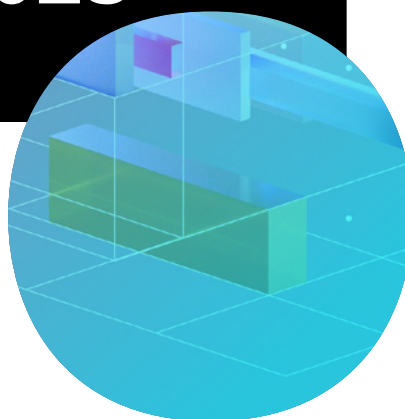




PCT Yearly Review 2025





Executive Summary **Patent Cooperation Treaty Yearly Review 2025** The International Patent System

This executive brief identifies key trends in the use of the
WIPO-administered Patent Cooperation Treaty (PCT).

For fuller statistics, see the PCT Yearly Review 2025 –
available in English at: www.wipo.int/ipstats

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Cover: unsplash / Milad Fakurian

WIPO Reference: 901/25-ExSum/EN

DOI: [10.34667/tind.58378](https://doi.org/10.34667/tind.58378)

Key numbers for 2024

273,900 (+0.5%)
PCT applications filed

698,500 (-0.4%)
PCT national phase entries

18% (+0.2 percentage point)
Share of women among inventors in PCT applications

57.4% (-0.1 percentage point)
Share of PCT national phase entries in worldwide non-resident patent application filings¹

124 (-3)
Countries of origin of PCT applications

¹ Note: The latest available year for PCT national phase entry data is 2023

Statistics on the international phase – PCT applications

PCT applications grew modestly by 0.5% in 2024

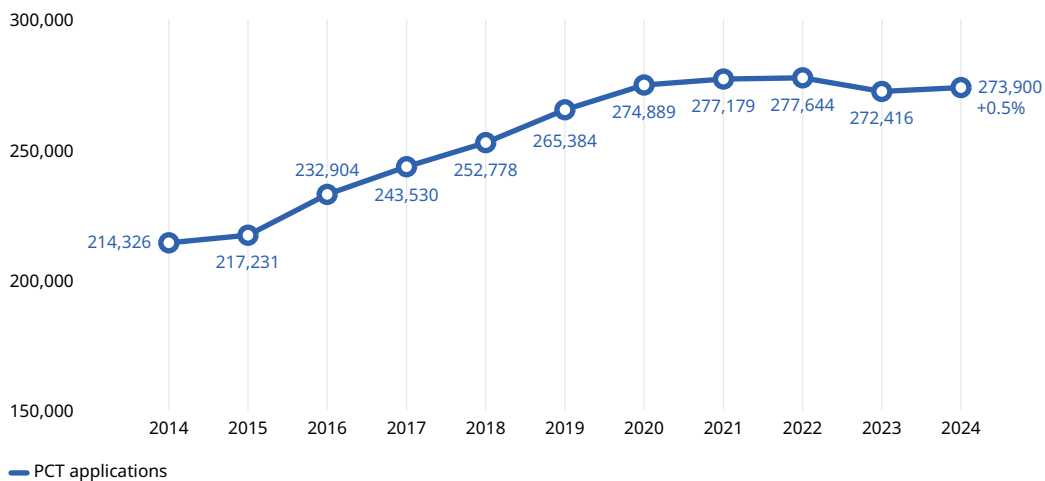
About 273,900 international patent applications (PCT applications) were filed via WIPO's Patent Cooperation Treaty (PCT) in 2024 (figure 1). This represents a marginal rise of 0.5% on the previous year.

In 2024, 158 countries were members of the PCT, with applicants from 124 countries filing PCT applications across 81 receiving offices (ROs). Combined, the top 10 receiving offices accounted for almost 95% of total PCT applications.

Applicants filed 74,763 PCT applications at the China National Intellectual Property Administration (CNIPA) acting as PCT receiving office in 2024. CNIPA was followed by the United States Patent and Trademark Office (USPTO) (51,251), the Japan Patent Office (JPO) (46,830), the European Patent Office (EPO) (39,159), the Korean Intellectual Property Office (KIPO) (23,677) and the International Bureau (IB) of WIPO (14,018).

