PCT Yearly Review 2025

WIPO

Patent Cooperation Treaty Yearly Review 2025

The International Patent System

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Contents

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Further information

Online resources

An electronic version of the Review, as well as the underlying data used to compile the figures and tables is available to download at www.wipo.int/web/ip-statistics. This webpage also provides links to the IP Statistics Data Center – giving access to WIPO's statistical data – and the IP Statistical Country Profiles.

The following patent resources are available on WIPO's website:

PCT homepage
WIPO's gateway to PCT resources for applicants, offices and the public.

PCT Newsletter
PCT monthly publication containing information about the filing of PCT applications and news about changes relating to the PCT.

PATENTSCOPE
Enables the search for and download of published PCT applications and national/regional patent collections. Also provides access to related patent and technology information programs and services.

Contact information

Department for Economics and Data Analytics
Website: www.wipo.int/web/ip-statistics
email: ipstats.mail@wipo.int

Key numbers for 2024

273,900 (+0.5%)
PCT applications filed

124 (–3)
Countries of origin of PCT applications

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

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

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

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

Special theme: Five million and counting, but have PCT applications reached a plateau or just a pause?

In 2024, the World Intellectual Property Organization (WIPO) celebrated the publication of the five millionth PCT application.[1] This landmark application was filed by Samsung Electronics from the Republic of Korea in the electrical engineering sector. Over the past two decades, Northeast Asia and the electrical engineering sector have together been the driving force behind strong growth in the filing of PCT applications.

Since 2020, however, the global economic environment has become more challenging for PCT applicants. The 2020–2024 period has been successively marked by the COVID-19 pandemic's aftermath, supply chain disruptions, and inflation and high interest rates, alongside geopolitical tensions, new industrial policies and the phasing out of patent subsidies for Chinese applicants. This combination of factors likely led to PCT application numbers having stagnated during this period rather than following the longer-term growth trajectory (figure A1).

This Special theme provides a descriptive analysis exploring trends in the filing of PCT applications for the period 2020–2024 compared to the preceding period 2010–2020. While the slowdown in applications over the last five years may be a reflection of temporary external challenges, it could also signal a naturally maturing PCT System with a reduced growth potential. That said, economic developments and technological breakthroughs have repeatedly reshaped filing patterns in unpredictable ways over the past 50 years, suggesting caution in projecting long-term trends from the evidence of this recent period.

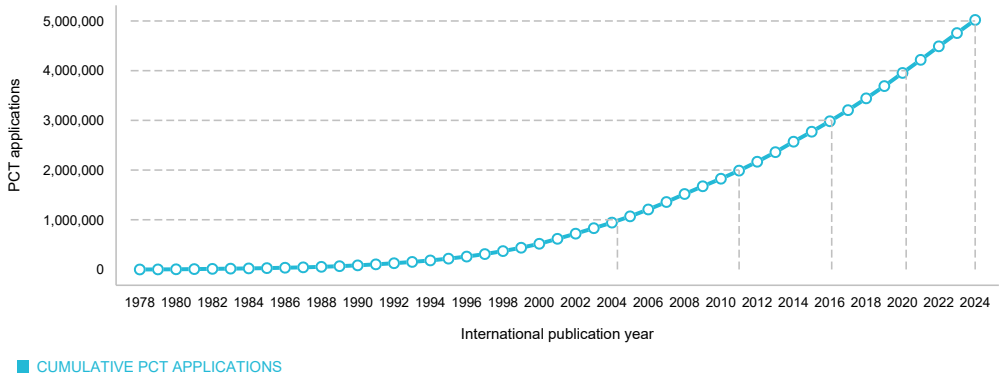
One million PCT applications published in just about three years

In 2005 – 27 years after it first came into operation – the PCT System published the one millionth application (figure S1). During this period, the PCT System was mainly used by applicants from the United States of America (US) (39.9% of total), Germany (12.8%) and Japan (11.5%). Seven years later, in 2012, the two millionth PCT application was published, attesting to the rapid growth of the System. A key driving force behind this growth has been an expanding membership. In 1990, the PCT System comprised 45 member states. Twenty years later, in 2010, this has increased to 142 member states. Since then, due to having an already extensive global coverage, the pace of new accessions has slowed, reaching 158 member states in 2024.

Moreover, between publication of the two and five millionth PCT application, the number of years needed to publish an additional million applications has steadily decreased. It took approximately five, four and three years to reach the three, four and five millionth published PCT applications, respectively.

1 See, WIPO (2024). Spreading innovation: WIPO's international patent system passes 5 million mark for published applications. PR/2024/930, December 2. Geneva: WIPO. Available at: https://www.wipo.int/pressroom/en/articles/2024/article_0018.html.

S1. Cumulative published PCT applications, 1978–2024



Source: WIPO Statistics Database, March 2025.

China's growth in PCT applications has slowed considerably since 2021

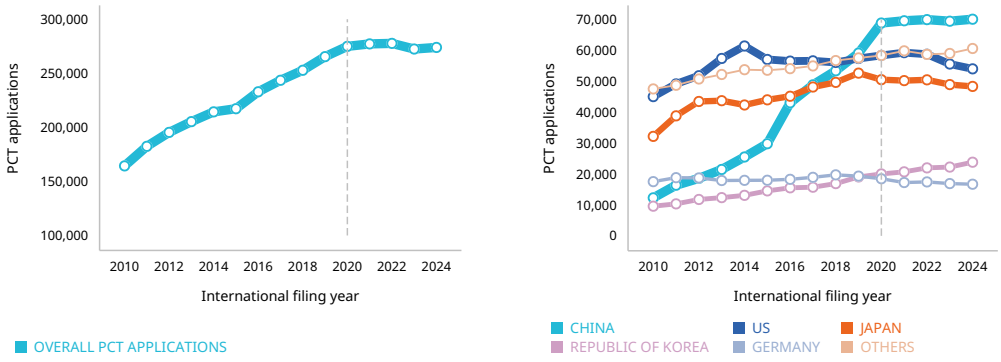
The period from 2010 to 2020 saw a strong increase in PCT applications filed, driven mainly by rapidly growing filings from China (figure S2). Total PCT applications rose from 164,355 in 2010 to 274,889 in 2020. China accounted for most of this growth (51.2%). Japan (16.6%), the US (12.1%) and the Republic of Korea (9.5%) were other important contributors to the increase in PCT applications filed over this period.

