IP5 STATISTICS REPORT

2024 Edition

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European Patent Office,
Japan Patent Office,
Ministry Of Intellectual Property,
China National Intellectual Property Administration,
United States Patent and Trademark Office

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IP5 Statistics Report
2024 Edition

Direct access to main chapters of the report:

Executive Summary

The IP5 Statistics Report (IP5 SR) is an annual compilation of patent statistics for the five largest intellectual property (IP) offices – the IP5 Offices – namely the European Patent Office (EPO), the Japan Patent Office (JPO), the Ministry Of Intellectual Property (MOIP), the China National Intellectual Property Administration (CNIPA) and the United States Patent and Trademark Office (USPTO).

Worldwide patenting activity until 2023[1]:

- At the end of 2023, 18.5 million patents were in force in the world (+7.4 percent). 91 percent of these patents were in force in one of the IP5 Offices' jurisdictions.

- In 2023, 3.6 million patent applications were filed worldwide, either as direct national, direct regional or international phase Patent Cooperation Treaty (PCT) applications, of which 93 percent originated from the IP5 regions (IP5 Blocs).

- In 2023, 78 percent of the worldwide patent applications were filed as direct national applications. The proportion of applications filed via the PCT remained stable.

IP5 Offices patenting activities in 2024:

- In 2024, 3.2 million patent applications were filed at the IP5 Offices (+5.5 percent).

- Together the IP5 Offices granted more than 1.8 million patents in 2024 (+7.0 percent).

- In 2024, the main developments at the IP5 Offices were:

    - Annual IP5 high-level events: On June 21, 2024, the MOIP hosted the meeting of the IP5 Heads of Office in Seoul, Korea. The IP5 Heads reaffirm their commitment to building an inclusive IP system in support of the United Nations Sustainable Development Goals (SDGs). During the meeting, the Heads of Office shared key initiatives and policies on supporting the growth of small and medium-sized enterprises (SMEs) with innovative technologies by leveraging IP; agreed to develop 'Guidelines for Building a Sustainable Future' in recognition of the need for concrete medium to long-term approaches to realizing the new IP5 Vision Statement; endorsed the result of the 'IP5 Project Review' as part of efforts to define projects that align with the new IP5 Vision and focus resources to produce concrete results for stakeholders; discussed technical cooperation measures, such as global assignment, harmonization of allowable features in drawing, e-signatures, new and emerging technologies and artificial intelligence (NET/AI), and improvements of Global Dossier to establish an efficient, cost-effective and user-friendly international patent landscape; and approved the final outcomes of AI-related projects, such as Examination practices on AI-related inventions and Inventorship of AI-generated inventions, the details of which will be made publicly available through the IP5 website.

[1] The most recent worldwide data available (see Chapter 3).

- At the IP5 Offices in 2024, the applications increased by 9 percent at the CNIPA, by 2 percent at the JPO, by 1 percent at the MOIP and the USPTO, and remained stable at the EPO. The data showed annual growth of 6 percent for overall applications at the IP5 Offices (See Chapters 2 and 4 of this report).

- EPO: Demand for patents remained stable in 2024 around 199,300 patent applications. The timeliness was maintained at high level, 85 percent of the searches were delivered on time and 76 percent of the decision to grant were issued within 36 months. The digitalisation of the examination process was completed with end-to-end digital workflows moving closer to a fully paperless patent grant process. Over 90 percent of the incoming applications are now routed to technical areas via an AI-based pre-classification system. A revised fee policy aiming at facilitating access to patent protection to micro-entities was introduced in April 2024.

- JPO: The JPO is implementing a range of initiatives to ensure reliable services, including the “world’s fastest and highest quality” examinations in order to promote innovation, as well as help to boost business management capacity. The JPO received 306,855 patent applications in 2024, at which time the total and first action pendency were 12.9 and 9.1 months on average, respectively; while the first action pendency from the request for accelerated examination was 2.3 months on average.

- MOIP: The annual average first office action pendency period was 16.1 months for patents and utility models. The MOIP received a preliminary total of 560,629 applications filing for patents, utility models, industrial designs, and trademarks in 2024. The number of PCT applications filed from Korea increased by 6.7 percent from 22,166 in 2023 to 23,641 in 2024. The Korean language is also the 4th most commonly used language as an official PCT publication language.

- CNIPA: In 2024, CNIPA continued to strengthen IP protection. Public satisfaction with IP protection rose to 82.36 points, setting a new record. The quality and efficiency of IP examination were further enhanced, reducing the average examination period for invention patents to 15.5 months. The CNIPA received 74,691 international patent applications filed under the PCT, marking a historic high. The third Belt and Road High-Level Conference on Intellectual Property was successfully convened at a high standard, resulting in a series of new cooperative initiatives.

- USPTO: In 2024, the USPTO issued guidance for inventions assisted by AI. Also in 2024, the USPTO kicked off the Create and Innovate tour to empower inventors and small business owners by fostering innovation, entrepreneurship, and opportunities for inventors. The USPTO also announced the “Pre-Prosecution Pilot” to support new and prospective inventors by providing assistance in assessing strengths and weaknesses of potential patent applications in 2024.

Key Numbers

Patent Activities by Offices

Patent Applications	2023	2024	%Change
EPO	199,452	199,264	- 0.1%
JPO	300,133	306,855	+ 2.2%
MOIP	243,310	246,245	+ 1.2%
CNIPA	1,677,701	1,828,054	+ 9.0%
USPTO	598,090	603,187	+ 0.9%
Total	**3,018,509**	**3,183,605**	**+ 5.5%**

Patent Grants	2023	2024	%Change
EPO	104,609	109,524	+ 4.7%
JPO	209,368	200,284	- 4.3%
MOIP	134,734	127,806	- 5.1%
CNIPA	920,797	1,044,777	+ 13.5%
USPTO	315,245	319,815	+ 1.4%
Total	**1,684,753**	**1,802,206**	**+ 7.0%**

Patents in Force	2022	2023	%Change
EPC states	4,831,321	5,125,504	+ 6.1%
Japan	2,029,223	2,063,676	+ 1.7%
R. Korea	1,214,146	1,271,759	+ 4.7%
P.R. China	4,212,188	4,990,633	+ 18.5%
U.S.	3,343,159	3,455,220	+ 3.4%

Pendency first action (months)	2023	2024
EPO	5.0	5.5
JPO	9.5	9.1
MOIP	16.1	16.1
CNIPA	13.2	13.4
USPTO	20.3	20.3

Pendency final action (months)	2023	2024
EPO	24.9	24.9
JPO	14.0	12.9
MOIP	20.1	23.1
CNIPA	16.0	15.5
USPTO	24.8	26.1

Preface

The IP5 Statistics Report (IP5 SR) is jointly produced by the "IP5 Offices", which consist of the European Patent Office (EPO), the Japan Patent Office (JPO), the Ministry Of Intellectual Property (MOIP), the China National Intellectual Property Administration (CNIPA), 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 Key IP5 statistical indicators report published in springtime. The latest reports, along with other data exchanges and information about the IP5 Offices, can be found at www.fiveipoffices.org.

Political and economic conditions as well as technological factors influence the levels of patent filings which in turn contribute to economic growth. There is a worldwide tendency to harmonize patent laws with common international standards and to facilitate filing of applications across borders. Common vehicles to ease patent prosecution across different jurisdictions such as the PCT, validation agreements and the Patent Prosecution Highway (PPH) have had a positive impact on worldwide patent growth over recent years.

While applications are user driven, grants show the production capacity of the offices. 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 user needs. Definitions related to the terminology used in the report are given in Annexes 1 and 2.

When reading this report, please bear in mind that the procedures and practices among the IP5 Offices differ in many aspects. Therefore, caution should be applied when analysing, interpreting and especially comparing the various statistics.

Materials from this report can be freely reproduced in other publications, but the IP5 Offices request that this should be accompanied by a reference to the title and the website location of this report. Please note the links to the statistics available at each Office:

www.fiveipoffices.org/resources/annualreports

For users wishing to explore the patent statistics in detail there is a set of statistical tables accompanying this report that show extended time series and graphs for most of the data available in this report and a glossary of patent related terms.

EPO, JPO, MOIP, CNIPA, and USPTO
With the cooperation of WIPO

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Chapter 1

INTRODUCTION

IP refers to a variety of mechanisms that have been established for protecting "creations of the mind"[2], including:

- Patents for invention
- Utility models
- Trade secrets
- Industrial designs
- Trademarks
- Geographic indications

to protect industrial innovations, and

- Copyrights

for literary and artistic creations.

This report focuses on industrial property rights and almost exclusively on patents for inventions[3]. It is notable that the patenting activity for inventions is recognized throughout the world as a useful indicator of innovative activity.

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

- National procedures
- Regional procedures (for example, those created by the African, Eurasian, European and Gulf regional organizations)
- The PCT procedure

Each country and region maintains its own patent procedures in order to encourage innovative activities and to optimize the regional benefits of innovation. Enhanced international cooperation led to the establishment of different regional and international granting procedures. However, the patent laws vary from country to country. Similarly, the scope of an individual patent application can also differ depending on the applicable jurisdiction. These factors limit the degree to which patenting activity in different countries and regions can be compared directly.

The patent systems at the IP5 Offices are all based on the first-to-file principle and follow the Paris Convention. To a large extent, this drives the usage of the patent systems worldwide. A first patent application is usually filed with the domestic national authority in charge of granting the right to protect the invention, followed within a 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 phase applications, in order to

[2] See also, World Intellectual Property Organization, "What is Intellectual Property?" www.wipo.int/about-ip/en/ and World Intellectual Property Indicators, www.wipo.int/publications/
[3] 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.

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 usually fall under national (post grant) regulations only after grant. PCT applications are handled at first by the appointed offices during the international phase. Up to 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 to the territory of the states party to the EPC at the end of reporting year;
- Japan (Japan in this report);
- Republic of Korea (R. Korea in this report);
- People's Republic of China (P.R. China in this report);
- United States of America (U.S. in this report);
- The rest of the world (Others in this report).

The first five of these blocs are called the "IP5 Blocs". Throughout the report, the blocs are referred to as blocs of origin on the basis of the residence of the applicant 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 described below. With the exception of some items presented in Chapter 6, the statistics relate to patents for invention.

Please refer to Annex 2 for explanations of the statistical and procedural terms that are used.

Together with this report, there is an annex including a glossary of patent-related terms and a statistical table file that includes extended time series and graphs of most of the data found in this report[4].

Chapter 2 - The IP5 Offices

A summary of the recent developments in each of the IP5 Offices is presented in Chapter 2. The terminologies for the budget items that appear are provided in Annex 1.

Chapter 3 - Worldwide Patenting Activity

An assessment of worldwide patent activity is presented in Chapter 3. This covers not only patenting activity at the IP5 Offices, but in the rest of the world as well.

The numbers of applications filed are presented in separate sections that use different definitions for counting. This provides a description of worldwide bloc-wise patenting activity for filings, first filings, applications, demands for national patent rights, grants and national patent rights granted. Next, a description of inter-bloc

[4] www.fiveipoffices.org/statistics

activity is presented, firstly in terms of the flows of applications between the IP5 Blocs, and then in terms of patent families[5].

The statistics are mainly derived from the WIPO Statistics Database[6], that includes data from each country and region.

Chapter 4 – Patent Activity at the IP5 Offices

The substantive activities of the IP5 Offices are presented in Chapter 4. This gives statistics on patent application filings and grants at the offices, as well as some comparative data on operations. The statistics are derived from IP5 Offices' internal databases.

Firstly, 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)[7].

Then, the numbers of grant actions by the IP5 Offices are provided, broken down by the blocs of origin of the grants. The distributions of the numbers of grants per applicant are also included.

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.

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

In Chapter 5, 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 proportions of patent filings that use the PCT, proportions of PCTs from the international phase that subsequently enter the national/regional phase, the share of PCTs among applications, the share of PCTs among grants and the proportions of PCT usage within patent families. As with Chapter 3, statistics are derived primarily from the WIPO Statistics Database, that includes data 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 supplements the information that is provided in the rest of the report.

[5] For a further discussion of patent families, see Chapter 3 and the term definitions in Annex 2.
[6] The data refer to general patent data as of April, of the year following the reporting period, and to PCT international phase application data as of May of the year following the reporting period, www.wipo.int/ipstats/en/index.html
[7] www.wipo.int/classifications/ipc/en/

Annex 1 – Definitions of the IP5 Offices expenditures

This explains some terms that appear in Chapter 2.

Annex 2 – Definitions of terms and statistics on procedures

This gives more detailed information on the statistics that appear in the report, particularly for Table 4.3 in Chapter 4.

Annex 3 – Acronyms

This writes acronyms in full and in each case refers to the page of first occurrence of the acronym.

Annex 4 – Further statistical information

This annex provides direct access to the official statistics websites of the IP5 Offices which publish comprehensive statistics reports, data, news, and analyses on patents, and other relevant indicators.

Chapter 2

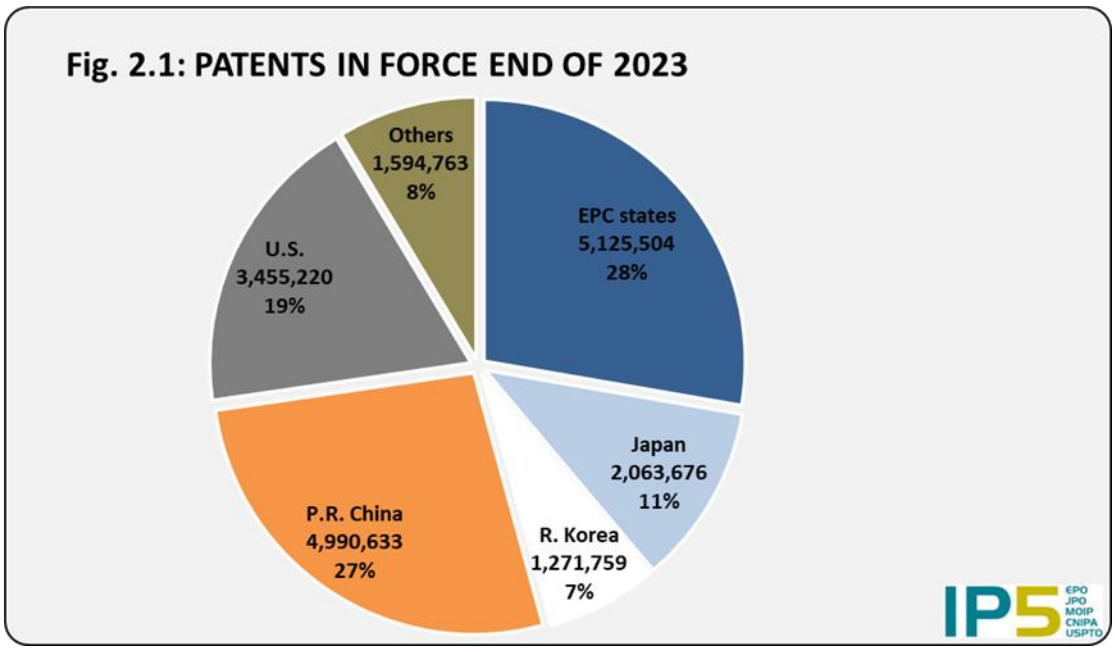
THE IP5 OFFICES

This chapter details developments at each of the IP5 offices[8].

International trade and markets continue to be of great importance, such that innovators want their intellectual creations to be protected concurrently in multiple major markets.

PATENTS IN FORCE

Patents are used to protect inventions and their counts are recognized as a measure of innovative activity. Figure 2.1 shows the number of patents in force worldwide at the end of 2023. The data are based on worldwide patent information available from the WIPO Statistics Database[9].

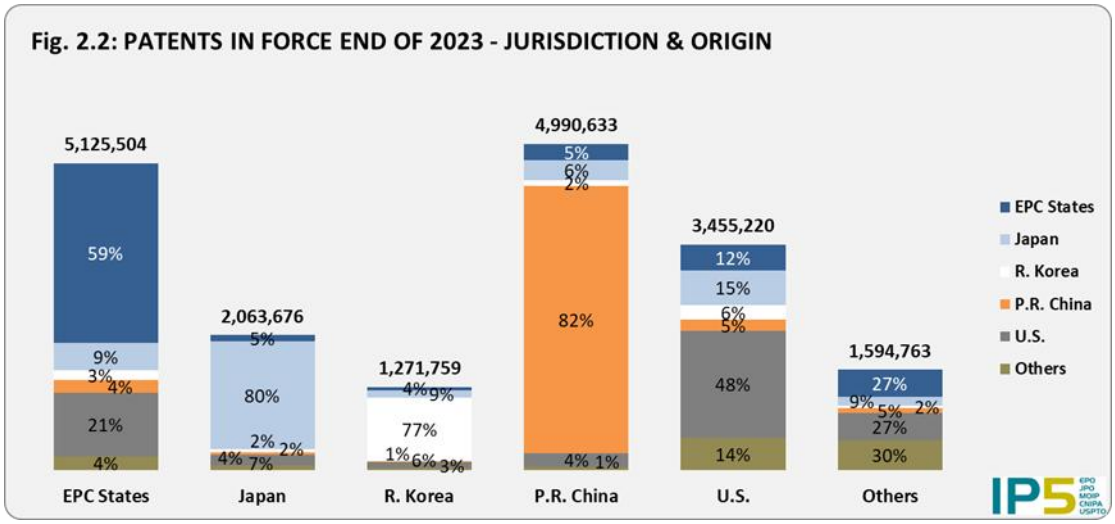


At the end of 2023, 91 percent of the 18.5 million patents that were in force were valid in one of the IP5 Offices jurisdictions. This demonstrates the prominent role that is played by the IP5 Offices.

At the end of 2023, out of the 18.5 million patents in force, 28 percent were valid in the EPC states, 27 percent in P.R. China, 19 percent in the U.S., 11 percent in Japan, and 7 percent in R. Korea.

[8] The statistical tables file found in the web version of this report includes extended time series for some of the data included in this chapter. www.fiveipoffices.org/statistics/statisticsreports
[9] www.wipo.int/ipstats/en/index.html Data for patents in force for 2023 are missing for some countries in the WIPO data. Where available, the most recent previous year's data were substituted for missing 2023 data. At the time of editing this report, WIPO data for 2024 were not yet available.

Figure 2.2 shows the residence of the holders of the patents in force at the end of 2023 in the regions of the IP5 Offices.



In 2023, while 82 percent of the patents valid in P.R. China originated in P.R. China [10], 48 percent of the U.S. patents had a U.S. origin. For EPC States, the corresponding shares was 59 percent, it was 80 percent for Japan, and 77 percent for R. Korea.

[10] Patent origin is based on the patent's first-named inventor or applicant.

IP5 CROSS FILINGS

As shown below, more and more first filings from the IP5 Offices result in subsequent patent applications to at least one other IP5 Office, accounting for over 500,000 applications including the resulting duplicates for the same inventions. To address the issue of the potentially resulting backlogs, the IP5 Offices are working together to try to reduce the amount of duplication of similar work that takes place between offices for such patent applications.

Figure 2.3 shows the development of the number of cross filings between the IP5 Offices filed over the period 2018 to 2022 according to the bloc of the corresponding first filing.

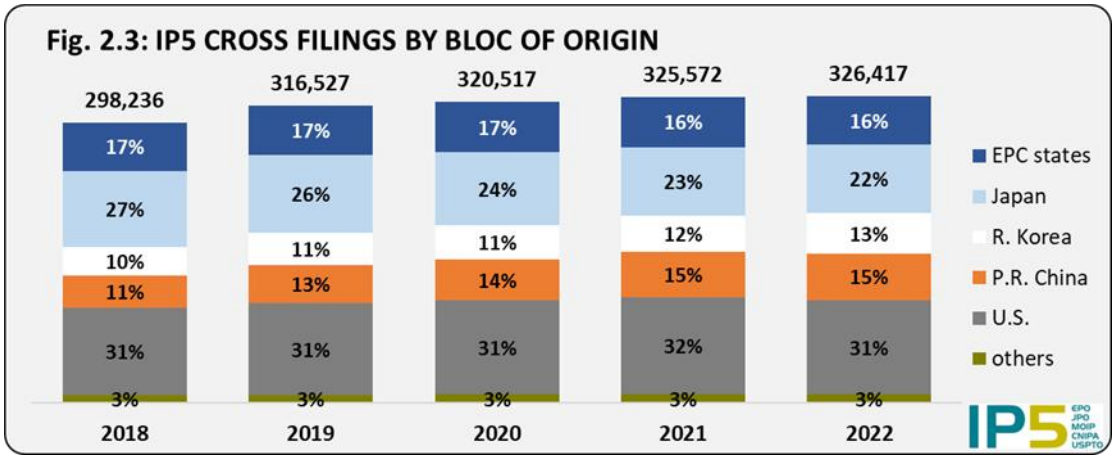
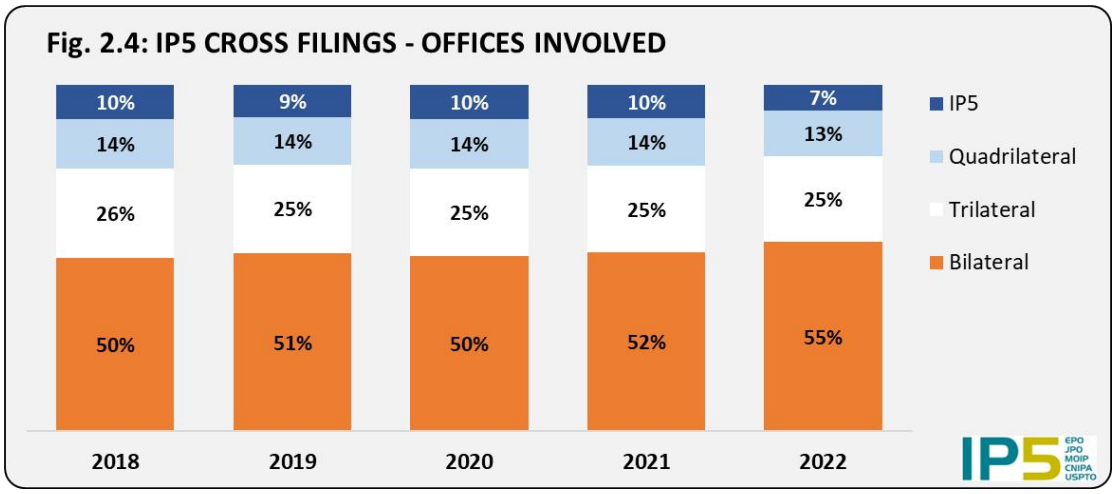


Figure 2.3 is based on published applications data allowing to track subsequent applications in other jurisdictions. As a consequence, data beyond 2022 are not yet complete.

The number of cross filings among the IP5 Offices increased 2 percent in 2022 (2 percent in 2021). Cross filings originating from R. Korea and P.R. China increased 11 percent and 1 percent respectively, in 2022. At the same time, cross filings originating from the EPC States, Japan and the U.S. decreased by 3 percent, 1 percent and 2 percent respectively.

Cross filings may be applications filed at 2 (*Bilateral*), 3 (*Trilateral*), 4 (*Quadrilateral*) or all 5 IP5 Offices (*IP5*). Fig 2.4 below shows the distribution of the cross filings according to the number of IP5 Offices involved.



In 2022, the share of bilateral filings increased and the share of IP5 cross filings decreased, while those of quadrilateral and trilateral stayed about the same.

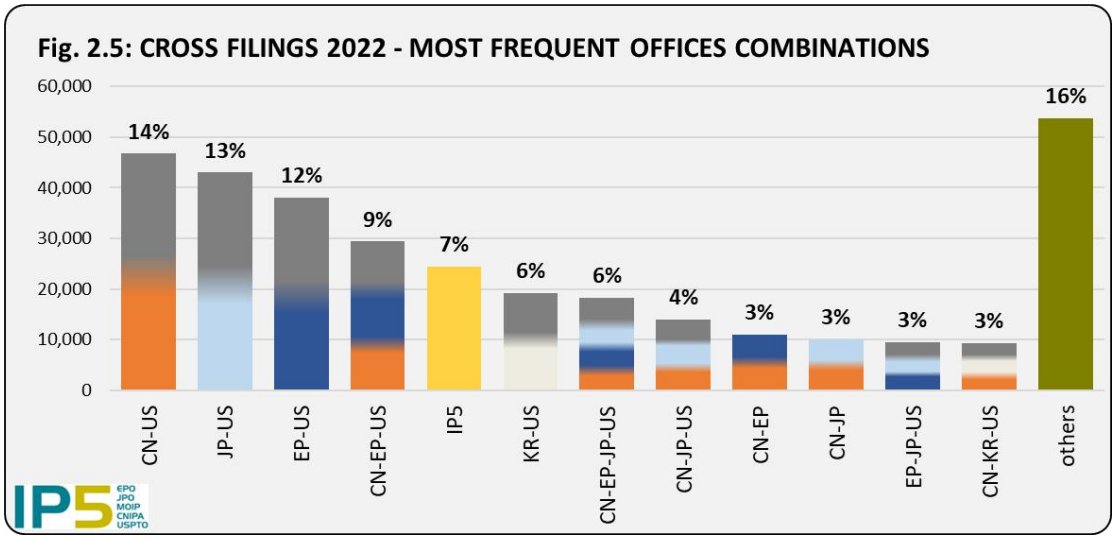


Figure 2.5 shows the distribution of the cross filings among the most frequent combinations. In 2022, 12 of the 26 combinations accounted for 84 percent of all cross filings. The leading four combinations, P.R. China-US (CN-US 14 percent), Japan-US (JP-US 13 percent), EPO-U.S. (EP-US 12 percent) and EPC States-P.R. China-US (EP-CN-US 9 percent), accounted for 48 percent of all cross filings in 2022 (48 percent in 2021).

EUROPEAN PATENT OFFICE

The EPO's mission is to deliver high-quality patents and efficient services that foster innovation, competitiveness and economic growth. Its main work is to grant European patents according to the EPC. Under the PCT, the EPO also acts as an RO, as well as a searching and examining authority. A further task is to perform state-of-the-art searches for the purpose of national procedures, on behalf of the patent offices of several member states (in 2024: Albania, Austria, Belgium, Croatia, Cyprus, France, Greece, Italy, Latvia, Lithuania, Luxembourg, Malta, Monaco, the Netherlands, San Marino, Slovenia and the United Kingdom). The EPO also plays a major role in patent information, by developing analytics tools and hosting the world's largest databases of patent literature.

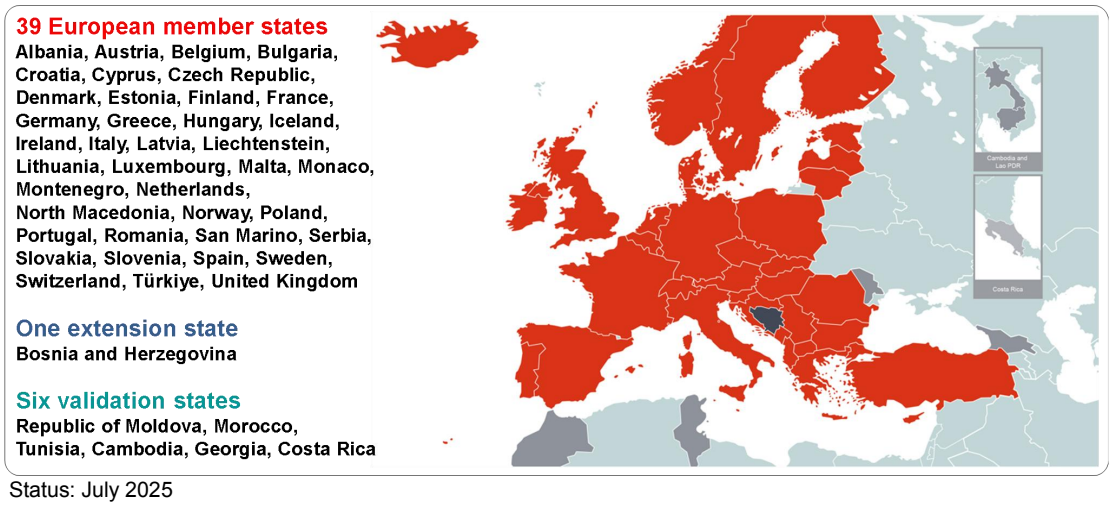
Member states

The EPO is the central patent granting authority for Europe, providing patent protection in up to 45 countries based on a single patent application and a centralised grant procedure (see Figure 2.6).

At the end of 2024, the 39 members of the EPO were:

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

Fig.2.6: EPC MEMBER, EXTENSION AND VALIDATION STATES



Status: July 2025

At the end of 2024, the EPO had seven signed validation agreements (four of them in force at the end of 2024[11]), 13 reinforced partnership and 12 technical co-operation Memorandums of Understandings across all continents.

[11] The validation agreement with Costa Rica has not entered into force yet, that with Laos entered into force on 1 April 2025.

The national patent offices (NPOs) of all the above states also grant patents. Once it has been granted by the EPO, a European patent becomes a bundle of national patents to be validated in the states that were designated at grant. The 45 countries for which European patents provide protection represent a population of over 700 million people.

Highlights of 2024

(A comprehensive review is available in the EPO's Annual Review 2024)

2024 marked the first full year under the EPO's Strategic Plan 2028 (SP2028), which has sustainability as its overarching goal.

Building on the achievements of SP2023, the EPO advanced across all five strategic drivers: people, technologies, quality products and services, partnerships, and financial sustainability. The year was defined by deepened co-operation, digital transformation, and a renewed commitment to excellence and inclusivity.

