

IP5 Statistics Report

2014 Edition



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

IP5 Statistics Report 2014 Edition

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

Edited by
SIPO, November 2015

Executive Summary

The IP5 SR is an annual compilation of patent statistics for the five largest Intellectual Property Offices- the IP5 Offices - namely EPO, JPO, SIPO, KIPO and USPTO.

At the end of 2013, 9.4 million patents were in force in the world (+10.0 percent). 89 percent of these patents were valid in one of the IP5 Offices jurisdictions.

In 2013, 2.2 million patent applications were filed worldwide, either as direct national, direct regional or international PCT applications of which 93 percent originated from the IP5 Blocs. In 2014, 2.2 million patent applications were filed at the IP5 Offices (+6 percent).

In 2013, the proportion of applications filed via the PCT was 9 percent for applications originating from the IP5 Blocs.

Together the IP5 Offices granted 955,447 patents in 2014 (-0.1 percent less than 2013).

In 2014, the main developments at the IP5 Offices were:

- IP5: The IP5 Offices launched on January 6th, 2014 the comprehensive IP5 PPH pilot programme for a period of three years ending on January 5th, 2017. The PPH leverages fast-track patent examination procedures to allow applicants to obtain corresponding patents faster and more efficiently. It also permits each office to exploit the work previously done by the other office.
- EPO: The EPO joint IP5 PPH pilot programme started in January 2014. PCT Direct was introduced to facilitate the handling of PCT applications where the EPO acts as ISA. The Quality Management System of the patent granting process received ISO9001 certification. Early certainty from search was introduced to enhance legal certainty of the examination process. EPO launched its European Global Dossier comprising Chinese and other data, for the public.
- JPO: In March 2014, the JPO achieved its ten-year goal of shortening the FA pendency to 11 months or less. Furthermore, the JPO has set a new goal, which is to accelerate the examination process in order to shorten the "total pendency period" and the "FA pendency" to 14 months and 10 months or less within the next 10 years on average, respectively. In addition, the JPO has established a Subcommittee on Examination Quality Management in August 2014 for the purpose of conducting an objective evaluation of quality management for examination.
- SIPO: In 2014, the number of applications for invention patents received by SIPO reached 928,177 (+12.5 percent), and 233,228 patents for invention were granted (+12.3 percent). The average examination period for invention patents continued to decrease to 21.8 months.
- KIPO: In 2014, patent applications totalled 210,292 (+2.8 percent). Also the number of PCT international filings totalled 13,138 (+6 percent). First action pendency was reduced to 11 months.

- USPTO: In fiscal year (FY) 2014¹, the USPTO reduced first and final action pendencies to 18.4 months and 27.4 months, respectively. Concurrently, the backlog of unexamined patent applications was reduced to 605,646, despite an historical average filing growth rate of 5 percent.

¹ USPTO's fiscal year 2014: October 1, 2013 through September 30, 2014.

Preface

The IP5 Statistics Report (IP5 SR) is jointly produced by the “IP5 Offices”, a group that consists of 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) along with the support of the International Bureau (IB) of the World Intellectual Property Organization (WIPO). It follows on from a provisional 2014 key IP5 statistical data report that was made earlier in 2015. This report, along with other data exchanges and information about the Group can be found at www.fiveipoffices.org.

IP5 Patent Prosecution Highway (IP5 PPH) is an IP5 project in the area of work-sharing and quality. The IP5 Offices launched on January 6th, 2014 the comprehensive IP5 PPH pilot programme for a period of three years ending on January 5th, 2017. Under this programme, a PPH request can be based:

- either on the latest Patent Cooperation Treaty (PCT) work product, which can be the written opinion of the International Search Authority (WO-ISA) or the international preliminary examination report (IPER), that has been established by one of the IP5 Offices as International Search Authority (ISA) or International Preliminary Examination Authority (IPEA) respectively,
- or on the national work product established during the processing of a national application or a PCT application that has entered the national phase before one of the IP5 Offices.

The IP5 PPH leverages fast-track patent examination procedures already available at the offices to allow applicants to obtain corresponding patents faster and more efficiently. It also permits each office to exploit the work previously done by the other office.

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, this report explains each office’s operations and informs about patent grant procedures. It 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 mainly 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. As the global patent system becomes more harmonized, common economic driving forces have been a major influence on patent filings at the offices.

According to the World Economic Outlook² of the International Monetary Fund (IMF), global growth remains moderate and is projected to be 3.1 percent in 2015. In line with the IMF Outlook, the data presented in this report shows a global rebound in patent filings since 2009, as well as regional differences in economic growth as reflected through the filings. Worldwide patent filings grew 10 percent in 2013. More recent data are however available from the IP5 Offices (see Chapter 2 and 4 of this report). In 2014, filings grew 12.5 percent for the SIPO, 2.8 percent for the KIPO, 1.3 percent for the USPTO, 3.1 percent for the EPO. But the filings decreased by 0.7 percent at the JPO, which shows applicants have become more selective in filing applications, meaning that intellectual property strategies of companies, etc. are

² World Economic Outlook October 2015, www.imf.org.

shifting from quantity to quality. The data showed a total annual growth of 5.6 percent for overall filings at the IP5 Offices.

Although patent filing is closely tied to economic growth, political and technological factors are also influential. Globalisation of markets and production continues to be a key business trend. There is a worldwide tendency to harmonize patent laws with common international standards and to facilitate filing of applications 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 readers. The IP5 Offices will continue to improve and refine the report to better serve expectations and objectives of the public. Definitions related to the terminology used in the report are given in annex 1 and 2 that appear at the end.

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

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

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, SIPO, KIPO, and USPTO
With cooperation of WIPO
Nov. 2015

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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*"³, 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 Invention⁴. It is notable that the activity of patents for invention is recognised throughout the world as a useful indicator of innovative activity.

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

- National procedures
- Regional procedures (for example, those created by the European, Eurasian, African and Gulf regional organisations)
- 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 location. 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 "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 procedure and

³ See also, World Intellectual Property Organization, "What is Intellectual Property?".
www.wipo.int/about-ip/en/.

⁴ Patents for invention are called utility patents in the case of the USPTO which are different from utility model patents as explained in Chapter 6.

usually only after grant do they fall under national (post grant) regulations. International applications, filed under the PCT, are firstly 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 2014
- 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 chapter in this report 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 statistical and procedural terms that are used. In addition, definitions of patent related terms can be found in the glossary located in the web version of this report⁵.

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 patenting 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 filing⁶.

⁵ www.fiveipoffices.org/statistics.html.

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

Statistics are derived primarily from the WIPO Statistics Database⁷, which are 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 gives statistics on patent application filings and grants at the offices.

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

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

Some comparative indication of the services that have actually 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, which are collected from each country and region. Statistics are also included to describe the PCT related activities of the IP5 Offices including activities as Receiving Office (RO), International Searching Authority (ISA), and International Preliminary Examining Authority (IPEA).

Chapter 6 - Other Work

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

⁷ This edition refers to general patent data as of March 2015, and to PCT international application data as of July 2015, www.wipo.int/ipstats/en/statistics/patents/.

⁸ www.wipo.int/classifications/ipc/en/.

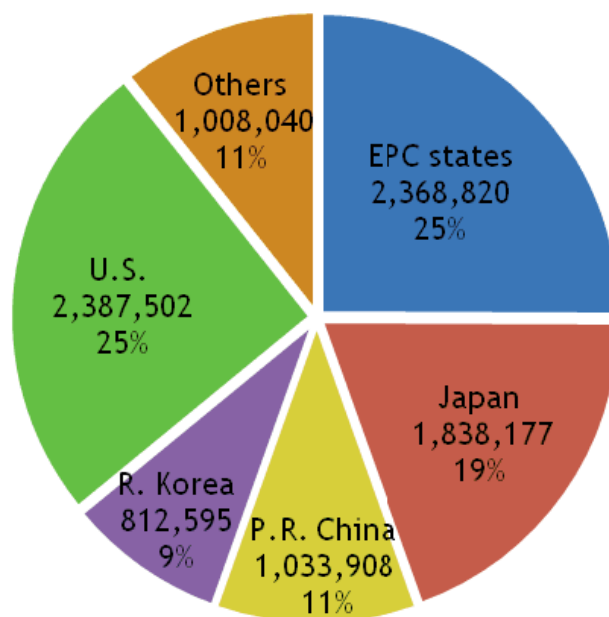
Chapter 2

THE IP5 OFFICES

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 250,000 patent applications for the same inventions are filed each year in two or more of the IP5 Offices, leading to increasing backlogs. To address this issue, the IP5 Offices are working together to try to reduce the amount of duplication of work that takes place between offices 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. Fig. 2.1 shows the number of patents in force worldwide at the end of 2013. The data are based on the most recent worldwide patent information available from the WIPO Statistics Database⁹.

Fig. 2.1: PATENTS IN FORCE END OF 2013



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

At the end of 2013, 89 percent of the 9.4 million patents that were in-force were valid in one of the IP5 Offices jurisdictions. This demonstrates the prominent role that is played by the IP5 Offices.

⁹ www.wipo.int/ipstats/en/statistics/patents/. Data for patents in force for 2013 are missing for some countries in the WIPO data. Where available, the most recent previous year's data were substituted for missing 2013 data.

EUROPEAN PATENT OFFICE

The mission of the EPO is to support innovation, competitiveness, and economic growth across Europe through a commitment to high quality and efficient services. Its main task is to grant European patents according to the EPC. Moreover, under the PCT, the EPO acts as a receiving office as well as a searching and examining authority. A further task is to perform, on behalf of the patent offices of several member states (Belgium, Cyprus, France, Greece, Italy, Lithuania, Luxembourg, Malta, Monaco, the Netherlands, San Marino and 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.

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 619 million people.

At the end of 2014, the 38 members of the underlying European Patent Organisation 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, Bosnia-Herzegovina and Montenegro, had agreements with the EPO to allow applicants to request an extension of European patents to their territory.

The national patent offices of all the above states also grant patents. After grant, a European patent becomes a bundle of national patents to be validated in the states that were designated at grant.

Highlights of 2014

2014 was a very positive year for the EPO. There was an increase in filings, plus 3% compared to the previous year. The EPO also increased its production, that is, search reports and examinations, and so showed its capacity to address this increasing demand. In addition, the EPO was certified ISO9001 for the whole granting process. The EPO managed to substantially improve access to Asian patent information while consolidating patent data from around the world. Bringing together diverse information about related patents to one place is now becoming a reality, which is good news for applicants and inventors. Significant progress was also made in preparatory work for the unitary patent.

In July 2014, the EPO prepared the ground for further extending its geographical area through the signature of a validation agreement with Tunisia. Under the terms of the agreement, European patent applicants and proprietors will be able to validate the legal effects of their European patents and applications on Tunisian territory, even though Tunisia is not an EPO member state.

In December 2014, the EPO's Quality Management System (QMS) of the patent granting process was certified according to the international quality standard ISO9001. New control systems have been put in place to improve identification, correction and management of non-conforming products to ensure continuous improvement of product quality and processes. In 2015, the EPO's Quality Management System will be extended to patent information and post-grant activities, which will be another milestone in the EPO's Quality Roadmap.

Every year the EPO carries out user satisfaction surveys on its search, examination and patent administration services. These surveys obtain input which is considered together with other quality-related data to enable reviews to be made of the quality and efficiency of our internal processes in these areas. The result for 2014 shows a quite high level of 78% satisfaction for search and examination.

Following positive feedback from users, the EPO introduced a new internal priority scheme in July 2014 known as 'Early Certainty from Search'. Under the scheme, the EPO aims to issue all search reports and written opinions on patentability within six months of filing; it also strives to ensure that fast-track examination is completed by the promised date. The new scheme benefits companies and inventors seeking patent protection in Europe by giving them a sound basis for their patenting strategies at a very early stage in the patent granting process. It also benefits the general public by enhancing the transparency of pending patent rights in Europe, providing an overview of prior art and patentability early on in the proceedings.

As part of its co-operation in the IP5, the EPO with SIPO introduced a new service in June 2014 called the Global Dossier. It provides a free online file inspection (also known as a "file wrapper") service that allows users to access SIPO's publicly available documents directly on the EPO website - on both the European Patent Register and Espacenet. Automatic machine translation is built in to provide English-language versions of the Chinese original documents. In 2015 the EPO's Global Dossier service was extended to include file wrapper data from the remaining IP5 Offices, namely KIPO, JPO and the USPTO.

The EPO is the world's largest PCT authority. It carries out nearly 40% of all PCT searches, and more than 55% of PCT substantive examinations. In November 2014, a system called "PCT Direct" was introduced. This links first filings handled by the EPO with the subsequent PCT applications for which the EPO acts as ISA. This allows applicants to prepare the PCT application, taking into consideration the results from the first filing, with a goal to receive a quicker positive written opinion (WO-ISA) in the international phase.

The unitary patent, to be granted and administered by the EPO, will complement existing routes to patent protection in Europe. The unitary patent will simplify procedures and lower costs for patent owners, while increasing legal certainty thanks to the introduction of a Unified Patent Court. Since the 25 participating EU member states reached political agreement in late 2012, steady progress has been made. In 2014 Europe moved closer to this much-awaited reform. In December 2014 the Select Committee, set up by EU member states to work out the legal and financial details of the unitary patent, approved the draft rules for its implementation, thus paving the way for the EPO to implement procedures related to the unitary patent in its IT systems.

In 2014 five more countries followed Austria (2013) in ratifying the Agreement on the Unified Patent Court: Belgium, Denmark, France, Malta and Sweden. Draft ratification bills were under

discussion in several other national parliaments. To enter into force the Agreement needs to be ratified by at least 13 states, including France, Germany and the UK. Another step forward was the official opening in March 2014 of a dedicated Training Centre for future UPC judges in Budapest.

(For further details see www.epo.org/about-us/annual-reports-statistics/annual-report/2014/highlights.html).

Grant Procedure

Activities associated with search, examination, opposition, appeals and classifications are all performed by EPO staff. The EPO issues a search report with written opinion on patentability for first filings within 6 months from filing (5.3 months for first filings and 5.9 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 2013 and 2014. There was a further increase in demand in 2014 as represented by the overall number of patent filings.

In 2014, the number of searches completed by the EPO increased by some 4.7 percent to about 223,300, while the number of final actions in examination and oppositions decreased marginally to about 125,700, actions including the PCT international work. The number of published granted patents was about 65,000. Some 2,360 decisions were completed by the EPO Boards of Appeal in 2014.

The EPO fast track procedure, Programme for Accelerated Prosecution of European Patent Applications (PACE), can be requested without any additional fee and is open for any field of technology. In 2014, the number of PACE requests increased by 2 percent to 20,640 (7,470 searches, 13,170 examinations). PACE was requested for about 7 percent of the European searches and almost 10 percent of the European examinations.

Table 2.1: EPO PRODUCTION INFORMATION

EPO PRODUCTION FIGURES	2013	2014	Change	% Change
Patent filings (Euro-direct & PCT international phase)	265,690	274,174	8,484	3.2%
Patent applications (Euro-direct & Euro-PCT regional phase)	147,869	151,981	4,112	2.8%
Searches carried out				
European (including PCT supplementary)	105,432	111,852	6,420	6.1%
PCT international	82,220	84,696	2,476	3.0%
On behalf of national Offices and other	25,624	26,755	1,131	4.4%
Total production search	213,276	223,303	10,027	4.7%
Examination - Opposition (final actions)				
European examination	116,820	115,595	-1,225	-1.0%
PCT Chapter II	7,863	7,987	124	1.6%
Oppositions	2,176	2,143	-33	-1.5%
Total final actions examination-opposition	126,859	125,725	-1,134	-0.9%
European patents granted	66,712	64,613	-2,099	-3.1%
Appeals settled				
Technical appeals	2,137	2,300	163	7.6%
Other appeals	50	60	10	20.0%
Total decisions	2,187	2,360	173	7.9%

Patent Information

The EPO's patent databases remain 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, bringing the total number of documents in this database to more than 90 million by the end of 2014. These databases are available through services such as Espacenet and Open Patent Service from the EPO and also via numerous commercial providers.

Users can translate the full text and abstracts 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. Espacenet and Patent Translate are free of charge.

The EPO search platform EPOQUE is shared with 44 patent offices around the world and is used by some 17,000 patent specialists. It was a consolidation phase for 2014 following the intensive updating work in 2013. Even so, development proceeded apace to bring forward the migration to the "logical databases" that were successfully deployed to all EPO examiners.

International and European Cooperation

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

The EPO was a prime mover of the joint IP5 PPH pilot programme that started in January 2014, promoting the PCT. This project enables 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. EPO also started new PPH pilots with Israel, Canada, Mexico and Singapore at the beginning of 2015.

The EPO provides support to patent offices in Europe through cooperative activities within the EPN. Under the current EPN Co-operation Roadmap 2012-2015, this focuses on three main areas: information technology, training and patent awareness via patent information.

Economic Studies

During 2014, the Economic and Scientific Advisory Board (ESAB) conducted research work on the economic effects of patent aggregators and on the possibility of a grace period for inventors should it be introduced in Europe.

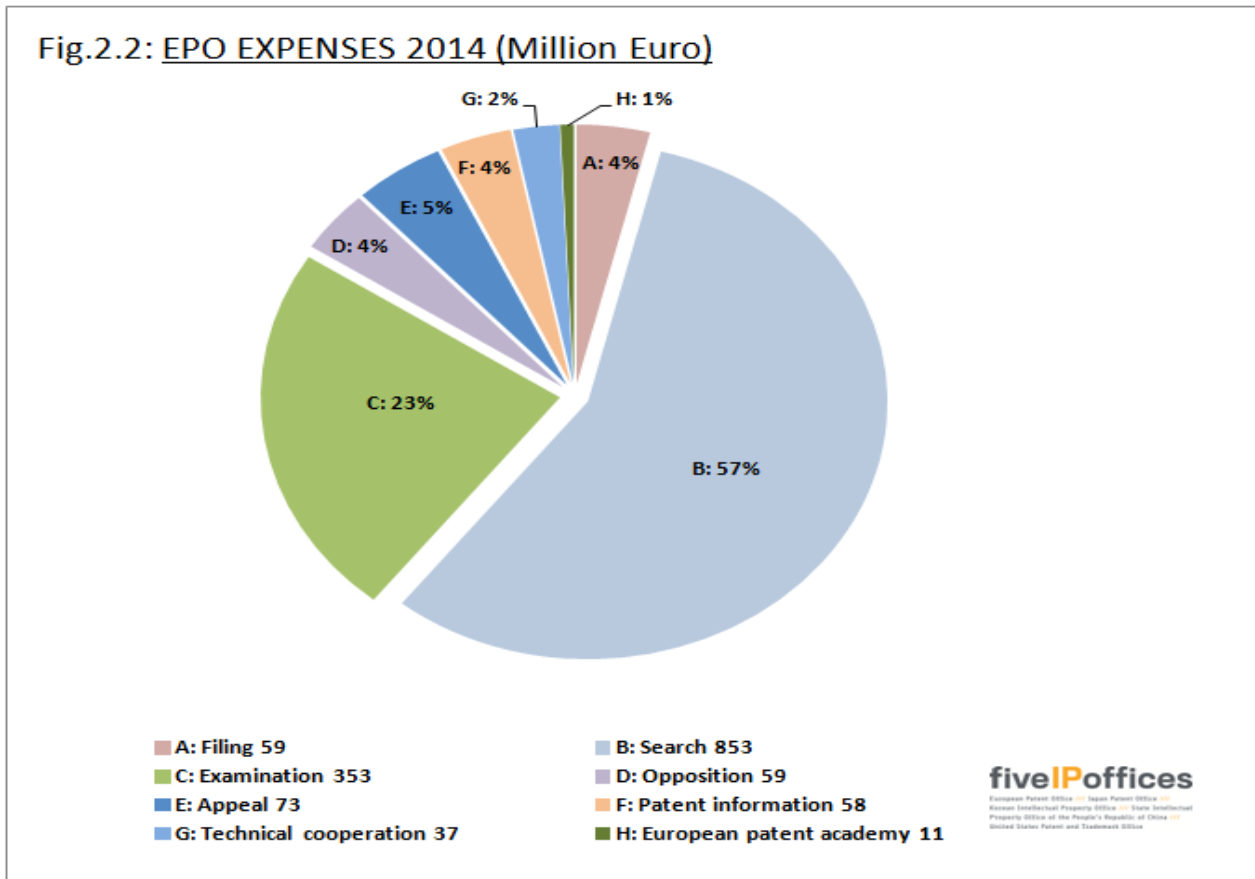
EPO Budget

The EPO is financially autonomous and does not receive any subsidies from the Contracting States of the Organisation. Expenses are therefore mainly covered by revenue from fees paid by applicants and patentees. In 2014, the EPO budget amounted to 2.1 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 Organisation 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 organisation, also finances other social staff expenses such as pensions, fees for sickness and long-term care as well as education costs for the children of the employees. The EPO community consists of more than 22,000 persons (mostly are active staff, pensioners, and their family members).

Fig. 2.2 shows EPO expenses¹⁰ under the International Finance Reporting Standards (IFRS) by category in 2014.



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

EPO Staff

At the end of 2014, the EPO staff totalled about 6,900 employees from 34 different European countries¹¹. 193 examiners were recruited during the year. The total number of search, examination, and opposition examiners reached a record figure of 4,221. Boards of appeal are composed of 162 members. Staff complement in other areas was reduced.

Following their recruitment, examiners are included in a training programme for three years. The staff 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

¹⁰ The EPO uses the word "expenses" in accordance with the IFRS reporting approach.

¹¹ For more details, see the 2014 EPO social report at www.epo.org/about-us/annual-reports-statistics.html.

JAPAN PATENT OFFICE

Towards the World's Fastest and Utmost Quality in Patent Examination

From the time when the First Action (FA)¹², one of the utmost important issues over these 10 years, was achieved, the JPO is heading towards realization of "the World's Fastest and Utmost Quality in Patent Examination", while considering the changing situation surrounding the patent system in these 10 years and new issues. In order to realize the goal mentioned above, the JPO has been implementing various measures according to "maintaining speed" "granting high-quality rights" and "cooperation and collaboration with foreign IP offices". Specifically, the JPO set a goal for reducing "examination total pendency" and the "First Action pendency" to 14 months and 10 months or less on average, respectively, within the next 10 years. What is more, the JPO intends to further promote innovation by supporting smooth and global business expansion through utilizing globally reliable patents of high quality.

1) Initiatives for Timely Examination

a) Ensuring the Necessary Number of Examiners

In the FY 2014, the JPO made efforts to maintain and enhance its capabilities of examination, for example, by rehiring some of the examiners whose fixed-term employment contracts expired. For the budget for FY 2015, additional positions for 14 permanent examiners and 100 fixed-term examiners are requested. The JPO continuously needs to ensure the number of examiners for the World's Fastest and Utmost Quality in Patent Examination.

b) Outsourcing Prior Art Search

The JPO has been promoting the speeding up of examination through utilizing resources from the private sector. That is the JPO outsources prior art searches, while examiners are primarily responsible for registered search organizations. With the additional entry of one organization in FY 2014, the number of registered search organizations is 11 as of December 2014. 149,000 applications were outsourced in FY 2014. Regarding 77,000, nearly half of the total, the coverage of search was expanded to foreign patent documents.

2) Measures towards Improvement in Quality of Examination

a) Announcement of Quality Policy and Quality Manual

In April 2014, the JPO announced the "Quality Policy on Patent Examination" as fundamental principles of quality management. In August 2014, the JPO released the "Quality Management Manual for Patent Examination", in which the quality management system that consists of quality management and its implementation system is documented.

¹² FA11 is the goal to make the First Action pendency shortened to 11 months or less. First Action pendency is the period from the time a request for examination is made, up to when the first notice of examination results is sent.

b) Establishment of the Subcommittee on Examination Quality Management

In August, 2014, the JPO established the Subcommittee on Examination Quality Management under the Intellectual Property Committee of the Industrial Structure Council, the Ministry of Economy, Trade and Industry, for the purpose of receiving objective evaluation from an external point of view about the current status and implementation system of quality management for examination conducted in the JPO, and then reflecting the evaluation results to further improve examination quality. In FY 2014, the Subcommittee deliberated evaluation items and criteria, and gave the proposal to the JPO on improvement points about the current status and system of the quality management through the evaluation based on the evaluation items and criteria mentioned above.

c) Search for Foreign Documents

The rate of patent and utility model documents written in languages other than Japanese has increased rapidly in recent times. In order to ensure that grant rights are stable and valid in the world, it is indispensable for examiners to perform prior art searches of foreign patent and utility model documents accurately and efficiently. Therefore, the JPO has developed a search system for the overseas patent and utility model documents and has been considering the introduction of a more advanced search system. As for the remarkable increase of Chinese patent documents, the JPO started providing abstracts of Chinese documents manually translated into Japanese in March 2013 in order to establish a search environment where users can access Chinese documents in Japanese. Also, since March 2014, the JPO has been providing Japanese Classification (FI¹³/F-term¹⁴) to Chinese patent documents in some technical fields. Moreover, in January 2015, the JPO released the "Chinese and Korean Gazette Translation and Search System"¹⁵ to the examiners and general users. This system makes it possible to perform a full text search of the patent and utility model documents of China and the Republic of Korea using Japanese.

3) Association and Cooperation with Overseas Offices

The PPH is a framework set up to allow an application that was determined to be patentable on more than one claimed rights in the office of First Filing (an office to which the applicant first filed the patent application earliest) to be given an accelerated examination with simple procedures in the office of Second Filing that cooperates with the office of First Filing upon his/her request. This supports efficient acquisition of stable and strong patent rights in a plurality of countries and regions by enabling use of search and examination results of the office of First Filing in examination in the office of Second Filing. The PPH was advocated by the JPO in 2006, and was started between Japan and the U.S. for the first time in the world. The number of PPH participating countries and regions is expanding to 36 (as of July 2015).

