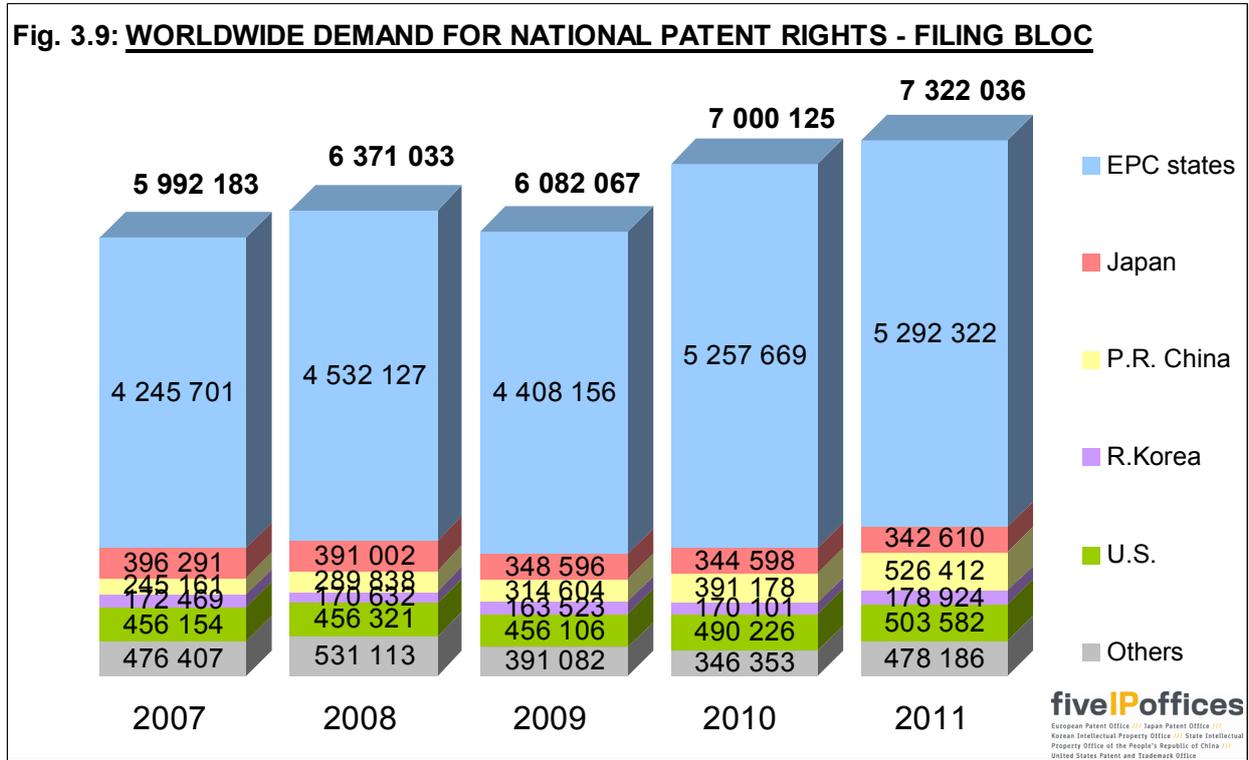
<sup>19</sup> At the end of 2011, 80 states were party to a regional patent system, EPC 38, EAPC 9, ARIPO 17, Organisation Africaine de la Propriété Intellectuelle (OAPI) 16. This compares to 71 states at the beginning of 2007. Also at the end of 2011, 144 states were party to the PCT, compared to 136 states at the beginning of 2007.

Fig. 3.8 shows the trend for the demand of national patent rights by blocs of origin (residence of first-named applicants or inventors) and is based on the same data as Fig. 3.7.



From 2010 to 2011, the demand for patent rights increased from all blocs except from the U.S. The large share of the EPC states reflects, among other factors, the intensive use of the international and regional systems there.

Fig. 3.9 shows the distribution of the demand for national patent rights according to the filing or targeted blocs and is related to the data in Fig. 3.7 and Fig. 3.8.

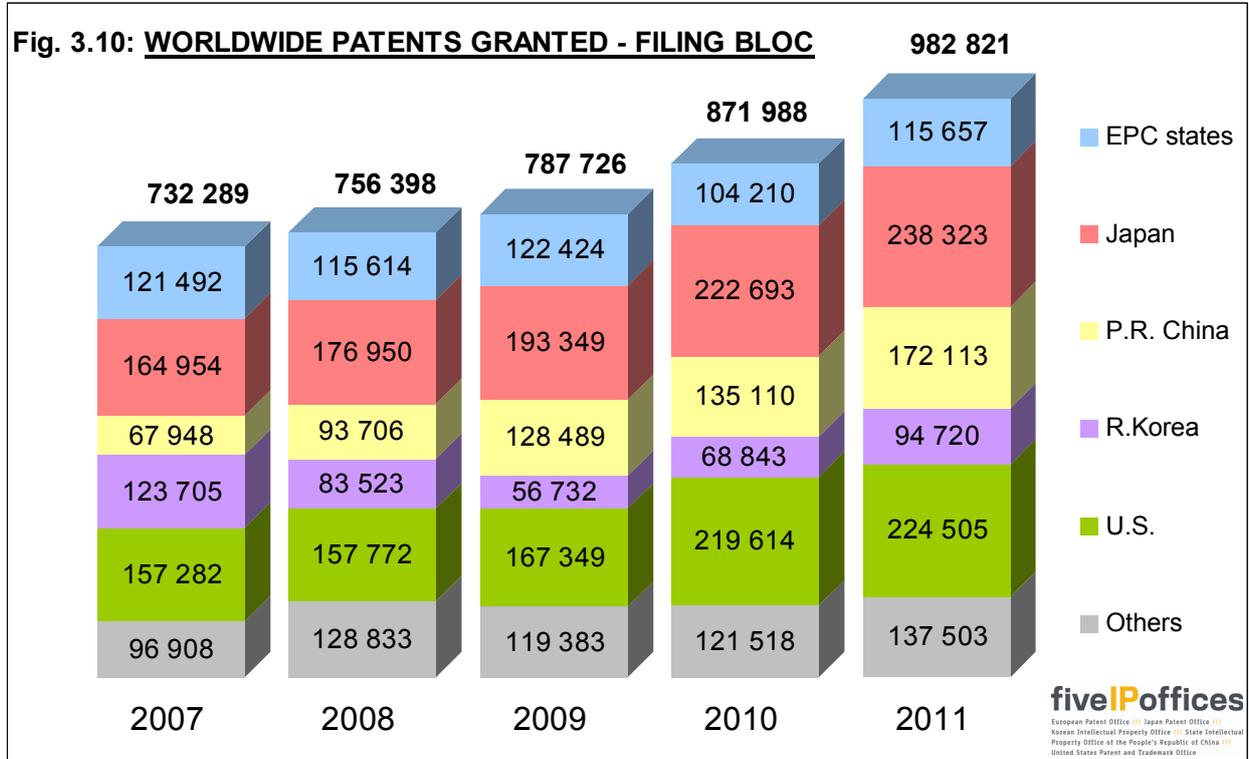


This chart demonstrates the influence of regional patent systems on global demand for patents. In 2011, the demand for national patent rights increased in the EPC states, P.R. China, R. Korea, and the U.S., while decreasing marginally in Japan. Demand in P.R. China and Others had the largest increases at 35 percent and 38 percent respectively.

## PATENT GRANTS

The development of the use of patent systems is shown in this section in terms of grants.

Fig. 3.10 displays the cumulative numbers of patents granted in each of the blocs.



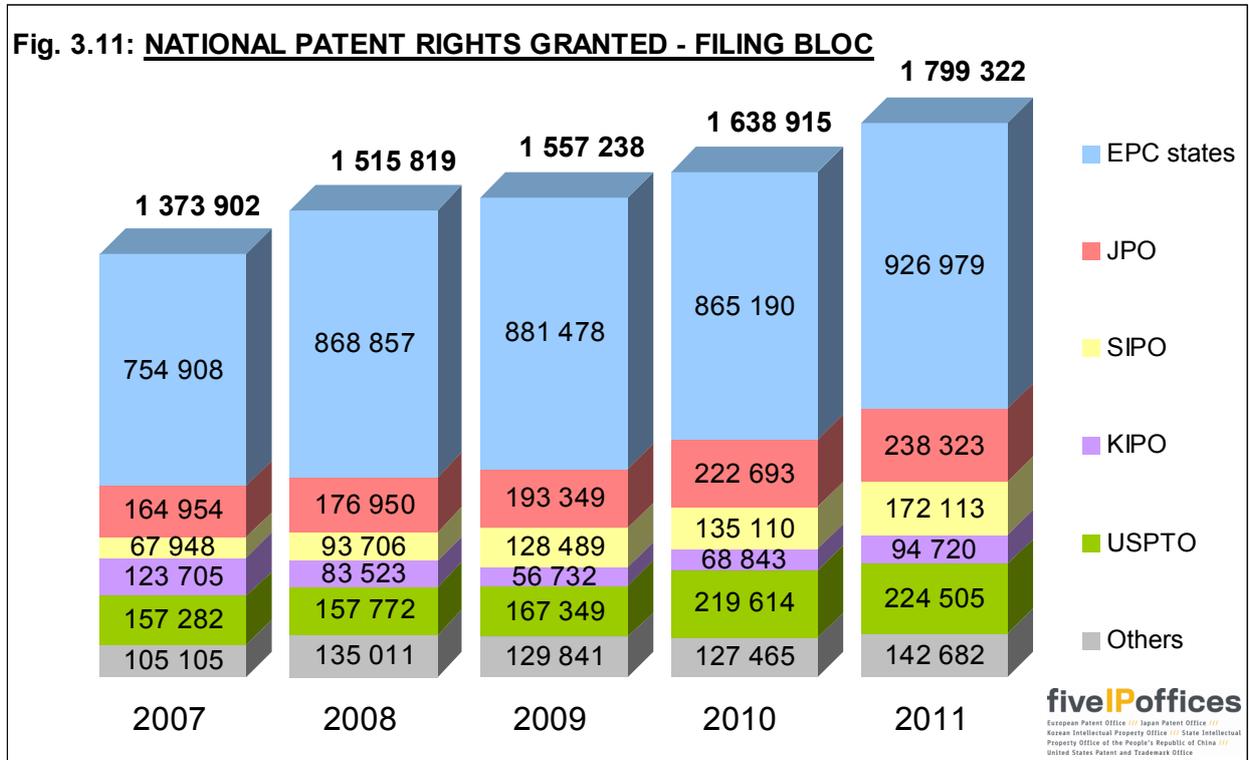
The total number of patents granted in the world increased by 13 percent in 2011. The number of grants increased in each bloc, although with different rates of growth.

The data for Others should only be compared between years with caution. The changes from year to year may reflect changes in the number of grants as well as different numbers of countries reporting their count of grants.

Patent grants are counted once only per office, although the same invention may lead to grants at several offices. However, each grant action by a regional office (e.g. the EPO) can lead to as many national patents as the number of member states that have been designated<sup>20</sup>. This has an effect only in EPC states and Others, as shown in the following Fig. 3.11.

<sup>20</sup> National patents can also be created in other states that have extension agreements with the EPC.

Fig. 3.11 illustrates the development of the validated national grants resulting from the decisions reported in Fig. 3.10. Direct national grants are counted once only, but counts for 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 obtained in each bloc.



Almost 1.8 million patent rights were granted in 2011, which represents a 10 percent increase compared to 2010.

The fact that the EPC states bloc is made up of many countries, with an option for a centralised grant procedure at the EPO, explains why the number of patent rights granted there in Fig. 3.11 is much larger than the number of grant actions shown in Fig. 3.10.

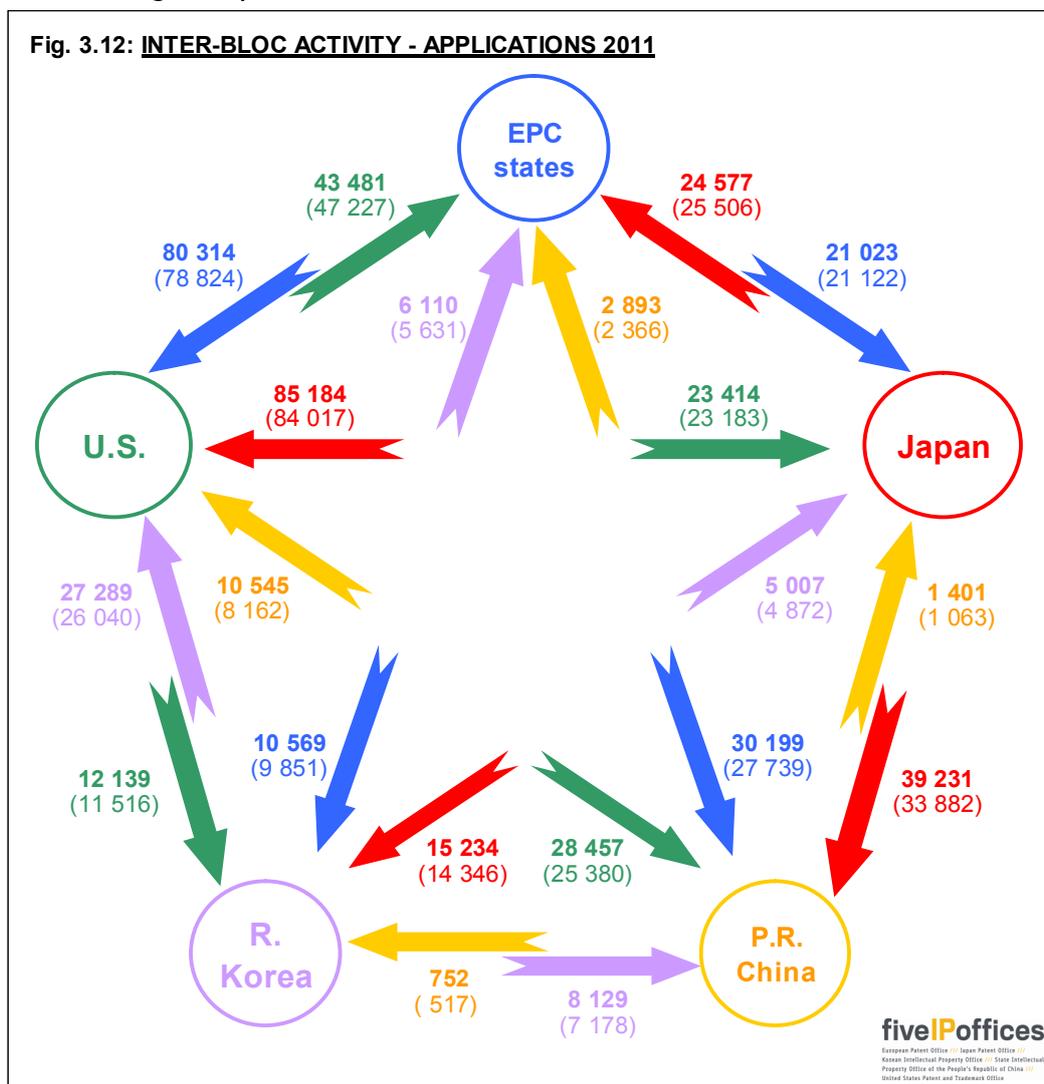
## INTER-BLOC ACTIVITY

In this section, the flows between the different blocs and especially the IP5 Blocs are analysed first in terms of applications and then in terms of patent families.

### FLOWS OF APPLICATIONS

Fig. 3.12 shows the flows, between IP5 Blocs by origin (residence of first-named applicant or inventor), of distinct patent applications entering a grant procedure (as in Fig. 3.5) in 2011, with 2010 figures given in parentheses.

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. Direct national and direct regional filings are counted once only. PCT filings are replicated over the numbers of national/regional procedures that are started.



As a general pattern, applicants worldwide filed many more applications in the U.S. than in any of the other IP5 Blocs. U.S. applicants applied more in the EPC states than in any of the other regions.

In 2011, flows from Japan and the U.S. to the EPC states declined as well as the flow from the EPC states to Japan. All other flows between blocs increased compared to 2010.

## PATENT FAMILIES

A patent family is a group of patent filings that claim the priority of a single first filing.

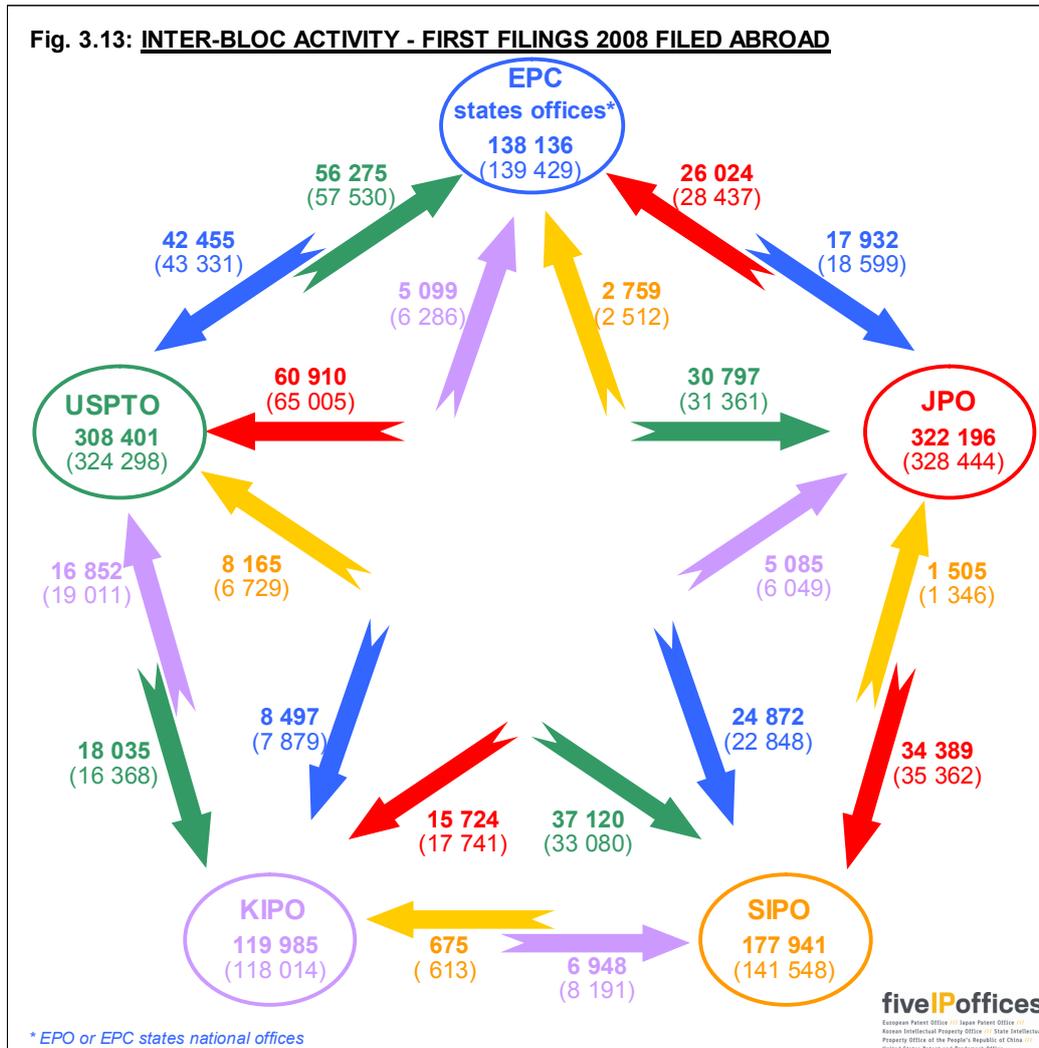
The information in this section on flows between blocs of patent families was obtained from the DOCument DataBase (DOCDB)<sup>21</sup> of worldwide patent publications. The statistics are based on the references to priorities that were given in published applications and grants. Where no reference to a priority appears in an application, it is considered to be a first filing. Otherwise it is a subsequent filing. This differs to some extent from other statistics in this chapter that are based on counts of filed patent applications provided by individual patent offices, where domestic applications are used as a proxy for first filings. Here, the number of applications is counted based on the bloc of origin for which priority was claimed. Due to the delay in publication (relative to the time of filing), patent families counts can only be reported with any degree of accuracy after several years have passed. It should be noted that the definition of a patent family has changed slightly from previous reports, in that groups that consist entirely of utility model filings only are now excluded<sup>22</sup>.