In 2010, China overtook the Republic of Korea to become the fourth largest origin of PCT applications. Applications from the US peaked at almost 61,500 in 2014, representing a total of about 4,000 applications more than either the previous or following years. This spike was a consequence of the entry into force of the Leahy-Smith America Invents Act.

Between 2020 and 2024, the global economy underwent a tumultuous transformation, moving from COVID-19 pandemic-induced disruption and recession to inflation-led recovery amid rising geopolitical tensions and accelerated digital transformation. Notably, this brief period accounts for one of the only two annual declines in PCT application filing numbers observed since the PCT System began operating in 1978. The first decline occurred in 2009, during the global financial crisis. The second took place in 2023, with a 1.9% decrease in PCT applications. This drop was mainly due to fewer filings from the US (–5.4%), Germany (–3%), Japan (–3%) and China (–0.7%). Among the top five origins, only the Republic of Korea (+1.2%) experienced slight growth in filings that year. The following year, in 2024, PCT applications rose slightly by 0.5%, thanks to a strong increase in filings from the Republic of Korea (+7.1%) combined with a slight increase from China (+0.9%). In contrast, filings from the US (–2.8%), Germany (–1.3%) and Japan (–1.2%) fell for a second consecutive year in 2024.

Between 2010 and 2020, PCT applications from China grew at a fast rate, ranging from 9.3% in 2018 to 55.7% in 2010. In 2019, China overtook the US to become the largest origin of PCT applications filed. In 2021, the China National Intellectual Property Administration announced that patent subsidies in China would be gradually phased out during the period 2021–2025. Between 2021 and 2024, growth in PCT applications from China has steadily declined, peaking at 1.1% in 2021. In 2023, for the first time in over 20 years, PCT applications from China (–0.7%) declined.

S2. Trend in PCT applications filed, 2010–2024



Source: WIPO Statistics Database, March 2025.

A five-year plateau in PCT applications

Comparing the 2020 total with that of 2024 shows the number of PCT applications filed to have dropped by almost one thousand, indicating a marginal decline averaging 0.1% a year (table S3). This five-year plateau in PCT applications contrasts sharply with the sustained growth seen over the preceding decade, which averaged 5.3% a year. Between 2020 and 2024, the Republic of Korea (+4.4%) and China (+0.4%) registered growth, on average, albeit at much lower average annual rates compared to the preceding decade. In contrast, Germany (–2.5%), the US (–1.9%) and Japan (–1.1%) saw their number of PCT applications declining. Germany's substantial decline has resulted in fewer applications being filed in 2024 than in 2010.

S3. PCT applications for the top five origins, 2010, 2020 and 2024

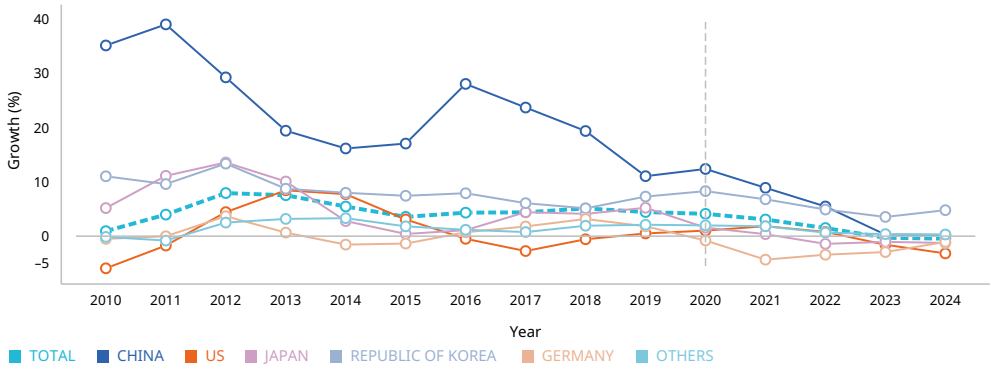
	PCT applications			Share of world total (%)			Average growth (%)	
Origin	**2010**	**2020**	**2024**	**2010**	**2020**	**2024**	**2010–2020**	**2020–2024**
China	12,304	68,928	70,160	7.5	25.1	25.6	18.8	0.4
US	45,089	58,433	54,087	27.4	21.3	19.7	2.6	–1.9
Japan	32,216	50,583	48,397	19.6	18.4	17.7	4.6	–1.1
Republic of Korea	9,604	20,050	23,851	5.8	7.3	8.7	7.6	4.4
Germany	17,560	18,491	16,721	10.7	6.7	6.1	0.5	–2.5
Others	47,582	58,404	60,684	29.0	21.2	22.2	2.1	1.0
Total	**164,355**	**274,889**	**273,900**	**100.0**	**100.0**	**100.0**	**5.3**	**–0.1**

Note: Average growth is the compound annual growth.
Source: WIPO Statistics Database, March 2025.

Since 2020, growth has persisted in the Republic of Korea

Figure S4 shows the annual growth rates of the three-year moving average for the top five origins from 2010 to 2024.[2] PCT applications grew relatively rapidly between 2012 and 2020. However, the pace has steadily slowed since 2021, reaching zero growth in 2023. China's PCT application growth rate has consistently outpaced the overall total, although the gap has progressively narrowed since 2017, ultimately converging with the overall growth rate since 2023. The US growth rate has surpassed the total growth rate only in 2013 and 2014. Since 2014, the growth rate in PCT applications for Germany and Japan has been almost always lower than that for total growth. Conversely, the Republic of Korea has almost consistently maintained growth rates exceeding the overall total.