The accumulative number of requests for PPH in the world reached about 74,000 (as of the end of December 2014). The JPO started the PPH with Czech Republic in April, with Egypt in June, and

¹³ FI is subdivision of IPC. Most of FI's entries are based on the latest version of IPC, though some of them are based on the old version (e.g. IPC4). FI uses a dot hierarchy like IPC and covers all the fields of IPC (A section to H section).

¹⁴ In the F-term indexing system, entire technical area is divided into small areas called "theme" and patent documents are analyzed in each "theme". Each "theme" has "F-terms", which are search keys. F-term is based on multiple viewpoints differing from those in IPC.

¹⁵ Available for general users from 8AM to 10PM in each service day at www.ckgs.jpo.go.jp.

with Romania and Estonia in July 2015. As of July 2015, the JPO implements the PPH in association with 34 countries and regions.

The “Global Patent Prosecution Highway” is the multilateral framework that was started among 17 countries and regions in January 2014. The all types of PPHs become available between IP offices participating in this framework as a principle. Germany and Estonia participated in this framework in July 2015. As a result, the number of countries and regions participating in the global PPH is expanding to 21 countries and regions (as of July 2015). The PPH is expected to become a more convenient system according to the future expanding of this framework.

Establishment of New “Patent Opposition System”

In order to enable stable patent rights to be granted earlier, a new “Patent Opposition System” was established under the revised Patent Act in April 2015. In addition, in the revised Patent Act, the demandant is limited to only the interested person in the trial for invalidation of a patent.

JPO Production Information

In Table 2.2, production figures for applications, examination, grants, appeals or trials, and PCT activities in the Japanese procedure are given for the years 2013 and 2014.

Aiming to achieve “the World’s Fastest and Utmost Quality in Patent Examination”, the JPO has been further accelerating patent examination and continuing to focus on raising the quality of patent examination. As a result, the JPO completed 255,001 First Actions and 296,740 Final Actions in FY 2014. In addition, during FY 2014, the JPO granted 227,142 patents.

Table 2.2: JPO PRODUCTION INFORMATION

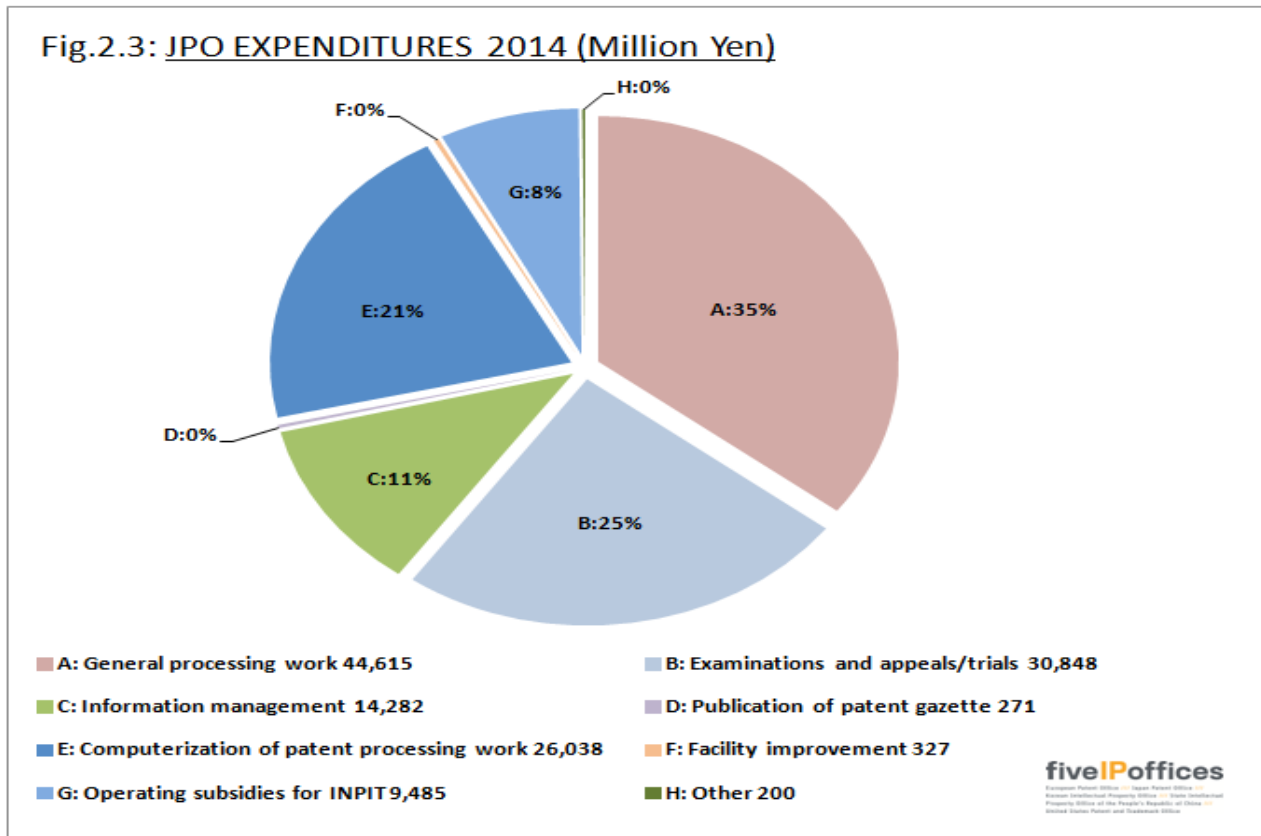
JPO PRODUCTION FIGURES	2013	2014	Change	% Change
Applications filed (by Origin of Application)				
Domestic	271,731	265,959	-5,772	-2.1%
Foreign	56,705	60,030	3,325	5.9%
Total	328,436	325,989	-2,447	-0.7%
Applications filed (by Types of Application)				
Divisional Applications ¹⁶	28,463	27,878	-585	-2.1%
Converted Applications ¹⁷	108	103	-5	-4.6%
Regular Applications	299,865	298,008	-1,857	-0.6%
Total	328,436	325,989	-2,447	-0.7%
Examination				
Requests	240,188	245,535	5,347	2.2%
First Actions	356,179	255,001	-101,178	-28.4%
Final Actions	372,680	296,740	-75,940	-20.4%
Grants				
Domestic	225,571	177,750	-47,821	-21.2%
Foreign	51,508	49,392	-2,116	-4.1%
Total	277,079	227,142	-49,937	-18.0%
Appeals/Trials				
Demand for Appeal against refusal	24,644	25,710	1,066	4.3%
Demand for Trial for invalidation	247	215	-32	-13.0%
PCT activities				
International searches	42,384	40,079	-2,305	-5.4%
International preliminary examinations	2,509	2,190	-319	-12.7%

¹⁶ 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.

¹⁷ Converted applications include patent applications which are converted from an application for utility model registration or design registration (under Article 46 of Patent Act), and patent applications filed based on a registration of utility model (under Article 46bis).

JPO Budget

Fig. 2.3 shows JPO expenditures by category in 2014.



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

JPO Staff Composition

As of the end of FY 2014, the total number of staff at the JPO was 2,837. This includes 492 fixed-term patent examiners.

Examiners:	Patent / Utility model:	1,702
	Design:	49
	Trademark:	142
Appeal examiners:		387
General staff:		557
Total:		2,837

More information

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

www.jpo.go.jp

STATE INTELLECTUAL PROPERTY OFFICE OF THE P.R. CHINA

Main Responsibilities

Organizing and coordinating IPR protection work nationwide and improving the construction of IPR protection system; Standardizing the basic orders of patent administration; Drawing up the policies of foreign-related IP work; Working out the development programs for the patent work nationwide, drafting patent working plans, examining and approving special working plans, taking up the responsibility of the construction of the national public service system of patent information, promoting the spread and utilization of patent information with related departments and undertaking the work of patent statistics; Laying down the criteria of affirming the exclusive rights of patents and integrated circuit layout designs and appointing organizations to manage the work of right affirmation; Publicizing and popularizing patent laws, regulations and policies and drafting plans of IP-related education and training according to regulations.

Statistical Overview of 2014

1) 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 them is 10 years, counted from the date of filing.

2) Patent Applications Received in 2014

In 2014, the SIPO received 2,361,243 applications for the three kinds of patents, which represents a decrease of 0.7 percent compared to 2013. Among these applications were 928,177 for invention patents, an increase of 12.5 percent compared to 2013, 868,511 for utility model patents, a decrease of 2.7 percent, and 564,555 for design patents, a decrease of 14.4 percent.

3) Patents Granted in 2014

In 2014, the SIPO granted 1,302,687 patents reflecting a decrease of 0.8 percent compared with the previous year. Of these, 233,228 were for invention patents which increased by 12.3 percent compared to the previous year, 707,883 were for utility model patents which had an increase of 2.2 percent and 361,576 were for design patents which decreased by 12.3 percent.

In Table 2.3, production figures for applications, examination, grants, reexamination and invalidation, PCT activities are given for the years 2013 and 2014. The data in table 2.3 concentrate only on invention patents.

Table 2.3: SIPO PRODUCTION INFORMATION

SIPO PRODUCTION FIGURES	2013	2014	Change	% Change
Applications filed				
Domestic	704,936	801,135	96,199	13.6%
Foreign	120,200	127,042	6,842	5.7%
Total	825,136	928,177	103,041	12.5%
Examination				
First actions	407,478	534,733	127,255	31.2%
Final actions	355,051	430,661	75,610	21.3%
Grants				
Domestic	143,535	162,680	19,145	13.3%
Foreign	64,153	70,548	6,395	10.0%
Total	207,688	233,228	25,540	12.3%
Reexamination and invalidation				
Reexamination requests	18,829	24,452	5,623	29.9%
Invalidation requests	2,930	3,422	492	16.8%
PCT activities				
International searches	20,374	25,614	5,240	25.7%
International preliminary examinations	383	344	-39	-10.2%

4) Examination Period

In 2014, the number of patent applications decreased slightly, while the examination periods for the three kinds of patents were shortened steadily. Compared to 2013, the examination period for invention patents was reduced from 22.2 months to 21.8 months. The examination period for utility model patents was reduced from 4.3 months to 3.5 months and for design patents, the period was reduced from 3.8 months to 3.7 months.

Informatization and Documentation

In 2014, SIPO implemented 23 supporting projects for the Chinese Electronic Examination System (E-System), completed the patent transaction service system, provided online services to the public, upgraded patent agency management system, and improved the overall examination support ability and social public service ability. The Chinese Patent Search and Service System (S-System) continued to improve its search function to enrich search resources, optimize system performance, enhance the user experience and improve the retrieval efficiency. China Electronic PCT (CEPCT) system was formally launched, which achieved paperless examination on the acceptance of the PCT application in international phase, the international examination and preliminary examination service.

By the end of 2014, SIPO had accumulated more than 450 patent literature resources, including 63 kinds of bibliographic abstracts, 124 kinds of full images, 31 kinds of full texts, 189 kinds of assisted retrievals and dozens of independent processing data. Bibliographic abstracts cover 102

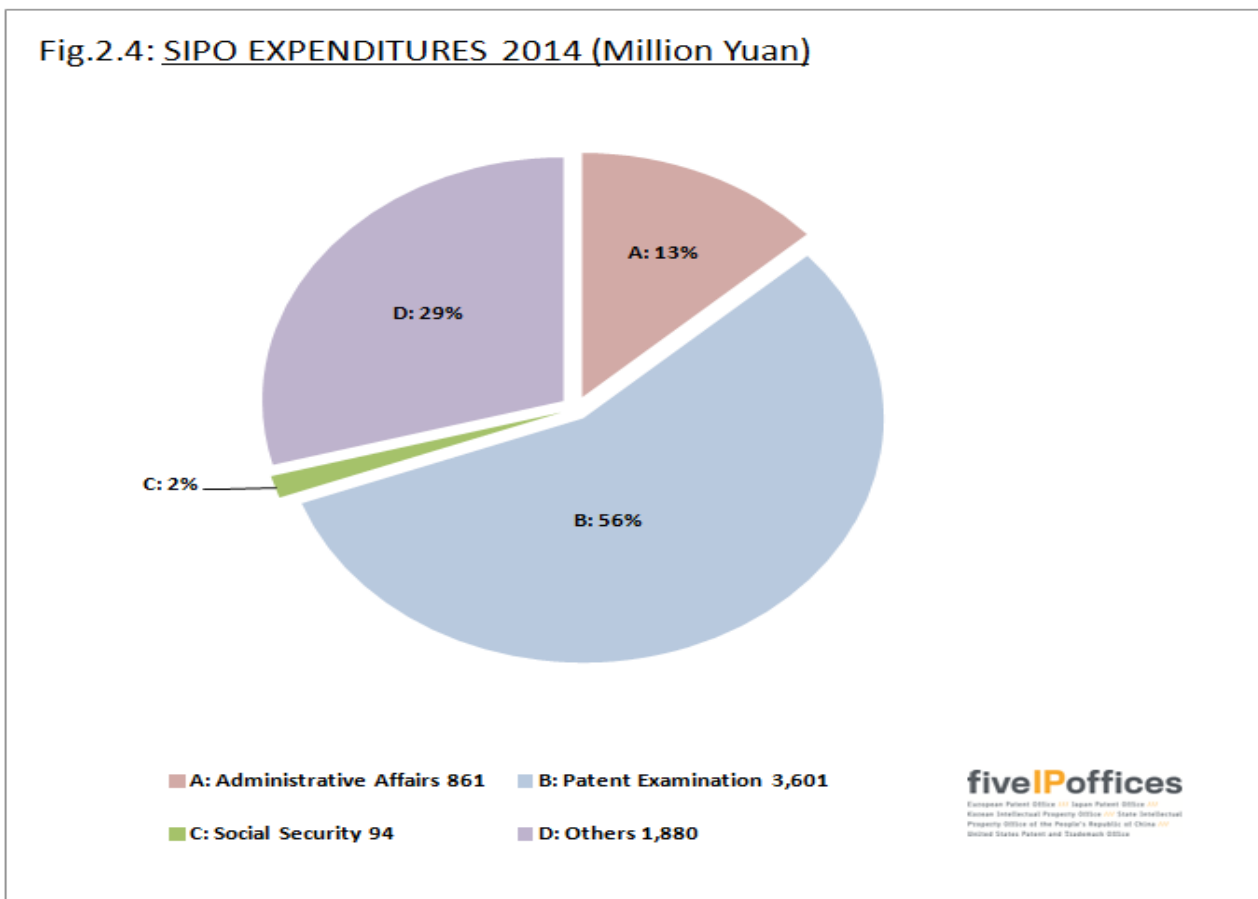
countries (regions) or organizations and full images cover 31. At present, the total patent documentation of SIPO is more than 12 million.

International Cooperation

In 2014, SIPO steadily propelled the relevant work of Hague Agreement in China's accession to the International Registration of WIPO Industrial Designs, and completed development and commissioning work of the Chinese interface for the Hague system electronic filing. SIPO became the authority for Iran's PCT international patent examining and preliminary searching. In 2014, SIPO established new bilateral partnerships with Czech Republic and Slovakia and resumed cooperation relations with the Hungarian Intellectual Property Office.

SIPO Budget

Fig. 2.4 shows SIPO expenditures by category in 2014.



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

SIPO Staff Composition

The SIPO has seven functional departments, a supervision department, a party committee of institution, a retired personnel department, and subsidiaries as the Patent Office, the Patent Reexamination Board and other subordinate units under the Offices, public institutions, and social organizations. In total, the SIPO has 12,912 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 2,964 currently, among which 1,855 employees are examiners for invention patents, 244 employees are for utility models and designs, 279 employees are for preliminary examination and work-flow management. Moreover, 334 employees work in support departments (i.e. patent documentation, automation, examination affairs administration) and 252 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 2,789 employees at present, the Jiangsu Center was founded in 2011 and has 1,514 employees, the Guangdong Center was founded in 2011 and has 1,461 employees, and the Henan Center was founded in 2012 and has 760 employee. The Hubei, Tianjin, and Sichuan Center were all founded in 2013 and have 654, 173, and 119 staff members respectively. China Patent Technology Exploitation Enterprises, which is the only wholly owned enterprise under the Patent Office, has 456 employees.

The Patent Reexamination Board, affiliated directly with the SIPO, has a staff of 278, and is responsible for processing requests for patent reexamination and invalidation of patent rights.

At the end of 2014, the SIPO had a total staff of 12,912. The breakdown was as follows.

SIPO Functional Department	91
Patent Office: Examiners:	
Invention	1,855
Utility Model & Design	244
Preliminary Examination and Flow Management	279
Supporting Departments	334
General Administration	252
Total	2,964
Patent Reexamination Board	278
Other Subordinate Units under the Office	9,579
Total	12,912

More information

Further information can be found on the SIPO's Homepage:
www.sipo.gov.cn

KOREAN INTELLECTUAL PROPERTY OFFICE

Overview

The Korean Intellectual Property Office (KIPO) is the governmental authority in charge of affairs regarding patents, utility models, industrial designs, and trademarks.

The main functions of KIPO include: the examination and registration of intellectual property rights; the conducting of trials on intellectual property disputes; the management and dissemination of information on intellectual property rights; the promotion and enhancement of public awareness of invention activities; and the advancement of international cooperation and the training of experts on intellectual property rights.

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 2014

The total number of Intellectual Property Rights (IPRs) applications – including patents, utility models, designs, and trademarks – submitted to KIPO in 2014 amounted to 434,047, a 0.9 percent growth rate compared to 2013. In 2014, patent applications totalled 210,292, showing a 2.8 percent increase from 2013, the highest growth rate among all IPRs.

Utility model applications decreased 16.3 percent to total 9,184, and design applications decreased 3.9 percent for a total of 64,345. Trademark applications for 2014 totalled 150,226, a 1.7 percent growth rate compared to 2013.

In Table 2.4, production figures for applications, examination, grants and PCT activities of patents are given for the years 2013 and 2014.

Table 2.4: KIPO PRODUCTION INFORMATION

KIPO PRODUCTION FIGURES	2013	2014	Change	% Change
Applications filed				
Domestic	159,978	164,073	4,095	2.6%
Foreign	44,611	46,219	1,608	3.6%
Total	204,589	210,292	5,703	2.8%
Applications filed (by Types of Application)				
Divisional Applications ¹⁸	6,885	7,725	840	12.2%
Converted Applications ¹⁹	67	84	17	25.4%
Others	197,637	202,483	4,846	2.5%
Total	204,589	210,292	5,703	2.8%
Examination				
Requests	164,844	169,894	5,050	3.1%
First actions	181,871	166,915	-14,956	-8.2%
Final actions	179,794	177,289	-2,505	-1.4%
Grants				
Domestic	95,667	97,294	1,627	1.7%
Foreign	31,663	32,492	829	2.6%
Total	127,330	129,786	2,456	1.9%
Applications in appeal	8,111	7,335	-776	-9.6%
PCT activities				
International searches	34,431	30,128	-4,303	-12.5%
International preliminary examinations	263	250	-13	-4.9%

Examination Service

1) Reducing First Action pendency

As the cycle of technological development continues to shorten, the KIPO is reducing the first action pendency of IPRs for the sake of affording timely protection.

¹⁸ A divisional application is filed to divide a patent application (known as the parent application) into two or more applications.

¹⁹ 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.

In 2014, first action pendency was 11 months for patents and utility models, 6.4 months for trademarks, and 6.5 months for designs. Compared to 2013, first action pendency for 2014 was reduced by 2.2 months for patents and utility models, 1.3 months for trademarks, and 0.8 months for designs.

The KIPO's 2015 target goals are 10 months for patents and utility models, and 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.

2) Enhancing examination quality

One way the KIPO ensures examination quality is by double-checking randomly selected cases of IPR examination, as well as international search reports (ISRs) under the PCT, in order to determine areas for potential improvement.

Examination review is primarily conducted by the 16 reviewers of the Examination Quality Assurance Division, as well as by the directors of each examination bureau, who review examinations according to specific guidelines.

In 2014, this division reviewed examinations conducted on 3,343 patents and utility models, 4,365 trademarks and designs, and 1,519 ISRs. In addition to the activities mentioned above, examination reviews of 2,236 patents and utility models, as well as 1,376 trademarks and designs, were carried out by the directors of the examination.

On December 11th, 2014, the KIPO acquired ISO9001 certification, thereby inspiring worldwide confidence in its examination quality.

3) Three-track patent and utility model examination service

The KIPO provides examination services in accordance with its clients' IPR strategies and preferred time schedules. In the case of patents and utility models, applicants can choose the most appropriate examination track for their patent strategy: accelerated, regular, or customer-deferred.

Accelerated examination provides examination services within three to five months. Conversely, the customer-deferred examination track provides examination services within three months of the desired postponed examination date.

Enhancing IP Protection

1) Raising awareness of IPR protection

The KIPO conducted a series of public awareness activities and collaborated with civic consumer advocacy groups to enhance IPR protection and consumer awareness of the illegality of counterfeit goods. The KIPO also held national campaigns in 13 cities and provinces, urging consumers to buy genuine goods.

Since 2011, the KIPO has conducted a total of 96 consumer training sessions targeting housewives and office workers to prevent them from purchasing counterfeits. The KIPO produced televised advertisements with a famous actress as its publicity ambassador to form a social consensus on

the illegality of counterfeit goods. The KIPO also enhanced public awareness using various online media, including Social Network Services (SNS).

In 2014, the KIPO launched “College Student Supporters” to promote IPR protection among college students through campaigns and other activities. The KIPO also produced cartoons to raise awareness of IPR protection among the youth, then conducted practical education on how to distinguish genuine goods from counterfeits.

2) IP Desk

The KIPO operates IP desks as part of an effort to enhance the protection and acquisition of Korean companies’ IPRs in foreign markets. In 2014, the KIPO newly established a desk in Frankfurt, Germany, bringing the number of cities in which the KIPO operates IP desks up to 10, including Beijing, Shanghai, Qingdao, Shenyang and Guangzhou in China; Bangkok in Thailand; Ho Chi Minh City in Vietnam; and Los Angeles and New York in the United States.

IP desks provide Korean companies with consultations on registering and protecting IPRs and dealing with IPR disputes. In addition, the KIPO hold briefings and seminars to share information on preventing infringements.

In 2014, in China and Thailand, the KIPO held three seminars, with combined a total of 238 attendees, to help government officials from those two countries recognize counterfeit goods.

The KIPO is also making efforts to develop cooperative channels with foreign IPR-related organizations in order to protect the IPRs of Korean companies operating overseas. In July 2014, the KIPO dispatched delegates and business representatives abroad to work on ways to create a favourable IP protection environment.

3) Establishing policies to protect “K-brands”

Thanks to the recently concluded Free Trade Agreements with major trading partners China and Vietnam, it is expected that there will be a lot more Korean companies entering into new global markets in the near future. The KIPO, therefore, established a comprehensive policy to protect Korean brands (K-brands) in regions where the distribution of counterfeited Korean products is continuously increasing.

The main goals of the comprehensive policy to protect K-brands are as follows: building a system for responding to foreign brokers of Korean trademarks, launching a support center for crackdowns on imported counterfeit goods in Korea, jointly engaging industries in recognizing and cracking down on counterfeits, and enhancing international border measures with foreign customs offices.

Global IP Cooperation

The KIPO expanded its multilateral and bilateral cooperation so that stakeholders can more easily acquire and protect IPRs.

Firstly, the KIPO have contributed around 8.1 million Swiss francs for the continued operation of the “Korea Funds-in-Trust” (FIT) over the past 10 years. A ceremony commemorating the 10th anniversary of the Korea FIT’s establishment was held during the WIPO 2014 General Assembly.

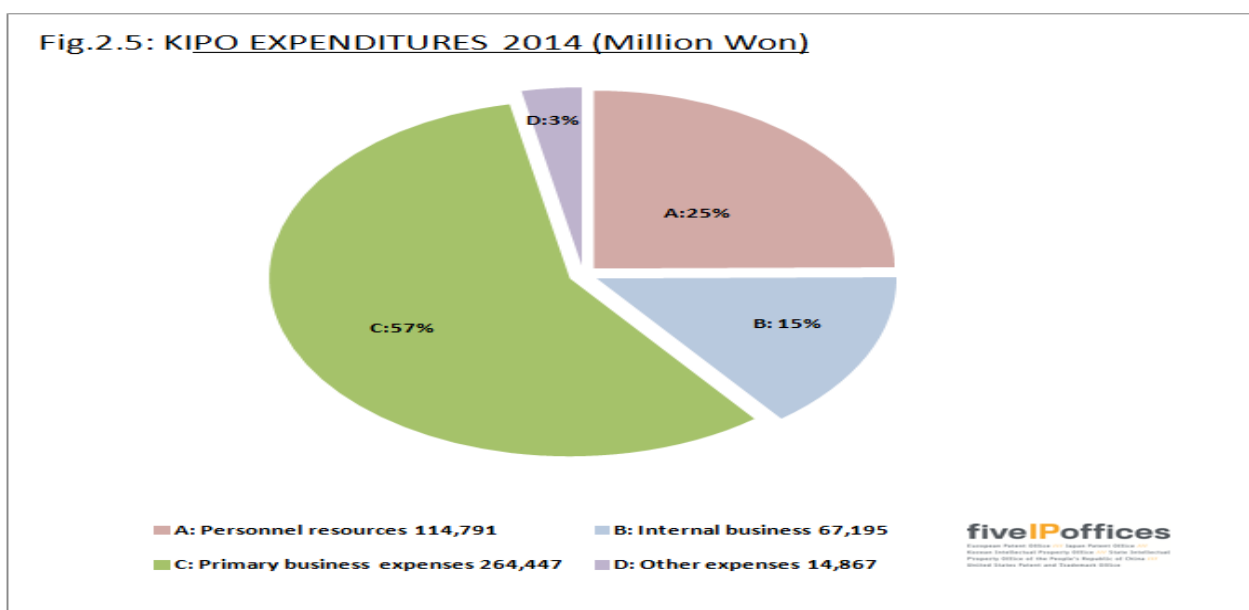
This ceremony served to celebrate the Korea FIT's achievements and reinforce Korea's future commitment to playing a pivotal role in bridging the IP divide among WIPO member states.