Key figures 2024

Demand for patents remained stable in 2024. The EPO received about 199,260 European patent applications in the year, which was 0.1 percent below the 2023 figure.

Mean search timeliness was 5.5 months and 85.1 percent of searches (standard cases) were delivered within time. The mean time for issuing intention to grant was 24.9 months from valid examination request; 76 percent of intentions to grant were issued within 36 months . The overall time to grant for first filings (standard cases) was 38.1 months on average, from filing to intention to grant. (All figures refer to standard cases.)

Our digital transformation journey in 2024: setting new standards for the patent system

In 2024, we advanced our digital transformation by simplifying processes, decommissioning legacy systems, and adopting secure cloud technologies. Our focus was on leveraging technology to drive efficiency, quality, and sustainability across all areas of the patent granting process.

Full digitalisation and automation of core processes

We achieved a milestone by fully digitalising examiner actions through end-to-end digital workflows, and moving closer to a fully paperless patent granting process (PGP). This transformation also extended to patent administration, where manual tasks are being replaced by automated processing wherever possible, including automated or semi-automated dispatch of around 50 000 notifications of loss of rights each year.

Decommissioning legacy systems and adopting secure cloud technologies

A key achievement in 2024 was the start of decommissioning of legacy classification and search tools, including the legacy Mailbox, MyFiles, and Administration facilities services with the final aim to decommission (EPOQUE – the legacy prior art search system and legacy tools for supporting filings, etc) until the end of 2025. This streamlining has not only simplified our Information technology (IT) infrastructure – it also enhanced the security and availability of our online services. Transition to two-factor authentication enabled us to phase out smartcards, providing users with more secure and convenient authentication methods.

AI-powered quality and efficiency

Artificial intelligence is one key element of our digital transformation. In 2024 we introduced AI-supported classification across most technical fields, which has significantly reduced manual work while improving accuracy and consistency. Over 90 percent of incoming applications are now routed to the correct technical areas thanks to AI-based pre-classification. Our Digital File Allocation (DFA) tool is fully integrated into the Patent Workbench and ensures files are allocated to the most suitable examiners and divisions, even as applications become more complex and multidisciplinary. Implementing AI support has reduced the need for manual intervention in file allocation by 75 percent, and we are continuing to refine the tool to further increase its accuracy.

Launch of the Legal Interactive Platform (LIP)

The launch of LIP in 2024 was a significant highlight. This AI-based tool assists users in finding answers to questions about the European patent system. User-friendly and providing quick, structured search results with summaries and links to legal texts, LIP can also generate summaries from Boards of Appeal case law. By the end of the year, it had become an established internal source of quality information and a helpful tool for daily work. For our external stakeholders, LIP entered the pilot phase with one national patent office and pilot users of MyEPO.

Modernising user engagement and digital services

We significantly improved the quality and transparency of our online services by expanding the MyEPO suite and releasing new features throughout the year. The introduction of the Shared Area enables real-time collaboration between examiners and representatives, making the examination process more interactive and efficient. Full implementation of MyEPO Mailbox, alongside the discontinuation of fax and smartcards, has further modernised user communication and supports our goal of achieving a fully digital and paperless PGP by 2027.

Data-driven quality and knowledge management

The EPO now manages the world's most extensive and diverse collection of prior art, setting a new record in 2024. Our databases comprise 160 million patent publications and 197 million non-patent literature documents, including scientific articles, standards and technical disclosures. This vast and continuously growing knowledge base is a cornerstone of our commitment to providing a high-quality search and examination service.

To ensure our examiners can efficiently access and interpret this wealth of information, we have invested in advanced digital tools and multilingual capabilities. Our in-house machine translation platform now supports 56 language pairs — up from 32 in 2019 — enabling seamless translation between the EPO's three official languages and many others. Consequently, our examiners now have access to 99 percent of the high-quality translated patent data within our databases, facilitating comprehensive and precise prior art searches across all technical fields and jurisdictions.

AI-driven tools such as ANSERA, our state-of-the-art search platform, and the Web Search Assistant have further transformed the way we handle prior art. ANSERA integrates powerful ranking engines and concept-based search strategies, providing direct access to patent and non-patent literature, including millions of standards documents. The Web Search Assistant extends the scope of our searches to billions of records from leading scientific and academic publishers, enabling examiners to identify the most relevant prior art, regardless of its origin or language.

Performance, reliability, and user satisfaction

In 2024, the availability of our IT systems reached 99.7 percent internally and 99.9 percent externally, reflecting our commitment to operational excellence. All PGP processes are now digitalised, and our "Leverage AI" KPI reached 46.7 percent, putting us well on track to meet the 2028 target of 90 percent. These efforts have resulted in high user satisfaction: 91% of users rate our online services as good or very good, and 80 percent are satisfied with our search products.

Sustainability milestones 2024

The EPO's Strategic Plan 2028 also aims to ensure long-term sustainability across environmental, social, governance and financial dimensions. In 2024, operational greenhouse gas emissions, measured in line with the Greenhouse Gas Protocol, decreased to 3,032 tCO_2e — a 29 percent reduction compared to 2023 — moving the Office closer to its goal of carbon neutrality by 2030. Energy use in EPO buildings was reduced by 14 percent year-on-year through efficient facility management, while cooling agent leakages reached a historic low of 4 tCO_2e. The ongoing digital transformation of the patent granting process continues to reduce paper use, with printing volumes down to 10.1 million sheets in 2024, a 27 percent decline from 2023.

Unitary Patent

The Unitary Patent (UP) entered into force on 1 June 2023, and the Unified Patent Court (UPC) opened on the same date. A patent with unitary effect may be requested for any European patent (EP) granted since this date. This makes the procedure simpler and provides a cost-effective option for securing wider patent protection.

By the end of 2024, the Office had received over 28,100 requests for unitary effect of a European patent. In the period from June to December, over 25 percent of European applications turned into a Unitary Patent, matching the expected uptake rate for 2024. Romania's accession to the UPC Agreement on 1 September 2024 marked the beginning of a second generation of Unitary Patents, which now cover 18 participating member states.

To ensure full transparency on the performance of the new system, the EPO launched the Unitary Patent Dashboard, which contains detailed information by technology field and geographic origin as well as a list of the top 25 adopters, most of them European. In fact, approximately around two-thirds of Unitary Patents are owned by users from Europe, including from EPC contracting states which are not part of the Unitary Patent system. And 34 percent of those European users are SMEs or individual inventors – a much higher proportion than for European patent applications.

The EPO also published an updated Unitary Patent Guide, now including key user-relevant updates such as early requests for unitary effect, Romania's accession, and the second generation of Unitary Patents.

For more details, readers are referred to the area of the EPO website dedicated to Unitary Patent & Unified Patent Court.

EPO production information

Activities associated with searches, examinations, oppositions, appeals and classifications are all performed by EPO staff. The EPO does not outsource any of its core activities. The decision to grant or refuse a patent is taken by a division of three examiners. Table 2.1 shows production figures for filings, applications, searches, examinations, oppositions and appeals in the European procedure for 2023 and 2024.

Table 2.1: EPO PRODUCTION INFORMATION

EPO PRODUCTION FIGURES	2023	2024	Change	%Change
Patent applications (Euro-direct & Euro-PCT regional phase)	**199,452**	**199,264**	**- 188**	**- 0.1%**
Searches carried out				
European (including PCT supplementary)	118,458	164,633	+ 46,175	+ 39.0%
PCT international	87,715	70,563	- 17,152	- 19.6%
On behalf of national offices	27,161	27,646	+ 485	+ 1.8%
Total production search	**233,334**	**262,842**	**+ 29,508**	**+ 12.6%**
Examination-Opposition (final actions)				
European	137,532	132,890	- 4, 642	- 3.4%
PCT Chapter II	5,016	4,791	- 225	- 4.5%
Oppositions	2,889	2,587	- 302	- 10.5%
Total final actions examination-opposition	**145,437**	**140,268**	**- 5,169**	**- 3.6%**
European patents granted	**104,609**	**109,524**	**+ 4,915**	**+ 4.7%**

Patent knowledge / patent intelligence

The EPO's Patent Index 2024 provides a comprehensive overview of the figures representing recent activity in the global patent system and insights into emerging technology trends. Users wishing to explore the statistics behind the Patent Index, customise their own graphs and download selected data can do so by visiting the EPO's online Statistics & Trends Centre.

The EPO's Patent Academy - IP training excellence

In 2024, the European Patent Academy continued to pursue its mission of providing high-quality training and education on intellectual property to the member states of the European Patent Organisation and beyond.

Training reach and global engagement

In 2024, the Academy significantly expanded its training reach and engagement. A total of 145 training activities were delivered, equating to almost 1,500 hours of learning. Live online training attracted 26,602 registrations, and the e-learning centre recorded 23,574 active users — a 25.7 percent increase on 2023. Female participation in these activities reached 51.2 percent, reflecting the Academy's commitment to diversity and inclusion.

The Academy's global reach was further extended through cooperation with validation states, strengthened partnerships and the Knowledge Transfer to Africa (KT2A) initiative. The Modular Intellectual Property Education Framework (MIPEF) reached around 1,300 students at 40 universities, representing a more than twofold increase in participation since its launch in 2023. These modular formats are designed to be integrated into university curricula, supporting the next generation of IP professionals.

The PATLIB network and knowledge transfer

By the end of 2024, the PATLIB network had grown to 332 centres in 37 countries. These centres offer advice and services on IP, patent information, and technology transfer to local industries, SMEs, researchers, and individual innovators. The EPO supports PATLIB centres by providing training, funding, certification and networking events, such as the annual PATLIB Conference. This event attracted over 2,600 participants in 2024.

The KT2A programme, which aims to strengthen technology transfer capacity in Africa, now involves 76 universities in 24 African countries, 13 of which are twinned with PATLIB centres in Europe.

Unveiling the EPO's Technology Intelligence Platform (TIP)

TIP was launched by the European Patent Office in 2024 as a next-generation tool for processing, analysing, and visualising patent data. It provides a ready-to-use platform that offers computational power and direct access to the EPO's extensive data collections, including PATSTAT and EP full-text.

Its main objective is to facilitate access to patent data for researchers, businesses, innovators, and everyday users, empowering them to conduct advanced patent data analysis and gain actionable insights. By enabling users to run sophisticated analyses and visualise patent landscapes, TIP supports sustainable entrepreneurship and innovation, helping stakeholders make informed decisions based on robust patent intelligence.

After a successful pilot phase with 100 users, TIP quickly surpassed 450 users in its first month, paving the way for the next generation of EPO data tools and reinforcing the EPO's commitment to accessible, data-driven patent knowledge.

International and European co-operation

Strengthening the European Patent Network

In 2024, the EPO advanced collaboration within the European Patent Network (EPN) under the new SP2028 framework. This involved revising and expanding the cooperation project catalogue to meet the individual needs of all 39 EPC contracting states, as well as signing new bilateral co-operation agreements with each of them. Bosnia and Herzegovina was formally invited to accede to the EPC.

There was an increase in work-sharing, with Portugal becoming the 18th state to sign a search cooperation agreement (to take effect in March 2025), and agreements were approved for Ireland, Montenegro and Switzerland. This will bring the network to 21 states once implemented. Overall, the EPO conducted over 27,000 national searches for EPN partners in 2024, marking a 4 percent increase from 2023.

Supporting SMEs and micro-entities

A revised fee policy was introduced in April 2024 to facilitate access to patent protection for underrepresented stakeholders, especially micro-entities. By the end of the year, over 5,000 applications had benefited from these new support measures, resulting in additional savings of EUR 3.3 million for small-scale innovators.

Advancing IT co-operation and digital transformation

In 2024 and 2025, the EPO's IT co-operation continues driving digital transformation across the IP landscape at member state and non-member states level. The ANSERA-based SEARCH (AbS) platform remained at the heart of this progress. At the end of 2024, AbS was live across 32 EPC states, with more than 1 800 active examiners.

The Front Office (a modern electronic patent filing system) rollout also gained momentum. 6 countries use the filing tool in production, while 17 others were preparing, implementing, or transitioning to the new system. To date, the FO has handled 41,000 filings marking a significant step towards streamlined and harmonised online patent procedures across Europe.

The Single Access Portal (SAP) further expanded its scope, now also featuring the IP5 site and offering new services to strengthen digital interoperability and efficiency. In parallel, 14 countries are now connected to the new data exchange platform for automated data exchanges with the EPO.

Building on this momentum, the Digital Tool Kit, a new IT Co-operation initiative, will progressively digitise several key patent back-office processes, such as automatic classification and the drafting of search reports.

International Cooperation and New Agreements

The EPO continued to extend the global reach of the European patent system. In 2024, new validation agreements were signed with Laos and Costa Rica, while formal negotiations were initiated with Mexico, Panama, Trinidad and Tobago, and Djibouti. The EPO also launched new Patent Prosecution Highway (PPH) pilot schemes with Chile and New Zealand and extended the agreement with Brazil. By the end of the year, there were 17 active PPH agreements worldwide.

Societal impact

Observatory on Patents and Technology: First Full Year in 2024

2024 marked the Observatory on Patents and Technology's first full year of operation. The Observatory has established itself as a central platform for mapping trends and critical technological developments. It provides unique insights into the innovation ecosystem and supports evidence-based decision-making for industry, policymakers and the public.

Boosts Research and Technology in 2024

In its first 15 months (up to December 2024), the Observatory published six economic studies and two technology insight reports, organized six online events, and participated in several outreach activities. Topics addressed in 2024 included cancer-fighting technologies, clean and water technologies, space-related and assistive robotics innovations, energy transition, and patent activities in European universities. The Observatory also released three new technology platforms—on "combatting cancer", "space technologies", and "water technologies"—making it easier for scientists and researchers to explore the EPO's free patent database and leverage examiner expertise for the public good.

Deep Tech Finder

A major tool delivered was the Deep Tech Finder (DTF), a free platform integrating patent data and business information, which by December 2024 included more than 9,500 startups and 878 universities. DTF continued to be enriched in early 2025 with an update focused on investors.

Collaboration and outreach

In 2024, a total of 32 NPOs were actively involved in Observatory activities, a figure which grew in 2025. The Observatory collaborated closely with EU institutions to align its research with broader European innovation policies and priorities. Key partnerships were established with institutions such as the European Union Intellectual Property Office (EUIPO), the European Space Policy Institute, the European Space Agency, the European Investment Bank, the International Energy Agency and the Fraunhofer Institute for Systems and Innovation Research.

Economic studies

To demonstrate the value of patent information and the importance of IP rights, the EPO's Chief Economist Unit published several studies in 2023, exploring the economic impact of patents and the role of women inventors.

The first study was a joint study with the International Energy Association (IEA), using global patent data to provide a comprehensive, up-to-date analysis of innovation in hydrogen technologies. It is the first study of its kind and covers the full range of technologies, from hydrogen supply to storage, distribution and transformation, as well as end-use applications. It shows that innovation in hydrogen is shifting towards low-emission solutions, with Europe and Japan in the lead.

The second study offers a timely update on the ever-evolving innovation trends in additive manufacturing technologies. It provides a comprehensive picture of recent developments and the key players shaping this transformative field. Patent data show disruptive additive manufacturing technology is impacting many sectors, especially health, medical and transportation.

The third a joint publication with the EUIPO, focuses on how innovative startups obtain financing to develop their ideas into new products for the marketplace. It provides evidence that startups increasingly make use of IP rights, and that the filing patent and trade mark applications in the seed or early growth stage is associated with a higher likelihood of subsequent venture capital funding. It also analyses how IP rights can help the providers of initial financing to exit successfully by selling to another company or going public with a stock market flotation.

All of these studies can be consulted online on the EPO website.

EPO budget

The EPO is a self-financed organisation with a yearly budget of about EUR 2.0 bn for 2024.

Revenues are mainly generated from patent and procedural fees as well as renewal fees, and consist of

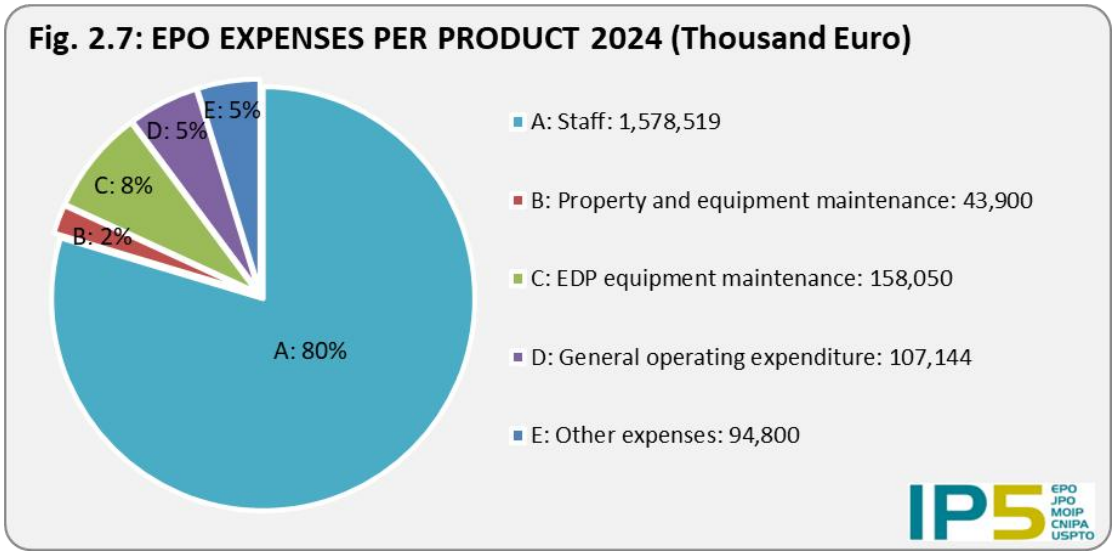
- fees for searches and preliminary examinations on international applications
- fees for patent-granting, opposition and appeal procedures
- national renewal fees for granted European patents[12] and UP fees
- fees for searches for national offices and third parties

The EPO aims to adjust fees in line with inflation every two years.

The EPO finances all operational expenses and investments and receives no subsidies from member states. A large part of the budget goes on direct staff expenditures (salaries, allowances, etc.), the running cost of the EPO's own social security schemes, IT and building cost, and co-operation with member states. Surpluses maybe transferred to the one of the EPO's investment entities to support long-term sustainability.

[12] Once a European patent has been granted, renewal fees for subsequent years during its term are payable to the designated contracting states. Each contracting state pays the EPO a proportion of its national renewal fee fixed by the Administrative Council for each European patent maintained in that state (50 percent since 1984) .

Figure 2.7 shows the EPO's budgeted expenses[13] for 2024.



The EPO's budget is available in full on our website.

EPO staff

At the end of 2024, the EPO's staff totalled 6,251 employees (down 0.4 percent) from 35 different European countries[14], 35 percent of the employees and 28 percent of the managers were women. Total staff numbers includes 4,005 examiners working in search, examination and opposition and 171 Boards of Appeal members.

242 staff were recruited externally in 2024, of whom 109 were examiners.

All new examiners complete a three-year training programme and are tutored by more experienced colleagues. All staff at the EPO work in its three official languages: English, German, and French.

More information

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

[13] The EPO uses the word "expenses" in accordance with the IFRS reporting approach.
[14] For more details, see the 2024 EPO social report

JAPAN PATENT OFFICE

Highlights of 2024

1) Examination Performance

The JPO's basic principle is to implement various support measures for the creation of innovation, based on the world's fastest and utmost quality patent examinations. Under this principle, the JPO is steadily implementing policies that focus on maintaining speed by enhancing the resilience of patent examination, further improving quality, supporting the creation of innovation in response to environmental changes, and promoting IP diplomacy.

To accelerate the intellectual creation cycle, comprised of intellectual creation, establishment of rights, and utilization of rights, the JPO speeded up examination and shortened total pendency. In 2024, First Action Pendency[15] and Total Pendency for Patent Examinations[16] were 9.1 months and 12.9 months on average.

2) Accelerated Examination System[17]

Under certain conditions, the JPO offers accelerated examinations and super-accelerated examinations that, upon the request of an applicant, expedite the commencement of an examination. The accelerated examination system may be applied for patent applications, including those that are also filed in one or more other countries and by small and medium-sized enterprises. In 2024, first action pendency from request for accelerated examination was 2.3 months on average.

The JPO is running pilot programs for a super-accelerated examination system for applications of higher importance, including applications for inventions that have already been put into practice and are filed in one or more other countries. First action is issued within one month from the request, in principle (within two months, in principle, in the case of DO (Designated Office) applications). First action pendency from request for super-accelerated examination was 0.8 months on average (1.2 months for DO applications).

3) Initiatives for AI-related Inventions

-Establishing a New Position for AI Advisors
In April 2024, "AI Advisors" were established to conduct appropriate examinations of AI-related inventions, which are witnessing rapid technological advances. By leveraging their expert knowledge in AI-related technology, external experts provide support for patent examiners, including technological training and responses to inquiries.

[15] The first action pendency is the period from the date of examination request until the JPO sends the first notice of examination results to the applicant, etc. (for the most part, either a notice of patent grant or a notice of reasons for refusal).
[16] The total pendency (also called the "standard pendency") is the period from the date of examination request to withdrawal or abandonment or until a final disposition (excluding cases where the JPO requests an applicant to respond to the second notice of reasons for refusal due to the amendments submitted by the applicant, and where the applicant performs procedures they are allowed to use, such as requests to the JPO for extension of the period of response and for an accelerated examination).
[17] www.jpo.go.jp/e/system/patent/shinsa/jp-soki/index.html

-Research on Protection of AI-based Creations under the Patent Act
The results of a fiscal year (FY) 2023 commissioned study titled “Research on Protection of AI-based Creations under the Patent Act” were published in April 2024. This research was carried out for creating foundational materials to consider the protection of AI-based creations under the Patent Act.

-Case Examples Pertinent to AI-related Technologies[18]
In March 2024, ten new patent examination case examples related to AI technologies were added to the Examination Handbook for Patent and Utility Model. These examples provide clear guidance on determining Inventive Step, Description Requirements, and Patent Eligibility.

4) Green Transformation Technologies Inventory (GXTI)

Many countries, including Japan, have set ambitious goals to achieve carbon neutrality by 2050 in order to address the issue of climate change. To achieve this goal, it is essential to promote innovation related to climate change technologies, as well as to accelerate green transformation (GX). The patent system can help promote GX by incentivizing inventors and companies with effective patent protection, and by providing access to patent information on matters including trends in climate change technologies.

In an effort to support the understanding of trends in patent applications for GX-related technologies and also foster green innovation, the JPO published the GXTI [19] in June 2022, which classifies technologies that are expected to have an effect on greenhouse gas reduction. The GXTI provides the patent search formulae prepared by the JPO’s patent examiners, which consist of IPC or a combination of IPCs and keywords, for the purpose of analyzing global patent trends that correspond to individual technological categories.

Patent information analysis using the GXTI enables the following:

- Companies can illustrate the strengths and weaknesses of their GX-related technologies, and formulate their research and development R&D strategy accordingly

- Companies can objectively explain to investors the superiority of their R&D capabilities with respect to GX-related technologies

- Governments can foster GX initiatives on an evidence-driven basis

The GXTI is utilized as a common measure for patent information analysis in the fields of GX-related technologies. In addition, the JPO conducted a survey in 2022 using the GXTI to analyze patent filing trends based on individual GXTI categories. The final report was published in May 2023, and is available on the JPO’s website in both Japanese[20] and English[21]. In addition, a feature that allows for easy searches based on GXTI was announced on the JPO’s website[22] in February 2025.

[18] www.jpo.go.jp/e/system/laws/rule/guideline/patent/ai_jirei_e.html
[19] www.jpo.go.jp/e/resources/statistics/gxti.html
[20] www.jpo.go.jp/resources/statistics/gxti/tokkyo-joho-bunseki_houkokusho-youyaku.pdf
[21] www.jpo.go.jp/e/resources/statistics/gxti/report-results_patent-analysis.pdf
[22] www.jpo.go.jp/e/resources/statistics/gxti-gaiyo.html#:~:text=the%20Strasbourg%20Agreement.-,GXTI%20(GX%20Technologies%20Inventory),-GXTI%20(GX%20Technologies

5) Dissemination of information on the JPO's measures to overseas users

The JPO disseminates information to overseas users regarding matters such as the JPO's measures that are available to overseas users and latest statistics. Through such dissemination of information, the JPO supports overseas users in filing applications with the JPO and smoothly obtaining rights in Japan, and it promotes their understanding of the JPO's activities.

・In 2024, "The JPO Quick Reads[23]" was published 41 times, through which the JPO disseminated information focusing on measures available to foreign users, such as reports on the JPO's international cooperation that contributes to global registration of rights, reports on international meetings, and guidebooks published by the JPO.

・The JPO updated the content provided on "The JPO Key Features".[24] It contains information on a range of measures related to patent, design, trademark, and trial and appeal.

・The JPO updated materials that introduce its measures to overseas users and published them on the JPO's website.[25]

・The JPO website[26] published three more successful cases of foreign companies which are conducting business by acquiring patent rights in Japan. Now 12 cases are listed (U.S., Europe, Asia), and the technology fields expanded to include healthcare, AI solution, robotics, electronics, and renewable energy.

・In 2024, the JPO exchanged opinions with 55 foreign companies, aimed at deepening their understanding of Japan's IP rights systems and examination practices and grasping what foreign companies demand of the JPO. Companies that wished to exchange opinions with the JPO were invited to apply on its website[27].

・The JPO reached a broad range of overseas users also through its English-language official X account[28] and official LinkedIn account[29].

・The JPO provided updates of its measures to overseas users at international symposiums and seminars.

[23] www.jpo.go.jp/e/news/quickreads/index.html
[24] www.jpo.go.jp/e/news/keyfeatures/index.html
[25] www.jpo.go.jp/e/resources/report/sonota-info/presentation-material.html
[26] www.jpo.go.jp/e/news/kokusai/successful-cases/index.html
[27] www.jpo.go.jp/e/support/general/opinion-exchange.html
[28] https://x.com/JPO_JPN/
[29] https://jp.linkedin.com/company/japan-patent-office

JPO Production information

Table 2.2 shows production figures for applications, examinations, grants, appeals or trials and PCT activities in the Japanese procedure in 2023 and 2024.

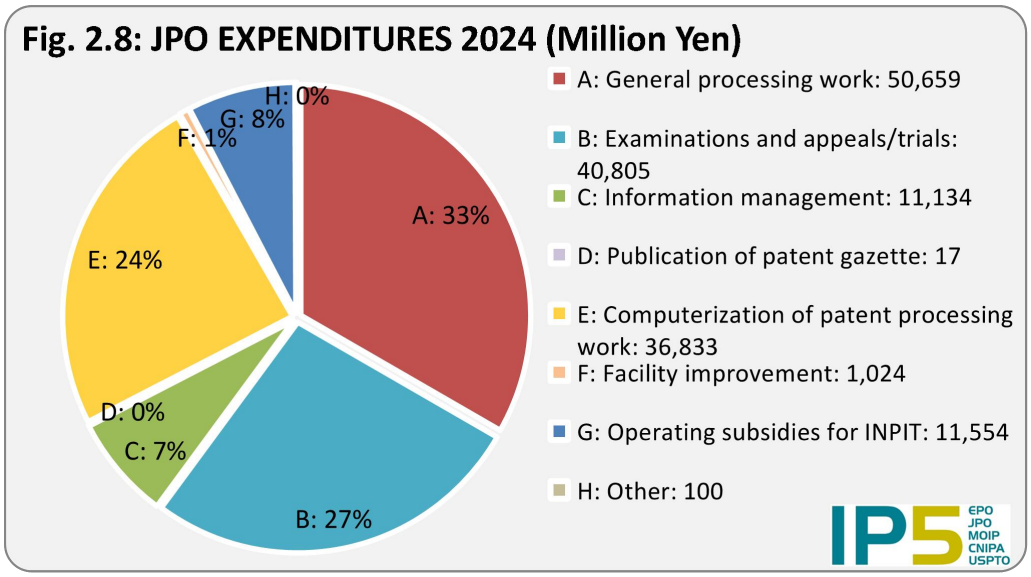
Table 2.2: JPO PRODUCTION INFORMATION

JPO PRODUCTION FIGURES	2023	2024	Change	%Change
Applications filed (by Origin of Application)				
Domestic	228,936	237,169	+ 8,233	+ 3.6%
Foreign	71,197	69,686	-1,511	- 2.1%
Total	**300,133**	**306,855**	**+ 6,722**	**+ 2.2%**
Applications filed (by Type of Application)				
Divisional[30]	37,279	36,721	- 558	- 1.5%
Converted[31]	46	41	-5	- 10.9%
Regular	262,808	270,093	+ 7,285	+ 2.8%
Total	**300,133**	**306,855**	**+ 6,722**	**+ 2.2%**
Examination				
Requests	230,184	228,456	- 1,728	- 0.8%
First Actions	247,155	232,968	- 14,187	- 5.7%
Final Actions	256,079	240,987	- 15,092	- 5.9%
Grants				
Domestic	158,587	146,778	- 11,809	- 7.4%
Foreign	50,781	53,506	+ 2,725	+ 5.4%
Total	**209,368**	**200,284**	**- 9,084**	**- 4.3%**
Appeals/Trials				
Demand for Appeal against refusal	21,047	20,069	- 978	- 4.6%
Demand for Trial for invalidation	84	186	+ 102	+ 121.4%
PCT Activities				
International searches	47,333	47,122	- 211	- 0.4%
International preliminary examinations	1,412	1,377	- 35	- 2.5%

[30] 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.
[31] 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

Figure 2.8 shows JPO expenditures by category in 2024.