S4. Growth of PCT applications for the top five origins, 2010–2024



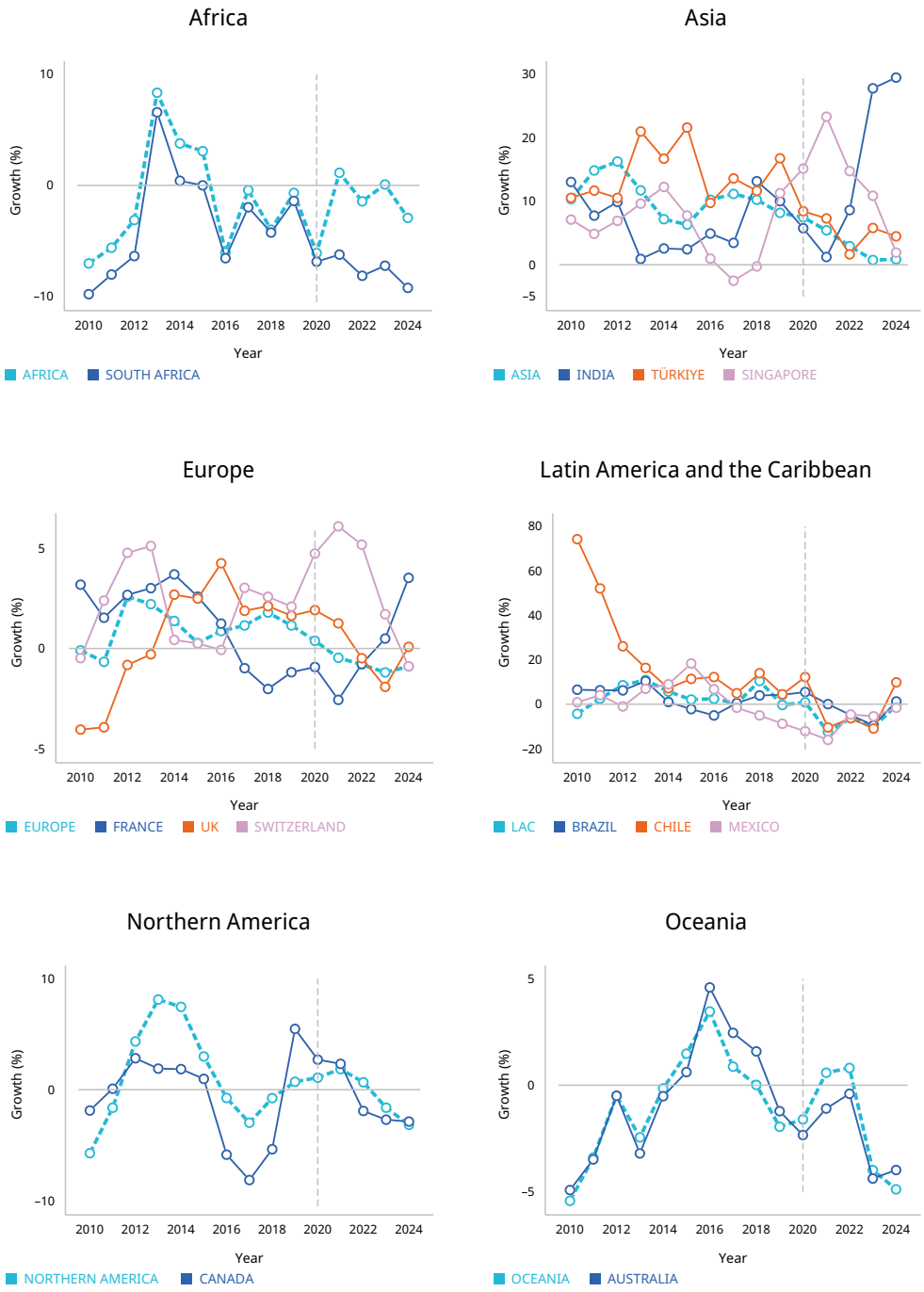
Note: Annual growth rate of the three-year moving average of PCT applications filed.
Source: WIPO Statistics Database, March 2025.

Figure S5 presents the same information as figure S4, but focusing on the largest origins outside the top five within each geographical region. None of the selected origins shown in figure S5 achieved growth rates well ahead of their respective regions over the 2010–2024 period.

Chile, France, Switzerland, Türkiye and the UK are the only five selected origins to have regularly registered growth exceeding their respective regional growth rates. Between 2019 and 2024, Singapore's growth rate in PCT applications outpaced that of Asia. Since 2022, however, it has rapidly converged towards that of Asia, slowing to a similar growth rate in 2024. It should be noted that filings from India underwent particularly strong growth in 2023 and 2024; however, this is not reflected in the published PCT applications, because of the number of applications considered withdrawn between filing and publication.

2 Smoothing out fluctuations in this way makes it easier to observe trends over time. Data for 2008 and 2009 were used to compile the three-year moving average of 2010 and 2011. The 2008–2009 period was characterized by the global financial crisis, during which PCT applications fell by 4.8% in 2009.

