IP5
*S*tatistics
*R*eport

2013 Edition

IP5 Statistics Report 2013 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 2012, 8.5 million patents were in force in the world (+8.3 percent). 90 percent of these patents were valid in one of the IP5 Offices jurisdictions.
- In 2012, 2.0 million patent applications were filed worldwide, either as direct national, direct regional or international PCT applications of which 92 percent originated from the IP5 Blocs.
- In 2013, 2.1 million patent applications were filed at the IP5 Offices (+11 percent).
- In 2012, the proportion of applications filed via the PCT remained stable for applications originating from most of the regions.
- Together the IP5 Offices granted 956,644 patents in 2013 (+4 percent).
- In 2013, the main developments at the IP5 Offices were:
  - IP5: Agreement of PPH will reduce examination workload, with expansion globally in order to improve patent quality, which we expect to grow in usage constantly in the future.
  - EPO: In 2013, the EPO celebrated the 40th anniversary of the signing of the European Patent Convention. The EPO and USPTO launched the Cooperative Patent Classification (CPC) in January. The EU regulations on the unitary patent protection entered into force. The full suite of languages in Patent Translate was completed.
  - JPO: The JPO achieved a long-term goal proposed in 2004 that it would shorten an average First Action period to 11 months by the end of FY 2013 (FA 11).
  - KIPO: The pendency period was reduced to 13.2 months. Also, organizational restructuring was carried out to build a premium examination service for patent applications of convergence technologies and enhanced systems to protect intellectual property rights (IPRs).
  - SIPO: In 2013, the number of applications for invention patents received by SIPO reached a record of 825,136 (+26.4 percent), and 207,688 patents for invention were granted. The average examination period for invention patents was reduced to 22.2 months.
  - USPTO: In 2013, the USPTO decreased unexamined patent application backlog and lowered patent pendency while concurrently implementing sweeping patent reform legislation and working collaboratively with offices around the world to build a more robust and efficient international intellectual property system.

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 2013 key IP5 statistical data report that was made earlier in 2014. 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.

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 are 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. In 2013 and early 2014, the USPTO implemented the final fee and rules changes associated with the Leahy-Smith America Invents Act (AIA) to better align the U.S. with international norms and to harmonize the international patent system and facilitate office cooperation through work-sharing with international patent offices. As the global patent system becomes more harmonized, common economic driving forces have been a major influence on patent filings.

According to the World Economic Outlook[1] of the International Monetary Fund (IMF), the "*global activity strengthened during the second half of 2013 and is expected to improve in 2014-2015*". 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 2012. (At the time of publication of this report, the 2013 worldwide filing count is not yet available.) More recent data are however available from the IP5 Offices (see Chapters 2 and 4 of this report). In 2013, the filings grew 26 percent for the SIPO, 8 percent for the KIPO, 5 percent for the USPTO, and 3 percent for the EPO. But the filings decreased by 4 percent at the JPO. The data showed a total annual growth of 11 percent for overall filings at the IP5 Offices.

Although patent filing is closely tied to economic growth, political and technological factors are also influential. Globalization of markets and production continue to be key business trends. There is a worldwide tendency to harmonize patent laws with common international standards and to facilitate life for applicants when filing across borders. These factors have had a positive impact on worldwide patent growth over recent years.

The IP5 Offices hope that this report provides 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 Annexes 1 and 2 that appear at the end.

[1] World Economic Outlook April 2014, www.imf.org.

When reading this report, it should be borne in mind that the procedures and practices among the IP5 Offices differ in a number of areas. Therefore, care should be taken when analysing and interpreting the various statistics.

An additional annex appears in the web version that gives a glossary of patent related terms. A data file is also available that contains statistics covering more years.

EPO, JPO, KIPO, SIPO, and USPTO
With cooperation of WIPO
October 2014

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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*"[2], including:

- Patents for invention
- Utility models
- Industrial designs
- 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[3]. It is notable that the activity of patents for invention is recognized 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 organizations)
- the International PCT procedure

Each country and region maintains its own patent procedures with the intent of encouraging innovative activities and optimizing 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 according to locations. These factors limit the degree to which the patenting activity in different countries and regions can be directly compared.

The patent systems at all IP5 Offices are based on the first-to-file principle and follow 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 centralized

[2] See also, World Intellectual Property Organization, "*What is Intellectual Property?*", www.wipo.int/about-ip/en/.

[3] 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 2013
- 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 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[4].

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[5].

[4] www.fiveipoffices.org/statistics.html.
[5] For a further discussion of patent families, see the term definitions in Annex 2.

Statistics are derived primarily from the WIPO Statistics Database[6], as collected from each country and region.

Chapter 4 – Patent Activity at the IP5 Offices

This part of the report presents the substantive activities of the IP5 Offices and provides 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 breakdowns. Then, statistics are provided displaying the breakdown of applications by fields of technology according to the International Patent Classification (IPC)[7].

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. The distributions of the numbers of grants per applicant are also described.

To illustrate the similarities as well as the differences in the granting procedures at the IP5 Offices, 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.

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, patent families and grants. As with Chapter 3, statistics are derived primarily from the WIPO Statistics Database, that is 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.

[6] This edition refers to general patent data as of March 2014, and to July 2014 for PCT international applications, www.wipo.int/ipstats/en/statistics/patents/.
[7] www.wipo.int/classifications/ipc/en/.

Chapter 2

THE IP5 OFFICES

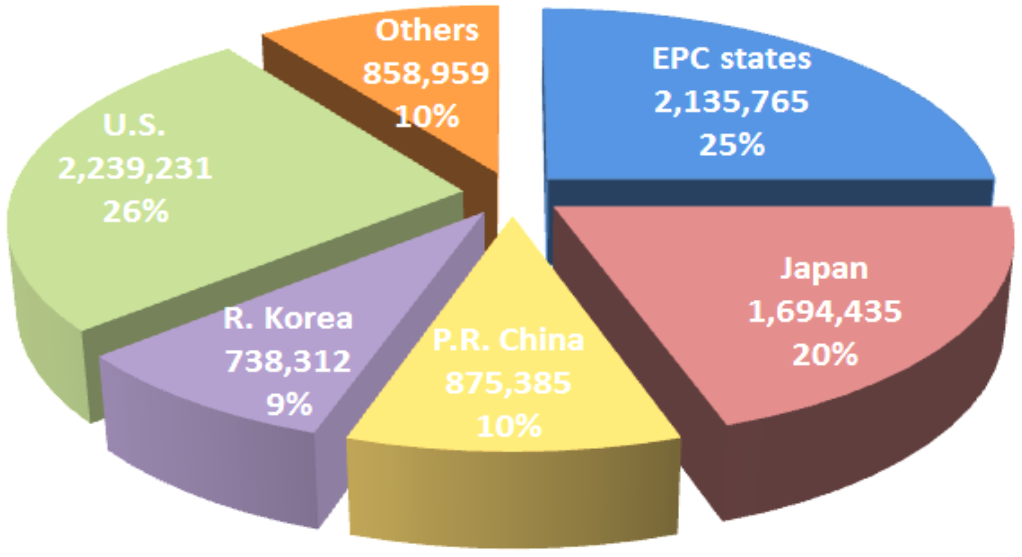
The IP5 is the name given to a group that is made up of the five largest intellectual property offices (EPO, JPO, KIPO, SIPO, and USPTO). The IP5 structure has been established to contribute to improving the efficiency of the examination process for patents worldwide.

As the world sees economic barriers between nations fade away, innovators want their intellectual creations to be protected concurrently in multiple major markets. It is believed that more than 200,000 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 recognized throughout the world as a measure of innovative activity. The following figure shows the numbers of patents in force worldwide at the end of 2012. The data are based on the most recent worldwide patent information available from the WIPO Statistics Database[8].

Fig. 2.1 shows the number of patents in force by bloc in 2012.

Fig. 2.1: PATENTS IN FORCE END OF 2012



At the end of 2012, 90 percent of the 8.5 million patents were in-force in one of the IP5 Offices jurisdictions. This demonstrates the prominent role that is played by the IP5 Offices.

[8] www.wipo.int/ipstats/en/statistics/patents/. Data for patents in force for 2012 are missing for some countries in the WIPO Statistics Database. Where available, the most recent previous year's data were substituted for missing 2012 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 617 million people.

At the end of 2013, the 38 members of the underlying European Patent Organization were:

Albania	Austria	Belgium	Bulgaria	Croatia
Cyprus	Czech Republic	Denmark	Estonia	Finland
France	Germany	Greece	Hungary	Iceland
Ireland	Italy	Latvia	Liechtenstein	Lithuania
Luxembourg	Malta	Fyr of Macedonia	Monaco	Netherlands
Norway	Poland	Portugal	Romania	San Marino
Serbia	Slovakia	Slovenia	Spain	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 organization. In 2013, a first agreement with Morocco was signed which is expected to enter into force in 2015 and a new agreement was signed with Moldova. Discussions with some other countries are also taking place.

The national patent offices of all the above states also grant patents. After granting, an EPO patent can become a bundle of national patents to be validated in the 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. Its main task is to grant European patents according to the EPC states. 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 (Belgium, Cyprus, France, Greece, Italy, Lithuania, Luxembourg, Malta, Monaco, the Netherlands, San Marino, Turkey) state of the art searches for the purpose of national procedures. The EPO plays a major role in the patent information area, developing tools, and databases.

Highlights of 2013

On 1st January, the Cooperative Patent Classification (CPC), jointly developed by the EPO and the USPTO, became the reference classification system of these two offices, replacing ECLA of the EPO and USPC of the USPTO. Over the course of the year, the IP offices of P.R. China, R. Korea, Russia, and Brazil as well as several EPO states' offices agreed to classify their documents using the CPC. In total, 15 IP offices are classifying or have indicated that they will classify into the CPC, with many more using it for search.

Following the adoption of the EU regulations on the unitary patent protection in December 2012, an international treaty on a unified patent court was signed by 25 EU member states in

February 2013. The unified patent court will enter into operation after at least 13 ratifications by EU member states including France, Germany, and United Kingdom.

2013 marked the 40th anniversary of the signing of the European Patent Convention (EPC), leading to the creation of the EPO. Over 400 European and international guests attended the anniversary event on 17th October at the EPO headquarters in Munich. To mark the occasion, an EPO sponsored book by historian Professor Pascal Griset of Paris-Sorbonne University was published, entitled "*The European patent - a European success story for innovation*".

Grant Procedure

Activities associated with search, examination, opposition or appeals are all performed by EPO staff. The EPO issues a search report with written opinion on patentability for first filings within 5 months from filing (5.4 months for second filings). The decision to grant or refuse a patent is taken by a board of three examiners. In Table 2.1, production figures for filings, applications, searches, examinations, oppositions and appeals in the European procedure are given for the years 2012 and 2013. There was a further increase in demand in 2013 as represented by the overall number of patent filings.

In 2013, the number of completed searches as well as the number of final actions in examination at the EPO increased by more than 4 percent to about 213,300 searches and 126,900 examinations, including the PCT international work. This development is also reflected in a higher number of published granted patents. About 2,190 decisions in appeal were completed by the EPO boards of appeal in 2013.

The EPO fast track procedure, Program for Accelerated Prosecution of European Patent Applications (PACE), can be requested without any additional fee and is open for any field of technology. PACE is now used for almost 10 percent of the patent applications every year. In 2013, the number of PACE requests increased by 21 percent to 20,300 requests (7,650 searches, 12,650 examinations).

Patent Information

The EPO's patent database, Espacenet, is free to use and remains the most comprehensive collection of patent literature. As a result of co-operation with patent offices worldwide, full-text patent collections in languages such as Chinese, Japanese, Korean, and Russian are being added to Espacenet, bringing the total number of documents in this database to 88 million by the end of 2013.

In order to improve understanding of patent documents, in 2013, the full suite of languages in a tool called Patent Translate was completed a year ahead of schedule. Users can now translate the full text of patents in Espacenet between English and 31 other languages (covering all EPO member states languages, as well as Chinese, Japanese, Korean, and Russian). Translation from and into French or German is also available for EPO member states languages. 15,000 – 20,000 translations are made on a daily basis.

The EPO search platform, EPOQUE, was significantly enhanced during 2013, with many improvements to efficiency and performance, helping further to lead examiners to the most relevant documents. These advances are now shared with 44 patent offices around the world, where EPOQUE is being used by some 17,000 patent specialists.

Table 2.1: EPO PRODUCTION INFORMATION

EPO PRODUCTION FIGURES	2012	2013	Change	% Change
Patent filings (Euro-direct & PCT international phase)	258,473	265,690	7,217	2.8%
Patent applications (Euro-direct & Euro-PCT regional phase	148,494	147,869	-625	-0.4%
Searches carried out				
European (including PCT supplementary)	103,601	105,432	1,831	1.8%
PCT international	76,825	82,220	5,395	7.0%
On behalf of national Offices and other	23,899	25,624	1,725	7.2%
Total production search	**204,325**	**213,276**	**8,951**	**4.4%**
Examination - Opposition (final actions)				
European examination	111,860	116,820	4,960	4.4%
PCT Chapter II	7,995	7,863	-132	-1.7
Oppositions	2,021	2,176	155	7.7%
Total final actions examination-opposition	**121,876**	**126,859**	**5,115**	**4.5%**
European patents granted	65,657	66,712	1,055	1.6%
Appeals settled				
Technical appeals	2,029	2,137	108	5.3%
Other appeals	42	50	8	19.0%
Total decisions	**2,071**	**2,187**	**116**	**5.6%**

International and European Cooperation

The EPO continues to be engaged in different types of cooperation programs both inside and outside Europe: including the European Patent Network (EPN), IP5, and bilateral agreements.

In September 2013, an agreement was reached amongst the offices for an IP5 Patent Prosecution Highway (PPH) pilot. This project will enable users with a positive patentability opinion from one office to request accelerated treatment at all or some of the other four, while at the same time those offices share their own results on equivalent cases.

The EPO provides supports to patent offices in Europe through cooperative activities within the EPN. This entered a new cycle with the launch of the EPN Co-operation Roadmap 2012-2015, focusing on three main areas: information technology, training and patent awareness via patent information.

Economic Impact of Patenting

A joint study conducted by the EPO and OHIM on the economic impact of IP rights in the EU was presented in September 2013. The study underlines the higher performances of IP intensive industries and the positive influence on employment, foreign trade and GDP.

Set up in 2012, the Economic and Scientific Advisory Board (ESAB) published a report on its workshop on effects of patent thickets in 2013. During 2013, the ESAB conducted research work on the economic effects of the unitary patent and of the Unified Patent Court. It also initiated research on the possible economic impact of a grace period should it be introduced in Europe.

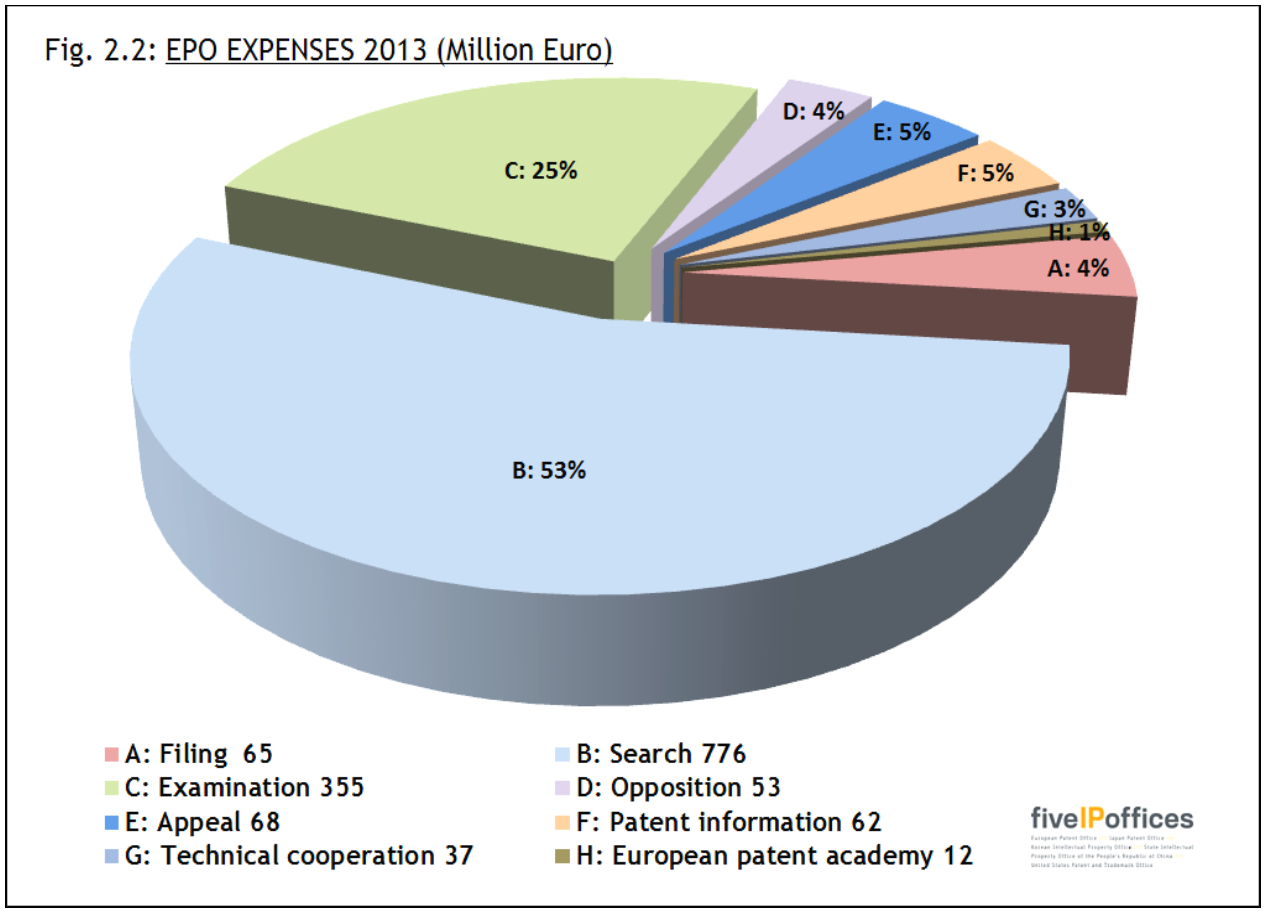
EPO Budget

The EPO is financially autonomous and does not receive any subsidies from the Contracting States of the Organization. Expenses are therefore mainly covered by revenue from fees paid by applicants and patentees. In 2013, the EPO budget amounted to 2.0 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) are kept by the Contracting States of the Organization where the European patent is validated after the central grant process.

On the expenses side, in addition to the salaries and allowances supported by a patent office, the EPO, as the office of an international organization, also finances other social staff expenses such as pensions, sickness and 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[9] under the International Finance Reporting Standards (IFRS) by category in 2013.



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

[9] The EPO uses the word "*expenses*" in accordance with the IFRS reporting approach.

EPO Staff

At the end of 2013, the EPO staff totalled about 6,800 employees from 32 different European countries. 179 examiners were recruited during the year. The total number of search, examination, and opposition examiners reached a record figure of 4,107. Boards of appeal members increased to 165. Staff complement in other areas was reduced.

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

More information

Further information can be found on the EPO's Homepage:
www.epo.org

JAPAN PATENT OFFICE

Efforts Related to Patents

The JPO has made various efforts to achieve its long-term objective outlined in the Intellectual Property Strategic Program 2004 formulated by the Intellectual Property Strategy Headquarters in 2004, which is to reduce First Action (FA) pendency[10] to 11 months by the end of FY[11] 2013. 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 its examiners by hiring around 490 fixed-term examiners each year between FY 2004 to FY 2008. Moreover, since FY 2009, the fixed-term examiners who completed their five-year terms have been re-hired to maintain the JPO's examination capabilities.

Table 2.2: JPO NUMBER OF PATENT EXAMINERS

Examiners	FY 2012	FY 2013	Change	% Change
Regular	1,223 (+ 2)	1,211 (-12)	-12	-1.0%
Fixed-term	490	490	0	-
Total	1,713 (+ 2)	1,701 (-12)	-12	-0.7%

2) Increasing and Enhancing Outsourcing of Prior Art Document Searches

The number of prior art searches outsourced in FY 2013 decreased by 2.5 percent year-on-year, to 233,000. Dialogue-based[12] outsourcing, that is much more efficient than paper-based[13] outsourcing, accounted for 94 percent (220,000) of the total. (The figures in FY 2012 were 92 percent and 219,000 searches respectively.) This shows an increase in dialogue-based outsourcing to the private sector. Although the number of outsourced prior art searches decreased, it is expected that examination efficiency will further improve through the JPO making use of dialogue-based outsourcing.

2. Efforts to Obtain Stable Rights

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

[10] The period from the time a request for examination is made, up to when the first notice of examination results is sent.
[11] The fiscal year (FY) begins in April at the JPO.
[12] In "*dialogue-based*" outsourcing, patent examiners receive not only written reports on the prior art search results from the searchers but also oral reports by the searchers based on the written reports. This is done in order to raise the understanding of the examiners on the details of the inventions and prior art documents.
[13] In "*paper-based*" outsourcing, the results of prior art document searches are reported to applicants through written or "paper-based" search reports.

Therefore, it is important to deepen understanding of many factors such as technologies and related technical fields subject to examinations. It is also important to conduct accurate prior art searches that include 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 when necessary in order to respond to the opinions of users and the results of appeals/trials and judgments from the viewpoint of international system harmonization.

1) Efforts for International Work Sharing

Following the global increase in the patent applications amidst the ongoing globalization of economic and business activities, and the increasing importance of intellectual property along with such globalization, 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 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 annual average first action pendency was about 14.1 months in 2013, while the examination pendency of PPH applications, from the acceptance of the PPH request up to the commencement of the examination was about 2 months in 2013.

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, the average number of office Actions can be rather less than with 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.

2) 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 utilization of these results in foreign offices is important.

3. Future Directions and Specific Efforts for Japan’s Intellectual Property Policy

While efforts were being made to address issues for the intellectual property policy specified in the Japan Revitalization Strategy and the Basic Policy Concerning Intellectual Property Policy that the Japanese Cabinet decided to adopt in June 2013, the Intellectual Property Committee of the Industrial Structure Council reflected on changes in the external

environments of both Japanese companies and intellectual property systems to discuss initiatives that need to be further advanced and prioritized in responding to issues concerning intellectual property.

Based on what was compiled by the committee, it was decided that by FY 2023, "*the examination period required for granting patent rights*[14]**"** would be shortened to 14 months, and the average amount of time for the FA will be shortened to less than 10 months. Furthermore, it was also decided that in order to further improve examination quality, a panel composed of external experts would be established by FY 2014 to review the progress of the implementation efforts, and the organization of the JPO's quality management policy. Based on these goals, the JPO will achieve an IP system that is the fastest and highest quality in the world.

In Table 2.3, production figures for applications, examination, grants, appeals or trials, and PCT activities in the Japanese procedure are given for the years 2012 and 2013.

Table 2.3: JPO PRODUCTION INFORMATION

JPO PRODUCTION FIGURES	2012	2013	Change	% Change
Applications filed (by Origin of Application)				
Domestic	287,013	271,731	-15,282	-5.3%
Foreign	55,783	56,705	922	1.7%
Total	**342,796**	**328,436**	**-14,360**	**-4.2%**
Applications filed (by Types of Application)				
Divisional Applications[15]	26,854	28,463	1,609	6.0%
Converted Applications[16]	96	108	12	12.5%
Regular Applications	315,846	299,865	-15,981	-5.1%
Total	**342,796**	**328,436**	**-14,360**	**-4.2%**
Examination				
Requests	245,004	240,188	-4,816	-2.0%
First actions	369,679	356,179	-13,500	-3.7%
Final actions	380,964	372,680	-8,284	-2.2%
Grants				
Domestic	224,917	225,571	654	0.3%
Foreign	49,874	51,508	1,634	3.3%
Total	**274,791**	**277,079**	**2,288**	**0.8%**
Appeals/Trials				
Demand for Appeal against refusal	24,958	24,644	-314	-1.3%
Demand for Trial for invalidation	217	247	30	13.8%
PCT activities				
International searches	40,529	42,377	1,848	4.6%
International preliminary examinations	2,702	2,509	-193	-7.1%

[14] "*The examination period required for granting patent rights*" excludes such cases where the JPO requests an applicant to respond to the second notification of reasons for refusal and other actions by submitting an amendment and other documents within a period stipulated under the law (Article 17-2 and 50 of the Patent Act etc.).