Secondly, in March 2014, the KIPO deposited its instrument of accession to the Geneva Act of the Hague Agreement concerning the International Registration of Industrial Designs (Hague system), and, since the following July, have implemented the system, thereby contributing to the Hague system's early establishment as a route for acquiring global design rights. Moreover, the KIPO worked to help applicants easily acquire design rights overseas.

Last but not least, the KIPO participated in the IP5 PPH and the global PPH, wherein the KIPO was joined by 13 other countries, expanding the number of countries with which Korea has established PPHs, from 14 in 2013 to 21 in 2014. Unlike previous PPHs that were based on bilateral agreements, global and multilateral PPHs have largely improved user convenience by making it possible to submit a PPH application to several countries with just one request form.

KIPO Budget

Fig. 2.5 shows KIPO expenditures by category in 2014.



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

KIPO Staff Composition

At the end of 2014, the KIPO had a total staff of 1,568. The breakdown is as follows.

Examiners	
Patents and Utility Model	813
Designs and Trademarks	159
Appeal examiners	99
Other staff	497
Total	1,568

More information

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

UNITED STATES PATENT AND TRADEMARK OFFICE

Mission Statement

The mission of the United States Patent and Trademark Office (USPTO) 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 technological progress and achievement in the United States.

The USPTO provides valued products and services to its customers in exchange for fees that are appropriated to fund its operations. The powers and duties of the USPTO are vested in the Under Secretary of Commerce for Intellectual Property and Director of the USPTO, who consults with the Patent Public Advisory Committee and the Trademark Public Advisory Committee. The USPTO operates with two major business lines, Patents and Trademarks.

The USPTO's Strategic Plan for FY 2014-2018 sets forth the agency's three mission-focused strategic goals and one management goal, as well as the proposed objectives and initiatives to meet those goals. The plan is designed to continue strengthening the capacity of the USPTO, improve the quality of issued patents and registered trademarks, and shorten the time it takes to get a patent. This plan will continue to enhance and accelerate the innovation and job growth needed to transform the U.S. economy, foster competitiveness, and drive the creation and growth of U.S. businesses. This plan was developed with input from the public advisory committees, stakeholders, the public and USPTO employees.

- 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 2014 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 rankings of the 2013 Best Places to Work in the Federal Government.

Reducing the backlog and pendency of unexamined patent applications and improving patent quality are of the utmost importance, and the USPTO is making great progress thanks to expanded training, improved technology, and the dedication of highly motivated employees. The backlog of unexamined patent applications at the end of FY 2014 was 605,646, down from 750,596 in 2008 (a 19.3 percent decrease), despite a historical growth rate of five percent in applications. In terms

of application processing, first action pendency has been reduced to 18.4 months, and average total pendency has been reduced to 27.4 months. USPTO plans to reduce those pendencies further, to 11.5 months and 21.2 months, respectively, by FY 2018.

In a time of increased demand for patents and trademarks, the Office is taking advantage of the latest modern information technology to facilitate the work and to improve the provision of services to the public. By transitioning to next-generation information systems using cloud and open-source technology, the USPTO is operating more nimbly, delivering better and faster services, while minimizing costs.

The USPTO is pushing forward with the implementation of the provisions of the Leahy-Smith *America Invents Act (AIA)*. One of the provisions is to establish USPTO regional offices, which are vital in providing assistance to inventors, entrepreneurs, and small businesses and which serve as hubs of innovation, education and outreach. The Elijah J. McCoy Satellite Office in Detroit, Michigan opened for business in July 2012 and is busy processing patent applications and managing appeals and trials. On June 30th, 2014, the permanent regional office in Denver, Colorado was opened. In April 2014, the city council of San Jose, California unanimously approved the terms and conditions for a permanent facility to serve the Silicon Valley region, and the USPTO is planning to open that satellite office in the autumn of 2015. In the autumn of 2015, the regional office in Dallas, Texas also is expected to open.

The Office conducted extensive patent examiner training in FY 2014 on important matters including functional training; the Cooperative Patent Classification (CPC) system; the impact of key intellectual property cases such as the Supreme Court's decisions on patent eligible subject matter (*Association For Molecular Pathology v. Myriad Genetics, Inc.* and *Alice Corp. v. CLS Bank International*); and the first-inventor to-file statutory provision.

The USPTO continues its efforts to hire the best and brightest. In FY 2014, the USPTO hired new patent examiners, administrative judges, and staff for the satellite offices. The Patent Trial and Appeal Board met all deadlines for incoming petitions and added 61 judges across the four offices.

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 is committed to optimizing work sharing among offices and to eliminate duplicate work to enhance efficiency.

The USPTO introduced the Global Patent Prosecution Highway, a streamlined network replacing dozens of existing bilateral arrangements, speeding up the examination process among participating offices. As part of the transition from the United States Patent Classification System to the Cooperative Patent Classification (CPC) System, examiners completed their CPC training in January 2015, enabling them to effectively search in CPC and place CPC symbols on published patent applications and granted patents. The USPTO is expanding efforts to encourage other countries to adopt this increasingly global classification system.

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 29 other IP offices). In FY 2014, the USPTO received over 7,199 applications within the PPH program. The USPTO, through the Global Intellectual Property Academy (GIPA), provides IP educational opportunities to U.S. and foreign government officials, domestic small and medium-sized enterprises (SMEs), universities and the public. The GIPA provides expertise on administration, protection and enforcement in all areas of domestic and international IP. In FY 2014, the GIPA conducted 139 training programs for foreign government officials, reaching an audience of 6,503 foreign government officials from over 100 countries. The GIPA is using technology to make training programs more efficient and to expand the reach of those programs.

Table 2.5 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 2013 and 2014.

Table 2.5: USPTO PRODUCTION INFORMATION

USPTO PRODUCTION FIGURES	2013	2014	Change	% Change
Applications filed				
Utility(patents for invention) ²⁰	571,612	578,802	7,190	1.3%
Domestic	287,831	285,096	-2,735	-1.0%
Foreign	283,781	293,706	9,925	3.5%
Plant	1,406	1,063	-343	-24.4%
Reissue	1,065	1,265	200	18.8%
Total Utility, Plant, Reissue	574,083	581,130	7,047	1.2%
Design	36,034	35,378	-656	-1.8%
Provisional	179,202	170,143	-9,059	-5.1%
Total	789,319	786,651	-2,668	-0.3%
Requests for Continued Examination(RCE) ²¹	169,005	171,126	2,121	1.3%
PCT Chapter I Searches	14,141	22,142	8,001	56.6%
PCT Chapter II Examination	1,300	1,243	-57	-4.4%
First actions (includes utility, plant, and reissue applications)	594,257	593,723	-534	-0.1%
Grants (total)	277,835	300,678	22,843	8.2%
U.S. residents	133,593	144,621	11,028	8.3%
Foreign	144,242	156,057	11,815	8.2%
Japan	51,919	53,849	1,930	3.7%
EPC states	43,450	47,733	4,283	9.9%
R. Korea	14,548	16,469	1,921	13.2%
P.R. China	5,928	7,236	1,308	22.1%
Others	28,397	30,770	2,373	8.4%
Applications in appeal and interference Proceedings				
Ex-parte Cases Received	9,481	9,585	104	1.1%
Ex-parte Cases Disposed	10,865	9,489	-1,376	-12.7%
Inter-partes Cases Contested	209	238	29	13.9%
Inter-partes Cases Disposed	175	247	72	41.1%
Patent Cases in Litigation				
Cases filed	176	132	-44	-25.0%
Cases disposed	121	254	133	109.9%
Pending cases (end of calendar year)	267	158	-109	-40.8%

²⁰ Unless otherwise noted, the USPTO statistics presented elsewhere in this report are limited to utility patent applications and grants.

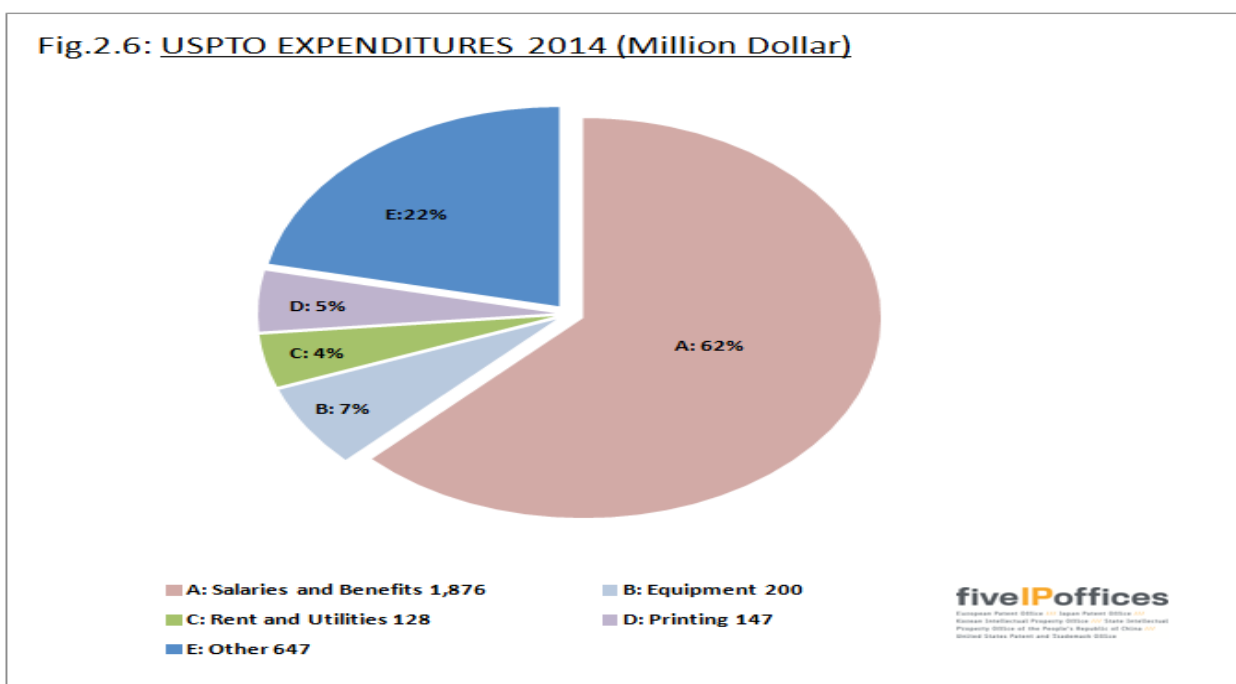
²¹ A Request for Continued Examination is a USPTO procedure under which an applicant may obtain continued examination of an application by filing a submission and paying a specified fee, even if the application is under a final rejection, appeal, or a notice of allowance.

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 2014, USPTO expenditures totaled \$2,997.5 million. Agency-wide, 20.1 percent of expenditures were allocated to IT security and associated IT costs.

Goal 1 - Optimize Patent Quality and Timeliness	\$2,685.2 million
Goal 2 - Optimize Trademark Quality and Timeliness	\$ 262.8 million
Goal 3 - Provide Domestic and Global Leadership to Improve IP Policy, Protection and Enforcement Worldwide	\$ 49.5 million

Fig. 2.6 shows USPTO expenditures by category in 2014.



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

USPTO Staff Composition

At the end of FY 2014, the USPTO work force was composed of 12,450 federal employees. Included in this number are 9,145 Utility, Plant, and Reissue patent examination staff and 157 Design examination staff, 429 Trademark examiner attorney staff, and 2,719 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 2009 to 2013. 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 Database²², as collected from offices all over the world. Patent statistics are sometimes retroactively updated, and where necessary, 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;

²² See footnote 7.

- "*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.

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, GCCPO, OAPI²³), 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).

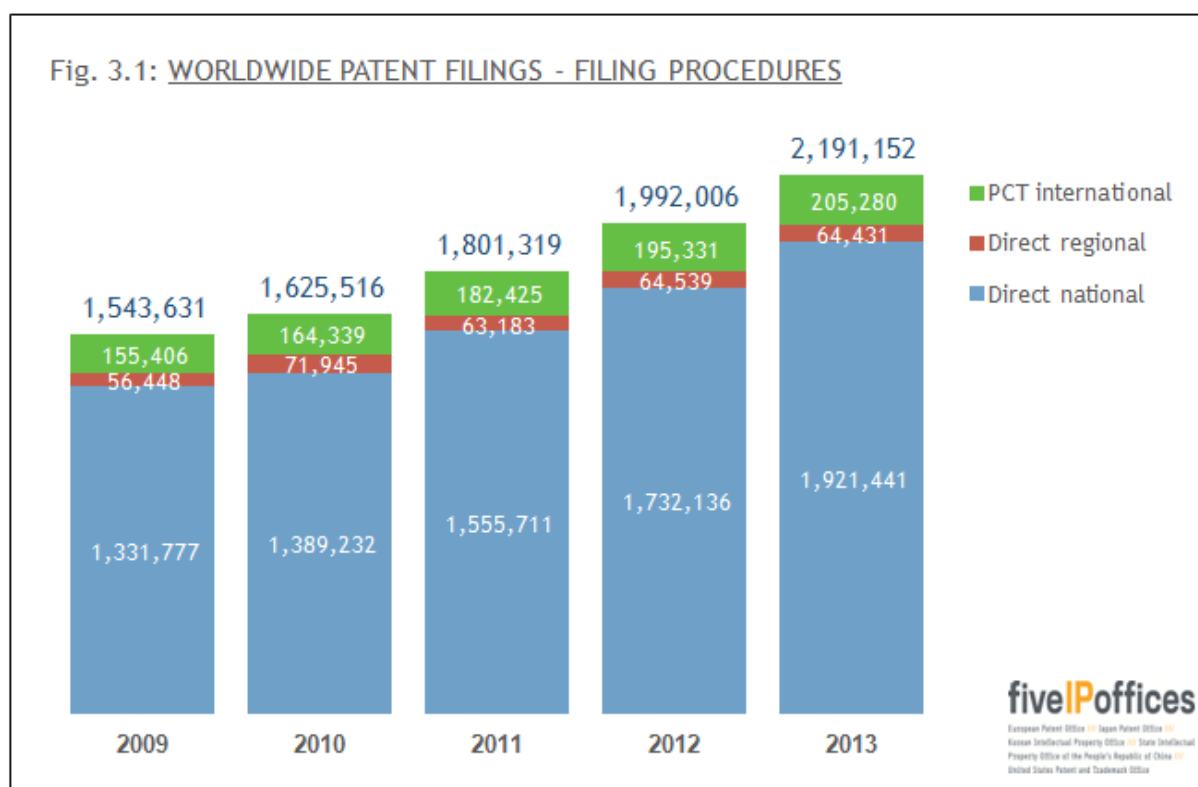
²³ The EAPO is the Eurasian Patent Office. The ARIPO is the African Regional Intellectual Property Office. The GCCPO is the Gulf Cooperation Council Patent Office. The OAPI is the African Intellectual Property Organization.

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. Here, the applications are counted only once, which means that the number of countries designated by regional filings and the number of countries associated with the PCT filings are not used in determining these counts. The number of applications filed represents a measure of the overall numbers of actions taken to assert IP rights around the world, although some inventions lead to filings in more than one office.

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

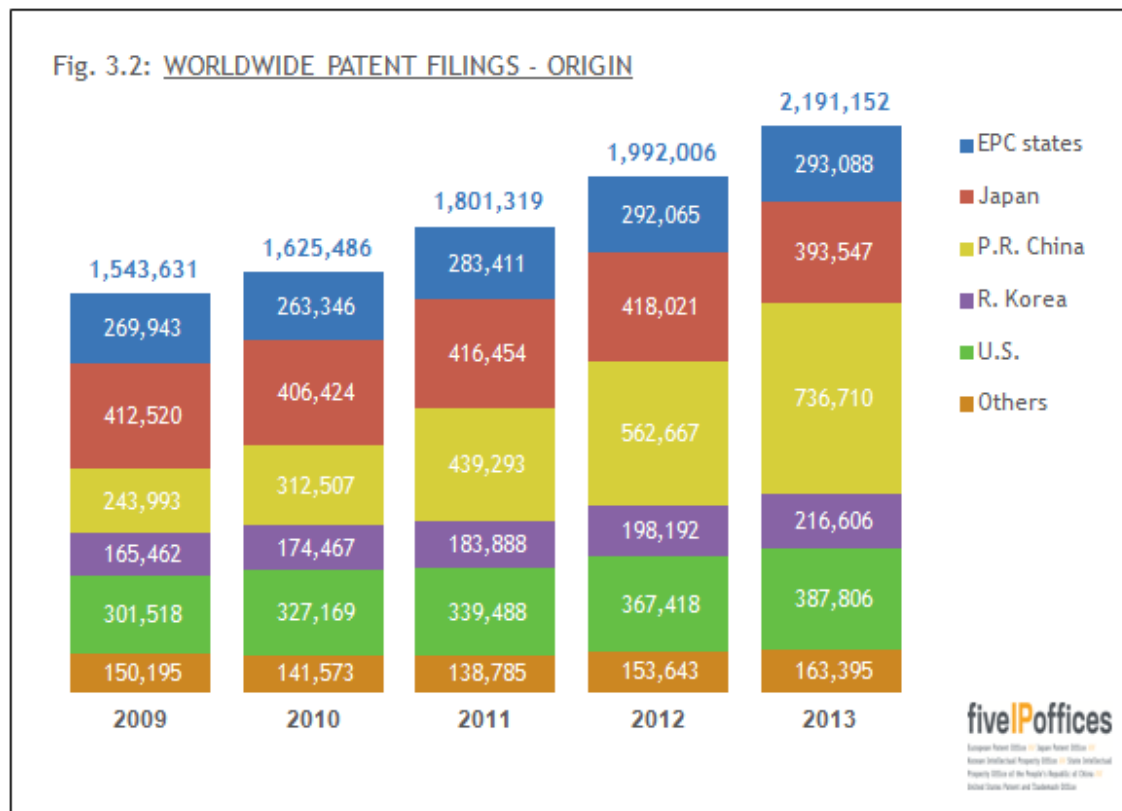


The number of patent filings in 2013 increased by 10 percent, to nearly 2.2 million.

In 2013, the numbers of direct national and PCT international applications increased by 11 percent and 5 percent respectively, while the number of direct regional applications decreased marginally. In 2013, 88 percent of the applications were filed according to direct national procedures.

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

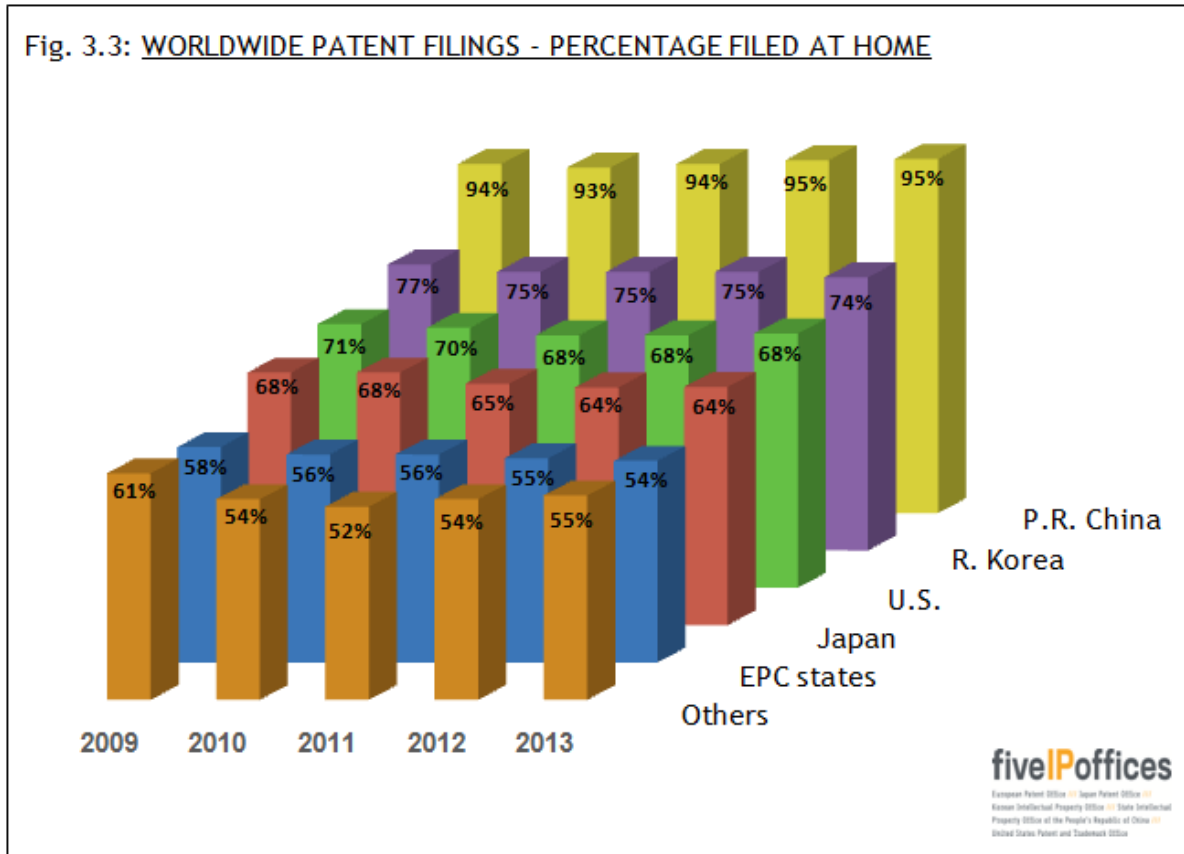
Fig. 3.2 shows the breakdown of the worldwide patent filings of Fig. 3.1 by bloc of origin (residence of first-named applicants or inventors).



The IP5 Blocs were the origin of 92 percent of overall patent filings from 2009 to 2013. The annual share increased from 90 percent in 2009 to 93 percent in 2013. In 2013, the numbers of patent filings originating from P.R. China, R. Korea and the U.S. increased by 31 percent, 9 percent and 6 percent respectively while the number of patent filings originating from Japan decreased by 6 percent.

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

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



The proportion of patent filings made at home remains stable, although there was some decline for the EPC states and R. Korea in 2013 compared to 2012. For the IP5 Blocs, P.R. China had the largest proportion of filings made at home in 2013 with 95 percent. The EPC states²⁴ had the lowest proportion with 54 percent in 2013.

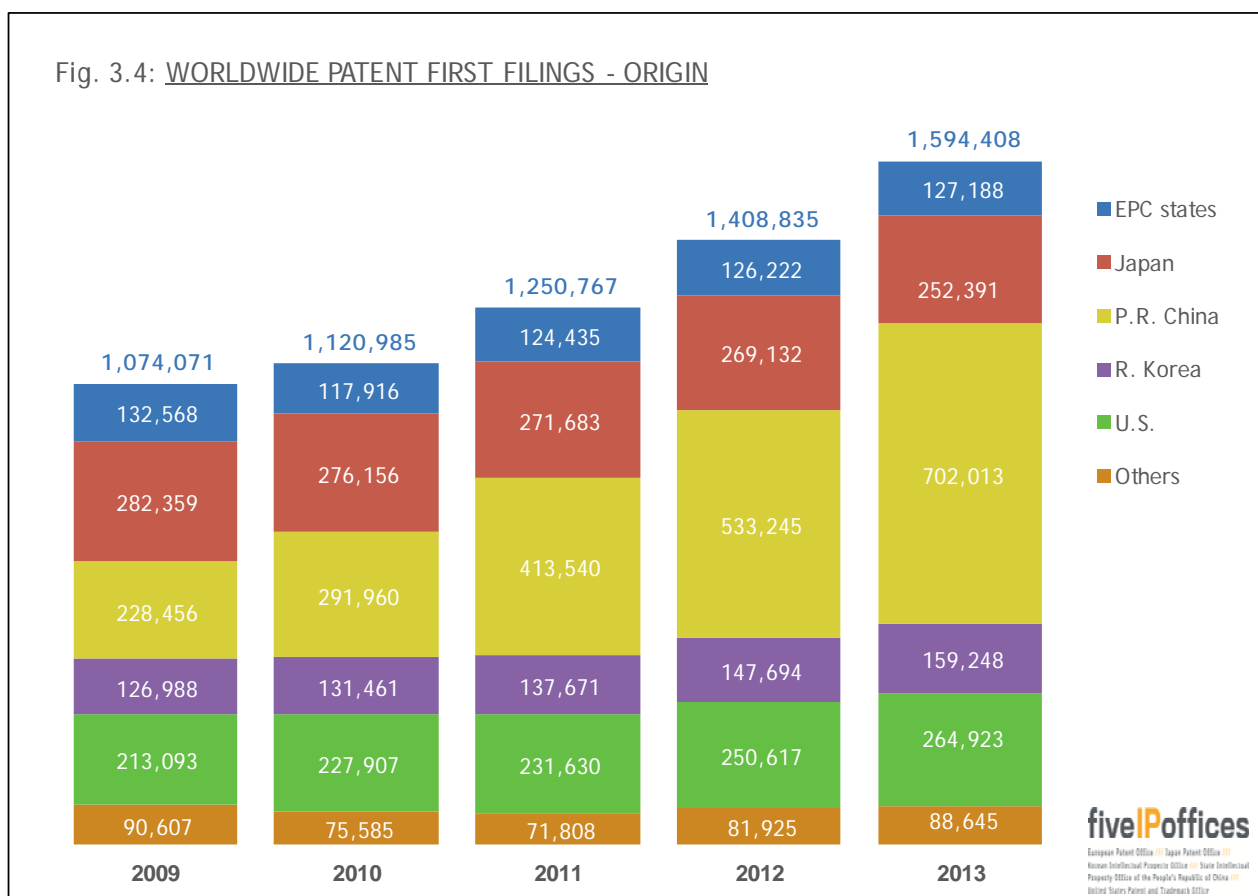
²⁴ For the purpose of reporting statistics for the EPC states considered as a bloc, an application by a resident in an EPC state to another EPC state or to the EPO is considered to be filed within the bloc of origin. See the EPO section of Chapter 2 for a listing of the EPC states.