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<sup>21</sup> DOCDB is the EPO master documentation database with worldwide coverage containing bibliographic data, abstracts and citations (but no full text).

<sup>22</sup> See Chapter 6 for a description and statistics on utility models.

Fig. 3.13 shows the flows of patent families from first filings (at the patent offices of the specified IP5 Bloc) to subsequent filings among the IP5, with application counts based on the bloc of the patent office from which the claimed priority was filed. The number given for each bloc is the total number of first filings in 2008, now including utility models only where they are quoted as priorities by other filings that were for patents for invention. The flow figures between blocs of origin and target blocs indicate the numbers of 2008 first filings from the bloc of origin that led to subsequent filings in the target bloc. The comparable figures for 2007 are given in parentheses.



The following Table 3 shows details of flows of patent families between blocs for the priority years 2007 and 2008. Each percentage under a number translates this number into a proportion of the number of first filings made in the initial filing bloc where the priority filings were made.

Even though the numbers for IP5 patent families after 2007 may not yet be complete, because more time is needed to gather all evidence of subsequent filing activity from first filings in later years, the numbers for 2008 in Fig. 3.13 and the corresponding numbers in the lower part of Table 3 are nevertheless fairly complete.

**Table 3: NUMBERS OF PATENT FAMILIES<sup>23</sup>**

Year of priority: 2007

Origin of the priority	First filings in bloc of origin	Number of priority claims in subsequent filings in								IP5 patent families
		Any other bloc	Any other IP5 bloc	EPC States	Japan	P.R. China	R. Korea	U.S.	Others	
EPC States (N.O., EPO)	139 429	49 275 35.3%	47 271 33.9%		18 599 13.3%	22 848 16.4%	7 879 5.7%	43 331 31.1%	18 865 13.5%	5 516 4.0%
Japan (JPO)	328 444	74 348 22.6%	72 790 22.2%	28 437 8.7%		35 362 10.8%	17 741 5.4%	65 005 19.8%	16 396 5.0%	7 765 2.4%
P.R. China (SIPO)	141 548	7 691 5.4%	7 542 5.3%	2 512 1.8%	1 346 1.0%		613 0.4%	6 729 4.8%	803 0.6%	337 0.2%
R. Korea (KIPO)	118 014	21 082 17.9%	20 897 17.7%	6 286 5.3%	6 049 5.1%	8 191 6.9%		19 011 16.1%	2 986 2.5%	2 282 1.9%
U.S. (USPTO)	324 298	77 326 23.8%	67 154 20.7%	57 530 17.7%	31 361 9.7%	33 080 10.2%	16 368 5.0%		45 525 14.0%	9 820 3.0%
<b>IP5 blocs</b>	<b>1 051 733</b>	<b>229 722</b> 21.8%	<b>215 654</b> 20.5%	<b>94 765</b> 9.0%	<b>57 355</b> 5.5%	<b>99 481</b> 9.5%	<b>42 601</b> 4.1%	<b>134 076</b> 12.7%	<b>84 575</b> 8.0%	<b>25 720</b> 2.4%
Others	79 261	14 943 18.9%	15 144 19.1%	3 947 5.0%	2 269 2.9%	1 658 2.1%	893 1.1%	13 919 17.6%		324 0.4%
<b>Total</b>	<b>1 130 994</b>	<b>244 665</b> 21.6%	<b>230 798</b> 20.4%	<b>98 712</b> 8.7%	<b>59 624</b> 5.3%	<b>101 139</b> 8.9%	<b>43 494</b> 3.8%	<b>147 995</b> 13.1%	<b>84 575</b> 7.5%	<b>26 044</b> 2.3%

Year of priority: 2008

Year of priority: 2008

Origin of the priority	First filings in bloc of origin	Number of priority claims in subsequent filings in								IP5 patent families
		Any other bloc	Any other IP5 bloc	EPC States	Japan	P.R. China	R. Korea	U.S.	Others	
EPC States (N.O., EPO)	138 136	48 211 34.9%	46 639 33.8%		17 932 13.0%	24 872 18.0%	8 497 6.2%	42 455 30.7%	18 180 13.2%	6 277 4.5%
Japan (JPO)	322 196	70 317 21.8%	69 066 21.4%	26 024 8.1%		34 389 10.7%	15 724 4.9%	60 910 18.9%	14 527 4.5%	7 453 2.3%
P.R. China (SIPO)	177 941	9 036 5.1%	8 927 5.0%	2 759 1.6%	1 505 0.8%		675 0.4%	8 165 4.6%	821 0.5%	361 0.20%
R. Korea (KIPO)	119 985	18 790 15.7%	18 635 15.5%	5 099 4.2%	5 085 4.2%	6 948 5.8%		16 852 14.0%	2 412 2.0%	2 014 1.7%
U.S. (USPTO)	308 401	74 771 24.2%	66 118 21.4%	56 275 18.2%	30 797 10.0%	37 120 12.0%	18 035 5.8%		43 597 14.1%	12 065 3.9%
<b>IP5 blocs</b>	<b>1 066 659</b>	<b>221 125</b> 20.7%	<b>209 385</b> 19.6%	<b>90 157</b> 8.5%	<b>55 319</b> 5.2%	<b>103 329</b> 9.7%	<b>42 931</b> 4.0%	<b>128 382</b> 12.0%	<b>79 537</b> 7.5%	<b>28 170</b> 2.6%
Others	80 487	15 598 19.4%	15 827 19.7%	4 115 5.1%	2 010 2.5%	1 852 2.3%	880 1.1%	14 597 18.1%		381 0.5%
<b>Total</b>	<b>1 147 146</b>	<b>236 723</b> 20.6%	<b>225 212</b> 19.6%	<b>94 272</b> 8.2%	<b>57 329</b> 5.0%	<b>105 181</b> 9.2%	<b>43 811</b> 3.8%	<b>142 979</b> 12.5%	<b>79 537</b> 6.9%	<b>28 551</b> 2.5%

Source: EPO DOCDB Database

From information in Table 3, out of all first filings in the IP5 Blocs in 2007 (1 051 733), 20.5 percent formed patent families that included at least one of the remaining IP5 Blocs (215 654). Proceeding to a higher degree of selectivity, only 2.4 percent of all first filings in the IP5 Blocs in 2007 formed “IP5 patent families”, where activities of first and/or subsequent filings were made in all the IP5 Blocs.

<sup>23</sup> For the U.S. (USPTO), the numbers of first filings here includes U.S. provisional applications, while they are excluded in Fig. 3.4.

The proportions of IP5 patent families differed considerably according to the bloc of origin of the priority filings (EPC states 4.0 percent, U.S. 3.0 percent, Japan 2.4 percent, R. Korea 1.9 percent, P.R. China 0.2 percent and for Others 0.4 percent).

Fig. 3.14 presents a separate diagram for each IP5 Bloc to display the percentages of first filings in that Bloc that led to subsequent filings in each of the other IP5 Blocs. The diagrams show graphical displays of 2007 patent family data that are also presented in Table 3. Four coloured circles appear in each diagram with each circle representing the percentage of subsequent filings in an IP5 Bloc resulting from the number of first filings in the bloc of origin. Areas where the circles overlap correspond to subsequent filings in more than one other IP5 Bloc. Recall that, in the case of the EPC states the activities at national offices are included as well as the EPO.

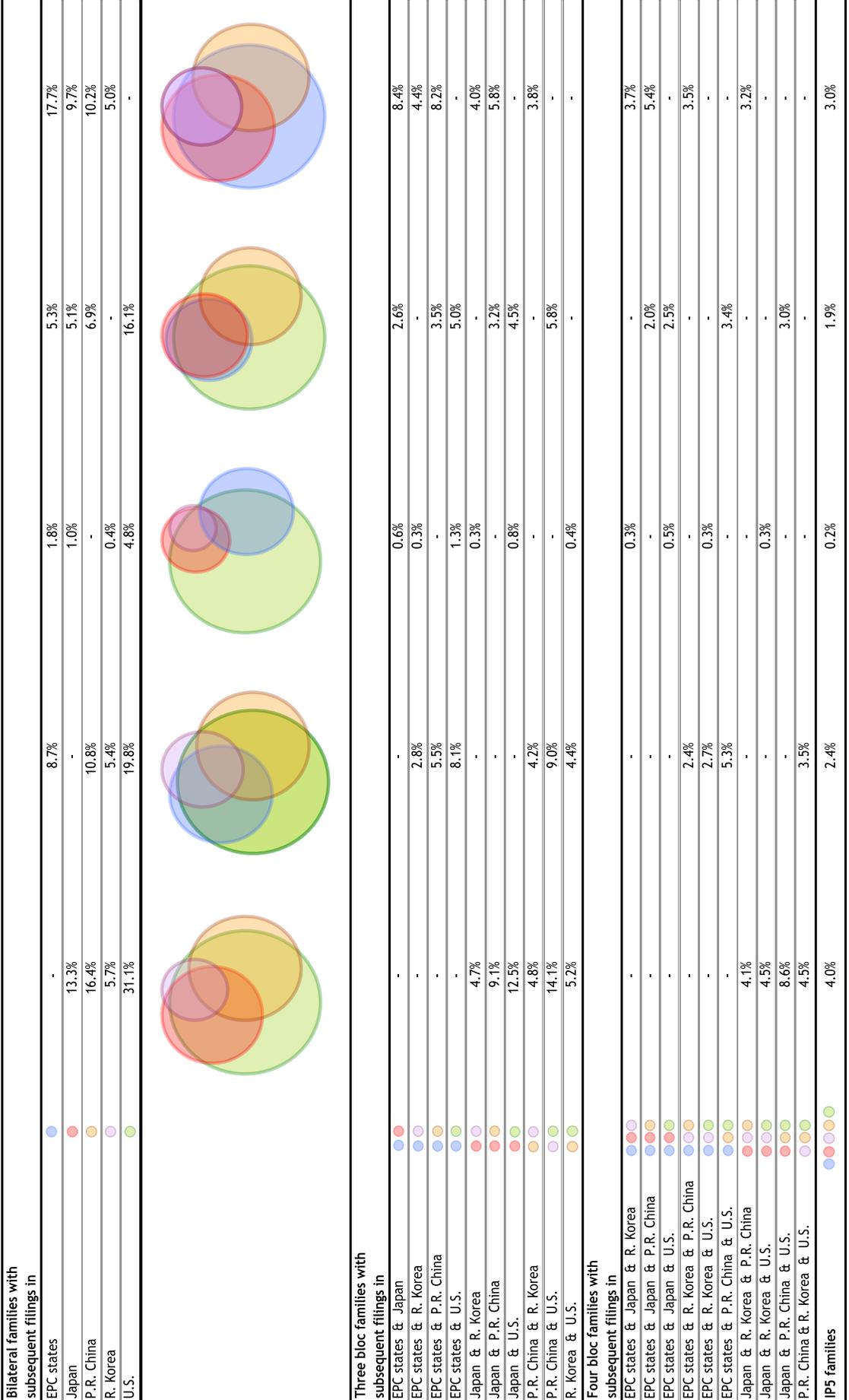
Above each diagram appears first the total number of first filings that were received in each of the IP5 Blocs in 2007. Then the proportions of those first filings that led on to subsequent filings in each other bloc are shown.

Underneath the coloured diagrams, the percentages next to the bloc combinations show subsidiary percentages of subsequent filings that flowed to more than one other IP5 Bloc. These proportions also appear in the upper part of Table 3.

For instance, patent families from first filings in EPC member states that were subsequently filed in the P.R. China and the U.S. blocs are indicated in the graphical display by the area where the green and yellow circles overlap in the first diagram. The corresponding percentage is 14.1 percent, as shown next to the pair of yellow and green dots that appear lower down in the figure. The non-overlapping areas of the graphical displays are representative of the percentage or number of patent families that were not subsequently filed in any of the other IP5 Blocs. For instance, for first filings in EPC states, the small non-overlapping area of the P.R. China circle indicates that only a small percentage and number of the patent families from EPC states were filed in P.R. China without also being filed in at least one of the other IP5 Blocs, as well.

The very last combinations down the table correspond to the proportion of IP5 Patent families.

Fig. 3.14: 2007 PATENT FAMILIES - PERCENTAGES OF FIRST FILINGS WITH SUBSEQUENT FILINGS IN OTHER IP5 BLOC:



\* EPO or EPC states national offices

From figure 3.14 and Table 3, the 2007 data indicate that the U.S. market may be considered as the most important foreign market for the other IP5 Blocs since, for each of those blocs, subsequent applications in the U.S. represent the highest percentages among target blocs. The percentages of subsequent applications filed in the U.S. following 2007 first filings in the EPC member states, Japan, P.R. China and R. Korea are 31.1 percent, 19.8 percent, 4.8 percent and 16.1 percent, respectively.

For first filings in the EPC member states, the largest percentage of subsequent filings is directed to the U.S. (31.1 percent). In general, first filings in the EPC member states tend to result in a higher percentage of subsequent filings elsewhere, as compared to the first filings in other IP5 Blocs as seen in Fig. 3.14 and the first data row of Table 3.

For the first filings in Japan, the largest percentage of subsequent applications is directed to the U.S. (19.8 percent).

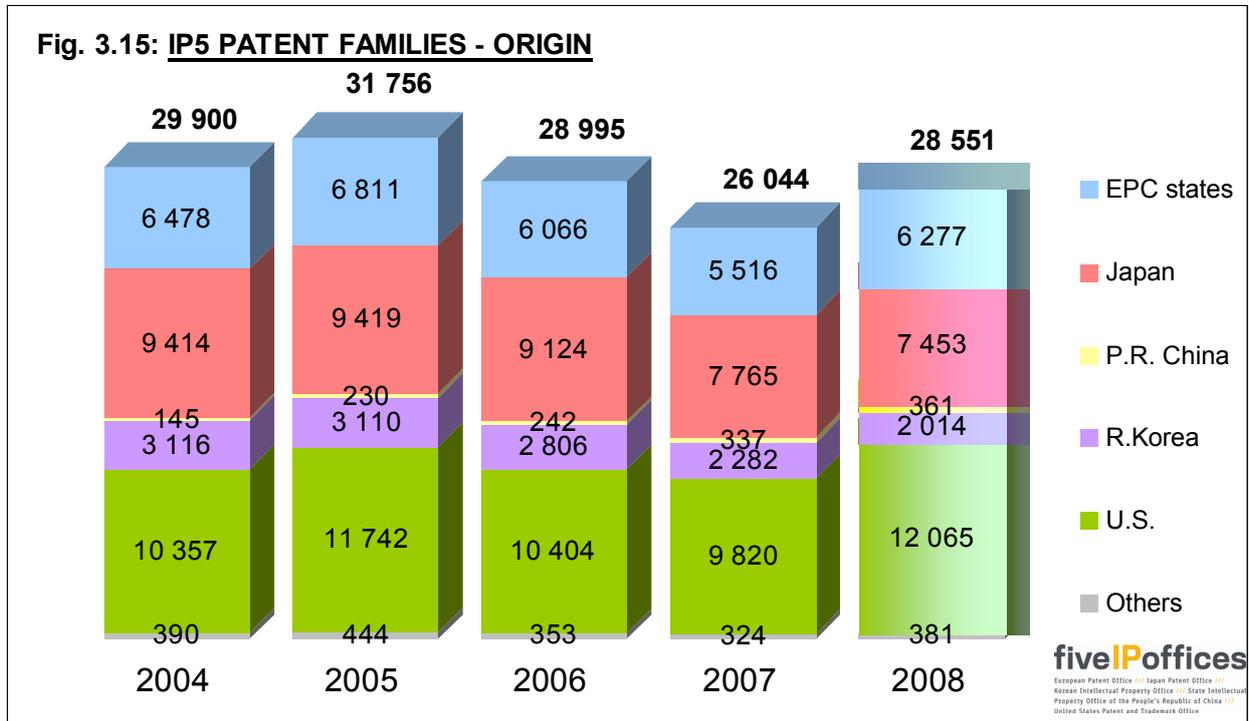
For the first filings in P.R. China, the percentage of subsequent applications filed in the U.S. (4.8 percent) is the largest. The percentage that were filed in both the EPC member states and Japan is about 0.6 percent. The percentage of subsequent applications that were filed in the EPC member states, Japan, and the U.S. is about 0.5 percent, indicating that many of the subsequent applications filed in both the EPC and Japan have also been filed in the U.S. Despite the low proportions of first filings in P.R. China that led to subsequent applications anywhere else, rapidly growing numbers of first filings have resulted in continued growth of the absolute numbers of patent families flowing out to other IP5 Blocs, as can be seen by comparing the 2007 and the preliminary 2008 data displayed in Table 3 (8 927 compared to 7 542).

For the first filings in R. Korea, the percentage of subsequent applications filed in the U.S. (16.1 percent) is the largest, followed by P.R. China (6.9 percent). In addition, the percentage of subsequent applications filed in the EPC member states is 5.3 percent. This last percentage is close to the percentage of subsequent applications filed in both the EPC member states and the U.S. together (5.0 percent), indicating that most of the subsequent applications filed in the EPC member states have been also filed in the U.S.