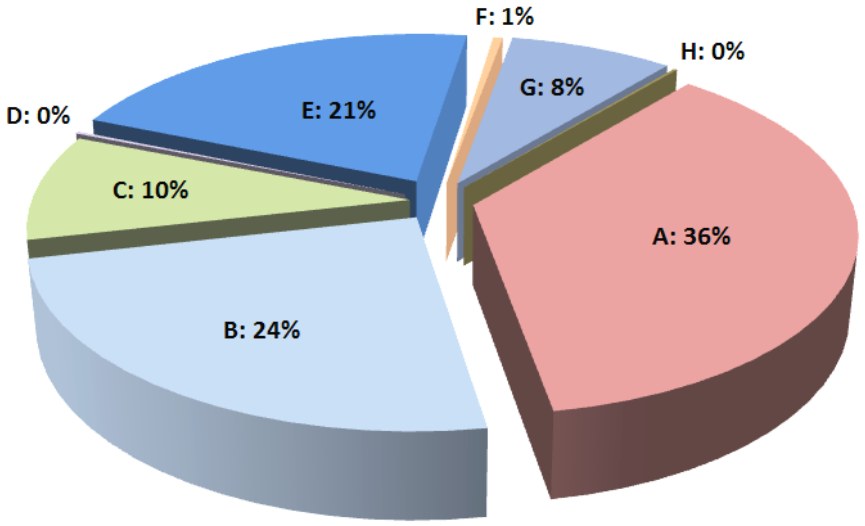
[15] Divisional application(s) is/are one or more new patent application(s) which is/are filed by dividing a part of the patent application that includes two or more inventions under certain conditions.

[16] A converted application is an application which is filed by mutually converting a form of application among patent, utility model, and design applications under certain conditions.

JPO Budget

Fig. 2.3 shows JPO expenditures by category in 2013.

Fig. 2.3: JPO EXPENDITURES 2013 (Million Yen)



A: General processing work 41,604
B: Examinations and appeals/trials 27,685
C: Information management 10,998
D: Publication of patent gazette 262
E: Computerization of patent processing work 24,219
F: Facility improvement 548
G: Operating subsidies for INPIT 9,312
H: Others 200

fiveIPoffices

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

JPO Staff Composition

As of the end of FY 2013, the total number of staff at the JPO was 2,852. This includes 490 fixed-term patent examiners.

Examiners:	Patent / Utility model:	1,701
	Design:	51
	Trademark:	146
Appeal examiners:		387
General staff:		567
Total:		2,852

More information

Further information can be found on the JPO's Homepage:
www.jpo.go.jp

KOREAN INTELLECTUAL PROPERTY OFFICE

Mission Statement

The 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 commercialization and utilization of intellectual property and by strengthening the protection of intellectual property.*

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

Statistical Overview of 2013

The number of patent applications increased by 8.3 percent in 2013, to 204,589. PCT applications increased by 4.8 percent in 2013 to 12,438.

The number of first actions on patent applications decreased by 11.4 percent to 181,871 in 2013 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 13.2 months for patent and utility models.

The number of International Search Reports (ISR) of international patent applications under the PCT increased by 15.1 percent from 2012 to 34,431 in 2013. The number of PCT International Preliminary Reports on Patentability (IPRP) increased by 4.0 percent from 2012 to 263 in 2013.

In Table 2.4, production figures for applications, examination, grants, and PCT activities are given for the years 2012 and 2013.

Examination Service

1) Organizational Restructuring

On September 9, 2013, the KIPO carried out the largest organizational restructuring in our history for effectively accommodating convergence technologies (a combination of technologies from more than one technical area), enhancing IP protection, and providing better public access to IP information.

Patent examination, our primary area of expertise, now places a greater focus on convergence technologies, allowing us to take advantage of trends in cutting-edge technology.

The Patent Examination Policy Bureau was established to efficiently handle convergence technologies and develop examination policies. Examination on technologies related to Korean industries (both primary and emerging) was also reorganized into various technological fields within Patent Examination Bureaus 1, 2, and 3. Additionally, the International Cooperation and Customer Support Bureau were restructured with the Intellectual Property Protection & International Cooperation Bureau to enhance IPR enforcement and promote appreciation. On the other side, the newly established Intellectual Property Investigation Division is now fully responsible for monitoring and enforcing IP rights against counterfeit goods.

Table 2.4: KIPO PRODUCTION INFORMATION

KIPO PRODUCTION FIGURES	2012	2013	Change	% Change
Applications filed				
Domestic	148,136	159,978	11,842	8.0%
Foreign	40,779	44,611	3,832	9.4%
Total	**188,915**	**204,589**	**15,674**	**8.3%**
Applications filed (by Types of Application)				
Divisional Applications[17]	6,435	6,885	450	7.0%
Converted Applications[18]	81	67	-14	-17.3%
Regular Applications	182,399	197,637	15,238	8.4%
Total	**188,915**	**204,589**	**15,674**	**8.3%**
Examination				
Requests	155,566	164,844	9,278	6.0%
First actions	163,246	181,871	18,625	11.4%
Final actions	163,912	179,794	15,882	9.7%
Grants				
Domestic	84,061	95,667	11,606	13.8%
Foreign	29,406	31,663	2,257	7.7%
Total	**113,467**	**127,330**	**13,863**	**12.2%**
Applications in appeal	10,039	8,111	-1,928	-19.2%
PCT activities				
International searches	29,919	34,431	4,512	15.1%
International preliminary examinations	253	263	10	4.0%

The Information Policy Bureau was restructured with the Information and Customer Support Bureau to improve upon a wide range of customer services, including applications and registrations submitted through KIPOnet, our information system. The Information Utilization Division was established to distribute IP information and lay a foundation for developing the IP information service industry (both mid and long-term) to allow more efficient public access.

2) Reducing examination pendency

Early acquisition of IPRs is of equal importance to examination quality. That is, the KIPO sets targets for the pendency of patents, utility models, trademarks, and designs at the start of each year and undertook various measures to reach those targets.

Average first action pendency for 2013 was 13.2 months for patents and utility models, 7.7 months for trademarks, and 7.4 months for designs. Compared with 2012, pendency was reduced by 1.6 months for patents and utility models, 1.2 months for trademarks, and 1.4

[17] A divisional application is filed to divide a patent application (known as the parent application) into two or more applications.

[18] A patent applicant may convert an application for utility model registration to a patent application within the scope of matters stated in the description or drawing initially attached to the patent application.

months for designs. Our 2014 target goals are 11.7 months for patents and utility models and 6.5 months for trademarks and designs. Since IPR applications and requests for international searches under the PCT are steadily increasing, the KIPO is in the process of recruiting additional examiners.

Improvement of quality

The use of examination quality control for maintaining fairness and objectivity helps us to offer thoroughly reliable examination results. Examination review is mainly conducted by the staff of the Examination Quality Assurance Division, which is directly supervised by the deputy commissioner.

In 2013, the KIPO reviewed examinations of 3,469 patents and utility models, 4,453 trademarks and designs, and 1,932 PCT reports to evaluate the efficiency of the overall examination process, as well as decisions on substantive requirements. As a result, the examination error rate was 1.0 percent for patents and utility models, 0.2 percent for trademarks and designs, and 0.8 percent for the PCT. In addition to the above, examination review on 2,278 patents and utility models, as well as 1,348 trademarks and designs, was carried out under the supervision of directors from each examination bureau.

In 2013, the KIPO underwent reviews regularly on examination quality and took monthly samples of examinations in order to assure accuracy and provide feedback to each examination bureau.

International Cooperation

1) Bilateral cooperation

The KIPO expanded the number of countries involved with the Patent Prosecution Highway (PPH) and the PCT-PPH (Patent Cooperation Treaty-Patent Prosecution Highway). In 2013, the KIPO established PPH with Singapore and Hungary, as well as PPH and PCT-PPH with Austria. By the end of 2013, the KIPO had established PPHs with a total of 14 countries, and PCT-PPHs with 4 countries. Agreements were also made to execute PPHs with Sweden, Israel, Portugal, and Spain beginning in 2014.

In 2014, the KIPO plans to expand PPH to over 20 countries and PCT-PPH to over 16 countries, primarily through the Global PPH, which will involve 13 countries, and the IP5 PPH.

In addition, the IP offices of Korea, China, and Japan held the 13th Policy Dialogue Meeting. It was held in Sapporo, Japan, in November of 2013 and served to draw up measures for more effectively responding to increasing workloads. IPR user groups took part in the meeting and worked to enhance communication and information exchange with our key stakeholders.

2) IT-related bilateral cooperation

From 2011 to 2012, as a key role of the IP5 Machine Translation Project, the KIPO successfully completed the error checking and quality evaluations of the IP5 Machine Translation Project. Three of the patent offices reached an appropriate quality level for possible utilization in prior art searches which was the initial target of the Machine Translation Project in 2008. Furthermore, the KIPO proposed measures to integrate and link the machine translation services of each office into an IP5 web-based service. The KIPO continues to strive to improve the quality and convenience of the IP5's machine translation services.

In addition, the KIPO completed development on the Korean version of the One Portal Dossier (OPD) in 2013, providing examiners with simultaneous access to examination status updates from the various IP5 Offices. Pilot tests were carried out among the IP5 Offices from April to June of 2013, and our local version of the OPD was opened to all IP5 offices at the end of August.

IP Office Automation System

In 1999, the KIPO launched KIPOnet, an internet-based e-filing and work processing platform for the filing, receipt, examination, registration, trial, and publication of applications for patents, utility models, trademarks, and design rights. Continual improvements to this system have led to the updated version called KIPOnet III.

Work on KIPOnet III commenced in 2009 with the goal of using an environment for smart application and examination. The new platform was launched in January 2012 and completed in June 2013. In 2012, the KIPO developed strategies for PCT, trials, and international trademarks (Madrid). New additions include a Server-Based Cloud (SBC) platform to enhance security. In 2013, the KIPO fully implemented an official certificate system to prevent identity theft, expanded our automatic payment banking options, and simplified the process for issuing certifying documents to provide them instantly issuable upon request. In addition, fees can now be paid in foreign currencies - a first for any Korean governmental institution - and the application fee for the PCT can now also be paid in Swiss francs (CHF).

Providing Comprehensive IP Support to Small and Medium-Sized Enterprises (SMEs)

As of 2013, the KIPO has been managing, in cooperation with local governments, 31 regional IP centers nationwide as strategic hubs for the development of regional IPs. The centers continuously execute various joint projects - such as the provision of IP information services, comprehensive IPR consultation, IPR field training, and the sharing of IP expertise - in collaboration with regional organizations.

In 2013, the centers responded to 6,990 requests for patent information, provided 3,428 brand consultations, and gave 2,558 design consultations. They also held 20 promotional events for increasing the number of regional inventions.

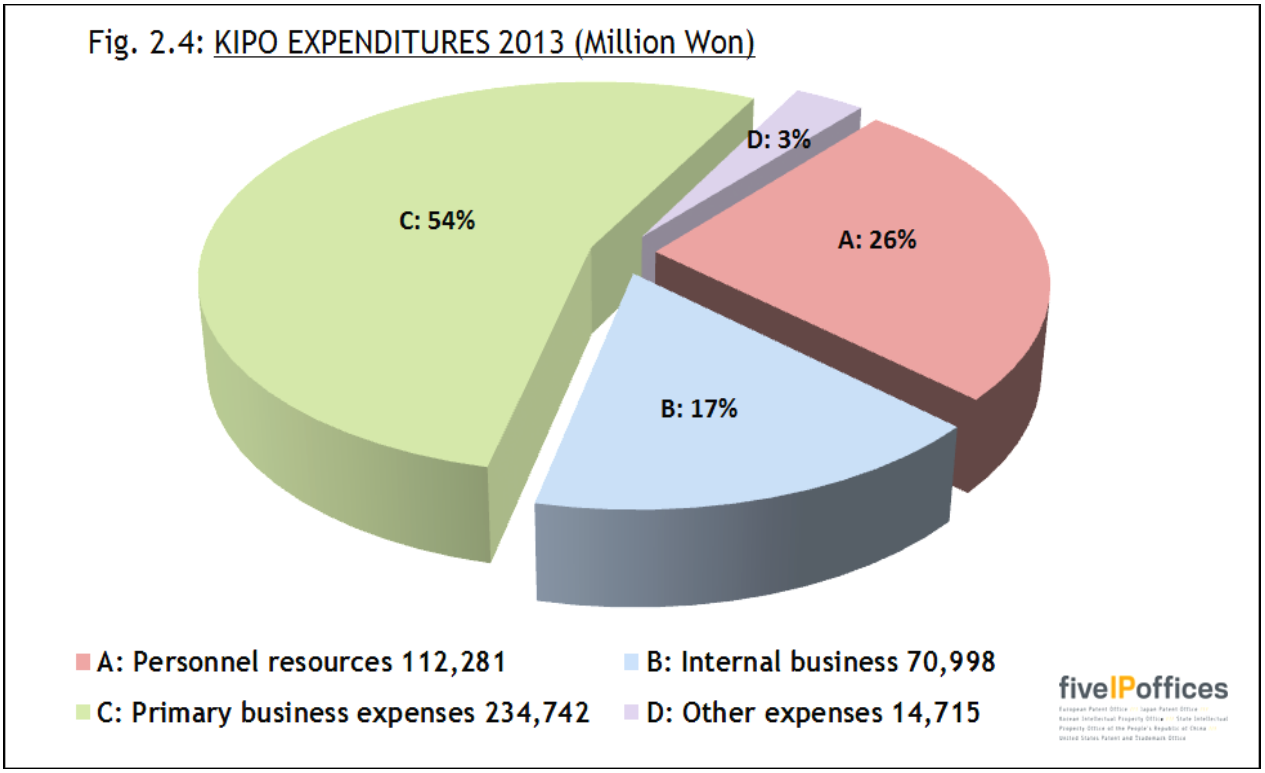
The KIPO outreached to SMEs to provide 286 training courses (for a total of 4,676 trainees) customized to their needs. The KIPO also expanded the IP expertise sharing project nationwide, with 80 experts participating in 118 events.

Our IP centers have installed a thorough IPR support infrastructure for providing one-stop services and promoting the creation and utilization of regional IPRs, thereby contributing to regional economic vitalization. In the future, the centers plan to draw support to specific regions by closely cooperating with local governments.

KIPO Budget

In 2013, the KIPO had total expenditures of 432,736 million won. 54 percent of those expenditures were allocated to operating expenses, 26 percent to personnel resources, 17 percent to inside business to other expenses.

Fig. 2.4 shows KIPO expenditures by category in 2013.



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

KIPO Staff Composition

At the end of 2013, the KIPO had a total staff 1,568. The breakdown is as follows.

Examiners	
Patents and Utility Model	812
Designs and Trademarks	160
Appeal examiners	99
Other staff	497
Total	1,568

More information

Further information can be found on KIPO's Homepage:
www.kipo.go.kr

STATE INTELLECTUAL PROPERTY OFFICE OF THE P.R. CHINA

Organizational Structure and Personnel

The SIPO has seven functional departments, a supervision department, a retired personnel department, and subsidiaries as the Patent Office, the Patent Reexamination Board, public institutions, and social organizations. In total, the SIPO has 11,306 full-time employees.

The Patent Office, an organization 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 3,058 currently, among which 2,058 employees are examiners for invention patents, 251 employees are for utility models and designs, 280 employees are for preliminary examination and work-flow management. Moreover, 265 employees work in support departments (i.e. patent documentation, automation, examination affairs administration) and 265 employees are responsible for general administration. The seven Patent Examination Cooperation Centers, including three newly founded centers located in Hubei, Tianjin, and Sichuan province, as institutions affiliated to the Patent Office, share the responsibility of patent examination, among which the Beijing Center was founded in 2001 and has 3,031 employees at present, the Jiangsu Center was founded in 2011 and has 1,326 employees, the Guangdong Center was founded in 2011 and has 1,139 employees, and the Henan Center was founded in 2012 and has 233 employee. The Hubei, Tianjin, and Sichuan center were all founded in 2013 and have 113, 1, and 1 staff members respectively. The China Patent Technology Exploitation Enterprises, as the mere enterprise under the Patent Office, has 458 employees.

The Patent Reexamination Board, affiliated directly with the SIPO, has a staff of 232, and is responsible for processing requests for patent reexamination 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 2013

In 2013, the SIPO received 2,377,061 applications for the three kinds of patents representing an increase of 16 percent compared with the previous year. 825,316 applications were for invention patents, an increase of 26 percent compared with the year before, 892,362 for utility model patents, an increase of 21 percent, and 659,563 for design patents, almost as the same as the previous year.

Patents Granted in 2013

In 2013, the SIPO granted 1,313,000 patents reflecting an increase of 5 percent compared with the previous year. Of these 207,688 were for invention patents, decreased by 4 percent compared to the previous year, 692,845 for utility model patents which had an increase of 21 percent, and 412,467 for design patents, decreased by 12 percent.

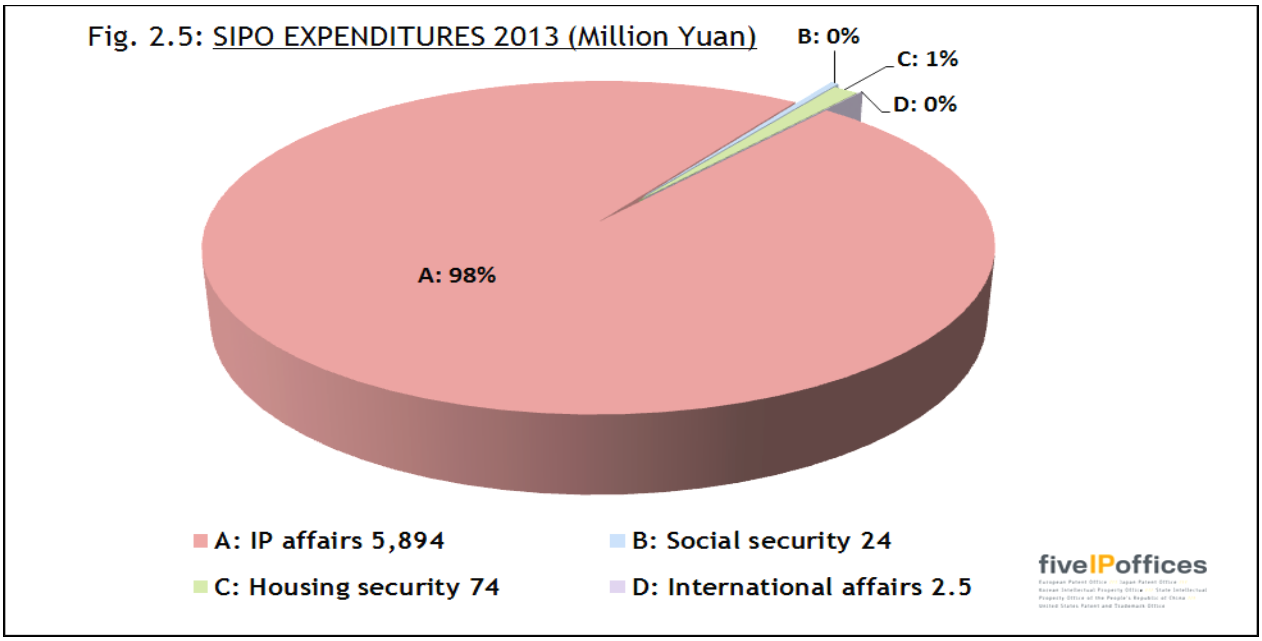
In Table 2.5, production figures for applications, examination, grants, reexamination and invalidation, PCT activities are given for the years 2012 and 2013.

Table 2.5: SIPO PRODUCTION INFORMATION

SIPO PRODUCTION FIGURES	2012	2013	Change	% Change
Applications filed				
Domestic	535,313	704,936	169,623	31.7%
Foreign	117,464	120,200	2,736	2.3%
Total	**652,777**	**825,136**	**172,359**	**26.4%**
Examination				
First actions	338,407	407,478	69,071	20.4%
Final actions	344,541	355,051	10,510	3.1%
Grants				
Domestic	143,847	143,535	-312	-0.2%
Foreign	73,258	64,153	-9,105	-12.4%
Total	**217,105**	**207,688**	**-9,417**	**-4.3%**
Reexamination and invalidation				
Reexamination requests	17,320	18,829	1,509	8.7%
Invalidation requests	2,941	2,930	-11	-0.4%
PCT activities				
International searches	18,025	20,374	2,349	13.0%
International preliminary examinations	436	383	-53	-12.2%

SIPO Budget

Fig. 2.5 shows SIPO expenditures by category in 2013[19].



[19] For more detailed SIPO expenditure data in the Chinese language, please refer to SIPO website at http://211.157.104.86:8080/ogic/view/govinfo!detail.jhtml?id=1746.

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

SIPO Staff Composition

At the end of 2013, the SIPO had a total staff of 11,306. The breakdown is as follows.

SIPO Functional Department		94
Patent Office: Examiners:		
	Invention	2,010
	Utility Model & Design	251
	Preliminary Examination and Flow Management	280
	Supporting Departments	265
	General Administration	252
	Total	3,058
Patent Reexamination Board		232
Other Subordinate Unit under the Office		7,922
Total		11,306

More information

Further information can be found on the SIPO's Homepage:
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.

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 public stakeholders through the Patent Public Advisory Committee and the Trademark Public Advisory Committee. The USPTO operates with two major business lines, Patents and Trademarks.

On March 14, 2014 the USPTO published its vision for the next few years in the *2014-2018 Strategic Plan*. The USPTO worked diligently to achieve the goals of the previous *Strategic Plan;* the new *2014-2018 Strategic Plan* raises the bar. Progress to date has placed the USPTO on the right path to success – patent pendency and inventory are trending downward, the transition to the next generation information technology systems is well under way, global collaboration is advancing, sustainable funding is on the horizon, and the USPTO is fulfilling its commitments to a 21st century diverse workforce. The *2014-2018 Strategic Plan* outlines a focused, specific set of goals and strategies that must be taken to reach these 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

FY[20] 2013 was another banner year for the USPTO. The USPTO decreased the unexamined patent application backlog, lowered patent pendency and was named number one out of 300 agency subcomponents in the employee-survey based report, *2013 Best Places to Work in the Federal Government*.

At the end of FY 2013, the Agency decreased the unexamined patent application backlog to 584,998 from its zenith in 2009. This constitutes a 31 percent reduction. Total pendency for patent applications was reduced to 29.1 months and first action pendency was reduced to 18.2 months, much lower than the previous year. These noteworthy results were accomplished alongside the completion of the implementation of the Leahy-Smith America Invents Act, a

[20] USPTO's fiscal year 2013: October 1, 2012 through September 30, 2013.

sweeping overhaul of America's patent system. In March 2013, the USPTO implemented the first-inventor-to-file provision of the Leahy-Smith America Invents Act. That provision further harmonizes patent operations with patent offices around the world, and includes safeguards to ensure that only an original inventor or their assignee may be awarded a patent.

As part of the USPTO's effort to modernize the U.S. patent system, the Agency implemented a Nationwide Workforce Program that directly expands the employment candidate pool, minimizes real estate costs associated with workforce expansion, and expands the national presence of the USPTO for enhanced interaction with the IP community. Along with the headquarters in Alexandria, Virginia, the USPTO continues to operate in the Detroit, Michigan satellite office, has opened a permanent office space in Denver, Colorado, and is currently operating in temporary spaces in Silicon Valley, California and Dallas, Texas.

In keeping with the Obama Administration's commitments to "*Transparency, Participation, and Collaboration*", the USPTO has expanded access to patent and trademark data through the www.data.gov and patents.reedtech.com web-sites, providing the public with no-cost access to bulk text and image data collections of current and retrospective patent and trademark data.

International Cooperation and Work-sharing

It has also been a year of exciting progress on the international front, as the USPTO works with offices around the world to build a more robust and efficient international IP system. The USPTO and EPO formally launched the Cooperative Patent Classification (CPC) in January 2013. In June 2013, KIPO reached agreement with the USPTO to work on identifying technology areas to begin classifying Korean patent applications into the CPC.

The PPH continues to be a successful work sharing vehicle, delivering prosecution advantages to both users and IP offices. The USPTO continues to expand the program by partnering with new offices and conducting stakeholder outreach (the USPTO currently has PPH agreements with 26 other IP offices). As of the end of FY 2013, the USPTO has received over 20,000 applications within the PPH program since its inception, with over 6,500 of these coming in FY 2013. The USPTO is receiving approximately 550 requests per month, a 22 percent increase over the previous fiscal year.

The USPTO, through the Global Intellectual Property Academy (GIPA), provides IP educational opportunities to U.S. and foreign government officials, domestic SMEs, universities, and the public. The GIPA provides expertise on administration, protection, and enforcement in all areas of domestic and international IP. In FY 2013, the GIPA conducted 114 training programs for foreign government officials, reaching an audience of 7,078 foreign government officials from over 135 countries. The GIPA is using technology to make training programs more efficient and to expand the reach of those programs. In addition, the GIPA hosts distance-learning modules on its web site. Those modules, which are available in seven different languages, have received nearly 40,000 hits since they were first posted on the site in 2010.