FIRST FILINGS

All of the following are counted once only: Direct national, direct regional filings, and PCT international filings.

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

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



P.R. China recorded 702,013 first filings in 2013, the highest number of first filings by any bloc within the IP5 area. This was an increase of 32 percent compared to 2012 number. There were also increases in first filings from R. Korea, the U.S. and the EPC states of 8 percent, 6 percent and 1 percent respectively in 2013, while Japan had a decrease of 6 percent. Overall, first filings increased by 13 percent between 2012 and 2013.

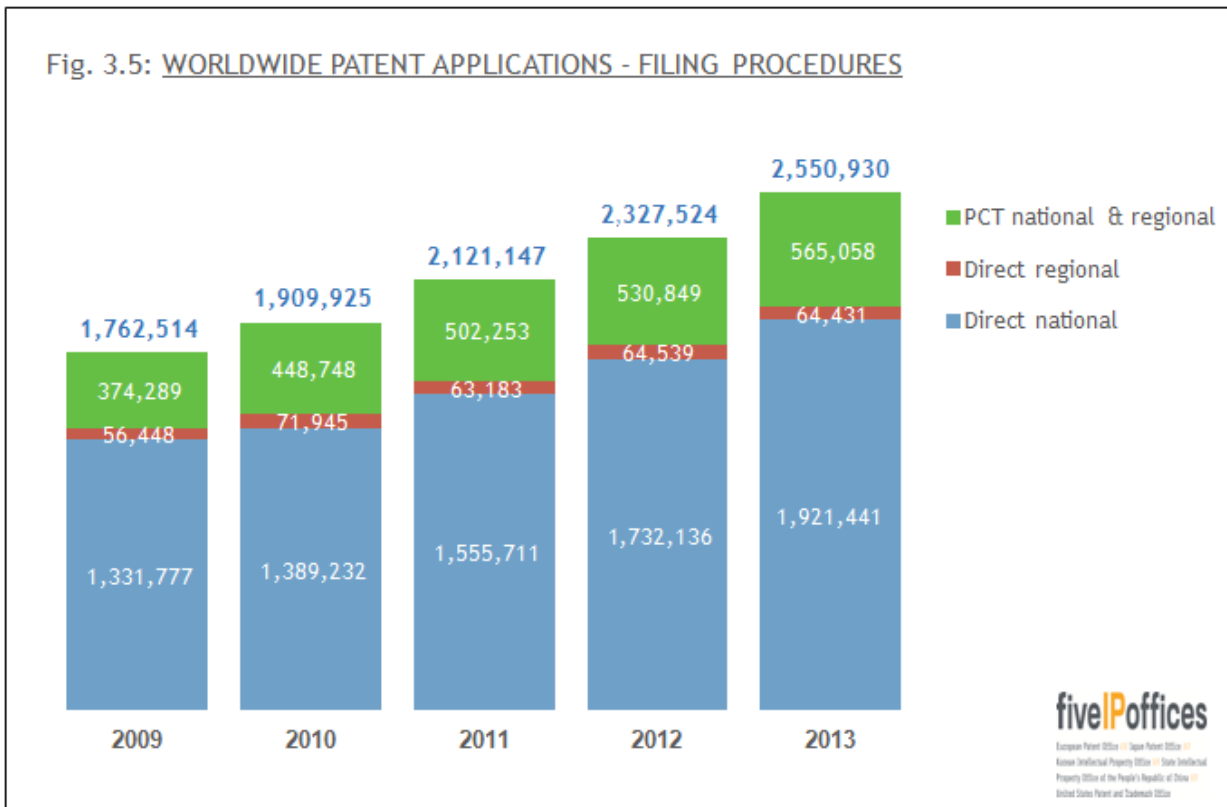
Comparison of Figs. 3.2 and 3.4 demonstrates that there are considerable numbers of subsequent filings, where the first filing for an invention at one office leads on to further filings.

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 phase²⁵. In the following figures, the number of PCT applications consists of a count of 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.

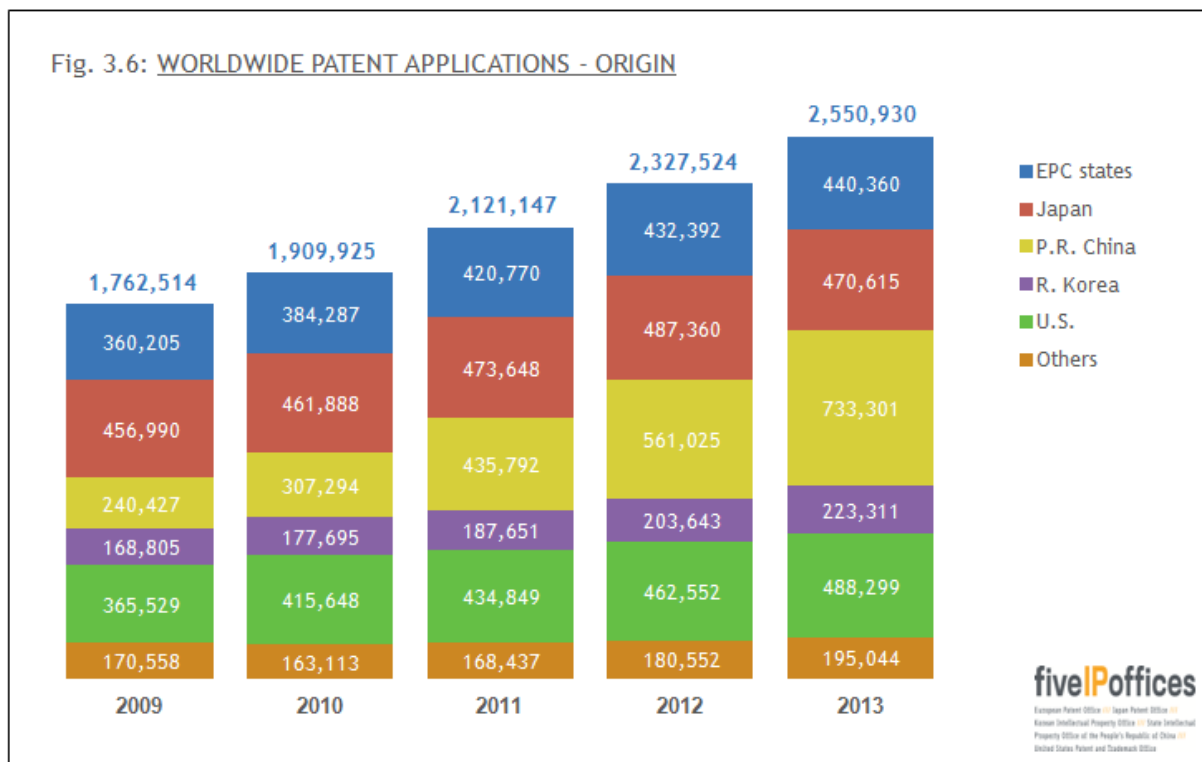


In 2013, more than 2.5 million patent applications were filed worldwide. This represented a 10 percent increase compared to 2012.

While the number of direct national applications increased by 11 percent. The numbers of PCT national/regional applications increased by 6 percent.

²⁵ 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.



The number of patent applications increased for most of the IP5 Blocs in 2013, with P.R. China remaining the region from which the largest share of applications originated. P.R. China also had the largest percentage increase in applications by origin in 2013 (31 percent). The number of applications from R. Korea, the U.S. and the EPC states increased by 10 percent, 6 percent and 2 percent respectively while the number of applications from Japan decreased by 3 percent.

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

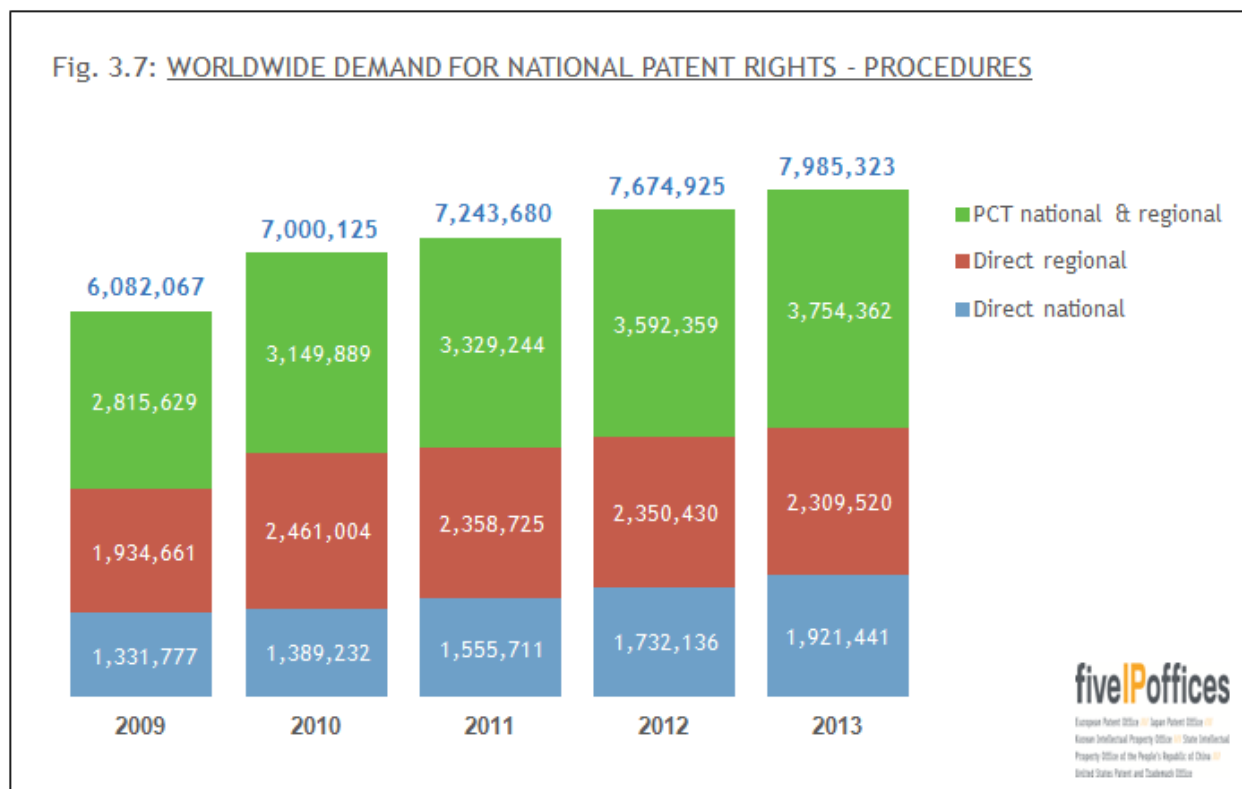
DEMANDS FOR NATIONAL PATENT RIGHTS

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 systems²⁶.

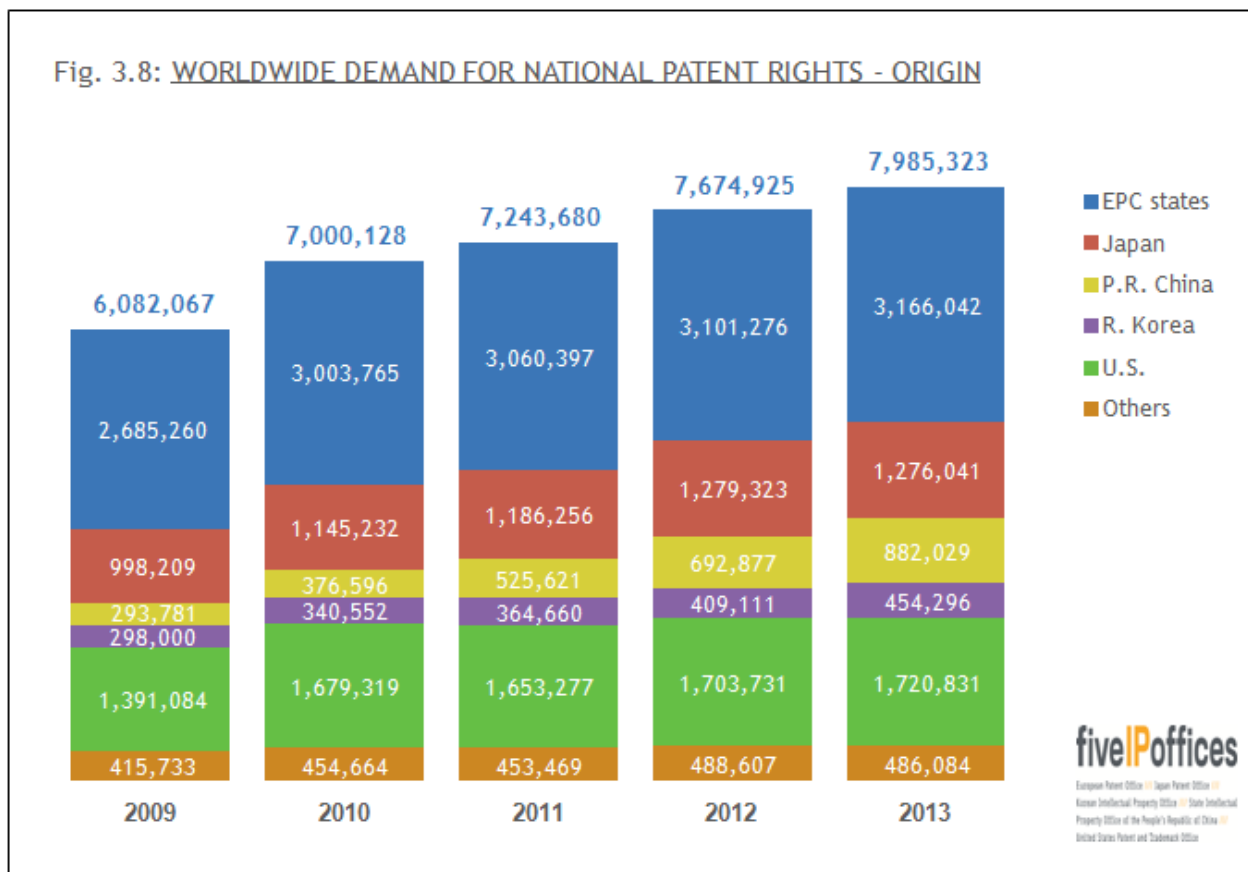
Fig. 3.7 shows the development of demand for national patent rights broken down by filing procedures.



²⁶ At the end of 2013, 89 states were party to a regional patent system, EPC 38, EAPC 9, ARIPO 19, OAPI 17, GCCPO 6. This compares to 83 states at the beginning of 2009. Also at the end of 2013, 148 states were party to the PCT, compared to 142 states at the beginning of 2009.

The demand for patent rights measured in terms of equivalent national patent rights increased by 4 percent from 2012 to 2013. 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.

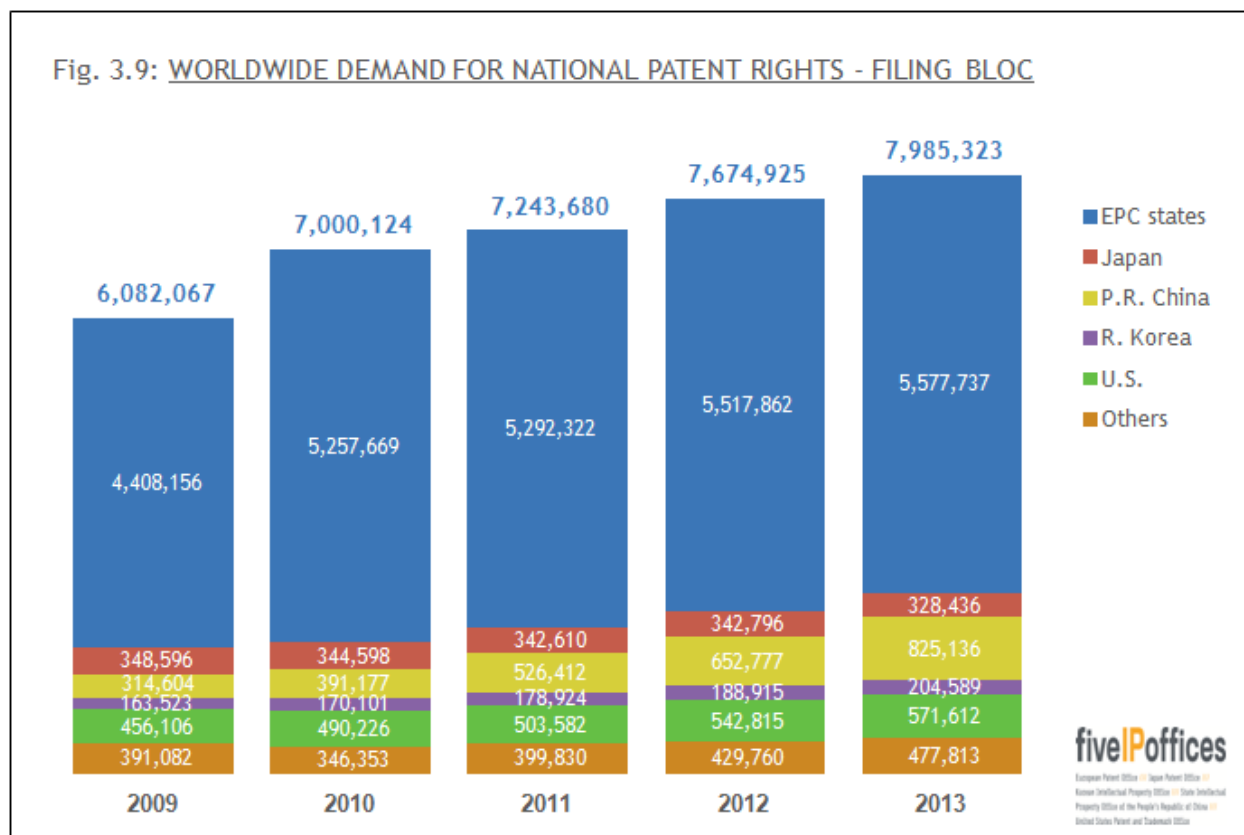
Fig. 3.8 shows the trend for the demand of national patent rights by blocs of origin (residence of first-named applicants or inventors) and is based on the same data as Fig. 3.7.



From 2012 to 2013, the demand for patent rights increased from P.R. China, R. Korea, the EPC states and the U.S. by 27 percent, 11 percent, 2 percent and 1 percent respectively, while the demand for patent rights decreased marginally from Japan.

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.

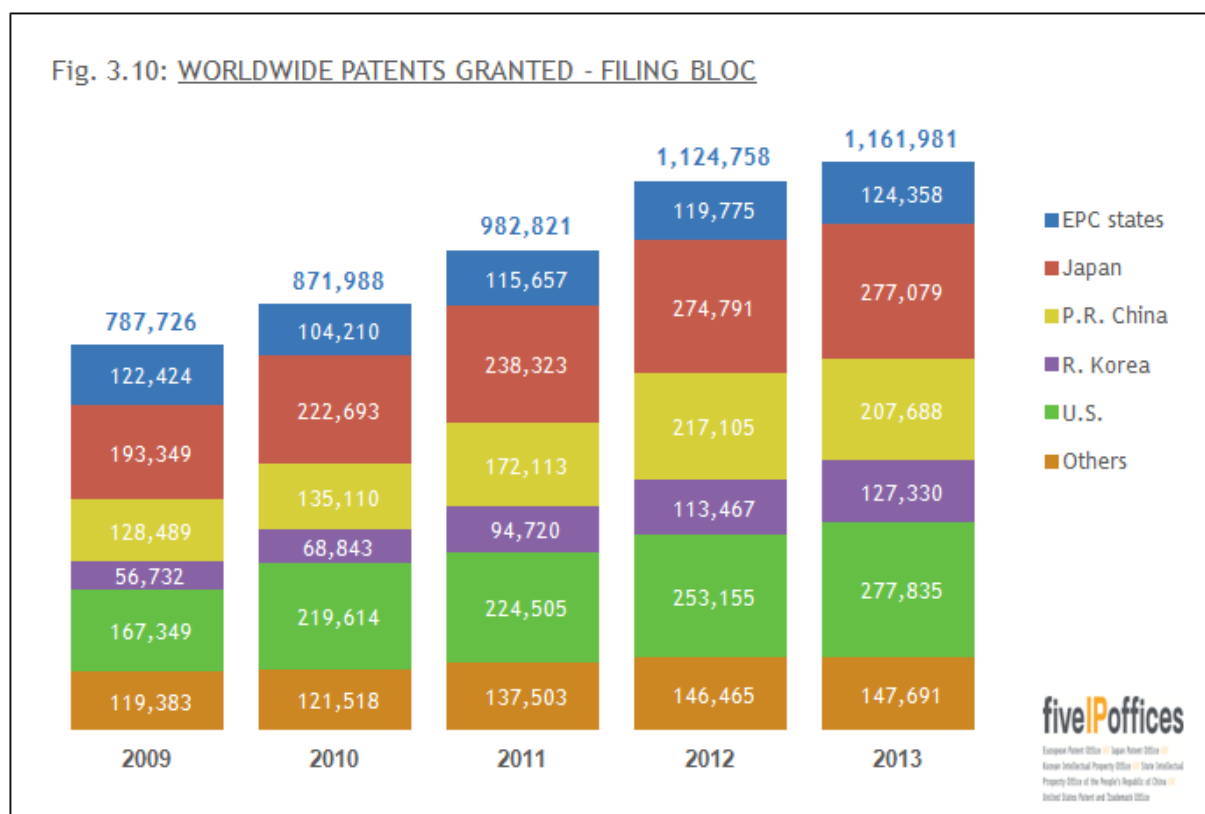


This chart demonstrates the influence of regional patent systems on global demand for patents. In 2013, the demand for national patent rights decreased in Japan and increased in P.R. China, R. Korea, the U.S. and the EPC states. Demand in P.R. China had the largest increase at 26 percent.

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.



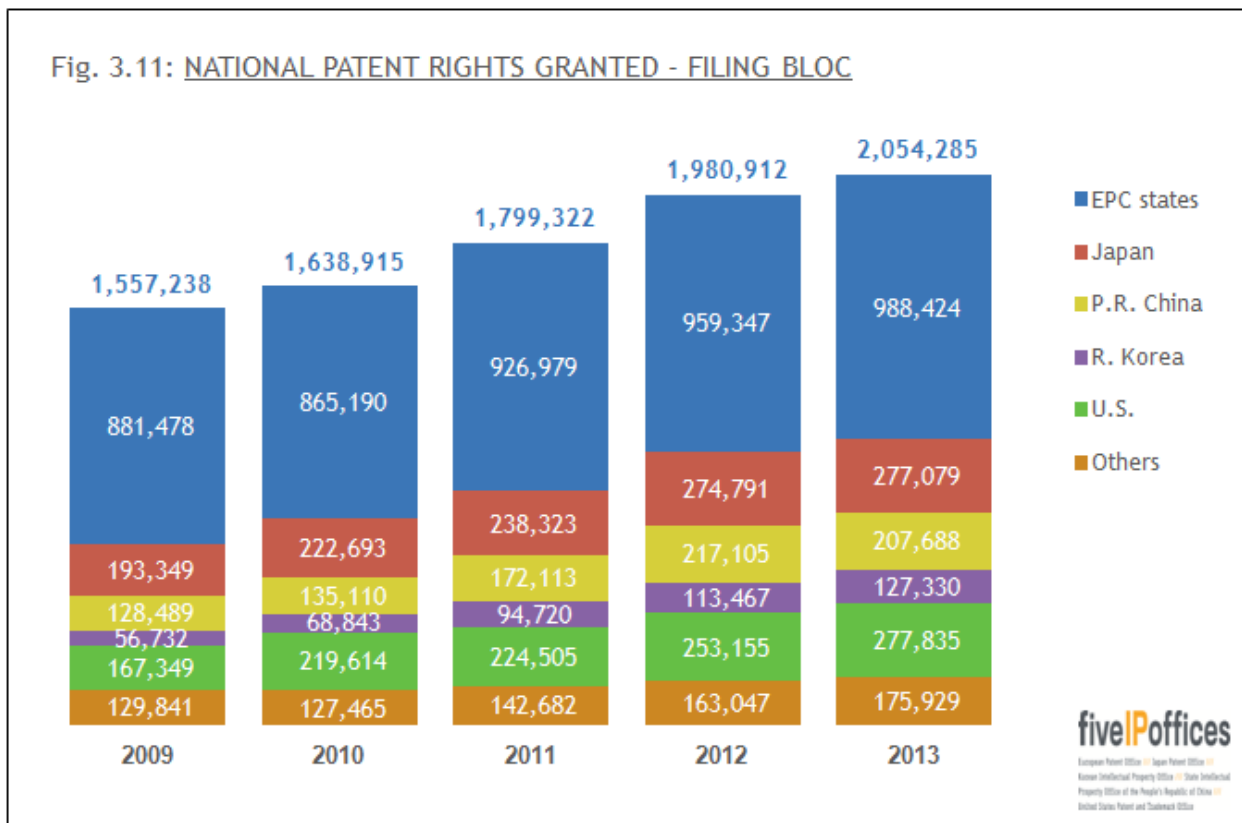
The number of patent grants increased for R. Korea, the U.S., EPC states and Japan in 2013. The largest percentage increase in 2013 was in R. Korea (12 percent). In the U.S., the EPC states and Japan, there were also increases of 10 percent, 4 percent and 1 percent respectively. The number of patent grants in P.R. China decreased by 4 percent in 2013.