A description of the items in Figure 2.8 can be found in Annex 1.

JPO Staff Composition

As of the end of FY 2024, the total number of staff at the JPO was 2,800.

Examiners	
Patent / Utility model	1,669
Design	50
Trademark	173
Appeal examiners	380
General staff	528
Total	2,800

More information

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

MINISTRY OF INTELLECTUAL PROPERTY

Overview

As the Korean governmental agency primarily responsible for overseeing IP rights (IPRs), the MOIP strives to conduct its IP administration in accordance with the national paradigm of creative economy, which seeks to foster innovation and new engines of economic growth to drive Korea's future prosperity.

Domestically, MOIP has put as great an emphasis as possible on further developing its examination services, as well as promoting economic sustainability through a virtuous cycle of IP creation, utilization, and protection. On the international front, MOIP strengthened our cooperative ties with foreign IP offices and other international organizations.

Premium Examination Services
MOIP continually aims to provide high-quality, customer-oriented, and fast examination services by raising the quality of IP administration, improving examination systems, and reducing first office action pendency. In 2024, the average first office action pendency was 16.1 months for patents and utility models, 12.6 months for trademarks, and 4.6 months for industrial designs.

IPR Applications
In 2024, we received a preliminary total of 560,629 applications for patents, utility models, industrial designs, and trademarks. Out of that number, 85,185 applications were filed by non-residents.

PCT Applications
The number of PCT applications to MOIP has continually grown every year. We have the 4th largest amount of PCT applications by country of origin. There were 23,641 PCT applications in total for 2024 which is a 6.7 percent increase from 2023. The Korean language is also the 4th most commonly used language as an official PCT publication language.

Improving the IP System

Enhancement of the Patent Examination Infrastructure for Advanced Technologies

Amid intensifying global competition for technological supremacy, MOIP has significantly reinforced its patent examination infrastructure to help companies protect their technologies from the early stages and to support their competitiveness in advanced technology fields. In 2024, MOIP actively implemented a range of policy measures to provide focused support for key high tech industries. These include expanding the scope of the accelerated examination system, conducting large-scale recruitment of private sector industry-expert as MOIP examiners, and newly establishing a specialized examination division.

1) Accelerated Examination for Secondary Battery Technologies

Patent filings related to secondary battery technologies have been growing rapidly at an average annual rate of 11.9 percent, making them one of Korea's core strategic assets, alongside semiconductors. Therefore, in 2024 MOIP designated applications related to secondary battery technologies to be eligible for accelerated examination. This is a continuation of MOIP's efforts to support innovation and ensure timely examination of emerging technologies by expanding the scope of accelerated examination, such as the inclusion of display technology in 2023 and semiconductors in 2022. Companies, R&D institutes, and other related entities in these fields can now apply for accelerated examination more easily and receive examination results usually within two months of approval.

Specifically, accelerated examination is available for applications: 1) directly related to materials, components, and equipment for secondary batteries; 2) related to technologies for battery manufacturing or design; 3) filed by companies producing or preparing to produce secondary battery-related products or equipment in Korea; 4) related to the output of national R&D projects in the field of secondary battery technologies; and 5) from universities (including graduate schools) specializing in secondary batteries.

2) Recruitment of Private Sector Industry Experts

To enhance both expertise and industry relevance in patent examination, MOIP expanded its recruitment of highly experienced professionals from the private sector.

MOIP hired 38 new examiners from the secondary batteries industry and, by June 2024, established a new examination division solely for secondary battery patents, becoming the first among major countries to do so. These initiatives aim to enhance examination capabilities for complex technologies and proactively manage the growing volume of filings.

Furthermore, MOIP has begun recruiting 60 new examiners across three rapidly growing fields: biotechnology (35), advanced robotics (16), and AI (9), each of which has demonstrated an annual patent filing growth rate of 8.4 percent. These coordinated efforts are expected to significantly strengthen MOIP's examination capacity and responsiveness in key technology sectors.

Through institutional improvements, such as accelerated examination, industry expert recruitment, and dedicated divisions, MOIP aims to deliver high quality, specialized examination services and respond swiftly to technological developments which will help companies secure IP rights more quickly and support the commercialization of advanced technologies, ultimately enhancing their competitiveness in key technology sectors.

Promoting the Creation and Use of IP

National R&D Innovation Support Through IP-Based Strategies

1) Strengthening of IP-R&D Support Systems

In February 2024, MOIP launched the National Strategic Technology Patent Division, a dedicated team supporting the development of R&D strategies in national strategic technologies and the acquisition of core patents. The division conducts big patent data analysis focusing on 12 priority technology sectors (e.g., semiconductors, secondary batteries, AI, etc.) and provides the analysis results to relevant ministries and agencies as input for R&D policy planning. By supporting early-stage IP integration into national R&D efforts, MOIP helps establish a firm foundation for securing patent competitiveness.

Also in December, MOIP, in cooperation with related government agencies, announced the “Strategy for National R&D Innovation Support Based on IP”. This strategy aims to utilize patent big data throughout the full R&D cycle–from planning to output – by identifying promising future technologies, supporting efficient research execution, and promoting the acquisition of core patents.

2) Patent Big Data Analysis

Each year, MOIP analyzes more than 580 million global patents to assess the current state of the technological landscape in various strategic industries. The results are compiled and published in the “Patent Big Data-Based Industry Innovation Strategy Reports”, which are released to the public. In 2024, MOIP published the 2023 edition, consisting of 20 volumes each covering a specific technology field (e.g., AI, quantum technologies, advanced semiconductors, etc.) or economic security field (e.g., EUV photoresists, numerical controllers, synthetic graphite, etc.).

The reports provide in-depth analysis of national technological competitiveness and emerging technologies, derived from domestic and international patent big data related to industries that have garnered public and policy attention in recent years. Specifically, they include comparative assessments of technological maturity across countries, Korea’s competitive positioning, technology classification systems and significance, as well as status updates on key technologies held by leading companies, research institutes, and universities around the world. Additionally, they highlight focal areas by country and corporation, and identify future promising technologies. These comprehensive insights are expected to significantly enhance the efficiency and effectiveness of R&D planning and strategy development for both public and private research institutions.

3) Provision of Technology Trends of Key Industries

In order to assist both government and private sectors in informed R&D decision making, MOIP launched a new public service in September 2024 titled Global Technology Trends and Patents in High-Tech Strategic Industries. This resource offers industry insights based on objective patent data through three main categories: global policies for strategic industries, industry specific technology trends, and patent trends.

First, global policies for strategic industries include national development strategies, legislation, and international cooperation trends; second, industry specific technology trends cover 13 key sectors (e.g., semiconductors, displays, secondary batteries, and AI, etc.) along with market movements and major corporate investments; and third, patent trends provide annual statistics on patent filings in the key sectors, broken down by country and applicant. This resource is updated monthly to ensure timely access to reliable data and is expected to greatly assist academia, industry, and research institutions in their R&D-related decision-making processes.

4) Promotion of IP-R&D through Public-Private Communication

MOIP is also promoting broader adoption of IP-R&D, a policy approach that uses IP information—particularly patents—as the starting point for R&D. It supports analysis of global patent trends and key patents held by overseas competitors in the early stages of R&D, guiding research efforts in a direction that maximizes the likelihood of securing core patents and avoid duplication or infringement.

In December 2024, MOIP hosted a national IP-R&D conference bringing together stakeholders from academia, industry, and public research institutions. The conference featured case studies and presentations on the strategic use of patent big data in R&D planning and showcased successful examples of how companies and institutions achieved tangible research outcomes using the IP-R&D approach. The event served not only as a platform for knowledge sharing but also as a catalyst for fostering an ecosystem in which the IP-R&D strategy is driven by the private sector and expanded across the broader R&D landscape.

Advancing Global IP Cooperation

The 17th IP5 Heads Meeting Hosted in Seoul

From June 19 to 20, 2024, MOIP hosted the annual meeting of the heads of the world's five leading intellectual property offices (IP5) in Seoul, along with a joint session involving industry representatives.

1) Adoption of a Joint Declaration for Advancing the UN SDGs

At the 2024 Heads Meeting, the five offices adopted a Joint Declaration outlining a mid- to long-term cooperative framework aimed at achieving the UN SDGs. This initiative builds on the outcomes of the 2023 IP5 meeting in Hawaii, where the SDGs were officially adopted as a central vision for IP5 collaboration. At the Seoul meeting, Korea and Japan jointly proposed the "Guideline for Building a Sustainable Future", which will serve as a foundational document guiding future IP5 efforts to promote sustainability.

In addition, under the theme of building an inclusive IP system for sustainable innovation, the IP5 discussed policy measures to support innovative SMEs. Recognizing the importance of SME growth, MOIP presented its comprehensive support framework—spanning from the filing to commercialization—including application fee subsidies and IP valuation assistance, and future plans.

2) Discussions on User-Friendly Global IP Systems

The IP5 also continued its efforts to improve user convenience by exploring ways to streamline international patent assignment procedures. A patent assignment refers to the legal transfer of ownership of a patent or a pending patent application from one party to another. As the lead office on this agenda item, MOIP shared the progress of the “Global Assignment” project, which aims to establish a mechanism to recognize the effects of a patent assignment across all IP5 jurisdictions through a single application.

Furthermore, in relation to the Patent Prosecution Highway (PPH) cooperation, the IP5 welcomed CNIPA’s decision to join a joint PPH project led by Korea, the U.S., and Japan. The PPH is an international framework that enables faster patent examination by allowing offices to rely on each other’s prior examination results. This specific project seeks to deliver results within three months of filing. China’s participation is expected to significantly improve predictability and examination efficiency.

3) Cooperation on Emerging Technologies

Another major topic at the 17th IP5 meeting was how to adapt IP systems in response to rapidly developing technologies, such as AI. The offices shared progress on the implementation of the “New Emerging Technologies and AI Roadmap,” first adopted at the 14th IP5 Heads Meeting in 2021, and discussed its next steps. Among the key outcomes, the IP5 heads approved the results of a joint study on the “Inventorship of AI Generated Inventions” which examined legal and policy developments across the five jurisdictions regarding the recognition of AI as an inventor.

Through its leadership in hosting the 2024 IP5 Heads Meeting MOIP demonstrated its growing influence in shaping global IP policy. By contributing to the adoption of a joint SDG declaration, promoting inclusive support for SMEs, and leading key initiatives on patent assignment and AI, MOIP reaffirmed its commitment to advancing a more collaborative, sustainable, and future-ready global IP system.

MOIP Production information

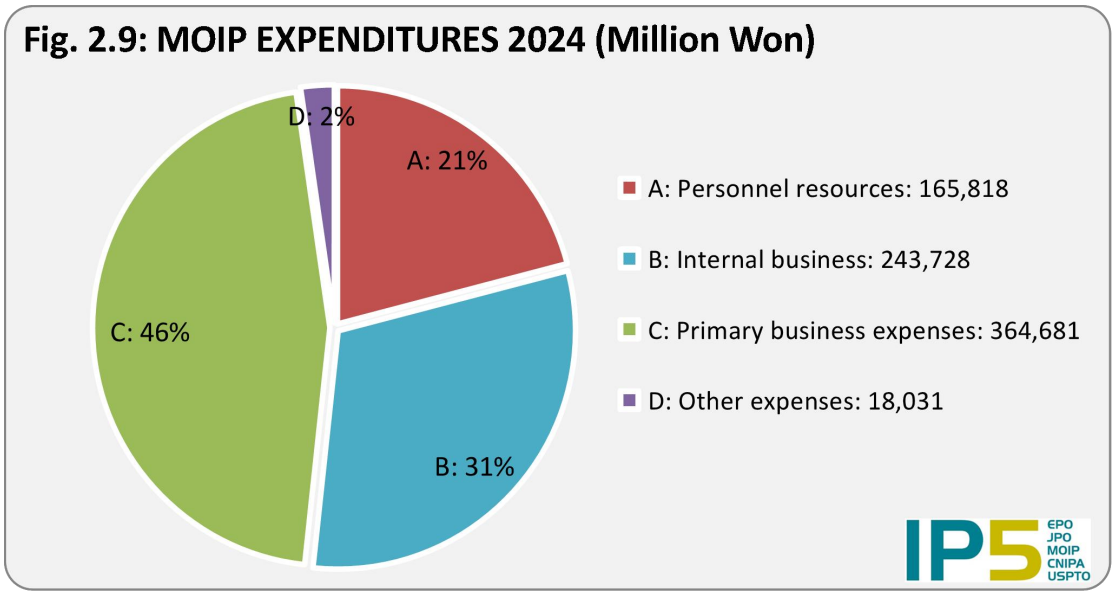
Table 2.3 shows production figures for applications, examinations, grants, appeals or trials and PCT activities for 2023 and 2024.

Table 2.3: MOIP PRODUCTION INFORMATION

MOIP PRODUCTION FIGURES	2023	2024	Change	%Change
Applications filed (by Origin of Application)				
Domestic	191,142	195,786	+ 4,644	+ 2.4%
Foreign	52,168	50,459	- 1,709	- 3.3%
Total	243,310	246,245	+ 2,935	+ 1.2%
Applications filed (by Types of Application)				
Divisional Applications	15,904	15,959	+ 55	+ 0.3%
Converted Applications	20	23	+ 3	+ 15.0%
Others	227,386	230,263	+ 2,877	+ 1.3%
Total	243,310	246,245	+ 2,935	+ 1.2%
Examination				
Requests	199,979	199,384	- 595	- 0.3%
First Actions	177,650	204,097	+ 26,447	+ 14.9%
Final Actions	175,536	167,790	- 7,746	- 4.4%
Grants				
Domestic	99,315	95,165	- 4,150	- 4.2%
Foreign	35,419	32,641	- 2,778	- 7.8%
Total	134,734	127,806	- 6,928	- 5.1%
Appeals/Trials				
Demand for Appeal against refusal	1,700	1,380	- 320	- 18.8%
Demand for Trial for invalidation	336	365	+ 29	+ 8.6%
PCT Activities				
International searches	29,275	31, 213	+ 1,938	+ 6.6%
International preliminary examinations	118	101	- 17	- 14.4%

MOIP budget

Figure 2.9 shows MOIP expenditures by category in 2024



A description of the items in Figure 2.9 can be found in Annex 1.

MOIP Staff Composition

At the end of 2024, the MOIP had a total staff 1,965. The breakdown is as follows.

Examiners	
Patents and Utility Model	1,052
Designs and Trademarks	224
Appeal examiners	106
Other staff	583
Total	1,965

More information

Further information can be found on MOIP's Homepage:
www.moip.go.kr/en/MainApp

China National Intellectual Property Administration

The CNIPA is an institution in charge of intellectual property rights directly under the State Council, which conducts examination and authorization, approving and registering, and administratively adjudicating of patent, trademark, geographical indication, and layout-design of integrated circuit, as well as coordinating foreign-related intellectual property affairs.

Office News

Promote IP utilization

Over the past year, the CNIPA continued to promote high-efficiency IP utilization to empower the development of new quality productive forces. The special action for patent commercialization and utilization was comprehensively promoted, with the number of patent transfer and licensing recordings throughout the year reaching 613,000, increased by 29.9 percent, and the total import and export volume of IP royalties reaching 398.71 billion RMB, increased by 5.9 percent. According to a report by the WIPO, among the top 5,000 brands worldwide, the brand value of Chinese brands amounted to 1.76 trillion USD in total, ranking second globally. The direct output value of geographical indication products exceeded 960 billion RMB, and the trademark brand building and the geographical indication industry flourished.

Strengthen the High-standard IP Protection

Over the past year, the CNIPA continued to strengthen the high-standard IP protection to stimulate the enthusiasm of innovators. The newly amended Implementing Regulations of the Patent Law and Patent Examination Guidelines were officially implemented, amendments to the Trademark Law and the Regulations on the Protection of Layout-Designs of Integrated Circuits were speeded up, and the Guide for Patent Applications for Artificial Intelligence-Related Inventions and the Implementation Plan for the Unified Recognition System of Geographical Indications were issued. The pilot project for IP protection of data was further promoted. The construction of the second batch of national IP protection highlands was carried out at a high standard, with 124 national IP protection centers and fast-track IPR enforcement centers built. The social satisfaction rating on IP protection reached 82.36, hitting a record high.

Highlights Shown in Figures

As of the end of 2024, the total number of domestic invention patents in force in China reached 4.756 million, a year-on-year increase of 16.3 percent. The total number of domestic trademarks in force is 47.620 million, a year-on-year increase of 8.1 percent.

A joint announcement by the CNIPA and the National Bureau of Statistics showed that the added value of China’s patent-intensive industries amounted to RMB 16.9 trillion in 2023, accounting for 13.04 percent of GDP, an increase of 0.44 percentage points from the previous year.

Publish *the China Patent Survey Report* for 9 consecutive years. According to the latest data, the commercialization rate of invention patents of Chinese enterprises is 53.3 percent, an increase of 2.0 percentage points from the previous year (51.3 percent). Notably, the industrialization rates of small and micro enterprises reached 57.8 percent and 36.7 percent respectively, marking continuous growth for two consecutive years.

Patent Examination

The publicity and implementation activities for the revised *Implementing Regulations of the Patent Law* were launched on the theme of “promoting innovation through the rule of law and raising awareness of patent law nationwide”. Support and guidance were delivered to local departments on practical explorations of legislation in the IP field. The legality review and fair competition investigation on normative documents were consistently conducted, and *the Measures of the CNIPA on Fair Competition Review* was formulated to improve the review mechanism.

In 2024, the average pendency for the examination of invention patents was reduced to 15.5 months. The accuracy rate of invention patent examination and conclusion is 95.2 percent. The user satisfaction rating on patent examination quality is 86.8, keeping in the satisfactory range for 15 consecutive years.

Digital Construction

The development and utilization of data information were strengthened, and open licensing data of open patents were added, with basic data of 60 types of IPRs opened. The IP information public service products were continuously enriched and optimized, the “National Intellectual Property Public Service Website – a Government Service Platform of the CNIPA” was integrated and launched, releasing a list of local intellectual property public service platforms and special databases.

The query services for patent and trademark announcement information were launched on the National Government Service Platform to promote more affairs to be “handled online” and “checked on mobile devices”. Leading activities were created, and the Intellectual Property Public Service Patent Search and Analysis Competition was held for three consecutive years to promote the improvement of IP information service levels.

The National Intellectual Property Protection Information Platform was established to achieve the basic functions of the national intellectual property big data center and the public service platform, gathering over 400 types of intellectual property data, and providing authoritative verification and centralized query services for the ownership information of four types of intellectual property, including patents, trademarks, integrated circuit layout designs, and geographical indications. Focusing on key areas such as e administrative law enforcement, and comprehensive supervision in the field of intellectual property, the levels of data sharing and work collaboration were enhanced.

Patent Documentation Resource

In 2024, a total of 138 types of literature resources were allocated, including 7 types of patent resources and 131 types of non-patent resources, providing basic guarantee for patent examination, patent information public service, macro-management and related research; and patent document exchange was carried out with 27 countries (regions) or international organizations, and Chinese patent documents were granted to 5 PCT International Search and Preliminary Examination Authorities.

As of the end of 2024, 540 types of patent documentation resources were collected, including 191 types of bibliography data, 167 types of full-page image data, 83 types of full-text data, 18 types of thematic data, 72 types of auxiliary search data, and 20 types of other data. The bibliographic data, the full-page image data and the full-text data covered 104, 103 and 36 countries (regions) or international organizations, respectively.

International Cooperation

Support was provided for hosting the 2024 International Association for the Protection of Intellectual Property World Congress, and President Xi Jinping sent a congratulatory letter to the congress. The Third Belt and Road High-Level Conference on Intellectual Property was held in Beijing. Chinese Vice Premier Ding Xuexiang attended the opening ceremony of the conference and delivered a speech, emphasizing the important role of IP in the joint pursuit of high-quality Belt and Road cooperation. More than 150 foreign representatives from nearly 70 Belt and Road Initiative partner national and regional organizations participated in the conference.

The CNIPA constructively promoted the conclusion of the WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge and the Riyadh Design Law Treaty. The CNIPA jointly organized with the WIPO the Celebration of the Thirtieth Anniversary of China's Accession to the PCT, the Thirty-First Session of the Meeting of International Authorities under the PCT, the 14th Session of the PCT Working Group, and PCT Roving Seminars, among other activities. It deeply participated in the IP5, China-Japan-R. Korea, China-ASEAN, China-Central Asia, China-Africa and other institutional IP cooperation mechanisms, and promoted the upgrading and expansion of the BRICS cooperation on IP. The CNIPA held activities such as the China-ASEAN online seminars on the latest developments of patent examination laws and regulations, the China-ASEAN training workshop on traditional medicine patent examination, and the IP training workshop for Central Asia, and sent experts to give lectures at the Patent Office of the Gulf Cooperation Council, as well as IP offices of Brunei, Indonesia, Türkiye and other countries.

The CNIPA expanded and enhanced the PPH cooperation network, launched the PPH pilot programs with Bahrain, the African Regional Intellectual Property Organization (ARIPO) and New Zealand, and renewed the PPH pilot programs with Germany, Iceland, Egypt, and Brazil. Its PPH partners have grown to 33, covering 84 countries.

Commissioner Shen Changyu hosted the 18th Heads Meeting between the CNIPA and the EPO in Chengdu, and jointly signed the 2025 Annual Work Plan for the two offices with António Campinos, President of the EPO, to promote the CNIPA-EPO PCT Pilot Project on ISA to enter the second phase, enabling Chinese applicants designating the EPO as their ISA to pay international search fee through the CNIPA in RMB.

The CNIPA attended the annual meetings of the TM5 and ID5. The *2024 TM5 Joint Statement* and the *2024 ID5 Joint Statement* were adopted.

Business cooperation with the JPO and the MOIP was comprehensively deepened, and more than 30 bilateral and trilateral cooperation projects were carried out in areas such as patent and trademark examination, personnel exchanges, and informatization.

CNIPA production information

Table 2.4 shows production figures of patent applications, examination, grants, re-examination and invalidation, and PCT activities in the years 2023 and 2024. The data in table 2.4 concentrate only on patents for invention.

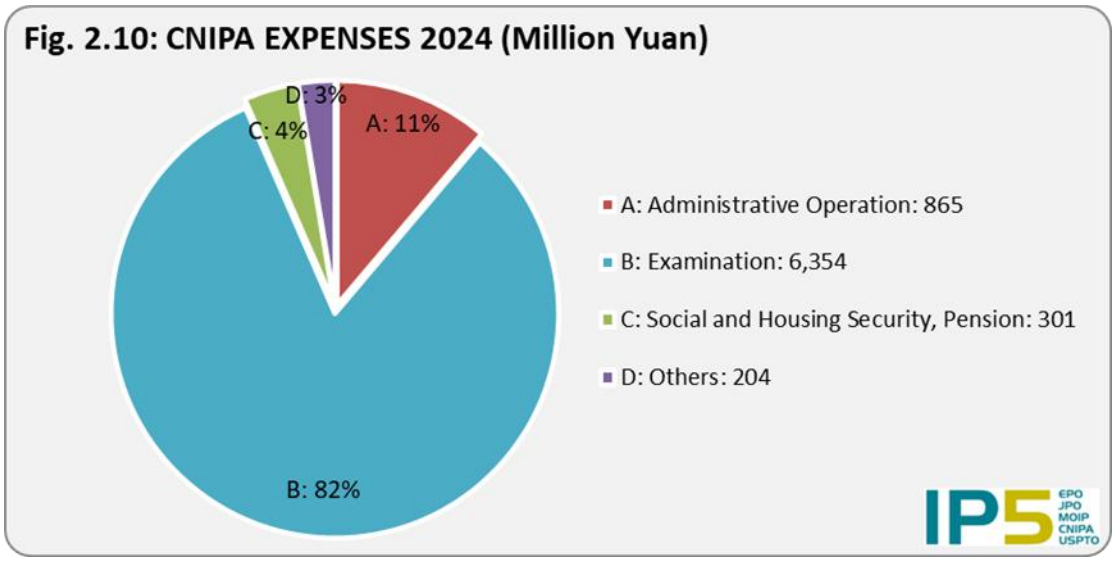
Table 2.4: CNIPA PRODUCTION INFORMATION

CNIPA PRODUCTION FIGURES	2023	2024	Change	% Change
Applications filed				
Domestic	1,522,292	1,672,001	+ 149,709	+ 9.8%
Foreign	155,409	156,053	+ 644	+ 0.4%
Total	**1,677,701**	**1,828,054**	**+ 150,353**	**+ 9.0%**
Examination				
First actions	1,457,265	1,242,331	- 214,934	- 14.7%
Final actions	1,618,806	1,657,795	+ 38,989	+ 2.4%
Grants				
Domestic	819,234	938,174	+ 118,940	+ 14.5%
Foreign	101,563	106,603	+ 5,040	+ 5.0%
Total	**920,797**	**1044,777**	**+ 123,980**	**+ 13.5%**
Re-examination and invalidation				
Re-examination requests	99,087	90,042	- 9,045	- 9.1%
Invalidation request	1,638	1,837	+ 199	+ 12.1%
PCT activities				
International searches	n.a.	n.a.	n.a	n.a
International preliminary examinations	n.a.	n.a.	n.a	n.a

n.a. : not available

CNIPA Budget

Fig 2.10 shows CNIPA expenditures by category in 2024.



A description of the items in Figure 2.10 can be found in Annex 1.

The CNIPA Organization Composition

The CNIPA has eight functional departments, including the General Office, Department of Treaty and Law, Strategic Planning Department, Intellectual Property Protection Department, Intellectual Property Utilization Promotion Department, Public Service Department, International Cooperation Department (Office of Hong Kong, Macao and Taiwan Affairs) and Personnel Department.

More information

Further information can be found on the CNIPA's Homepage:
english.cnipa.gov.cn/

United States Patent and Trademark Office

The United States Patent and Trademark Office (USPTO) is the federal agency under the Department of Commerce responsible for granting U.S. patents and registering trademarks. The USPTO fulfills the mandate of article I, section 8, clause 8 of the Constitution, which grants the Legislative Branch the power 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"; and supports effective administration of the Commerce Clause of the Constitution (article I, section 8, clause 3), whose purpose is "[t]o regulate Commerce with foreign Nations, and among the several States, and with the Indian Tribes."

The USPTO's interim strategic mission is to grant timely and durable patents, register timely and reliable trademarks, and advance IP policies that foster innovation and creativity to promote the progress of science and useful arts. The USPTO will deliver on its mission through two distinct programs—Patents and Trademarks—that administer patent and trademark laws to enable and protect IP. The USPTO is a demand-driven, fee-funded, performance-based agency committed to delivering balanced IP protection and information to all its stakeholders, including inventors, entrepreneurs, businesses, IP organizations, and international entities.

The USPTO provides valued products and services to its customers in exchange for fees that are appropriated to fund its operations. The Under Secretary of Commerce for Intellectual Property and Director of the USPTO leads the agency and consults the Patent Public Advisory Committee and the Trademark Public Advisory Committee on agency policies, goals, performance, budgets, and user fees. The Commissioner for Patents oversees the Patents organization, and the Commissioner for Trademarks oversees the Trademarks organization.

The USPTO is headquartered in Alexandria, Virginia, and has five regional outreach offices: the Northeast Regional Outreach Office (Northeast Office) in Alexandria, Virginia; the Elijah J. McCoy Midwest Regional Outreach Office (Midwest Office) in Detroit, Michigan; the Southwest Regional Outreach Office (Southwest Office) in Dallas, Texas; the Rocky Mountain Regional Outreach Office (Rocky Mountain Office) in Denver, Colorado; and the Western Regional Outreach Office (Western Office) in San Jose, California.

The USPTO fulfills the statutory obligation to provide the presidential administration with guidance and advice on international IP policy and protection including bilateral, regional, and multilateral IP discussions and IP office cooperation, which has led directly to patent work-sharing. Some of these initiatives include supporting free trade agreements and trilateral cooperative activities and working to simplify and harmonize the administrative and technical processing of patent and trademark applications.

The USPTO's Global Intellectual Property Academy provides web-based and on-site training, technical assistance, and capacity-building programs and activities to foreign government officials from other IP offices and other foreign government officials responsible for IP enforcement policy and law enforcement. The USPTO's Office of Enrollment and Discipline administers and oversees the USPTO Patent Pro Bono Program and the USPTO Law School Clinic Certification Program. The Patent Pro Bono Program is a nationwide network of 21 independently operated regional programs that matches volunteer patent attorneys and agents with financially underresourced inventors and small businesses to provide free legal assistance in

securing patent protection. The Law School Clinic Certification Program allows applicants to obtain pro bono legal assistance in both patent and trademark matters while allowing law students enrolled in one of the over 60 participating law school's clinic program to practice intellectual property law before the USPTO under the strict guidance of a law school faculty clinic supervisor.

Agency News

In FY 2024, the USPTO received 466,079 serialized patent applications, an increase of 0.8 percent over the number received in FY 2023. The total combined number of utility, plant, and reissue pending applications increased by 3.8 percent over the prior year. The number of patent grants totaled 319,815, a 3.1 percent decrease from FY 2023.