Table 2.6 includes production figures for application filings, PCT searches and examinations, first actions, grants, applications in appeal and interference, and patent cases in litigation for the years 2012 and 2013.

Table 2.6: USPTO PRODUCTION INFORMATION

USPTO PRODUCTION FIGURES	2012	2013	Change	% Change
Applications filed				
Utility (patents for invention)[21]	542,815	571,612	28,797	5.3%
Domestic	268,782	287,831	19,049	7.1%
Foreign	274,033	283,781	9,748	3.6%
Plant	1,149	1,406	257	22.4%
Reissue	1,231	1,065	-166	-13.5%
Total Utility, Plant, Reissue	**545,195**	**574,083**	**28,888**	**5.3%**
Design	32,799	36,034	3,235	9.9%
Provisional	163,415	179,202	15,787	9.7%
Total	**741,409**	**789,319**	**47,910**	**6.5%**
Requests for Continued Examination (RCEs)[22]	162,136	168,983	6,847	4.2%
PCT Chapter I Searches	52,484	57,885	5,401	10.3%
PCT Chapter II Examination	1,385	1,300	-85	-6.1%
First actions (includes utility, plant, and reissue applications)	550,363	594,257	43,894	8.0%
Grants (total)	253,155	277,835	24,680	9.7%
U.S. residents	121,026	133,593	12,567	10.4%
Foreign	132,129	144,242	12,113	9.2%
Japan	50,677	51,919	1,242	2.5%
EPC states	38,195	43,450	5,255	13.8%
R. Korea	13,233	14,548	1,315	9.9%
P.R. China	4,637	5,928	1,291	27.8%
Others	25,387	28,397	3,010	11.9%
Applications in appeal and interference proceedings (includes utility, plant, and re-issue applications)				
Ex Parte Cases Received	13,093	9,481	-3,612	-27.6%
Ex Parte Cases Disposed	7,608	10,865	3,257	42.8%
Inter Partes Cases Declared	142	209	67	47.2%
Inter Partes Cases Disposed	95	175	80	84.2%
Patent Cases in Litigation (includes utility, plant, and reissue applications)				
Cases filed	174	176	2	1.1%
Cases disposed	157	121	-36	-22.9%
Pending cases (end of calendar year)	216	267	51	23.6%

[21] Unless otherwise noted, the USPTO statistics presented elsewhere in this report are limited to utility patent applications and grants.

[22] A Request for Continued Examination is a USPTO procedure under which an applicant may obtain continued examination of an application by filing a submission and paying a specified fee, even if the application is under a final rejection, appeal, or a notice of allowance.

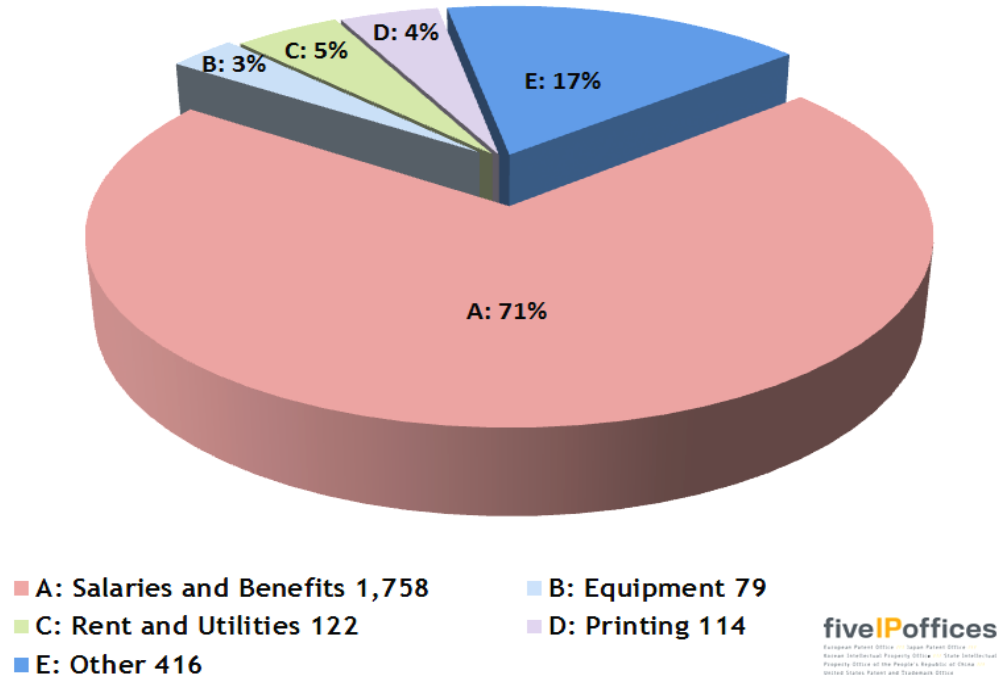
USPTO Budget

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 2013, USPTO expenditures totalled $2,489.3 million. Agency-wide, 15 percent of expenditures were allocated to IT security and associated IT costs.

Goal 1 - Optimize Patent Quality and Timeliness	$2,231.4 million
Goal 2 - Optimize Trademark Quality and Timeliness	$ 211.5 million
Goal 3 - Provide Domestic and Global Leadership to Improve IP Policy, Protection and Enforcement Worldwide	$ 46.4 million

Fig. 2.6 shows USPTO expenditures by category in 2013.

Fig. 2.6: USPTO EXPENDITURES 2013 (Million Dollar)



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

USPTO Staff Composition

At the end of FY 2013, the USPTO work force was composed of 11,773 federal employees. Included in this number are 7,928 Utility, Plant, and Reissue patent examiner staff and 123 Design examiners; 409 Trademark examiner attorney staff, and 3,313 managerial, administrative and technical support staff.

More Information

Further information can be found on the USPTO's website:
www.uspto.gov

Chapter 3
WORLDWIDE PATENTING ACTIVITY

Patent activity is recognized throughout the world as an indicator of innovation. This chapter examines worldwide patent activities in terms of patent applications and grants. The statistics mostly cover the five-year period from 2008 to 2012. The effects of the worldwide recession in 2009 are therefore still 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 has grown further since. This suggests that the effects of the recession on the patenting activities have been limited. Detailed statistics on the usage of the PCT system appear in Chapter 5.

Hereafter the counts of applications and filings are by the calendar year of filing and grants by the calendar year of grant. Statistics are derived primarily from the WIPO Statistics Database[23], 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 their filing statistics regularly enough, 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 is then often followed by applications made to several other offices within one year, each such application claiming the priority of the earlier first filing. First filings can be seen as an indicator of innovation and inventive activity, while foreign filings are an indicator of an intention for international trade and of globalization.

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 procedures*" 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.

[23] See footnote 6, 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 only once: Direct national, direct regional filings (filed with the EPO, EAPO, ARIPO[24]), 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 only once. 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 only once. 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 only once each, 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 only once (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 only once, but the 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 (comparable to Figs. 3.7, 3.8, and 3.9 for applications).

[24] The EAPO is the Eurasian Patent Office. The ARIPO is the African Regional Intellectual Property Office.

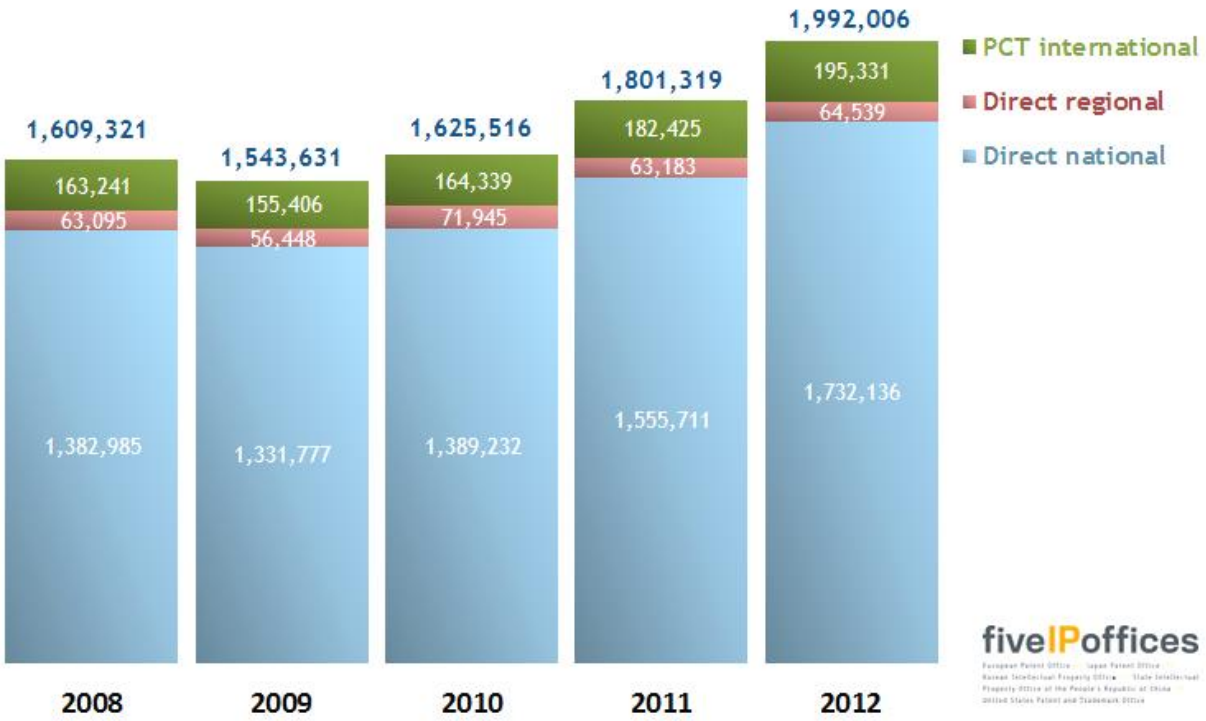
PATENT FILINGS

The patent filings that are 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 only once. 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.

Fig. 3.1: WORLDWIDE PATENT FILINGS - FILING PROCEDURES



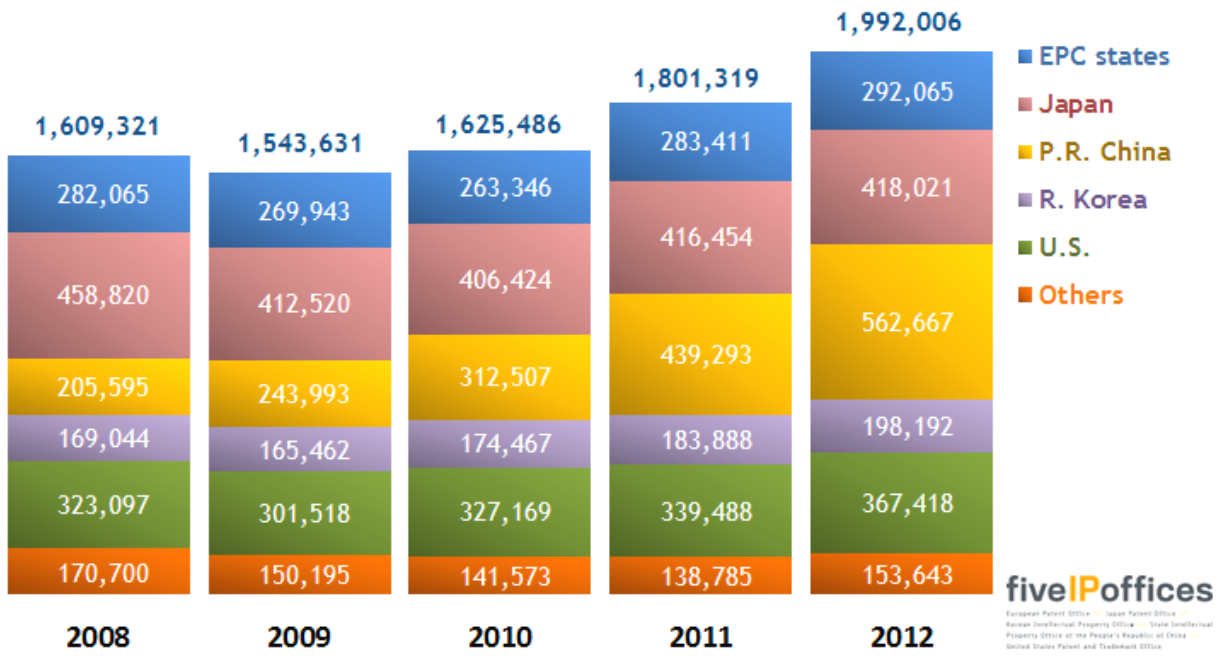
The number of patent filings in 2012 increased by 11 percent to 2.0 million.

In 2012, the numbers of direct national applications, direct regional applications, and PCT international increased by 11 percent, 2 percent, and 7 percent respectively. In 2012, 87 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).

Fig. 3.2: WORLDWIDE PATENT FILINGS - ORIGIN

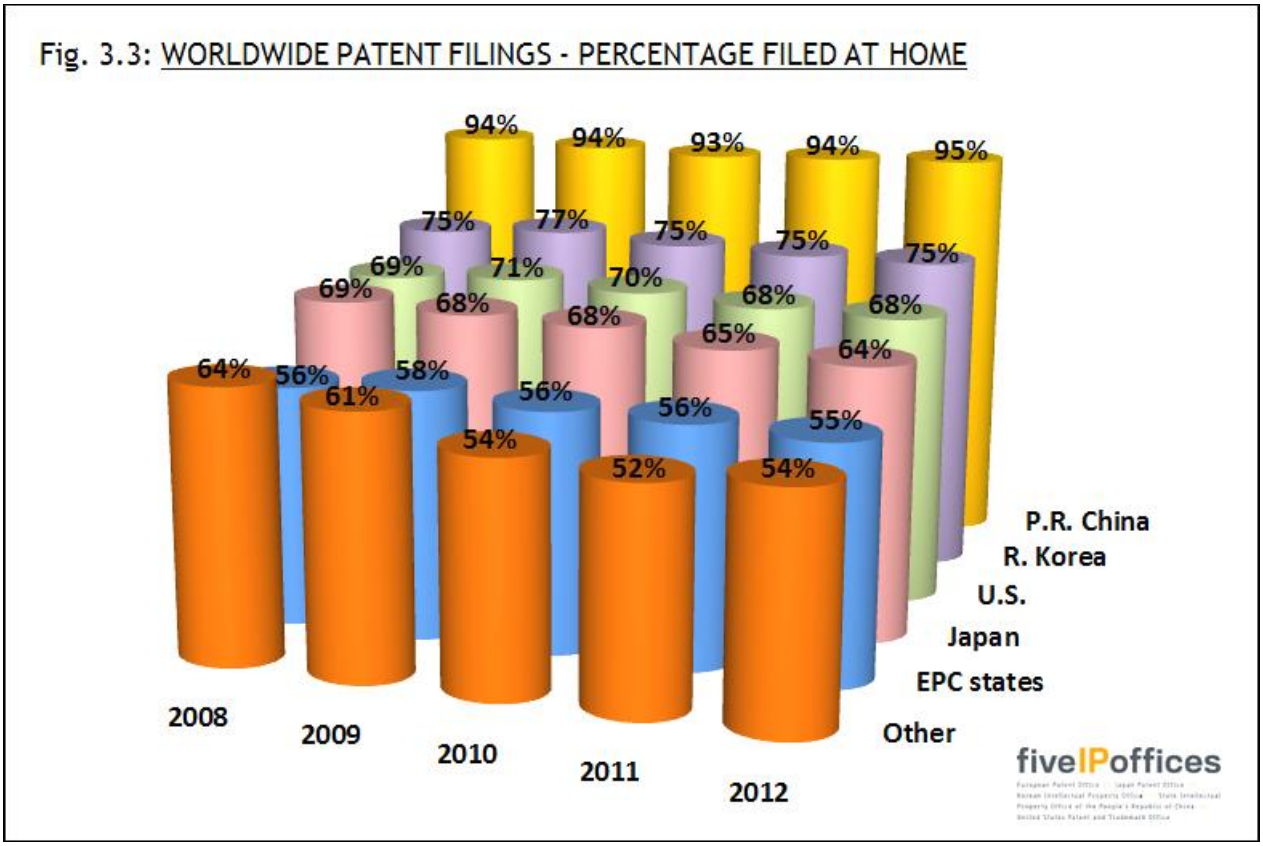


The IP5 Blocs were the origin of 91 percent of overall patent filings from 2008 to 2012. The annual share increased from 89 percent in 2008 to 92 percent in 2012. Overall, patent filings originating from each IP5 region increased in 2012. The numbers of patent filings originating from P.R. China, the U.S., R. Korea, and the EPC states increased by 28 percent, 8 percent, 8 percent, and 3 percent respectively.

Most national applications are filed by residents of the related countries. To a large extent, applications abroad are filed 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).

Fig. 3.3: WORLDWIDE PATENT FILINGS - PERCENTAGE FILED AT HOME



The proportion of patent filings made at home remains stable, although there was some decline in 2012 compared to 2011 for the EPC states and Japan. For the IP5 Blocs, P.R. China had the largest proportion of filings made at home in 2012 with 95 percent. Of the IP5 Offices, the EPC states[25] had the lowest proportion with 55 percent in 2012.

[25] 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 the EPC states.

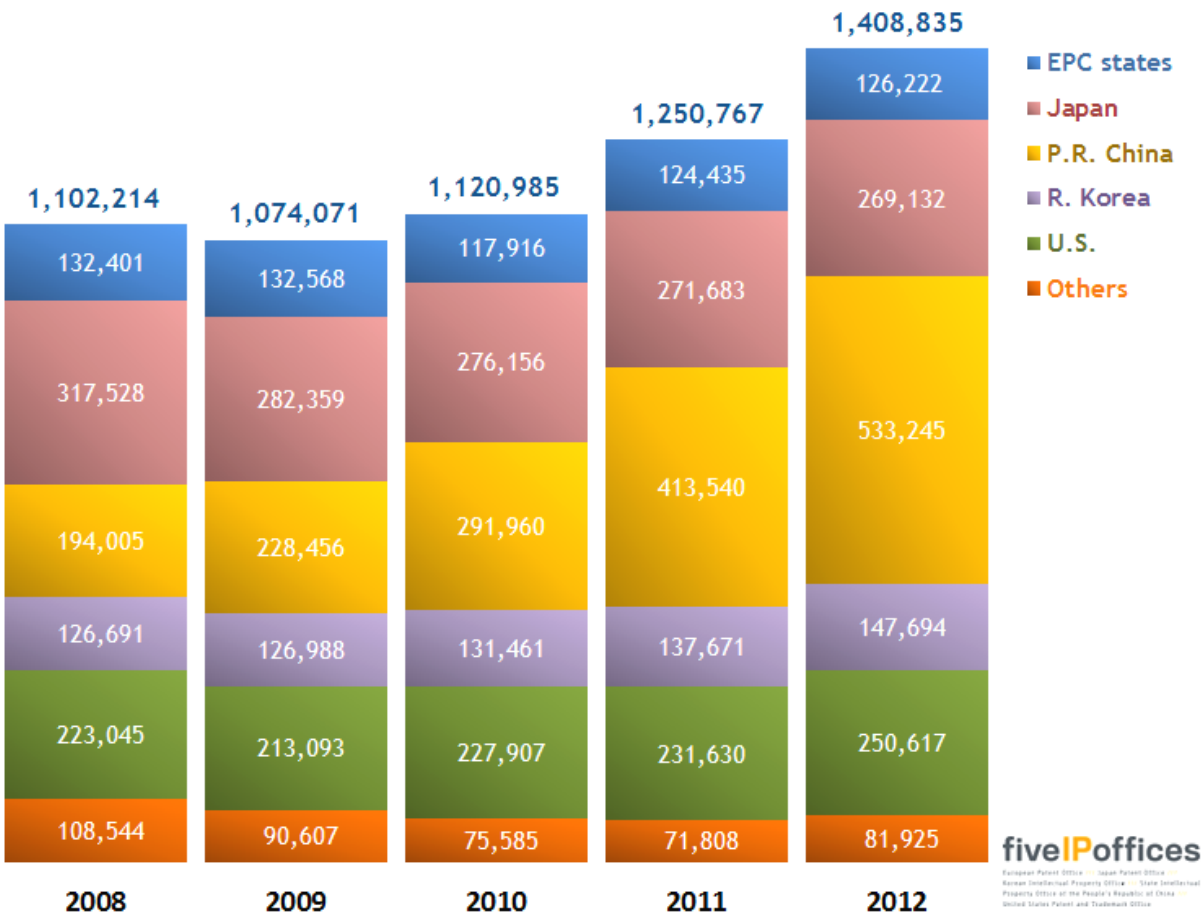
FIRST FILINGS

All of the following are counted only once: 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).

Fig. 3.4: WORLDWIDE PATENT FIRST FILINGS - ORIGIN



P.R. China recorded 533,245 first filings in 2012, the highest number of first filings by any bloc within the IP5 area. This was an increase of 29 percent compared to 2011 number. There were also increases in first filings from the U.S., R. Korea, and the EPC states of 8 percent, 7 percent, and 1 percent respectively in 2012, while Japan had a decrease of 1 percent. Overall, first filings increased by 13 percent between 2011 and 2012.

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.

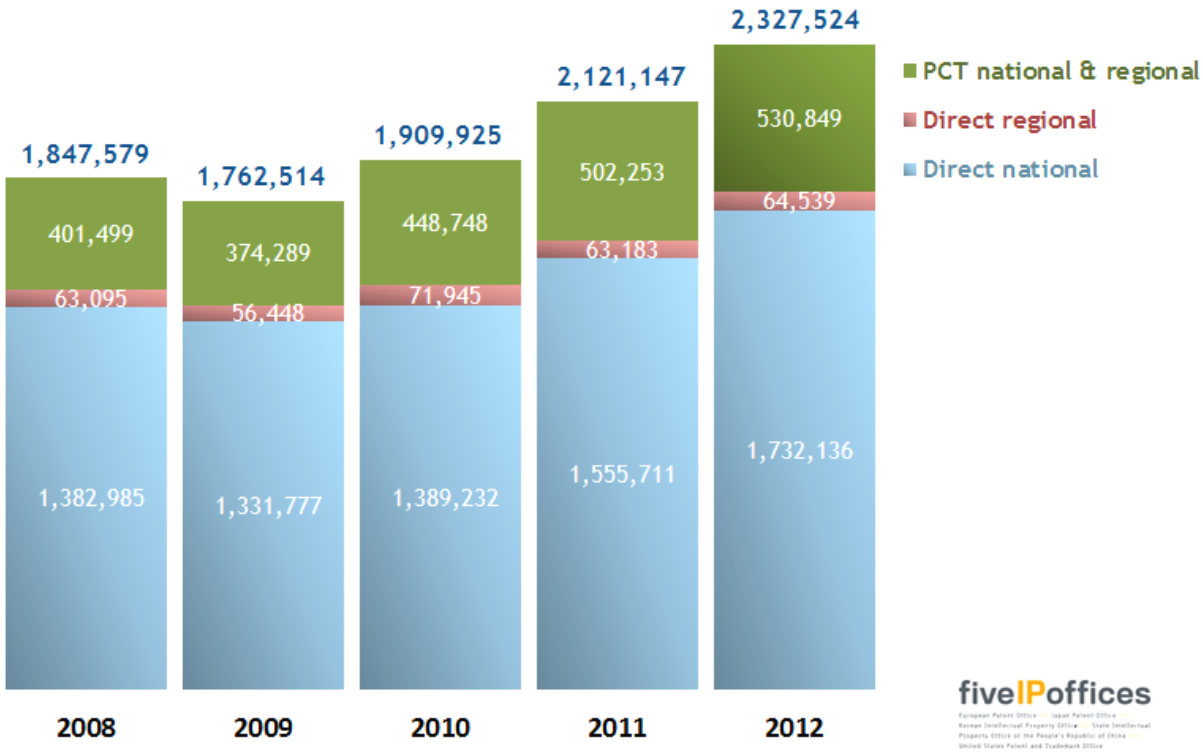
PATENT APPLICATIONS ENTERING GRANT PROCEDURES

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[26]. In the following figures, the number of PCT application counts 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 procedures.