Among the first filings in the U.S., the percentage of subsequent applications filed is highest in the EPC member states (17.7 percent). The percentage of subsequent applications filed in P.R. China (10.2 percent) is the next highest, although Japan is not far behind at 9.7 percent.

Regarding activity in an IP5 Bloc that resulted from first filings in other IP5 Blocs, the percentage of first filings leading to IP5 families is slightly growing for all IP5 Blocs in particular for the EPC States and the U.S., as is demonstrated by comparing 2007 and 2008 data in Table 3.

Fig. 3.15 shows the development over time of IP5 patent families by bloc of origin (residence of first-named applicants or inventors) of the priority forming filings. To indicate that the figures for 2008 are still provisional, the last column is partially shaded.



The total number of IP5 patent families in 2008 was 28 551, of which 42 percent were from the U.S., 26 percent were from Japan, 22 percent were from the EPC states, 7 percent were from R. Korea, 1 percent were from P.R. China, and 1 percent were from Others. This number will probably increase when the data set for 2008 becomes complete a little later on.

The number of IP5 families went down in 2006 and 2007 and increased again in 2008, especially from the U.S.

## Chapter 4

# PATENT ACTIVITY AT THE IP5 OFFICES

This chapter presents trends in patent application filings and grants at the IP5 Offices only. While in Chapter 3 the latest data were for 2011, most of the information that appears here includes data available on a more up-to-date basis and covers also 2012. Regarding Europe, statistics in this chapter are for the EPO only. Whereas the EPO is indicated from the viewpoint of an office, the EPC states are still indicated as a bloc of origin.

The activities at the IP5 Offices are demonstrated by counts of the patent applications that were filed. The statistics give insight into the work that is requested and carried out at the IP5 Offices. For patent applications, the representations are analogous to those appearing in Chapter 3 (Figs. 3.5, 3.6 and 3.12) which show the numbers of requests for patents as they entered a grant procedure<sup>24</sup>. 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. 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.

The demand at the EPO is given in terms of applications rather than in terms of designations. Also, it should be noted that part of the demand for patents in the EPC states is processed through the national offices and is not considered in this chapter.

For granted patents, the statistics combine information by office and bloc of origin, displaying comparisons by year of grant. The representations here are similar to those for Fig. 3.10, where granted patents are counted once only, except that, for EPC 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 IP5 Offices.

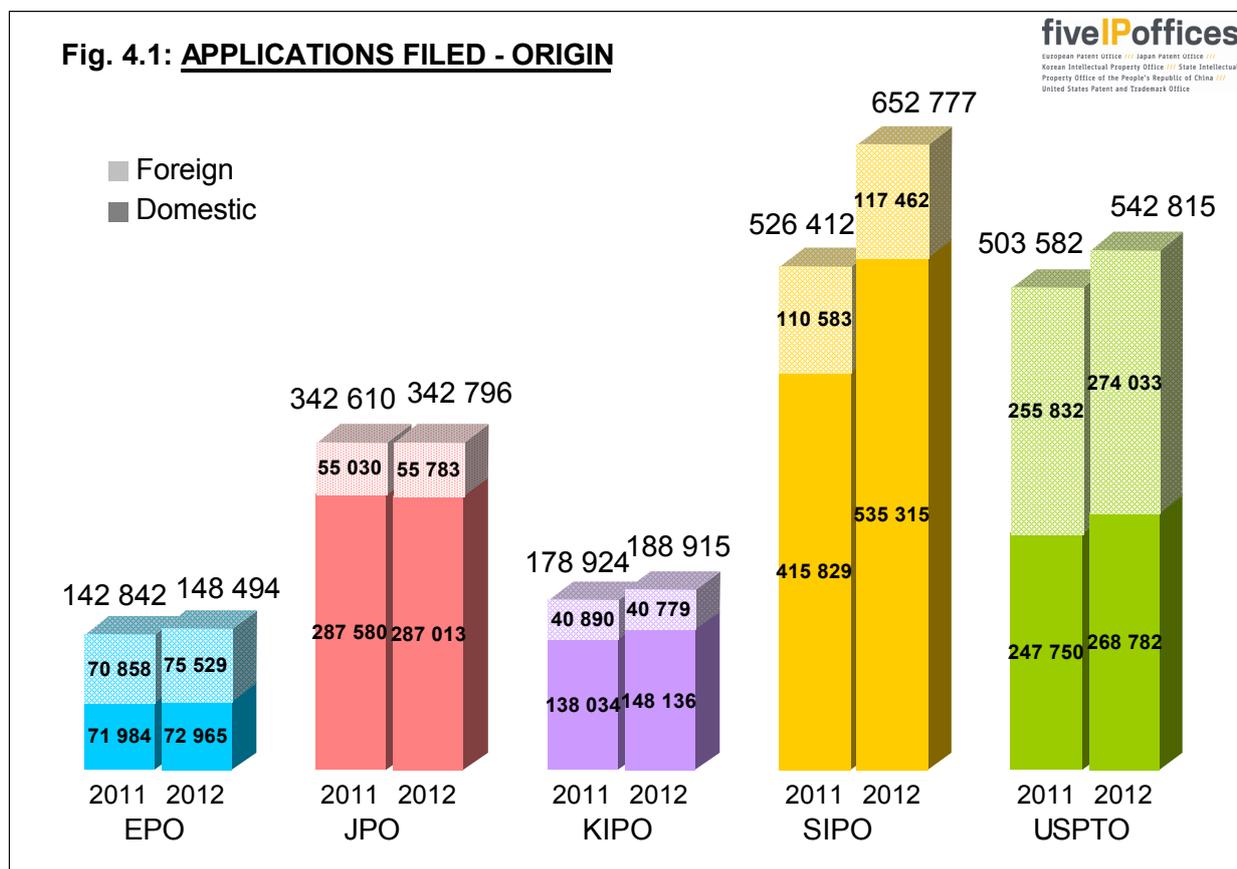
For information about specific terminology and associated definitions used in Chapter 4, please refer to Annex 2.

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<sup>24</sup> See Chapter 3, the section Guide to figures in Chapter 3

## PATENT APPLICATIONS FILED

Fig. 4.1 shows the number of patent applications that were filed at each of the IP5 Offices during the two most recent years, broken down by domestic and foreign origin (based on the residence of first-named applicant or inventor). The EPO is indicated from the viewpoint of an office, with the EPO domestic applications corresponding to those filed by residents of EPC states.



In 2012, a total of about 1 875 800 patent applications were filed at the IP5 Offices, an increase of 11 percent from 2010 (1 694 400).

There were increases in patent applications at all the IP5 Offices. While patent applications increased by 24 percent at the SIPO, the growth was more limited at the USPTO (8 percent), at the KIPO (5 percent) and at the EPO (4 percent). Applications at the JPO increased by less than 1 percent.

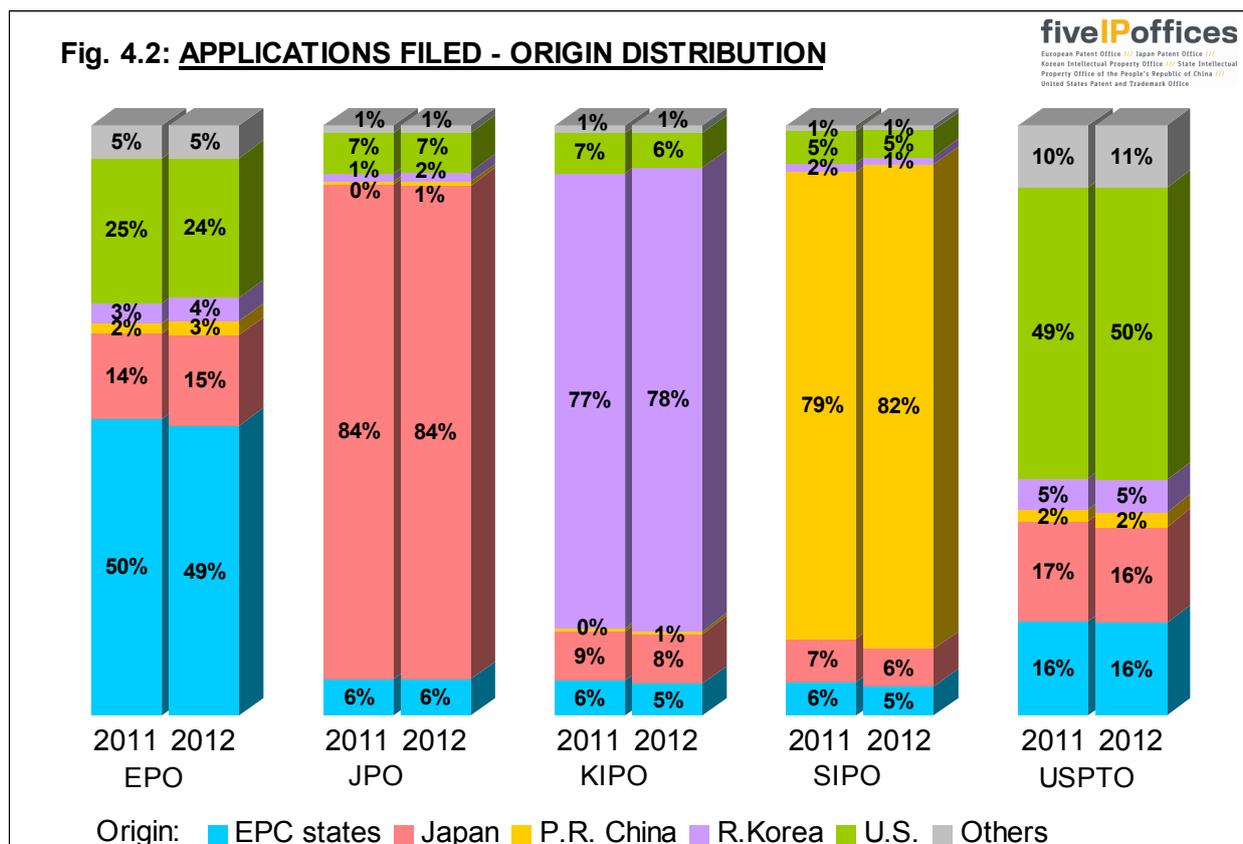
At the EPO, the USPTO and the SIPO, both domestic and foreign applications increased. At the JPO, both domestic and foreign applications changed marginally only. At the KPO, domestic applications increased and foreign applications decreased marginally. The SIPO had a particularly large increase in domestic filings of 29 percent.

Table 4.1 and Fig. 4.2 show the number and the respective shares of patent application filings by origin (residence of first-named applicants or inventors) relative to total filings at each office for 2011 and 2012<sup>25</sup>.

**Table 4.1: 2012 APPLICATIONS FILED - ORIGIN**

Office	EPO	JPO	KIPO	SIPO	USPTO
EPC states	72 965	20 899	10 194	31 780	85 195
Japan	22 700	287 013	16 004	42 278	88 686
P.R. China	3 731	2 022	982	535 315	13 273
R. Korea	5 711	5 708	148 136	8 985	29 481
U.S.	35 222	22 922	11 346	29 510	268 782
Others	8 165	4 232	2 253	4 909	57 398
<b>Total</b>	<b>148 494</b>	<b>342 796</b>	<b>188 915</b>	<b>652 777</b>	<b>542 815</b>

Comparison of the numbers of applications across the IP5 Offices should only be made with caution. For example, the numbers of claims given in applications are significantly different among the IP5 Offices. On average, in 2012, an application filed at the EPO contained 13.9 claims (13.9 in 2011), one filed at the JPO contained 9.6 claims (9.7 in 2011), one filed at the KIPO contained 10.5 claims (10.6 in 2011), one filed at the SIPO contained 8.0 claims (8.4 in 2011), while one filed at the USPTO had 18.2 claims (18.3 in 2011). These numbers of claims remained stable in all the IP5 Offices.



The shares of patent application filings by bloc of origin are generally consistent for 2011 and 2012 for each office.

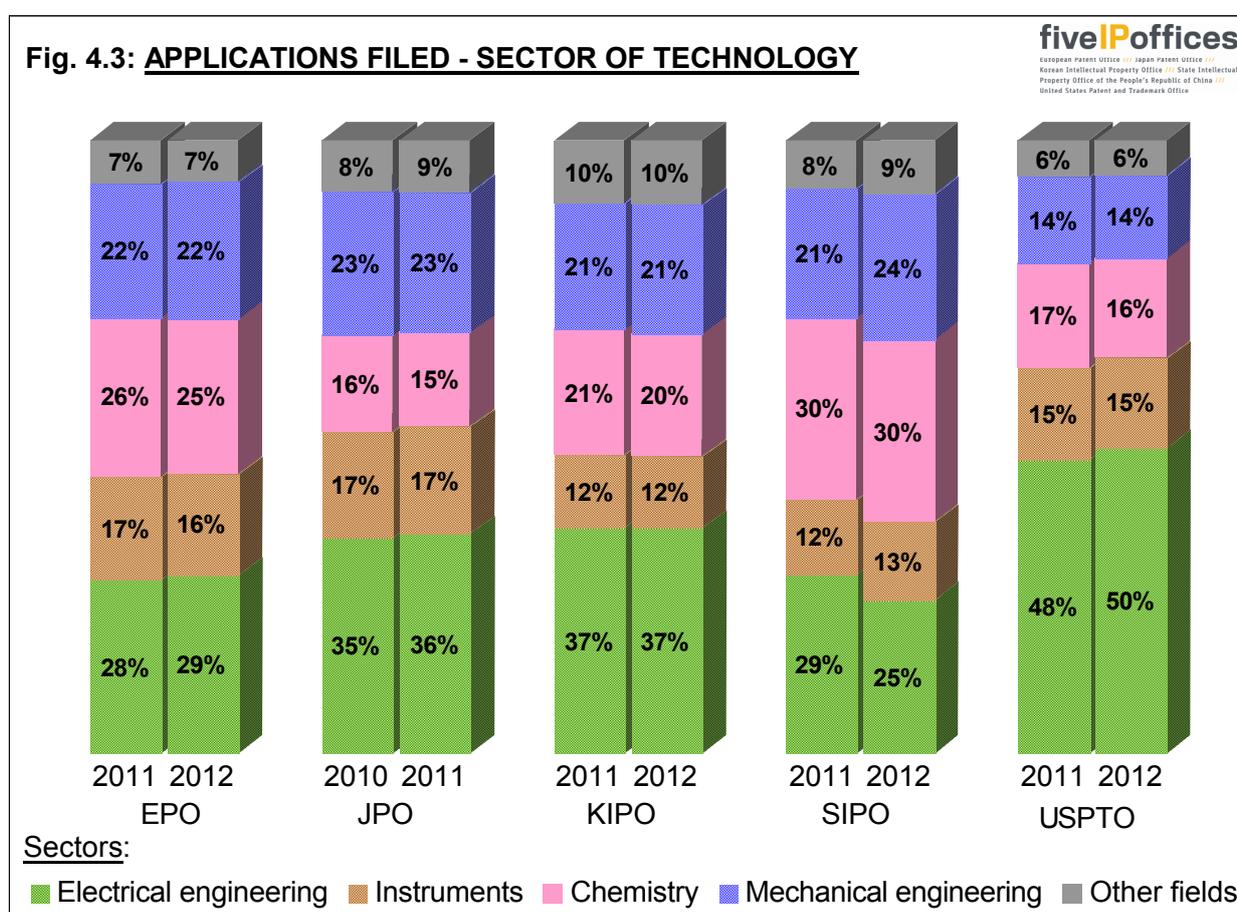
<sup>25</sup> The 2011 numbers can be found in the statistical annex of this report.

## FIELDS OF TECHNOLOGY

Patents are classified by the IP5 Offices according to the IPC. This provides for a hierarchical system of language independent symbols for the classification of patents and utility models according to the different areas of technology to which they pertain. The WIPO established a concordance table to link the IPC symbols with thirty-five fields of technology grouped into five sectors<sup>26</sup>. Fig. 4.3 shows the distribution of applications according to the five technology sectors.

The classification takes place at a different stage of the procedure in the offices. As a result, data are shown for the EPO, the KIPO, the SIPO, and the USPTO for the filing years 2011 and 2012, while for the JPO the breakdown is given for the filing years 2010 and 2011<sup>27</sup>.

Fig. 4.3 indicates the share of applications by main sectors of technology at each office.

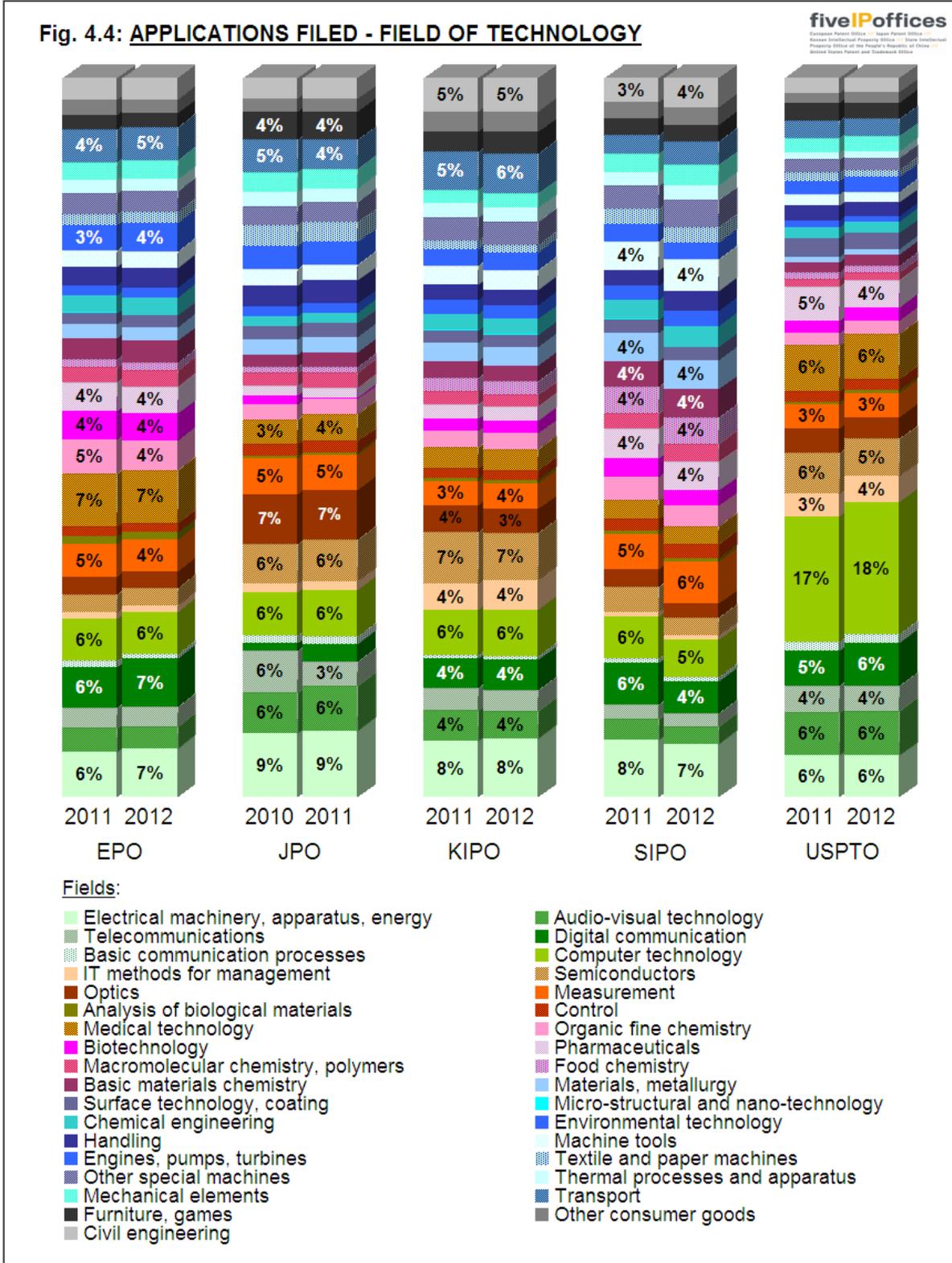


The Electrical engineering sector is more prominent at the USPTO than in the other IP5 Offices. A higher proportion of applications are filed in the Chemistry sector at the SIPO and at the EPO than in the other IP5 Offices. At the SIPO, the share of applications filed in the Mechanical engineering sector was higher in 2012, while the share of applications filed in the Electrical engineering sector declined. At each office, the distribution between sectors of the technology was stable between the two years reported.