In early FY 2024 the USPTO Virtual Assistant was launched as a feature on select Patents webpages. This machine learning platform was first used to assist with trademark-related content and now has expanded to answer common patent customer questions with the goal of reaching all innovators and providing them with the information needed to protect their inventions and brands.

In FY 2024 the USPTO established a pre-application assessment program to help American inventors. Called "Pre-Prosecution Pilot", this program supports first-time, prospective inventors by providing assistance assessing the strengths and weaknesses of a potential patent application. The USPTO examiners help to determine novelty by providing search assistance using public patent tools. While this assessment is not an official ruling of patentability, it may help potential applicants avoid common mistakes that may slow down or invalidate the patent review process.

In February 2024 guidance for examiners and stakeholders on how to determine whether the human contribution to an innovation is significant enough to qualify for a patent when AI also contributed was made effective. The guidance embraces the use of AI in innovation and provides that AI-assisted inventions are not categorically unpatentable.

In September 2024, the USPTO kicked off the *Create and Innovate* tour, making multiple stops at libraries across the U.S. highlighting the impact of Patent and Trademark Resource Centers (PTRCs) on the local innovation economy. The tour will empower inventors and small business owners with information, access, and support through workshops, panel discussions, and networking opportunities.

In December 2024, with the addition of two PTRCs in libraries, the USPTO has a total of 100 across the countries and U.S. territories. PTRCs play an instrumental role in advancing the innovation ecosystem by offering free assistance to current and aspiring inventors, innovators, and entrepreneurs in communities across America. In 2024 PTRCs helped about 6,000 individuals through their programs.

The number of trademark applications received in FY 2024 were 4.1 percent above the prior year. For both first action and final action pendency Trademark shortened the time over the prior year. First action pendency was 7.5 month and final action pendency was 14.1 months.

International Cooperation and Work Sharing

The USPTO enters into patent worksharing arrangements with other IP Offices to improve patent examination efficiency, facilitate cooperation within the global patent system, and make it easier for U.S. applicants to obtain patents in foreign jurisdictions. In addition to the IP5 worksharing efforts and the PPH, the USPTO also utilizes the Parallel Patent Grant (PPG) and Accelerated Patent Grant (APG) programs which allow U.S. patent holders to obtain easier and faster corresponding patents in participating Offices based on the USPTO examination and a subject matter eligibility review in the participating Office. The PPG is an Office-driven arrangement while the APG is an applicant-driven arrangement. In FY 2024 Mexico joined Cambodia, Dominican Republic, El Salvador, Panama, and Trinidad and Tobago as an APG partnering country.

In June 2024 the USPTO signed a memorandum of understanding with the United Kingdom Intellectual Property Office which provides the framework for collaboration between the two Offices on policies relating to standard essential patents (SEPs). SEPs are patents that have been declared essential to a given technical standard. As part of the standards-setting process, patent owners may agree to license SEPs on fair, reasonable, and non-discriminatory terms.

USPTO production information

Table 2.5 includes production figures for application filings, PCT searches and examination, first actions, grants, applications in appeal and interference, and patent cases in litigation for the years 2023 and 2024.

Table 2.5: USPTO PRODUCTION INFORMATION

USPTO PRODUCTION FIGURES	2023	2024	Change	% Change
Applications filed				
Utility (patents for invention)[32]	598,090	603,187	+ 5,097	+ 0.9%
Domestic	275,889	270,066	- 5,823	- 2.1%
Foreign	322,201	333,121	+ 10,920	+ 3.4%
Plant	850	806	- 44	- 5.2%
Reissue	807	811	+4	+ 0.5%
Total utility, plant & reissue	599,747	604,804	+ 5,057	+ 0.8%
Design	56,225	63,796	+ 7,571	+ 13.5%
Provisional	149,643	150,274	+ 631	+ 0.4%
Total	805,615	818,874	+ 13,259	+ 1.6%
Request for continued examination (RCE)[33]	134,241	134,396	+ 155	+ 0.1%
PCT Chapter I searches	21,576	21,077	- 499	- 2.3%
PCT Chapter II examinations	515	1,095	+580	+ 112.6%
First actions (utility, plant, reissue)	528,873	522,051	- 6,822	- 1.3%
Grants (total)	315,245	319,815	+ 4,570	+ 1.4%
U.S. residents	148,071	142,324	- 5,747	- 3.9%
Foreign	167,174	177,491	+10,317	+ 6.2%
Japan	38,490	42,079	+ 3,589	+ 9.3%
EPC states	44,984	47,617	+2,633	+ 5.9%
R. Korea	22,081	23,219	+ 1,138	+ 5.2%
P.R. China	24,044	29,798	+ 5,754	+23.9%
Others	37,575	34,778	- 2,797	- 7.4%
Applications in appeal and interference proceedings (includes utility, plant, and reissue)				
Ex-parte cases received	4,262	4,057	- 205	- 4.8%
Ex-parte cases disposed	4,406	3,785	- 621	- 14.1%
Inter-partes cases received	0	45	+ 45	-
Inter-partes cases disposed	0	41	+ 41	-
Patent cases in litigation				
Cases filed	497	570	+ 73	+ 14.7%
Cases disposed	414	398	- 16	- 3.9%
Pending cases (end of calendar year)	795	844	+ 49	+ 6.2%

[32] Unless otherwise noted, the USPTO statistics presented elsewhere in this report are limited to utility patent applications and grants, and include RCEs.
[33] 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.

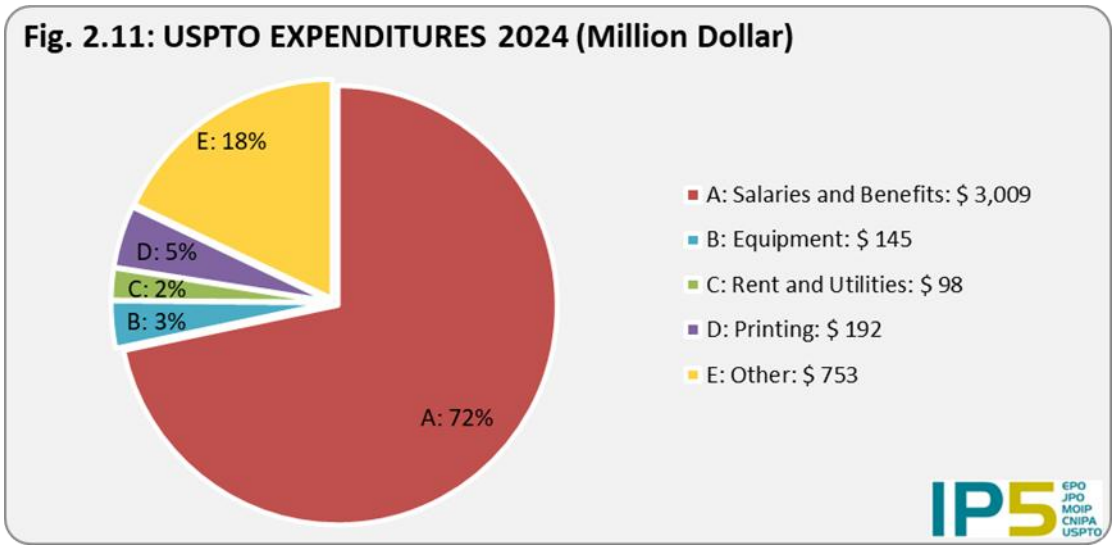
USPTO Budget

The FY 2024 expenditures were $4,196.6 million. Agency-wide, 17.8 percent of expenditures were allocated to IT security and associated IT costs.

Patent Program- $3,696.1 million Carries out the USPTO's mission to administer patent laws to enable and protect IP.

Trademark Program- $499.7 million Carries out the USPTO's mission to administer trademark laws to enable and protect IP.

A description of the items in Figure 2.11 can be found in Annex 1.



A description of the items in Figure 2.11 can be found in Annex 1.

USPTO Staff Composition

At the end of FY 2024, the USPTO work force was composed of 14,082 federal employees. Included in this number are 8,599 Utility, Plant, and Reissue patent examination staff and 345 Design examination staff; 765 Trademark examining attorney staff, and 4,373 managerial, policy, legal, 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

Patenting activity is recognized 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 2019 to 2023[34].

Hereafter, the counts of applications and filings are by the calendar year of filing and grants by the calendar year of grant. Statistics are derived primarily from the WIPO Statistics Database[35], 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 to the WIPO 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 for an invention that is made in one office is often followed by applications to some other offices, with each such application claiming the priority of the earlier first filing. First filings can be seen as an indicator of innovative activity, while foreign filings are an indicator of an intention to utilize such activity for international trade and globalization.

While demand for patent protection is considered principally by counting each national, regional, or PCT 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, 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 phase PCT filings;
- "First filings" include initial patent applications filed prior to any later subsequent filings to extend the protection to other countries;
- "Patent applications" include direct national, direct regional, national stage PCT, and regional stage PCT applications;
- "Demand for national patent rights" includes direct national, national stage PCT, and designations in regional and in regional stage PCT applications.

See "Guide to Figures in Chapter 3" on the next page, and also the explanatory text associated with the individual figures, for further discussion about the applications associated with each of these counting methods.

[34] The statistical tables file found in the web version of this report includes extended time series for much of the data included in this chapter, www.fiveipoffices.org/statistics/statisticsreports.
[35] This edition refers to general patent data as of October 2024, and to PCT international phase application data as of May 2024, www.wipo.int/ipstats/en/index.html. For some statistics on 2023, see Chapter 4.

Patent grants 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 rights, after cumulating the number of designated countries in grants obtained from 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 highly 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 guides the reader to graphs that correspond to the different representations. This also describes the terminology used throughout Chapter 3. Additional explanatory text can be found with each of the referenced figures.

- **Figs. 3.1, 3.2, 3.3, and 3.4** show the numbers of *patent filings* in terms of application forms filled out. The counts include: direct national, direct regional filings (filed with the ARIPO, EAPO, EPO, GCCPO, OAPI[36]), and PCT international filings.

- **Figs. 3.5, 3.6, 3.7 and 3.14** show the numbers of requests for patents as *patent applications*. 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. While direct national and direct regional filings are counted once, PCT filings are replicated over the numbers of national/regional procedures that are started.

- **Figs. 3.8, 3.9, and 3.10** show the 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. This cumulates the demands for distinct national legal rights over the countries concerned. 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.

- **Fig. 3.11 and 3.12** show the numbers of *granted patents*. All grants are counted only once (in an analogous way to Figs. 3.5, 3.6, 3.7, and 3.14 for applications).

- **Fig. 3.13** shows the numbers of *national patent rights granted*. 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 is validated. This gives a representation in terms of national patent rights obtained in each bloc (comparable to Figs. 3.8, 3.9, and 3.10 for applications).

- **Figs. 3.15, 3.16, 3.17 and Table 3** show the numbers of *patent families* that are generated by the set of first filings. They also show the flows between blocs in terms of the first filings for which claims to priority rights were made by subsequent filings in other countries.

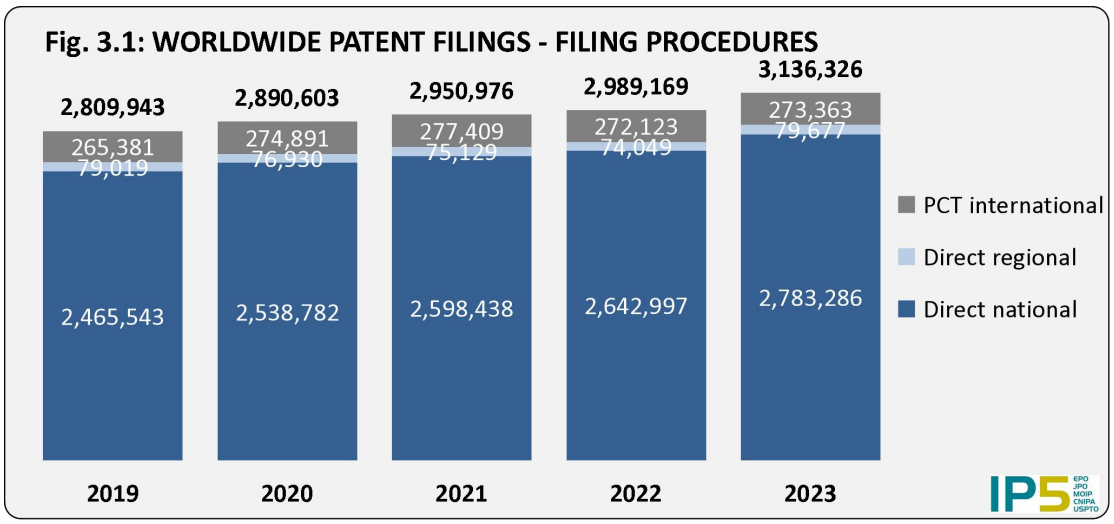
[36] The EAPO is the Eurasian Patent Organization. The GCCPO is the Gulf Cooperation Council Patent Office. The OAPI is the Organisation African Intellectual Property.

PATENT FILINGS

The patent filings that are counted in this section include direct national, direct regional and PCT filings in the international phase.

Figs. 3.1, 3.2, and 3.3 show the numbers of patent filings that were made throughout the world. Here, the filings are counted only once, which means that the number of countries designated in regional filings and in PCT international filings are not used in determining these counts. The total number 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.

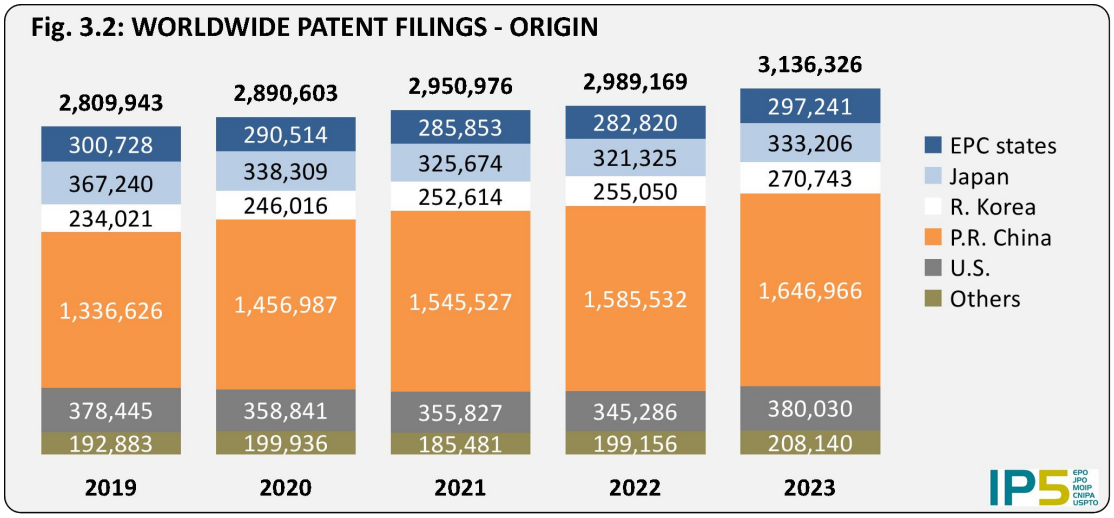
Figure 3.1 shows a breakdown of patent filings according to the three types of filing procedures.



In 2023, the number of patent filings increased by 5 percent to 3.14 million. The number of direct regional filings and direct national filings increased by 8 percent and 5 percent, respectively, while the PCT international phase filings increased by less than 1 percent. Overall, 89 percent of the filings were made according to direct national procedures.

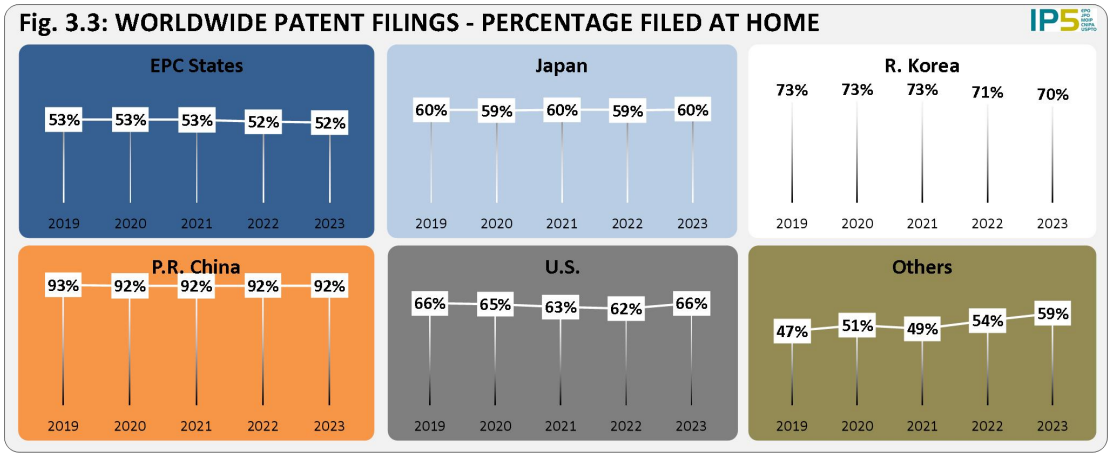
The contribution of the PCT system to filings will be discussed later in this chapter and in Chapter 5.

Figure 3.2 shows the worldwide patent filings of Figure 3.1 broken down by blocs of origin (residence of first-named applicant or inventor).



Between 2019 to 2023, the IP5 Bloc's annual share remained stable at around 93 percent. In 2023, the number of patent filings increased by 5 percent. The number of patent filings that originated from the U.S., R. Korea, the EPC states, P.R. China, and Japan increased by 10 percent, 6 percent, 5 percent, 4 percent, and 4 percent respectively.

Figure 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).



For the IP5 Blocs, P.R. China had the largest proportion of filings made at home in 2023 with 92 percent. Among the IP5 blocs, the EPC states had[37] the lowest proportion with 52 percent.

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

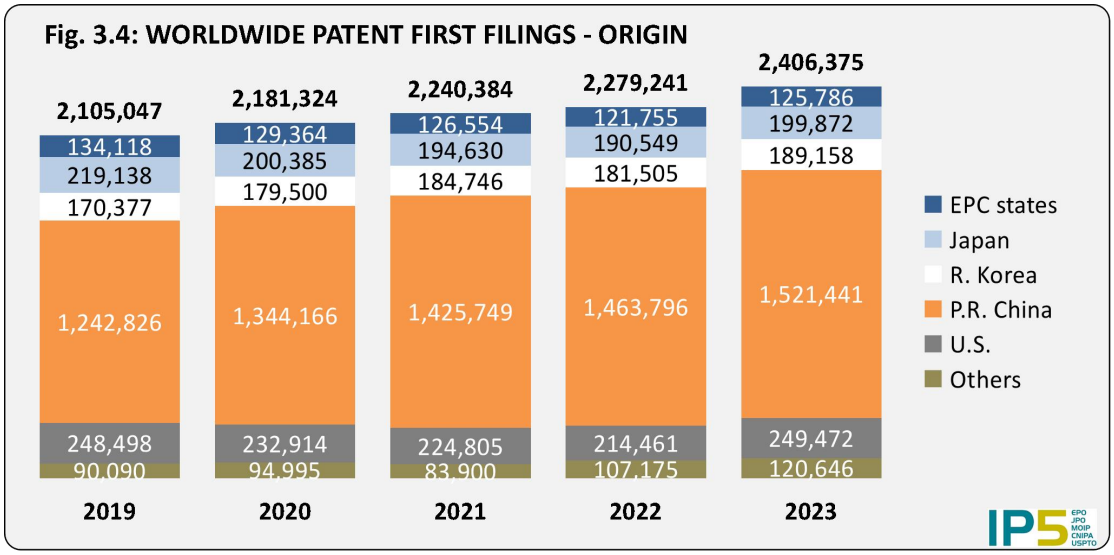
[37] For the purpose of reporting statistics for the EPC states considered as a bloc, a filing by a resident in an EPC state to another EPC state or to the EPO is considered to be filed within the bloc of origin. See the EPO section of Chapter 2 for a listing of the EPC states.

FIRST FILINGS

For the first filings counted in this section, all of the following appear only once: direct national, direct regional filings, and PCT international phase filings.

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

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



The number of worldwide first filings increased by 6 percent from 2022 to 2023. The U.S. had the largest percentage increase in first filings by origin in 2023 (16 percent). First filings from Japan, P.R. China, R. Korea, and the EPC states increased by 5 percent, 4 percent, 4 percent, and 3 percent respectively.

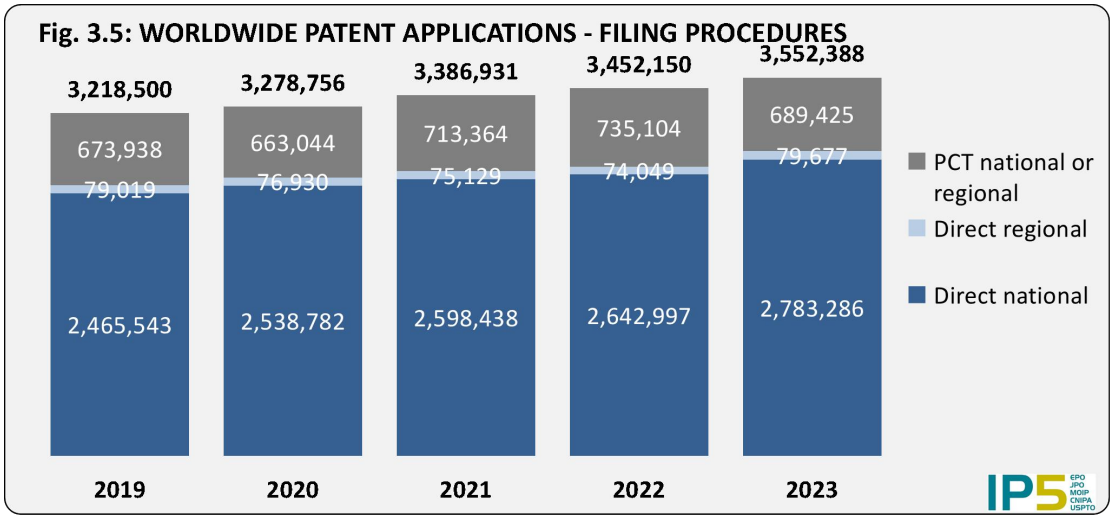
Comparison of Figure 3.2 and 3.4 enables an evaluation of the numbers of subsequent filings, where the first filing for an invention at one office leads on to further filings, either elsewhere or at the same office. From the difference in the total for 2023 between Figure 3.2 and Figure 3.4, it can be estimated that there are 729,951 subsequent filings, meaning that on average there were 0.32 subsequent filings per first filing made in 2022, assuming a one year delay (729,951 / 2,279,241 = 0.32).

PATENT APPLICATIONS

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

Figs. 3.5, 3.6, and 3.7 describe the development of the numbers of patent applications in terms of requests for patents that entered a grant procedure. Note that direct national and direct regional applications enter a grant procedure when filed, while, in the case of PCT applications, the grant procedure is delayed to the end of the international phase[38]. In the following figures, the number of PCT applications consists of a count of the applications that entered a national or 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 Figure 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 phase entry applications.

Figure 3.5 shows the development of worldwide patent applications broken down by filing procedures.

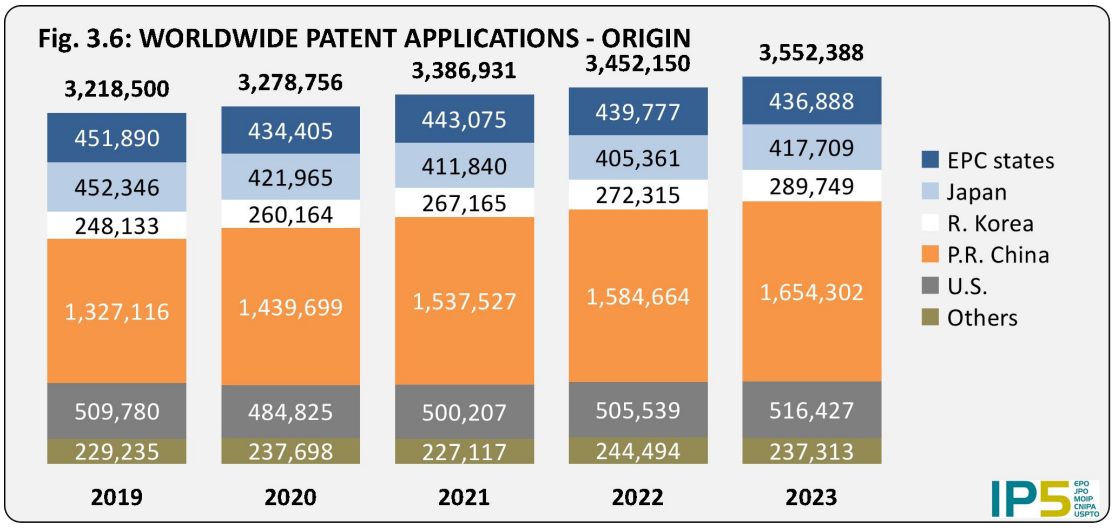


In 2023, nearly 3.6 million patent applications were filed worldwide. This represents a 3 percent increase compared to 2022 and a 5 percent increase from 2021.

The number of direct regional applications, and direct national applications increased by 8 percent, and 5 percent respectively, while the number of PCT national/regional applications decreased by 6 percent.

[38] The national or regional phase under the PCT is entered up to 30 months or 31 months after the priority date of the first filing.

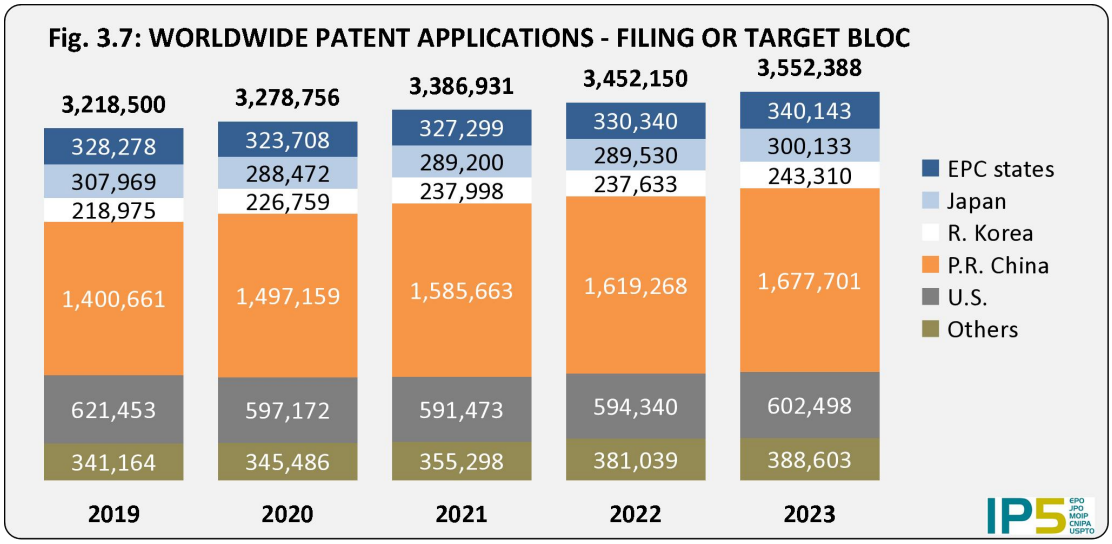
Figure 3.6 shows the origins (residence of first-named applicants or inventors) of the worldwide patent applications of Figure 3.5 entering a national or regional grant procedure.



In 2023, the largest share of applications in the IP5 Bloc originated from P.R. China. R. Korea had the largest percentage increase in applications by origin in 2023 (6 percent). The number of applications from P.R. China, Japan, and the U.S. increased by 4 percent, 3 percent, and 2 percent respectively, while the number of applications from the EPC states decreased by 1 percent.

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

Figure 3.7 shows the distribution of the worldwide patent applications according to the filing blocs and is based on the same data as in Figure 3.5 and Figure 3.6.



In 2023, the number of applications from P.R. China, Japan, the EPC states, R. Korea and the U.S. increased by 4 percent, 4 percent, 3 percent, 2 percent, and 1 percent respectively. Worldwide, applications increased by about 3 percent.

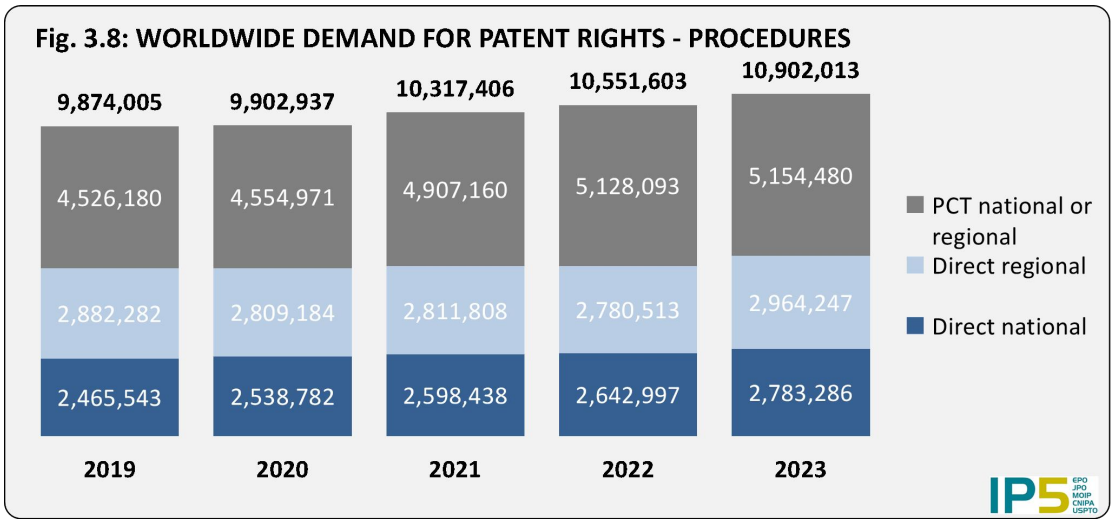
DEMAND FOR NATIONAL PATENT RIGHTS

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

With an increasing use of PCT and regional systems, and also the increasing number of countries joining such systems, the number of applications filed corresponds to a large number of demands for national patent rights. The number cumulates designated countries that are covered by the applications. This effectively measures the number of national patent applications that would have been necessary to seek patent protection in the same countries if there were no PCT 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 a regional system are demands for almost each and every individual member country. So, demand counts for regional offices are expanded to the numbers of countries covered by regional systems[39].