After last year's decline, PCT applications saw a slight 0.5% uptick in 2024.

1. Trend in filings of PCT applications, 2014–2024



Source: WIPO Statistics Database, March 2025.

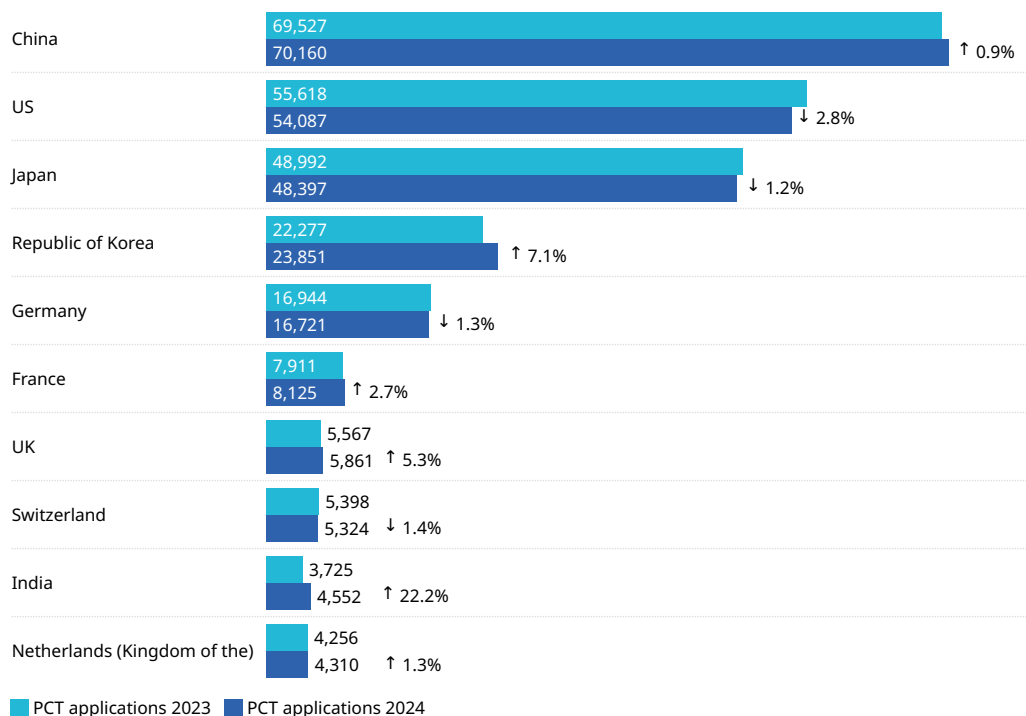
The Republic of Korea maintained sustained growth in 2024

In 2024, applicants residing in China filed the highest number of PCT applications (70,160), followed by those of the United States of America (US) (54,087), Japan (48,397), the Republic of Korea (23,851) and Germany (16,721) (figure 2). In 2024, the top five origins were responsible for 77.8% of all PCT applications.

The top 20 origins comprised 17 high-income countries (predominantly European) and three middle-income economies: China, India and Türkiye. Beyond this ranking, notable numbers of PCT applications were filed at other large middle-income economies, for example, Brazil, the Islamic Republic of Iran, Mexico, South Africa and Thailand, with filings ranging between 160 and 640. Most of the 21 PCT applications filed by applicants residing in low-income countries originated from the Democratic People's Republic of Korea (7), Uganda (6) and the Syrian Arab Republic (3).

Applicants from China, Japan and the US filed by far the highest number of PCT applications in 2024.

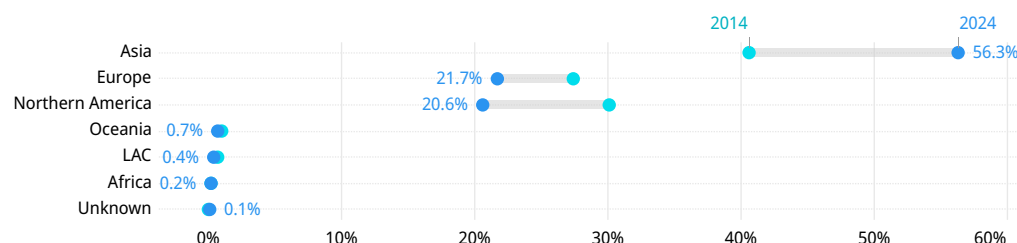
2. PCT applications for the top 10 origins, 2024



Source: WIPO Statistics Database, March 2025.