<sup>26</sup> [http://www.wipo.int/ipstats/en/statistics/technology\\_concordance.html](http://www.wipo.int/ipstats/en/statistics/technology_concordance.html)

<sup>27</sup> JPO data for 2011 are the most recent available figures because the IPC assignment is completed just before the publication of the Unexamined Patent Application Gazette (18 months after the first filing).

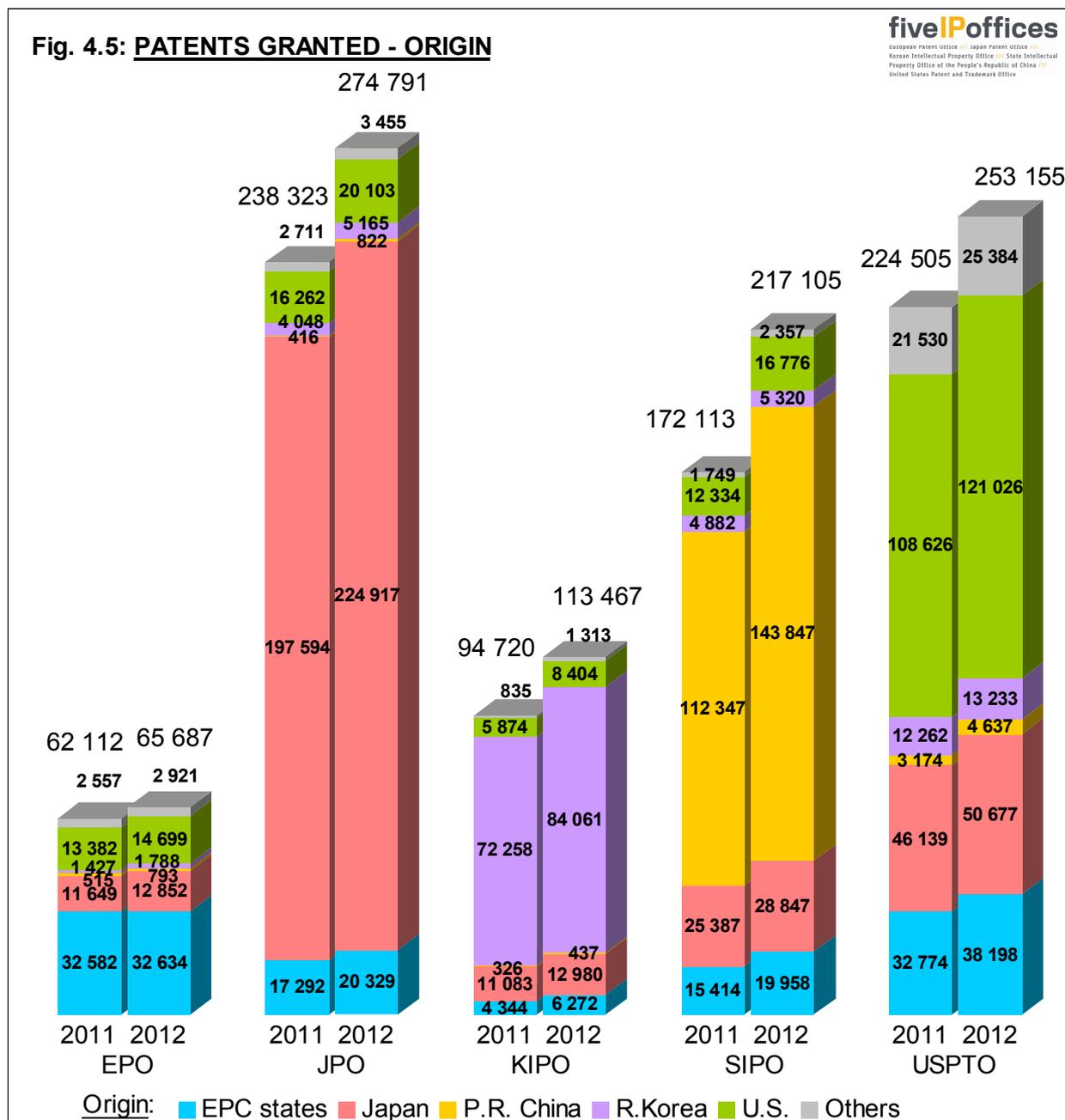
Fig. 4.4 indicates the share of applications by detailed fields of technology at each office.



Most of the leading fields are identical between the IP5 Offices, though with different shares. Computer technology is a leading field at all offices, but with a larger share of applications at the USPTO. Medical technology is a leading field at the EPO and the USPTO, while Electrical machinery, apparatus, energy and Optics are leading fields at JPO. Semiconductors technology and Civil engineering are leading fields at KIPO and at the SIPO. Transport technology is a leading field at the EPO and at the KIPO.

## PATENTS GRANTED

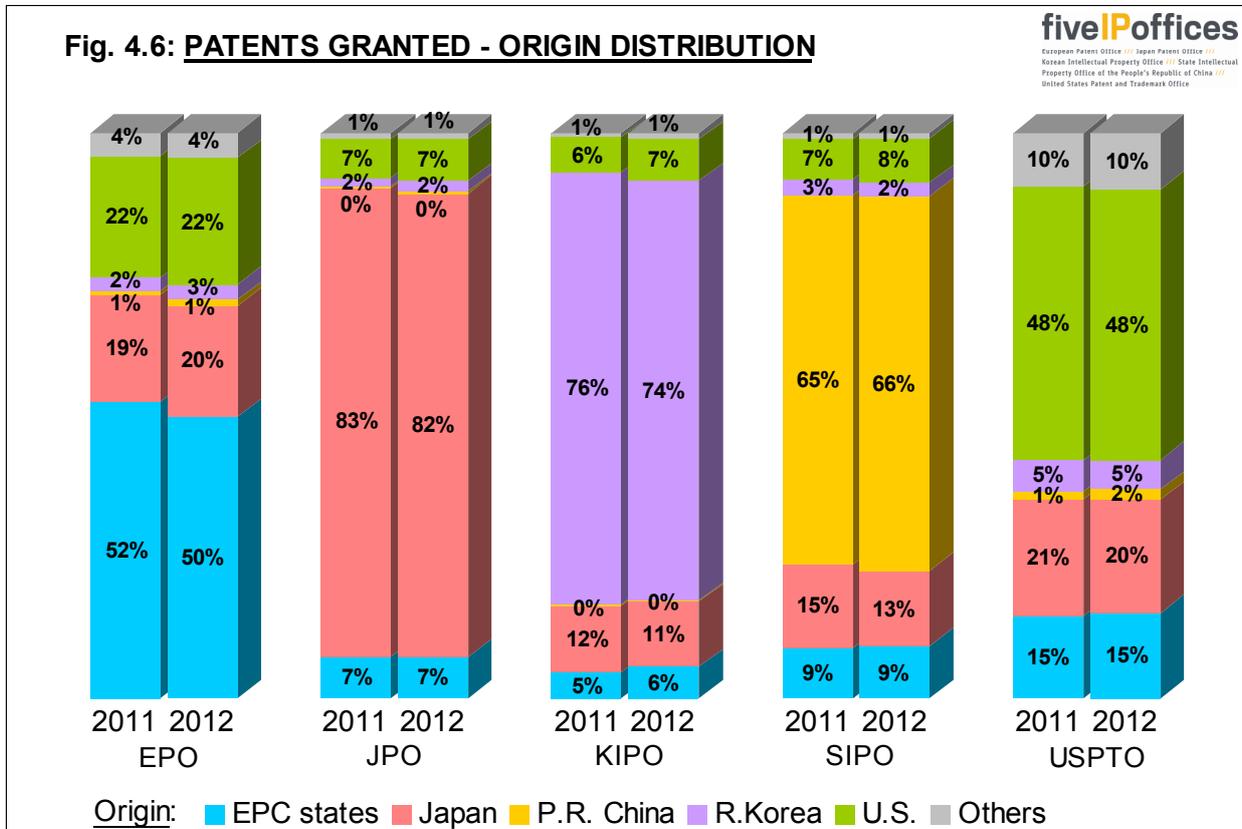
Fig. 4.5 shows the numbers of patents granted by the IP5 Offices, according to the bloc of origin (residence of first-named owner).



Together the IP5 Offices granted a total of 923 979 patents in 2011. This was 132 206 more than in 2011 and represents a growth of 17 percent.

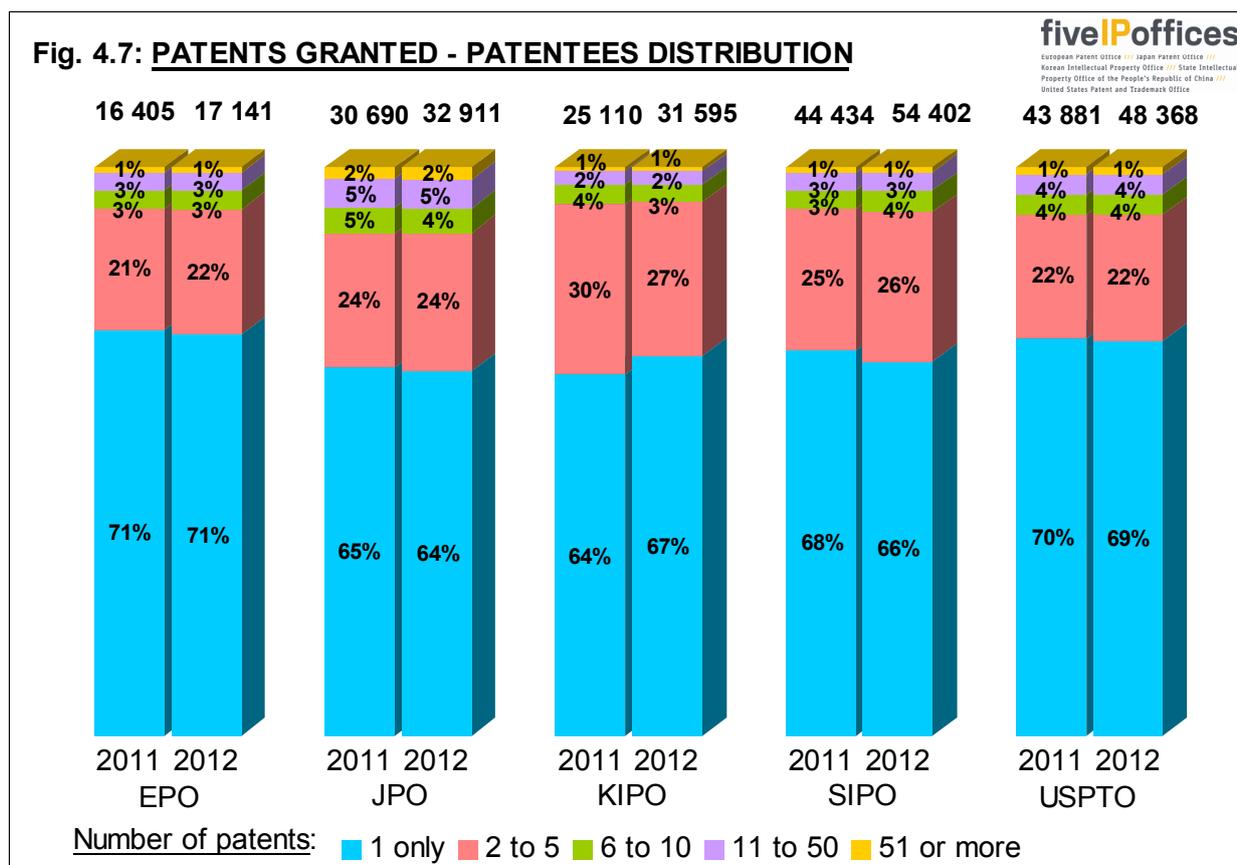
The number of patents granted by each of the IP5 Offices increased in 2012, at the SIPO and the KIPO by as much as 26 percent and 20 percent, respectively. The differences between the IP5 Offices regarding the absolute numbers of patents granted can only be partly explained by differences in the number of corresponding applications. These numbers are also affected by differing grant rates and durations to process applications by the IP5 Offices (see the section below "Statistics on Procedures").

Fig. 4.6 presents the percentage shares of total patents granted by the IP5 Offices according to the bloc of origin (residence of first-named owner).



Generally, the shares from the different blocs of origin are not that different from those observed for the filings in each office as presented in Fig. 4.2, although at the SIPO the share of granted patents originating from P.R. China is somewhat lower than the share of domestic filings in applications filed.

Fig. 4.7 shows the breakdown of patentees by numbers of patents granted in 2011 and in 2012.



This diagram shows that the distribution of grants to patentees is similar at each office and is highly skewed at all of them. The proportions are generally consistent between 2011 and 2012 for each office.

Most of patentees received only one grant in a year. In 2012, the proportion was between 64 percent for the KIPO and 71 percent for the EPO. The proportion of patentees that received less than 6 patents was between 88 percent for the JPO and 94 percent for the KIPO. The proportion of patentees receiving 11 or more patents is higher at the JPO (7 percent) than at the USPTO (5 percent), the EPO (4 percent), the SIPO (4 percent), and the KIPO (3 percent).

In 2012, the average patentee received 3.8 patents at the EPO, 8.3 at the JPO, 3.6 at the KIPO, 4.0 at the SIPO, and 5.2 at the USPTO. The greatest number of patents granted to a single applicant was 838 at the EPO, 8 567 at the JPO, 2 715 at the KIPO, 2 744 at the SIPO, and 6 457 at the USPTO.

## MAINTENANCE

A patent is enforceable for a fixed term, and depends on actions taken by owner. In the IP5 Offices, the fixed term is usually a twenty year term from the date of filing the application. In order to maintain protection during this period, the applicant has to pay what are variously known as renewal, annual or maintenance fees in the countries for which the protection pertains. Maintenance systems differ from country to country. In most jurisdictions, and in particular in those of the IP5 Offices, protection expires if a renewal fee is not paid in due time.

At the EPO, renewal fees are payable from the third year after filing in order to maintain the application. After the patent has been granted, annual renewal fees are then paid to the national office of each designated EPC contracting state in which the patent has been registered. These national patents can be maintained for different periods in the contracting states. Therefore rather maintaining one patent after grant, patentees have to deal with the maintenance of several patents and are confronted with the problem of choice as to how long to maintain each one.

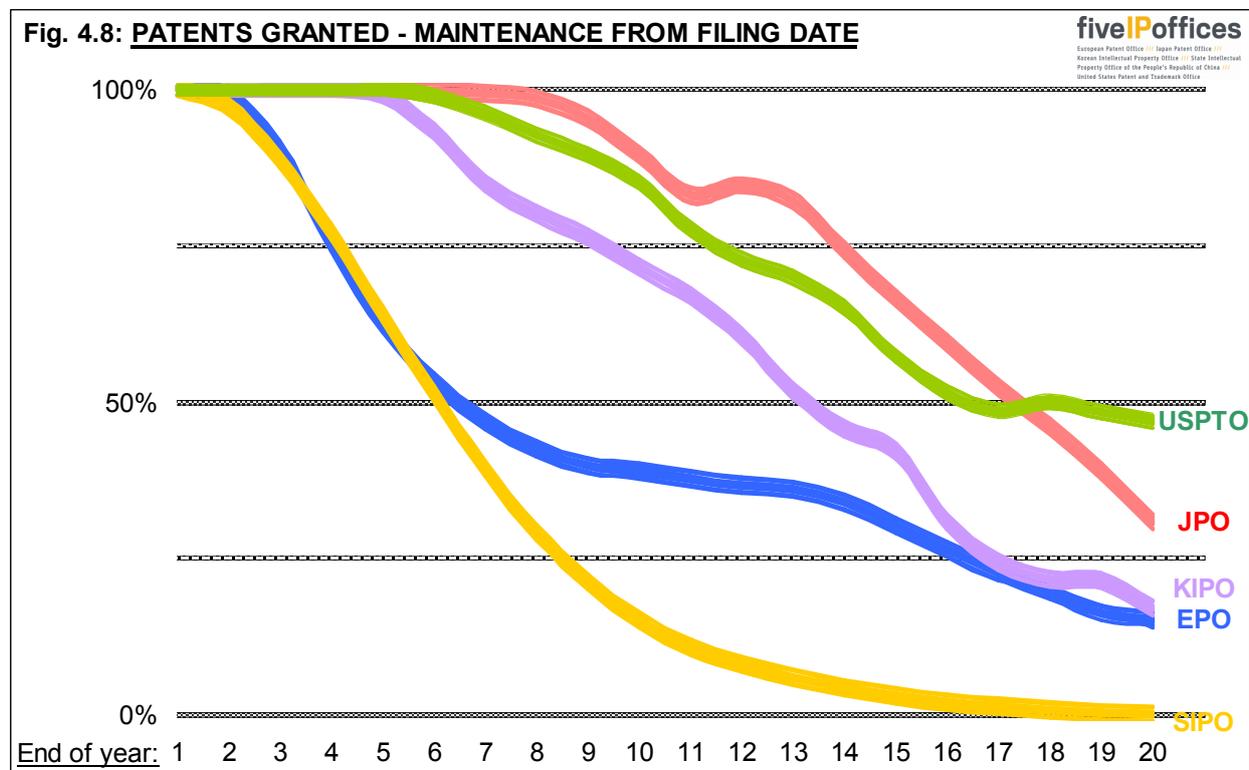
For a Japanese or Korean patent, the annual fees for the first three years after patent registration are paid as a lump-sum and for subsequent years there are annual fees. The applicant can pay either yearly or in advance.