Figure 3.8 shows the demand for national patent rights broken down by filing procedures.

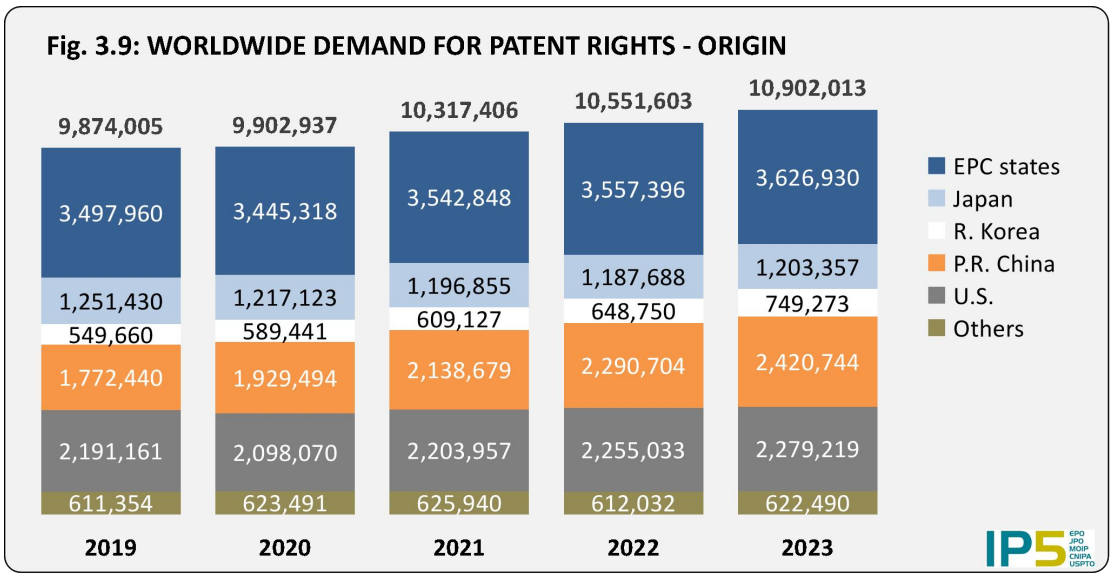


From 2022 to 2023, the worldwide demand for patent rights increased by 3 percent. In 2023, the use of direct regional, direct national, and PCT national or regional procedures increased by 7 percent, 5 percent, and 1 percent respectively.

Centralized filing procedures (PCT and direct regional) made up about 74 percent of the total demand in 2023. This illustrates the importance of these procedures to help users to expand their patent protection without needing to make separate applications to every country of interest.

[39] At the end of 2023, 90 states were party to a regional patent system, ARIPO 20 (Harare Agreement), EAPC 8, EPC 39, GCCPO 6 and OAPI 17. Also, at the end of 2021, 153 states were party to the PCT (157 end of March 2023). In addition, national patents can also be created in other states that have extension or validation agreements with the EPO (see Chapter 2).

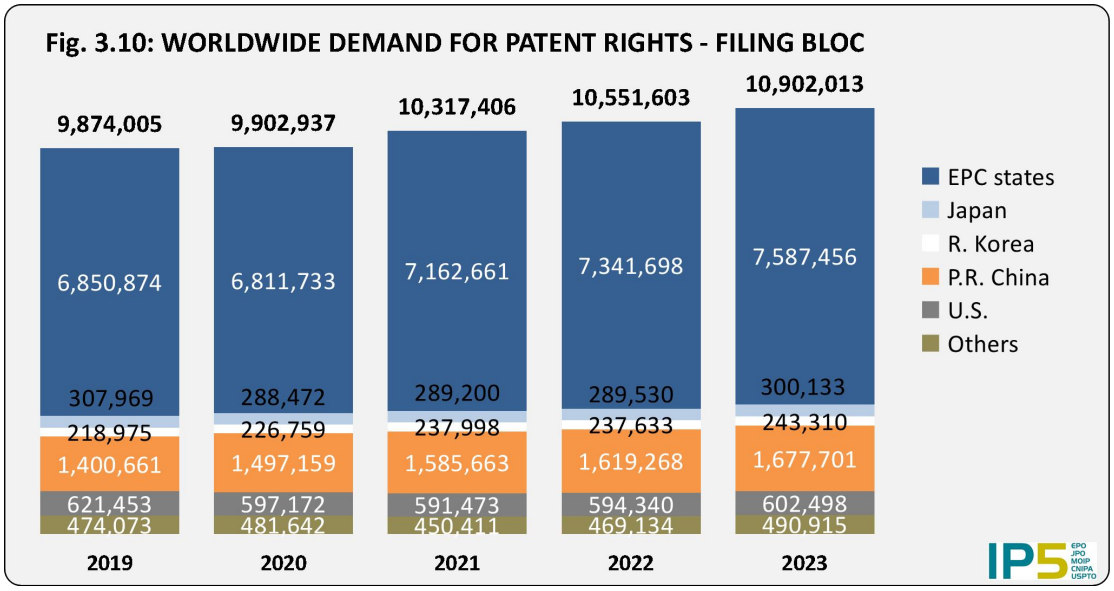
Figure 3.9 shows the demand for national patent rights by blocs of origin (residence of first-named applicants or inventors) and is based on the same data as Figure 3.8.



From 2022 to 2023, the worldwide demand for patent rights increased by 3 percent. Demand from R. Korea, P.R. China, the EPC states, Japan and the U.S. increased by 15 percent, 6 percent, 2 percent, 1 percent, and 1 percent respectively.

The large share of the EPC states reflects, among other factors, the intensive use of the international and regional systems there. This is shown even more clearly in the next chart for the distribution of the patent rights.

Figure 3.10 shows the demand for national patent rights according to the filing blocs and is based on the same data as in Figure 3.8 and Figure 3.9.

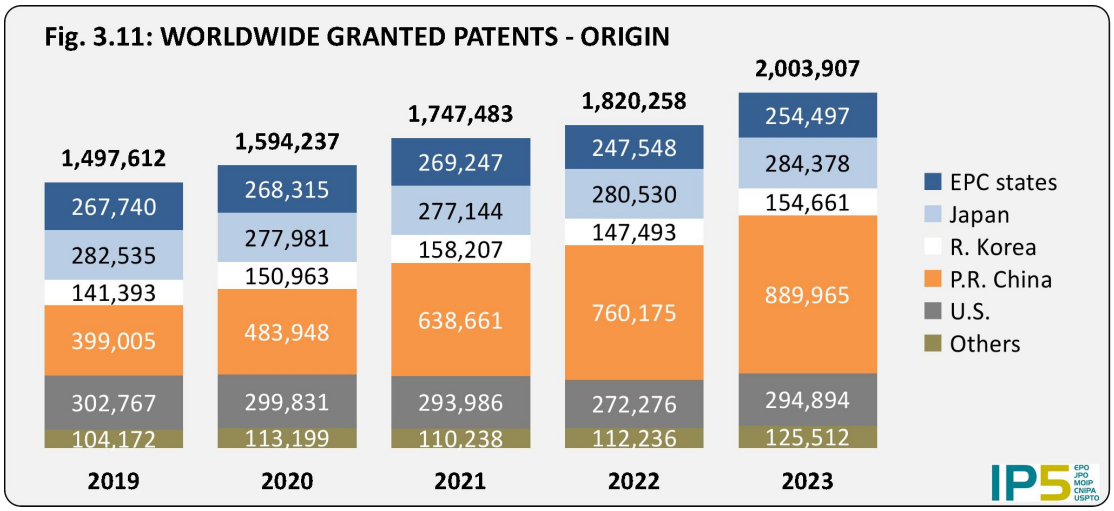


This chart illustrates the influence of regional patent systems. In 2023, the demand for national patent rights increased by 4 percent in both Japan and P.R. China, 3 percent in the EPC states, 2 percent in R. Korea, and 1 percent in the U.S.

GRANTED PATENTS

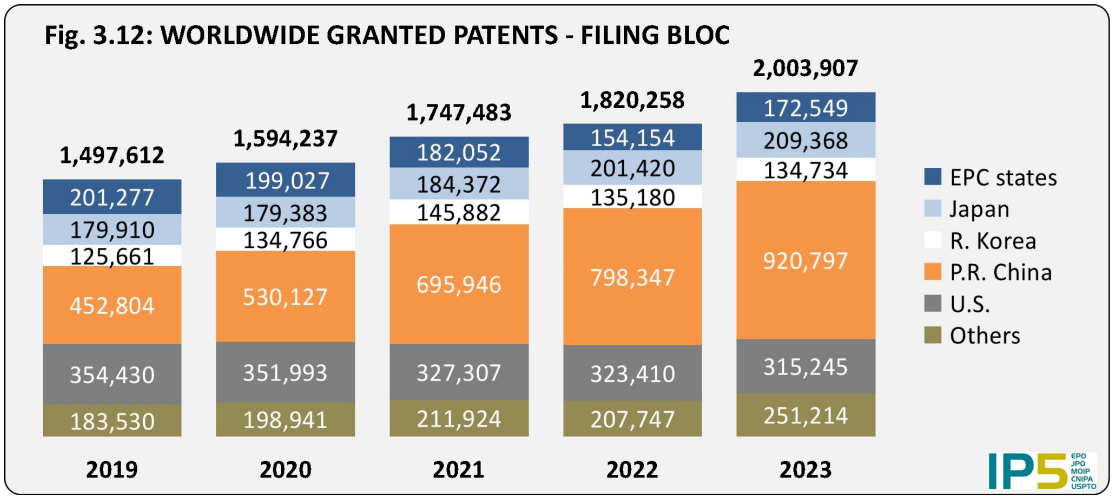
The development of the use of patents is shown in this section in terms of grants.

Figure 3.11 shows the granted patent by blocs of origin (residence of first-named applicants or inventors).



The total number of worldwide granted patents increased by 10 percent in 2023. Patents granted to residents of P.R. China, the U.S., R. Korea, the EPC states, and Japan increased by 17 percent, 8 percent, 5 percent, 3 percent, and 1 percent respectively.

Figure 3.12 displays the breakdowns of the numbers of granted patents in each of the blocs.



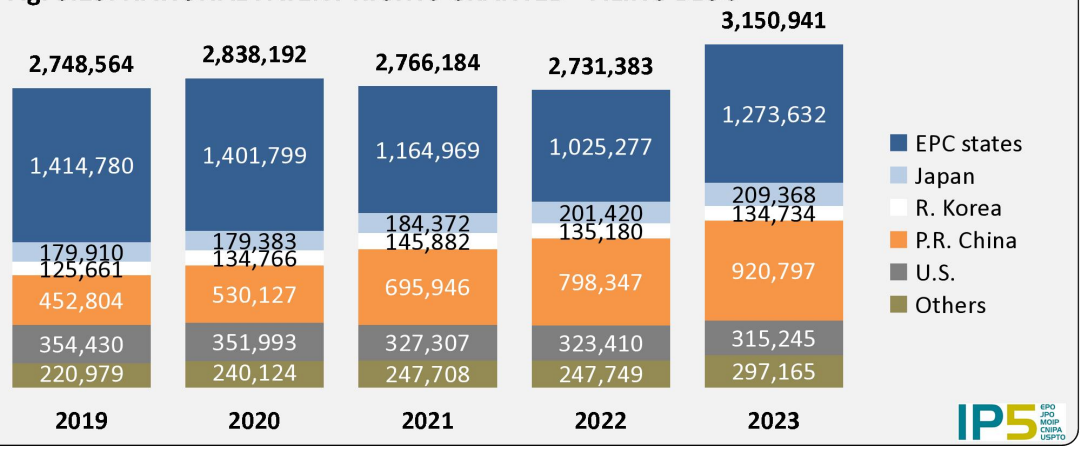
China had the largest percentage increase at 15 percent. The number of granted patents in the EPC states and Japan increased by 12 percent and 4 percent, respectively, while it decreased by 3 percent in the U.S. and by no more than 1 percent in R. Korea.

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

Granted patents are counted only once per office, although the same invention may lead to grants at several offices. However, each grant action by a regional office (e.g. the EPO) can lead to as many national patents as the number of member states that have been designated. This has an effect only in the EPC states and Others, as shown in the following Figure 3.12.

Figure 3.13 shows validated national grants resulting from the decisions reported in Figure 3.12. 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 is validated. This gives a representation in terms of national patent rights obtained in each bloc.

Fig. 3.13: NATIONAL PATENT RIGHTS GRANTED - FILING BLOC



In 2023, more than 3.1 million patent rights were granted, which represents a 15 percent increase compared to 2022.

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 Figure 3.13 is much larger than the number of grant actions shown in Figure 3.12.

The number of national patent rights granted by the EPC states increased by 24 percent. Information for the Japan, P.R. China, R. Korea, and U.S. blocs is the same as in Fig 3.12 as on the previous page.

The data for Others should be compared between years with caution. 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 and countries covered there by regional patents.

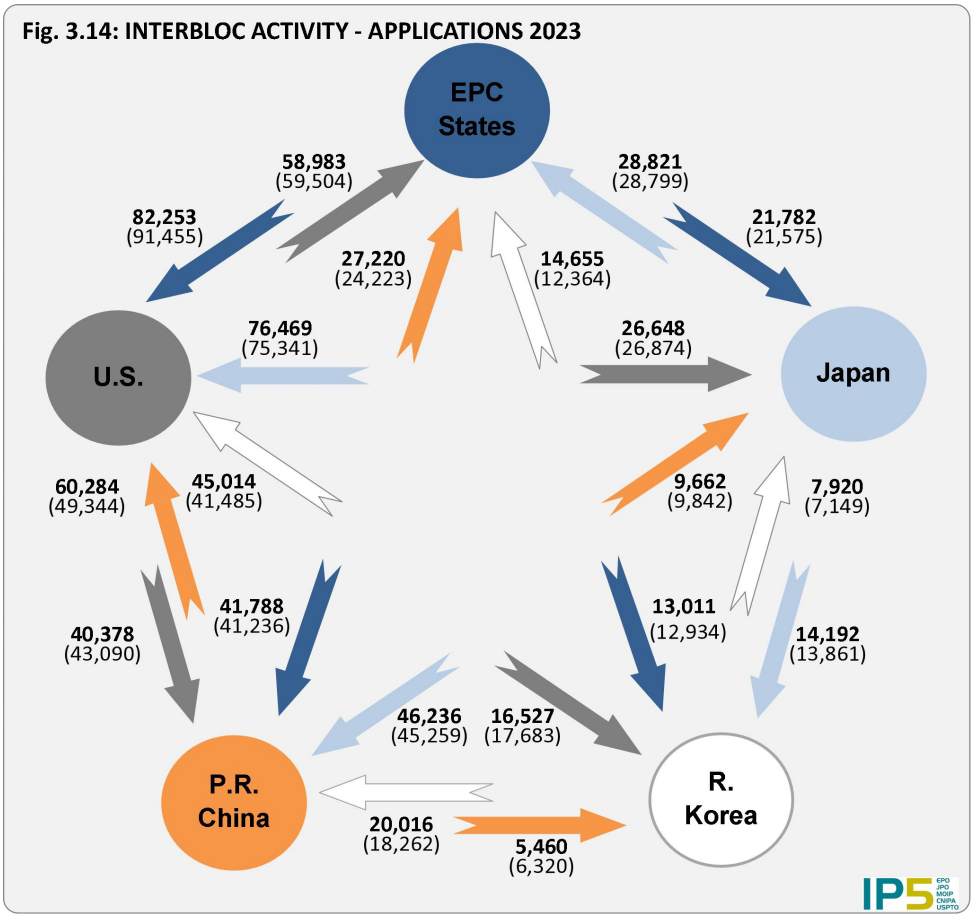
INTER-BLOC ACTIVITY

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

Figure 3.14 shows the flows of patent applications between IP5 Blocs (residence of first-named applicants or inventors, as in Figure 3.5) in 2023, with 2022 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 applications are counted only once. PCT applications are replicated over the numbers of national or regional procedures that are started.



As a general pattern, when applying abroad there were more applications in the U.S. than in any of the other IP5 Blocs. When filing abroad, U.S. applicants applied more in the EPC states than in any of the other IP5 Blocs. In 2023, the largest gap between blocs was between: Japan and the U.S.; Japan and P.R. China; and R. Korea and the U.S.

In 2023, seven of the twenty inter-bloc flows decreased to some extent. All flows from Japan and R. Korea increased, while all flows from the U.S. decreased. The flow from the EPC states to the U.S. decreased, while other flows to the U.S. increased.

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)[40] of worldwide patent publications. The statistics are based on the references to priorities that were given in published applications and grants. For counts of first filings in this section, the numbers of domestic national filings are taken, as in Figure 3.4. Due to the delay in publication (relative to the time of filing), patent family counts can only be reported with 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 2019 and 2020. 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.

Table 3: NUMBERS OF PATENT FAMILIES

Year of priority: 2019

Bloc of origin from which priority is claimed	First filings in bloc of origin	Flows to subsequent filings: First filings in bloc of origin leading to priority claims in filings in:								IP5 Patent Families from bloc of origin
		Any other bloc	Any other IP5 bloc	EPC states	Japan	R. Korea	P.R. China	U.S.	Other countries	
EPC states	134,118	54,923 (41.0%)	53,670 (40.0%)		16,743 (12.5%)	10,667 (8.0%)	36,880 (27.5%)	47,941 (35.7%)	17,356 (12.9%)	7,426 (5.5%)
Japan	219,138	66,430 (30.3%)	64,693 (29.5%)	23,727 (10.8%)		13,230 (6.0%)	45,134 (20.6%)	52,823 (24.1%)	14,451 (6.6%)	5,321 (2.4%)
R. Korea	170,377	29,326 (17.2%)	29,143 (17.1%)	10,866 (6.4%)	5,935 (3.5%)		17,266 (10.1%)	26,746 (15.7%)	3,131 (1.8%)	3,513 (2.1%)
P.R. China	1,242,826	41,196 (3.3%)	38,559 (3.1%)	16,868 (1.4%)	9,768 (0.8%)	4,877 (0.4%)		32,197 (2.6%)	8,102 (0.7%)	2,884 (0.2%)
U.S.	248,498	96,457 (38.8%)	88,837 (35.7%)	72,103 (29.0%)	31,774 (12.8%)	23,620 (9.5%)	62,361 (25.1%)		47,778 (19.2%)	14,714 (5.9%)
IP5 blocs substotal	2,014,957	288,332 (14.3%)	274,902 (13.6%)	123,564 (6.1%)	64,220 (3.2%)	52,394 (2.6%)	161,641 (8.0%)	159,707 (7.9%)	90,818 (4.5%)	33,858 (1.7%)
Others	90,090	20,562 (22.8%)	9,476 (10.5%)	7,333 (8.1%)	3,698 (4.1%)	2,484 (2.8%)	8,687 (9.6%)	16,483 (18.3%)		1,101 (1.2%)
Globla total	2,105,047	308,894 (14.7%)	284,378 (13.5%)	130,897 (6.2%)	67,918 (3.2%)	54,878 (2.6%)	170,328 (8.1%)	176,190 (8.4%)	90,818 (4.3%)	34,959 (1.7%)

Year of priority: 2020

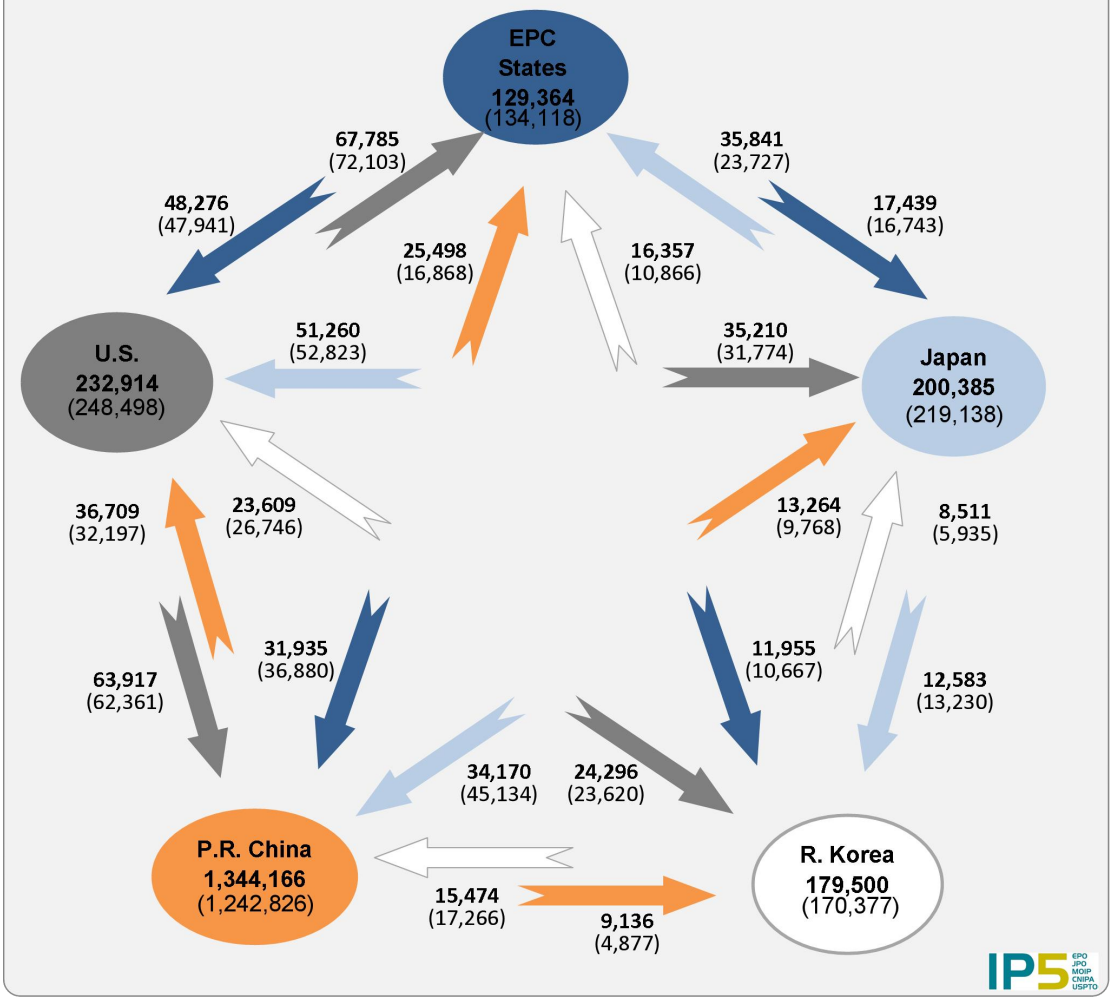
Bloc of origin from which priority is claimed	First filings in bloc of origin	Flows to subsequent filings: First filings in bloc of origin leading to priority claims in filings in:								IP5 Patent Families from bloc of origin
		Any other bloc	Any other IP5 bloc	EPC states	Japan	R. Korea	P.R. China	U.S.	Other countries	
EPC states	129,364	65,426 (50.6%)	62,560 (48.4%)		17,439 (13.5%)	11,955 (9.2%)	31,935 (24.7%)	48,276 (37.3%)	17,705 (13.7%)	4,766 (3.7%)
Japan	200,385	72,723 (36.3%)	70,214 (35.0%)	35,841 (17.9%)		12,583 (6.3%)	34,170 (17.1%)	51,260 (25.6%)	18,722 (9.3%)	5,738 (2.9%)
R. Korea	179,500	33,523 (18.7%)	32,421 (18.1%)	16,357 (9.1%)	8,511 (4.7%)		15,474 (8.6%)	23,609 (13.2%)	8,589 (4.8%)	3,722 (2.1%)
P.R. China	1,344,166	49,892 (3.7%)	47,783 (3.6%)	25,498 (1.9%)	13,264 (1.0%)	9,136 (0.7%)		36,709 (2.7%)	13,446 (1.0%)	3,960 (0.3%)
U.S.	232,914	111,793 (48.0%)	104,199 (44.7%)	67,785 (29.1%)	35,210 (15.1%)	24,296 (10.4%)	63,917 (27.4%)		36,877 (15.8%)	10,025 (4.3%)
IP5 blocs substotal	2,086,329	333,357 (16.0%)	317,177 (15.2%)	145,481 (7.0%)	74,424 (3.6%)	57,970 (2.8%)	145,496 (7.0%)	159,854 (7.7%)	95,339 (4.6%)	28,211 (1.4%)
Others	94,995	23,315 (24.5%)	13,100 (13.8%)	11,457 (12.1%)	5,947 (6.3%)	4,043 (4.3%)	11,042 (11.6%)	16,666 (17.5%)		1,379 (1.5%)
Globla total	2,181,324	356,672 (16.4%)	330,277 (15.1%)	156,938 (7.2%)	80,371 (3.7%)	62,013 (2.8%)	156,538 (7.2%)	176,520 (8.1%)	95,339 (4.4%)	29,590 (1.4%)

Source: EPO DOCDB Database

Figure 3.15 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 2020. The flow figures between blocs of origin and target blocs indicate the numbers of 2020 first filings from the bloc of origin that led to subsequent filings in the target bloc. The comparable figures for 2019 are given in parentheses.

[40] DOCDB is the EPO master documentation database of patent publications, with worldwide coverage containing bibliographic data, abstracts and citations (but not the full text of the applications).

Fig. 3.15: INTERBLOC ACTIVITY - FIRST FILINGS 2020 FILED ABROAD



From information in Table 3, out of all first filings in the IP5 Blocs in 2020 (2,086,329), 15 percent formed patent families that included at least one of the remaining IP5 Blocs (317,177). Proceeding to a higher degree of selectivity, less than 2 percent of all first filings in the IP5 Blocs in 2020 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 in 2020 differed considerably according to the bloc of origin of the first filings, as can be seen in Table 3 (EPC states 3.7 percent, Japan 2.9 percent, R. Korea 2.1 percent, P.R. China 0.3 percent, U.S. 4.3 percent, and for Others 1.5 percent).

Figure 3.16 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 2020 patent family data as presented in Table 3. Four colored circles appear in each diagram, with each circle representing the percentage of subsequent filings in an IP5 Bloc that resulted 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 the total number of first filings that were received in each of the IP5 Blocs in 2020. 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 lower part of Table 3.

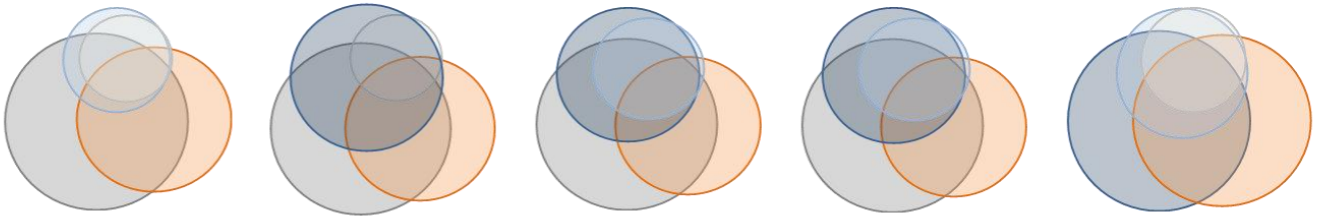
Underneath the colored diagrams, the percentages next to the bloc combinations show subsidiary percentages of subsequent filings that flowed to more than one other IP5 Bloc.

For instance, patent families from first filings in EPC member states that were subsequently filed in the P.R. China and the U.S. blocs are indicated in the graphical display by the area where the orange and grey circles overlap in the first diagram. The corresponding percentage is 16.6 percent, as shown next to the pair of orange and grey 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 Japan circle indicates that only a small percentage and number of the patent families from EPC states were filed in Japan without also being filed in at least one of the other IP5 Blocs, as well.

The last row of the table in Figure 3.16 shows the proportions of IP5 patent families, as also appear in the last column of the lower part of Table 3.