Fig. 3.5: WORLDWIDE PATENT APPLICATIONS - FILING PROCEDURES



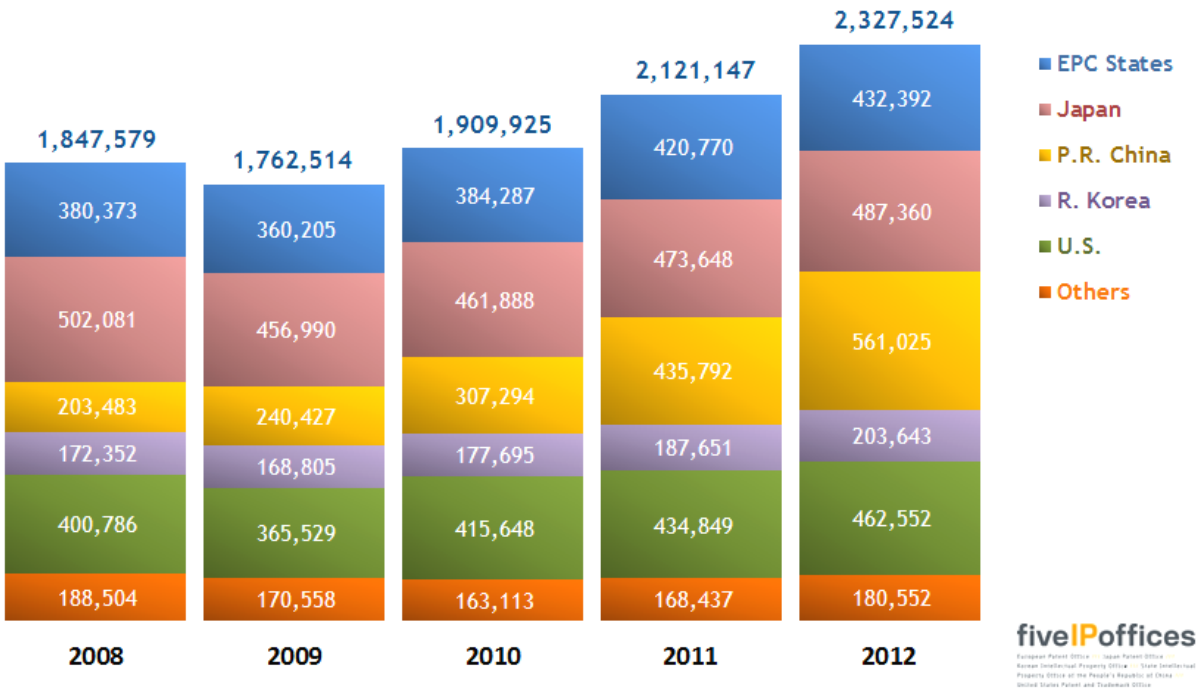
In 2012, more than 2.3 million patent applications were filed worldwide. This represented a 10 percent increase compared to 2011.

The numbers of PCT national/regional applications increased by 6 percent.

[26] The end of the international phase is up to 30 months after the priority date of the first filing.

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.

Fig. 3.6: WORLDWIDE PATENT APPLICATIONS - ORIGIN



The number of patent applications increased for each of the IP5 Blocs in 2012, with P.R. China being for the first time the region from which the largest share of applications originated. P.R. China also had the largest percentage increase in applications by origin in 2012 (29 percent). The number of patent applications from R. Korea and the U.S. increased by 9 percent and 6 percent respectively. The number of applications from the EPC states and Japan increased by 3 percent.

These data should be interpreted with care 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

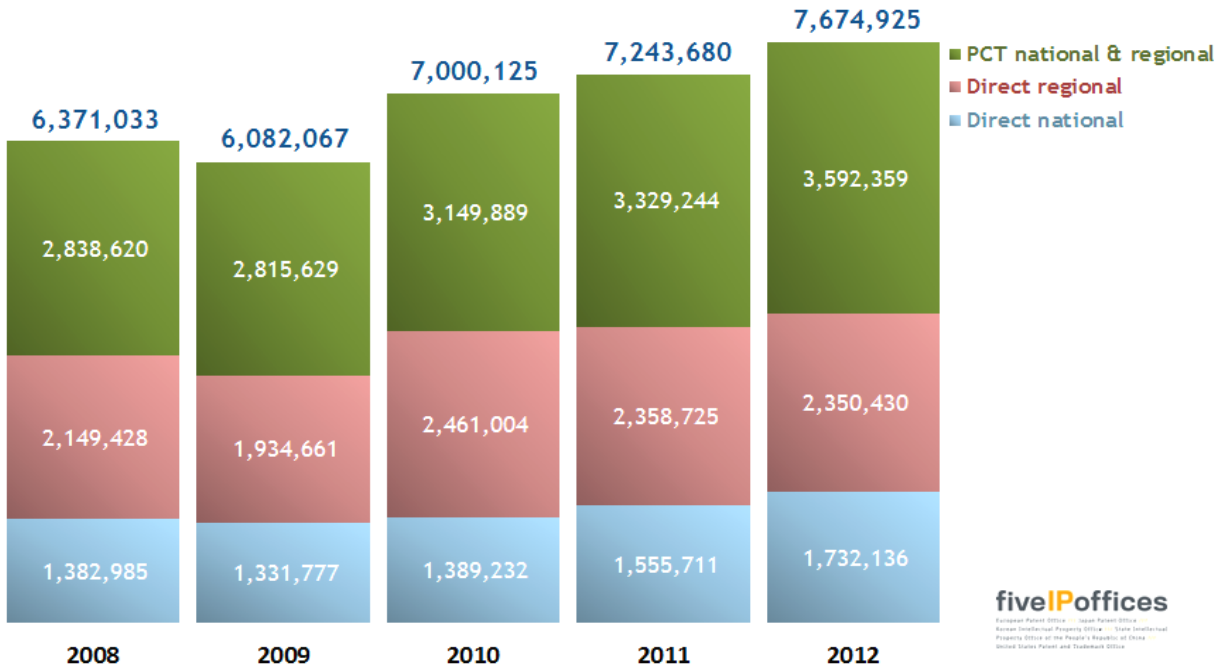
Patent applications counted in this section (with Figs. 3.7, 3.8, and 3.9) include direct national and national stage PCT applications; and designated countries in regional and in regional stage PCT applications.

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[27].

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

Fig. 3.7: WORLDWIDE DEMAND FOR NATIONAL PATENT RIGHTS - PROCEDURES

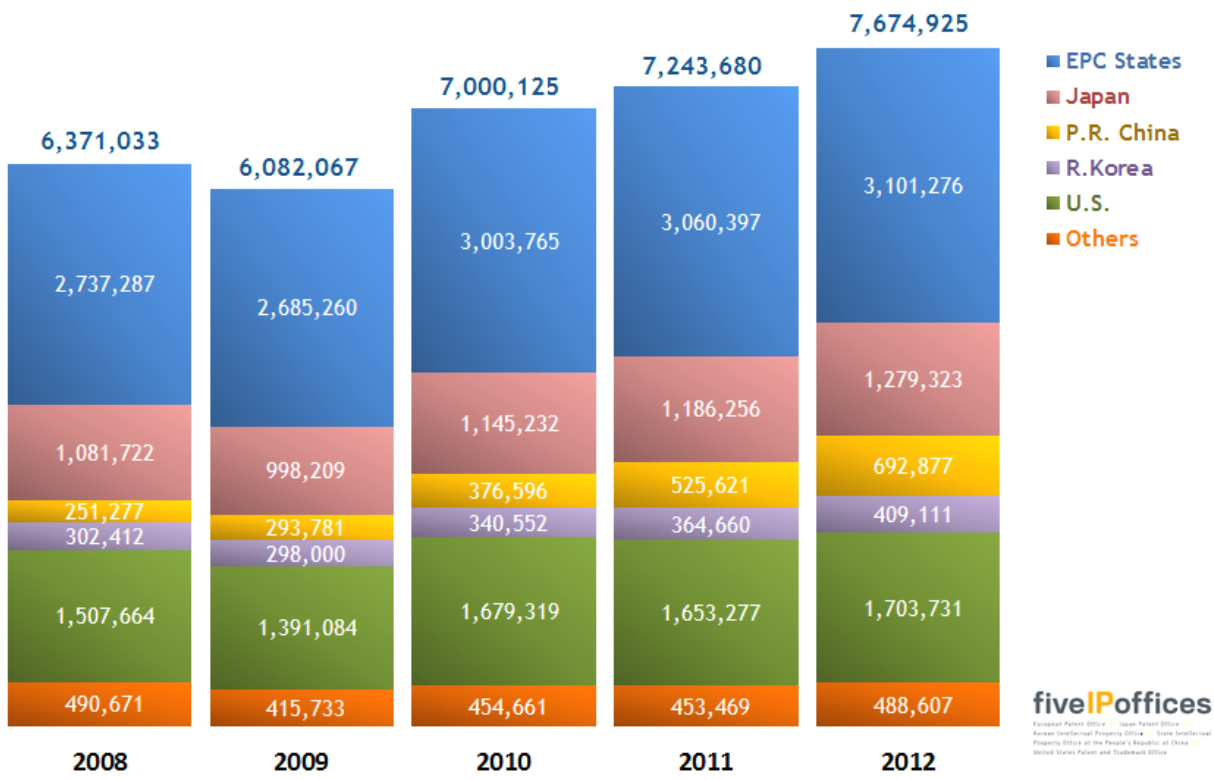


The demand for patent rights measured in terms of equivalent national patent rights increased by 6 percent from 2011 to 2012. In addition to the growing number of patent filings, the ongoing growth shown in Fig 3.7 illustrates the effect of the centralized procedures (regional and international) to help users of the system to expand their patent protection without needing to make separate applications to every country of interest.

[27] At the end of 2012, 81 states were party to a regional patent system, EPC 38, EAPC 9, ARIPO 17, Organization Africaine de la Propriété Intellectuelle (OAPI) 17. This compares to 75 states at the beginning of 2008. Also at the end of 2012, 146 states were party to the PCT, compared to 139 states at the beginning of 2008.

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.

Fig. 3.8: WORLDWIDE DEMAND FOR NATIONAL PATENT RIGHTS - ORIGIN

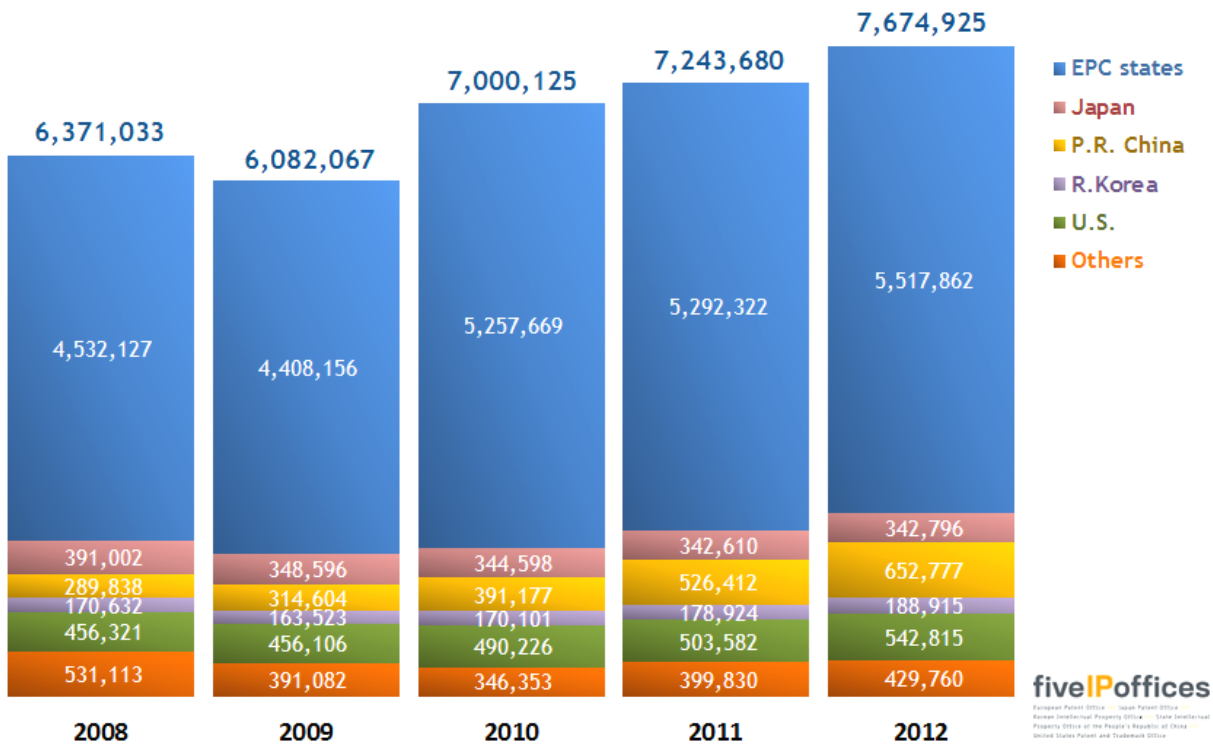


From 2011 to 2012, the demand for patent rights increased from all blocs.

The large share of the EPC states reflects, among other factors, the intensive use of the international and regional systems.

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

Fig. 3.9: WORLDWIDE DEMAND FOR NATIONAL PATENT RIGHTS - FILING BLOC



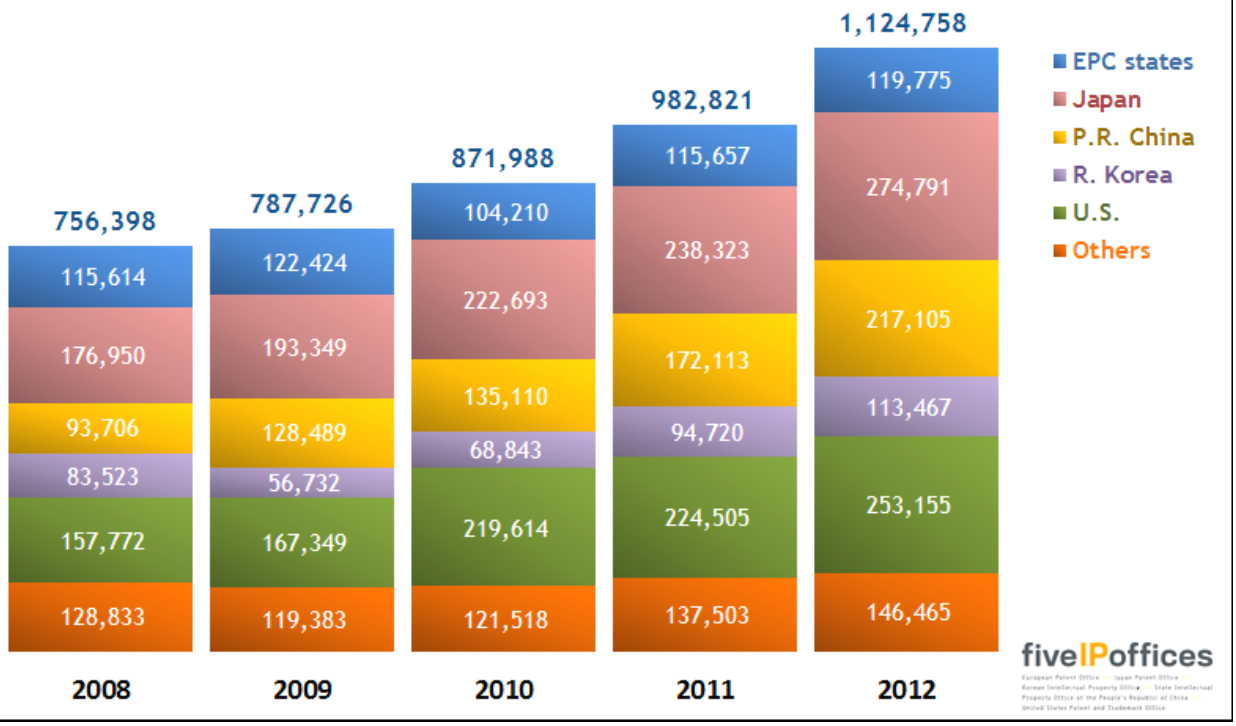
This chart demonstrates the influence of regional patent systems on global demand for patents. In 2012, the demand for national patent rights increased in all blocs. Demand in P.R. China had the largest increase at 24 percent.

PATENT GRANTS

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

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

Fig. 3.10: WORLDWIDE PATENTS GRANTED - FILING BLOC



The number of patent grants increased for each of the IP5 Blocs in 2012. The largest percentage increase by origin in 2012 came from P.R. China (26 percent). For R. Korea, Japan, the U.S., and the EPC states, there were also increases of 20 percent, 15 percent, 13 percent, and 4 percent respectively.

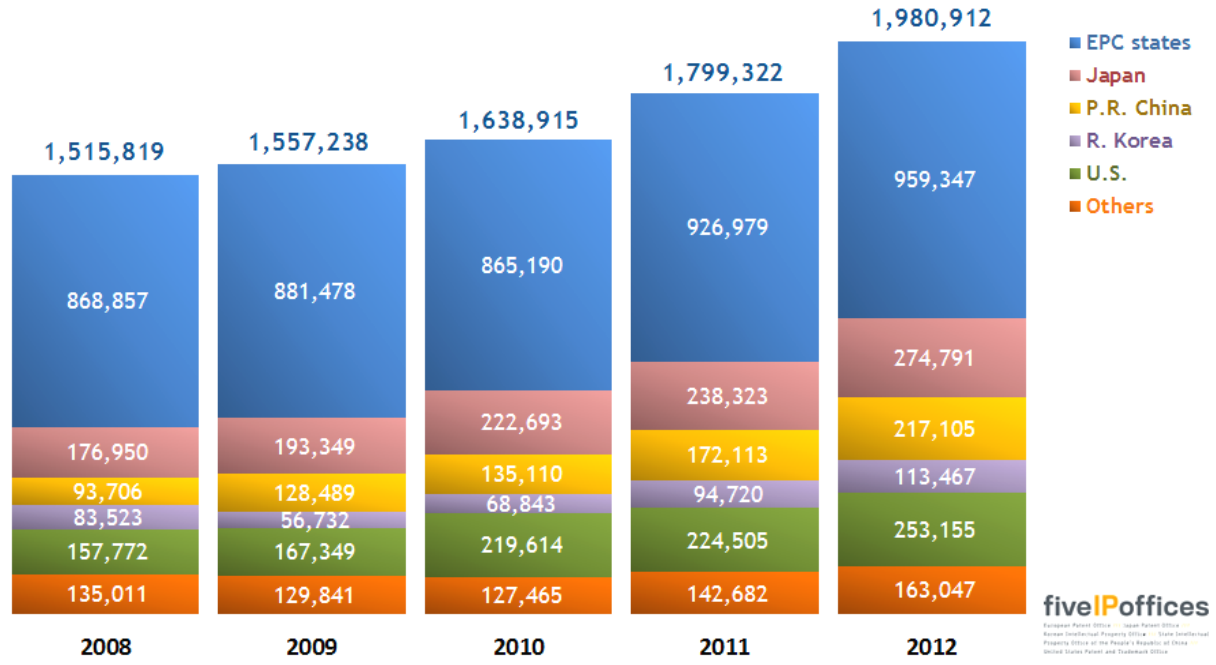
The data for Others should only be compared between years with care. The changes from year to year may reflect different numbers of countries reporting their count of grants as well as changes in the numbers of grants.

Patent grants are counted only once 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[28]. This has an effect only in the EPC states and Others, as shown in the following Fig. 3.11.

[28] National patents can also be created in other states that have extension agreements with the EPC states.

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 only once, but the 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.

Fig. 3.11: NATIONAL PATENT RIGHTS GRANTED - FILING BLOC



In 2012, almost 2.0 million patent rights were granted, which represents a 10 percent increase compared to 2011.

The fact that the EPC states bloc is made up of many countries, with an option for a centralized 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

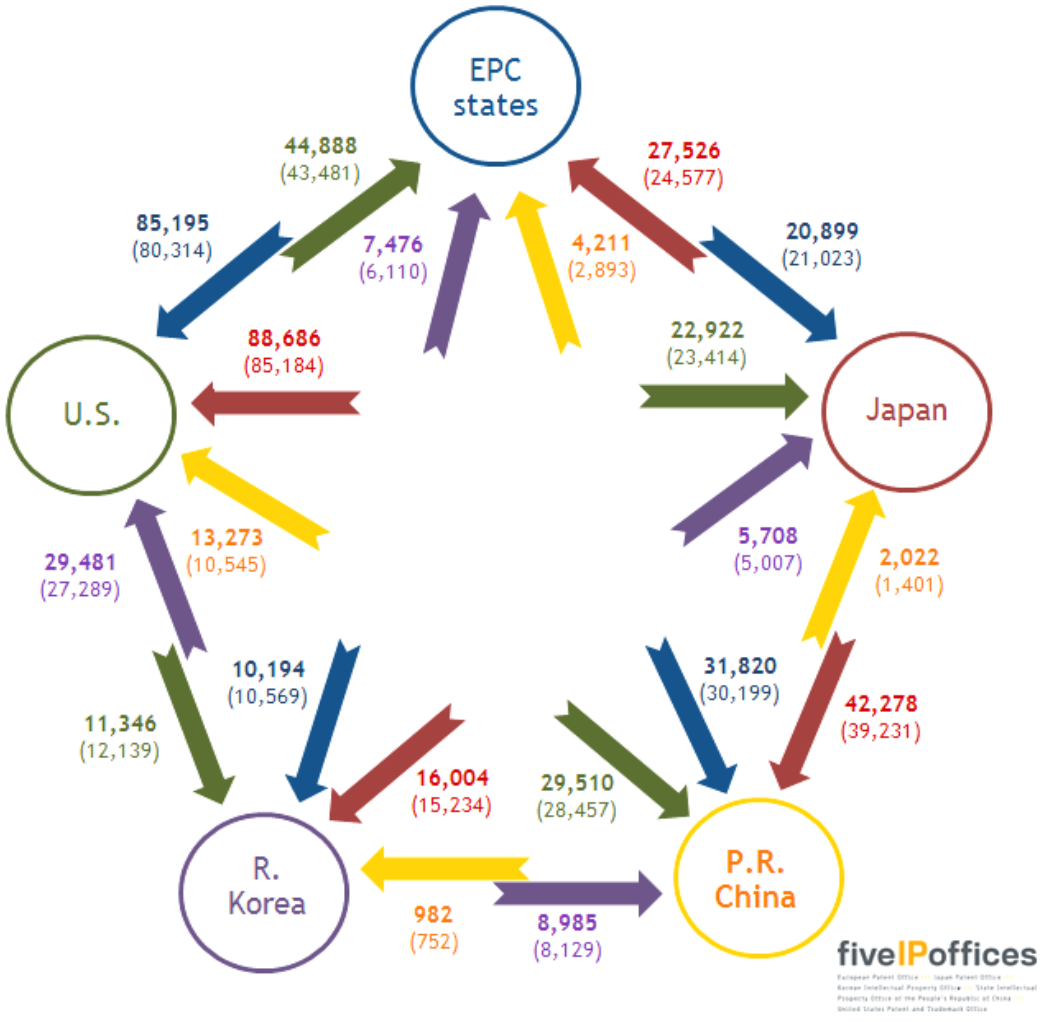
In this section, the flows between the different blocs and especially the IP5 Blocs are analysed first in terms of applications and then in terms of patent families.

FLOWS OF APPLICATIONS

Fig. 3.12 shows the flows, between IP5 Blocs by origin (residence of first-named applicants or inventors), of distinct patent applications entering a grant procedure (as in Fig. 3.5) in 2012, with 2011 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 only once. PCT filings are replicated over the numbers of national/regional procedures that are started.

Fig. 3.12: INTER-BLOC ACTIVITY - APPLICATIONS 2012



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 2012, the flows decreased from the U.S. and the EPC states to R. Korea and to Japan. All other flows between blocs increased compared to 2011.

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 the flows of patent families between blocs was obtained from the DOCument DataBase (DOCDB)[29] 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 that is counted is based on the bloc of the patent office for which priority was claimed, or the bloc of residence of the applicant where that patent office was not known. Due to the delay in publication (relative to the time of filing), patent families counts can only be reported with a degree of accuracy after several years have passed. It should be noted that the definition of a patent family changed slightly as from the 2012 edition, in that groups that consist entirely of utility model filings are now excluded[30].

The following Table 3 shows the numbers of first filings per bloc and details of flows of patent families between blocs for the priority years 2008 and 2009. 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.

[29] DOCDB is the EPO master documentation database with worldwide coverage containing bibliographic data, abstracts and citations (but no full text).
[30] See Chapter 6 for a description and statistics on utility models.