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 designated²⁷. This has an effect only in the EPC states and Others, as shown in the following Fig. 3.11.

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.



In 2013, more than 2.0 million patent rights were granted, which represents a 3.7 percent increase compared to 2012.

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.

²⁷ National patents can also be created in other states that have extension agreements with the EPC states.

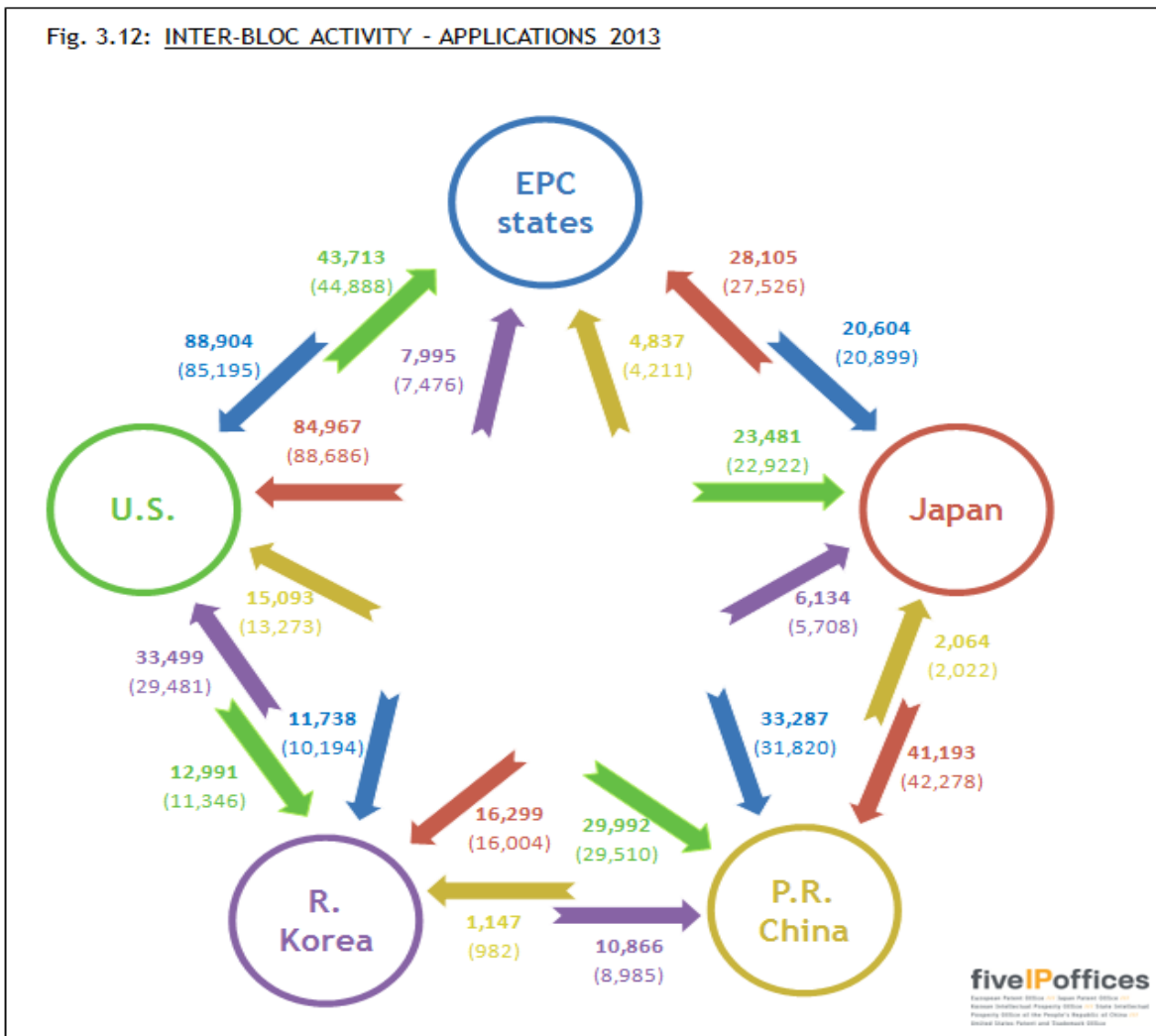
INTER-BLOC ACTIVITY

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 2013, with 2012 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.



IP5 Statistics Report 2014
Chapter 3 - Worldwide patenting activity

As a general pattern, applicants worldwide filed many more applications outside their own blocs to 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 2013, the following flows decreased: from Japan to the U.S. and to P.R.China, from the U.S. to the EPC states, and from the EPC states to Japan. All other flows between blocs increased compared to 2012. The largest percentage increase of flow is from R. Korea to P.R. China (21 percent).

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 DOCumentDataBase (DOCDB)²⁸ 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. For the patent family measures of first filings in Chapter 3, the numbers of domestic national filings are taken which means that the numbers of first filings in Table 3 conform with those in Fig. 3.4. 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.

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 2009 and 2010. 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.

²⁸DOCDB is the EPO master documentation database with worldwide coverage containing bibliographic data, abstracts and citations (but no full text).

Table 3: NUMBERS OF PATENT FAMILIES

Year of priority: 2009

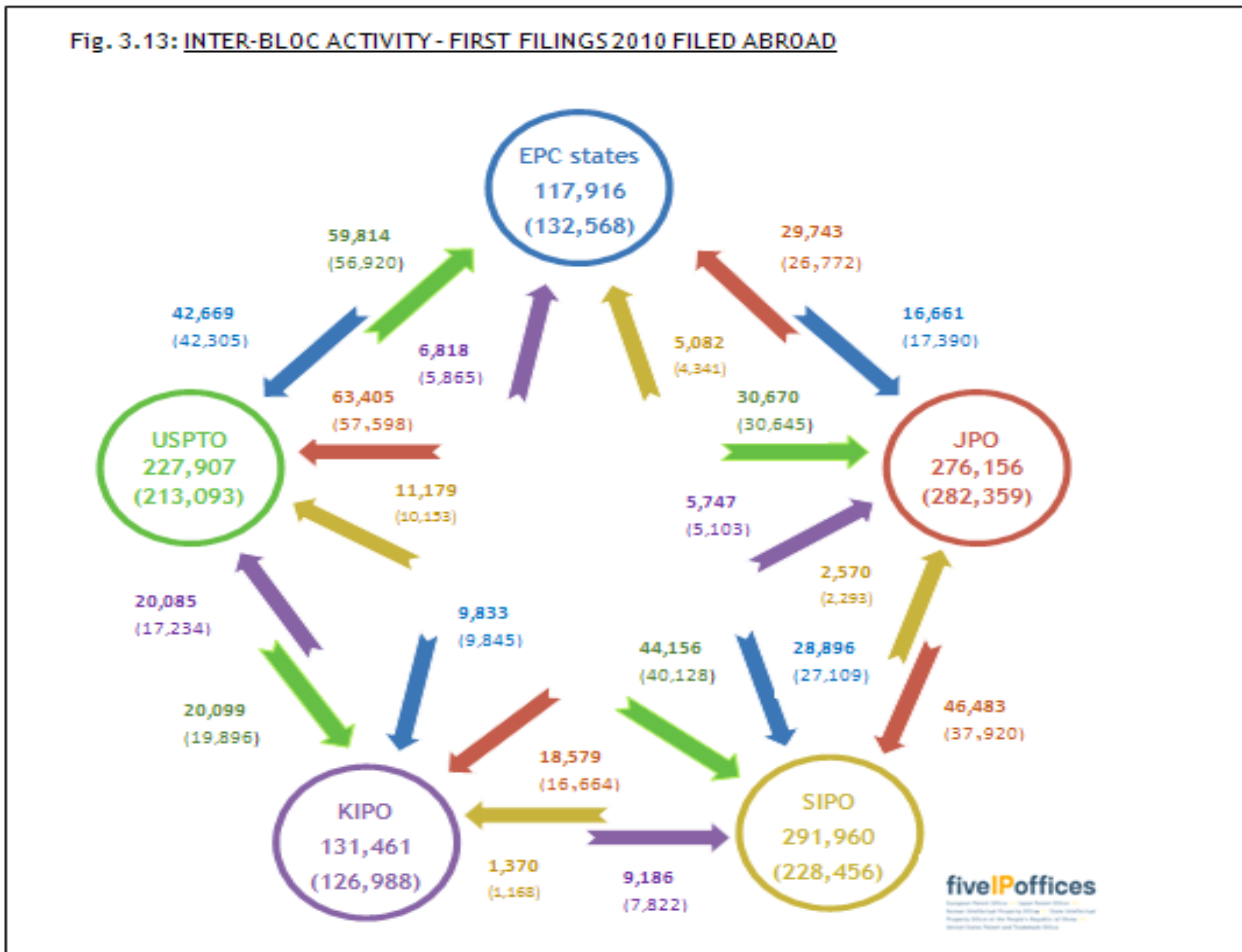
Bloc of origin from which priority is claimed	First Filings in Bloc of Origin	Flows to Subsequent Filings								Five Blocs Patent Families from bloc of origin	
		Any other Bloc	Any other Five Bloc	First filings in Bloc of Origin leading to priority claims in filings in:							Other countries
				EPC States	Japan	P.R. China	R.Korea	U.S.			
EPC States	132,568	48,727 (36.8%)	46,885 (35.4%)	-	17,390 (13.1%)	27,109 (20.4%)	9,845 (7.4%)	42,305 (31.9%)	19,627 (14.8%)	7,072 (5.3%)	
Japan	282,359	67,636 (24.0%)	66,413 (23.5%)	26,772 (9.5%)	-	37,920 (13.4%)	16,664 (5.9%)	57,598 (20.4%)	15,343 (5.4%)	8,457 (3.0%)	
P.R. China	228,456	11,386 (5.0%)	11,175 (4.9%)	4,341 (1.9%)	2,293 (1.0%)	-	1,168 (0.5%)	10,153 (4.4%)	1,462 (0.6%)	701 (0.3%)	
R. Korea	126,988	19,292 (15.2%)	19,065 (15.0%)	5,865 (4.6%)	5,103 (4.0%)	7,822 (6.2%)	-	17,234 (13.6%)	2,457 (1.9%)	2,333 (1.8%)	
U.S.	213,093	76,111 (35.7%)	66,470 (31.2%)	56,920 (26.7%)	30,645 (14.4%)	40,128 (18.8%)	19,896 (9.3%)	-	45,764 (21.5%)	13,463 (6.3%)	
Five blocs subtotal	983,464	223,152 (22.7%)	210,008 (21.4%)	93,898 (9.5%)	55,431 (5.6%)	112,979 (11.5%)	47,573 (4.8%)	127,290 (12.9%)	84,653 (8.6%)	32,026 (3.3%)	
Others	90,607	15,845 (17.5%)	15,845 (17.5%)	4,539 (5.0%)	1,920 (2.1%)	2,142 (2.4%)	1,050 (1.2%)	14,602 (16.1%)	-	504 (0.6%)	
Global total	1,074,071	238,997 (22.3%)	225,853 (21.0%)	98,437 (9.2%)	57,351 (5.3%)	115,121 (10.7%)	48,623 (4.5%)	141,892 (13.2%)	84,653 (7.9%)	32,530 (3.0%)	

Year of priority: 2010 (Preliminary)

Bloc of origin from which priority is claimed	First Filings in Bloc of Origin	Flows to Subsequent Filings								Five Blocs Patent Families from bloc of origin	
		Any other Bloc	Any other Five Bloc	First filings in Bloc of Origin leading to priority claims in filings in:							Other countries
				EPC States	Japan	P.R. China	R.Korea	U.S.			
EPC States	117,916	50,269 (42.6%)	48,233 (40.9%)	-	16,661 (14.1%)	28,896 (24.5%)	9,833 (8.3%)	42,669 (36.2%)	18,994 (16.1%)	6,528 (5.5%)	
Japan	276,156	76,266 (27.6%)	74,498 (27.0%)	29,743 (10.8%)	-	46,483 (16.8%)	18,579 (6.7%)	63,405 (23.0%)	17,545 (6.4%)	9,063 (3.3%)	
P.R. China	291,960	12,858 (4.4%)	12,524 (4.3%)	5,082 (1.7%)	2,570 (0.9%)	-	1,370 (0.5%)	11,179 (3.8%)	1,864 (0.6%)	792 (0.3%)	
R. Korea	131,461	22,140 (16.8%)	21,931 (16.7%)	6,818 (5.2%)	5,747 (4.4%)	9,186 (7.0%)	-	20,085 (15.3%)	2,784 (2.1%)	2,808 (2.1%)	
U.S.	227,907	80,812 (35.5%)	71,151 (31.2%)	59,814 (26.2%)	30,670 (13.5%)	44,156 (19.4%)	20,099 (8.8%)	-	45,971 (20.2%)	13,188 (5.8%)	
Five blocs subtotal	1,045,400	242,345 (23.2%)	228,337 (21.8%)	101,457 (9.7%)	55,648 (5.3%)	128,721 (12.3%)	49,881 (4.8%)	137,338 (13.1%)	87,158 (8.3%)	32,379 (3.1%)	
Others	75,585	17,378 (23.0%)	17,378 (23.0%)	4,706 (6.2%)	2,018 (2.7%)	3,341 (4.4%)	1,175 (1.6%)	15,626 (20.7%)	-	476 (0.6%)	
Global total	1,120,985	259,723 (23.2%)	245,715 (21.9%)	106,163 (9.5%)	57,666 (5.1%)	132,062 (11.8%)	51,056 (4.6%)	152,964 (13.6%)	87,158 (7.8%)	32,855 (2.9%)	

Source: EPO DOCDB Database

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 2010. The flow figures between blocs of origin and target blocs indicate the numbers of 2010 first filings from the bloc of origin that led to subsequent filings in the target bloc. The comparable figures for 2009 are given in parentheses.



Even though the numbers for IP5 patent families after 2009 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 2010 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 2009 (983,464), 21.4 percent formed patent families that included at least one of the remaining IP5 Blocs (210,008). Proceeding to a higher degree of selectivity, only 3.3 percent of all first filings in the IP5 Blocs in 2009 formed *IP5 patent families*, where activities of first and/or subsequent filings were made in all the IP5 Blocs.

The IP5 patent family proportion of first filings differed considerably according to the bloc of origin of the first filings, as can be seen in Table 3 (U.S. 6.3 percent, EPC states 5.3 percent, Japan 3.0 percent, P.R. China 0.3 percent, R. Korea 1.8 percent and for Others 0.6 percent).

Due to the influence of the recession that started in late 2008, it should be recognised that worldwide total numbers of first filings dipped in 2009 compared to 2008 and 2010²⁹.

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 2009 patent family data as presented in Table 3. Four coloured circles appear in each diagram with each circle representing the percentage of subsequent filings in an IP5 Bloc resulting from the number of first filings in the bloc of origin. Areas where the circles overlap correspond to subsequent filings in more than one other IP5 Bloc. Recall that, in the case of the EPC states, the activities at national offices are included as well as at the EPO.

Above each diagram appears first the total number of first filings that were received in each of the IP5 Blocs in 2009. 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 coloured 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 17.4 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.

²⁹ To verify these statements see the patent families section of the statistical tables at the website.

Fig. 3.14: 2009 PATENT FAMILIES - PERCENTAGES OF FIRST FILINGS WITH SUBSEQUENT FILINGS IN OTHER IP5 BLOCs

First filings in	EPC states offices* 132,568	Japan (JPO) 282,359	P.R. China (SIPO) 228,456	R. Korea (KIPO) 126,988	U.S. (USPTO) 213,093
Bilateral families with subsequent filings in					
EPC states	-	9.5%	1.9%	4.6%	26.7%
Japan	13.1%	-	1.0%	4.0%	14.4%
P.R. China	20.4%	13.4%	-	6.2%	18.8%
R. Korea	7.4%	5.9%	0.5%	-	9.3%
U.S.	31.9%	20.4%	4.4%	13.6%	-
Three bloc families with subsequent filings in					
EPC states & Japan	-	-	0.7%	2.3%	12.9%
EPC states & R. Korea	-	3.3%	0.4%	-	7.9%
EPC states & P.R. China	-	7.2%	-	3.2%	15.7%
EPC states & U.S.	-	8.7%	1.6%	4.4%	-
Japan & R. Korea	5.9%	-	0.4%	-	7.3%
Japan & P.R. China	10.4%	-	-	2.8%	10.8%
Japan & U.S.	12.4%	-	0.9%	3.5%	-
P.R. China & R. Korea	6.7%	5.1%	-	-	7.9%
P.R. China & U.S.	17.4%	10.9%	-	5.1%	-
R. Korea & U.S.	6.9%	4.6%	0.4%	-	-
Four bloc families with subsequent filings in					
EPC states & Japan & R. Korea	-	-	0.3%	-	6.7%
EPC states & Japan & P.R. China	-	-	-	1.9%	10.1%
EPC states & Japan & U.S.	-	-	0.6%	2.2%	-
EPC states & R. Korea & P.R. China	-	3.1%	-	-	7.2%
EPC states & R. Korea & U.S.	-	3.2%	0.4%	-	-
EPC states & P.R. China & U.S.	-	6.8%	-	3.1%	-
Japan & R. Korea & P.R. China	5.5%	-	-	-	6.7%
Japan & R. Korea & U.S.	5.6%	-	0.4%	-	-
Japan & P.R. China & U.S.	9.9%	-	-	2.5%	-
P.R. China & R. Korea & U.S.	6.3%	4.1%	-	-	-
IP5 families	5.3%	3.0%	0.3%	1.8%	6.3%

* EPO or EPC states national offices

From Fig. 3.14 and Table 3, the 2009 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 2009 first filings in the EPC member states, Japan, P.R. China, and R. Korea are 31.9 percent, 20.4 percent, 4.4 percent, and 13.6 percent respectively. The second most important market for the other IP5 Blocs is P.R. China.

In general, first filings in the U.S. also 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 fifth data row of Table 3. The single exception to this is that the percentage from EPC states to P.R. China is highest.

For the first filings in the EPC member states, the percentages that led also to subsequent filings in other blocs are mostly second largest behind first filings from the U.S. It is notable that the percentages from both the EPC states and the U.S. to the Asian offices are higher than the percentages between the three Asian blocs themselves.

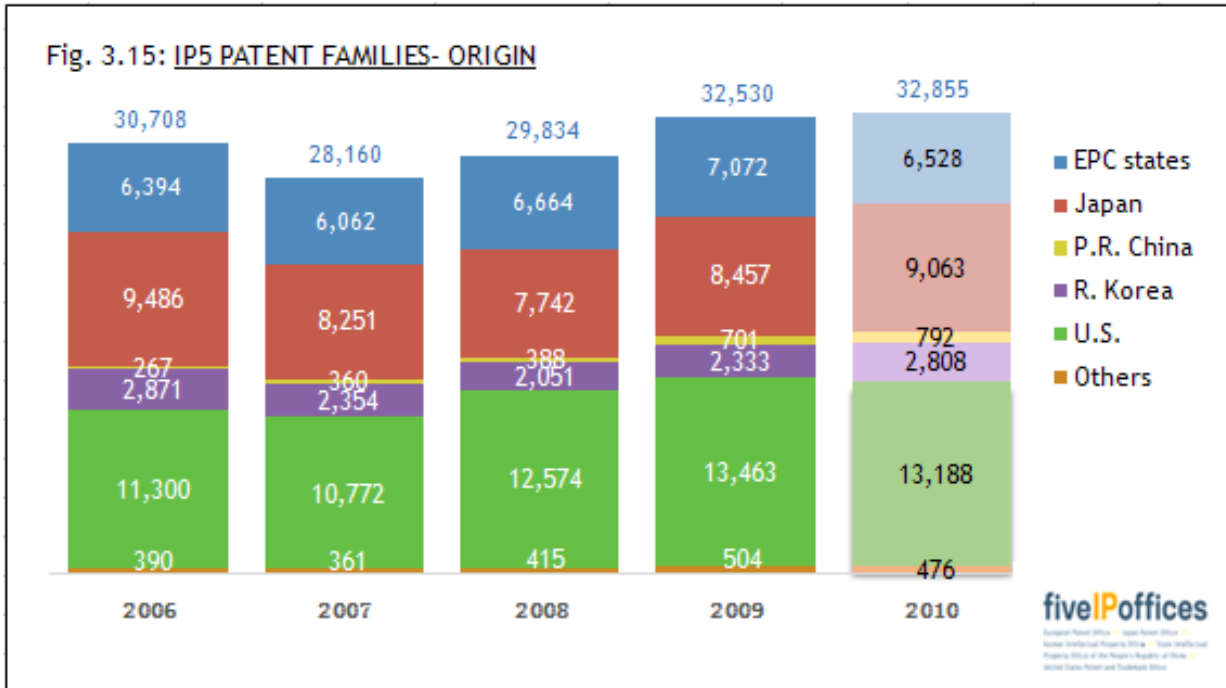
Japan has the highest number of first filings in 2009 of 282,359 and the percentages that led to subsequent filings in the EPC states, R. Korea and P.R. China are lower than the percentage for first filings in the U.S. This makes the flows (numbers of patent families) from Japan to the EPC states, R. Korea and P.R. China smaller than the flow to the U.S.

For the first filings in P.R. China, the percentage of subsequent applications filed in the U.S. (4.4percent) is the largest. The percentage that was filed in both the EPC member states and Japan is about 0.7 percent. The percentage of subsequent applications that were filed in the EPC member states, Japan, and the U.S. is also about 0.6 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 2009 and the preliminary 2010 data displayed in Table 3 (11,175 compared to 12,524 respectively).

For the first filings in R. Korea, as with the other blocs, the percentage of subsequent applications filed in the U.S. (13.6 percent) is the largest, followed by P.R. China (6.2 percent). In addition, the percentage of subsequent applications filed in the EPC member states is 4.6 percent. This last percentage is close to the percentage of subsequent applications filed in both the EPC member states and the U.S. together (4.4 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 (26.7 percent).The percentage of subsequent applications filed in P.R. China (18.8 percent) is the next highest, although Japan is not so far behind at 14.4 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 2010 are still provisional, the last column is more lightly shaded.



The total number of IP5 patent families in 2010 was 32,855, of which 40 percent were from the U.S., 28 percent were from Japan, 20 percent were from the EPC states, 9 percent were from R. Korea, 2 percent were from P.R. China, and 1 percent were from Others. The number will probably increase when the data set for 2010 becomes complete later on.

The total number of IP5 families went lower in 2007, but increased through 2010. 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 Japan, R. Korea and China increased from 2009 to 2010.

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 2013, most of the information that appears here includes data available on a more up-to-date basis and covers also 2014. 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. 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 procedure³⁰. 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.

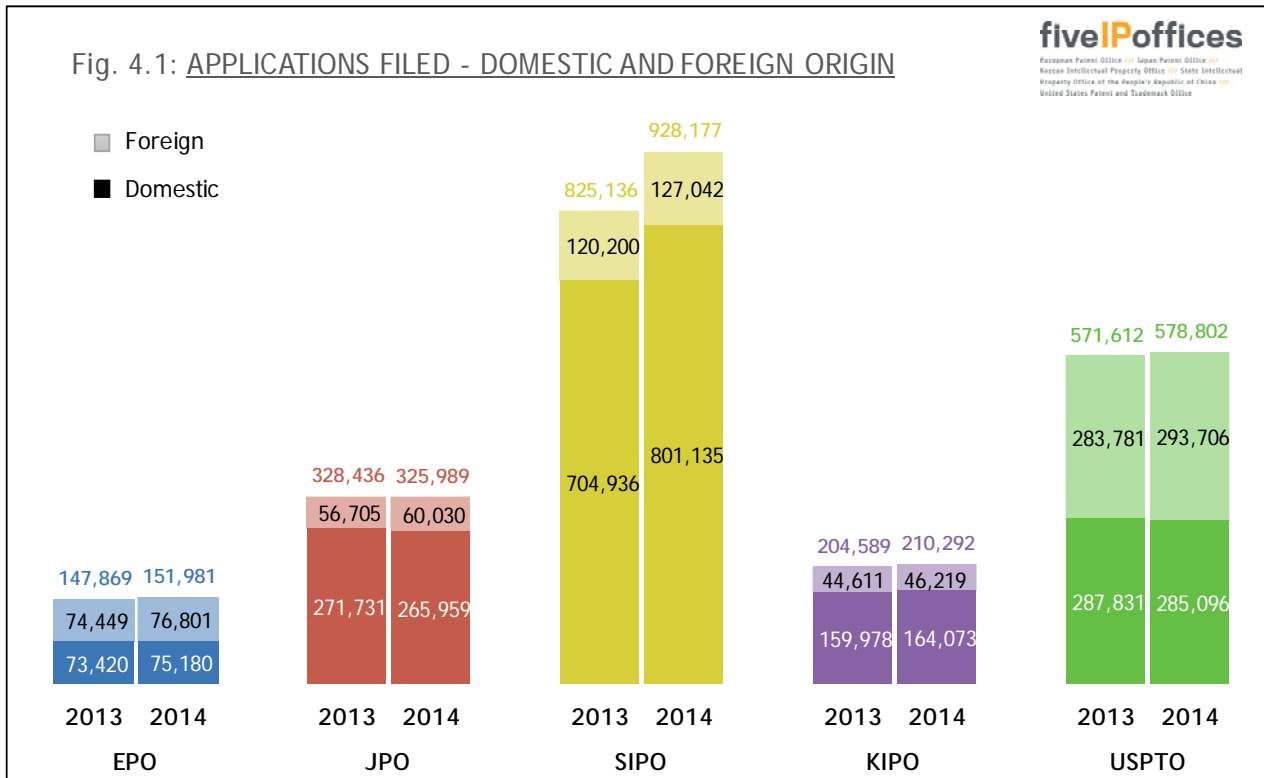
For granted patents, the statistics combine information by office and bloc of origin, displaying comparisons by year of grant. The representations here are similar to those for Fig. 3.10, where granted patents are counted only once, except that, for EPC states, only the EPO is considered as the granting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

³⁰ See the section "Guide to figures in Chapter 3".