Fig. 3.16: 2020 PATENT FAMILIES - PERCENTAGES OF FIRST FILINGS WITH SUBSEQUENT FILINGS IN OTHER IP5 BLOCS

First filings in	EPC states offices*	Japan (JPO)	R.Korea (MOIP)	P.R.China (CNIPA)	U.S. (USPTO)
	129 364	200 385	179 500	1 344 166	232 914
Bilateral families with subsequent filings in					
EPC states	-	17.9%	9.1%	1.9%	29.1%
Japan	13.5%	-	4.7%	1.0%	15.1%
R. Korea	9.2%	6.3%	-	0.7%	10.4%
P.R. China	24.7%	17.1%	8.6%	-	27.4%
U.S.	37.3%	25.6%	13.2%	2.7%	-



Three bloc families with subsequent filings in					
EPC states & Japan	-	-	3.2%	0.7%	10.4%
EPC states & R. Korea	-	4.2%	-	0.4%	7.0%
EPC states & P.R. China	-	9.9%	5.0%	-	16.0%
EPC states & U.S.	-	12.6%	6.5%	1.3%	-
Japan & R. Korea	5.6%	-	-	0.4%	6.4%
Japan & P.R. China	8.9%	-	3.1%	-	9.9%
Japan & U.S.	9.9%	-	3.5%	0.7%	-
R. Korea & U.S.	6.5%	4.4%	-	0.5%	-
P.R. China & R. Korea	6.5%	4.5%	-	-	7.4%
P.R. China & U.S.	16.6%	11.4%	5.8%	-	-
Four bloc families with subsequent filings in					
EPC states & Japan & R. Korea	-	-	-	0.3%	5.3%
EPC states & Japan & P.R. China	-	-	2.4%	-	7.9%
EPC states & Japan & U.S.	-	-	2.8%	0.6%	-
EPC states & R. Korea & P.R. China	-	3.5%	-	-	5.7%
EPC states & R. Korea & U.S.	-	3.5%	-	0.4%	-
EPC states & P.R. China & U.S.	-	7.7%	3.9%	-	-
Japan & R. Korea & P.R. China	4.5%	-	-	-	5.1%
Japan & R. Korea & U.S.	4.6%	-	-	0.3%	-
Japan & P.R. China & U.S.	7.2%	-	2.5%	-	-
P.R. China & R. Korea & U.S.	5.0%	3.4%	-	-	-
IP5 families	3.7%	2.9%	2.1%	0.3%	4.3%

** EPO or EPC states national offices*

From Figure 3.16 and Table 3, the 2020 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 second most important market for the other IP5 Blocs is P.R. China. From the U.S., the most important foreign market is the EPC States, followed by P.R. China. From P.R. China, the most important foreign market is the U.S., followed by the EPC States.

For the first filings in the EPC member states, the largest percentage of subsequent filings is directed to the U.S. (37.3 percent). First filings in the EPC member states tend to result in a higher percentage of subsequent filings overseas, as compared to the first filings in other IP5 Blocs, except for the case of first filings from the U.S. going to R. Korea.

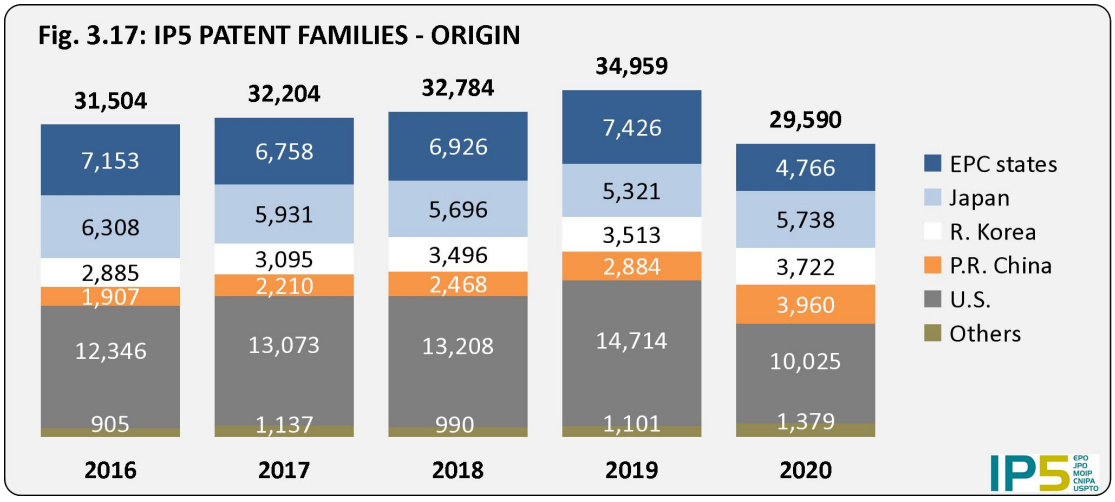
For the first filings in Japan, the largest percentage of subsequent applications is directed to the U.S. (25.6 percent) and the EPC member states is the next largest (17.9 percent), while P.R. China is 17.1 percent.

For the first filings in R. Korea, as with the other blocs, the percentage of subsequent applications filed in the U.S. (13.2 percent) is the largest, followed by the EPC member states (9.1 percent). The percentage of subsequent applications filed in P.R. China is 8.6 percent.

For the first filings in P.R. China, the percentage of subsequent applications filed in the U.S. (2.7 percent) is the largest. The percentage filed in the EPC member states is the next largest (1.9 percent), while in Japan is 1.0 percent. 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 2019 and the 2020 data in Table 3 (38,559 compared to 47,783, respectively).

Among the first filings in the U.S., the highest percentage flows to the EPC member states (29.1 percent). The percentage filed in the P.R. China (27.4 percent) is the next highest, while filings in Japan and R. Korea are at 15.1 percent and 10.4 percent, respectively.

Figure 3.17 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.



The total number of IP5 patent families in 2020 was 29,590 of which 34 percent were from the U.S., 19 percent were from Japan, 16 percent were from the EPC states, 13 percent were from R. Korea, 13 percent were from P.R. China, and 5 percent were from Others.

Chapter 4

PATENT ACTIVITY AT THE IP5 OFFICES

This chapter presents trends in patent application filings and grants at the IP5 Offices only, including also some breakdowns by technologies. While in Chapter 3 the latest data lag by one year, most of the information that appears here includes data for last year[41]. The patent office statistics for Europe in this chapter are for the EPO only and do not include statistics from 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, 3.7, and 3.14) which show the numbers of requests for patents as patent applications[42]. 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 Figure 3.11, 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.

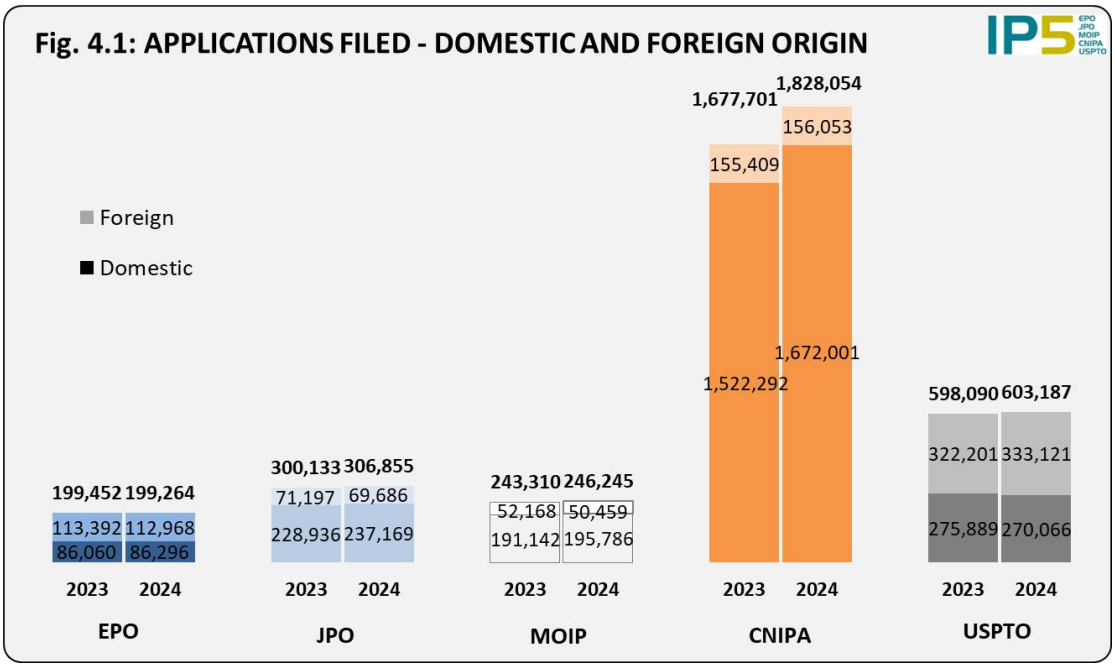
For information about specific terminology and associated definitions used in Chapter 4, please refer to Annex 2.

[41] The statistical tables file found in the web version of this report includes extended time series for much of the data included in this chapter. www.fiveipoffices.org/statistics/statisticsreports.
[42] See the section "Guide to figures in Chapter 3" at the beginning of Chapter 3.

PATENT APPLICATIONS FILED

ORIGIN

Figure 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 2024, a total of 3,183,605 patent applications were filed at the IP5 Offices, an increase of 6 percent from 2023 (3,018,686).

Patent applications increased by 2 percent at the JPO, 9 percent at the CNIPA, 1 percent at the MOIP and the USPTO, while they decreased by less than 1 percent at the EPO.

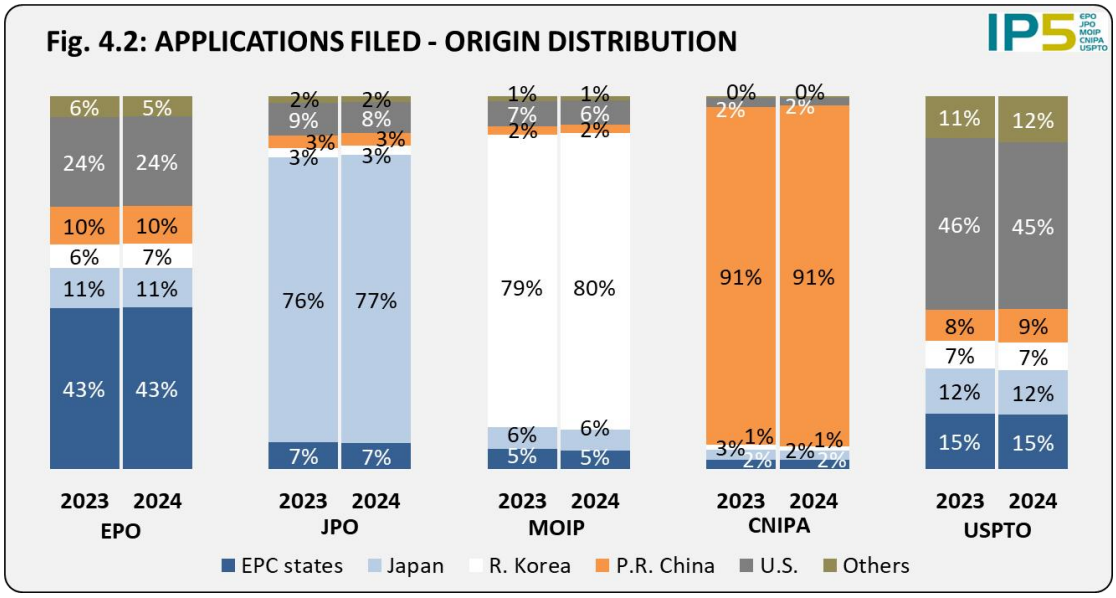
While domestic applications increased at the EPO, JPO, MOIP and CNIPA by 0.3, 4, 2, and 10 percent respectively, while they decreased by 2 at the USPTO. Foreign applications increased at the CNIPA and the USPTO, while they decreased at the EPO, the JPO and the MOIP.

Table 4.1 shows the number of patent application filings by origin (residence of first-named applicants or inventors) relative to total filings at each office for 2024.

Table 4.1: 2024 APPLICATIONS FILED – ORIGIN

Office / Origin	EPO	JPO	MOIP	CNIPA	USPTO	Total
EPC States	86,296	21,211	12,452	43,486	87,995	251,440
Japan	21,062	237,169	13,862	45,201	72,350	389,644
R. Korea	13,107	8,151	195,786	21,040	44,432	282,516
P.R. China	20,081	9,986	5,648	1,672,001	53,848	1,761,564
U.S.	47,787	25,228	15,578	39,584	270,066	398,243
Others	10,931	5,110	2,919	6,742	74,496	100,198
Total	**199,264**	**306,855**	**246,245**	**1,828,054**	**603,187**	**3,183,605**

Figure 4.2 shows the respective shares of patent applications filings by origin (residence of the first-named applicant or inventor) relative to the total number of applications filed at each office, for 2023 and 2024.



The shares of patent application filings by bloc of origin vary between Offices, but are generally consistent for 2023 and 2024 within each Office.

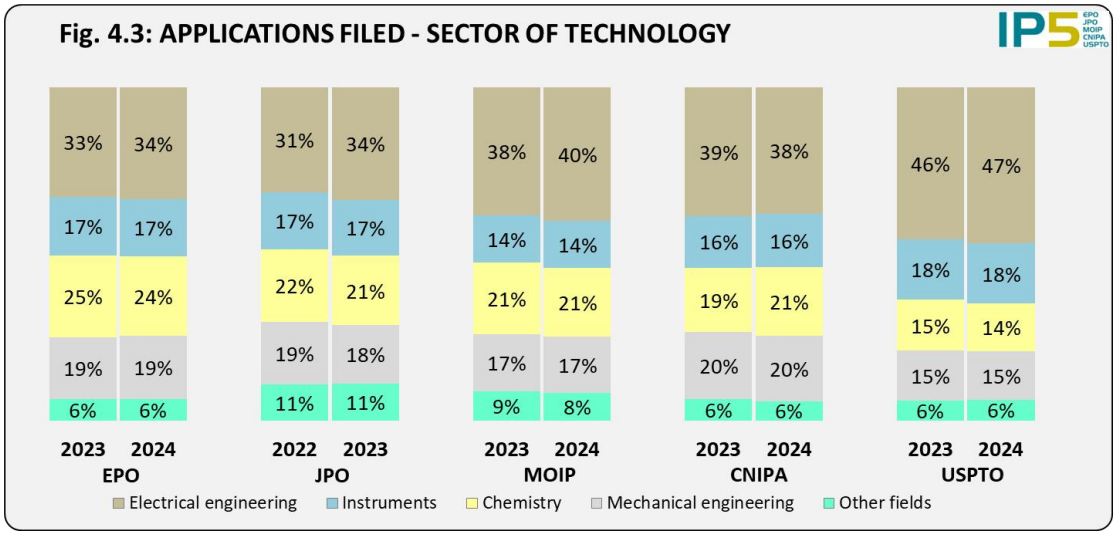
Caution should be used when comparing the numbers of applications between the IP5 Offices, due to the fact that the average number of claims contained in individual applications varies significantly. On average, in 2024, an application filed at the EPO contained 14.8 claims, (14.8 in 2023), while an application filed at the JPO contained an average of 11.8 claims (11.9 in 2023), and an application filed at the MOIP contained an average of 11.4 claims (11.5 in 2023). At the CNIPA, an application contained an average of 10.5 claims (10.5 in 2023), while one filed at the USPTO had 17.8 claims (17.9 in 2023) on average.

See the annexed statistical tables for longer trends.

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 sectors[43]. Figure 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 MOIP, the CNIPA, and the USPTO for the filing years 2023 and 2024 while for the JPO the breakdown is given for the filing years 2022 and 2023[44].



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 EPO than in the other IP5 Offices. At each office, the distribution between sectors of technology was fairly stable between the two years reported. On the longer term, there are some slow variations that can be seen in the statistical annex.

Figure 4.4 describes the distribution of the 2024[45] applications by the more detailed fields of technology at each office (left column for each IP5 Office), and the change in application counts compared to 2023 (right column). Actual shares and percentage changes in application counts are shown for the top 10 leading fields at each Office. The distribution of applications is represented by a color scale: the darker the shade of a color, the greater the share. The extent of change is reflected by a red–to-green color scale, the dark red indicates a marked decrease and dark green indicates a marked increase.

[43] www.wipo.int/meetings/en/doc_details.jsp?doc_id=117672
www.wipo.int/export/sites/www/ipstats/en/statistics/patents/xls/ipc_technology.xls
[44] JPO data are delayed by 1 year because the IPC assignment is completed just before the publication of the Unexamined Patent Application Gazette (18 months after the first filing).
[45] In the case of JPO data for 2023 are reported and compared to data for 2022.

Fig. 4.4: DISTRIBUTION OF APPLICATIONS FILED BY FIELD OF TECHNOLOGY - 2024

Field of technology	EPO		JPO		MOIP		CNIPA		USPTO	
	Share	Change	Share	Change	Share	Change	Share	Change	Share	Change
1. Electrical machinery, apparatus, energy	8%	+9%	9%	-1%	10%	+15%	8%	+14%	7%	-3%
2. Audio-visual technology			3%	-2%	4%	+12%			4%	-5%
3. Telecommunications										
4. Digital communication	8%	-6%			5%	-2%	5%	-3%	9%	-10%
5. Basic communication processes										
6. Computer technology	8%	+3%	6%	+3%	8%	+6%	16%	+7%	16%	-4%
7. IT methods for management			6%	+83%	6%	-4%	4%	+8%	4%	-11%
8. Semiconductors			4%	+10%	6%	+4%			5%	-2%
9. Optics			4%	-3%						
10. Measurement	5%	-1%	5%	-1%	5%	+5%	9%	+12%	4%	-10%
11. Analysis of biological materials										
12. Control										
13. Medical technology	8%	-3%	6%	+5%	5%	-3%			9%	-5%
14. Organic fine chemistry	3%	+2%								
15. Biotechnology	4%	+5%								
16. Pharmaceuticals	4%	-13%							3%	-14%
17. Macromolecular chemistry, polymers										
18. Food chemistry										
19. Basic materials chemistry										
20. Materials, metallurgy							3%	+17%		
21. Surface technology, coating										
22. Micro-structural and nano-technology										
23. Chemical engineering							4%	+8%		
24. Environmental technology										
25. Handling										
26. Machine tools							4%	+6%		
27. Engines, pumps, turbines										
28. Textile and paper machines										
29. Other special machines	3%	-5%								
30. Thermal processes and apparatus										
31. Mechanical elements										
32. Transport	5%	+3%	4%	0%	5%	+3%	3%	+4%	5%	-10%
33. Furniture, games			6%	+9%						
34. Other consumer goods										
35. Civil engineering					3%	-2%	4%	+1%		

% change on previous year <0% >0%

Electrical engineering | Instruments | Chemistry | Mechanical engineering | Other fields

Four fields are leading fields at all the IP5 Offices: *1. Electrical machinery, apparatus, energy*; *6. Computer technology*; *10. Measurement and 32 Transport*.

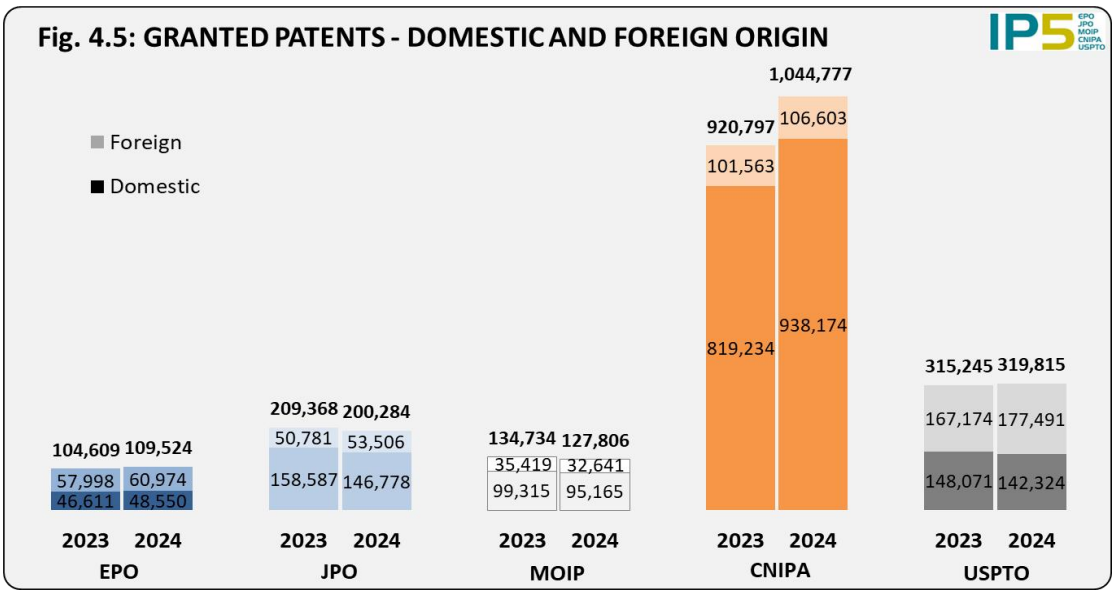
Six of the leading fields at the USPTO and the MOIP, five of the leading fields at the JPO, and four of the leading fields at the CNIPA are related to the Electrical engineering sector (1 to 8). At the JPO, the MOIP and the USPTO, most of leading fields are related to the Electrical engineering sector (1 to 8) or to Instruments sector (9 to 13). At the CNIPA and the EPO, the leading fields are more spread between sectors.

The highest shares in a field can be found in *6. Computer technology* receiving 16 percent of all applications at both the CNIPA and the USPTO.

GRANTED PATENTS

ORIGIN

Figure 4.5 shows the numbers of granted patents 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 1,802,206 patents in 2024. This was 117,453 more than in 2023 and represents an increase of 7 percent.

The numbers of granted patents increased in 2024 at the EPO, the CNIPA and the USPTO by 5 percent, 13 percent and 1 percent, respectively. In contrast, the number of granted patents decreased by 4 percent at the JPO and by 5 percent at the MOIP.

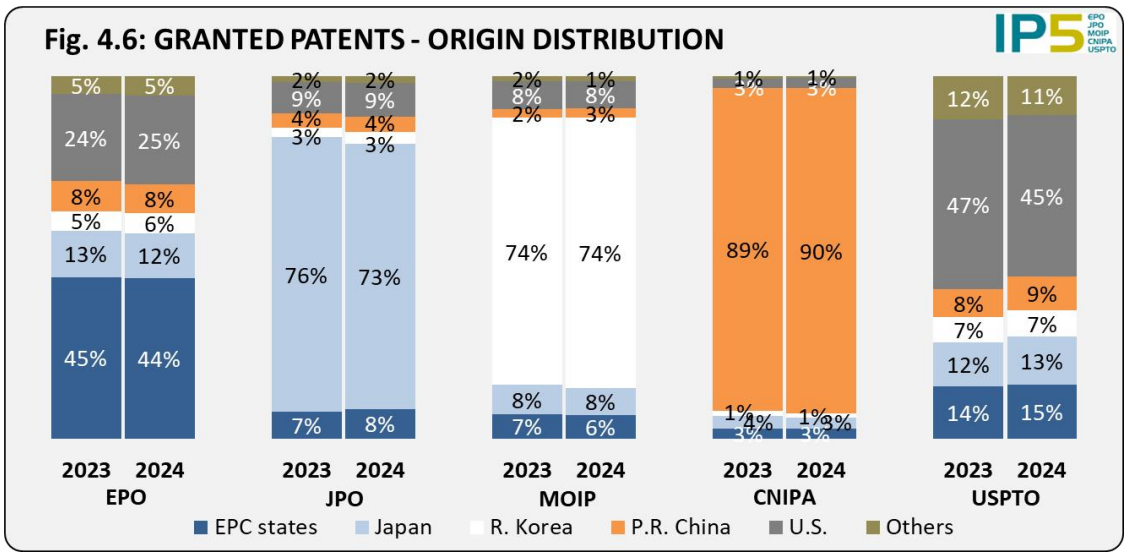
The differences between the IP5 Offices regarding the absolute numbers of granted patents can only be partly explained by differences in the numbers of corresponding applications. These numbers are also affected by differing grant rates and durations to process applications by the IP5 Offices (see the section below “Statistics on Procedures”).

Table 4.2 shows the number of granted patents by origin (residence of first-named owner or inventor) at each office for 2024.

Table 4.2: 2024 GRANTED PATENTS – ORIGIN

Office / Origin	EPO	JPO	MOIP	CNIPA	USPTO	Total
EPC States	48,550	16,191	8,153	26,975	47,617	147,486
Japan	13,444	146,778	9,741	31,772	42,079	243,814
R. Korea	6,094	6,259	95,165	13,620	23,219	144,357
P.R. China	8,716	8,694	3,385	938,174	29,798	988,767
U.S.	26,868	18,523	9,640	28,467	142,324	225,822
Others	5,852	3,839	1,722	5,769	34,778	51,960
Total	**109,524**	**200,284**	**127,806**	**1,044,777**	**319,815**	**1,802,206**

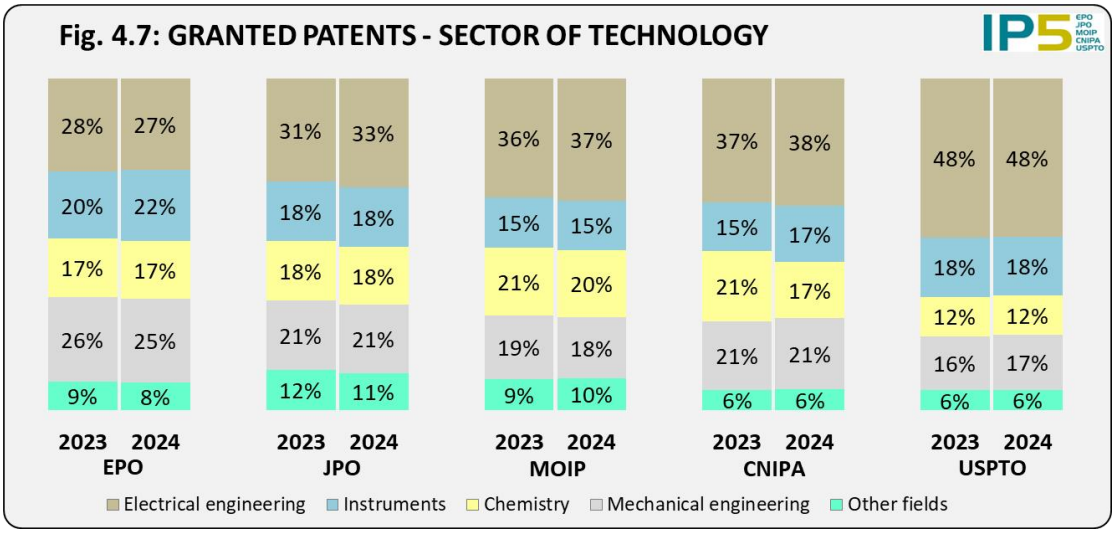
Figure 4.6 shows the shares of granted patents by origin (residence of first-named owner or inventor) at each office for 2023 and 2024.



At all offices, the distribution of granted patents is comparable to the distribution of applications that is shown in Figure 4.2.

SECTORS AND FIELDS OF TECHNOLOGY

Figure 4.7 shows the distribution of the granted patents in 2023 and 2024 at each office according to the five main sectors of technology.



The distribution of granted patents by sectors is fairly consistent with that shown in Figure 4.3 for applications. For example, at the EPO, the share of Chemistry in granted patents is lower than the share in applications, and the share of Mechanical engineering is higher than in applications.

Figure 4.8 describes the distribution of the 2024 granted patents by the more detailed fields of technology at each office (left column for each IP5 Office), and the change in granted patents counts compared to 2023 (right column). Actual shares and percentage changes in patent counts are shown for the top 10 leading fields at each Office. The distribution of applications is represented by a color scale: the darker the shade of a color, the greater the share. The extent of change is reflected by a red–to-green color scale, the dark red indicates a marked decrease and dark green indicates a marked increase.