S5. Growth of PCT applications for selected origins by region, 2010–2024



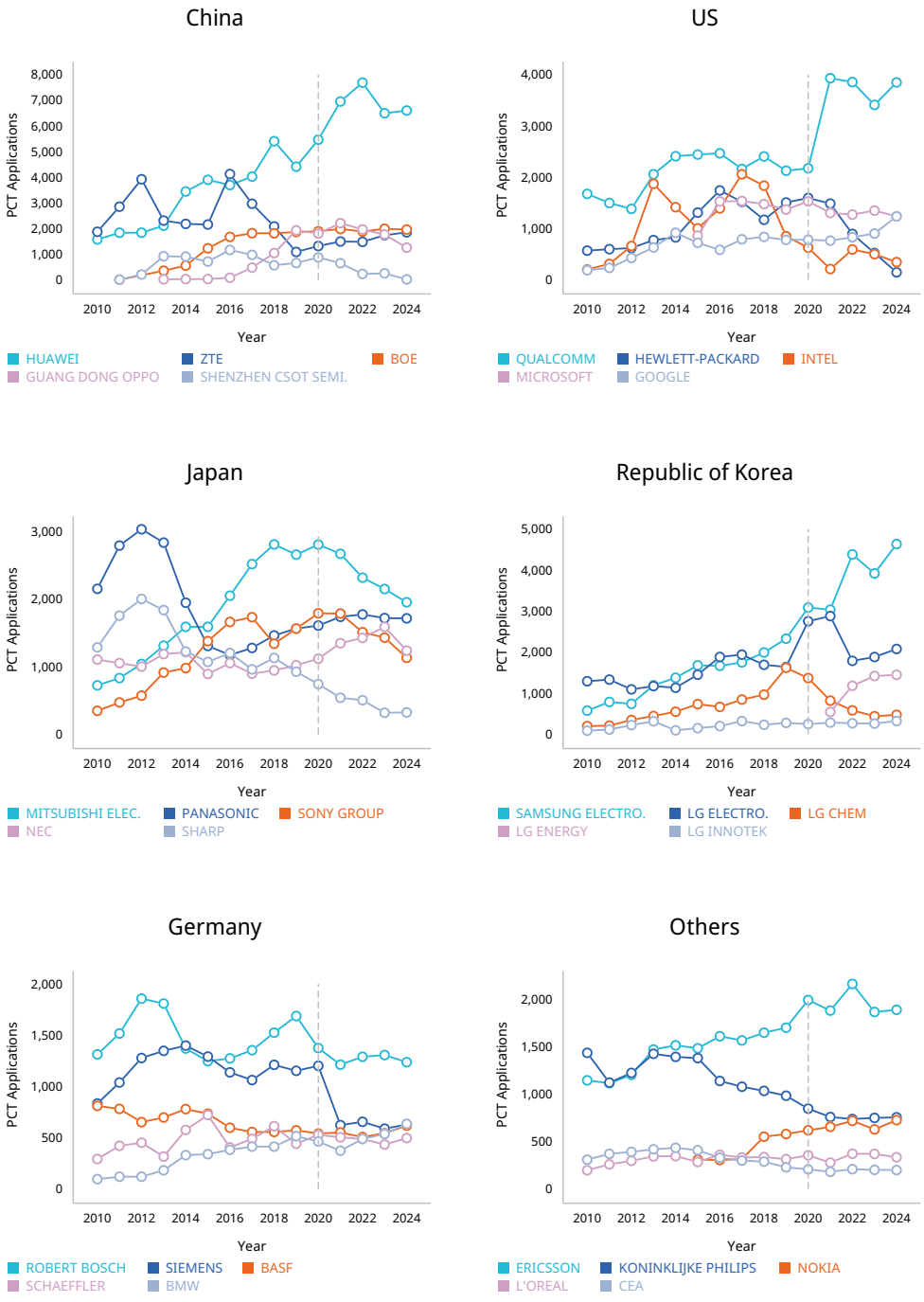
Note: Annual growth rate of the three-year moving average of PCT applications filed.
Source: WIPO Statistics Database, March 2025.

Figure S6 depicts the trends in published PCT applications for the top five applicants within each of the top five origins during the period 2010–2024. The patenting behavior of companies usually depends on what their capacity is for innovation and on market conditions. Moreover, sudden changes in the economic environment or industrial disruption can trigger rapid adjustments to intellectual property strategy, leading to rapid increases or decreases in the number of patent applications filed by companies.

Focusing specifically on the shift in trends observed between 2020 and 2024, Huawei, Qualcomm and Samsung Electronics stand out in terms of substantial growth in applications, aligning with the surge observed in the field of digital communication (figure A20). Conversely,

Hewlett-Packard, the Sony Group, Mitsubishi Electric and Siemens each experienced a steep decline in applications during this period.

S6. PCT applications for top five applicants of the top five origins, 2010–2024



Note: See Special theme annex for full applicant names.
Source: WIPO Statistics Database, March 2025.

Conclusion

After more than 40 years of sustained growth, the filing of PCT applications stagnated between 2020 and 2024. During this recent five-year period, PCT applicants in Germany, Japan and the US filed fewer PCT applications, while China and the Republic of Korea – which together had accounted for the bulk of total growth during the preceding decade – experienced much lower growth over this same period. In particular, the pace of PCT applications from China has slowed considerably since 2021, averaging 0.4% a year between 2020 and 2024, compared with 18.8% over the preceding decade. The Republic of Korea was the only top five origin to have maintained sustained growth since 2020. Beyond the top five origins, only a few top regional origins showed strong growth on a regular basis over the 2010–2024 period, with no overall upward trend over time. Between 2020 and 2024, the number of PCT applications for some of the top PCT applicants shifted markedly, possibly indicating rapid changes within the business environment.

The milestone of five million published PCT applications has been achieved at a time when the PCT System faces significant external challenges and may have reached maturity. Experience since 2020 suggests a structural deceleration in growth that may persist into the future, particularly as certain external challenges appear likely to continue. However, the System's long-term trajectory remains contingent on economic developments across different regions, as well as the emergence of transformative technologies and other factors that defy reliable long-term predictions.

Annex

List of PCT applicants' names included in figure S6

Company name	Abbreviated to	Origin
BASF SE	BASF	Germany
BAYERISCHE MOTOREN WERKE AKTIENGESELLSCHAFT	BMW	Germany
BOE TECHNOLOGY GROUP CO., LTD	BOE	China
COMMISSARIAT A L'ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES	CEA	France
GOOGLE INC.	GOOGLE	US
GUANG DONG OPPO MOBILE TELECOMMUNICATIONS CORP., LTD	GUANG DONG OPPO	China
HEWLETT-PACKARD DEVELOPMENT COMPANY, L. P.	HEWLETT-PACKARD	US
HUAWEI TECHNOLOGIES CO., LTD.	HUAWEI	China
INTEL CORPORATION	INTEL	US
KONINKLIJKE PHILIPS ELECTRONICS N.V.	KONINKLIJKE PHILIPS	Netherlands (Kingdom of the)
LG CHEM, LTD.	LG CHEM	Republic of Korea
LG ELECTRONICS INC.	LG ELECTRO	Republic of Korea
LG ENERGY SOLUTION, LTD.	LG ENERGY	Republic of Korea
LG INNOTEK CO. LTD.	LG INNOTEK	Republic of Korea
L'OREAL	L'OREAL	France
MICROSOFT TECHNOLOGY LICENSING, LLC	MICROSOFT	US
MITSUBISHI ELECTRIC CORPORATION	MITSUBISHI ELECTRO.	Japan
NEC CORPORATION	NEC	Japan
NOKIA TECHNOLOGIES OY	NOKIA	Finland
PANASONIC INTELLECTUAL PROPERTY MANAGEMENT CO., LTD.	PANASONIC	Japan
QUALCOMM INCORPORATED	QUALCOMM	US
ROBERT BOSCH CORPORATION	ROBERT BOSCH	Germany
SAMSUNG ELECTRONICS CO., LTD.	SAMSUNG ELECTRO	Republic of Korea
SCHAEFFLER TECHNOLOGIES AG & CO. KG	SCHAEFFLER	Germany
SHARP KABUSHIKI KAISHA	SHARP	Japan
SHENZHEN CHINA STAR OPTOELECTRONICS SEMICONDUCTOR DISPLAY TECHNOLOGY CO., LTD.	SHENZHEN CSOT SEM.	China
SIEMENS AKTIENGESELLSCHAFT	SIEMENS	Germany
SONY GROUP CORPORATION	SONY GROUP	Japan
TELEFONAKTIEBOLAGET LM ERICSSON (PUBL)	ERICSSON	Sweden
ZTE CORPORATION	ZTE	China