Table 3: NUMBERS OF PATENT FAMILIES[31]

Year of priority: 2008

Bloc of origin from which priority is claimed	**First Filings** in Bloc of Origin	**Flows to Subsequent Filings** First filings in Bloc of Origin leading to priority claims in filings in:								**IP5 Patent Families** from bloc of origin
		Any other Blocs	Any other Five Bloc	EPC States	Japan	P.R. China	R. Korea	U.S.	Others	
EPC States	139,963	48,295 (34.5%)	46,701 (33.4%)	-	17,950 (12.8%)	24,982 (17.8%)	9,040 (6.5%)	42,532 (30.4%)	18,755 (13.4%)	6,648 (4.7%)
Japan	325,394	70,387 (21.6%)	69,152 (21.3%)	26,076 (8.0%)	-	34,776 (10.7%)	16,435 (5.1%)	60,958 (18.7%)	14,744 (4.5%)	7,716 (2.4%)
P.R. China	178,194	9,061 (5.1%)	8,939 (5.0%)	2,764 (1.6%)	1,515 (0.9%)	-	803 (0.5%)	8,178 (4.6%)	892 (0.5%)	385 (0.2%)
R. Korea	117,400	18,796 (16.0%)	18,644 (15.9%)	5,102 (4.3%)	5,086 (4.3%)	7,020 (6.0%)	-	16,858 (14.4%)	2,437 (2.1%)	2,041 (1.7%)
U.S.	312,435	74,863 (24.0%)	66,233 (21.2%)	56,332 (18.0%)	30,827 (9.9%)	37,581 (12.0%)	18,696 (6.0%)	-	43,888 (14.0%)	12,476 (4.0%)
Five blocs subtotal	**1,073,386**	**221,402 (20.6%)**	**209,669 (19.5%)**	**90,274 (8.4%)**	**55,378 (5.2%)**	**104,359 (9.7%)**	**44,974 (4.2%)**	**128,526 (12.0%)**	**80,716 (7.5%)**	**29,266 (2.7%)**
Others	82,186	15,889 (19.3%)	15,889 (19.3%)	4,129 (5.0%)	2,031 (2.5%)	1,895 (2.3%)	991 (1.2%)	14,643 (17.8%)	-	409 (0.5%)
Global total	**1,155,572**	**237,291 (20.5%)**	**225,558 (19.5%)**	**94,403 (8.2%)**	**57,409 (5.0%)**	**106,254 (9.2%)**	**45,965 (4.0%)**	**143,169 (12.4%)**	**80,716 (7.0%)**	**29,675 (2.6%)**

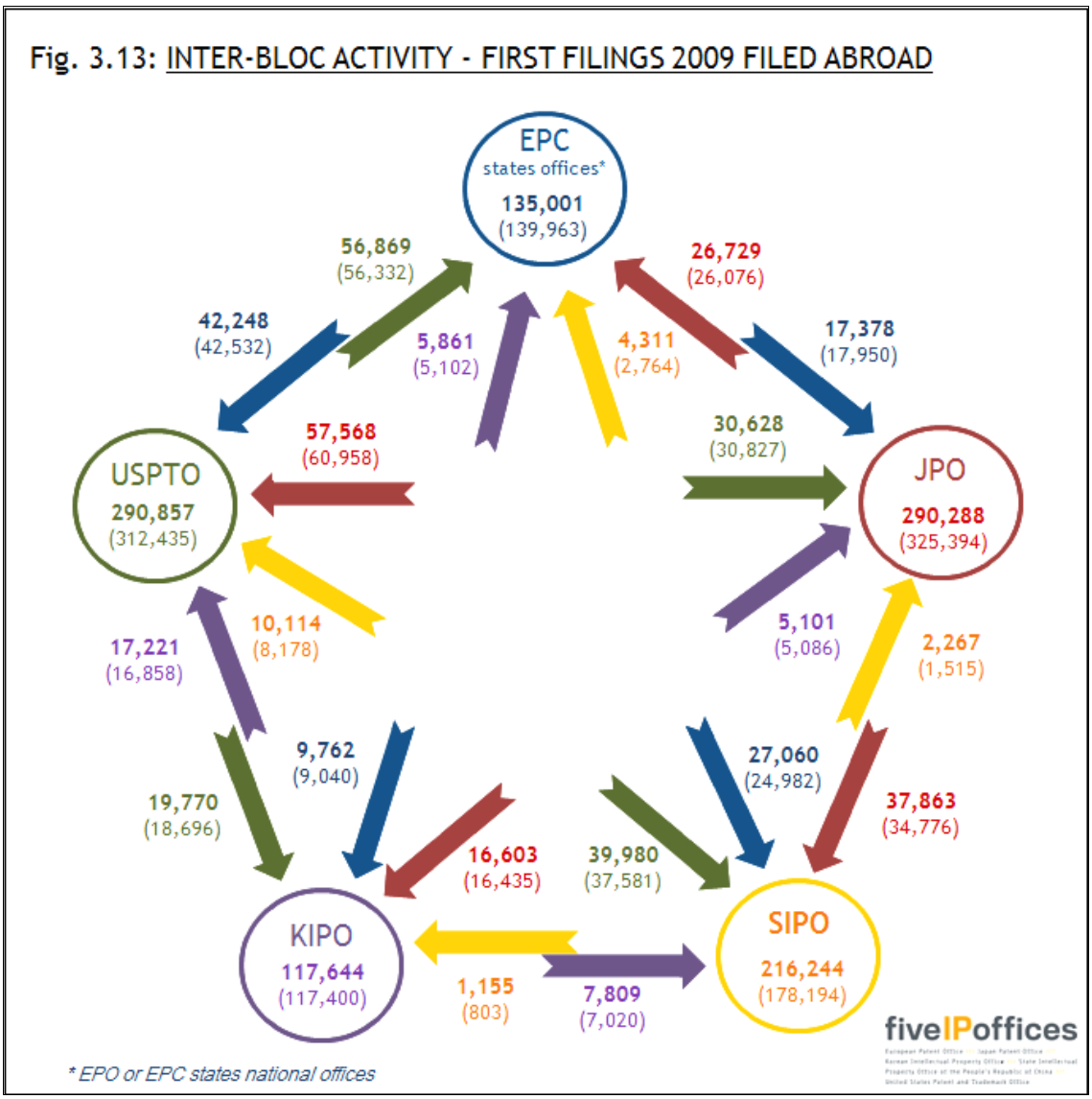
Year of priority: 2009 (Preliminary)

Bloc of origin from which priority is claimed	**First Filings** in Bloc of Origin	**Flows to Subsequent Filings** First filings in Bloc of Origin leading to priority claims in filings in:								**IP5 Patent Families** from bloc of origin
		Any other Blocs	Any other Five Bloc	EPC States	Japan	P.R. China	R. Korea	U.S.	Others	
EPC States	135,001	48,554 (36.0%)	46,831 (34.7%)	-	17,378 (12.9%)	27,060 (20.0%)	9,762 (7.2%)	42,248 (31.3%)	19,121 (14.2%)	7,016 (5.2%)
Japan	290,288	67,579 (23.3%)	66,388 (22.9%)	26,729 (9.2%)	-	37,863 (13.0%)	16,603 (5.7%)	57,568 (19.8%)	15,064 (5.2%)	8,404 (2.9%)
P.R. China	216,244	11,311 (5.2%)	11,125 (5.1%)	4,311 (2.0%)	2,267 (1.0%)	-	1,155 (0.5%)	10,114 (4.7%)	1,377 (0.6%)	693 (0.3%)
R. Korea	117,644	19,276 (16.4%)	19,061 (16.2%)	5,861 (5.0%)	5,101 (4.3%)	7,809 (6.6%)	-	17,221 (14.6%)	2,385 (2.0%)	2,319 (2.0%)
U.S.	290,857	74,615 (25.7%)	66,412 (22.8%)	56,869 (19.6%)	30,628 (10.5%)	39,980 (13.7%)	19,770 (6.8%)	-	43,975 (15.1%)	13,330 (4.6%)
Five blocs subtotal	**1,050,034**	**221,335 (21.1%)**	**209,817 (20.0%)**	**93,770 (8.9%)**	**55,374 (5.3%)**	**112,712 (10.7%)**	**47,290 (4.5%)**	**127,151 (12.1%)**	**81,922 (7.8%)**	**31,762 (3.0%)**
Others	76,255	15,780 (20.7%)	15,780 (20.7%)	4,498 (5.9%)	1,905 (2.5%)	2,108 (2.8%)	1,034 (1.4%)	14,539 (19.1%)	-	493 (0.6%)
Global total	**1,126,289**	**237,115 (21.1%)**	**225,597 (20.0%)**	**98,268 (8.7%)**	**57,279 (5.1%)**	**114,820 (10.2%)**	**48,324 (4.3%)**	**141,690 (12.6%)**	**81,922 (7.3%)**	**32,255 (2.9%)**

Source: EPO DOCDB Database

[31] For the U.S. (USPTO), the numbers of first filings here include U.S. provisional applications, while they are excluded in Fig. 3.4.

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 2009. The flow figures between blocs of origin and target blocs indicate the numbers of 2009 first filings from the bloc of origin that led to subsequent filings in the target bloc. The comparable figures for 2008 are given in parentheses.



Even though the numbers for IP5 patent families after 2008 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 2009 in Fig. 3.13 and the corresponding numbers in the lower part of Table 3 are nevertheless fairly accurate.

From information in Table 3, out of all first filings in the IP5 Blocs in 2008 (1,073,386), 19.5 percent formed patent families that included at least one of the remaining IP5 Blocs (209,669). Proceeding to a higher degree of selectivity, only 2.7 percent of all first filings in the IP5 Blocs in 2008 formed *IP5 patent families*, where activities of first and/or subsequent filings were made in all the IP5 Blocs.

The proportions of IP5 patent families differed considerably according to the bloc of origin of the priority filings in Table 3 (EPC states 4.7 percent, U.S. 4.0 percent, Japan 2.4 percent, R. Korea 1.7 percent, P.R. China 0.2 percent, and for Others 0.5 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 2008 patent family data as presented in Table 3. Four colored 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 at the EPO.

Above each diagram appears first the total number of first filings that were received in each of the IP5 Blocs in 2008. Then the proportions of those first filings that led on to subsequent filings in each other bloc are shown. Some of these percentages also appear in the upper part of Table 3.

Underneath the colored diagrams, the percentages next to the bloc combinations show subsidiary percentages of subsequent filings that flowed to more than one other IP5 Bloc.

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 15.3 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 last row of the table in Fig. 3.14 shows the proportions of IP5 patent families, as also appear in the last column of the upper part of Table 3.

Fig. 3.14: 2008 PATENT FAMILIES - PERCENTAGES OF FIRST FILINGS WITH SUBSEQUENT FILINGS IN OTHER IP5 BLOCS

fiveIPoffices

	First filings in	EPC states offices* 139,963	Japan (JPO) 325,394	P.R. China (SIPO) 178,194	R. Korea (KIPO) 117,400	U.S. (USPTO) 312,435
Bilateral families with subsequent filings in						
EPC states		-	8.0%	1.6%	4.3%	18.0%
Japan		12.8%	-	0.9%	4.3%	9.9%
P.R. China		17.8%	10.7%	-	6.0%	12.0%
R. Korea		6.5%	5.1%	0.5%	-	6.0%
U.S.		30.4%	18.7%	4.6%	14.4%	-
Three bloc families with subsequent filings in						
EPC states & Japan		-	-	0.5%	2.2%	8.6%
EPC states & R. Korea		-	2.7%	0.3%	-	5.1%
EPC states & P.R. China		-	5.5%	-	3.0%	9.9%
EPC states & U.S.		-	7.4%	1.2%	4.1%	-
Japan & R. Korea		5.3%	-	0.3%	-	4.8%
Japan & P.R. China		9.6%	-	-	2.8%	7.0%
Japan & U.S.		12.0%	-	0.7%	3.8%	-
P.R. China & R. Korea		5.8%	4.2%	-	-	5.0%
P.R. China & U.S.		15.3%	8.8%	-	4.9%	-
R. Korea & U.S.		6.0%	4.0%	0.4%	-	-
Four bloc families with subsequent filings in						
EPC states & Japan & R. Korea		-	-	0.2%	-	4.3%
EPC states & Japan & P.R. China		-	-	-	1.8%	6.4%
EPC states & Japan & U.S.		-	-	0.5%	2.1%	-
EPC states & R. Korea & P.R. China		-	2.5%	-	-	4.5%
EPC states & R. Korea & U.S.		-	2.6%	0.3%	-	-
EPC states & P.R. China & U.S.		-	5.3%	-	2.9%	-
Japan & R. Korea & P.R. China		5.0%	-	-	-	4.3%
Japan & R. Korea & U.S.		5.1%	-	0.3%	-	-
Japan & P.R. China & U.S.		9.1%	-	-	2.5%	-
P.R. China & R. Korea & U.S.		5.5%	3.4%	-	-	-
IP5 families		4.7%	2.4%	0.2%	1.7%	4.0%

** EPO or EPC states national offices*

From Fig. 3.14 and Table 3, the 2008 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 2008 first filings in the EPC member states, Japan, P.R. China, and R. Korea are 30.4 percent, 18.7 percent, 4.6 percent, and 14.4 percent respectively. The second most important market for the other IP5 Blocs is P.R. China.

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.

Japan has the highest number of first filings (325,394 in 2008), although the percentages that led to subsequent filings in R. Korea and P.R. China are lower than for first filings in the U.S. This makes the sizes of the flows (numbers of patent families) from Japan to R. Korea and P.R. China comparable in size to the numbers from U.S., while the size of the flow to the EPC states is considerably lower.

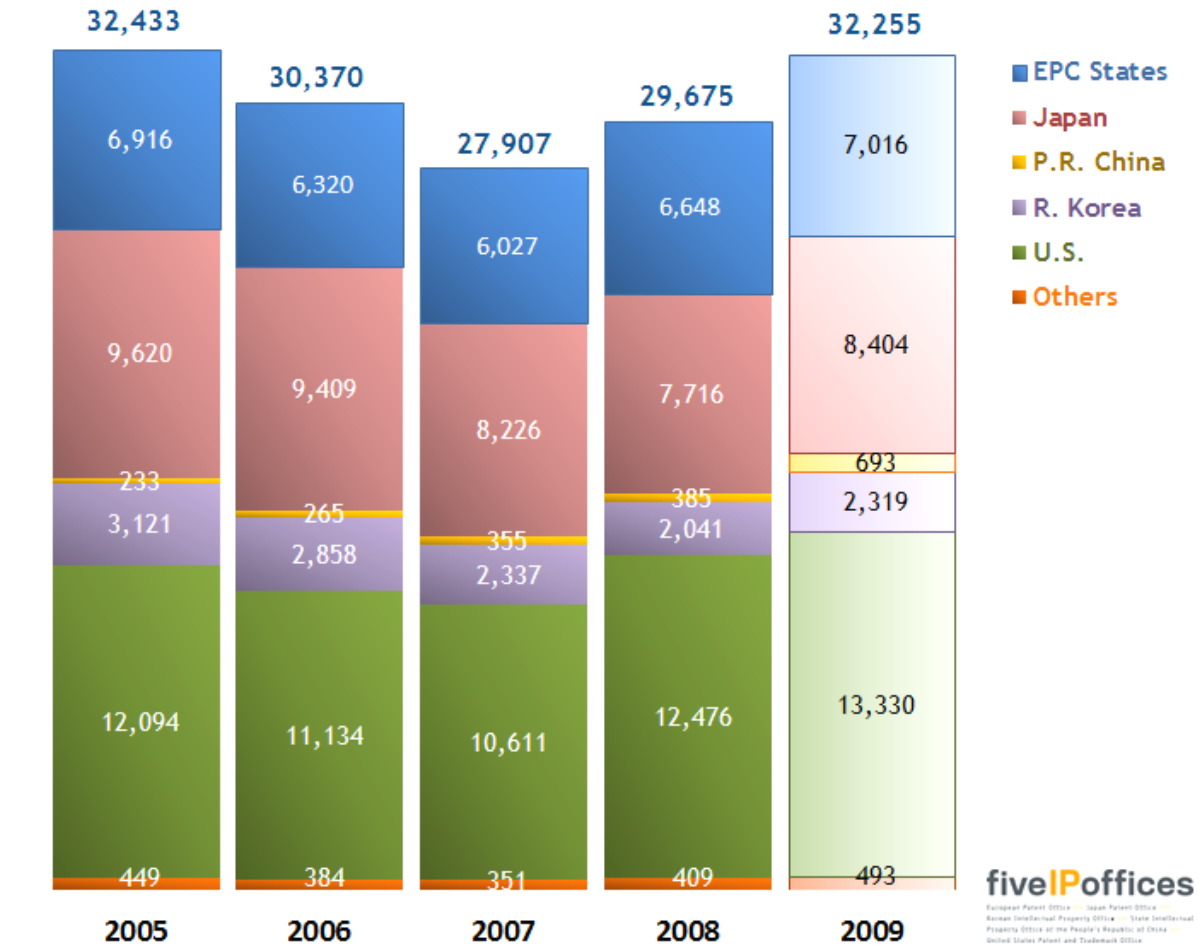
For the first filings in P.R. China, the percentage of subsequent applications filed in the U.S. (4.6 percent) is the largest. The percentage that was filed in both the EPC member states and Japan is about 0.5 percent. The percentage of subsequent applications that were filed in the EPC member states, Japan, and the U.S. is also about 0.5 percent, indicating that most of the subsequent applications filed in both the EPC states 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 2008 and the preliminary 2009 data displayed in Table 3 (8,939 compared to 11,125 respectively).

For the first filings in R. Korea, as with the other blocs, the percentage of subsequent applications filed in the U.S. (14.4 percent) is the largest, followed by P.R. China (6.0 percent). In addition, the percentage of subsequent applications filed in the EPC member states is 4.3 percent. This last percentage is close to the percentage of subsequent applications filed in both the EPC member states and the U.S. together (4.1 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 in other blocs is the highest in the EPC member states (18.0 percent). The percentage of subsequent applications filed in P.R. China (12.0 percent) is the next highest, although Japan is not far behind at 9.9 percent.

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 2009 are still provisional, the last column is more lightly shaded.

Fig. 3.15: IP5 PATENT FAMILIES - ORIGIN



The total number of IP5 patent families in 2009 was 32,255, of which 41 percent were from the U.S., 26 percent were from Japan, 22 percent were from the EPC states, 7 percent were from R. Korea, 2 percent were from P.R. China, and 2 percent were from Others. This number will probably increase when the data set for 2009 becomes complete later on.

The total number of IP5 families went lower for two years in 2006 and 2007, but increased again in 2008. The numbers from Japan and R. Korea also decreased from 2007 to 2008, but were compensated for by growth from the other IP5 Blocs. The numbers from each bloc increased from 2008 to 2009.

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 2012, most of the information that appears here includes data available on a more up-to-date basis and covers also 2013. Regarding Europe, statistics in this chapter are for the EPO only and not for the EPC states' National Offices. 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[32]. 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 only once. 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.

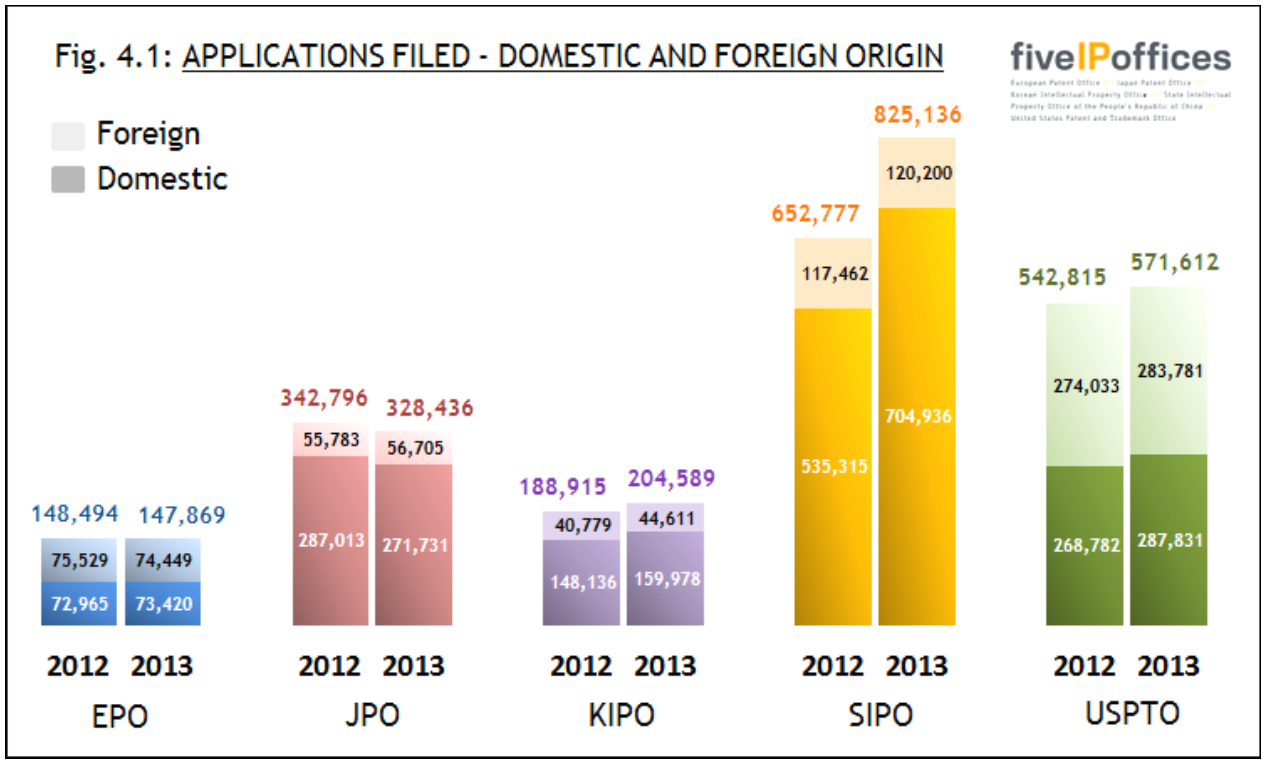
For granted patents, the statistics combine information by office and bloc of origin, displaying comparisons by year of grant. The representations here are similar to those for Fig. 3.10, where granted patents are counted only once, except that, for EPC states, only the EPO is considered as the granting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

[32] See the section "*Guide to figures in Chapter 3*" on page 28.

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 applicants or inventors). For the EPO, domestic applications correspond to those filed by residents of the EPC states.



In 2013, a total of 2,077,642 patent applications were filed at the IP5 Offices, an increase of 11 percent from 2012 (1,875,797).

There were increases in patent applications at the SIPO, the KIPO, and the USPTO. At the SIPO, patent applications increased by 26 percent. Also applications at the KIPO and the USPTO increased 8 percent and 5 percent respectively. While applications at the JPO decreased by 4 percent, applications at the EPO decreased by less than 1 percent.

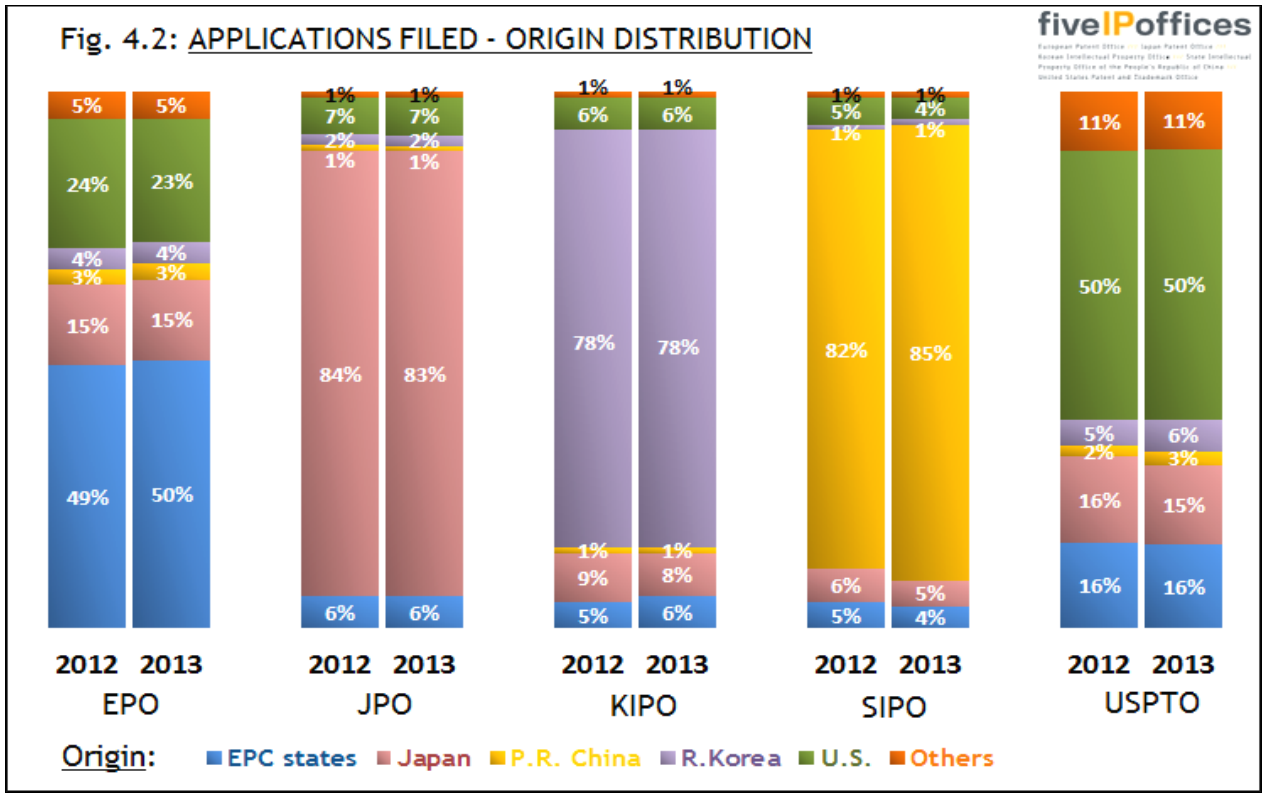
At the SIPO, the KIPO, and the USPTO, both domestic and foreign applications increased. At the JPO, foreign applications increased and domestic applications decreased marginally. At the EPO, domestic applications increased and foreign applications decreased marginally. The SIPO had a particularly large increase in domestic filings of 32 percent. The KIPO had an increase in foreign filings of 9 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 2012 and 2013[33].