Most PCT applications originated from Asia in 2024.

3. Distribution of PCT applications by region, 2014 and 2024



Note: LAC is Latin America and the Caribbean.

Source: WIPO Statistics Database, March 2025.

Most PCT applications were filed in Asia

Asian countries represented 56.3% of all PCT applications in 2024 (figure 3), a significant rise from 40.6% in 2014 largely attributable to increased filings from China and the Republic of Korea. Europe held the second largest share, with 21.7%, closely followed by Northern America at 20.6%. Together, Africa, Latin America and the Caribbean (LAC) and Oceania accounted for a mere 1.3% of total PCT filings.

The business sector accounted for more than 89% of PCT applications

In 2024, the IB published almost 264,100 PCT applications, marking a decrease of 0.9% compared to 2023. Among published PCT applications, the business sector accounted for 89.1% of the total, followed by the university sector (5.6%), individuals (3.5%) and the government and public research organization (PRO) sector (1.8%).

Among high-income countries, the business sector overwhelmingly dominated published applications from each of the top 20 origins. Indeed, the business sector's share exceeded 96% of the total for Finland, Japan and Sweden. Among the top 20 middle-income

economies, the business sector and individual applicants each accounted for the majority of published applications in eight origins. Individual applicants filed two-thirds or more of the applications originating from Egypt, the Islamic Republic of Iran and Ukraine.

Huawei Technologies remained the largest PCT applicant in 2024

For the eighth consecutive year, Huawei Technologies, a telecommunications company based in China, was the top PCT applicant, with 6,600 published PCT applications in 2024 (figure 4). Samsung Electronics of the Republic of Korea followed in second place, with 4,640 applications, trailed by Qualcomm of the US, LG Electronics of the Republic of Korea and Contemporary Amperex Technology of China.

Half of the top 10 applicants underwent double-digit growth in published applications, among which Samsung Electronics (+18.2%), Xiaomi Mobile Software (+17.8%) and Qualcomm (+12.8%) exhibited the fastest growth.

Of the top 10 applicants, six filed mainly in digital communication, namely Beijing Xiaomi Mobile Software, Ericsson, Huawei Technologies, LG Electronics, Qualcomm Inc., and Samsung Electronics.

Huawei Technologies remained the top PCT applicant in 2024.

4. Top 10 PCT applicants, 2024

▲ Ranking	PCT applicant	Origin	2023	2024	Growth rate
1	Huawei	China	6,494	6,600	1.6%
2	Samsung	Republic of Korea	3,924	4,640	18.2%
3	Qualcomm	US	3,410	3,848	12.8%
4	LG electronics	Republic of Korea	1,887	2,083	10.4%
5	Contemporary Amperex	China	1,799	1,993	10.8%
6	BOE technology	China	1,988	1,959	-1.5%
7	Mitsubishi	Japan	2,152	1,956	-9.1%
8	Xiaomi Mobile Software	China	1,603	1,889	17.8%
9	Ericsson	Sweden	1,863	1,886	1.2%
10	Nippon Telegraph & Tel.	Japan	1,760	1,877	6.6%

Source: WIPO Statistics Database, March 2025.

Twenty-three of the top 50 universities are from the US

Among educational institutions, with 519 published applications, the University of California remained the largest user of the PCT System in 2024. The University of Texas came second (216 applications), followed by Tsinghua University (188). The University of Michigan (+30.4%) and Johns Hopkins University (+18.4%) recorded the largest growth among the top 10 universities in 2024.

Fifty-two universities from eight countries featured in the top 50. The US and China had 23 and 12 universities, respectively. Eight were in the Republic of Korea, four in Japan, two in Singapore and one each in Israel, Switzerland and the UK.

Shenzhen Institute of Advanced Technology remained the top PCT applicant within the government and PRO sector

With 631 published applications, the Shenzhen Institute of Advanced Technology of China remained the top government and PRO applicant in 2024. The German-based Fraunhofer-Gesellschaft zur Förderung der angewandten Forschung was second, with 254 applications.