A. Statistics on the international phase: PCT applications

Highlights

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 A1). This represents a marginal rise of 0.5% on the previous year.

Applicants filed 74,763 PCT applications at the China National Intellectual Property Administration (CNIPA) acting as PCT receiving office in 2024 (figure A4). 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).

Despite broad geographical reach, filing activity was notably concentrated in a few economies. 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.

Most PCT applications were filed in Asia

Asian countries represented 56.3% of all PCT applications in 2024 (figure A2), 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 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 A7). In 2024, the top five origins were responsible for 77.8% of all PCT applications.

Half of the top 20 origins witnessed an increase in PCT applications in 2024 compared to the previous year (figure A8). Finland (+30.1%), India (+22.2%), the Republic of Korea (+7.1%), the United Kingdom (UK) (+5.3%) and Australia (+5.1%) experienced the sharpest increases in filing. Among the top five offices, the US (–2.8%), Germany (–1.3%) and Japan (–1.2%) observed a decline in filings, while China saw marginal growth of 0.9%.

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 (table A9). 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) (table A30).

Among large middle-income economies not listed among the top 20 origins, Brazil (+23.9%), the Islamic Republic of Iran (+21.4%), Thailand (+13.2%) and Mexico (+9.4%) experienced a sharp increase in filings, albeit from a relatively low base (table A9). In contrast, Colombia (–33.6%) and South Africa (–7.4%) saw a fall.

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%) (figure A11).

Among high-income countries, the business sector overwhelmingly dominated published applications from each of the top 20 origins (figure A12). 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.

In high-income economies, such as Australia, Israel, Singapore and Spain, the university sector constituted over one-tenth of PCT applications. The university sector's contribution exceeded 20% of all applications in four of the top 20 middle-income origins, with particularly high percentages for Peru (48.3%) and Morocco (37.5%). The government and public research organizations (PROs) sector accounted for a relatively high share of applications from Argentina (26.9%), Singapore (7.4%), France (6.9%) and Spain (6.7%).

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 applications in 2024 (table A15). Samsung Electronics of the Republic of Korea followed in second place, with 4,640 applications, trailed by Qualcomm of the US (3,848), LG Electronics of the Republic of Korea (2,083) and Contemporary Amperex Technology of China (1,993).

Half of the top 10 applicants underwent double-digit growth in published applications, among which Samsung Electronics (+18.2%), Beijing Xiaomi Mobile Software (+17.8%) and Qualcomm (+12.8%) exhibited the fastest growth. A strong performance moved Beijing Xiaomi Mobile Software, Contemporary Amperex Technology and LG Electronics up six, three and two places in the ranking, respectively. Within the top 50 list, Interdigital VC Holdings and Huawei Cloud Computing Technologies more than doubled their number of PCT applications as compared to 2023.

Companies active in digital communication headed the list of top 50 PCT filers in 2024. 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 (table A16).

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 (table A17). 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. Within the top 50, Ulsan National Institute of Science and Technology (+46.3%), Peking University (+28.2%) and Purdue University (+23.8%) also recorded a considerable increase in applications.

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 (table A18).

Out of the 32 PROs to feature among the top 30, 14 experienced double-digit growth, among which Beijing Superstring Academy of Memory Technology (+138.5%) and Electronics and Telecommunications Research Institute of Korea (+75%) saw the sharpest increases.

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, electrical engineering accounted for over 40% of all published PCT applications, followed by chemistry (21.8%), mechanical engineering (16.3%) and instruments (15.7%) (figure A3). 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 (table A20).

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 (figure A22). 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%) (figure A24).

In 2024, 96% of PCT applications listed at least one male inventor, and 37.1% listed at least one female inventor (figure A23). The share of PCT applications with at least one female inventor has increased from 23.1% in 2010 to 37.1% in 2024. During this period, the share of PCT applications with at least one male inventor remained relatively stable, only declining slightly from 97.5% to 96%.

The gender gap among PCT inventors varied considerably between countries. 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 (figure A25). They were the only two origins among the top 20 where women comprised above one-fifth of inventors. In contrast, in Austria, Germany and Japan around one-tenth of inventors named in PCT applications were women.

Technology fields relating to the life sciences had comparatively high shares of women among inventors listed in PCT applications published during 2022–2024 (table A26). 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.

Biotechnology and food chemistry had the greatest proportion of women inventors globally, as well as in Asia, Europe and Northern America. In LAC and Oceania, biotechnology and food chemistry ranked among the top five fields.

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 (table A28). 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.

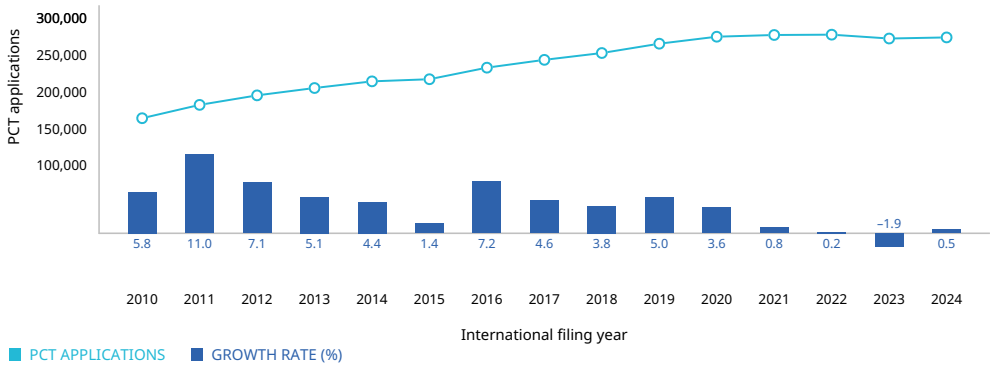
Compared to 2019–2023, the ranking of the top 15 clusters remained unchanged. Beyond the top 15 clusters, Ningde moved up 12 positions to rank 31st and Denver, Hefei and Helsinki each moved up four positions. More generally, 29 of the top 50 PCT clusters grew during the 2020–2024 period, among which four – from China – saw a double-digit increase in PCT applications. The sharpest growth was seen in Ningde (+60.4%), Hefei (+22.8%) and Beijing (+17.2%).