Table 4.1: 2013 APPLICATIONS FILED – ORIGIN

Office	EPO	JPO	KIPO	SIPO	USPTO
EPC states	73,420	20,604	11,736	33,287	88,904
Japan	22,555	271,731	16,299	41,193	84,967
P.R. China	4,056	2,064	1,147	704,936	15,093
R. Korea	6,336	6,134	159,978	10,866	33,499
U.S.	33,834	23,481	12,991	29,992	287,831
Others	7,668	4,422	2,438	4,862	61,318
Total	147,869	328,436	204,589	825,136	571,612

Comparison of the numbers of applications across the IP5 Offices should only be made with care. Reasons for this include that numbers of claims given in applications are significantly different among the IP5 Offices. On average, in 2013, an application filed at the EPO contained 14.3 claims (13.9 in 2012), one filed at the JPO contained 9.8 claims (9.6 in 2012), one filed at the KIPO contained 10.7 claims (10.5 in 2012), one filed at the SIPO contained 7.5 claims (8.0 in 2012), while one filed at the USPTO had 18.1 claims (18.2 in 2012). These numbers of claims remain stable in all the IP5 Offices.



The shares of patent application filings by bloc of origin are generally consistent for 2012 and 2013 for each office.

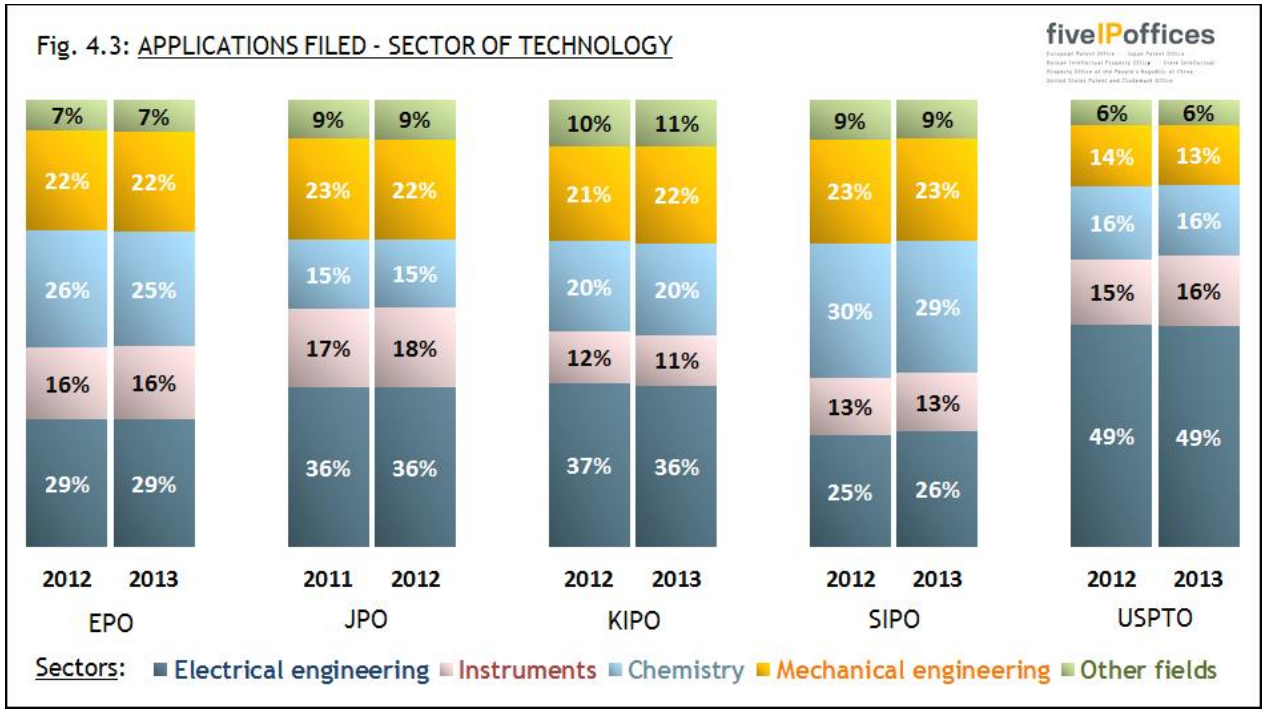
[33] The numbers for earlier years can be found in the statistical annex of this report.

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[34]. 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 2012 and 2013, while for the JPO the breakdown is given for the filing years 2011 and 2012[35].

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

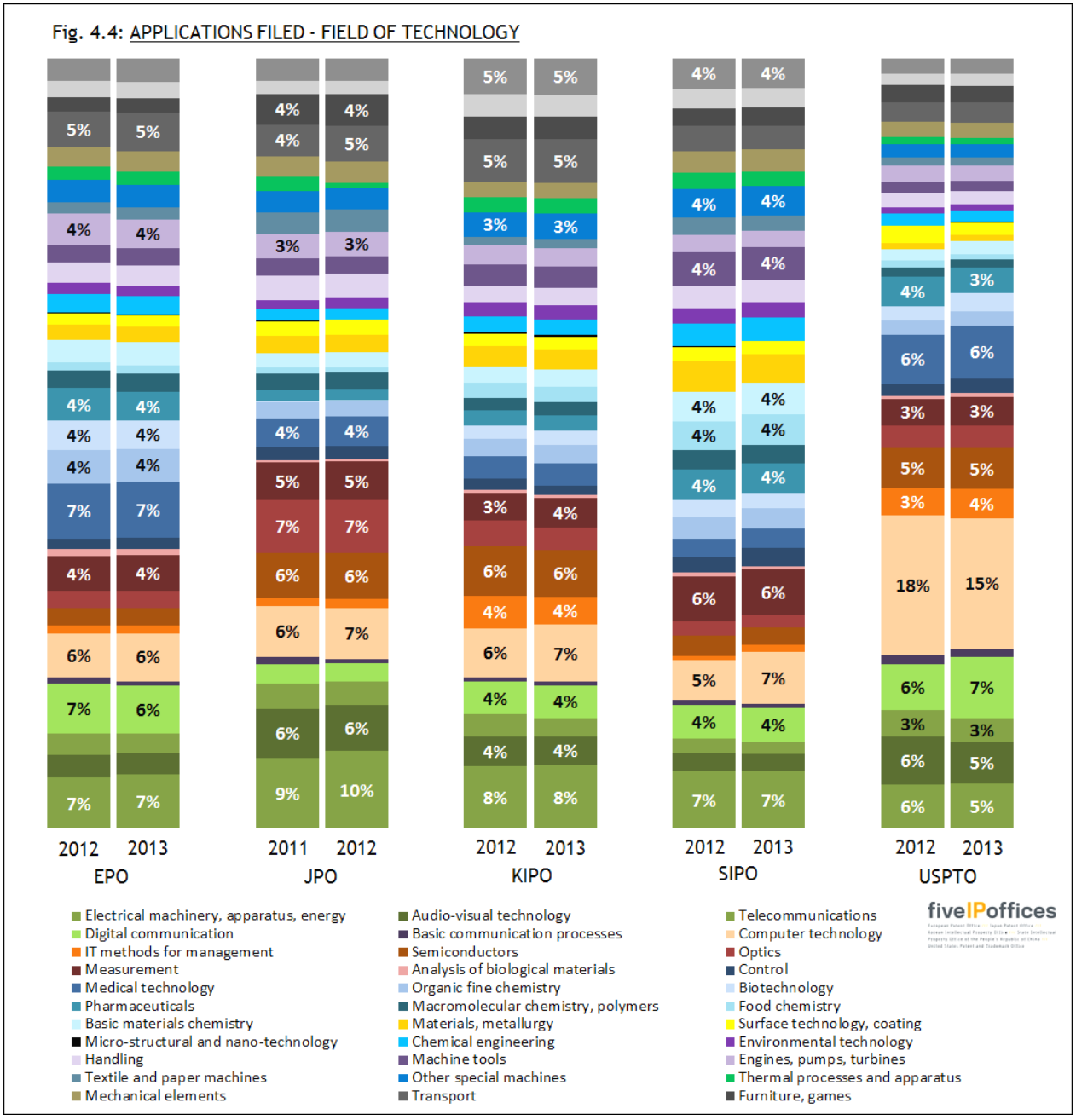


The Electrical engineering sector is more prominent at the USPTO than in the other IP5 Offices. A higher proportion of applications are filed in the Chemistry sector at the SIPO and at the EPO than in the other IP5 Offices. At each office, the distribution between sectors of the technology was stable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

[34] www.wipo.int/ipstats/en/statistics/technology_concordance.html.

[35] JPO data for 2012 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).

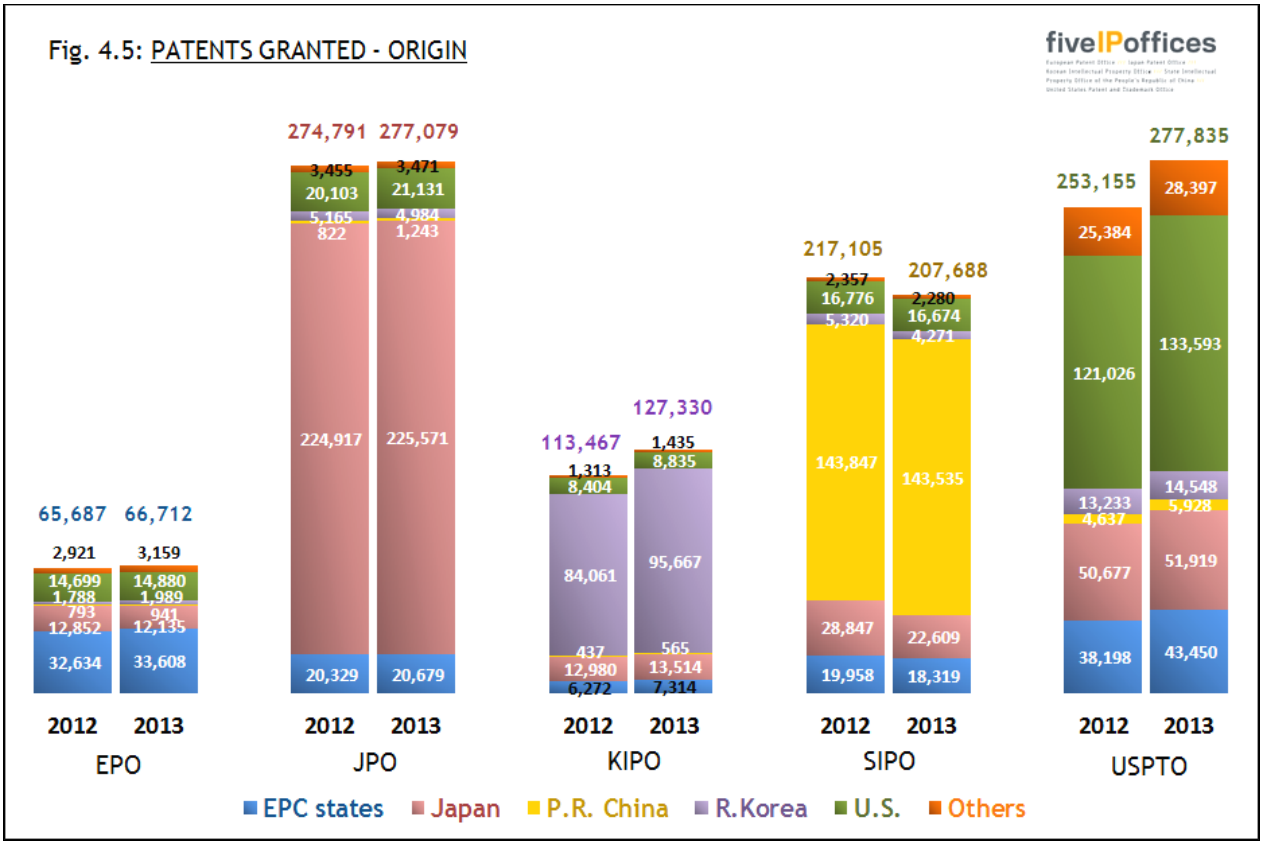
Fig. 4.4 indicates the share of applications by detailed fields of technology at each office, where the 10 leading fields in each case are highlighted by writing the percentages in text format.



Most of the leading fields are identical between the IP5 Offices, though with different shares. "*Computer technology*", "*Electrical machinery, apparatus, energy*", and "*Measurement*" are the leading fields at all offices, and "*Digital communication*" is a leading field at all offices except the JPO. "*Electrical machinery, apparatus, energy*" has a larger share of applications at the JPO (10 percent) than at the KIPO (8 percent), the SIPO (7 percent), and the EPO (7 percent) respectively. "*Computer technology*" has a larger share of applications at the USPTO (15 percent). For the other leading fields: "*Medical technology*" is a leading field at the EPO, the JPO, and the USPTO; "*Pharmaceuticals*" is a leading field at the EPO, the USPTO, and the SIPO; "*Semiconductors*" is a leading field at the JPO, the KIPO, and the USPTO; "*Transport*" is a leading field at the EPO, the KIPO, and the JPO; "*Optics*" is a leading field at the JPO only.

PATENTS GRANTED

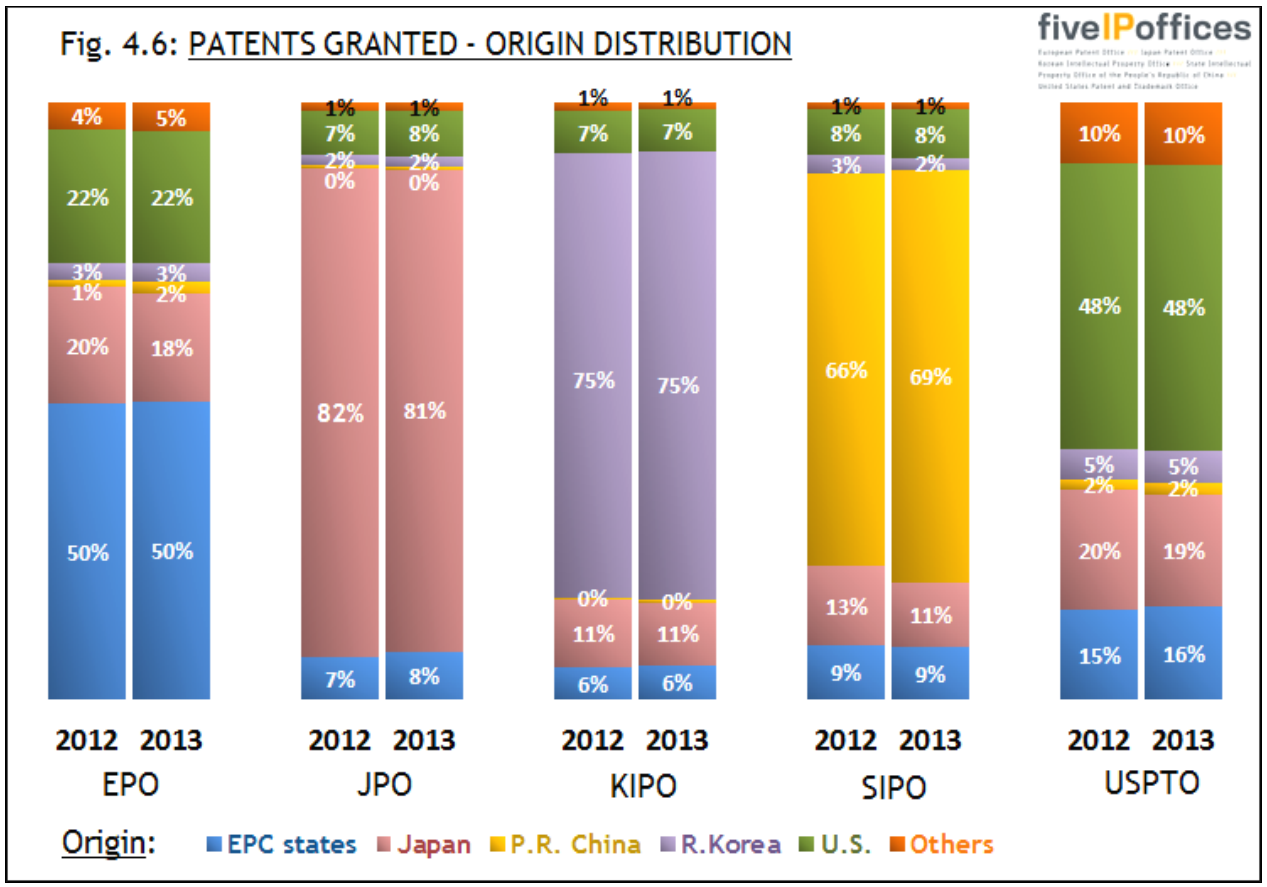
Fig. 4.5 shows the numbers of patents granted by the IP5 Offices, according to the bloc of origin (residence of first-named owner).



Together the IP5 Offices granted a total of 956,644 patents in 2013. This was 32,439 more than in 2012 and represents a growth of 4 percent.

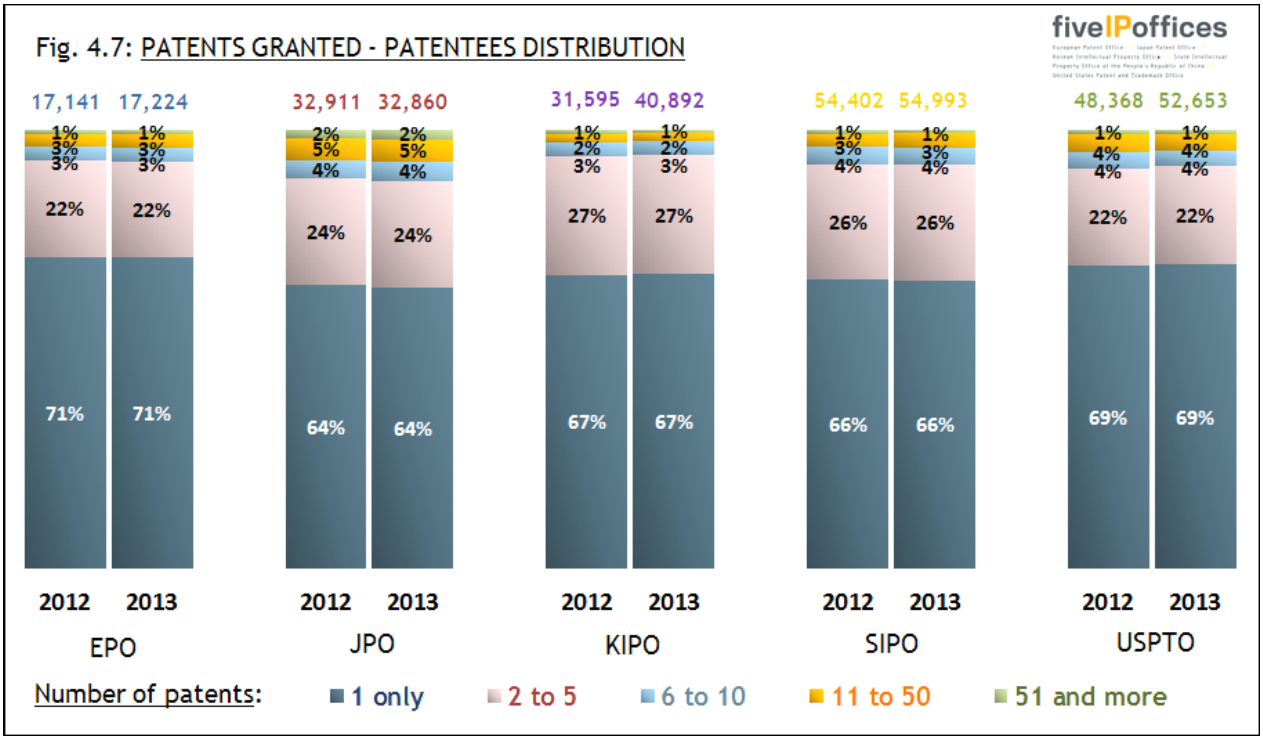
In 2013, the number of patents granted at the KIPO and the USPTO increased by 12 percent and 10 percent respectively. Also the number of patents granted at the EPO and the JPO increased 2 percent and 1 percent respectively, while the number of patents granted at the SIPO decreased by 4 percent. The differences 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 much 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 2012 and in 2013.



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 2012 and 2013 for each office.

Most of the patentees received only one grant in a year. In 2013, the proportion was between 64 percent for the JPO 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 2013, the average patentee received 3.9 patents at the EPO, 8.4 at the JPO, 3.1 at the KIPO, 3.8 at the SIPO and 5.3 at the USPTO. The greatest number of patents granted to a single applicant was 820 at the EPO, 6,866 at the JPO, 2,882 at the KIPO, 2,251 at the SIPO and 6,788 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 twenty years 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 than 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.

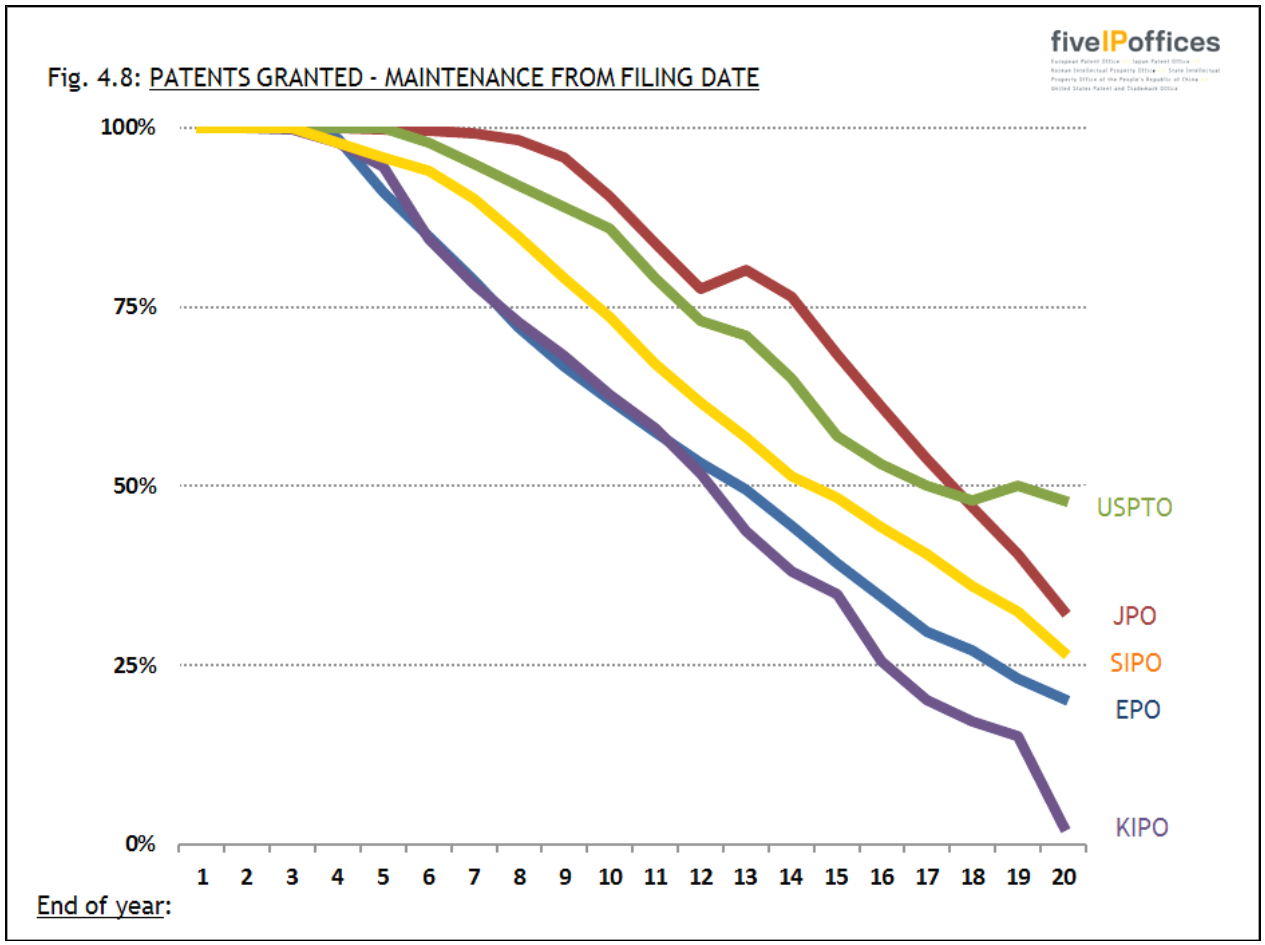
For a Japanese or Korean patent, the annual fees for the first three years after patent registration are paid as a lump-sum and for subsequent years there are annual fees. The applicant can pay either yearly or in advance.