PATENT APPLICATIONS FILED

Fig. 4.1 shows the number of patent applications that were filed at each of the IP5 Offices during the two most recent years, broken down by domestic and foreign origin (based on the residence of first-named applicants or inventors). For the EPO, domestic applications correspond to those filed by residents of the EPC states.



In 2014, a total of 2,195,241 patent applications were filed at the IP5 Offices, an increase of 5.7 percent from 2013 (2,077,642).

There were increases in patent applications at the SIPO, the KIPO, the EPO and the USPTO. At the SIPO, patent applications increased by 12 percent. Also applications at the KIPO, the EPO and the USPTO increased 3 percent, 3 percent and 1 percent respectively. Patent applications at the JPO decreased by less than 1 percent.

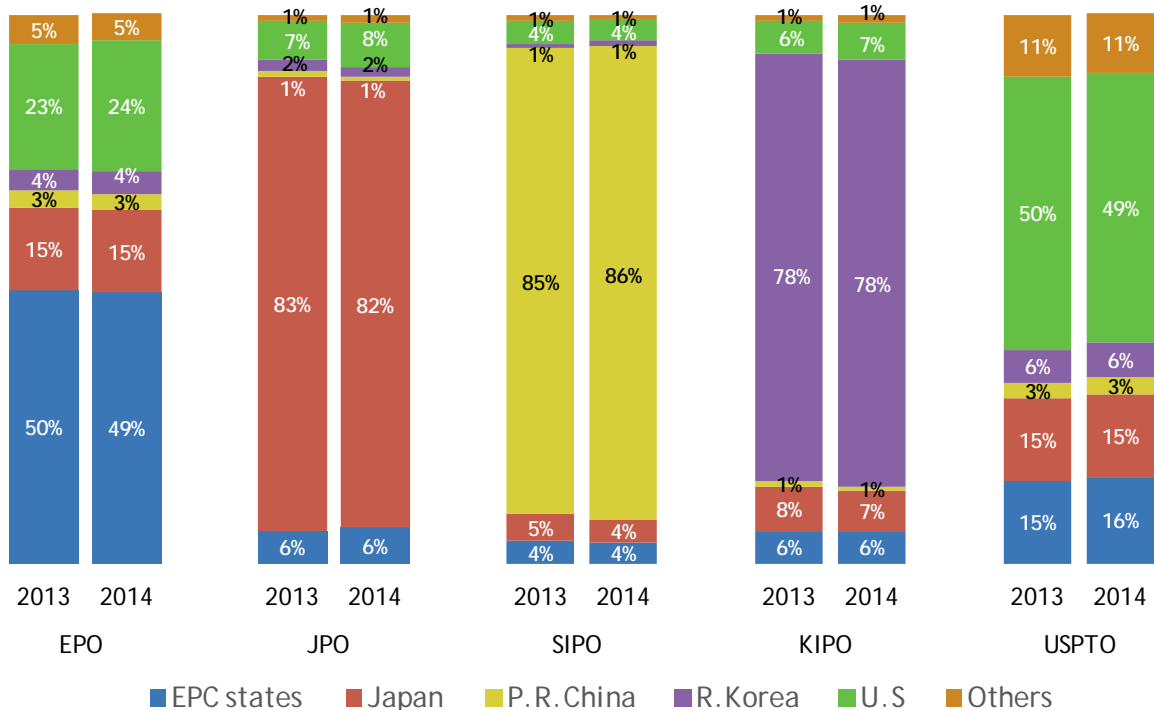
At the SIPO, the KIPO, and the EPO, both domestic and foreign applications increased. At the JPO and the USPTO, foreign applications increased and domestic applications decreased marginally. The SIPO had a particularly large increase in domestic filings of 14 percent.

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 2013 and 2014.

Table 4.1: 2014 APPLICATIONS FILED - ORIGIN

Office	EPO	JPO	SIPO	KIPO	USPTO
EPC states	75,180	21,150	34,947	12,299	91,679
Japan	22,018	265,959	40,460	15,653	86,691
P.R.China	4,624	2,531	801,135	1,572	18,040
R.Korea	6,141	5,682	11,528	164,073	36,744
U.S	36,491	25,998	33,963	13,982	285,096
Others	7,527	4,669	6,144	2,713	60,552
Total	151,981	325,989	928,177	210,292	578,802

Fig. 4.2: APPLICATIONS FILED - ORIGIN DISTRIBUTION



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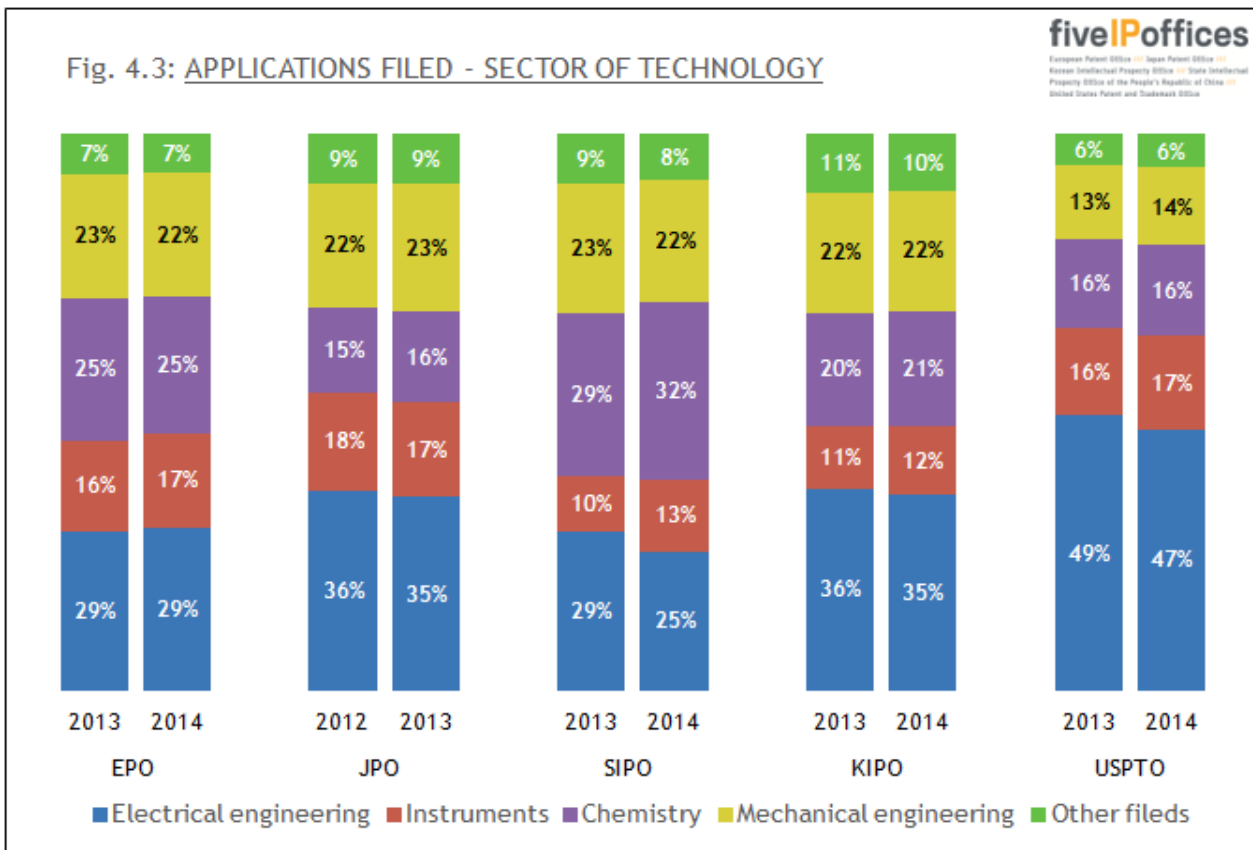
Comparison of the numbers of applications across the IP5 Offices should only be made with care. Reasons for this include that numbers of claims given in applications are significantly different among the IP5 Offices. On average, in 2014, an application filed at the EPO contained 14.1 claims (14.3 in 2013), one filed at the JPO contained 9.5 claims (9.8 in 2013), one filed at the SIPO contained 7.6 claims (7.5 in 2013), one filed at the KIPO contained 11.1 claims (10.7 in 2013), while one filed at the USPTO had 17.8 claims (18.1 in 2013).

The shares of patent application filings by bloc of origin are generally consistent for 2013 and 2014 for each office.

SECTORS AND 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 sectors³¹. Fig. 4.3 shows the distribution of applications at each office according to the five main sectors of technology.

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 2013 and 2014, while for the JPO the breakdown is given for the filing years 2012 and 2013³².

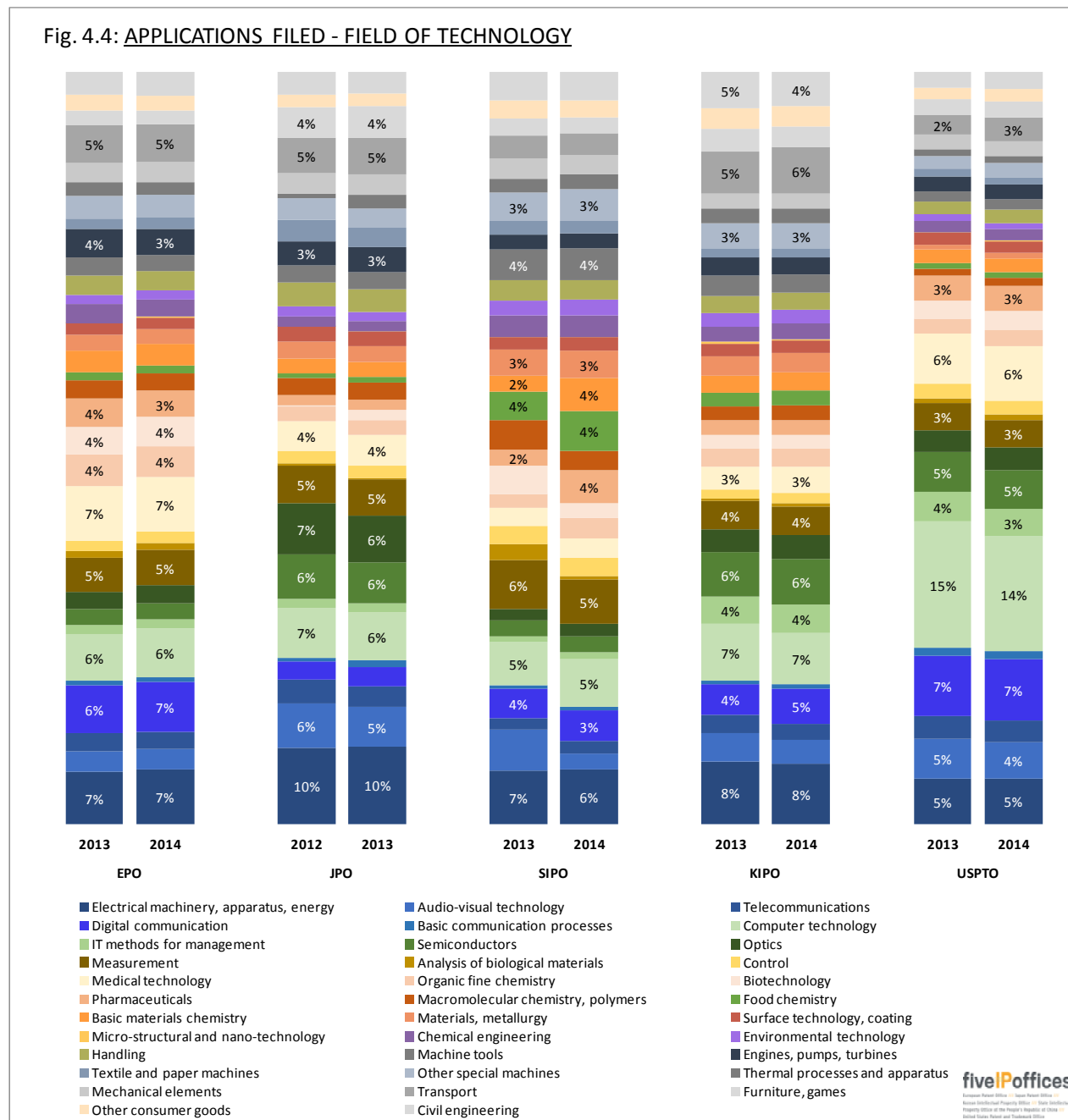


The Electrical engineering sector is more prominent at the USPTO than in the other IP5 Offices. A higher proportion of applications are filed in the Chemistry sector at the SIPO and at the EPO than in the other IP5 Offices. At each office, the distribution between sectors of the technology was stable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

³¹ www.wipo.int/ipstats/en/statistics/technology_concordance.html.

³² JPO data for 2013 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 the more detailed fields of technology at each office, where the 10 leading fields in each case are highlighted by writing the percentages in text format.

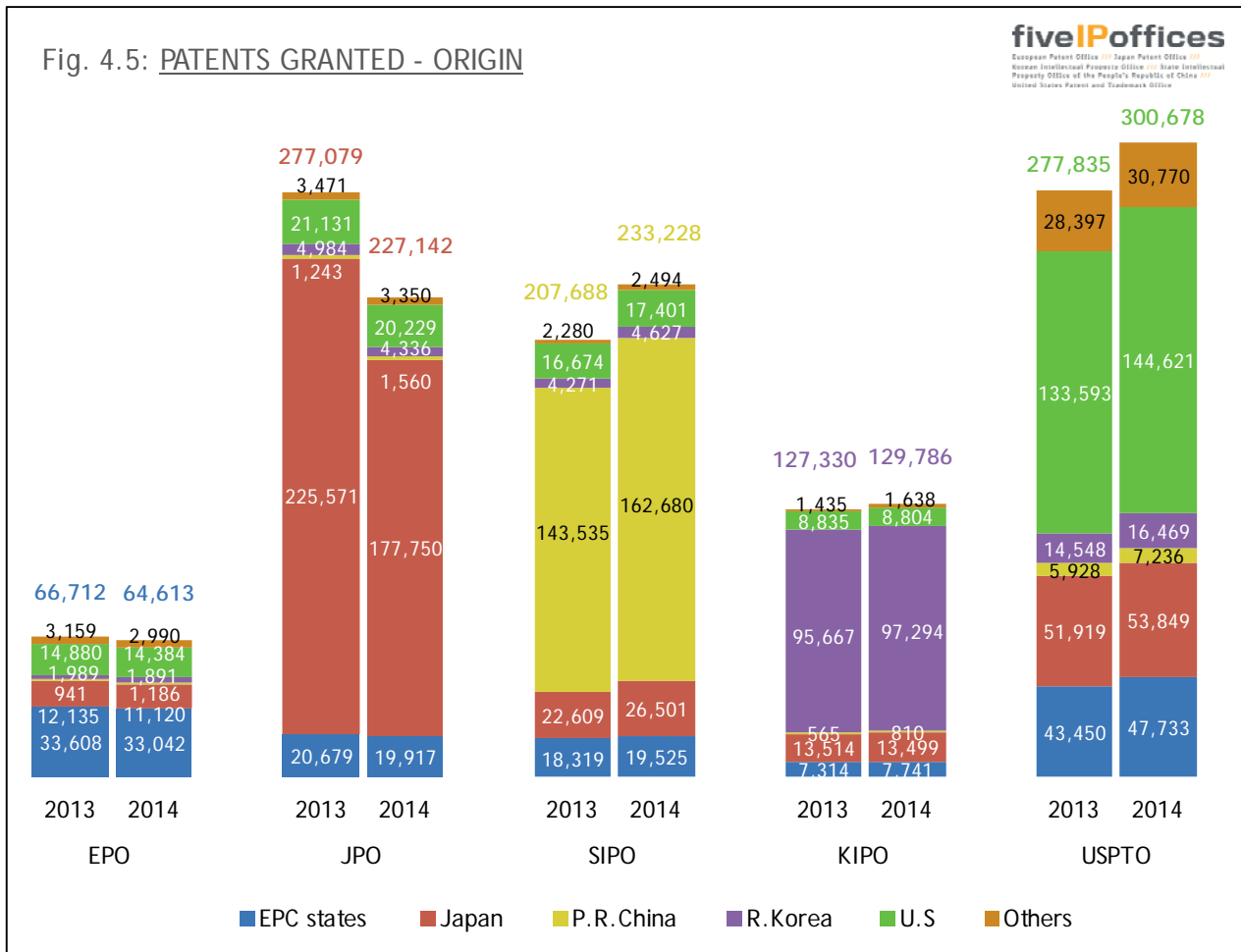


Most of the leading fields are identical between the IP5 Offices, though with different shares. "Computer technology", "Electrical machinery, apparatus, energy", and "Measurement" are the leading fields at all offices, "Digital communication" is a leading field at all offices except the JPO, "Medical technology" and "Transport" are leading field at all offices except the SIPO. "Electrical machinery, apparatus, energy" has a larger share of applications at the JPO (10 percent) than at the KIPO (8 percent), the EPO (7 percent), the SIPO (6 percent) and the USPTO

(5 percent) respectively. "*Computer technology*" has a larger share of applications at the USPTO (14 percent). For the other leading fields: "*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; "*Audio-visual technology*" is a leading field at the JPO and the USPTO; "*IT methods for management*" is a leading field at the KIPO and the USPTO.

PATENTS GRANTED

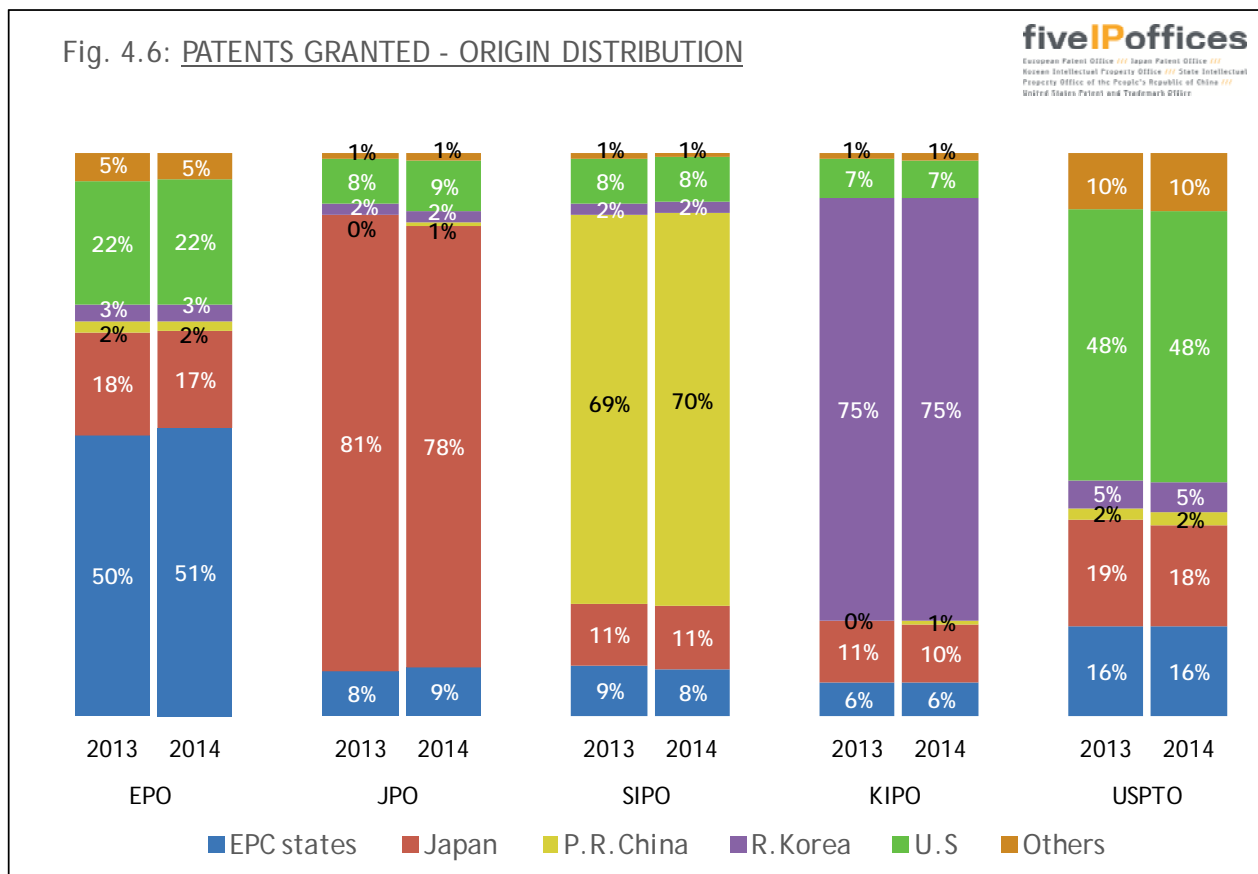
Fig. 4.5 shows the numbers of patents granted by the IP5 Offices, according to the bloc of origin (residence of first-named owner or inventor).



Together the IP5 Offices granted a total of 955,447 patents in 2014. This was 1,197 less than in 2013 and represents a decrease of 0.1 percent.

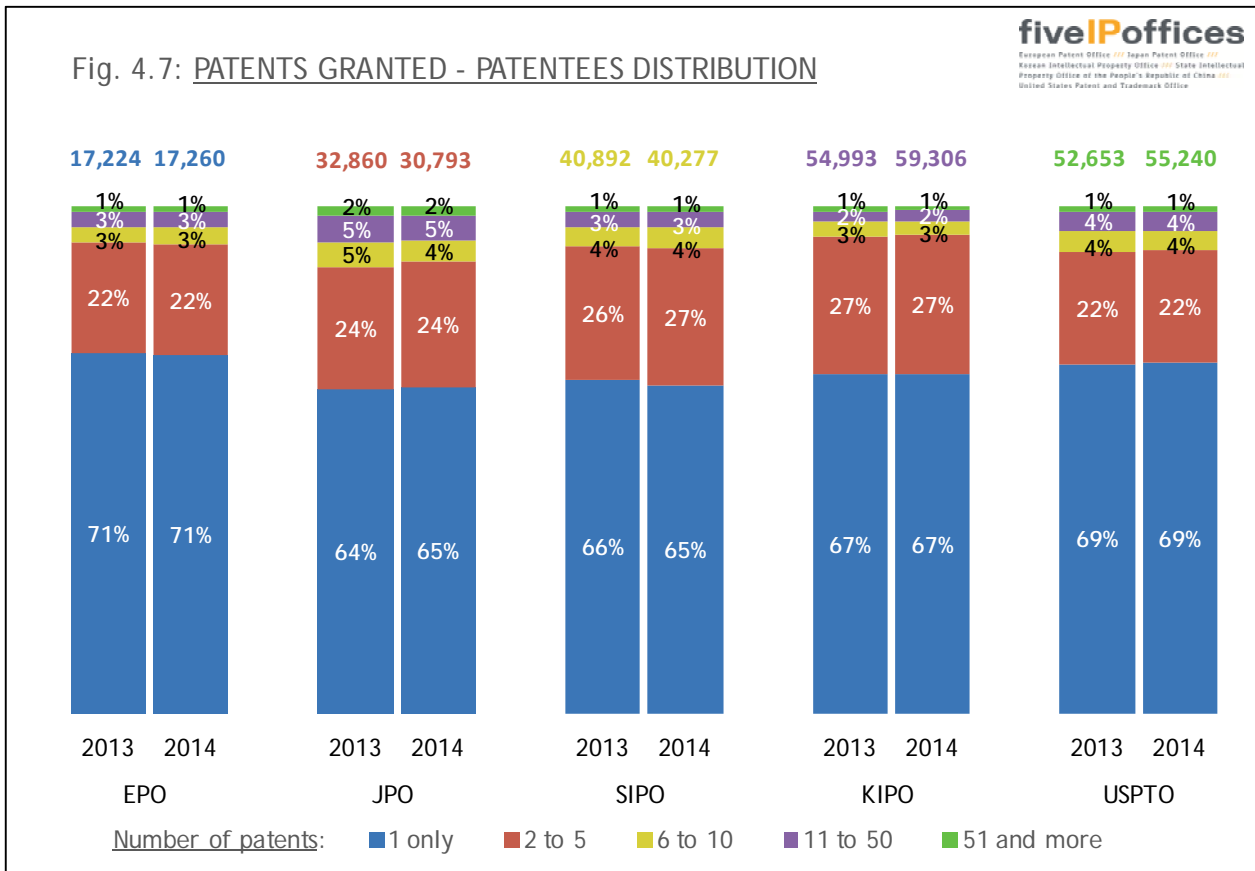
In 2014, the number of patents granted at the SIPO, the USPTO and the KIPO increased by 12 percent, 8 percent and 2 percent respectively, while the number of patents granted at the JPO and the EPO decreased by 18 and 3 percent respectively. The differences between the IP5 Offices regarding the absolute numbers of patents granted can only be partly explained by differences in the number of corresponding applications. These numbers are also affected by differing grant rates and durations to process applications by the IP5 Offices (see the section below "Statistics on Procedures").