It was followed by the Commissariat à l'Énergie Atomique et aux Énergies Alternatives (CEA) of France, the Institut National de la Santé et de la Recherche Médicale (INSERM) of France and the Agency for Science, Technology and Research of Singapore.

Applicants from 13 countries featured in the top 30 PRO list for 2024. The Republic of Korea (8) had the highest number of applicants in the list, followed by China (4), the US (4), France (3), Germany (3) and Japan (3).

Digital communication became the main field in PCT applications in 2024

In 2024, the electrical engineering sector accounted for over 40% of all published PCT applications, followed by chemistry (21.8%), mechanical engineering (16.3%) and instruments (15.7%). Over the past decade, electrical engineering has experienced the largest share increase in total PCT applications, rising from 35.2% in 2014 to 40.4% in 2024. The top three technology fields in 2024 were within electrical engineering.

In 2024, digital communication became the leading field in PCT applications, representing 10.5% of the total. This field surpassed computer technology (9.7%), which had held the top spot since 2019. Electrical machinery (8.6%), medical technology (6.5%) and measurements (4.4%) rounded out the top five.

Only four of the top 10 technology fields grew in 2024, with digital communication (+9.9%) and electrical machinery (+8%) reporting the fastest rate of growth. In contrast, computer technology (-6%), pharmaceuticals (-5.6%) and semiconductors (-4.7%) experienced the steepest declines in PCT applications.

In 2024, only 18% of inventors listed in PCT applications were women

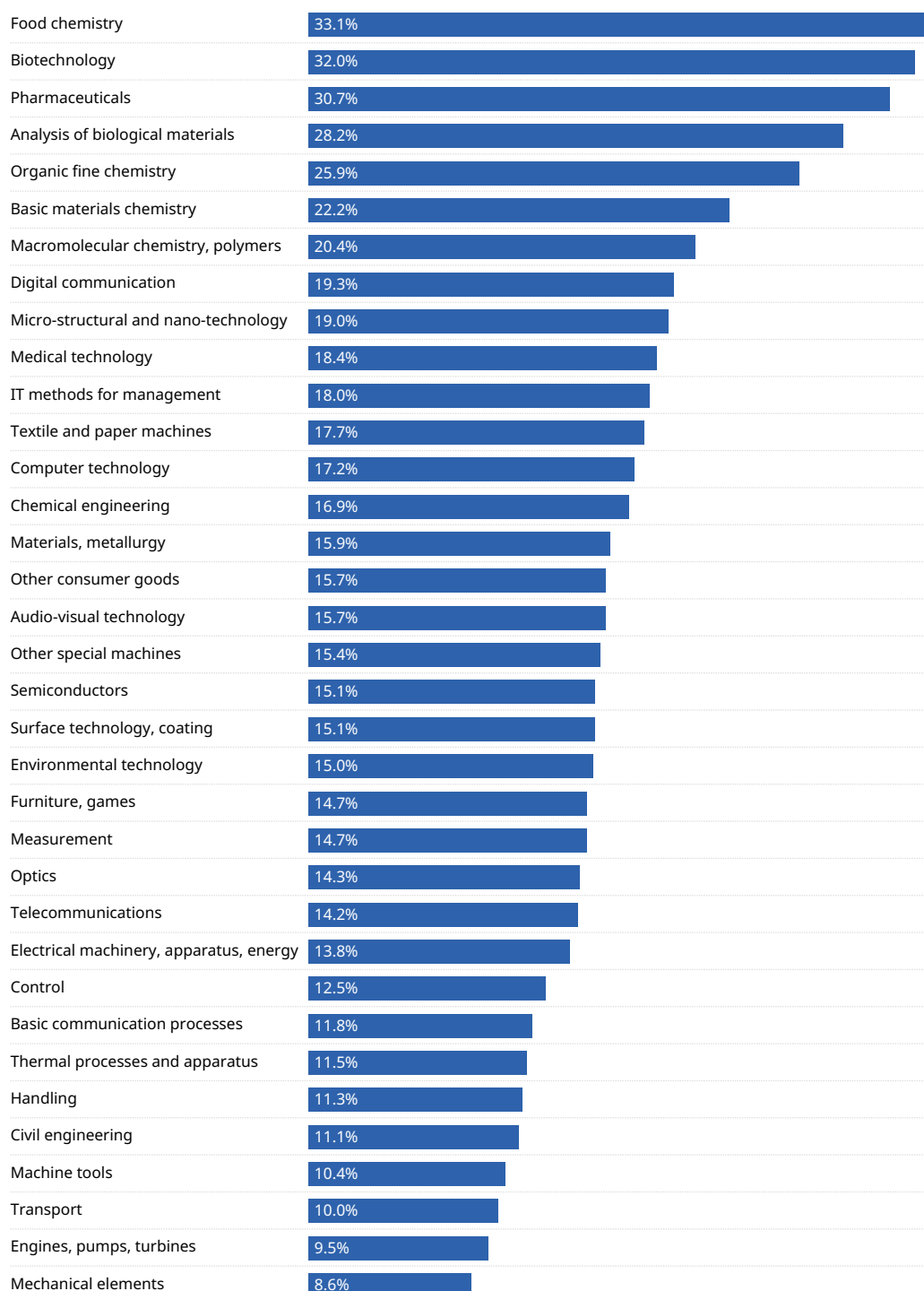
Women accounted for 18% of all inventors listed in PCT applications in 2024. The proportion of women inventors increased by 0.2 percentage points compared to 2023. Since 2010, the share of women inventors has risen nearly continuously, gaining 6.4 percentage points.