At the SIPO, the annual fee of the year in which the patent right is granted shall be paid at the time of going through the formalities of registration, and the subsequent annual fees shall be paid before the expiration of the preceding year. The date on which the time limit for payment expires is the date of the current year corresponding to the filing date.

The USPTO collects maintenance fees at 3.5, 7.5, and 11.5 years after the date of grant and does not collect an annually payable maintenance fee.

Other factors influence the time during which patents are maintained once granted by the IP5 Offices. For example, systems allowing deferred examination or systems with payment of renewal fees only for the years following grant tend to increase the rate of maintenance. On the other hand, grants resulting in several patents, with renewal fees to be paid for each jurisdiction, may lead to dropping some of them more quickly and so decreasing the average maintenance rate.

Fig. 4.8 shows the proportions of patents granted by each office that are maintained for differing lengths of time. It compares the rate of granted patent registrations existing and in force each patent year starting with the year of application. Figures are based on the most recent relevant data that are available at each office.



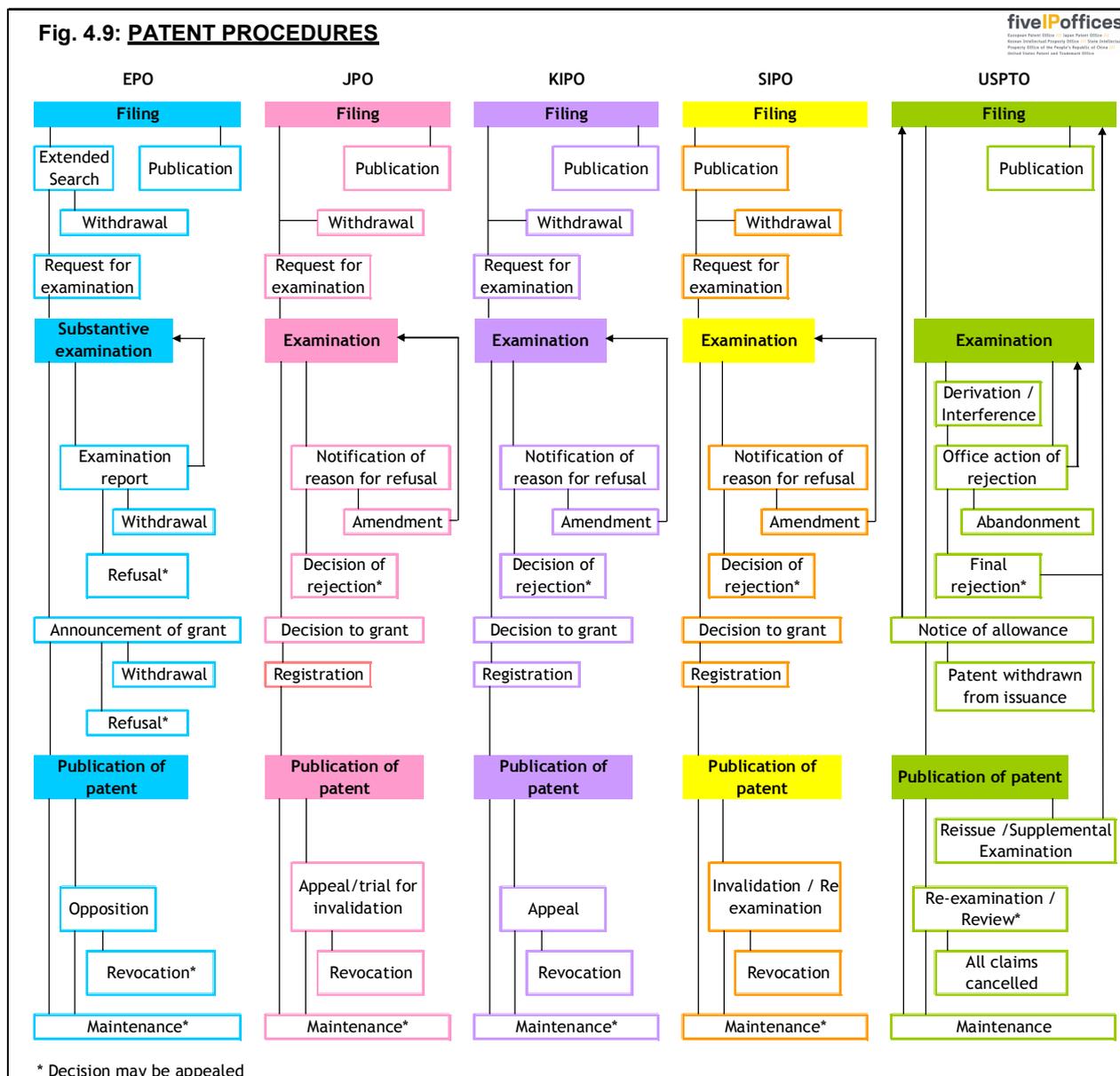
Over 50 percent of the patents granted by the JPO are maintained for at least 17 years from filing, and 16 years at the USPTO, compared to 13 years for the KIPO, 7 years for the EPO and 6 years for the SIPO. In addition to patentees behaviour, these differences can be partially explained by differences in the procedures, such as a multinational maintenance system (EPO), deferred examination (JPO, KIPO, SIPO) and a stepped maintenance payment schedule (USPTO).

The EPO proportion represents an average ratio of the maintenance of the European patents in the 38 EPC states. The figures are strongly impacted by the large proportion of recently granted patents for many states that joined the EPO within the past 12 years. Considering the shape of the curve for the EPO in Fig. 4.8, the first 12 years reflect mainly the building up of the maintenance pattern in the newer EPC states, while the last 8 years reflect the maintenance pattern in the longer standing EPC states.

The USPTO payment schedule is somewhat hidden because the data are shown on a time basis (by year after application) that is different from the time basis used for collection of the fees (by year after patent grant). The increase in the share of maintained patents between years 17 and 18 is the result of enacted legislation in 1995 that lengthened the patent term for a select group of patents.

## PATENT PROCEDURES

Fig. 4.9 shows the major phases of the grant procedures at the IP5 Offices and concentrates on the similarities between offices to motivate the comparative statistics to be presented in Table 4 below. However the reader should bear in mind when interpreting such statistics that details of the procedures differ between offices, sometimes to quite a large degree (e.g. in time lags between stages of the procedures).



See Annex 2 for some further details about the procedures.

Fees are due at different stage of the procedure. Information on main comparable fees at the IP5 Offices is made available online on the IP5 home page<sup>28</sup>.

<sup>28</sup> See at [www.fiveipoffices.org/stats/statisticaldata.html](http://www.fiveipoffices.org/stats/statisticaldata.html) under Fees. These data are given without prejudice and are not guaranteed to be up to date. Official fee schedule information and associated regulations from each IP5 Office take precedence.

## STATISTICS ON PROCEDURES

Table 4.2 shows various statistics as average rates and numbers where applicable for 2011 and 2012. In order to concentrate on common measures for the offices, several parameters that are specific to EPO only are no longer shown. Definitions of the various terms are given in Annex 2.

### RATES

The examination rate in the USPTO is 100 percent, since filing implies a request for examination, whereas in the EPO, the JPO, the KIPO, and the SIPO a specific request for examination has to be made. At the EPO the large proportion of PCT applications in the granting procedure gives a high examination rate, as almost all of them proceed to examination. The examination rate is somewhat lower at the JPO and the KIPO because the deferred examination system gives more time to the applicants to evaluate whether to proceed further with the application or not. The SIPO does not report this information.

The grant rates at the EPO, the JPO, the KIPO, and the USPTO increased from 2011 to 2012. The grant rate from the SIPO is not currently available.

### 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 of the IP5 Offices. Although this may seem to be an indicator for the backlog in handling applications within the offices, it is not in fact a particularly good one because a substantial part of pending applications are awaiting action from the applicant. This could be for instance a request for examination, or a response to actions communicated by the office. In order to improve the comparability of the information given by the IP5 Offices, the definitions on pendency at the EPO were adjusted. More details can be found in annex 2.

As shown in Table 4.2, altogether more than 2.9 million applications were pending in the EPO, the JPO, the KIPO, and the USPTO at the end of 2012, a decrease of nearly 7 percent compared to the number of applications pending at the end of 2011 (3.2 million). This is mainly accounted for by drops of 12% at JPO and 9% at USPTO. The SIPO does not report this information.

**Table 4.2: STATISTICS ON PROCEDURES**

Definitions of the various terms are given in Annex 2.

Progress in the procedure		Year	EPO	JPO	KIPO	SIPO	USPTO
<b>Rates in percentage</b>							
Examination <sup>29</sup>		2011	92.9	65.8	72.4	327 188	100
		2012	92.8	67,1	84.2	n.a.	100
Grant <sup>30</sup>		2011	47.4	60.5	64.5	172 113	63.3
		2012	49.8	66.8	65.6	n.a.	68.9
Opposition		2011	5.0	-	-	-	-
		2012	4.7	-	-	-	-
Appeal on examination <sup>31</sup>		2011	28.0	27 112	-	-	5.7
		2012	26.7	25 388	-	-	4.6
<b>Pendency in the procedure</b>							
Search	Pendency (months)	2011	7.7	-	-	-	-
		2012	9.1	-	-	-	-
Examination	Awaiting request for examination	2011	145 531	770 994	214 855	n.a.	-
		2012	143 267	754 091	236 316	n.a.	-
	Pending examinations	2011	355 803	448 123	528 756	n.a.	662 457
		2012	363 521	319 247	523 040	n.a.	603 898
	Pendency first action <sup>32</sup> (months)	2011	7.7	25.9	16.8	11.4	23.6
		2012	9.1	20.1	14.8	11.5	19.6
Pendency examination <sup>33</sup> (months)	2011	36.7	34.0	22.8	22.9	33.8	
	2012	36.2	29.6	21.6	22.6	31.7	
Invalidation	Pendency (months)	2011	-	-	-	7.5	-
		2012	-	-	-	6.6	-

- = not applicable    n.a. = not available

These figures should be compared with care, taking account of the differences in the procedures. At the EPO, the examination is done in two phases: a search and a substantive examination, while they are done in one combined phase at the other IP5 Offices. Contrary to the system at the USPTO, where there is no delay, at the EPO substantive examination may be requested within 6 months after the issue of a search report. For the other IP5 Offices, a request for examination may be made up to three years after filing for the JPO and the SIPO, and up to five years after filing for the KIPO. At all IP5 Offices, various options to initiate a faster examination are available.

<sup>29</sup> For the SIPO, only numbers are available.

<sup>30</sup> For the SIPO, only numbers are available.

<sup>31</sup> For the JPO, only numbers are available.

<sup>32</sup> For the EPO, the first office action is in fact the search with written opinion on patentability.

<sup>33</sup> For the EPO, the pendency time in examination is calculated from the date of the filing.

## Chapter 5

# IP5 OFFICES AND PATENT COOPERATION TREATY

This chapter presents first the impact of the PCT system on patenting activity. Then it describes the various activities of the IP5 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 that display the shares, by origin, of those patent applications and grants using the PCT filing route. Descriptions are given of additional activities of the IP5 Offices under the PCT, as RO for applicants in their respective territories, as ISA and as IPEA. PCT searches are a significant workload item at the IP5 Offices in addition to those already described in Chapter 4.

Statistics in this chapter are derived from the WIPO Statistics Database<sup>34</sup> and from the IP5 Offices.

Selected statistics for patent families are included in this chapter. A patent family is a group of patent filings that claim the priority of a single filing.

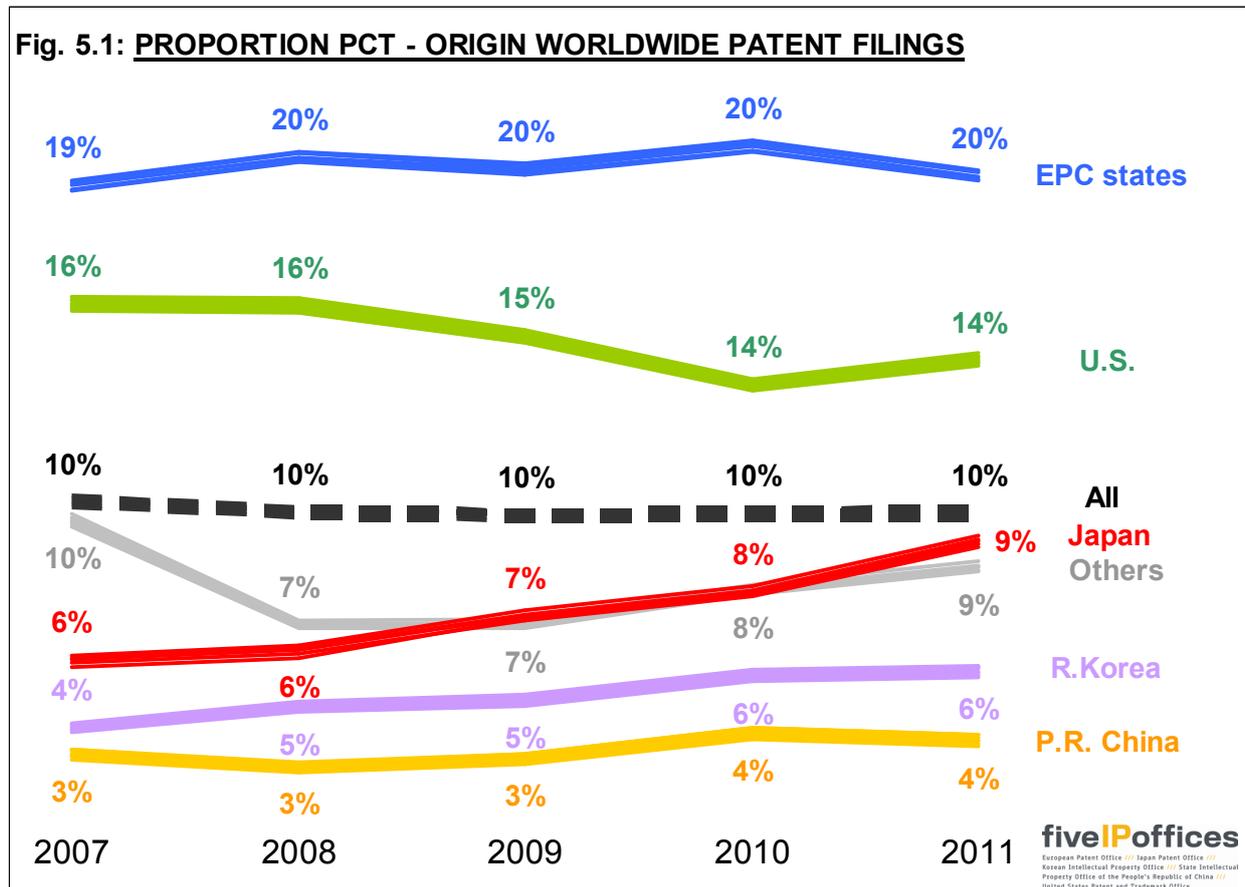
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<sup>34</sup> See footnote 6 p.3

## PCT AS FILING ROUTE

### PATENT FILINGS

Fig. 5.1 shows, for each bloc of origin (residence of first-named applicant or inventor), the proportions of all patent applications filed that are PCT international applications. Applications are counted in the year of filing.



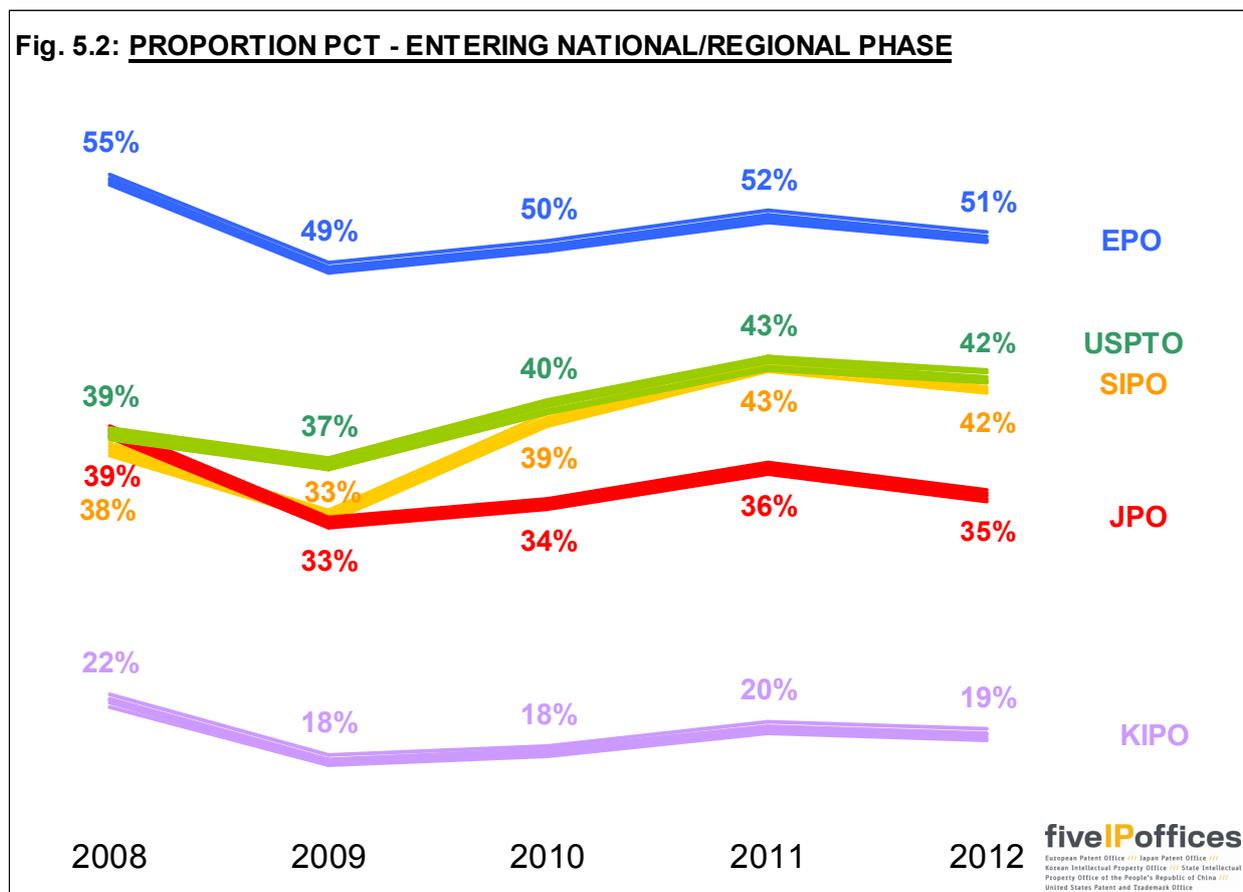
On average, 10 percent of the applications were filed via the PCT route between 2007 and 2011.