At the SIPO, the annual fee of the year in which the patent right is granted is paid at the time of going through the formalities of registration, and the subsequent annual fees are 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 the 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 IP5 Office.



Over 50 percent of the patents granted by the JPO and the USPTO are maintained for at least 17 years from filing, and 14 years at the SIPO[36], compared to 12 years for the EPO and the KIPO. In addition to patentees' behavior, these differences can be partially explained by differences in the procedures, such as a multinational maintenance system (EPO), deferred examination (KIPO, SIPO) and a stepped maintenance payment schedule (USPTO).

The EPO proportion represents a weighted average ratio of the maintenance of the validated European patents in the 38 EPC states. This represents a change in definition to the previous editions of the report, where the maintenance of rate was based on European patents published by the EPO.

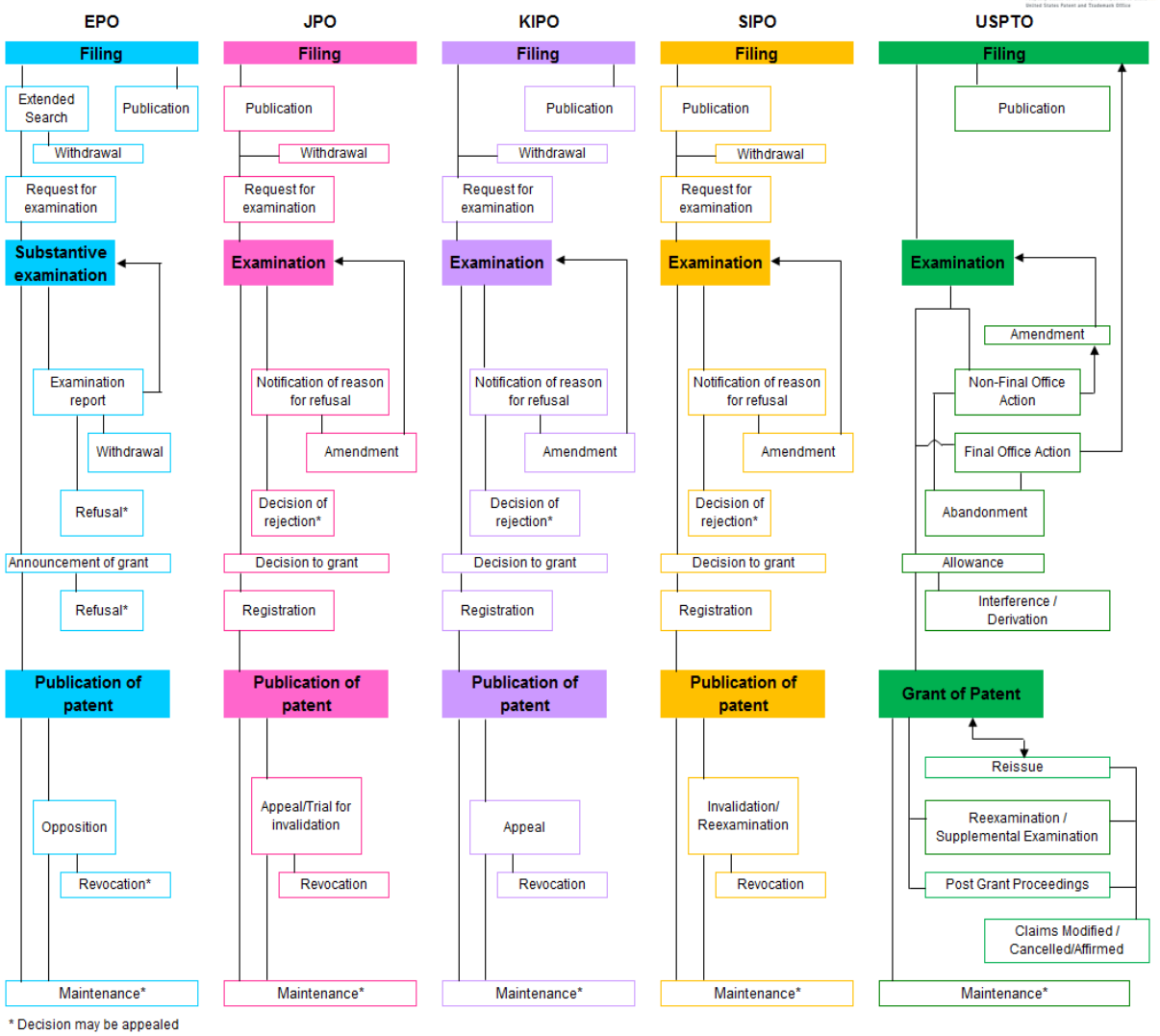
The USPTO payment schedule is somewhat hidden because the data are shown on a time basis (by year after application) that is different from the time basis used for collection of the fees (by year after patent grant). The increase in the share of maintained patents between years 18 and 19 is the result of enacted legislation in 1995 that lengthened the patent term for a select group of patents.

[36] Please note that SIPO has adopted the calculation method of maintenance rate used by EPO, JPO, KIPO, and USPTO from the current version of report, hence, the maintenance rate of SIPO may vary in the previous reports.

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 4.2. 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).

Fig. 4.9: PATENT PROCEDURES



See Annex 2 for some further details about the procedures.

Fees are due at different stages of the procedure. Information on main comparable fees at the IP5 Offices is made available online on the IP5 home page[37].

[37] See at www.fiveipoffices.org/statistics/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 2012 and 2013. Definitions of the various terms are given in Annex 2.

RATES

The examination rate at the USPTO is 100 percent, since filing implies a request for examination, whereas at the EPO, the JPO, the KIPO, and the SIPO a specific request for examination has to be made. At the EPO, a 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 since the deferred examination system allows more time for the applicants to evaluate whether or not to proceed further with the application. The SIPO does not report this information at this time.

The grant rates at the JPO, the KIPO, and the USPTO increased from 2012 to 2013. At the EPO, the grant rates decreased by less than 1 percent in 2013 compared to the previous year. 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 substantial parts 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. More details can be found in Annex 2.

As shown in Table 4.2, about 2.5 million applications were pending in the EPO, the JPO, the KIPO, and the USPTO at the end of 2013, a decrease of 5.5 percent compared to the number of applications pending at the end of 2012 (2.6 million). This is mainly accounted for by drops of 14 percent at the JPO and 5 percent at the 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
Rates in percentage						
Examination[38]	2012	92.8	67.1	84.2	445,608	100
	2013	92.8	67.8	80.6	569,081	100
Grant[39]	2012	49.8	66.8	65.6	217,105	68.9
	2013	49.0	69.8	68.8	207,688	70.7
Opposition	2012	4.7	-	-	-	n.a.
	2013	4.5	-	-	-	n.a.
Appeal on examination[40]	2012	26.7	25,388	17.1	-	4.6
	2013	24.3	25,158	13.0	-	3.8
Pendency in the procedure						
Awaiting request for examination	2012	143,267	754,091	236,316	n.a.	-
	2013	143,968	731,521	251,315	n.a.	-
Pending examinations[41]	2012	363,521	319,247	205,181	n.a.	603,898
	2013	377,994	196,732	184,295	n.a.	595,361
Pendency first action[42] (months)	2012	9.1	20.1	14.8	11.5	19.6
	2013	9.2	14.1	13.2	10.9	17.4
Pendency final action[43] (months)	2012	36.2	29.6	21.6	22.6	31.7
	2013	36.1	23.4	19.1	22.2	28.6
Pendency invalidation (months)	2012	-	-	-	6.6	-
	2013	-	-	-	7.0	-

- = 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. This leads to differences between offices in the time periods that are shown.

At all IP5 Offices, various options to initiate a faster examination are available.

[38] For the SIPO, only the numbers are available of patent applications entering into the substantial examination phase in the respective year.
[39] For the SIPO, only the numbers are available of grants in the respective year.
[40] For the JPO, only the numbers are available of appeal procedures in the respective year.
[41] For the KIPO, only the unexamined patent applications with a request for examination filed have been counted. In the previous reports, the figure of this category included the entire unexamined patent applications.
[42] For the EPO, the first office action is the extended European search report that includes a written opinion on patentability.
[43] The pendency in examination is calculated from the date at which the file was allocated for examination (EPO, usually 6 months after the first action), the date of the request for examination (JPO, KIPO, and SIPO), and the filing date (USPTO). See Annex 2.

Chapter 5

THE IP5 OFFICES AND THE PATENT COOPERATION TREATY (PCT)

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 Receiving Offices (RO) for applicants in their respective territories, as International Search Authorities (ISA) and as International Preliminary Examination Authorities (IPEA). PCT searches are a significant workload for the IP5 Offices in addition to those already described in Chapter 4.

Statistics in this chapter have been derived from the WIPO Statistics Database[44] and the IP5 Offices.

Selected statistics for patent families are included in this chapter (see also Chapter 3). A patent family is a group of patent filings that claim the priority of a single filing.

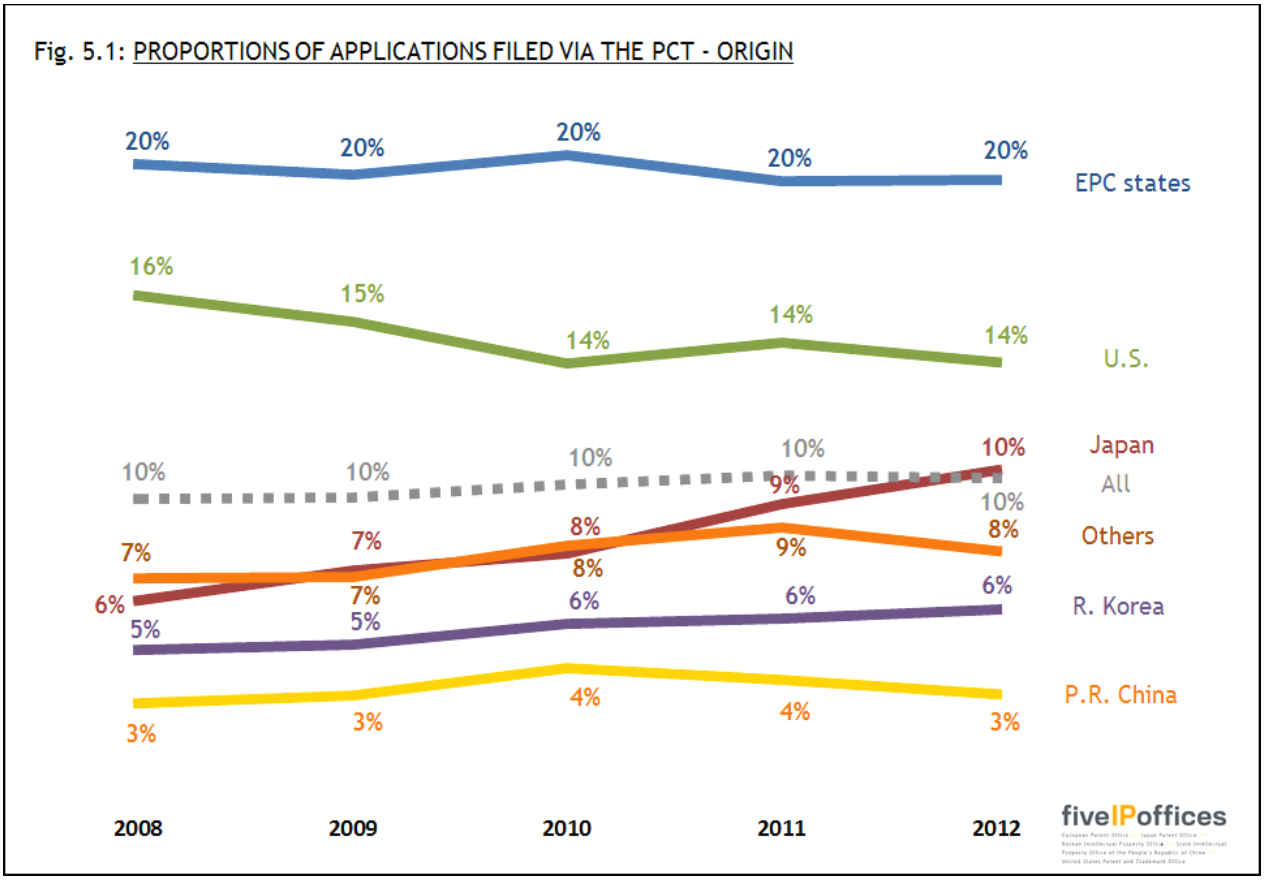
[44] See footnote 6, p.3.

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.

Fig. 5.1: PROPORTIONS OF APPLICATIONS FILED VIA THE PCT - ORIGIN



On average, 10 percent of the applications were filed via the PCT route between 2008 and 2012.

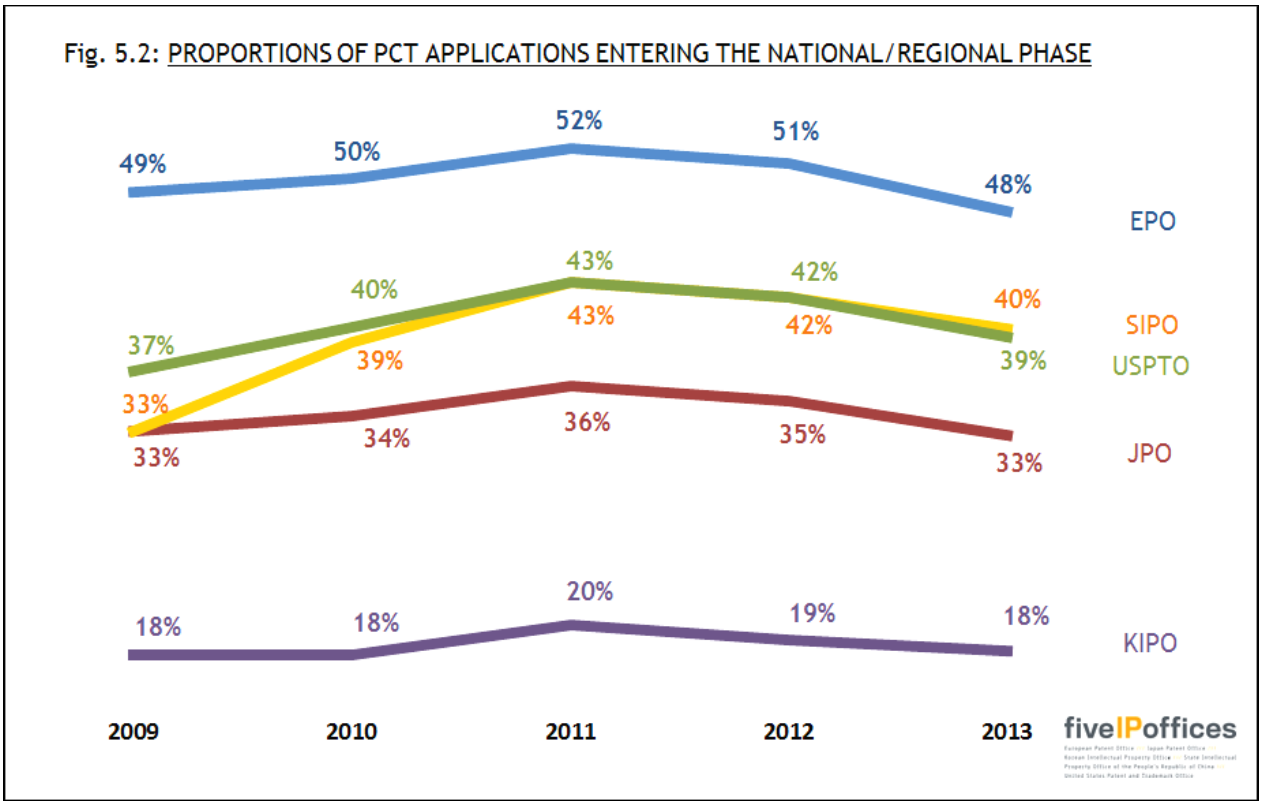
In 2012, the proportion of applications filed via the PCT remained stable for applications originating from the EPC states, R. Korea and the U.S. For Japan, the proportion increased by 1 percent, while the proportion for P.R. China decreased by 1 percent. The proportions for the EPC states origin applications and the 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 organization 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 organizations. 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[45].

Fig. 5.2: PROPORTIONS OF PCT APPLICATIONS ENTERING THE NATIONAL/REGIONAL PHASE



A higher proportion of PCT applications enter the regional phase at the EPO than enter the national phase at the other IP5 Offices. 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.

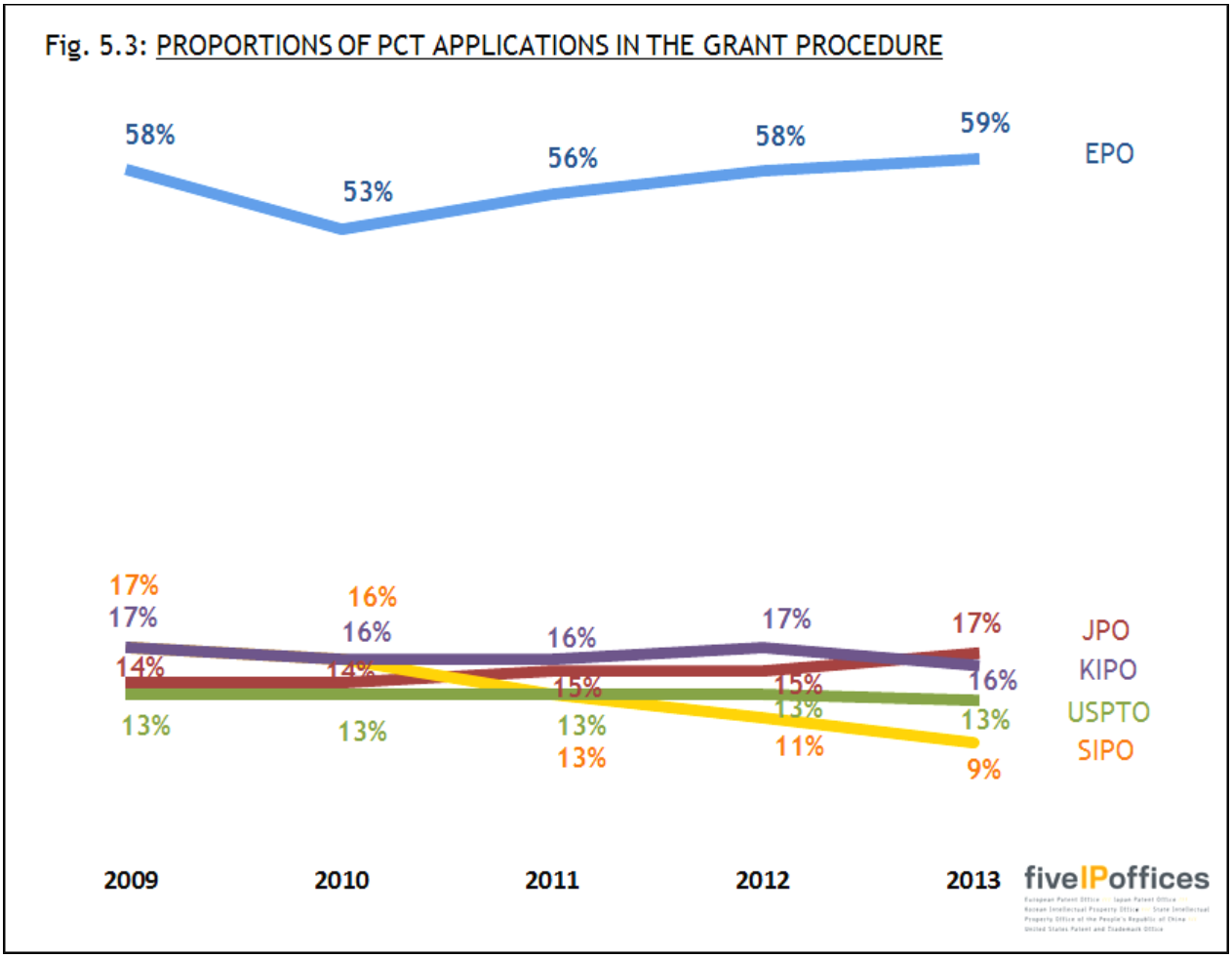
The proportions observed at all offices increased up to 2011, but have declined since then.

[45] 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).

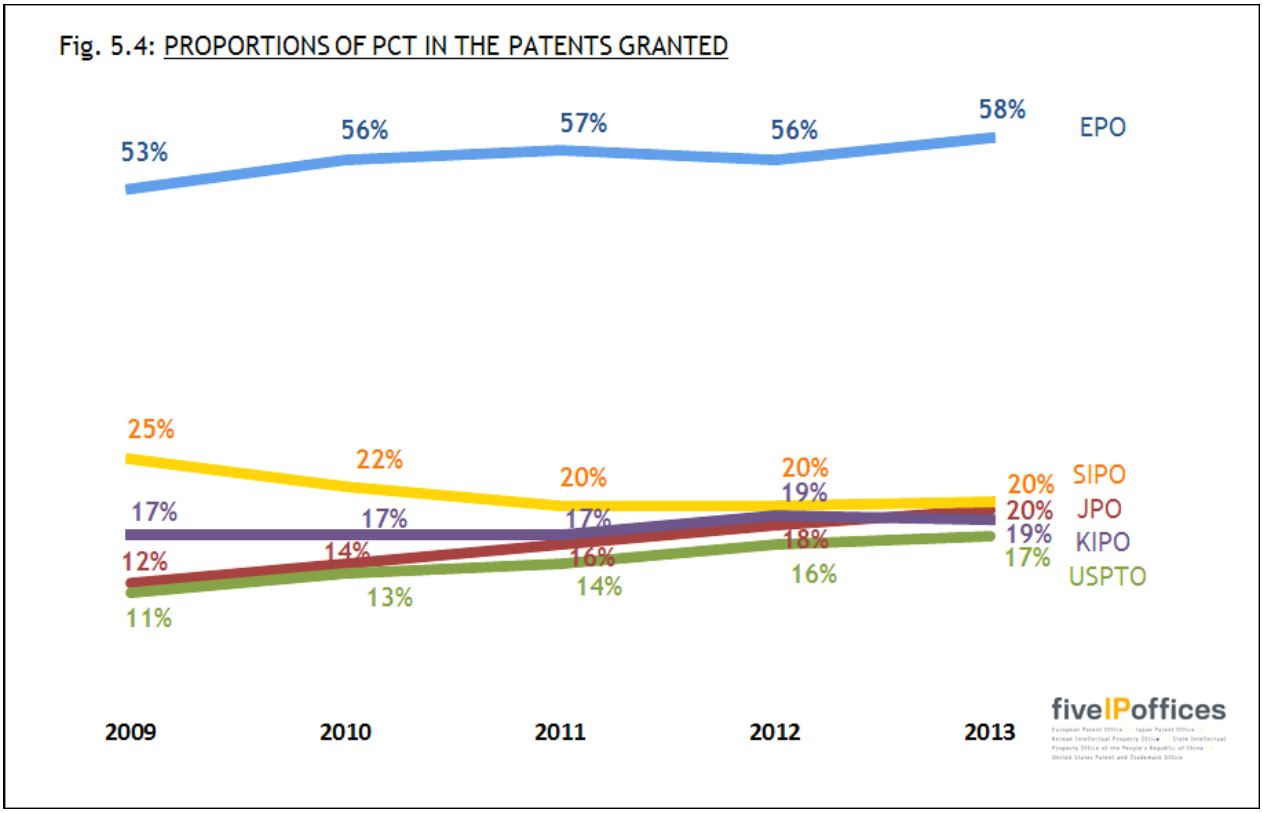
Fig. 5.3: PROPORTIONS OF PCT APPLICATIONS IN THE GRANT PROCEDURE



The proportion of PCT national/regional applications further increased at the EPO in 2013 and is now above 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. Since 2009, 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 compared to the growth of PCT applications entering national phase. EPO continues to have much higher proportion of PCT among applications than at 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 were filed several years earlier.