The share of women inventors has grown in each of the world's geographical regions over the past 10 years. In 2024, the LAC region (24.9%) had the largest proportion of women among PCT inventors, followed by Asia (18.8%), Northern America (17.8%), Oceania (17.5%), Europe (15.9%) and Africa (14.5%). Of the top 20 origins in published PCT applications, Türkiye (26%) and China (24.2%) had the largest proportion of inventors who were women in 2024.

Technology fields relating to the life sciences had comparatively high shares of women among inventors listed in PCT applications published during 2022–2024 (figure 5). Overall, women represented more than one-quarter of inventors in the fields of analysis of biological materials, biotechnology, food chemistry, organic fine chemistry and pharmaceuticals.

Technology fields with the highest proportion of women were biotechnology, food chemistry and pharmaceuticals.

5. Share of women among listed inventors in PCT applications by field of technology, 2022–2024



Source: WIPO Statistics Database, March 2025.

Tokyo–Yokohama accounted for more than 10% of total PCT applications

The top 50 PCT geographical clusters accounted for 62.4% of PCT applications published between 2020 and 2024. During this period, Tokyo–Yokohama remained the largest PCT cluster, with 135,129 PCT applications, representing 10.3% of the total. It was followed by Shenzhen–Hong Kong–Guangzhou (9%), Seoul (5.4%), San Jose–San Francisco (3.9%) and Beijing (3.8%). Paris was the highest-ranked European cluster, at 11th position globally.

Computer technology and digital communications ranked among the top three fields for each of the top six clusters. Computer technology was by far the main technology field for Seattle (43.9%), Hangzhou (27.4%) and San Jose San Francisco (22.6%). Digital communication accounted for a large proportion of applications in San Diego (45.6%), Beijing (29.6%) and Shenzhen–Hong Kong–Guangzhou (26.2%).

Statistics on PCT national phase entries

PCT national phase entries dropped slightly in 2023

About 698,500 PCT national phase entries (NPEs) were initiated worldwide in 2023 – the latest year for which data are available (figure 6).² This represents a 0.4% decline on the previous year, mainly driven by a decrease in national phase entries from applicants residing in the US.

In 2023, non-resident applications accounted for 84.6% of all NPEs. Most resident NPEs originated from the Japan Patent Office (JPO) and the United States Patent and Trademark Office (USPTO), which accounted for 38.4% and 17.3% of global resident NPEs, respectively.

In 2023, PCT national phase entries initiated worldwide dropped slightly by 0.4%.

6. Trend in PCT national phase entries, 2013–2023



Source: WIPO Statistics Database, March 2025.