Cluster composition can vary considerably. Some clusters are composed mainly of a single applicant or are highly concentrated in a single technology field, while others feature a wide variety of filers and technology fields. Computer technology and digital communications ranked among the top three fields for each of the top six clusters (table A29). 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%). Electrical machinery accounted for a high share of applications in Daejeon (32.8%) and pharmaceuticals in Boston–Cambridge (21.5%).

Global trends in PCT applications

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

A1. Trend in filings of PCT applications, 2010–2024

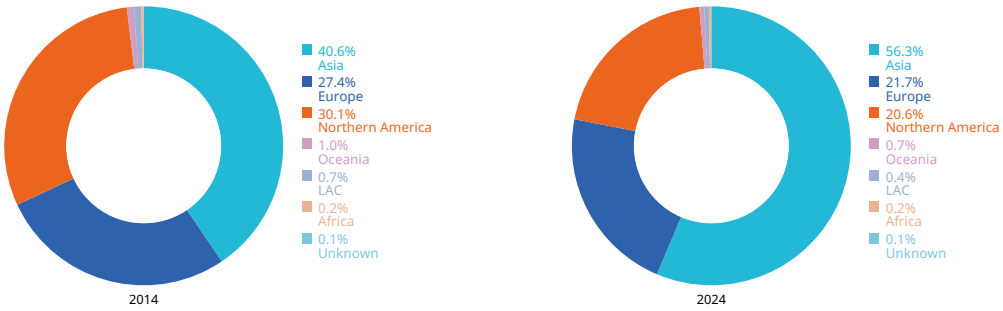


Note: Data for 2024 are WIPO estimates.

Source: WIPO Statistics Database, March 2025.

Most PCT applications originated from Asia in 2024.

A2. Distribution of PCT applications by region, 2014 and 2024

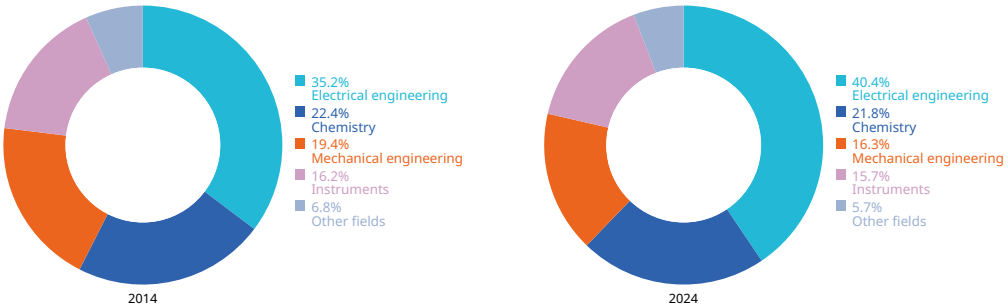


Note: Data for 2024 are WIPO estimates. Each region includes the following number of origins: Africa (21), Asia (35), Europe (43), Latin America and the Caribbean (LAC) (18), Northern America (3) and Oceania (3).

Source: WIPO Statistics Database, March 2025.

Electrical engineering accounted for more than 40% of PCT applications in 2024.

A3. Distribution of PCT applications by technology sector, 2014 and 2024



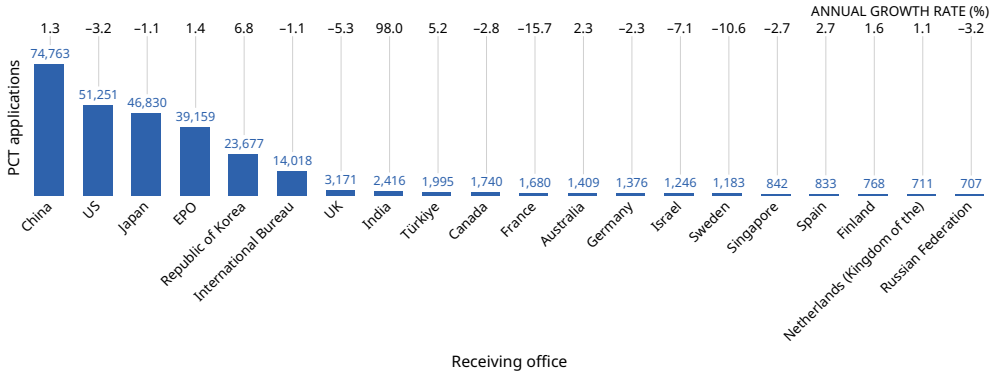
Note: For confidentiality reasons, data are based on published applications and on the publication date. WIPO's IPC technology concordance table (available at: www.wipo.int/web/ip-statistics) was used to convert IPC symbols into five corresponding sectors of technology.

Source: WIPO Statistics Database, March 2025.

PCT applications by receiving office

Among the top five, the Republic of Korea saw the sharpest increase in filings.