Over the period, there was a convergence of the proportions for the JPO, KIPO, SIPO, and USPTO towards 20 percent. 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. The proportion of PCT granted patents at the EPO further increased.

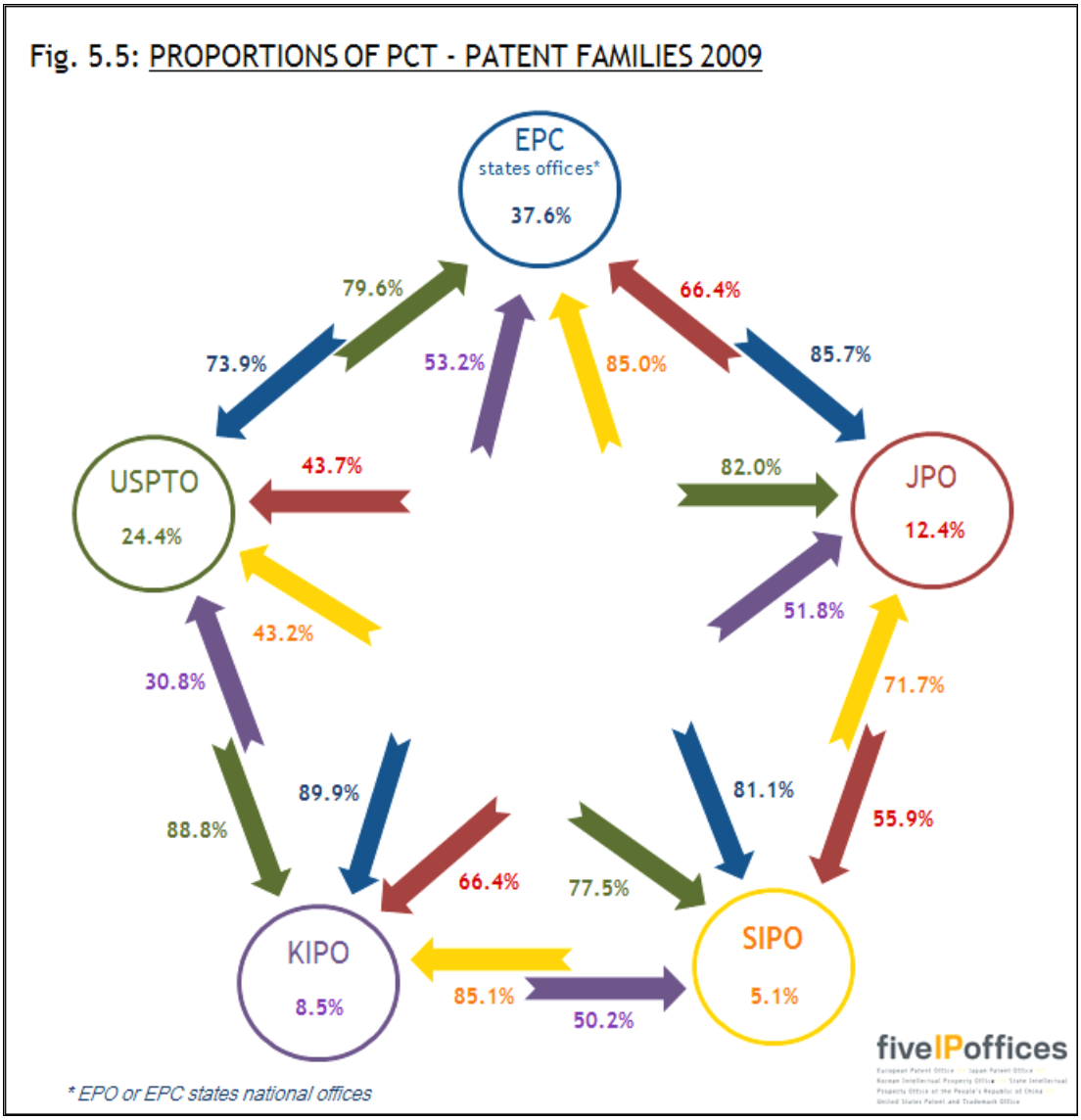
PATENT FAMILIES AND PCT

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 2009. 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 2009, and can be compared with Fig. 3.13.

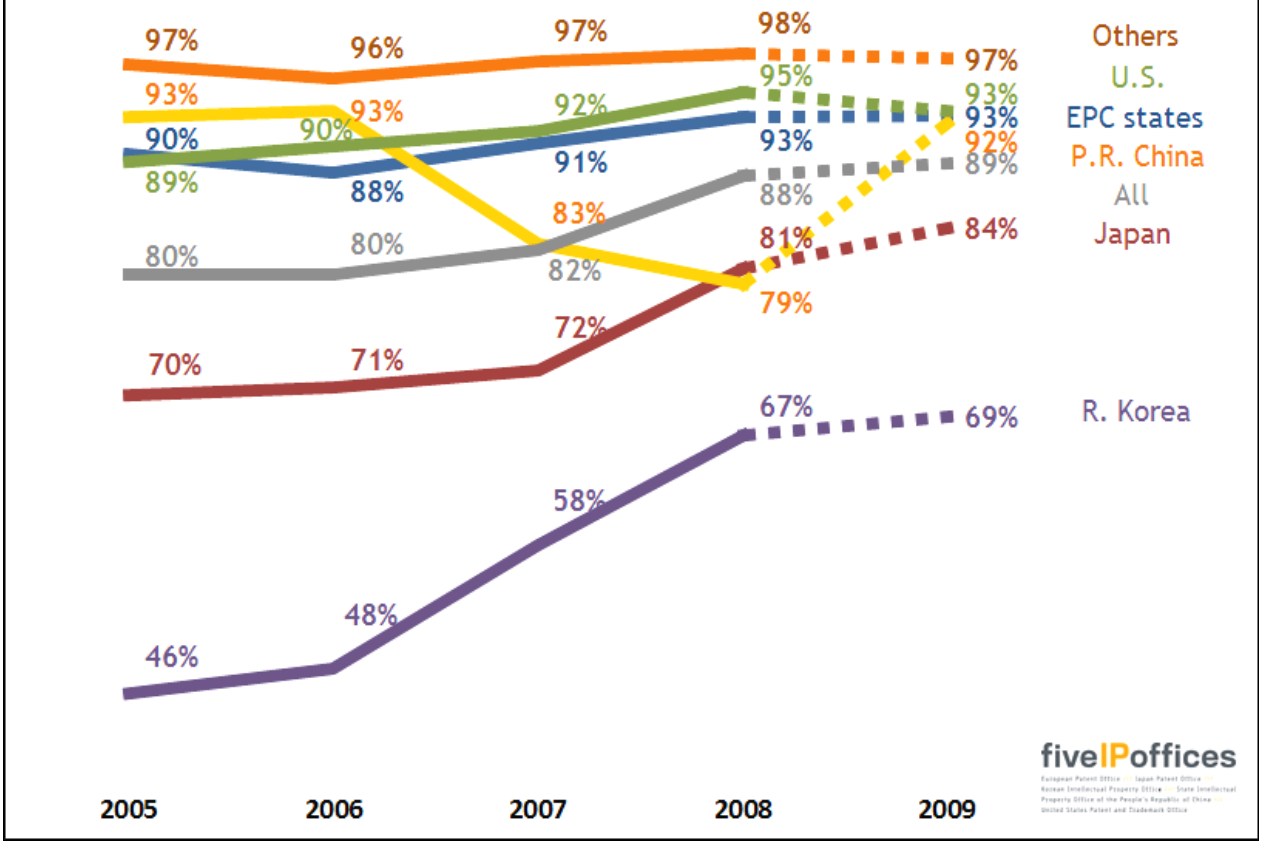
Fig. 5.5: PROPORTIONS OF PCT - PATENT FAMILIES 2009



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.

Fig. 5.6: PROPORTIONS OF PCT - IP5 PATENT FAMILIES PER ORIGIN



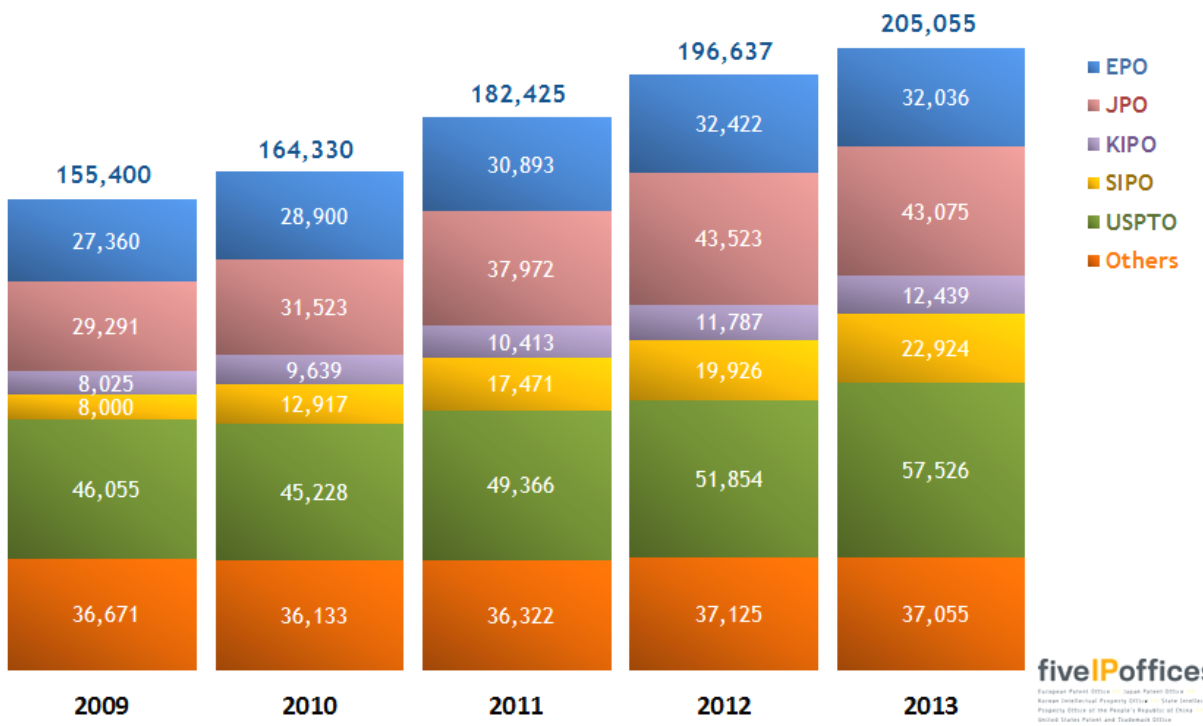
Since IP5 patent families represent highly internationalized applications, the average rate of PCT usage is high compared to the overall usage of PCTs among applications in general, as was shown in Fig. 5.1. The percentage of usage of the PCT system has generally grown in the IP5 patent families in 2009, except for the U.S. (decreased by 2 percent). Especially P.R. China returned nearly back to its 2006 level, after decreasing in 2007 and 2008, with a sharp increase by 13 percent in 2009.

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 2009 to 2013.

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

Fig. 5.7: PCT ACTIVITY - RECEIVING OFFICES

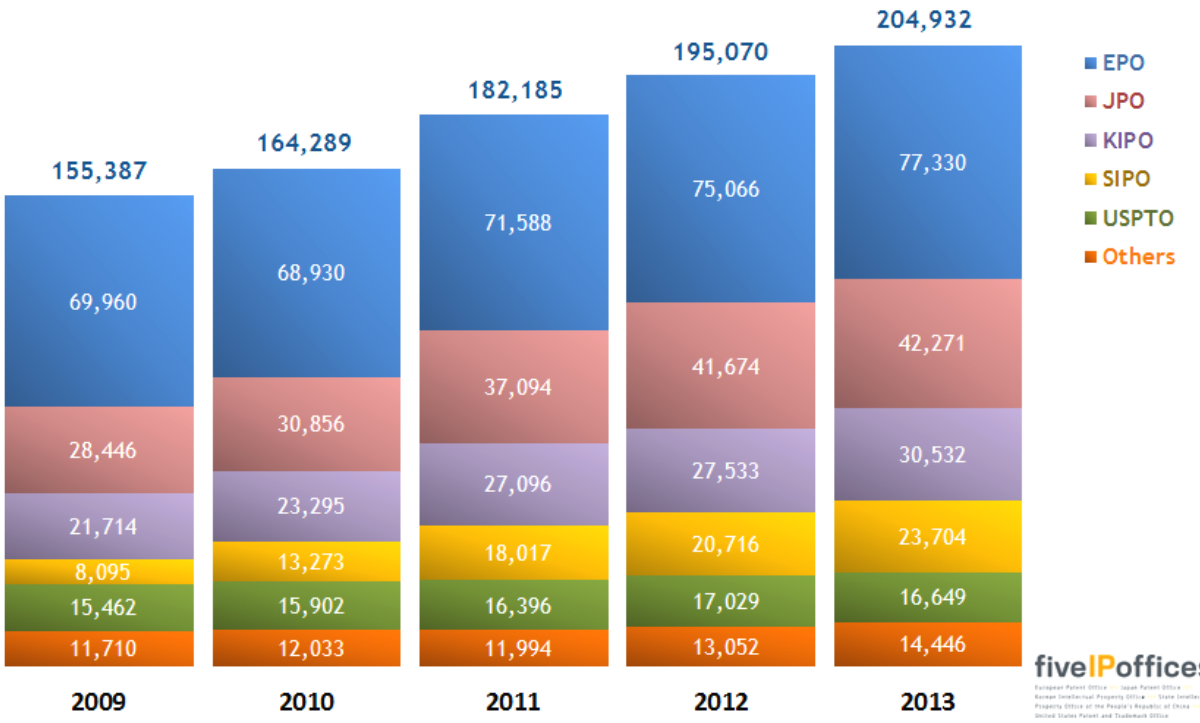


The totals for PCT international filings are also shown in Fig. 3.1. The total number of PCT international filings has recovered from 2010 and steadily increased by 2013. The compound annual growth rate from 2009 to 2013 was 7.2 percent.

In 2013, the IP5 Offices had an overall increase of PCT international filings of 4 percent. The SIPO (15 percent), the USPTO (11 percent) and the KIPO (6 percent) had the largest percentage increases. Together the IP5 Offices were RO for 82 percent of the PCT international filings in 2013 (76 percent in 2009).

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.

Fig. 5.8: PCT ACTIVITY - INTERNATIONAL SEARCHING AUTHORITIES



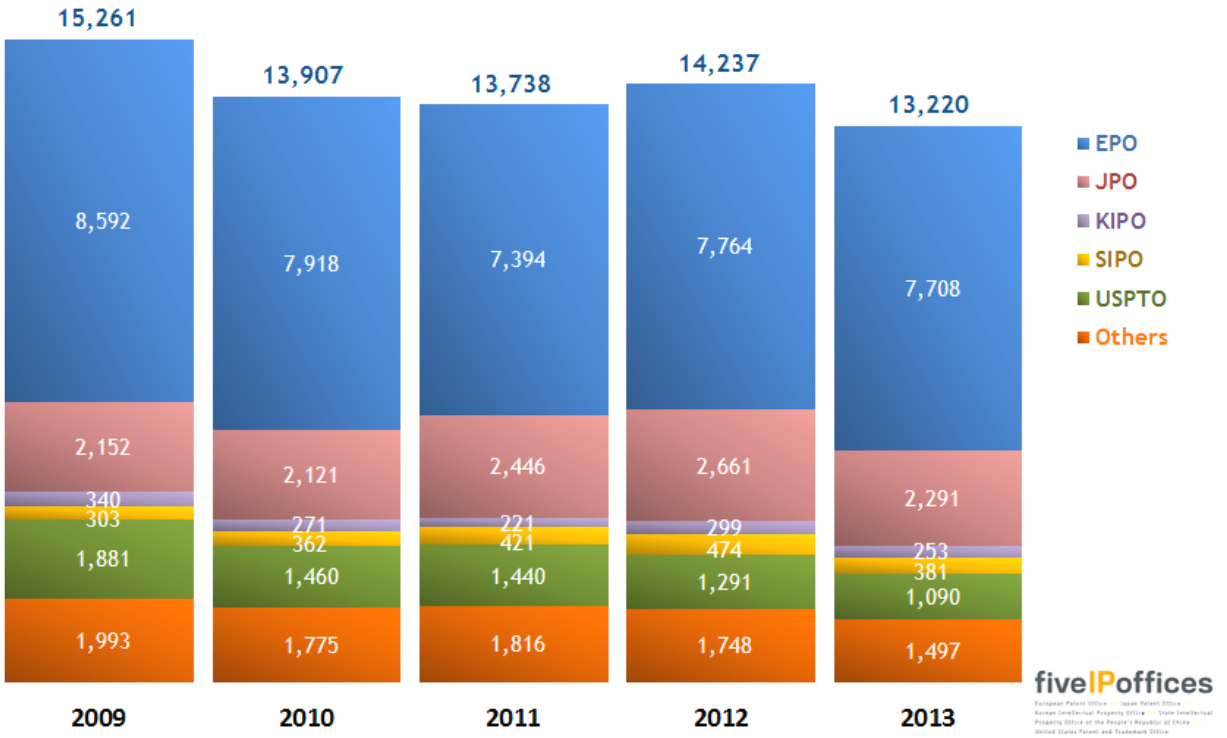
The IP5 Offices together received 93 percent of the PCT international search requests in 2013. The EPO received consistently the largest number of requests (38 percent of all requests in 2013).

In 2013, strong growth was experienced by the SIPO (14 percent) and the KIPO (11 percent). The EPO and the JPO experienced smaller increases. The USPTO experienced a small decrease.

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. The combined number of international search requests to the KIPO and the USPTO has steadily increased from 2009 and increased by 6 percent in 2013.

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

Fig. 5.9: PCT ACTIVITY - INTERNATIONAL PRELIMINARY EXAMINING AUTHORITIES



After a long period of decline, the number of requests for international preliminary examination increased slightly in 2012. However, the number of requests has decreased once again in 2013.

Together, the IP5 Offices were in charge of 89 percent of the IPEA work in 2013 (88 percent in 2012). The EPO has consistently performed the highest proportion of the international preliminary examinations each year. Annually, from 2009 to 2013, the EPO performed well 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 2012 and 2013 in Table 6.

Table 6: STATISTICS ON OTHER WORK

Activity	Year	EPO	JPO	KIPO	SIPO	USPTO
Searches for national offices	2012	23,899	-	-	-	-
	2013	25,624	-	-	-	-
Design applications	2012	-	32,391	63,135	657,582	32,799
	2013	-	31,125	66,940	659,563	36,034
Utility model applications	2012	-	8,112	12,424	740,290	-
	2013	-	7,622	10,968	892,362	-
Plant patent applications	2012	-	-	-	-	1,149
	2013	-	-	-	-	1,406
Reissue patent applications	2012	-	-	-	-	1,231
	2013	-	-	-	-	1,065
Trademark applications	2012	-	119,010	132,522	-	417,951
	2013	-	117,674	149,154	-	439,645

The most notable changes from 2012 to 2013 were a 22 percent increase for Plant patent applications and a 13 percent decrease for Reissue patent applications at the USPTO, a 21 percent increase for Utility model applications at the SIPO and a 12 percent decrease for Utility model applications at the KIPO.

Annex 1
DEFINITIONS FOR OFFICES EXPENDITURES

EPO EXPENSES UNDER IFRS (Fig. 2.2)

The full costs are distributed to eight 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.

A~E. 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 capitalization
- Operating costs related to the maintenance of buildings, technical installations, equipment, furniture and vehicles, such as rent, cleaning and repairs, electricity, gas, water

F. Patent information

This covers the publication of patent documentation, raw data products, public information, customer services, website, conference, exhibitions and fairs.

G. Technical cooperation

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

H. 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
- Internationalization 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 organization

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. Operating subsidies for INPIT[46]

H. Others

All other expenses not covered by the above.

[46] This term is explained in the glossary that is available with the web-based version of the report, www.fiveipoffices.org/statistics/statisticsreports.html.

KIPO EXPENDITURES (Fig. 2.4)

A. Personnel resources

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

B. Internal business

Internal business includes Public-employee pension, balance, and transaction between the accounts.

C. Primary business expenses

Primary business expenses include expenditures on the development, operation, and private transfer which mainly related to the business of private organizations or affiliated organizations, including expenses on the business and task.

D. Other expenses

All other expenses not covered by the above.

SIPO EXPENDITURES (Fig. 2.5)

A. IP affairs

B. Social security

Pension in administrative agencies

C. Housing security

Housing fund
House-lease subsidy
House-purchase subsidy

D. International affairs

International organization membership dues

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. Equipment

C. Rent and Utilities

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

D. Printing

Costs incurred for printing and reproduction services including related composition and binding operation.

E. 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[47]. 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 2013;
- 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).

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).

[47] A more extensive glossary of terms is available with the web-based version of the report.

DEMANDS FOR PATENT RIGHTS

Demands for patent rights refers to applications for patents for invention. The 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[48]. 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[49] 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[50] 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*.

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[51]. 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[52]. 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

[48] 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.
[49] See the Article 4A to 4D of the Paris Convention at the WIPO web site; www.wipo.int/export/sites/www/treaties/en/ip/paris/pdf/trtdocs_wo020.pdf.
[50] 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.
[51] 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.
[52] www.wipo.int/ipstats/en/statistics/pct/index.html.

national patent rights have been granted via regional procedures. The 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[53], 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 yet 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[54].

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[55] 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.

[53] 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.

[54] 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.

[55] See the Article 4A to 4D of the Paris Convention at the WIPO web site, 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*". Patents granted by the EPO are also then subject to validation in the designated member states where the applicant is seeking patent protection.

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 reexamination. 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 reexamination 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 Reexamination Board to make a reexamination. Where any entity or individual considers the grant of a patent right is not in conformity with the relevant provisions of the Patent Law, a request can be made to 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

This term applies only to the EPO. The USPTO has opposition procedures but does not currently produce an opposition rate.

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 ON EXAMINATION RATE

For the EPO, the rate 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 rate, which includes utility, plant, and reissue categories, captures the number of appeals filed after an examiner's decision to issue a final rejection against a patent application. The rate is the number of examiner answers written during the year in response to appeal briefs divided by the number of final rejections issued that year. 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 / 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, added to 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 the JPO and the SIPO, five years for the 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 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, once the request for examination has been completed, to the date of the final action. This definition therefore indicates how long the substantive examination takes.

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) is 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 [USPTO]
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]
EPN	European Patent Network [EPO]
EPO	European Patent Office
ESAB	Economic and Scientific Advisory Board [EPO]
EU	European Union
FA	First Action
FAOM	First Office Action On Merits [USPTO]
FOSR	Four Office Statistics Report
GDP	Gross Domestic Product
GIPA	Global IP Academy [USPTO]
FY	Fiscal Year
IB	International Bureau of WIPO
IFRS	International Financial Reporting Standards [EPO]
IMF	International Monetary Fund
INPIT	National Center for Industrial Property Information and Training [JPO]
IP	Intellectual Property
IP5	Five IP Offices (EPO, JPO, KIPO, SIPO, USPTO)
IP5 SR	IP5 Statistics Report
IPC	International Patent Classification
IPEA	International Preliminary Examination Authority
IPR	Intellectual Property Rights
IPRP	International Preliminary Reports on Patentability
ISA	International Searching Authority

ISR	International Search Reports
IT	Information Technology
JP-FIRST	JP-Fast Information Release Strategy [JPO]
JPO	Japan Patent Office
KIPO	Korean Intellectual Property Office
OAPI	Organization Africaine de la Propriété Intellectuelle
OEE	Office of Earlier Examination [JPO]
OFF	Office of First Filing [JPO]
OHIM	Office for Harmonization in the Internal Market [EPO]
OLE	Office of Later Examination [JPO]
OPD	One Portal Dossier
OSF	Office of Second Filing [JPO]
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
SBC	Server-Based Cloud [KIPO]
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
USPC	United States Patent Classification System
USPTO	United States Patent and Trademark Office
WIPO	World Intellectual Property Organization

European Patent Office (EPO)
Bob-van-Benthem-Platz 1
80469 Munich
Germany
www.epo.org

Japan Patent Office (JPO)
3-4-3 Kasumigaseki, Chiyoda-ku
Tokyo 100-8915
Japan
www.jpo.go.jp

Korean Intellectual Property Office (KIPO)
Government Complex Daejeon Building 4
189, Cheongsa-ro, Seo-gu, Daejeon, 302-701
Republic of Korea
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

United States Patent and Trademark Office (USPTO)
P.O. Box 1450
Alexandria, VA 22313
United States
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 comparison about the business processes taking place at each office.

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