Asia accounted for over 39% of PCT NPEs initiated worldwide

In 2023, Asia retained its position as the leading region for PCT NPEs, initiating 39.3% of all NPEs. This represents a notable rise from 2013, when Asia contributed 31% of global NPEs. Northern America and Europe were the next largest regions in 2023, each accounting for 29.1% of all NPEs. Combined, Africa, Latin America and the Caribbean (LAC) along with Oceania, constituted 1.8% of global NPEs.

Applicants from the US initiated the most PCT NPEs globally

In 2023, applicants residing in the US initiated 193,960 NPEs, followed by applicants from Japan (133,203), China (77,331), Germany (51,038) and the Republic of Korea (42,954) (figure 7). Together, the US and Japan accounted for 46.8% of all NPEs initiated worldwide, representing 27.8% and 19.1% of total NPEs, respectively. Together, the top 20 origins accounted for 95.3% of total NPEs.

² The United States Patent and Trademark Office (USPTO) has modified its methodology for extracting NPE data by removing requests for continued examination (RCE) and has revised its NPE data for the period 2000–2023. Due to the high number of NPEs initiated at the USPTO, the NPE data presented in this section may differ from those in earlier editions.

Among the ten top 20 origins that experienced growth in 2023, the Republic of Korea (+10.7%), Finland (+9.6%) and Singapore (+9.1%) recorded the most substantial increases in NPEs. Applicants from Israel (–6.4%), Denmark (–5.1%), Canada (–4.5%), France (–4.4%) and the US (–4.2%) experienced the sharpest declines.

The PCT System remained the most widely used route for filing patent applications abroad

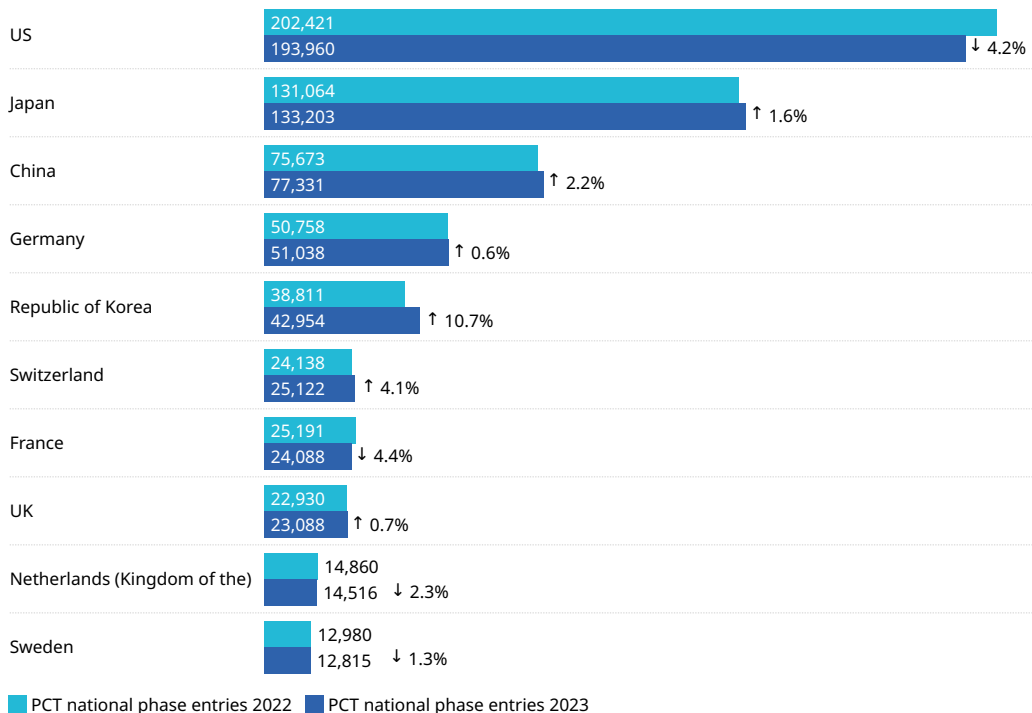
In 2023, the PCT route was used for 57.4% of non-resident patent applications worldwide, with a total of 591,100 non-resident NPEs initiated (figure 8). This marks a negligible 0.1 percentage point decrease on the previous year. In comparison to the Paris route, where applicants filed 438,000 non-resident patent applications directly at offices in 2023, the PCT route has grown at a notably faster rate. Between 2009 and 2023, the PCT route maintained an average annual growth rate of 3.4%, whereas for the Paris route it was 2.1%.