Fig. 4.8: DISTRIBUTION OF GRANTED PATENTS BY FIELD OF TECHNOLOGY - 2024

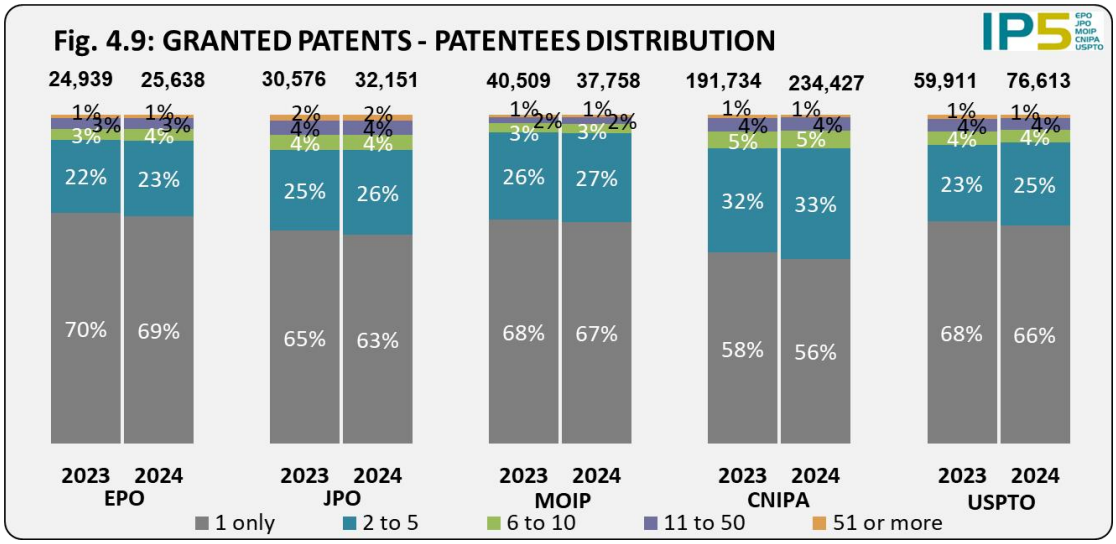
Field of technology	EPO Share	EPO Change	JPO Share	JPO Change	MOIP Share	MOIP Change	CNIPA Share	CNIPA Change	USPTO Share	USPTO Change
1. Electrical machinery, apparatus, energy	5%	-3%	9%	-5%	9%	+2%	7%	+40%	6%	+4%
2. Audio-visual technology				+5%	4%	-6%			5%	+6%
3. Telecommunications										-4%
4. Digital communication	8%	-5%		-3%	3%	-12%	5%	-5%	10%	+3%
5. Basic communication processes										
6. Computer technology	7%	+13%	7%	-1%	7%	-6%	17%	+17%	15%	-1%
7. IT methods for management			4%		5%	-1%				
8. Semiconductors			4%	+6%	7%	2%			5%	0%
9. Optics			4%	-5%					3%	-2%
10. Measurement	6%	+5%	5%	-13%	5%	+3%	9%	+37%	4%	-3%
11. Analysis of biological materials										
12. Control										
13. Medical technology	10%	+21%	6%	-2%	5%	-14%	4%		7%	+5%
14. Organic fine chemistry										
15. Biotechnology										
16. Pharmaceuticals										
17. Macromolecular chemistry, polymers										
18. Food chemistry										
19. Basic materials chemistry										
20. Materials, metallurgy								-18%		
21. Surface technology, coating										
22. Micro-structural and nano-technology										
23. Chemical engineering							4%	+2%		
24. Environmental technology										
25. Handling			4%				4%			
26. Machine tools							5%	+29%		
27. Engines, pumps, turbines	3%	+9%								
28. Textile and paper machines										
29. Other special machines	4%	+5%						-1%		
30. Thermal processes and apparatus										
31. Mechanical elements		+3%								
32. Transport	6%	-2%	4%	-14%	5%	-3%	3%	+10%	5%	+6%
33. Furniture, games			6%	-17%						
34. Other consumer goods	3%									
35. Civil engineering	3%	-9%			4%	+2%	4%	+23%	2%	
	EPO		JPO		MOIP		CNIPA		USPTO	

% change on previous year
<0% >0%

Electrical engineering | Instruments | Chemistry | Mechanical engineering | Other fields

In 2024, *1. Electrical machinery, apparatus, energy*; *6. Computer technology*; *10. Measurement*; *13. Medical technology*, and *32. Transport* were leading fields in all IP5 Offices in granted patents. At the EPO, *27. Engines, pumps, turbines,34 Other consumer goods* and *35. Civil engineering* are leading fields in granted patents but not in applications. At the MOIP, the leading fields for granted patents and applications trend are similar. At the JPO and the CNIPA, *25. Handling* is a leading field in granted patents but not in applications. At the USPTO, *9. Optics* and *35. Civil engineering* are leading field in granted patents but not in applications. There was a large increase in granted patents in *1. Electrical machinery, apparatus, energy* and *10. Measurement* at the CNIPA.

Figure 4.9 shows the breakdown of patentees by their numbers of granted patents in 2023 and 2024.



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, because there are many more grantees that receive low numbers of grants rather than high numbers of grants. The proportions are generally consistent between 2023 and 2024 for each office. See the annexed statistical tables for longer term trends. These distributions are stable over the period.

At the CNIPA there is a slightly higher share of the “2 to 5” category than at the other IP5 Offices.

Most of the patentees received only one grant in a year. In 2024, the proportion was between 56 percent (CNIPA) and 69 percent (EPO). The proportion of patentees that received less than six patents was between 89 percent for both the JPO and the CNIPA, and 94 percent for the MOIP. The proportion of patentees receiving 11 or more patents was higher at the JPO (6 percent) than at the USPTO (5 percent), at the EPO (4 percent), at the CNIPA (5 percent), and at the MOIP (3 percent).

In 2024, the average number of granted patents received remained unchanged for the EPO and the MOIP when comparing 2024 to 2023. The numbers were four for the EPO, six at the JPO, three at the MOIP, four at the CNIPA, and four at the USPTO. The greatest number of patents granted to a single applicant was 2,240 at the EPO, 3,897 at the JPO, 5,255 at the MOIP, 4,211 at the CNIPA, and 9,867 at the USPTO. This maximum number for 2024 was larger than for 2023 at the USPTO and the JPO.

MAINTENANCE

A patent is enforceable for a fixed term that depends on actions taken by the owner. In the IP5 Offices, the maximum term is usually twenty years 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, including those of the IP5 Offices, protection expires if a renewal fee is not paid in due time.

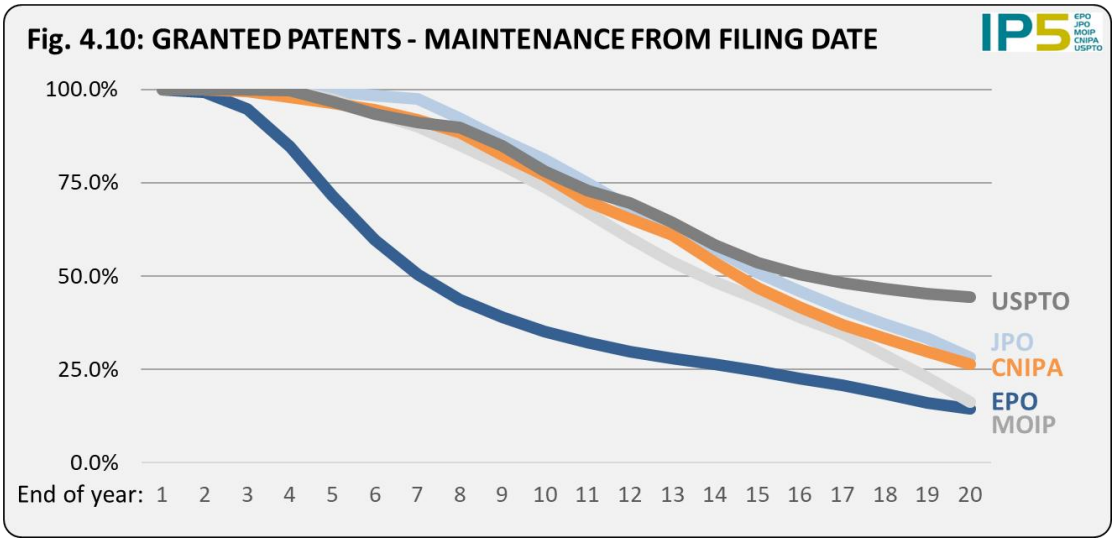
At the EPO, annual renewal fees are payable at the beginning of the year from the third year after filing in order to maintain the application. After the patent has been granted, renewal fees are then paid to the national office of each designated EPC contracting state in which the patent has been registered. 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 need to choose 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 CNIPA, 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 at 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.

Figure 4.10 shows the proportions of granted patents 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 39 EPC states[46].



At the USPTO, 44 percent of the granted patents are maintained for a full 20 years from filing. This is compared to 28 percent at the JPO, 26 percent at the CNIPA, 16 percent at the MOIP and 15 percent at the EPO.

More than 50 percent of the USPTO granted patents are maintained for at least 16 years, compared to 15 years at the JPO, 14 years at the CNIPA, 13 years at the MOIP, and 7 years at the EPO.

In addition to patentees' behaviour, these differences can be partly explained by differences in the procedures, such as a multinational maintenance system (EPO), deferred examination (JPO, MOIP, CNIPA) and a stepped maintenance payment schedule (USPTO). Changes in patent laws and administrative processes also may have some effect on maintenance rates.

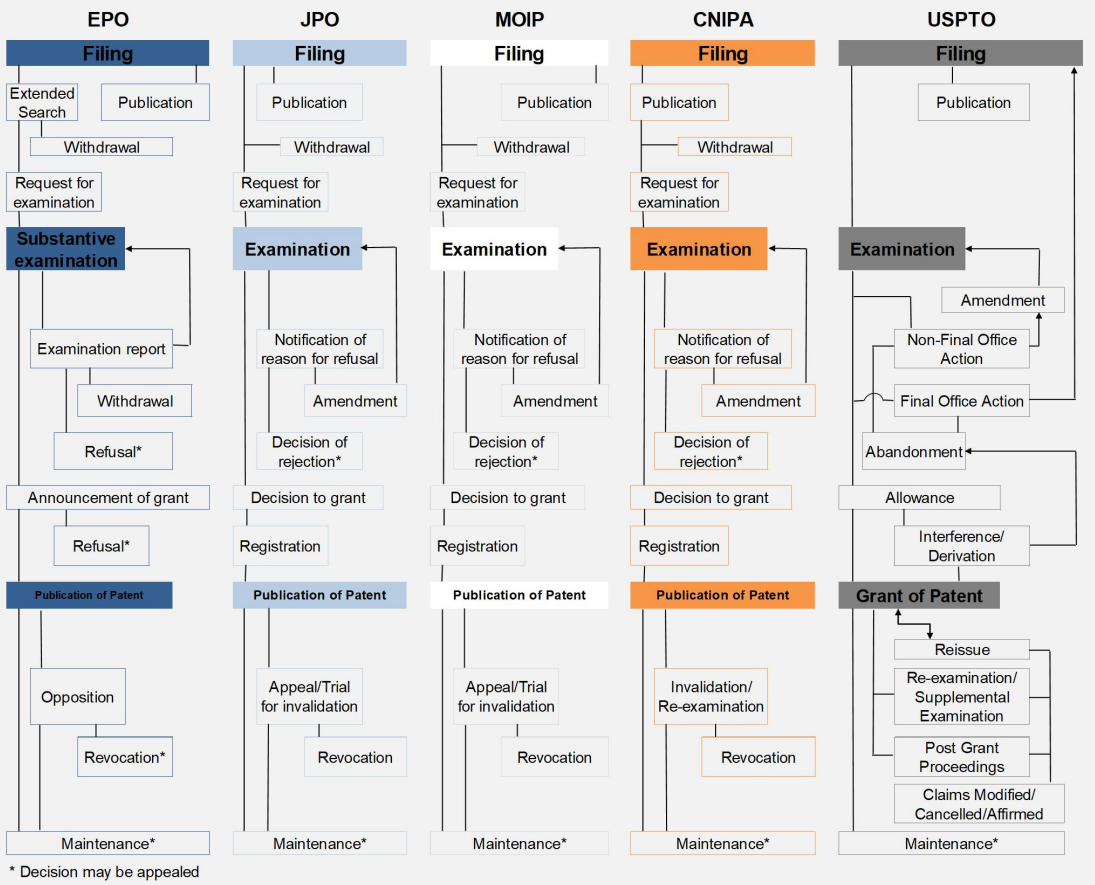
[46] Once granted by the EPO, European patents need to be validated to come into force in the various member states that are designated at the time of grant.

PATENT EXAMINATION PROCEDURES

PROCEDURE FLOW CHART

Figure 4.11 is a simplified view of the major phases of the procedures at the IP5 Offices and concentrates on the similarities between offices to motivate the comparative statistics to be presented in Table 4.3. However, the reader should bear in mind when interpreting such statistics that details of the procedures differ between offices, sometimes to quite a large degree (e.g. in time lags between stages of the procedures).

Fig. 4.11: PATENT EXAMINATION PROCEDURES



See Annex 2 for some further details about the procedures.

Fees are due at different stages of the procedure. Information on main comparable fees at the IP5 Offices is made available online on the IP5 home page[47].

[47] See www.fiveipoffices.org/statistics/statisticaldata under fees. These data are not guaranteed to be entirely accurate or up to date. Official fee schedule information and associated regulations from each IP5 Office take precedence.

STATISTICS ON THE PROCEDURES

Table 4.3 shows various statistics as average rates and numbers where applicable for 2023 and 2024. Definitions of the various terms are given in Annex 2.

Details on the definition of the terms presented in Table 4.3 can found in Annex 2. In the following cases, there exist some differences between the offices:

- Pending examination: For the MOIP, only the unexamined patent applications with a request for examination filed have been counted. In the reports prior to the 2016 edition, the figure of this category included the entire unexamined patent applications.

- Pendency first office action: For the EPO the measurement begins at the date of initial filing and ends upon completion of either the extended European search report that includes a written opinion on patentability or, in the case of a PCT without supplementary search, the international search report with a written opinion. The JPO, the MOIP, and the CNIPA measure from the request for examination. Rather than measuring average pendency, in 2021 the USPTO has transitioned to a compliance rate based on compliance with a 14-month goal between filing and the mailing of the first office action, in accordance with its statutory mandate.

- Pendency final action: 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, MOIP), the date on which the application enters the substantive examination phase (CNIPA). Rather than measuring average pendency, in 2021 the USPTO has transitioned to a compliance rate based on compliance with a 36 month goal between filing and mailing of a final office action, in accordance with its statutory mandate.

Note: The length of time until request for examination can vary, this leads to significant differences between offices in the time periods that are reported.

Table 4.3: STATISTICS ON THE PROCEDURES

Definitions of the various terms are given in Annex 2.

Progress in the procedure Rates in percentage	Year	EPO	JPO	MOIP	CNIPA	USPTO
Examination	2023	88.2	74.8	86.4	n.a.	100.0
	2024	88.5	75.8	85.8	n.a.	100.0
Grant	2023	64.3	75.9	72.9	51.9	81.8
	2024	63.0	76.3	74.6	56.1	80.9
Opposition	2023	2.4	0.7	-	n.a	n.a
	2024	2.1	0.7	-	n.a.	n.a
Appeal on examination	2023	9.8	35.2	3.8	n.a.	1.4
	2024	9.9	36.0	3.4	n.a.	1.2
Pendency	**Year**	**EPO**	**JPO**	**MOIP**	**CNIPA**	**USPTO**
Awaiting request for examination	2023	150,669	531,532	194,124	n.a	-
	2024	147,622	539,886	200,362	n.a.	-
Pending examinations	2023	400,604	163,200	290,600	2,739,000	771,398
	2024	430,800	172,950	282,237	3,009,000	826,736
Pendency first action (months)	2023	5.0	9.5	16.1	13.2	20.3
	2024	5.5	9.1	16.1	13.4	20.3
Pendency final action (months)	2023	24.9	14.0	20.1	16.0	24.8
	2024	24.9	12.9	23.1	15.5	26.1
Pendency invalidaiton (months)	2023	-	13.9	-	n.a.	-
	2024	-	15.1	-	n.a.	-

n.a = not available; - not applicable

RATES

The examination rate at the USPTO is 100 percent, since filing a non-provisional patent application at the USPTO implies a request for examination, whereas at the EPO, the JPO, the MOIP, and the CNIPA 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 MOIP since the deferred examination system allows more time for the applicants to evaluate whether or not to proceed further with the application.

The grant rates at the JPO, the MOIP and the CNIPA increased between 2023 and 2024. At the EPO and the USPTO, the grant rate decreased between 2023 and 2024.

The appeal on examination rates vary between offices, mainly due to the differing procedures.

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.

As shown in Table 4.3, about 5.6 million applications were pending (i.e. awaiting

request for examination or pending examination) in the IP5 Offices at the end of 2024. The total number of applications pending at the IP5 Offices increased by 7.0 percent between 2023 and 2024. Pending applications decreased at the MOIP, and increased at the EPO, the JPO and the USPTO between 2023 and 2024.

The pendency to first action increased at both the EPO and the CNIPA while it decreased at the JPO and remained stable at both the MOIP and the USPTO. The pendency to final action increased at both the MOIP and the USPTO, and decreased at both the CNIPA and the JPO.

These numbers should not be compared between offices, because of the differences in the procedures at each office, as well as different portions of the procedures being measured. At the EPO, for example, 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.

Unlike the other IP5 offices, the USPTO does not have a request for examination step. As a result, the USPTO does not have pendency metrics that would be comparable to the other IP5 offices. See Fig 4.12 below and Annex 2 for further explanation.

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

Fig. 4.12: OFFICES PROCESS TO FIRST AND FINAL ACTIONS

Action	Office	Filing	Formalities	Search Report as 1st Action*	Request for examination	1st Examiner Action	Grant/Abandonment Decision		Remarks
1st action									
	EPO	→		5.5					Standard EP cases (i.e. excl. non-unity, clarification req, incomplete search)
	JPO				→	9.1			
	MOIP				→	16.1			
	CNIPA				→	13.4			If qualified, CNIPA issues a notification that the patent application is entering substantive examination stage
	USPTO	→				20.3			
Final action									
	EPO				→		24.9	Grant	Standard cases (i.e. excl. late payment, req for time extension, reschuled oral proc.)
	JPO				→		12.9	Grant/Aband.	Standard cases (i.e. excl. 2nd notif for refusal, req for time extenson…)
	MOIP				→		23.1	Grant/Aband.	
	CNIPA				→		15.5	Grant	If qualified, CNIPA issues a notification that the patent application is entering substantive examination stage
	USPTO	→					26.1	Grant/Aband.	

1st action: *1st communication on prior art and opinion on patentablity*
Final action: *Examiner decision to grant (or refuse) the granting of a patent*

Time limit to request examination

EPO	up to 6 months after publication of the search report, or up to 31 months from priority/international filing date for PCT application
JPO	up to 3 years after fiing date at JPO
MOIP	up to 3 years after fiing date at MOIP
CNIPA	up to 3 years after fiing date at CNIPA
USPTO	no delay, filing = request for examination

** EPO only*

Chapter 5

THE IP5 OFFICES AND THE PATENT COOPERATION TREATY (PCT)

This chapter presents firstly the impact of the PCT system on global patenting activity. Then it describes the various activities of the IP5 Offices that relate to the PCT system.

Graphs are presented that display the shares that used the PCT, by origin, of patent applications, grants and patent families. Descriptions are given of additional activities of the IP5 Offices under the PCT as RO for applicants in their respective territories, as ISA and as IPEA. PCT searches are a significant workload for the IP5 Offices in addition to those already described in Chapter 4.

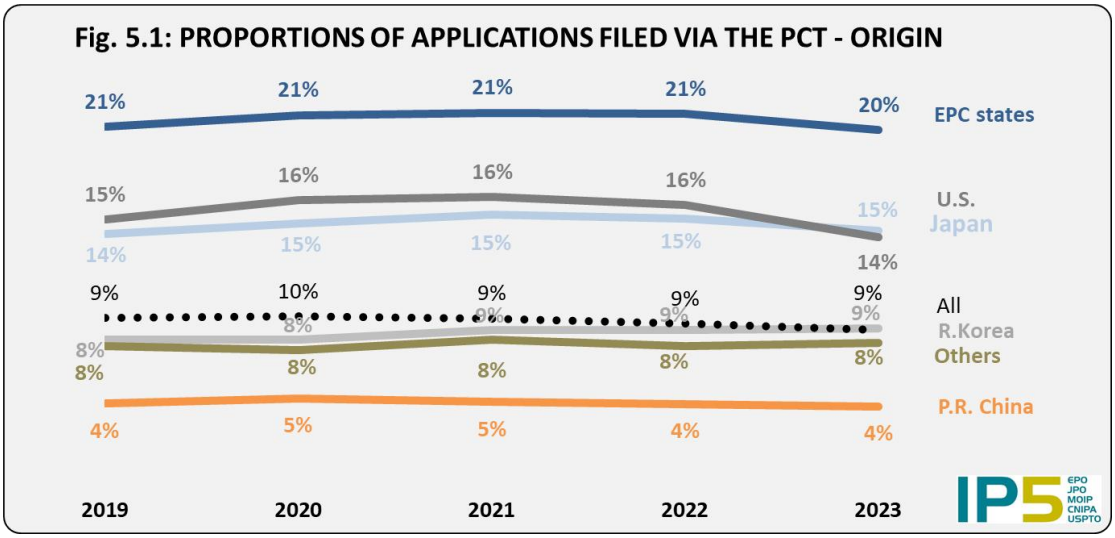
Statistics in this chapter have been derived from the WIPO Statistics Database[48] and the IP5 Offices. The graphs cover five-year periods that include the latest year for which reliable data are available[49]. Data for 2024 are presented in all figures except for Figure 5.1 (proportions of applications filed by PCT) and Figure 5.6 (IP5 patent families by origin).

[48] This edition refers to general patent data as of April 2024, and to PCT international application data as of June 2024, www.wipo.int/ipstats/en/index.html
[49] The statistical tables file found in the web version of this report includes extended time series for most of the data included in this chapter. www.fiveipoffices.org/statistics/statisticsreports

PCT AS FILING ROUTE

PATENT FILINGS

Figure 5.1 shows, for each bloc of origin (residence of first-named applicant or inventor), the proportions of all patent filings that are PCT international applications. Applications are counted in the year of filing. These data are comparable to those in Figs. 3.1 to 3.4.



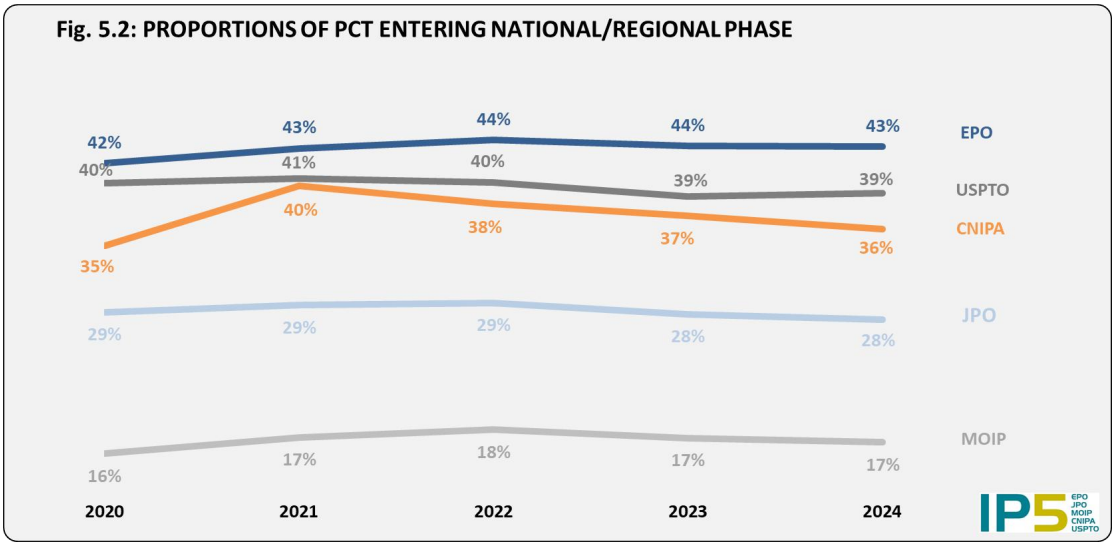
9 percent of worldwide patent filings were made via the PCT route in 2023.

The proportion of applications filed via the PCT remain stable over the period. It decreased nearly 2 percent for the U.S. The proportion for the EPC states origin applications continue to be higher than for the remaining blocs.

NATIONAL / REGIONAL PHASE ENTRY

After the international phase of the PCT procedure, applicants decide whether they wish to proceed further with their applications into the national or regional phase for each country or regional organization of interest. If the decision is made to proceed, then the applicant has to fulfill the various requirements of the selected PCT contracting states or organisations.

Figure 5.2 shows the proportions of international PCT applications that entered the national or regional phase at each of the IP5 Offices. Applications are counted in the year corresponding to the date when the delay to enter the national or regional phase has expired[50].

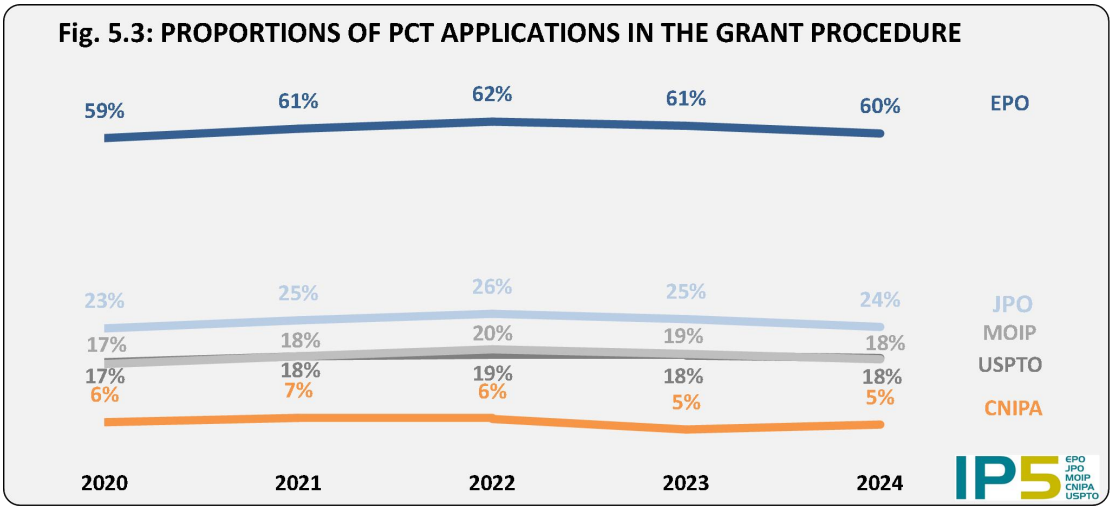


A lower proportion enters the regional phase at the MOIP and JPO than enters the national phase at any of the other IP5 Offices.

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

SHARE OF PCT APPLICATIONS

Figure 5.3 shows the shares of PCT among all applications in the grant procedure at each office (as presented earlier in Figure 4.1).

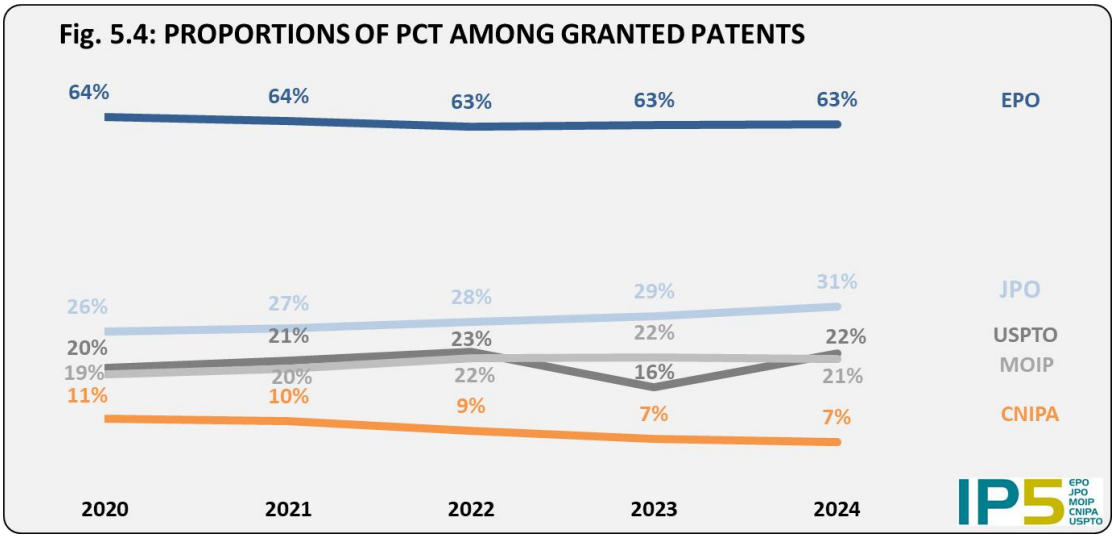


The proportions of PCT national/regional phase applications among all applications remained stable during the period. In 2024 the proportions decreased by 1 percent.

The EPO continues to have much higher proportion of PCT applications, compared to the other IP5 Offices. This can be explained by the fact that, contrary to other IP5 Offices, most of the first filings filed in the EPC states are filed at national offices, resulting in a higher share of PCT at the EPO.