In 2011, the proportion of applications filed via the PCT increased for applications originating from most of the regions with the exception of the EPC states and P.R. China, where the proportion declined. The proportions for EPC states origin applications and U.S. origin applications continue to be higher than the proportions for applications from the remaining blocs.

## NATIONAL / REGIONAL PHASE ENTRY

After the international phase of the PCT procedure, applicants decide whether they wish to continue further with their applications in the national or regional phase for each country or regional organisation of interest. A decision has to be made for each jurisdiction. If the decision is made to proceed further, the applicant has to fulfil the various requirements of the selected PCT contracting states or organisations. The application then enters the national or regional phase in the selected areas.

Fig. 5.2 shows the proportions of PCT applications in the international phase that entered the national or regional phase at each of the IP5 Offices. Applications are counted in the year corresponding to the date when the delay to enter the national or regional phase has expired<sup>35</sup>.



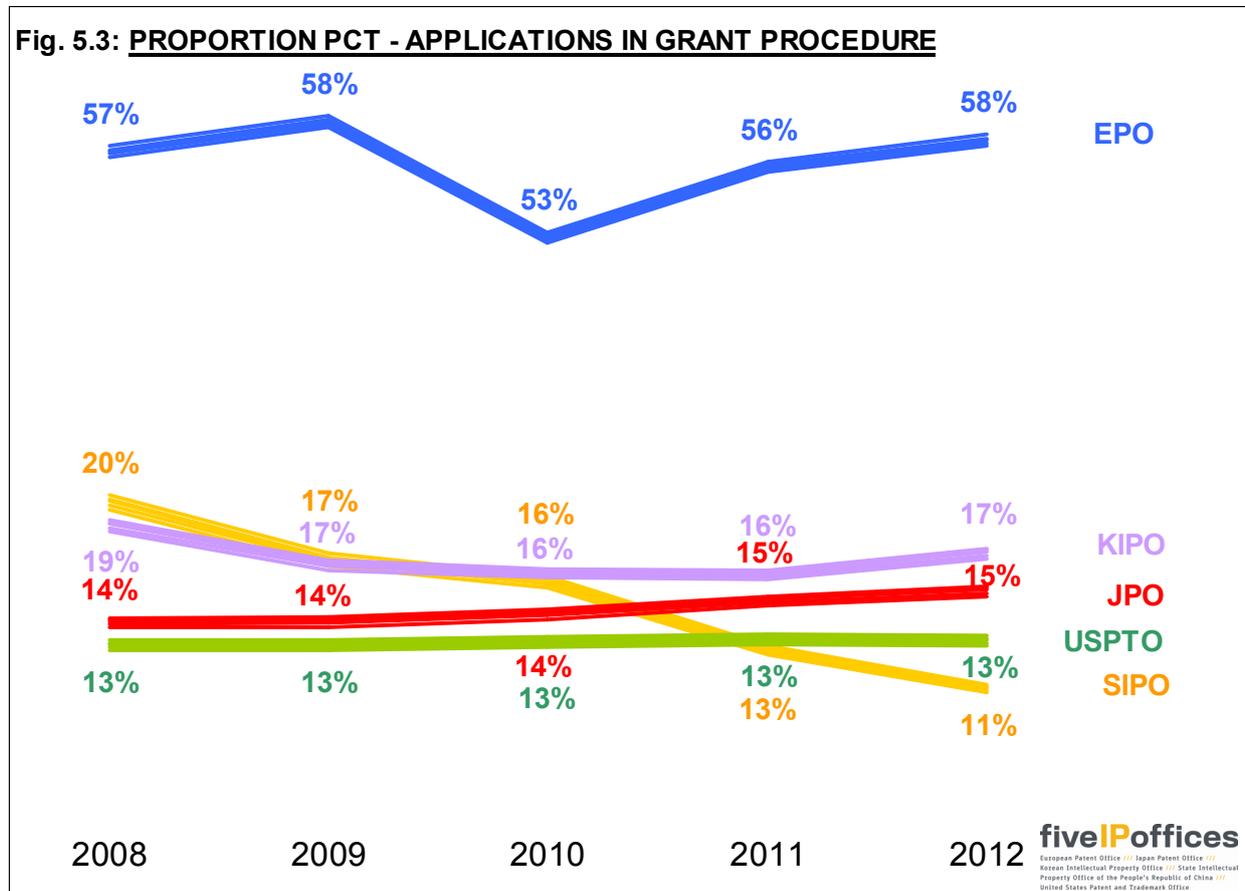
A higher proportion of PCT applications enter the regional phase at the EPO than enter the national phase at the JPO, the SIPO, or the USPTO. This is due to the multinational dimension of the EPO, which provides an opportunity to proceed further with a unique procedure for several countries. The proportion remained lower at the KIPO.

After a general declining trend observed at all offices up to 2009, the proportions grew for all offices, with the EPO retaining the highest proportion.

<sup>35</sup> It should be noted that counts from EPC contracting state national offices are not reported in Figs 5.2, 5.3 and 5.4.

## SHARE OF PCT APPLICATIONS

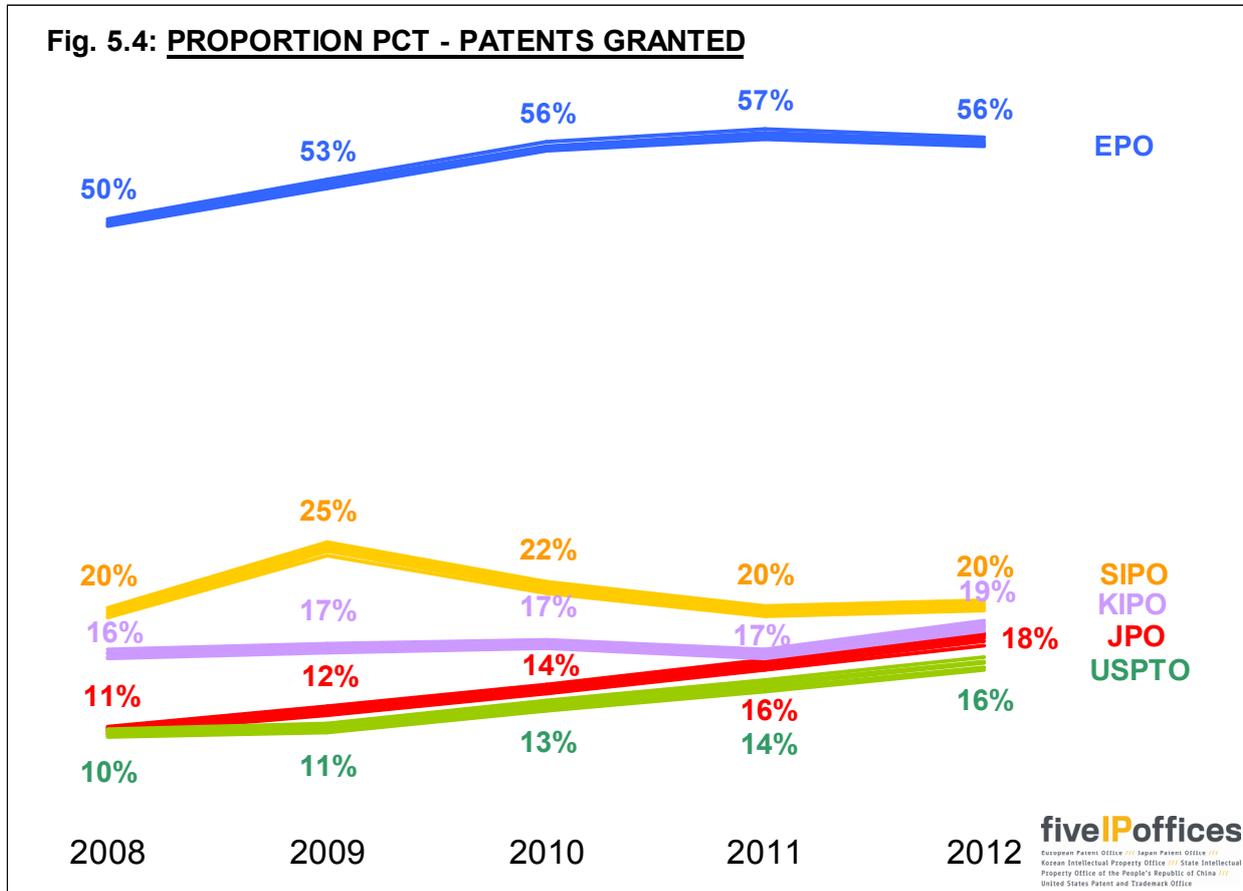
Fig. 5.3 shows the share of PCT among all applications that entered the grant procedure at each office (as presented earlier in Fig. 4.1).



The proportion of PCT national/regional applications further increased at the EPO in 2012 to return to its 2009 level. The decrease in 2010 can probably be explained by the rule adjustment that led to additional divisional non-PCT applications in 2010 as a one-off effect. The SIPO had a decrease in the PCT share of all applications that entered the grant procedure mainly due to the higher growth of patent applications filed via the Paris route than the growth of PCT applications entering national phase. Except at the EPO, the proportions of PCT among applications are at comparable level for all the other IP5 Offices.

## PCT GRANTS

Fig. 5.4 shows the proportions of patents granted by each of the IP5 Offices that were based on PCT applications.



Granted patents generally relate to applications that had been filed several years earlier.

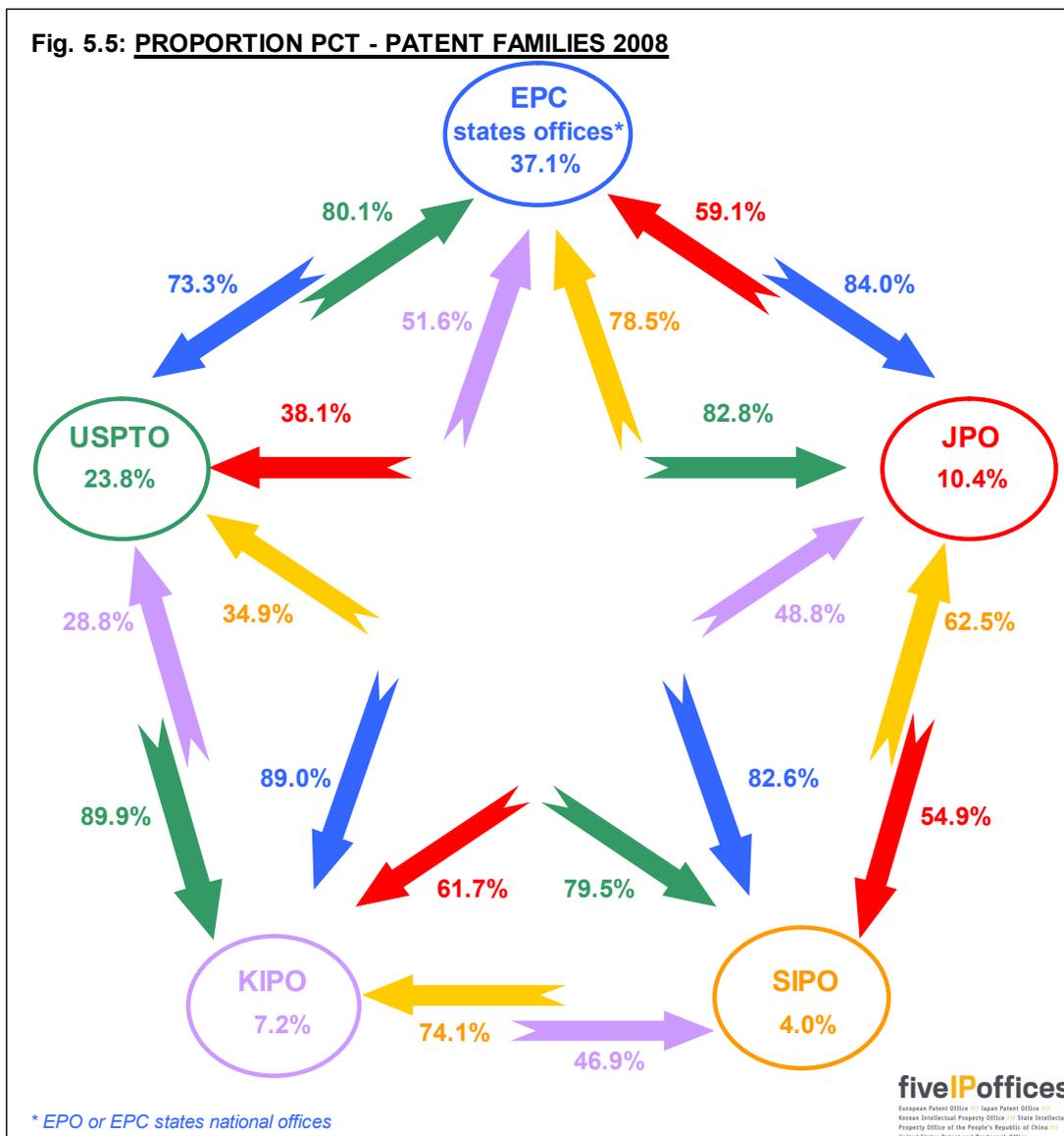
Over the period, there was a general increase of the proportion of PCT in granted patents at the EPO, at the JPO, at the KIPO and at the USPTO. The SIPO, however, had a decreasing proportion after 2009, which can be explained by the faster growth of patent applications filed through the Paris route than that of PCT applications entering into national phase.

## PATENT FAMILIES AND PCT

A patent family is a group of patent filings that claim the priority of a single filing.

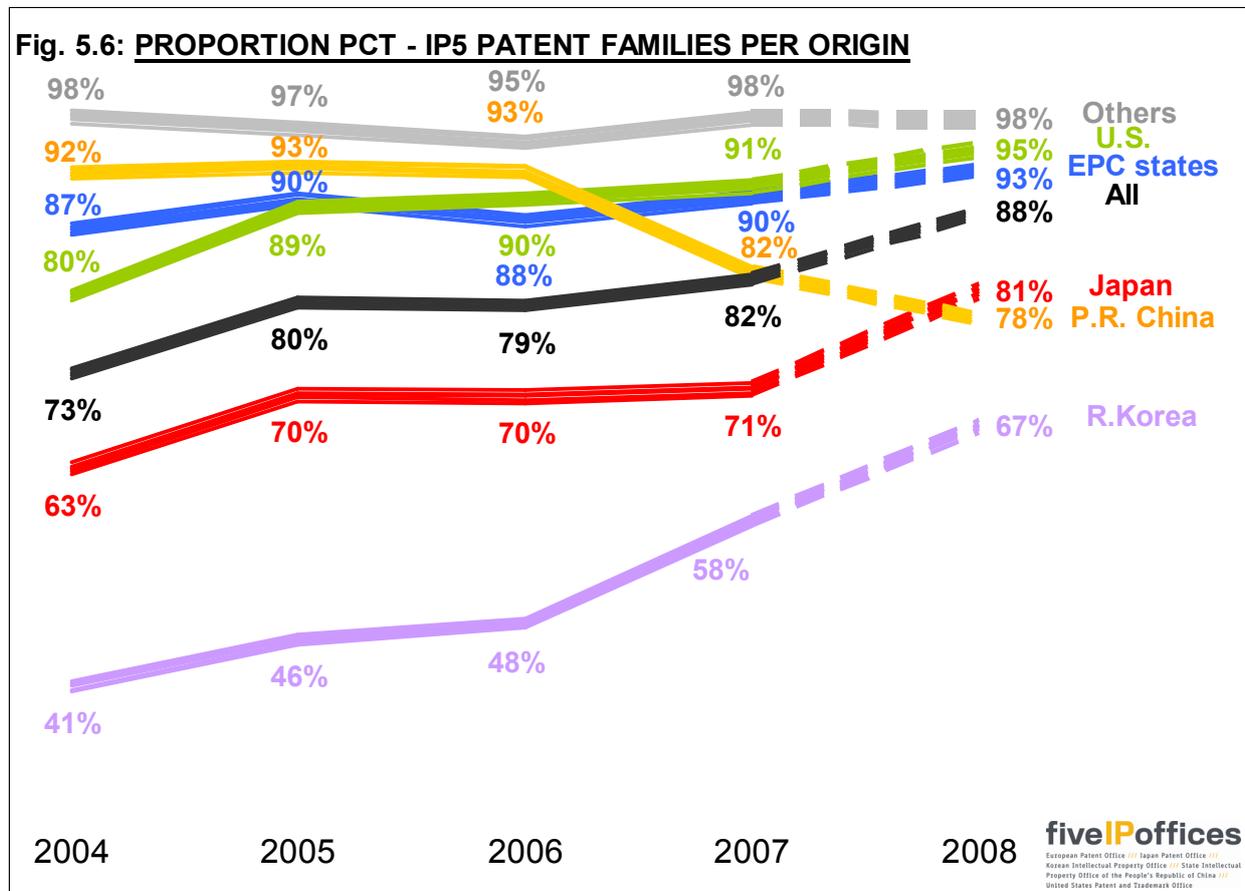
The PCT system provides a good way to make subsequent patent applications in a large number of countries. Therefore it can be expected that many patent families flowing between blocs will use the PCT route. In this section, the use of the PCT system implies that at least one PCT application has been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

Fig. 5.5 shows the usage of the PCT among patent families in 2008. Two types of percentages are shown. The first, next to the name of each bloc, is the proportion of the overall number of first filings for the bloc that generated families using the PCT. The second, next to the arrows indicating flows between-blocs, shows the share of total patent family flows that used the PCT system. This figure is based on first filings in 2008, and can be compared with Fig. 3.13.



In general, the usage of the PCT route is far higher when making applications abroad rather than at home. Applicants from the U.S. and the EPC states prefer to use the PCT system to a greater extent than applicants from P.R. China, Japan, and R. Korea.

Fig. 5.6 shows the proportions of IP5 patent families by bloc of origin (residence of first-named applicants or inventors), as given earlier in Fig. 3.15, that made some use of the PCT system.