Out of the top 20 offices for non-resident patent applications, 17 received most of their nonresident filings through the PCT route. Notably, the offices of Brazil, Indonesia, Israel and Thailand had PCT route shares above 90%. Conversely, the offices of Germany, the UK and the US had much lower shares.

Among the top 20 origins for filing applications abroad, applicants from the US (70%), Australia (67.3%) and Sweden (65.9%) used the PCT route in greatest proportion. Conversely, applicants from Canada, India, Israel, the Republic of Korea and Singapore primarily filed their patent applications directly with foreign offices through the Paris route.

The Republic of Korea was the only top 20 origin to see double-digit growth in national phase entries.

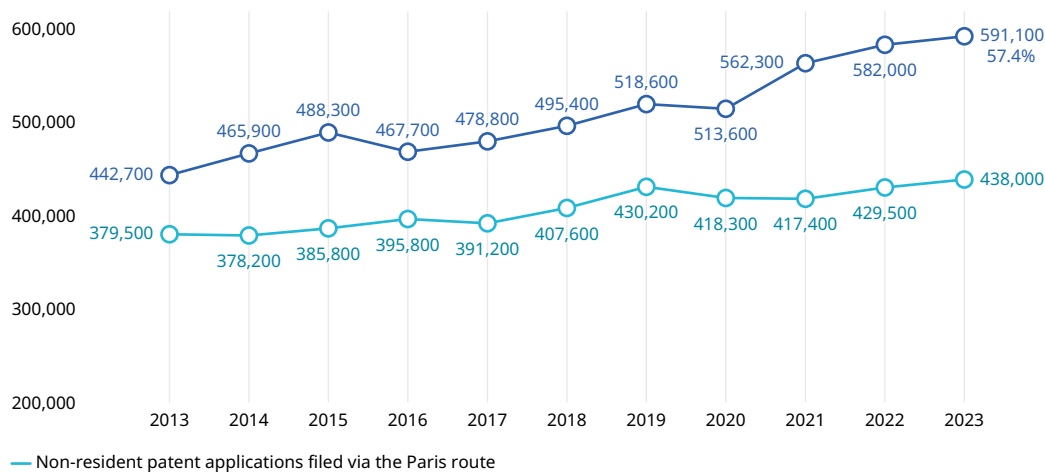
7. PCT national phase entries for the top 10 origins, 2023



Source: WIPO Statistics Database, March 2025.

The share of PCT national phase entries in all non-resident patent applications filed worldwide dropped marginally to 57.4% in 2023.

8. Trend in non-resident applications by filing route, 2013–2023



Source: WIPO Statistics Database, March 2025.

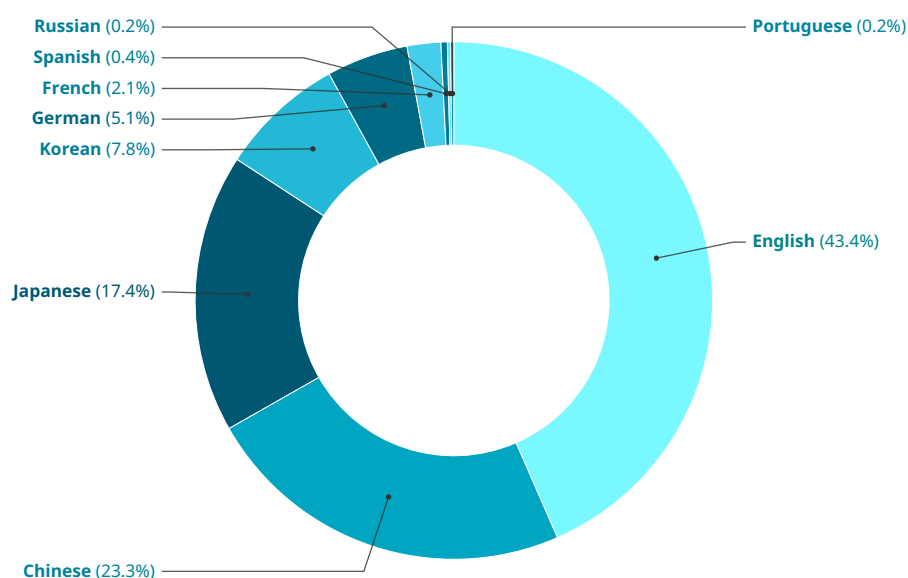
Statistics on the performance of the International Bureau