A4. PCT applications for the top 20 receiving offices, 2024

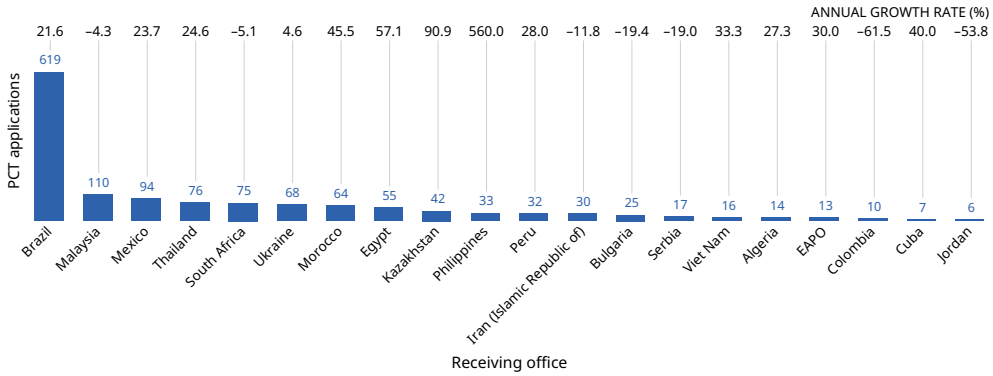


Note: Data for 2024 are WIPO estimates. EPO is the European Patent Office.

Source: WIPO Statistics Database, March 2025.

The office of Brazil saw a sharp 21.6% increase in filings in 2024.

A5. PCT applications for selected receiving offices of low- and middle-income countries, 2024



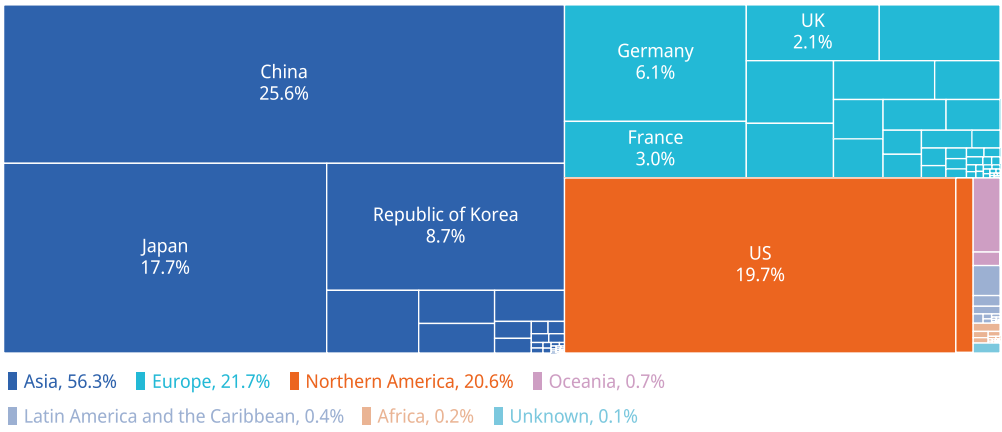
Note: Data for 2024 are WIPO estimates. EAPO is the Eurasian Patent Organization. The selected offices are the top receiving offices of low- and middle-income countries not to feature among the top 20 offices. Where available, data for all offices are presented in statistical table A30.

Source: WIPO Statistics Database, March 2025.

PCT applications by origin

PCT applications are highly concentrated in just a few origins.

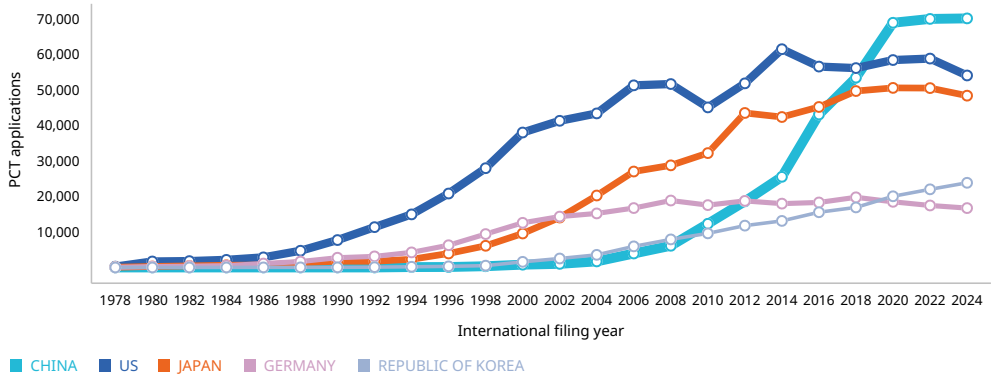
A6. Distribution of PCT applications by region and origin, 2024



Note: Data for 2024 are WIPO estimates.
Source: WIPO Statistics Database, March 2025.

Since 2020, the number of PCT applications filed by applicants from China has almost stagnated.

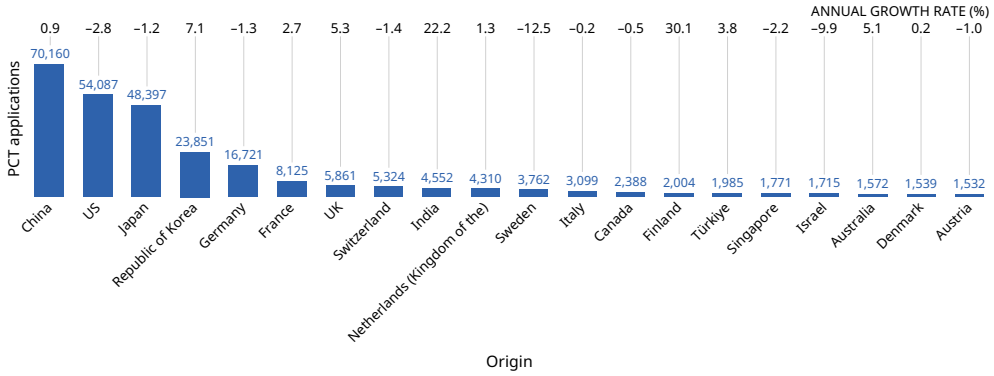
A7. Trend in PCT applications for the top five origins, 1978–2024



Note: Data for 2024 are WIPO estimates.
Source: WIPO Statistics Database, March 2025.

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

A8. PCT applications for the top 20 origins, 2024



Note: Data for 2024 are WIPO estimates.

Source: WIPO Statistics Database, March 2025.

Every geographical region saw growth in filings in 2024, except Northern America.