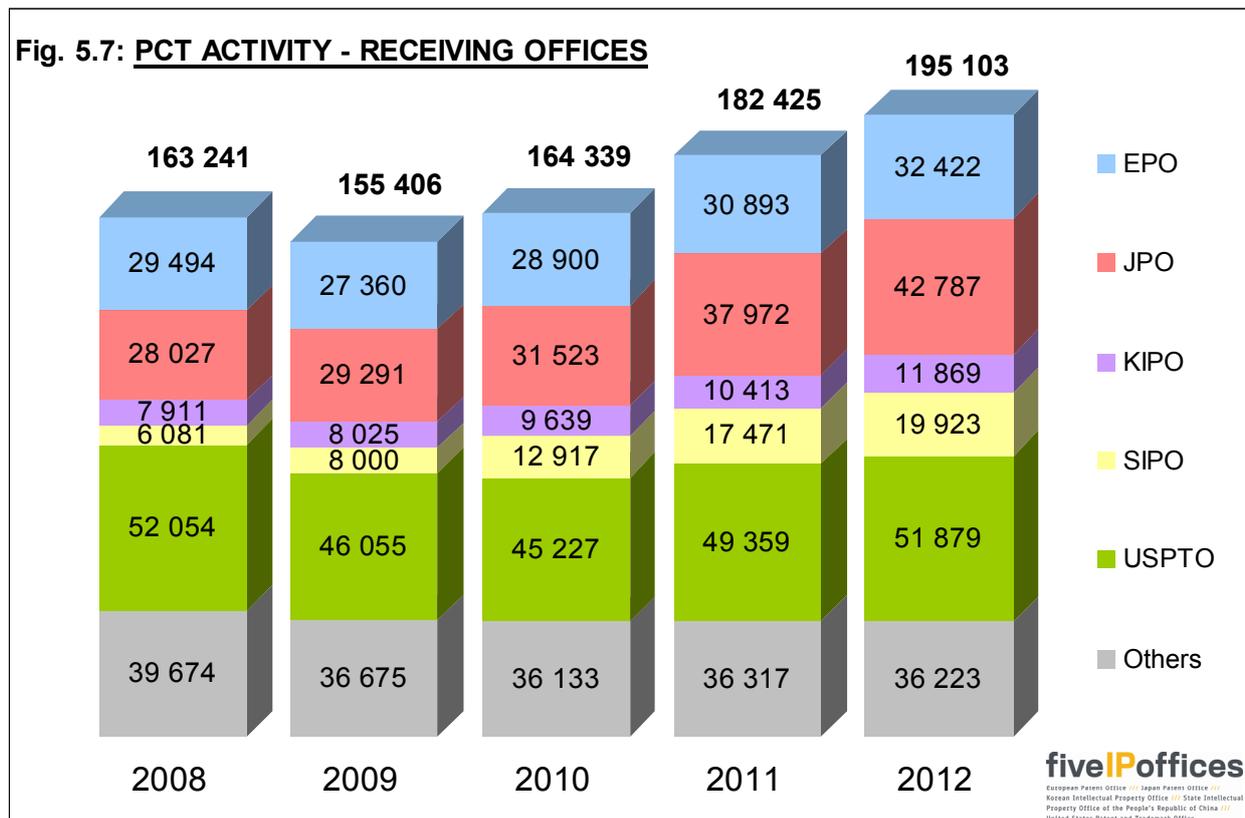
Since IP5 patent families represent highly internationalised applications, it is not surprising that the average rate of PCT usage is high compared to the overall usage of PCTs among applications in general, as was shown in Fig. 5.1. The percentage of usage of the PCT system has generally grown in the IP5 patent families over the period from 2004 to 2008, except for P.R. China, where nevertheless the absolute number of IP5 patent families that make use of the PCT has increased<sup>36</sup>.

<sup>36</sup> PCT percentages for the counts in Table 3 are given in the statistical web based annex.

## PCT AUTHORITIES

Under the PCT, each of the IP5 Offices acts as RO, mainly for applicants from its own geographical zone, and as ISA and IPEA for non-residents and residents. The following graphs show the trends from 2008 to 2012.

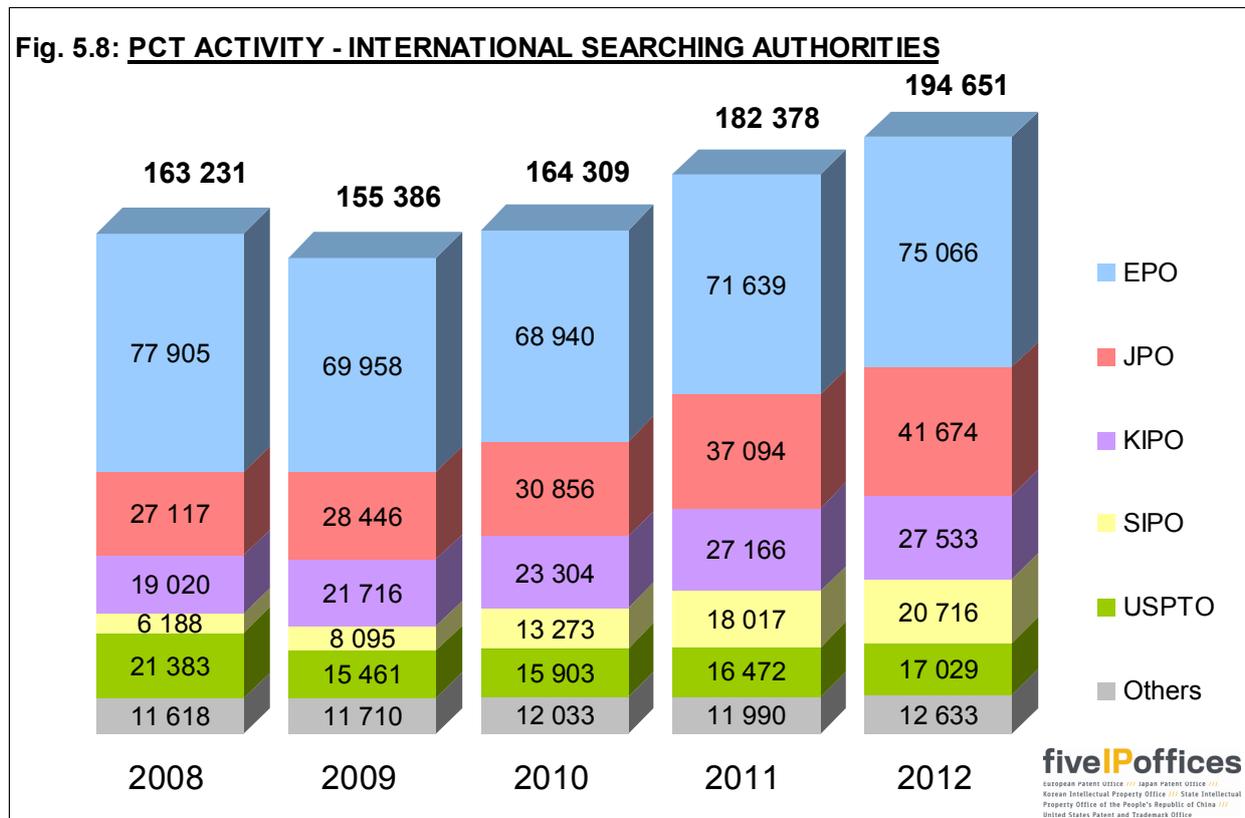
Fig. 5.7 shows the breakdown of PCT international filings by ROs over time.



The totals for PCT international filings are also shown in Fig. 3.1. After the total number of PCT international filings recovered in 2010 it increased further by 11 percent in 2011 and 7 percent in 2012. The compound annual growth rate from 2008 to 2012 was 4.6 percent.

In 2012, the IP5 Offices had an overall increase of PCT international filings of 8 percent. The SIPO, the KIPO (both 14 percent) and the JPO (13 percent) had the largest increases. Together the IP5 Offices were RO for 81 percent of the PCT international filings in 2012 (76 percent in 2008).

Fig. 5.8 shows the breakdown over time of the numbers of international search requests to offices as ISA, for those applications for which information is known.

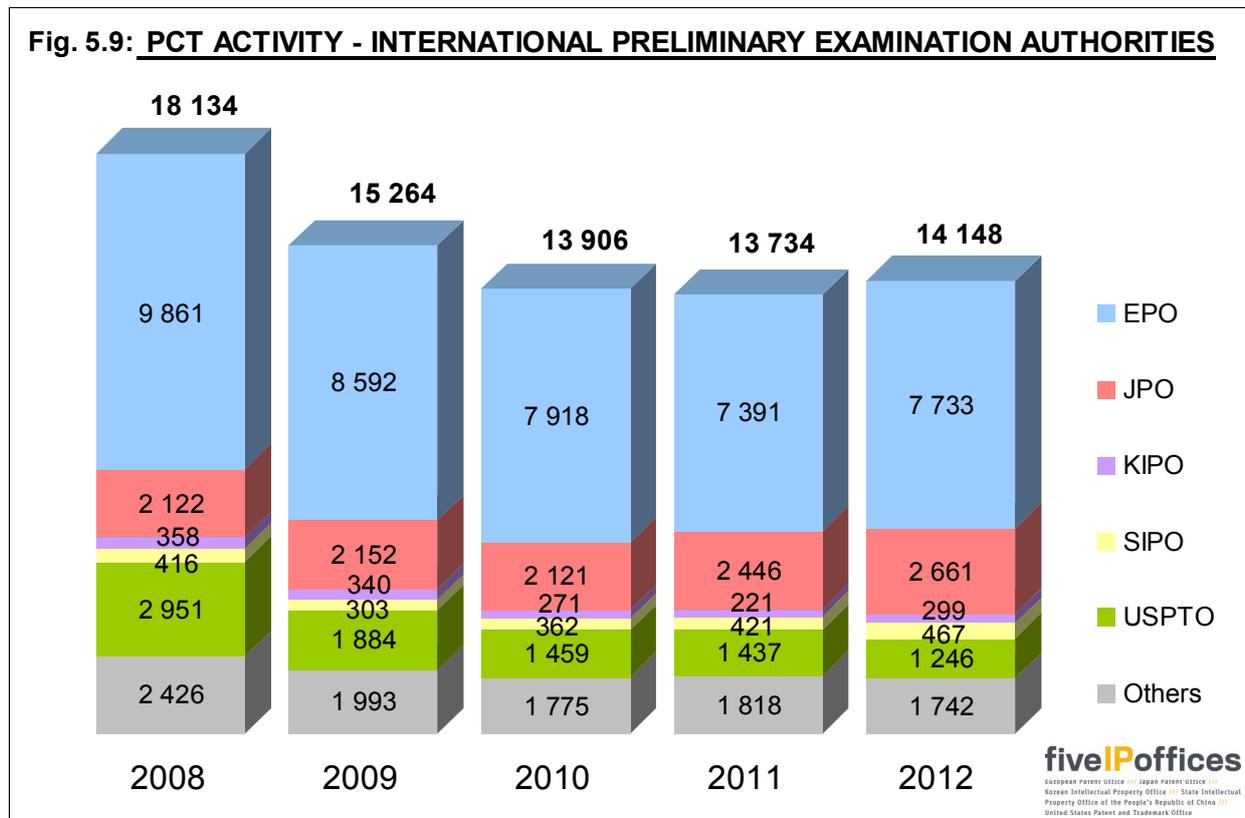


The IP5 Offices together received 94 percent of the PCT international search requests in 2012. The EPO received consistently the largest number of requests (39 percent of all requests in 2012). From 2008 to 2012, the proportions of applicants that selected the JPO (21 percent in 2012), the SIPO (11 percent) and the KIPO (14 percent) grew markedly.

In 2012, strong growth was experienced by the JPO (13 percent), the SIPO (15 percent). The EPO, the KIPO and the USPTO experienced smaller increases.

Since 2006, the KIPO has acted as an available ISA for international applications filed under the PCT with the U.S. as RO, or with International Bureau of the WIPO (IB) as RO where at least one of the applicants is a resident or national of the U.S. After increasing until 2011, the combined number of international search requests to the KIPO and the USPTO remained stable in 2012.

Fig. 5.9 shows the breakdown over time of the numbers of international preliminary examination requests to offices as IPEA.



After a long period of decline the number of requests for international preliminary examination increased slightly in 2012.

Together, the IP5 Offices were in charge of 88 percent of the IPEA work in 2012 (87 percent for each of the previous years). The EPO has consistently performed the highest proportion of the international preliminary examinations each year. Annually, from 2008 to 2012, the EPO performed over half of the international preliminary examinations.

## Chapter 6

# OTHER WORK

This brief chapter contains further statistics of other work done on IP rights that is not common to all five offices. The data presented below supplement the information appearing in earlier chapters of this report.

This includes applications for plant patents (USPTO); reissue patents (USPTO); applications for patents other than those for inventions: utility models (JPO, KIPO, and SIPO), designs (JPO, KIPO, SIPO, and USPTO), trademarks (JPO, KIPO and USPTO); and search requests to be performed on behalf of national offices (EPO).

The utility model is different from the patent for invention, because it is used to protect a device in relation to the shape or construction of articles or combination of articles (JPO, SIPO), or to protect a creation of a technical idea using the rules of nature regarding the shape, structure or combination of subjects (KIPO). Contrary to most patent systems, a utility model is registered without a substantive examination as long as it meets basic requirements. The maximum period of protection for a utility model in Japan, R. Korea and P.R. China is 10 years which is shorter than for a patent for invention.

Neither the EPO nor the USPTO grants utility models. However, the USPTO's main type of patent is called a utility patent which is issued for the invention of a new and useful process, machine, manufacture, or composition of matter, or a new and useful improvement thereof. It is a patent for invention that is similar to the standard patents of the EPO, the JPO, the KIPO and the SIPO.

The numbers of requests received for these types of other work are shown for 2011 and 2012 in Table 6.

**Table 6: STATISTICS ON OTHER WORK**

Activity	Year	EPO	JPO	KIPO	SIPO	USPTO
Searches for national offices	2011	25 850	-	-	-	-
	2012	25 459	-	-	-	-
Design applications	2011	-	30 805	56 524	521 468	30 467
	2012	-	32 391	63 135	657 582	32 799
Utility model applications	2011	-	7 984	11 854	585 467	-
	2012	-	8 112	12 424	740 290	-
Plant patent applications	2011	-	-	-	-	1 139
	2012	-	-	-	-	1 149
Re-issue patent applications	2011	-	-	-	-	1 151
	2012	-	-	-	-	1 231
Trademark applications	2011	-	108 060	123 814	-	405 684
	2012	-	119 010	132 522	-	417 951

For each category of right, the number of applications received increased in 2012. At the EPO, the number of searches for national offices slightly declined in 2012.

## Annex 1

# DEFINITIONS FOR OFFICES EXPENDITURES

### EPO EXPENSES UNDER IFRS (Fig. 2.2)

The full costs are distributed to 8 types of EPO products (labelled A to H in Fig. 2.2). Of these, five are directly related to processing of patent applications: filing, search, examination, opposition and appeal. The other three types are related to different tasks performed by the EPO: patent information and publication, technical cooperation and the European patent academy.

Direct costs immediately related to one product are entirely allocated to this product. The business support and other indirect costs are distributed to the products. All indirect costs are distributed according to staff and usage keys.

#### Business support and other indirect

- Salaries and allowances of permanent staff as well as temporary staff, pensions, long-term care, death, invalidity and sickness coverage as well as pension taxation (taking due account of post-employment liabilities).
- Shift of tax adjustment liability from contracting states to the EPO.
- Training, recruitment, transfer and leaving costs, medical care, staff welfare.
- Depreciation for buildings, IT equipment and other tangible and intangible assets, including the depreciation component of financial leases.
- Operating costs related to the maintenance of Electronic Data Processing hardware and software, licenses, programming costs of self-developed systems as far as they do not qualify for capitalisation.
- Operating costs related to the maintenance of buildings, technical installations, equipment, furniture and vehicles, such as rent, cleaning and repairs, electricity, gas, water.

#### Patent information and publication

Publication of patent documentation, raw data products, public information, customer services, website, conference, exhibitions and fairs.

#### Technical cooperation

Cooperation with contracting states including support to national patent offices, assistance to third countries, Trilateral and IP5 activities, European qualifying examination.

#### European patent academy

Professional representatives, conference costs, associations.

## **JPO EXPENDITURES (Fig. 2.3)**

### **Expenses for JPO's business**

#### **Expenses for business processing**

- A. General processing work**
  - Existing personnel (including increase and transfer)
  - General administration
  - Various councils
  - Encouragement of guidance including patent management
  - External rented offices
  - Internationalisation of industrial property administration
  - Project for supporting medium and small company's applications
  
- B. 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 organisation
  
- C. Information management**
  - Management of information for use in examination and appeals/trials
  
- D. Publication of Patent Gazette, etc.**

#### **E. Computers for patent processing work**

#### **F. Facility improvement**

#### **G. National Centre for Industrial Property Information and Training operation**

#### **H. Others**

All other expenses not covered by the above.

## **KIPO EXPENDITURES (Fig. 2.4)**

### **A. Salaries and benefits**

Compensation for the services of employees or the inclusive expenditure of the services of employees: salaries, bonuses and remuneration of temporary staff.

### **B. General operating expenses**

Expenditure on the operation of organisation.

### **C. External support**

Support for promoting activities of private organisations.

### **D. Equipment**

Expenditure on the purchase of property that normally may be expected to have a period of service of a year or more.

### **E. Other expenses**

All other expenses not covered by the above.

## **SIPO EXPENDITURES (Fig. 2.5)**

### **A. Patent Examination**

### **B. Social Security**

Pension in administrative agencies

### **C. Housing Security**

Housing fund

House-lease subsidy

House-purchase subsidy

### **D. Other expenses**

All other expenses not covered by the above.

## **USPTO EXPENDITURES (Fig. 2.6)**

### **A. 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.

### **B. Rent and Utilities:**

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

### **C. 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 consists of three types of services:

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

### **D. Other expenses:**

All other expenses not covered by the above including but not limited to:

**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.

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

**Supplies and 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, or other property of little monetary value that does not meet any of the three criteria listed above, at the option of the agency.

## Annex 2

# DEFINITIONS FOR TERMS AND FOR STATISTICS ON PROCEDURES

This Annex contains firstly definitions of the main terms used in the report<sup>37</sup>. After that there is an explanation of the patent procedures relating to Fig. 4.9. Then finally there are definitions of the statistics on procedures that appear in Table 4.2.

## DEFINITIONS OF TERMS

### APPLICATIONS, COUNTING OF

Application counts are mainly determined by counting each national, regional or international application only once. However, alternative representations are also given in Chapter 3 after cumulating the number of designated countries over applications.

In this report, applications are counted in terms of patent filings; first filings; requests for patents entering a grant procedure; and demand for national patent rights.

- Counts of ‘Patent filings’ include direct national, direct regional, and initial PCT applications;
- Counts of ‘First filings’ include initial patent applications filed prior to any later subsequent filings to extend the protection to other countries;
- Counts of ‘Requests for patents entering a grant procedure’ include direct national, direct regional, national stage PCT, and regional stage PCT applications;
- Counts of ‘Demands for national patent rights’ include direct national, designated regional, national stage PCT, and designated regional stage PCT applications.