PCT applications published in English represented 43.4% of total in 2024

In 2024, PCT applications published in English made up 43.4% of the total, followed by Chinese at 23.3% and Japanese at 17.4% (figure 9). The remaining seven languages combined contributed 15.9% to the overall total. Over the past 15 years, the proportion of applications published in Chinese has increased sharply, rising from 5% in 2010 to 23.3% in 2024. In contrast, the percentage of applications published in English has declined from 58.3% to 43.4% during the same period.

The share of PCT applications published in English was 43.4% in 2024.

9. Distribution of PCT applications by language of publication, 2024



Source: WIPO Statistics Database, March 2025.

The ePCT-filing service was used for 42% of PCT applications filed in 2024

In 2024, 90 ROs accepted ePCT filings enabling 114,314 PCT applications to be filed through this online service. This marked an 8.9% increase on the previous year, and accounted for 41.7% of all PCT applications filed in 2024. Applicants from the US filed the most using ePCT, with 39,408 applications, followed by those from the Republic of Korea (23,801), Germany (6,135), France (4,931) and India (4,531).

Among the top five origins filing the highest number of PCT application via ePCT, Germany (+38.1%), France (+22.7%) and India (+22.4%) saw the largest increases compared to 2023.

Statistics on the performance of the receiving offices

Thirteen of the top 20 ROs received over 99% of PCT applications electronically in 2024

Of the top 20 ROs, Singapore and Türkiye received all PCT applications electronically in 2024. The share of electronic filings exceeded 99% at 13 of the top 20 offices. Conversely, the Russian Federation (51%), Germany (5.7%) and France (4.5%) recorded the highest percentages of PCT applications filed on paper.

On average, ROs transmitted PCT applications to the IB within 2.5 weeks

In 2024, on average, ROs transmitted PCT applications to the IB within 2.5 weeks of the international filing date. Australia, Israel and the Republic of Korea transmitted all applications to the IB within four weeks of the filing date. Among the top 20 ROs, 17 transmitted more than 75% of PCT applications within this timeframe.

Statistics on the performance of the International Searching Authorities

The office of India issued 43.3% more ISRs in 2024 than in the preceding year

In 2024, a total of 266,101 ISRs were issued. Of these, 83,911 ISRs were issued by the EPO and 65,673 by the office of China (figure 10). Together, these two ISAs accounted for 56.2% of all ISRs issued. Among the top 10 ISAs, India (+43.3%), the US (+12.3%) and the Republic of Korea (+5.2%) saw the sharpest growth. Conversely, 14 ISAs encountered a decline, including China (–6.1%), Japan (–0.4%) and the EPO (–0.2%).

Of all ISRs required to be transmitted to the IB within three months of the date of receipt of the application, 82.5% were transmitted within this timeframe in 2024. At 16 ISAs, more than 90% of ISRs were transmitted to the IB within the three-month deadline from the date of receipt of the search copy. As for those required to be transmitted within nine months of the priority date, 97.1% met this deadline in 2024. Eight ISAs transmitted all such ISRs within the required nine months, and 20 transmitted more than 90% within the timeframe.

The office of India saw a 43.3% increase in international search reports issued in 2024.

10. International search reports issued by the top 10 International Searching Authorities, 2024

International Searching Authorities	2023	2024	Growth rate
European Patent Office	84,056	83,911	-0.2%
China	69,903	65,673	-6.1%
Japan	47,328	47,121	-0.4%
Republic of Korea	29,275	30,793	5.2%
US	21,534	24,192	12.3%
India	1,913	2,742	43.3%
Australia	2,177	2,178	0.0%
Canada	2,169	2,145	-1.1%
Türkiye	1,826	1,844	1.0%
Israel	1,249	1,041	-16.7%

Source: WIPO Statistics Database, March 2025.