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



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 2013 and in 2014.



This diagram shows that the distribution of grants to patentees is similar at each office in that it is highly skewed at all of them. The proportions are generally consistent between 2013 and 2014 for each office.

Most of the patentees received only one grant in a year. In 2014, the proportion was between 65 percent (JPO and SIPO) and 71 percent (EPO). The proportion of patentees that received less than 6 patents was between 89 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 2014, the average number of patents received was 4 at the EPO, 7 at the JPO, 4 at the SIPO, 3 at the KIPO and 5 at the USPTO. The greatest number of patents granted to a single applicant was 757 at the EPO, 4,592 at the JPO, 2,409 at the SIPO, 4,009 at the KIPO and 7,481 at the USPTO.

MAINTENANCE

A patent is enforceable for a fixed term, and depends on actions taken by the 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.

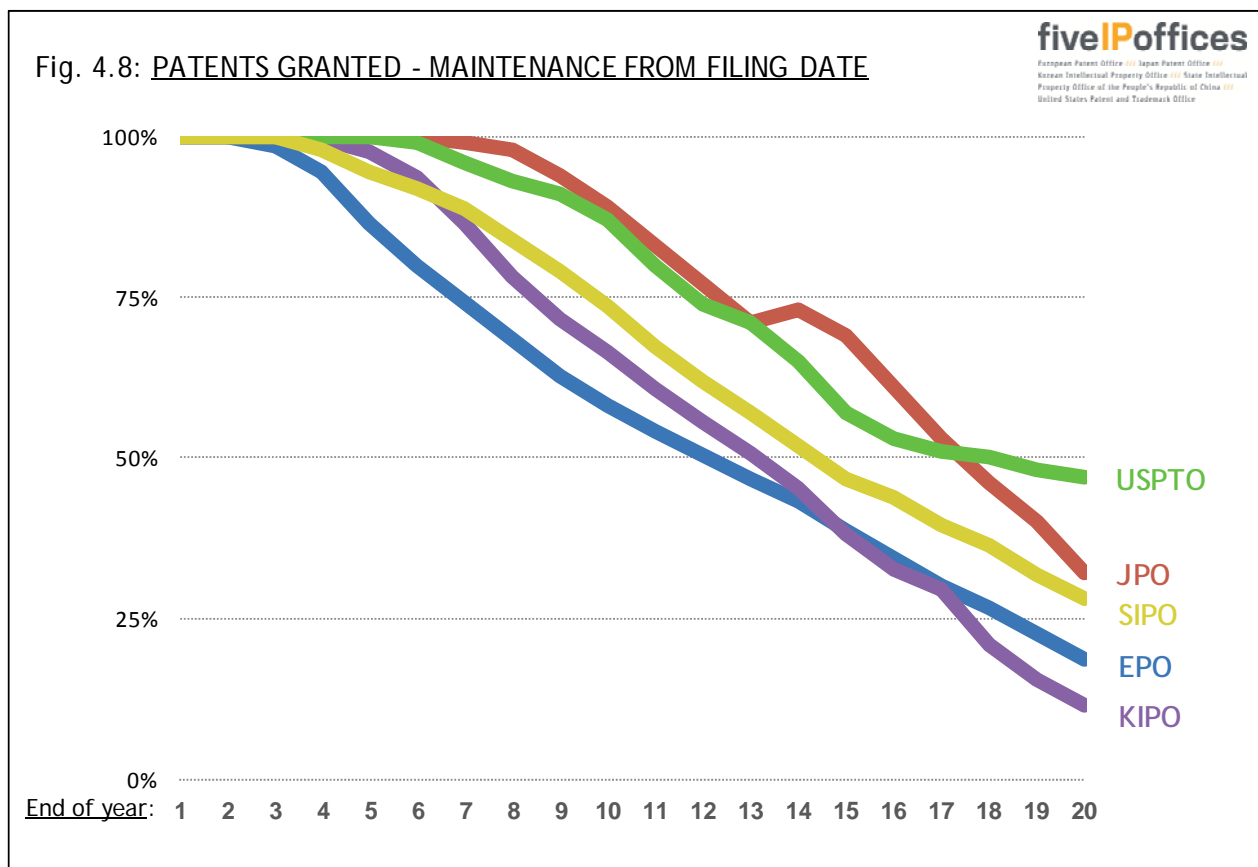
For a Japanese or Korean patent, the annual fees for the first three years after patent registration are paid as a lump-sum and for subsequent years there are annual fees. The applicant can pay either yearly or in advance.

At the SIPO, the annual fee for 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. The EPO proportion represents a weighted average ratio of the maintenance of the validated European patents in the 38 EPC states³³.



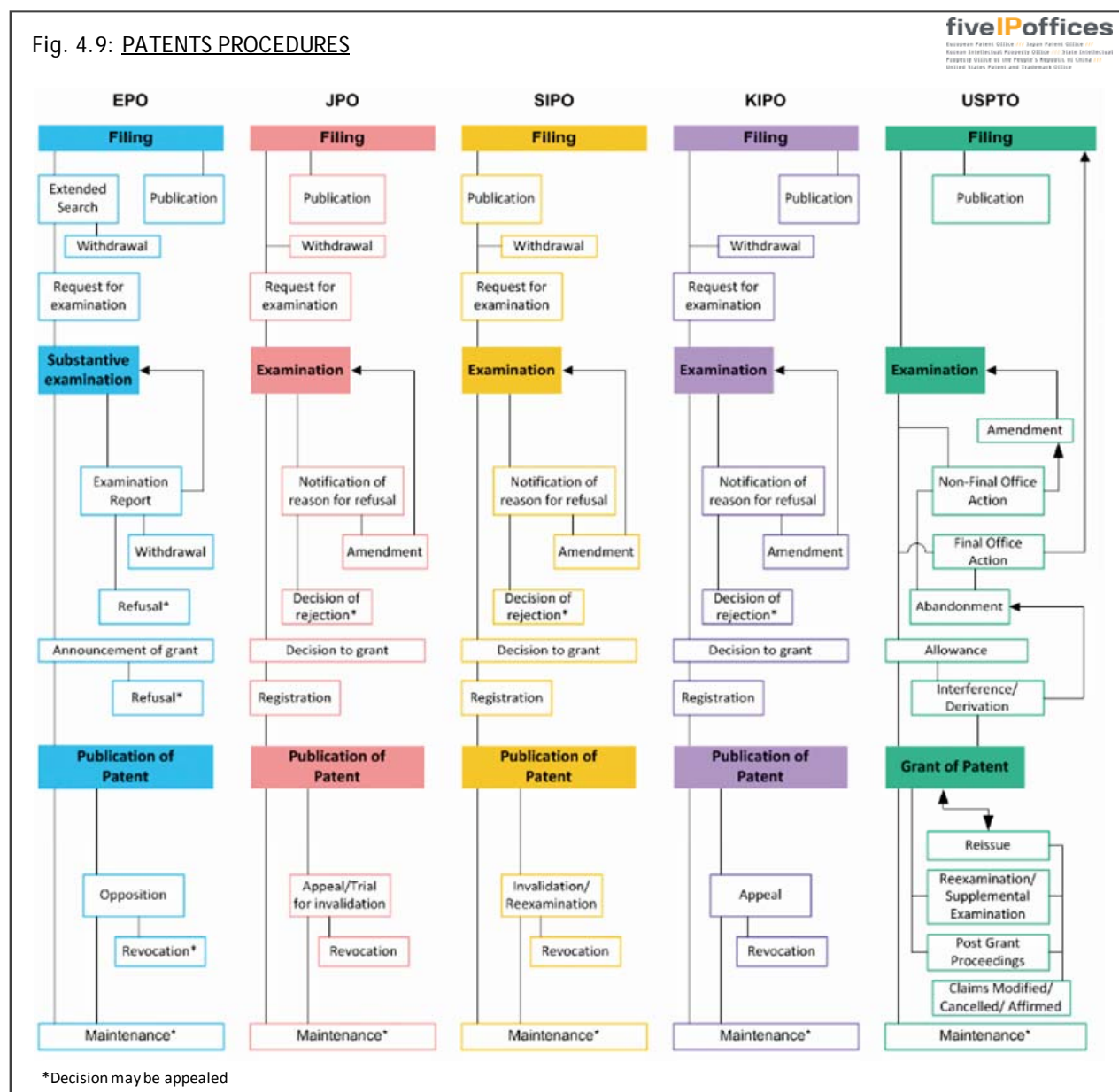
Over 50 percent of the patents granted by the JPO and the USPTO are maintained for at least 17 years from filing, compared to 14 years at the SIPO, 13 years at the KIPO, 12 years at the EPO. In addition to patentees' behaviour, these differences can be partially explained by differences in the procedures, such as a multinational maintenance system (EPO), deferred examination (JPO, KIPO, SIPO) and a stepped maintenance payment schedule (USPTO).

The 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).

³³ Once granted by the EPO, European patents require to be validated to come into force in the various member states designated.

PATENT PROCEDURES

Fig. 4.9 illustrates 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).



See Annex 2 for some further details about the procedures.

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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 page³⁴.

³⁴ 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 2013 and 2014. 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 give 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 USPTO increased from 2013 to 2014. At the EPO, the JPO, and the KIPO, the grant rates decreased by 1.4 percent, 0.5 percent and 0.2 percent in 2014 compared to 2013. 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 2.49 million applications were pending in the EPO, the JPO, the KIPO, and the USPTO at the end of 2014, an increase of 0.4 percent compared to the number of applications pending at the end of 2013 (2.48 million). The pendency first action at JPO and KIPO decreased from 14.1 months to 9.4 months and from 13.2 months to 11 months respectively while the pendency final action at JPO and KIPO decreased from 23.4 months to 15.2 months and from 19.1 months to 16.7 months respectively. 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	SIPO	KIPO	USPTO
Rates in percentage						
Examination ³⁵	2013	92.8	67.8	569,081	80.6	100
	2014	93.3	67.9	682,158	80.8	100
Grant ³⁶	2013	49.0	69.8	207,688	68.8	70.7
	2014	47.6	69.3	233,228	68.6	70.9
Opposition	2013	4.5	-	-	-	n.a.
	2014	4.7	-	-	-	n.a.
Appeal on examination ³⁷	2013	24.3	25,158	-	13.0	3.8
	2014	22.1	26,174	-	11.4	3.7
Pendency in the procedure						
Awaiting request for examination	2013	143,968	731,521	n.a.	251,315	-
	2014	139,038	701,836	n.a.	286,270	-
Pending examination ³⁸	2013	377,994	196,732	n.a.	184,295	595,361
	2014	396,049	186,830	n.a.	171,178	610,227
Pendency first action ³⁹ (months)	2013	9.2	14.1	10.9	13.2	17.4
	2014	9.1	9.4	12.5	11.0	18.1
Pendency final action ⁴⁰ (months)	2013	23.0	23.4	22.2	19.1	28.6
	2014	22.8	15.2	21.8	16.7	27.0
Pendency invalidation (months)	2013	-	-	6.6	-	-
	2014	-	-	6.4	-	-

- = 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.

³⁵ For the SIPO, only the numbers are available of patent applications entering into the substantial examination phase in the respective year.

³⁶ For the SIPO, only the numbers are available of grants in the respective year.

³⁷ For the JPO, only the numbers are available of appeal procedures in the respective year.

³⁸ 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.

³⁹ For the EPO, the first office action is the extended European search report that includes a written opinion on patentability.

⁴⁰ 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), the date on which the application enters the substantive examination phase (SIPO), and the filing date (USPTO). See Annex 2.

IP5 Statistics Report 2014
Chapter 4 - Patent activity at 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.

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 Database⁴¹ and the IP5 Offices.

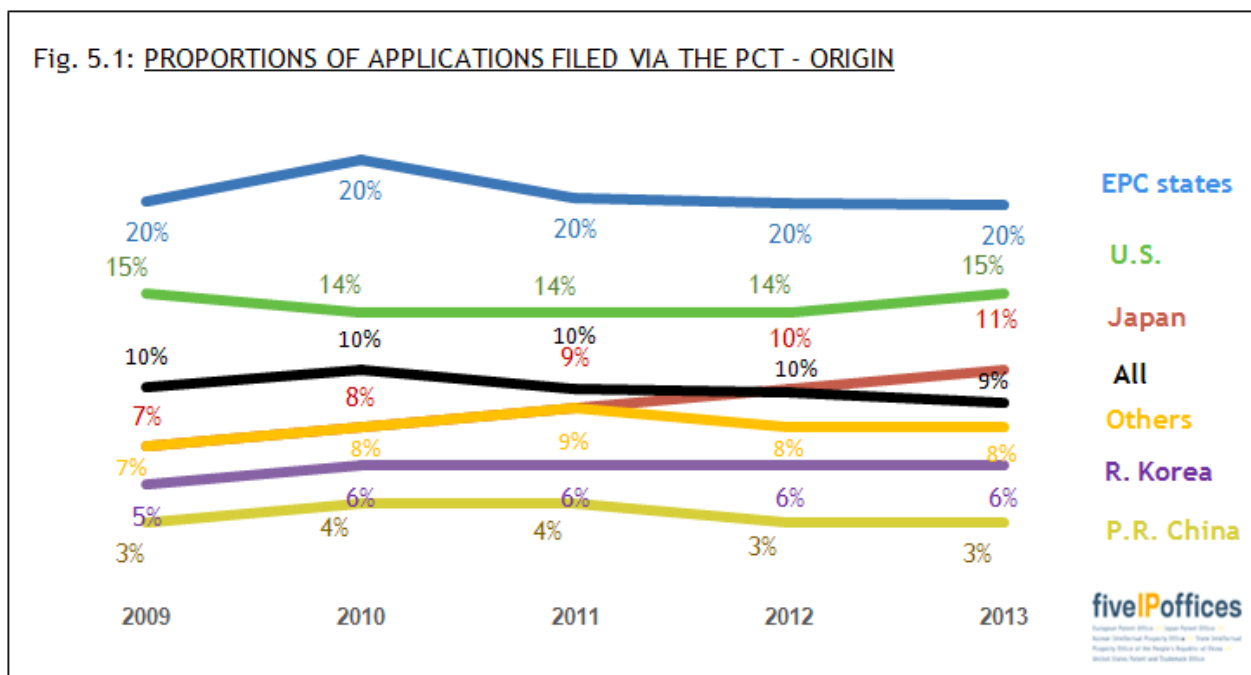
Selected statistics for patent families are included in this chapter (see also Chapter 3). A patent family is a group of patent filings that claim the priority of a single filing.

⁴¹See footnote 7, p.3.

PCT AS FILING ROUTE

PATENT FILINGS

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



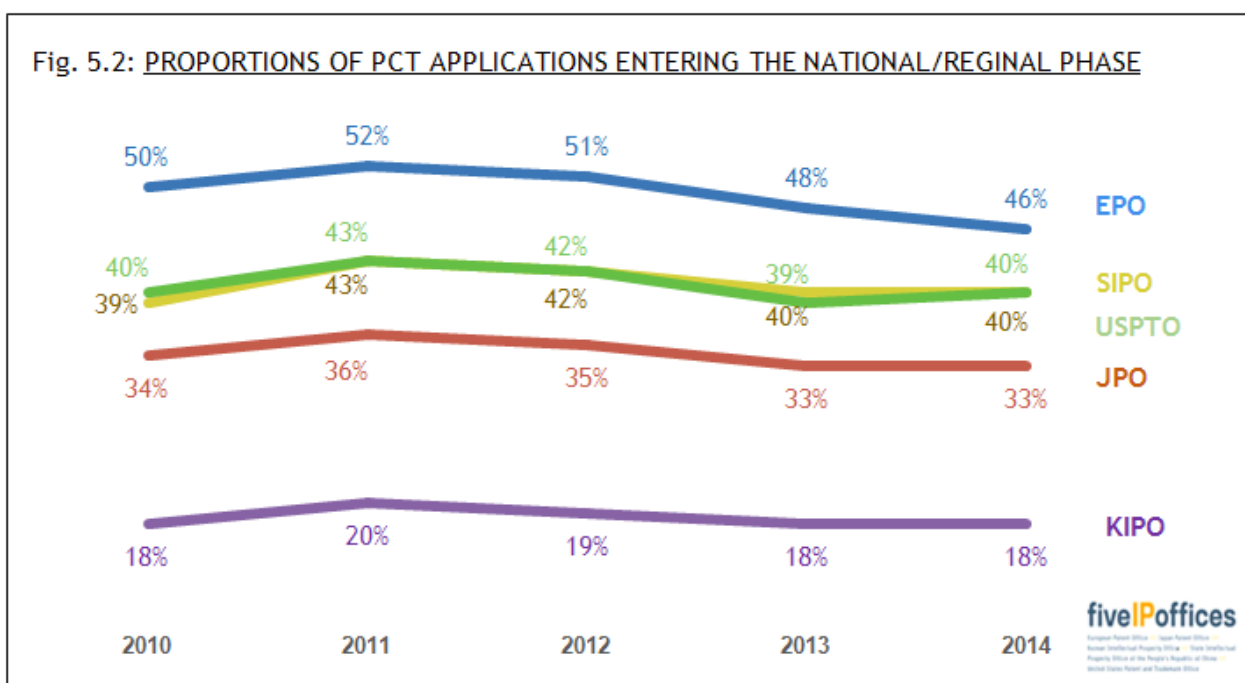
On average, 10 percent of the applications were filed via the PCT route between 2009 and 2012.

In 2013, the proportion of applications filed via the PCT remained stable for applications originating from the EPC states, R. Korea and P.R. China. For Japan and the U.S., the proportion increased 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 expired⁴².



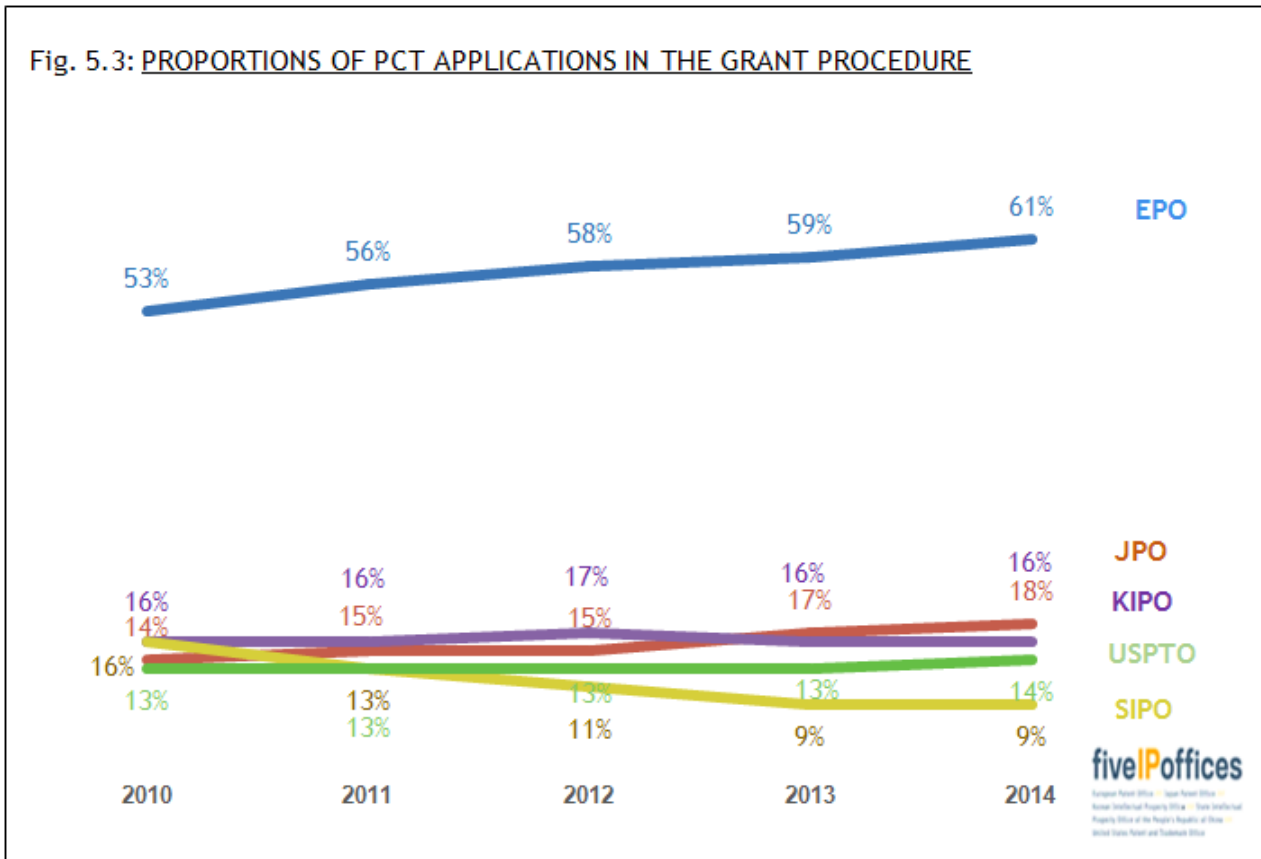
A higher proportion of PCT applications enter the regional phase at the EPO than enter the national phase at the other IP5 Offices. This is due to the multinational dimension of the EPO, which provides an opportunity to proceed further with a unique procedure for several countries. The proportion remained lower at the KIPO.

The proportions observed at all offices increased between 2010 and 2011, but then tended to decline. From 2013 to 2014 the proportion declined only at the EPO.

⁴²It should be noted that counts from EPC contracting state national offices are not reported in Figs. 5.2, 5.3, and 5.4.

SHARE OF PCT APPLICATIONS

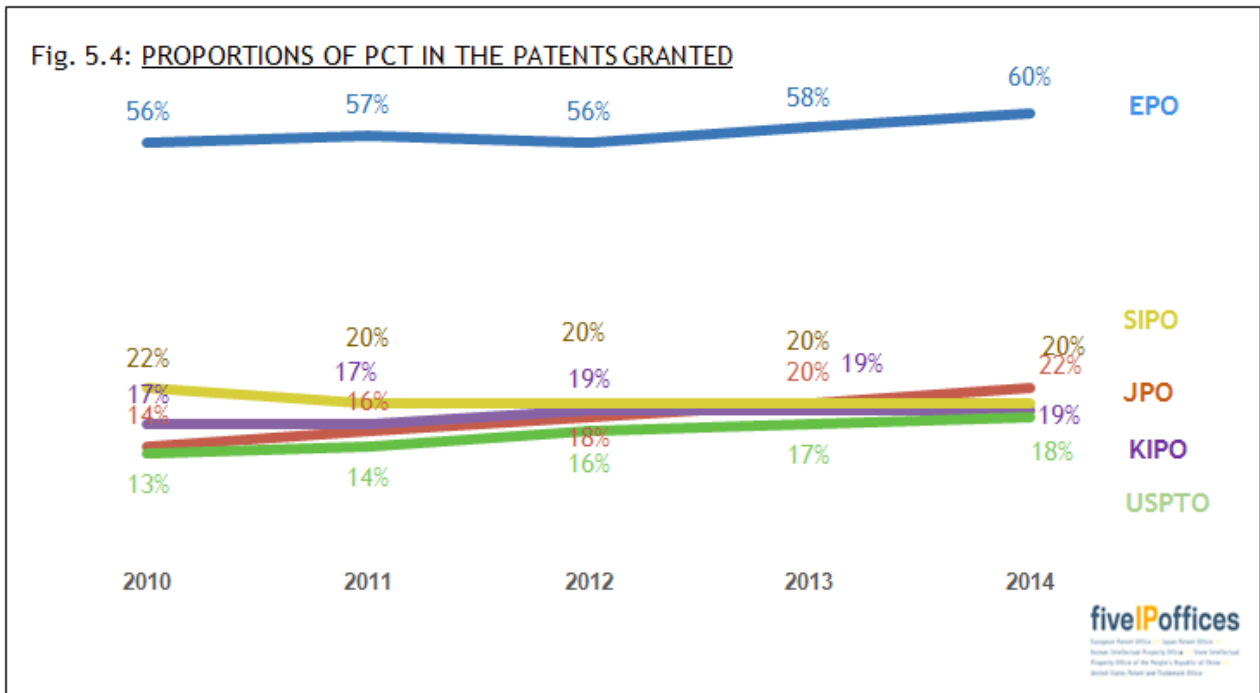
Fig. 5.3 shows the share of PCT among all applications that entered the grant procedure at each office (as presented earlier in Fig. 4.1).



The proportion of PCT national/regional applications further increased at the EPO in 2014. Since 2010, 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 proportions 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.