These counting methods are used in various sections of the report, and particularly in Chapter 3. The methods are discussed in greater detail both at the beginning of Chapter 3 and at the beginning of the corresponding sections of Chapter 3.

### BLOCS, GEOGRAPHIC

Six geographical blocs are defined in this report. The first five blocs, together, are referred to as the “IP5 Blocs”. They are:

- The EPC contracting states (EPC states in this report) corresponding throughout the period covered in this report to the territory of the 38 states party to the EPC at the end of 2012;
- Japan (Japan in this report);
- People’s Republic of China (P.R. China in this report);
- Republic of Korea (R. Korea in this report);
- United States of America (U.S. in this report).

The remaining geographical areas are grouped together as:

- the rest of the world (Others in this report).

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<sup>37</sup> A more extensive glossary of terms is available with the web based version of the report.

These blocs are referred to as blocs of origin on the basis of the residence of the first named applicants or inventors (throughout the report) or as filing blocs on the basis of the place where the patents are sought (in Chapters 3 and 5).

## DEMANDS FOR PATENT RIGHTS

Demands for patent rights refers to applications for patents for invention. Counts of patent applications (see above) are made principally by counting each national, regional or international application only once. However, alternative representations are also given in Chapter 3 in terms of the demands for national patent rights, after cumulating the number of designated countries over applications. This makes a difference only in regard to systems where multiple countries can be designated in an application (PCT and regional systems). Demands for 'national' patent rights effectively measures the number of national patent applications that would have been necessary to seek patent protection in the same number of countries if there were no international or regional systems. The counts include direct national filings, designations in regional systems, national stage PCT applications, and designations in regional stage PCT applications.

## DIRECT APPLICATIONS

“Direct” applications are filed directly with the country or regional patent office where protection is sought and are counted in the year they are filed. They are distinguished from “PCT” applications in order to distinguish the two subsets of applications handled by patent offices.

## DOMESTIC APPLICATIONS

These are defined as all demands for patents made by residents of the country where the application is filed<sup>38</sup>. For the purpose of reporting statistics for the EPC contracting states considered as a bloc, domestic applications are given with regard to the applications made by residents from anywhere inside the EPC bloc. For example, applications made by residents of France in one of the other EPC contracting states are counted as domestic demand in the EPC bloc.

## FIRST FILINGS

These are applications filed without claiming the priority<sup>39</sup> of another previous filing and are counted in the year they are filed. They are usually made in the home country or region. All other applications are subsequent filings, usually 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>40</sup> and that PCT filings are subsequent filings. Currently, USPTO first filing data, unless otherwise noted, also include a substantial proportion of applications that are continuations of applications previously filed at the USPTO. See also *APPLICATIONS, COUNTING OF*.

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<sup>38</sup> For the USPTO this is by the residence of the first named inventor; For the EPO, the JPO, the KIPO and the SIPO, this is by the residence of the first named applicant.

<sup>39</sup> See the Article 4A to 4D of the Paris Convention at the WIPO web site;  
[http://www.wipo.int/export/sites/www/treaties/en/ip/paris/pdf/trtdocs\\_wo020.pdf](http://www.wipo.int/export/sites/www/treaties/en/ip/paris/pdf/trtdocs_wo020.pdf)

<sup>40</sup> The data source used for patent families allows a precise count of first filings. Except in the sections on patent families, an approximation of the number of first filings in the EPC Bloc is made by adding first filings at the EPO to aggregated domestic national applications in the EPC contracting states.

## FOREIGN APPLICATIONS

These are defined as all demands for patents made by residents of a location outside of the country or region where the application is filed<sup>41</sup>. See the term definition for Domestic Applications for additional details.

## GRANTS, COUNTING OF

Grant counts in Chapter 3 are based on the WIPO Statistics Database<sup>42</sup>. They are counted in the year that the grants are issued or published. As with the demand for patent rights, the demand for rights granted in each bloc are considered after cumulating the number of designated countries for which national patent rights have been granted via regional procedures. Counts in Chapter 4 and proportions of PCT grants in Chapter 5 are based on IP5 Offices data.

## PATENT FAMILIES

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. Groups containing only utility model applications are excluded. Provisional patent filings are allowed. The set of distinct priority forming filings (that indexes the set of patent families) in principle constitutes a better measure for first filings than aggregated domestic national filings. For the purposes of this report<sup>43</sup>, IP5 patent families are a filtered subset of patent families for which there is evidence of patenting activity in all IP5 Blocs.

## PATENTS IN FORCE

Patents in force are patents that have not expired. Patents may expire for several reasons, two of the most common being the completion of their patent term and the failure to pay a required maintenance fee.

## PCT APPLICATIONS

International applications filed under the PCT are first handled by appointed offices during the international phase. About 30 months after the first filing, they enter the national/regional phase to be treated as national or regional applications according to the regulations of each designated office where protection is sought. "PCT" applications are distinguished from "direct" applications in order to distinguish the two subsets of applications handled by patent offices. PCT applications are usually counted in the year that they enter the national (or regional) phase, although in some parts of this report they are counted in the year of filing in the earlier international phase<sup>44</sup>.

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<sup>41</sup> For the USPTO this is by the residence of the first named inventor; For the EPO, the JPO, the KIPO and the SIPO, this is by the residence of the first named applicant.

<sup>42</sup> <http://www.wipo.int/ipstats/en/statistics/pct/index.html>

<sup>43</sup> The statistical annex of this report, that is available at the web site, and previous editions of this report, also give statistics on Trilateral Patent families and Four blocs families. These are a filtered subset of patent families for which there is evidence of patenting activity in all the Trilateral blocs (EPC, Japan and U.S.), or all the Trilateral blocs and R. Korea, respectively. Note that previous editions of this report, and the associated statistical annexes to those editions, did not exclude groups containing only utility models from the counts.

<sup>44</sup> An international phase PCT application can in theory be a first filing but is usually a subsequent filing made up to twelve months after a first filing. A national (or regional) phase PCT entry can follow on from the corresponding international phase PCT filing and is made up to 30 months after the first filing.

## REQUESTS FOR PATENTS ENTERING A GRANT PROCEDURE

These are filings that entered a grant procedure and include direct national, direct regional, national stage PCT, and regional stage PCT applications. Direct national and direct regional applications enter a grant procedure when filed; while in the case of PCT applications, the grant procedure is delayed to the end of the international phase.

## SUBSEQUENT FILINGS

Subsequent filings are applications filed that claim the priority<sup>45</sup> of a previous filing and usually are made within one year of the first filings. See also FIRST FILINGS. Currently, USPTO subsequent filings data also include a substantial proportion of applications that are continuations of applications previously filed at the USPTO.

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<sup>45</sup> See the Article 4A to 4D of the Paris Convention at the WIPO web site,  
[http://www.wipo.int/export/sites/www/treaties/en/ip/paris/pdf/trtdocs\\_wo020.pdf](http://www.wipo.int/export/sites/www/treaties/en/ip/paris/pdf/trtdocs_wo020.pdf)

## EXPLANATIONS OF THE PATENT PROCEDURES

The following section contains additional explanations of the IP5 Offices patent procedures as shown in Fig. 4.9.

### EXAMINATION: SEARCH AND SUBSTANTIVE EXAMINATION

Each of the IP5 Offices examines a filed patent application based upon novelty, inventive step, and industrial applicability. At the EPO, this examination is done in two phases: a search to establish the state of the art with respect to the invention and a substantive examination to evaluate the inventive step and industrial applicability. For the second phase, a separate request has to be filed no later than six months after publication of the search report.

In the national procedures before the JPO, the KIPO, the SIPO, or the USPTO, the search and substantive examination are undertaken in one phase.

Filing of a national application with the USPTO is taken to imply an immediate request for examination. At the JPO, the KIPO, and the SIPO, deferred examination systems exist and filing of a national application does not imply a request for examination; which may be made up to three years after filing for the JPO and the SIPO, and up to five years after filing for the KIPO.

The international searches and international preliminary examinations carried out by the IP5 Offices as PCT authorities are not included in the flow chart.

### PUBLICATION

In the IP5 Offices, the application is to be published no later than 18 months after the earliest priority date, or otherwise the date of filing (in case of a first filing). The application can be published earlier at the applicant's request. In each of the IP5 Offices, the Publication process is independent of other office processes such as Examination. Also, at 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 - Announcement of grant (EPO); Decision to grant (JPO); Decision to grant (KIPO); Decision to grant (SIPO); Notice of allowance (USPTO). 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: (unfavourable) Examination Report (EPO); Notification of reason for refusal (JPO); Notification of reason for refusal (KIPO); Notification of reason for refusal (SIPO); Office action of rejection (USPTO). 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 or the application is finally rejected - Intention to refuse (EPO); Decision of rejection (JPO); Decision of rejection (KIPO); Decision of rejection (SIPO); Final rejection (USPTO) - or withdrawn by the applicant - Withdrawal (EPO); Withdrawal or Abandonment (JPO); Withdrawal or Abandonment (KIPO); Withdrawal or Abandonment (SIPO); Abandonment (USPTO). In addition, if no request for examination for an application is filed to the EPO, the JPO, the KIPO, or the SIPO within a prescribed period (six months after publication of the search report for the EPO, three years from the date of filing for the JPO and the SIPO, and five years from the date of filing for the KIPO), the application will be deemed to have been

withdrawn. In all five 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, known as Publication of patent (EPO, JPO, KIPO, SIPO, and USPTO). At the USPTO, this action also is referred to as “Patent issuance.”

## **OPPOSITION**

The opposition procedures allow third parties to challenge a patent granted before the granting office.

There is no opposition system at the JPO, the KIPO, and the SIPO.

At the EPO, the period for filing opposition(s) begins after granting of the patents and lasts nine months. If successful, the opposition can lead to a revocation of the patent or to its maintenance in amended form. Furthermore, the patentee may request a limitation or a revocation of his own patents.

At the USPTO, prior to the implementation of the AIA on September 16, 2012, there were two types of third party opposition procedures: interference and re-examination. The AIA revised these and introduced some additional procedures. Under the AIA there are now six distinct procedures for third party opposition including post grant review, inter parte review, business method review, ex parte re-examination, interference, and derivation.

## **APPEAL**

An appeal can be filed by any of the parties concerned against a decision taken by the IP5 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 IP5 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.

The SIPO has re-examination and invalidation procedures. Where an applicant for a patent is not satisfied with the decision of the SIPO rejecting the application, the applicant may, within three months from the date of receipt of the notification, request the Patent Re-examination Board to make a re-examination. Where any entity or individual considers the grant of a patent right is not in conformity with the relevant provisions of the Patent Law, it or he may request the Patent Re-examination Board to declare the patent right invalid.

## DEFINITIONS FOR STATISTICS ON PROCEDURES

The following section contains additional definitions for terminology appearing in Table 4.2 follow.

### 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, the request for examination has to be filed no later than six months after publication of the search. For example the rate for 2012 relates to applications mainly filed in the years 2011 and 2012.

For the JPO, the period to file a request for examination is three years from filing date. The rate for 2012 relates mainly to applications filed in the year 2009.

For the KIPO, the period to file a request for examination is five years. The rate for 2012 relates mainly to applications filed in the year 2007.

For the SIPO, the period to file a request for examination is three years from filing date.

At the USPTO, as filing an application implies a request for examination, such a request is made for all applications.

### GRANT RATE

For the SIPO, only the number of granted patents is currently available.

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 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 KIPO, the grant rate is the number of patent approvals divided by the number of disposals in the reporting year (sum of the numbers of patent approvals, rejections, and withdrawals after first office action).

The USPTO has revised its calculation to present a grant rate that is more consistent with the other IP5 Offices. In reports prior to the 2011 edition, a USPTO allowance rate was reported rather than a grant rate. In this report, the displayed USPTO grant rate is the total number of issued patents divided by the total number of applications disposed of in the reporting year. Requests for continued examination (RCEs) are not included in the disposals. This grant rate differs from the allowance rate usually reported by the USPTO, which counts the total number of applications determined to be eligible by USPTO patent examiners for a patent divided by the total number of applications disposed of in a reporting year. For the allowance rate, RCEs are included in the disposals. Both the rates include plant and reissue patent applications in addition to utility patent applications. However, since utility applications comprise over 99 percent of these applications, the rates are almost identical to rates based strictly on utility applications.

## **OPPOSITION RATE**

These terms apply only to the EPO.

The opposition rate for the EPO is the number of granted patents for which the opposition period (which is nine months after the date of grant) ended in the reporting year and against which one or more oppositions were filed, divided by the total number of patents for which the opposition period ended in the reporting year.

## **APPEAL RATE**

For the EPO, appeal rate on examination is the number of decisions in the examination procedure 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 KIPO, the rate is the number of appeals filed during the year after the examiner's decision to issue a final rejection against a patent application divided by the number of final rejections issued against a patent application during the year.

The USPTO appeal rate on examination, 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. This rate includes plant patents and reissue patents in addition to utility patents (see above GRANT RATE).

For all five offices, any subsequent litigation proceedings in national courts are not included.

## **PENDENCY / SEARCH**

This only applies to the EPO.

The pendency time in search is defined as the median time period, in months, measured from the date of filing the application to the date of issue of the European search report which is extended to include an opinion on the patentability.

## **PENDENCY / EXAMINATION / NUMBER OF APPLICATIONS AWAITING REQUEST FOR EXAMINATION**

This does not apply to the USPTO.

This figure indicates the number of filed applications awaiting a request for examination by the applicant.

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

For the JPO, KIPO and the SIPO, the numbers of applications awaiting request for examination indicate the numbers 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 (three years after filing for JPO and SIPO, five years for KIPO) has not expired.

For the JPO, numbers include the number of abandoned/withdrawn applications.

### **PENDENCY / EXAMINATION / NUMBER OF PENDING APPLICATIONS**

For the EPO, this is the number of applications filed for which the search was completed and the request for examination was filed, yet they have not received a final decision by the examining division (announcement to grant, to refuse or abandonment) by the end of the reporting year.

For the JPO and the KIPO, pending applications in examination 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 JPO, the applications for which the applicants wished to make deferred payment of examination request fee and have been still deferring the payment are not counted in the number of pending examinations.

For the USPTO, pending applications in examination are applications which are 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. These figures do not include other pending applications that have been subject to a first action.

### **PENDENCY / EXAMINATION / PENDENCY FIRST OFFICE ACTION**

This is measuring the delay until the first action on patentability.

For the EPO, the pendency to first office action is the same as the pendency in search, measured as the median time period, in months, measured from the date of filing the application to the date of issue of the European search report which is extended to include an opinion on the patentability.

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

For the SIPO, pendency first office action is the average time period, in months, from when applications entered the substantive examination phase following 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 / EXAMINATION / PENDENCY FINAL ACTION**

For the EPO, the counts relate to pendency until a final action by the examining division (decisions to grant or refuse, withdrawals, abandonments) during the reporting year. This is the median time elapsed from the date on which the application enters the substantive examination phase to the date of the final action. This definition was adjusted in this report

to indicate how long the substantive examination takes after the applicant has confirmed his request for substantive examination.

For the JPO and the KIPO, pendency for examination in months is the total number of months taken for disposing applications as final actions (decisions to grant or to refuse, withdrawals or abandonments) in the reporting year, divided by the number of final actions during the reporting year.

For the SIPO, pendency for examination refers to the average time period taken, in months, for disposing applications, calculated from the date on which the application enters the substantive examination phase to the date on which the final action (decisions to grant or of rejection, withdrawals, or abandonments) are issued.

For the USPTO, pendency examination in months 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. This number includes plant patents and reissue patents in addition to utility patents (see above GRANT RATE).

## **PENDENCY INVALIDATION**

This is only reported for the SIPO.

Pendency time in invalidation refers to the duration from the date on which the notification of acceptance of request for invalidation is issued to the date on which the examination decision on request for invalidation is issued.

## ACRONYMS

AIA	Leahy-Smith America Invents Act
ARIPO	African Regional Intellectual Property Office
CPC	Cooperative Patent Classification
DOCDB	DOCument DataBase [EPO]
EAPO	Eurasian Patent Organization
ECLA	European Classification [EPO]
EPC	European Patent Convention [EPO]
EPO	European Patent Office
EU	European Union
FAOM	First office Action On Merits [USPTO]
FLASH	First Look Application Sharing
FOSR	Four Office Statistics Report
GIPA	Global IP Academy [USPTO]
FY	Fiscal Year
IB	International Bureau
IFRS	International Financial Reporting Standards [EPO]
IMF	International Monetary Fund
IP	Intellectual Property
IP5	Five IP Offices (EPO, JPO, KIPO, SIPO, USPTO)
IP5 SR	IP5 Statistics Report
IPC	International Patent Classification
IPR	Intellectual Property Rights
IPEA	International Preliminary Examination Authority
ISA	International Searching Authority
IT	Information Technology
JP-FIRST	JP-Fast Information Release Strategy [JPO]

JPO	Japan Patent Office
KIPO	Korean Intellectual Property Office
OECD	Organisation for Economic Cooperation and Development
PACE	Program for Accelerated Prosecution of European Patent Applications [EPO]
PCT	Patent Cooperation Treaty
PPH	Patent Prosecution Highway
P.R. China	People's Republic of China
RCE	Requests for Continued Examination [USPTO]
R. Korea	Republic of Korea
RO	Receiving Office
SIPO	State Intellectual Property Office of the People's Republic of China
SME	Small and Medium-Sized Enterprise
TSR	Trilateral Statistical Report
U.S.	United States of America
USPTO	United States Patent and Trademark Office
WIPO	World Intellectual Property Organization

**European Patent Office (EPO)**

80298 Munich  
Germany  
[www.epo.org](http://www.epo.org)

**Japan Patent Office (JPO)**

3-4-3 Kasumigaseki, Chiyoda-ku  
Tokyo 100-8915  
Japan  
[www.jpo.go.jp](http://www.jpo.go.jp)

**Korean Intellectual Property Office (KIPO)**

Government Complex Daejeon,  
139 Seonsa-ro, Seo-gu Daejeon, 302-701  
Republic of Korea  
[www.kipo.go.kr](http://www.kipo.go.kr)

**State Intellectual Property Office of the People's Republic of China (SIPO)**

No. 6, Xitucheng Lu, Jimenqiao,  
Haidian District  
Beijing 100088  
People's Republic of China  
[www.sipo.gov.cn](http://www.sipo.gov.cn)

**United States Patent and Trademark Office (USPTO)**

P.O. Box 1450  
Alexandria, VA 22313  
U.S.  
[www.uspto.gov](http://www.uspto.gov)

This report contains statistical information from the five major patent offices in the world (IP5 Offices). It gives a description of worldwide patenting activities, and provides details and comparisons about the business processes taking place at each office.

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