PCT GRANTS

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



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

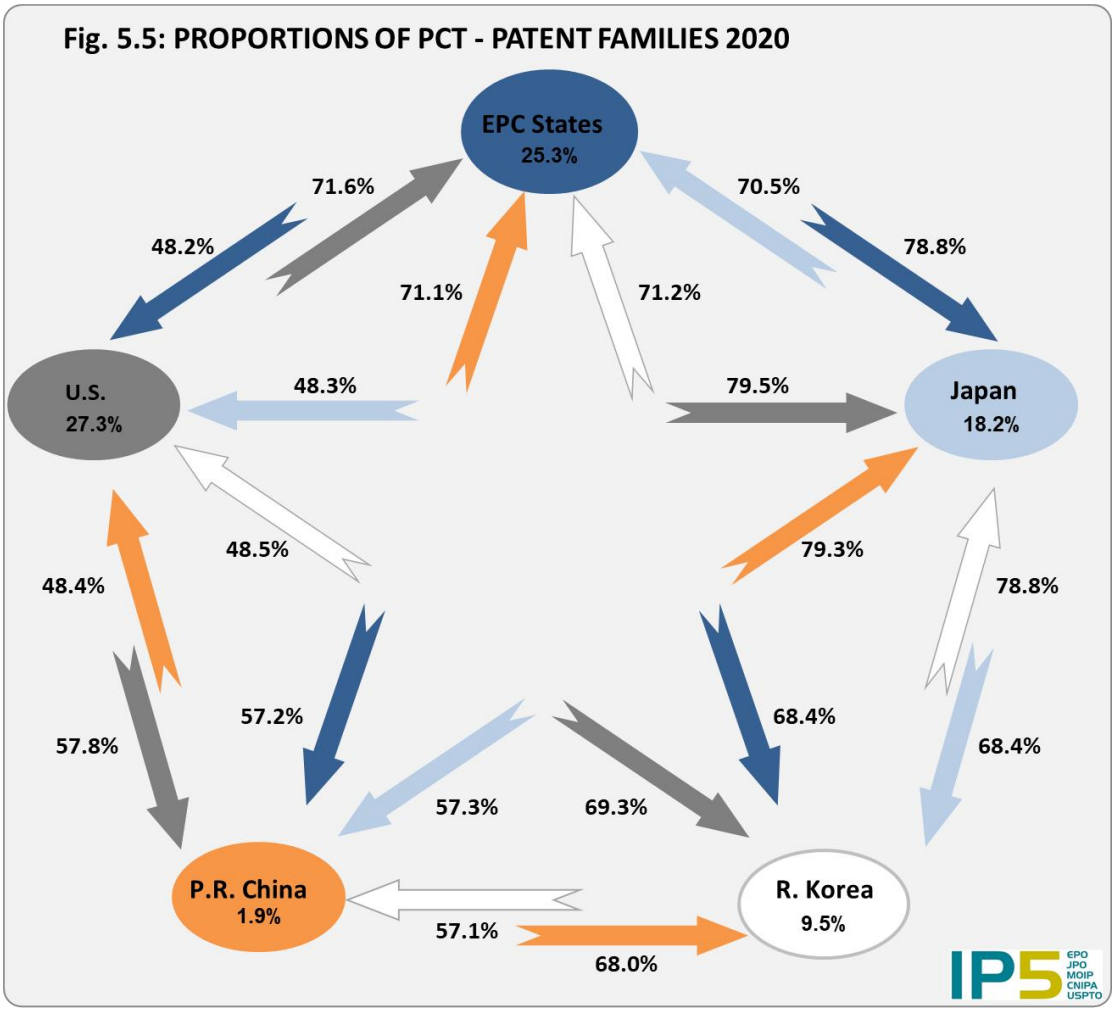
Over the period, the proportion of PCT in patent grants at the CNIPA decreased, while the proportion increased at the JPO. The percentages of PCTs in patent grants in Figure 5.4 are always higher than the percentages of PCTs in applications in Figure 5.3, for all IP5 Offices except the USPTO in 2024. The difference is larger at the EPO.

PATENT FAMILIES AND PCT

A patent family is a group of patent filings that claim the priority of a single filing, as was described in the final section of Chapter 3.

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 use the PCT route. In this section, the usage of the PCT system implies that at least one PCT application has been made within the family of filings that quote the priority of the same first filing.

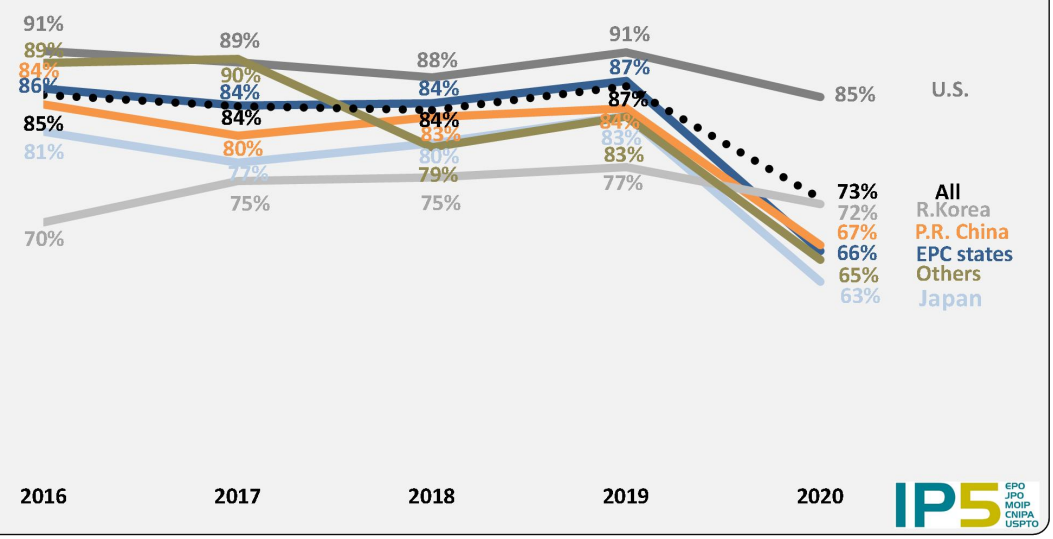
Figure 5.5 shows the usage of the PCT among patent families for the priority year 2020. Two types of percentages are shown. The first, next to the name of each bloc, is the proportion of the overall number of first filings for the bloc that generated families using the PCT. The second, next to the arrows 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 2020, and can be compared with Figure 3.14.



In general, the usage of the PCT route is far higher when making applications abroad rather than at home.

Figure 5.6 shows the proportions of IP5 patent families by bloc of origin (residence of first-named applicants or inventors), as given earlier in Figure 3.15, that made some use of the PCT system. IP5 patent families correspond to filings where activities of the first and/or subsequent associated filings were made in all the IP5 Blocs.

Fig. 5.6: PROPORTIONS OF PCT IN IP5 PATENT FAMILIES BY ORIGIN



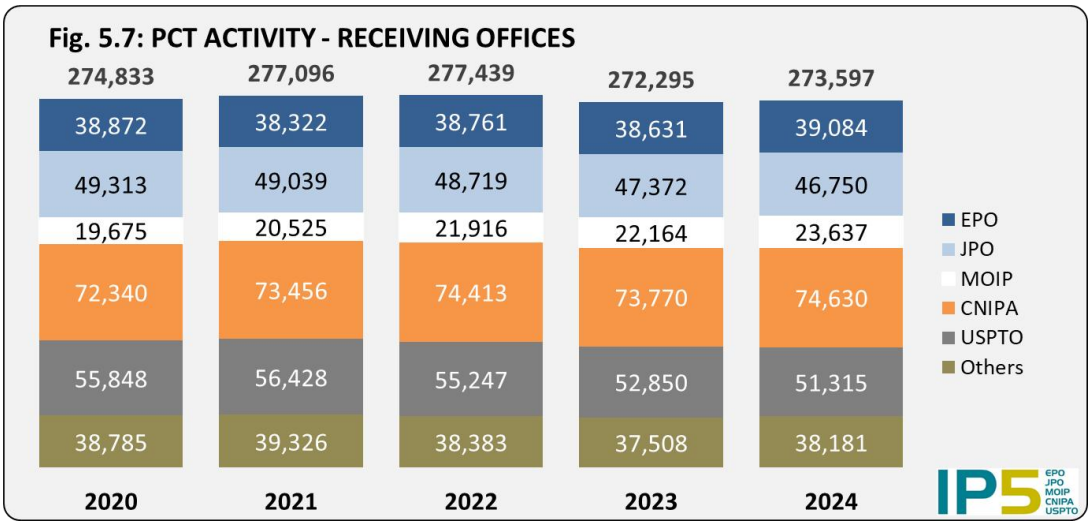
Since IP5 patent families represent highly internationalised applications, the rate of PCT usage is high compared to the overall usage of PCTs among applications in general, as was shown in Figure 5.1.

In 2020, in the context of the pandemic, there was a marked decrease in the proportions of PCT filings among IP5 patent families.

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 2020 to 2024.

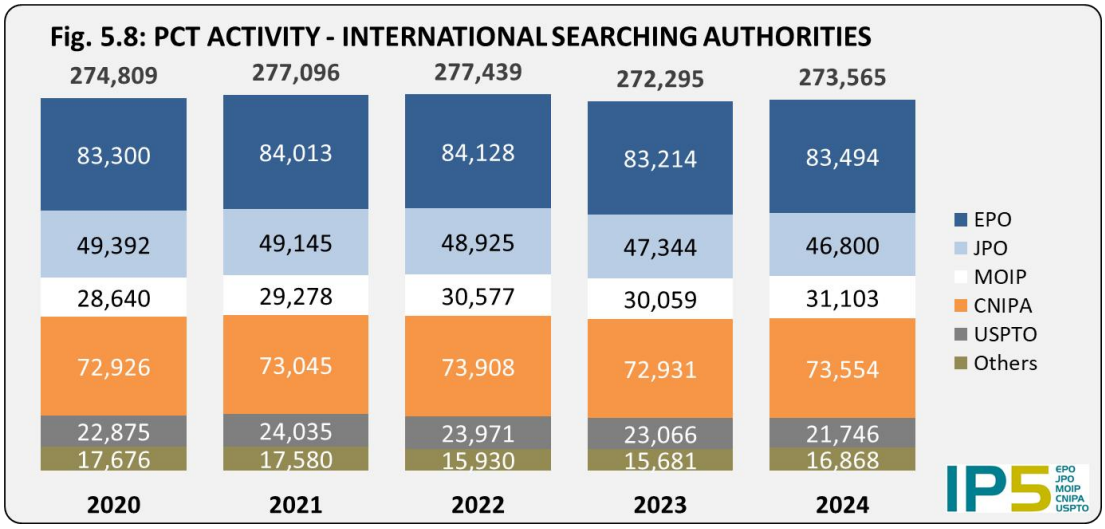
Figure 5.7 shows the breakdown of PCT international filings by ROs over time.



From 2020 to 2024, the total number of PCT international phase filings fell at an average compound annual rate of 0.1 percent.

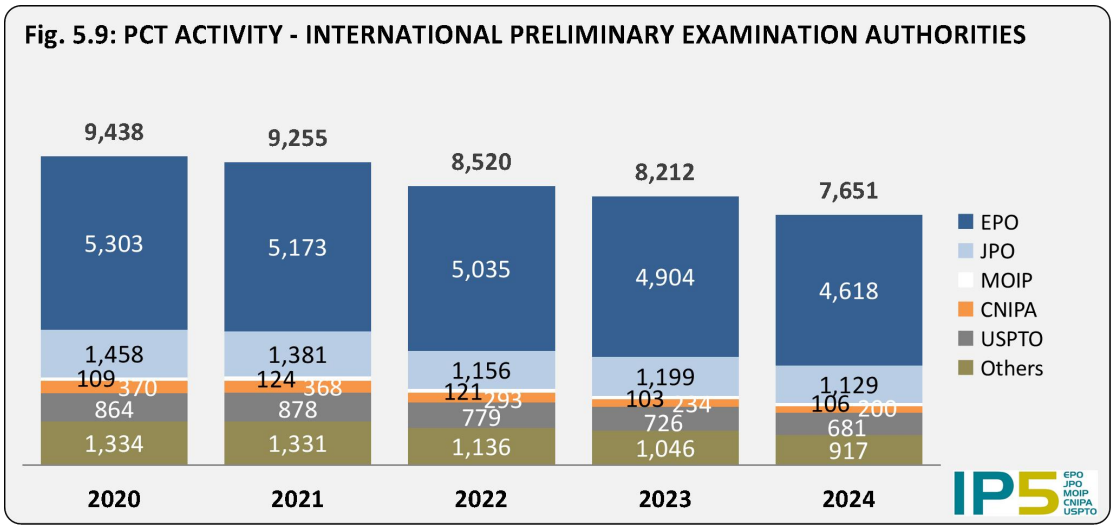
In 2024, the MOIP saw a 7 percent increase of PCT international filings compared with 2023. Together, the IP5 Offices were ROs for 86 percent of the PCT international filings in 2024 (86 percent in 2020).

Figure 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.



There is a steady increase in total activity over the period described, while a slight decrease in 2023. In 2024, the IP5 Offices received 94 percent of all PCT international search requests, consistent with the previous periods. The EPO continues to receive the largest number of requests, receiving 31 percent of all requests in 2024. In 2024, the number of requests decreased by 1 percent at the JPO and 6 percent at the USPTO.

Figure 5.9 shows the breakdown over time of the numbers of international preliminary examination requests to IP5 Offices as IPEA.



From 2023 to 2024, the number of requests for international preliminary examinations decreased 7 percent. Since the changes in the PCT regulations[51] for the international preliminary examination, the number of requests is declining. Together, the IP5 Offices were in charge of 88 percent of the IPEA work in 2024. In 2024, the EPO performed 60 percent of all the international preliminary examinations.

[51] The number of international preliminary examination requests began to fall in 2003, following a change in the time limit which came into effect on April 1, 2002. For further details, please see: https://www.wipo.int/pct/en/faqs/article22_faq.html

Chapter 6

OTHER WORK

This brief chapter contains statistics about 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), provisional applications (USPTO), applications for patents other than those for inventions: utility models (JPO, MOIP, CNIPA), designs (JPO, MOIP, CNIPA, USPTO), trademarks (JPO, MOIP, USPTO), and search requests to be performed on behalf of national offices (EPO).

The utility model is different from the patent for invention[52] because it is used to protect a device in relation to the shape or construction of articles or combination of articles (JPO, CNIPA), or to protect a creation of a technical idea using the rules of nature regarding the shape, structure, or combination of subjects (MOIP). 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 (typically 20 years).

A provisional application is an unexamined application which allows applicants to secure an early effective filing date without a formal patent claim, oath or declaration, or any information disclosure (prior art) statement.

The numbers of requests received for these types of other work are shown for 2022 and 2023 in Table 6.

Table 6: STATISTICS ON OTHER WORK

Activity	Year	EPO	JPO	MOIP	CNIPA	USPTO
Search for national offices	2023	27,161	-	-	-	-
	2024	27,646	-	-	-	-
Design applications	2023	-	31,747	55,335	820,361	56,225
	2024	-	32,065	55,897	819,213	63,796
Utility model applications	2023	-	4,949	2,746	3,063,928	-
	2024	-	4,655	2,442	3,184,652	-
Plant patent applications	2023	-	-	-	-	850
	2024	-	-	-	-	806
Re-issue applications	2023	-	-	-	-	807
	2024	-	-	-	-	811
Trademark applications	2023	-	164,061	255,209	7,188,336	742,155
	2024	-	158,792	256,045	6,970,559	785,701
Provisional applications	2023				-	149,643
	2024				-	150,274

[52] Not to be confused with the utility model, the USPTO's main type of patent, called a utility patent, is a patent for invention that is similar to the standard patent at the other IP5 Offices.

In 2024, the number of utility model applications decreased by 6 percent at the JPO and 11 percent at the MOIP respectively, while they increased by 4 percent at the CNIPA. The number of trademark applications decreased at both the JPO and the CNIPA by 3 percent, while they increased by 6 percent at the USPTO. For design applications, there were increased by 1 percent at both the JPO and the MOIP, by 13 percent at the USPTO.

Annex 1

DEFINITIONS OF THE IP5 OFFICES EXPENDITURES

EPO operating expenses in 2024 (Figure 2.7)

Expenses comprise the following main components:

•A. Staff

•B. Property and equipment maintenance

•C. EDP equipment maintenance

•D. General operating expenditure

•E. Other expenses

JPO EXPENDITURES (Figure 2.8)

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
- Patented micro-organisms deposition organization

B. Examination and appeals/trials, etc.

- Infrastructure improvement for examination and appeals/trials
- Disposition of examination and appeals/trials
- Execution of PCT

C. Information management

Management of information for use in examination and appeals/trials

D. Publication of Patent Gazette, etc.

E. Computers for patent processing work

F. Facility improvement

G. Operating subsidies for INPIT[53]

H. Others

All other expenses not covered by the above.

[53] National Center for Industrial Property Information and Training

MOIP EXPENDITURES (Figure 2.9)

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.

CNIPA EXPENDITURES (Figure 2.10)

A. Administrative Operation

B. Examination

- Patent examination
- Trademark examination

C. Social and Housing security, Pension

- Pension of staff in administrative agencies
- Infrastructure-related expenses.

D. Others

All other expenses not covered by the above.

USPTO EXPENDITURES (Figure 2.11)

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 OF TERMS AND STATISTICS ON PROCEDURES

This annex contains firstly definitions of the main terms used in the report[54]. After that there is an explanation of the patent procedures relating to Figure 4.9. Then finally there are definitions of the statistics on procedures that appear in Table 4.3.

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 international phase 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 phase PCT, and regional phase PCT applications;
- Counts of "*Demands for national patent rights*" include direct national applications counted once each, designations in regional applications, national phase PCT applications, and designations in 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 corresponding throughout the period covered in this report to the territory of all the states party to the EPC;
- Japan (Japan in this report);
- Republic of Korea (R. Korea in this report);
- People's Republic of China (P.R. China 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).

[54] 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

Demand for patent rights refers to applications for patents for invention. The counts of patent filings 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 PCT or regional systems. The counts include direct national filings, designations in regional systems, national stage PCT applications, and designations in regional stage PCT applications.

DIRECT APPLICATIONS

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

DOMESTIC APPLICATIONS

These are defined as all demands for patents made by residents of the country where the application is filed[55]. For the purpose of reporting statistics for the EPC contracting states considered as a bloc, domestic applications are given with regard to the applications made by residents from anywhere inside the EPC bloc. For example, applications made by residents of France in one of the other EPC contracting states are counted as domestic demand in the EPC bloc.

FIRST FILINGS

These are applications filed without claiming the priority[56] of another previous filing and are counted in the year they are filed. They are usually made in the home country or region. All other applications are subsequent filings, usually made within one year of the first filings. In the absence of a complete set of available statistics on first filings, it is assumed in this report that domestic national filings are equivalent to first filings[57] 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*.

[55] For the USPTO, this is by the residence of the first-named inventor; For the EPO, the JPO, the MOIP, and the CNIPA, this is by the residence of the first-named applicant.
[56] See the Article 4A to 4D of the Paris Convention at the WIPO web site, www.wipo.int/treaties/en/ip/paris/
[57] The data source used for patent families allows a precise count of first filings. Except in the sections on patent families, an approximation of the number of first filings in the EPC Bloc is made by adding first filings at the EPO to aggregated domestic national applications in the EPC contracting states.

FOREIGN APPLICATIONS

These are defined as all demands for patents made by residents of a location outside of the country or region where the application is filed[58]. See the term definition for Domestic Applications for additional details.

GRANTS, COUNTING OF

Grant counts in Chapter 3 are based on the WIPO Statistics Database[59]. 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.

CROSS FILINGS

IP5 cross filings are patent applications filed at the IP5 Offices during the same time period (i.e. calendar year in this report) and claiming the same priority. Such applications can be filed as direct national, direct regional or PCT that entered the national or regional stage during the reporting period. The priority application may have been filed in any patent office in the world. Cross filings are filed in at least two and up to all five IP5 Offices. Counts of cross filings are based on the number of underlying priorities claimed in subsequent patent applications filed in the reporting period.

The counts of cross filings are considered an indicator for shared workload among the IP5 Offices. Cross filings are therefore reported according to the year of the subsequent applications.

Contrary to patent families involving activity in the individual EPC Contracting States, cross filings in Europe are limited to subsequent filings at the EPO. Cross filings are reported according to the year of the subsequent applications while patent families are reported according to the year of the priority applications.

PATENT FAMILIES

A patent family is a group of patent filings that claim the priority of the same initial first filing, including the original priority forming filing itself and any subsequent filings made throughout the world. Utility model applications are excluded.

Contrary to previous editions of the IP5 Statistics Report, the patent family counts are compiled from the EPO's DOCDB database, which is fed with data from patent publications from patent offices worldwide. The numbers of domestic national filings presented in Fig 3.4 are used as measures of first filings. Therefore, the numbers of first filings in Table 3 conform to those in Figure 3.4.

The proportions of the overall numbers of first filings that generated families using the PCT in Figure 5.5 make use only of patent families data, as in previous reports. For the purposes of this report[60], IP5 patent families are a filtered subset of patent

[58] For the USPTO, this is by the residence of the first-named inventor; For the EPO, the JPO, the MOIP, and the CNIPA, this is by the residence of the first-named applicant.
[59] www.wipo.int/ipstats/en/statistics/pct/index.html
[60] The additional statistical tables that are available at the web site, and previous editions of this report,

families for which there is evidence of patenting activity in all IP5 Blocs.
Due to the change of source data, differences with counts given in previous editions of the report may occur.

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

Applications that are filed under the PCT are first handled by appointed offices during the international phase. About 30 months after the first filing, they enter the national/regional phase to be treated as national or regional applications according to the regulations of each designated office where protection is sought. “PCT” applications are distinguished from “direct” applications in order to distinguish the two subsets of applications handled by patent offices. PCT applications are usually counted in the year that they enter the national (or regional) phase, although in some parts of this report they are counted in the year of filing in the earlier international phase[61].

REQUESTS FOR PATENTS ENTERING A GRANT PROCEDURE

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

SUBSEQUENT FILINGS

Subsequent filings are applications filed that claim the priority[62] of a previous filing and usually are made within one year of the first filings. See also FIRST FILINGS. Currently, USPTO subsequent filings data also include a substantial proportion of applications that are continuations of applications previously filed at the USPTO.

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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.

[61] 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.

[62] 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 Figure 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 MOIP, the CNIPA, 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 MOIP, and the CNIPA, deferred examination systems exist and filing of a national application does not imply a request for examination. This may be made up to three years after filing for the JPO, the MOIP and the CNIPA.

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 (MOIP), decision to grant (CNIPA), and 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 (MOIP), notification of reason for refusal (CNIPA), and 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 (MOIP), decision of rejection (CNIPA), final rejection (USPTO) - or withdrawn by the applicant - withdrawal (EPO), withdrawal or abandonment (JPO), withdrawal or abandonment (MOIP), withdrawal or abandonment (CNIPA), and abandonment (USPTO). In addition, if no request for examination for an application is filed to the EPO, the JPO, the MOIP, or the CNIPA 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, the MOIP and the CNIPA), 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 (the EPO, the JPO, the MOIP, the CNIPA, and the 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 MOIP, and the CNIPA.

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 Leahy-Smith America invents Act (AIA) on September 16, 2012, there were two types of third party opposition procedures: interference and re-examination. The AIA revised these and introduced some additional procedures. Under the AIA, there are now six distinct procedures for third party opposition, including post grant review, inter parte review, business method review, ex parte re-examination, interference, and derivation.

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 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 CNIPA has re-examination and invalidation procedures. Where an applicant for a patent is not satisfied with the decision of the CNIPA rejecting the application, the applicant may, within three months from the date of receipt of the notification, request the Patent Re-examination Board to make a re-examination. Where any entity or individual considers the grant of a patent right is not in conformity with the relevant provisions of the Patent Law, 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 4.3 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 2024 relates to applications mainly filed in the years 2020 to 2024.

For the JPO, the period to file a request for examination is three years from filing date. The rate for 2024 relates mainly to applications filed in the year 2021.

For the MOIP, the period to file a request for examination has been changed from 5 years to 3 years from filing date in 2018. The rate for 2024 relates mainly to applications filed in the year 2021.

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

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

GRANT RATE

For the 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 MOIP, 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).

For the USPTO, 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. 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 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 to the EPO and the JPO. 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.

The JPO rate is the total number of oppositions (counting one (1) for each patent) filed in the calendar year divided by the total number of granted patents in the calendar year.

APPEAL ON EXAMINATION RATE

For the EPO, the rate is the number of decisions to refuse in the examination procedure against which an appeal was lodged in the reporting year, divided by the number of all decisions to refuse for which the time limit for appeal ended in the reporting year.

The JPO rate is the total number of appeals against examiners' decisions of refusal filed in the calendar year divided by the total number of examiners' decisions of refusal rendered by the examiners in the calendar year.

For the MOIP, 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, the MOIP, and the CNIPA, 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, the MOIP and the CNIPA) 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 MOIP, 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 USPTO, pending applications in examination are applications that 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 average 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. The calculation is based on standard cases (i.e. excluding non-unity, incomplete search and or clarification request cases). The EPO changed their measurement from median to arithmetic mean. The figures for 2018 have been re-compiled based on the new methodology.

For the JPO, the first action pendency is the period from the date of examination request until the JPO sends the first notice of examination results to the applicant, etc. (for the most part, either a notice of patent grant or a notice of reasons for refusal).

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

For the CNIPA, pendency first office action is the average time period, in months, from when applications entered the substantive examination phase following the request for examination to first office action in examination.

For the USPTO, first office action pendency compliance refers to the percentage of applications with a time from filing to First Action on the Merits (FAOM) within 14 months. An FAOM is generally defined as the first time an examiner either formally rejects or allows the claims in a patent application. The USPTO does not utilize an average pendency measure comparable to the other IP5 Offices. The USPTO has been moving to a compliance-based metric, which corresponds to the information shown in Table 4.3, with a set goal of mailing first actions within 14 months of filing in 45 percent of new cases acted upon, and issuing an allowance within 36 months of

filing in 80 percent of all allowed cases. Showing traditional pendency in Figure 4.12 is done to go along with the more detailed time stops depicted.

PENDENCY / EXAMINATION / PENDENCY FINAL ACTION

For the EPO, the counts relate to pendency until a final decision by the examining division (decisions to grant) during the reporting year. This is the average 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. The calculation is based on standard cases (i.e. excluding cases with more than one request for extension of time limit or late payment of fees or rescheduling of oral proceeding).

For the JPO the total pendency (also called the “standard pendency”) is the period from the date of examination request to withdrawal or abandonment or until a final disposition (excluding cases where the JPO requests an applicant to respond to the second notice of reasons for refusal due to the amendments submitted by the applicant, and where the applicant performs procedures they are allowed to use, such as requests to the JPO for extension of the period of response and for an accelerated examination).

For the MOIP, 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 CNIPA, pendency for examination refers to the average time period taken, in months, for the granting of invention patent applications, calculated from the date on which the application enters the substantive examination phase to the date on which the decision to grant is issued.

For the USPTO, filing to issue compliance is calculated by measuring the time from filing to abandonment or issue for all applications that are issued in a year. The percentage of applications that have a compliance within 36 months is presented. This number includes plant patents and reissue patents in addition to utility patents (see above GRANT RATE). The USPTO does not utilize an average pendency measure comparable to the other IP5 Offices. Showing traditional pendency in Figure 4.12 is done to go along with the more detailed time stops depicted.

PENDENCY INVALIDATION

The CNIPA, “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.

The JPO pendency period is the average processing period for a trial for invalidation in a calendar year from the date a request for a trial for invalidation is filed, to the date a trial decision is dispatched (if an “advance notice of a trial decision” is to be made, it is the date the notice is dispatched), to the date a withdrawal or abandonment is finalized and concluded, or to the date a dismissal is dispatched.

Annex 3

ACRONYMS

AI	Artificial Intelligence (i)
AIA	Leahy-Smith America Invents Act (100)
ARIPO	African Regional Intellectual Property Office (34)
ASEAN	Association of Southeast Asian Nations (34)
CNIPA	China National Intellectual Property Administration (i)
DO	Designated Office (20)
DOCDB	DOCumentDataBase (55)
EAPO	Eurasian Patent Organization (44)
EP	European patent (13)
EPC	European Patent Convention (2)
EPN	European Patent Network (16)
EPO	European Patent Office (i)
EUIPO	European Union Intellectual Property Office (17)
FAOM	First Action on the Merits (104)
FY	Fiscal Year (21)
GCCPO	Gulf Cooperation Council Patent Office (44)
GX	Green transformation (21)
GXTI	Green Transformation Technologies Inventory (21)
IB	International Bureau of WIPO (iv)
IP	Intellectual Property (i)
IP5	Five IP Offices: EPO, JPO, MOIP, CNIPA, USPTO (i)
IP5 SR	IP5 Statistics Report (i)
IPC	International Patent Classification (3)
INPIT	National Center for Industrial Property Information and Training (91)
IPEA	International Preliminary Examining Authority (3)
IPRs	Intellectual Property Rights (25)
ISA	International Searching Authority (3)
IT	Information technology (11)
JPO	Japan Patent Office (i)
MOIP	Ministry Of Intellectual Property (i)
MIPEF	Modular Intellectual Property Education Framework (15)

NET/AI	New Emerging Technologies/Artificial Intelligence (i)
OAPI	Organisation African Intellectual Property (44)
PATLIB	Patent information centres (15)
PCT	Patent Cooperation Treaty (i)
PGP	Patent Granting Process (10)
PPH	Patent Prosecution Highway (iv)
P.R. China	People's Republic of China (2)
SMEs	Small and Medium-sized Enterprises (i)
SP2023	Strategic Plan 2023 (10)
R&D	Research and Development (21)
RCE	Request for Continued Examination (40)
R. Korea	Republic of Korea (2)
RO	Receiving Office (3)
UP	Unitary Patent (13)
UPC	Unified Patent Court (13)
U.S.	United States of America (2)
USPTO	United States Patent and Trademark Office (i)
WIPO	World Intellectual Property Organization (iv)

Annex 4

Further statistical information

Office	Direct Link to Statistics
EPO	www.epo.org/en/about-us/statistics
JPO	www.jpo.go.jp/e/resources/index.html
MOIP	www.moip.go.kr/en/HtmlApp?c=97000&catmenu=ek07_03_01
CNIPA	www.cnipa.gov.cn/col/col61/index.html
USPTO	www.uspto.gov/learning-and-resources/statistics
WIPO	www.wipo.int/ipstats/en/

Note: These numbers should not be compared between offices, because of the differences in the procedures at each office.

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

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

Ministry Of Intellectual Property (MOIP)
Government Complex Daejeon Building 4
189, Cheongsa-ro, Seo-gu, Daejeon, 35208
Republic of Korea
www.moip.go.kr/en/

China National Intellectual Property Administration (CNIPA)
No. 6, Xitucheng Lu, Jimenqiao,
Haidian District
Beijing 100088
People's Republic of China
english.cnipa.gov.cn/

United States Patent and Trademark Office (USPTO)
P.O. Box 1450
Alexandria, VA 22313
United States
www.uspto.gov/

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

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