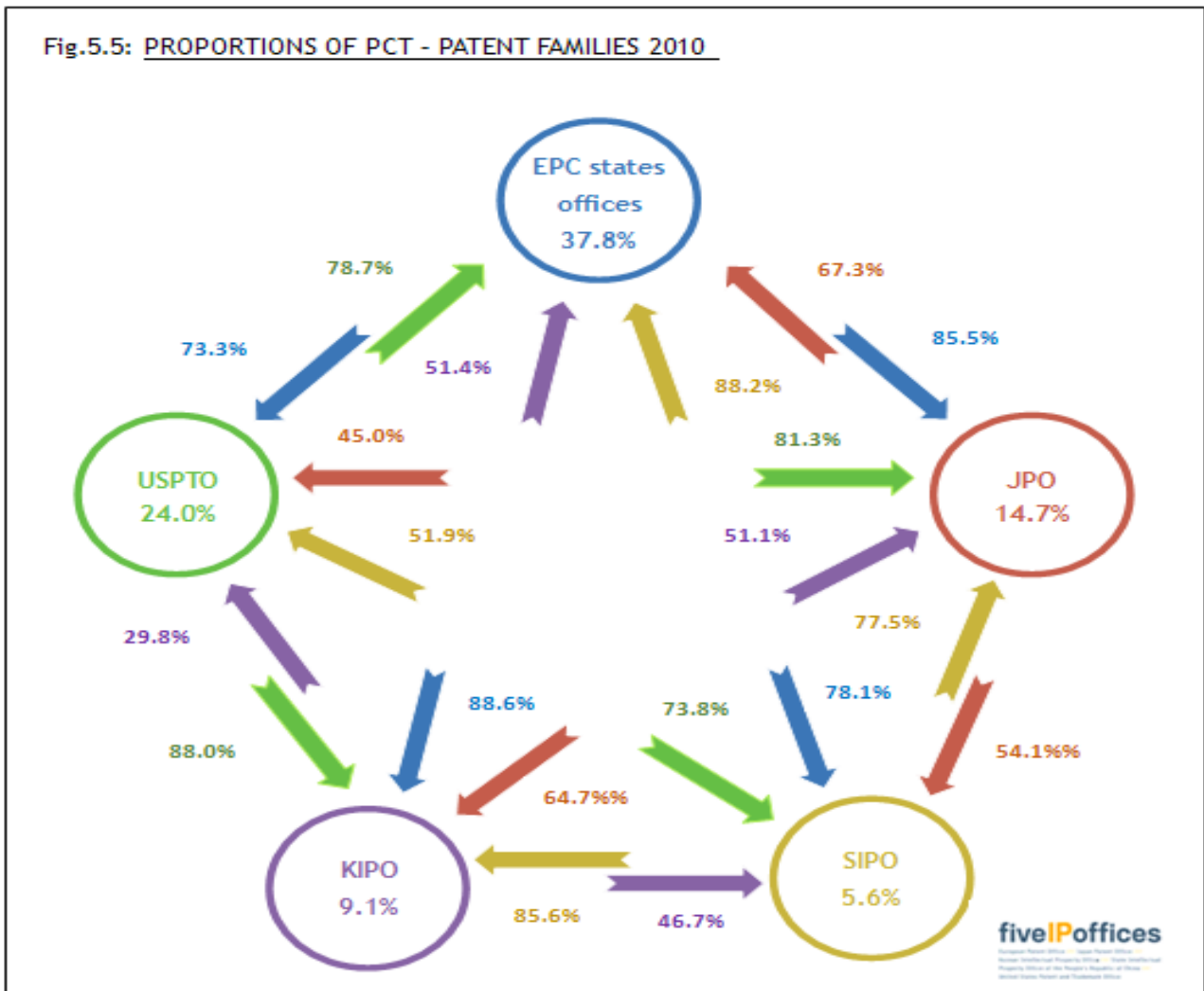
Over the period, there was a convergence of the proportions for the JPO, KIPO, SIPO, and USPTO towards about 20 percent. The proportion of PCT granted patents at the EPO further increased.

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 2010. 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 2010, and can be compared with Fig. 3.13.

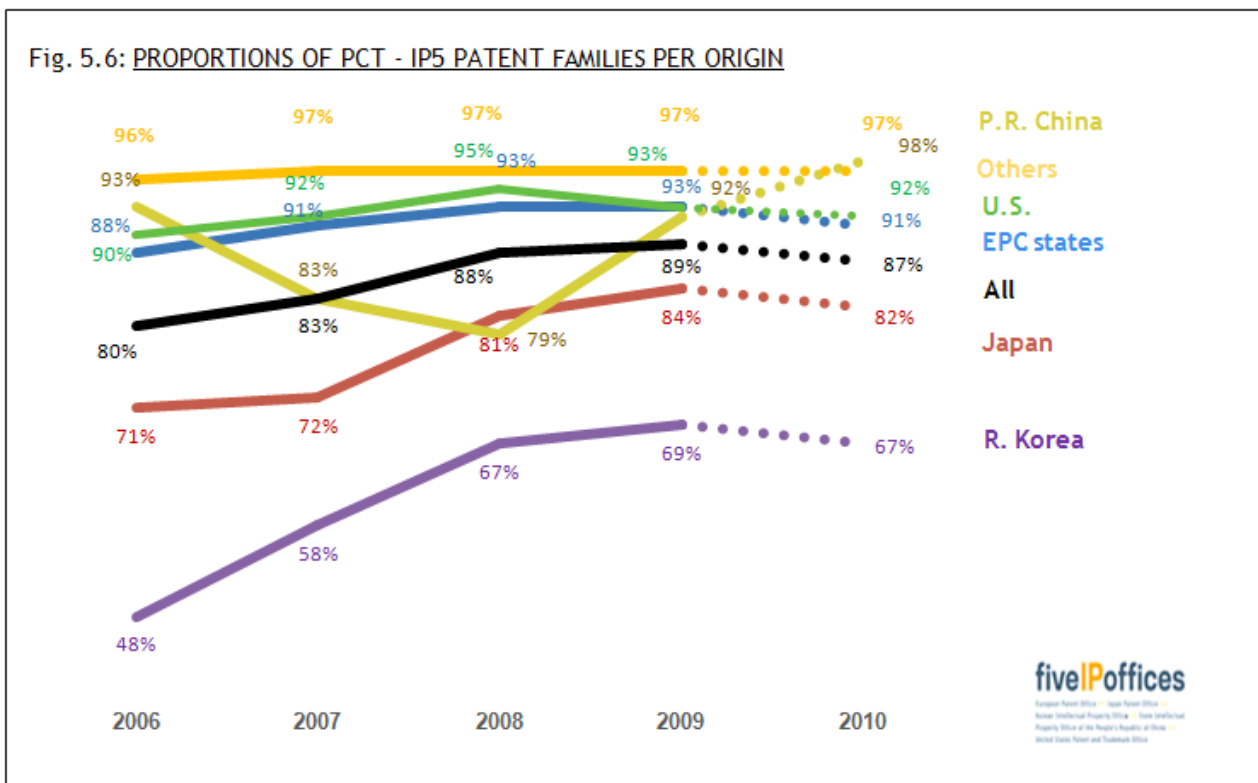


Chapter 5 - The IP5 Offices and the Patent Cooperation Treaty (PCT)

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.

Comparing over several years, after a long period of increase there was a dip in the overall proportion of PCT usage among first filings for the combined IP5 area, from 17.4% in 2007 to 16.1% in 2008, followed by a resumption of the increase to 16.9% in 2009 and 17.3% in 2010. This was probably due to the recession in 2009, with the dip coming for first filings in 2008 because the decision to use the PCT system usually comes one year later. This contrasts to the dip in the overall number of worldwide first filings that took place in 2009, as was discussed earlier in Chapter 3⁴³.

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



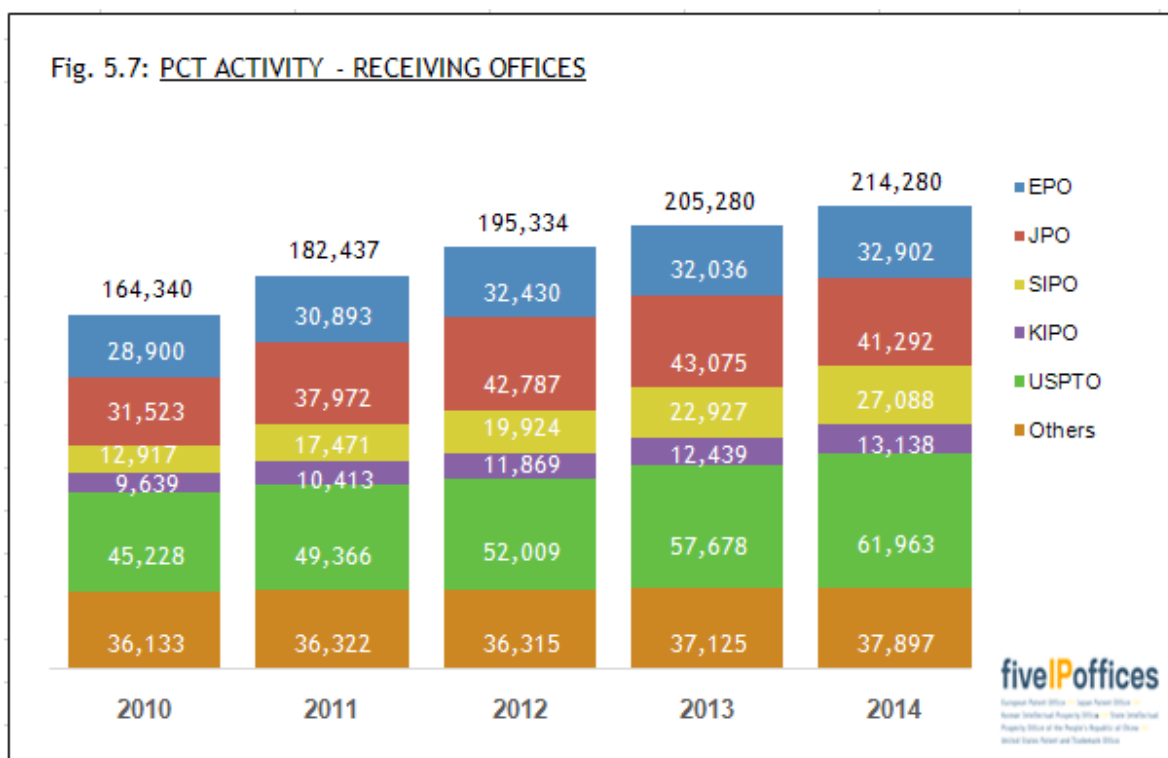
Since IP5 patent families represent highly internationalized applications, the average rate of PCT usage is high compared to the overall usage of PCT among applications in general, as was shown in Fig. 5.1. The percentage of usage of the PCT system has generally decreased in the IP5 patent families in 2010, except for the P.R. China which increased by 6 percent.

⁴³ See the patent families section of the statistical tables at the website.

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 2010 to 2014.

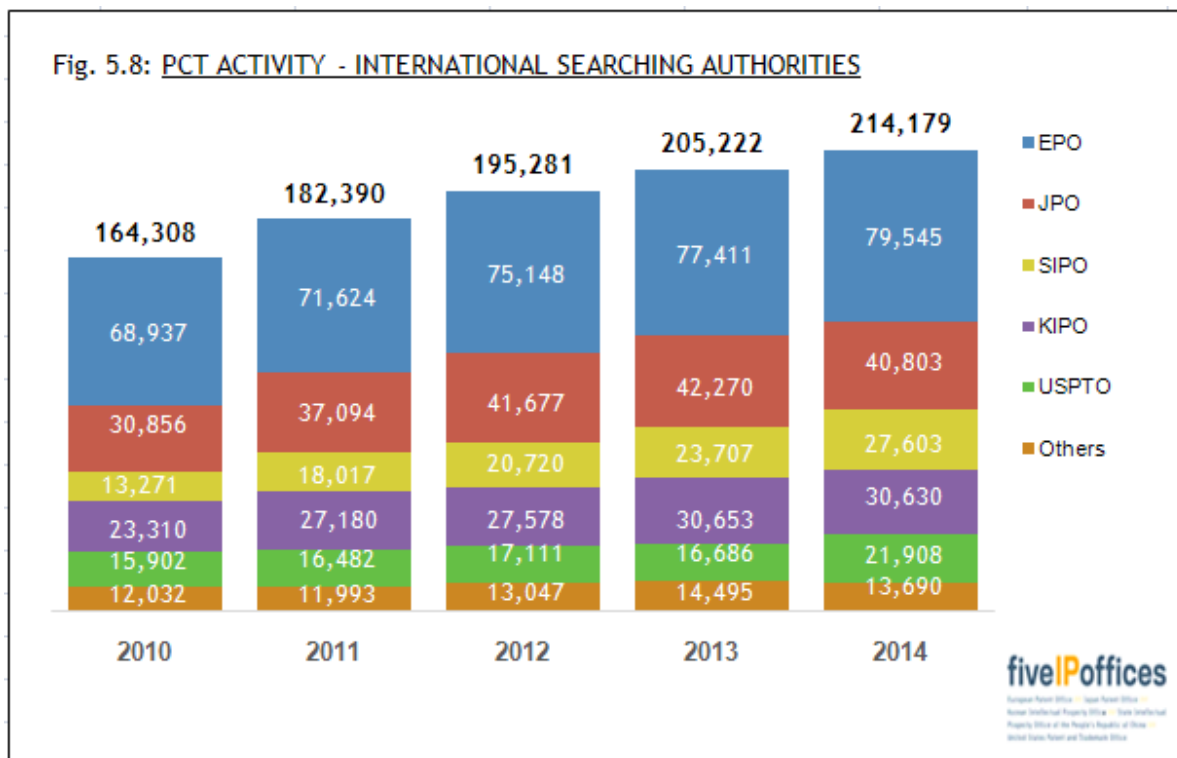
Fig. 5.7 shows the breakdown of PCT international filings by ROs over time.



The totals for PCT international filings are also shown in Fig. 3.1. The total number of PCT international filings has recovered from 2010 and steadily increased by 2014. The compound annual growth rate from 2010 to 2014 was 6.8 percent.

In 2014, the IP5 Offices had an overall increase of PCT international filings of 4 percent. The SIPO (18 percent), the USPTO (7 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 2014 (78 percent in 2010).

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

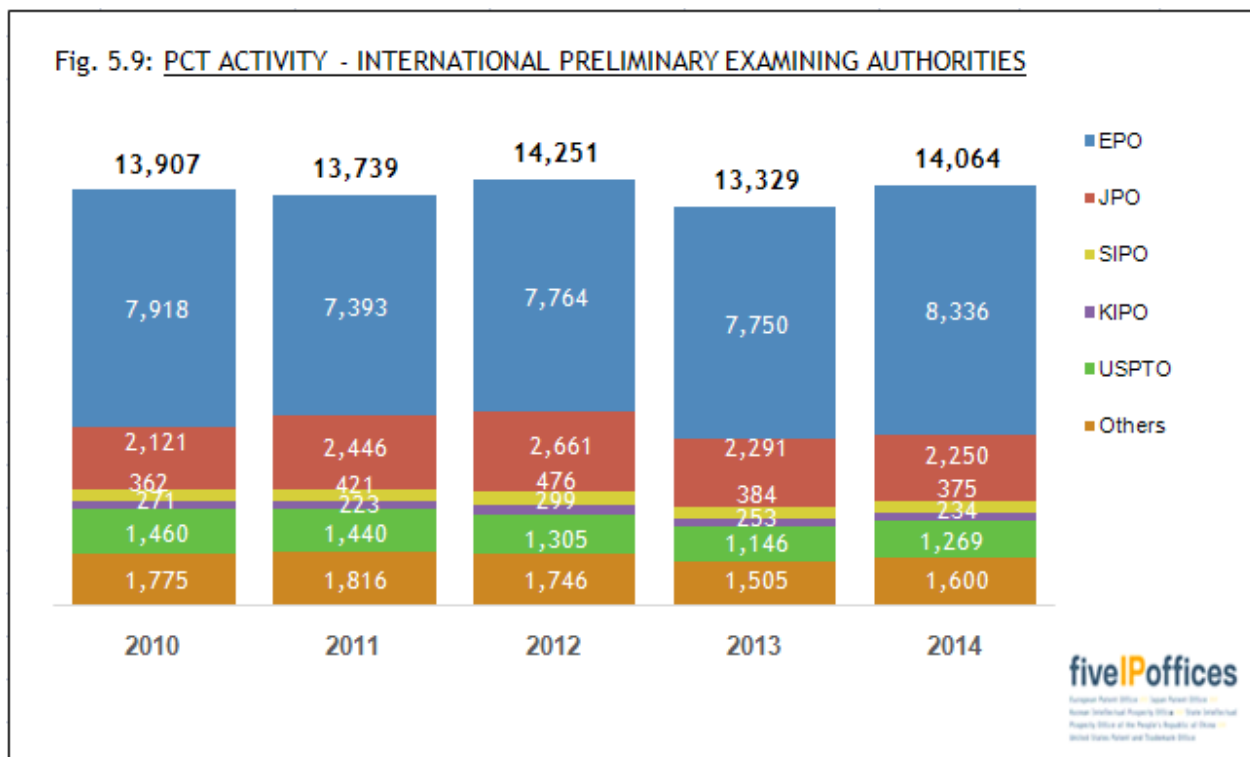


The IP5 Offices together received 94 percent of the PCT international search requests in 2014. The EPO received consistently the largest number of requests (37 percent of all requests in 2014).

In 2014, strong growth was experienced by the SIPO (16 percent) and the USPTO (31 percent). The EPO experienced lesser growth while the JPO experienced a slight decline in the number of requests.

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 increased from 2010 and increased by 11 percent in 2014.

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



The number of requests for international preliminary examinations nowadays remains relatively stable, except that there was a reduction by 9% for USPTO between 2011 and 2012, increased slightly in 2012.

Together, the IP5 Offices were in charge of 89 percent of the IPEA work in 2014 (88 percent in 2012). Annually, from 2010 to 2014, the EPO performed well over half of all 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, SIPO, and KIPO), designs (JPO, SIPO, KIPO, 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 SIPO and the KIPO.

The numbers of requests received for these types of other work are shown for 2013 and 2014 in Table 6.

Table 6: STATISTICS ON OTHER WORK

Activity	Year	EPO	JPO	SIPO	KIPO	USPTO
Searches for national offices	2013	25,624	-	-	-	-
	2014	26,755	-	-	-	-
Design applications	2013	-	31,125	659,563	66,940	36,034
	2014	-	29,738	564,555	64,345	35,378
Utility model applications	2013	-	7,622	892,362	10,968	-
	2014	-	7,095	868,511	9,184	-
Plant patent applications	2013	-	-	-	-	1,406
	2014	-	-	-	-	1,063
Reissue applications	2013	-	-	-	-	1,065
	2014	-	-	-	-	1,265
Trademark applications	2013	-	117,674	-	147,667	439,645
	2014	-	124,442	-	150,226	463,316

At all offices proposing such rights, the number of applications for Design and Utility Model declined in 2014, while Trademark applications increased. The other notable changes from 2013 to 2014 were a 24 percent decrease for Plant patent applications and a 19 percent increase for Reissue patent applications at the USPTO.

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 types 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, technical cooperation and the European patent academy.

Direct costs immediately related to one product are entirely allocated to this product. The indirect costs are distributed to the products according to staff and usage keys, with information technology costs being distributed according to their catalogue of services.

A-E. Business support and other indirect

- Salaries and allowances of the concerned permanent staff as well as temporary staff, including the yearly variation of liabilities for pensions, long-term care, death, sickness ("current service costs"), and partial tax compensation
- Training, recruitment, transfer and leaving costs, medical care, welfare of these staff
- Their share of depreciation for buildings, IT equipment and other tangible and intangible assets, including the depreciation component of financial leases
- Their share of 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
- Their share of operating costs related to the maintenance of buildings, technical installations, equipment, furniture and vehicles, such as rent, cleaning and repairs, electricity, gas, water
- The relevant business support shared costs that mostly include management, human resources, finance, legal advice and communication functions

F. Patent information

This covers the publication of patent documentation, raw data products, public information, customer services, website, conference, exhibitions and fairs. The product lines bear the full cost of operating such activities.

G. Technical cooperation

Cooperation with contracting states including support to national patent offices, assistance to third countries, Trilateral and IP5 activities, EPOQUE Net. The product lines bear the full cost of operating such activities.

H. European patent academy

The product lines bear the full cost of operating such activities including professional representatives and European qualifying examination support, conference costs.

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 INPIT⁴⁴

H. Others

All other expenses not covered by the above.

⁴⁴ This term is explained in the glossary that is available with the web-based version of the report, www.fiveipoffices.org/statistics/statisticsreports.html.

SIPO EXPENDITURES (Fig. 2.4)

A. Administrative Affairs

B. Patent Examination

C. Social Security

Pension in administrative agencies.

D. Others

All other expenses not covered by the above.

KIPO EXPENDITURES (Fig. 2.5)

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.

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 (heading for equipment and printing are 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 report⁴⁵. 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).

⁴⁵ A more extensive glossary of terms is available with the web-based version of the report.

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

DEMANDS FOR PATENT RIGHTS

Demands for patent rights refers to applications for patents for invention. 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 filed⁴⁶. 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 priority⁴⁷ 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 filings⁴⁸ 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*.

⁴⁶ 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.

⁴⁷ See the Article 4A to 4D of the Paris Convention at the WIPO web site; <http://www.wipo.int/treaties/en/ip/paris/>.

⁴⁸ The data source used for patent families allows a precise count of first filings. Except in the sections on patent families, an approximation of the number of first filings in the EPC Bloc is made by adding first filings at the EPO to aggregated domestic national applications in the EPC contracting states.

FOREIGN APPLICATIONS

These are defined as all demands for patents made by residents of a location outside of the country or region where the application is filed⁴⁹. See the term definition for Domestic Applications for additional details.

GRANTS, COUNTING OF

Grant counts in Chapter 3 are based on the WIPO Statistics Database⁵⁰. They are counted in the year that the grants are issued or published. As with the demand for patent rights, the demand for rights granted in each bloc are considered after cumulating the number of designated countries for which national patent rights have been granted via regional procedures. 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 patent family counts are made using the reference DOCDB database at EPO, which is fed with data from patent publications from patent offices worldwide. But, only for the patent family measures of first filings in Chapter 3, the numbers of domestic national filings are taken which means that the numbers of first filings in Table 3 conform with those in Fig. 3.4. This has been implemented since the previous edition of this report. The proportions of the overall numbers of first filings that generated families using the PCT in Fig. 5.5 make use only of patent families data, as in previous reports. For the purposes of this report⁵¹, 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

⁴⁹ For the USPTO, this is by the residence of the first-named inventor; For the EPO, the JPO, the SIPO, and the KIPO, this is by the residence of the first-named applicant.

⁵⁰ www.wipo.int/ipstats/en/statistics/pct/index.html.

⁵¹ 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.

regional) phase, although in some parts of this report they are counted in the year of filing in the earlier international phase⁵².

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 priority⁵³ 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.

⁵² 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.

⁵³ See the Article 4A to 4D of the Paris Convention at the WIPO web site, www.wipo.int/treaties/en/ip/paris/.

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, the process involves 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 SIPO, the KIPO, 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 SIPO, and the KIPO, 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 (SIPO); Decision to grant (KIPO); 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 (SIPO); Notification of reason for refusal (KIPO); 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 (SIPO); Decision of rejection (KIPO); Final rejection (USPTO) - or withdrawn by the applicant - Withdrawal (EPO); Withdrawal or Abandonment (JPO); Withdrawal or Abandonment (SIPO); Withdrawal or Abandonment (KIPO); Abandonment (USPTO). In addition, if no request for examination for an application is filed to the EPO, the JPO, the SIPO, or the KIPO 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, SIPO, KIPO, 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 SIPO, and the KIPO.

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 JPO, only within six months from the date of publication of the Gazette containing the patent, any person may file an opposition to the grant of the patent. The examination of the opposition shall be conducted by documentary examination.

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.

TRIAL AND 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 JPO deals with ex parte appeals (e.g. appeals against examiner's decision of refusal) and inter partes trials (e.g. trials for invalidation). If applicants have an objection to examiner's decision of refusal, they can file an appeal against the examiner's decision of refusal with the JPO. In case the applicants have made an amendment at the time of requesting the appeal against the examiner's decision of refusal, the examination department that has issued the said decision will examine the case again. During this examination, only those which are not eligible for patent grant are transferred to the board of trial and appeal where the proceedings of appeals shall be executed. In addition, any interested party can demand a trial for invalidation upon registration of the establishment of rights. At the trial for invalidation, oral proceedings shall be executed in principle.

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

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.

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

GRANT RATE

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

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

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 to refuses in the examination procedure against which an appeal was lodged in the reporting year, divided by the number of all decisions to refuses 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, SIPO and the KIPO, 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 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 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 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 decision by the examining division (decisions to grant or refuse) 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 decision by the examining division.

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
CEPCT	China Electronic PCT [SIPO]
CPC	Cooperative Patent Classification
DOCDB	DOCument DataBase [EPO]
EAPO	Eurasian Patent Organization
ECFS	Early Certainty from Search [EPO]
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]
E-System	Chinese Electronic Examination System [SIPO]
EU	European Union
FA	First Action
FAOM	First Office Action on the Merits [USPTO]
FI	File Index
F-term	File Forming Term
FOSR	Four Office Statistics Report
FY	Fiscal Year
GCCPO	Gulf Cooperation Council Patent Office
GDP	Gross Domestic Product
GIPA	Global IP Academy [USPTO]
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, SIPO, KIPO, USPTO)
IP5 PPH	IP5 Patent Prosecution Highway
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
K-brands	Korean Brands
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	Request 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
S-System	Chinese Patent Search and Service System [SIPO]
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
WO-ISA	PCT written opinion on patentability in the international phase

European Patent Office (EPO)

Bob-van-Bentham-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

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

Korean Intellectual Property Office (KIPO)

Government Complex Daejeon Building 4

189, Cheongsa-ro, Seo-gu, Daejeon, 35208

Republic of Korea

www.kipo.go.kr

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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