A9. PCT applications for the top origins by region, 2022–2024

Region	Origin	2022	2023	2024	Regional share 2024 (%)	Change from 2023 (%)
Africa	South Africa	215	188	174	41.3	–7.4
	Morocco	39	46	74	17.6	60.9
	Egypt	60	39	64	15.2	64.1
	Mauritius	21	38	46	10.9	21.1
	Algeria	18	13	15	3.6	15.4
	Others	45	66	48	11.4	–27.3
	Total*	**398**	**390**	**421**	**0.2**	**7.9**
Asia	China	70,016	69,527	70,160	45.5	0.9
	Japan	50,529	48,992	48,397	31.4	–1.2
	Republic of Korea	22,013	22,277	23,851	15.5	7.1
	India	2,560	3,725	4,552	3.0	22.2
	Türkiye	1,770	1,913	1,985	1.3	3.8
	Singapore	1,777	1,811	1,771	1.1	–2.2
	Israel	1,968	1,904	1,715	1.1	–9.9
	Saudi Arabia	478	392	492	0.3	25.5
	Iran (Islamic Republic of)	353	350	425	0.3	21.4
	Thailand	162	144	163	0.1	13.2
	Others	544	621	665	0.4	7.1
	Total*	**152,170**	**151,656**	**154,176**	**56.3**	**1.7**
Europe	Germany	17,464	16,944	16,721	28.1	–1.3
	France	7,745	7,911	8,125	13.6	2.7
	UK	5,692	5,567	5,861	9.8	5.3
	Switzerland	5,439	5,398	5,324	8.9	–1.4
	Netherlands (Kingdom of the)	4,012	4,256	4,310	7.2	1.3
	Sweden	4,482	4,301	3,762	6.3	–12.5
	Italy	3,313	3,104	3,099	5.2	–0.2
	Finland	1,768	1,540	2,004	3.4	30.1
	Denmark	1,497	1,536	1,539	2.6	0.2
	Austria	1,421	1,548	1,532	2.6	–1.0
	Others	7,369	7,138	7,249	12.2	1.6
	Total*	**60,202**	**59,243**	**59,526**	**21.7**	**0.5**
Latin America and the Caribbean	Brazil	546	514	637	52.0	23.9
	Chile	184	179	227	18.5	26.8
	Mexico	190	149	163	13.3	9.4
	Colombia	116	110	73	6.0	–33.6
	Peru	31	27	33	2.7	22.2

Region	Origin	2022	2023	2024	Regional share 2024 (%)	Change from 2023 (%)
	Argentina	29	25	29	2.4	16.0
	Ecuador	6	12	21	1.7	75.0
	Others	105	62	41	3.3	–33.9
	Total*	**1,207**	**1,078**	**1,224**	**0.4**	**13.5**
Northern America	US	58,839	55,618	54,087	95.8	-2.8
	Canada	2,575	2,399	2,388	4.2	-0.5
	Others	7	15	8	0.0	–46.7
	Total*	**61,421**	**58,032**	**56,483**	**20.6**	**-2.7**
Oceania	Australia	1,747	1,496	1,572	84.6	5.1
	New Zealand	319	278	286	15.4	2.9
	Others	5	6	1	0.1	–83.3
	Total*	**2,071**	**1,780**	**1,859**	**0.7**	**4.4**
Unknown		175	237	211	0.1	–11.0
Total		**277,644**	**272,416**	**273,900**	**n.a.**	**0.5**

Note: Data for 2024 are WIPO estimates. This table shows the top origins for every region (with a maximum of 10 per region) where applicants filed more than 10 PCT applications in 2024. Data for all origins are reported in statistical table A30.

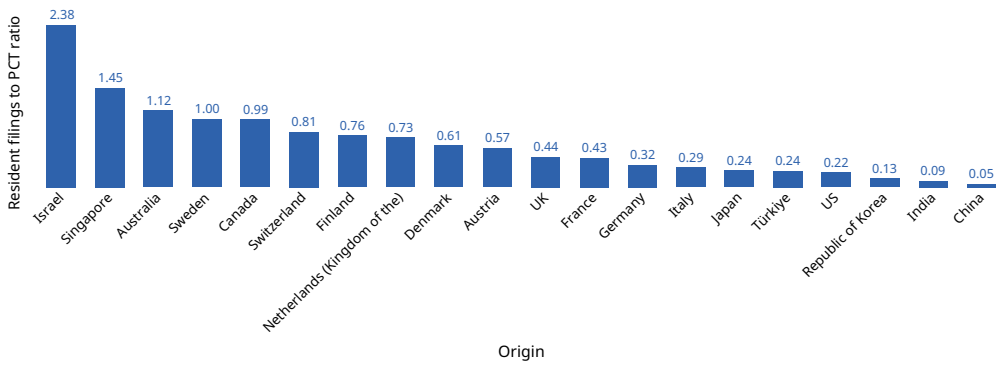
* indicates share of world total.

n.a. indicates not applicable.

Source: WIPO Statistics Database, March 2025.

Israel's conversion rate of resident patent applications into PCT applications was particularly high in 2024.

A10. Conversion ratio of direct resident patent applications to PCT applications for the top 20 origins, 2024



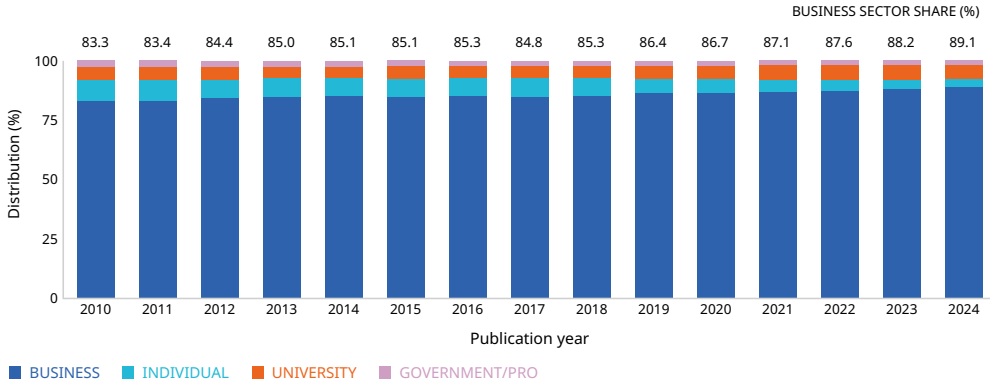
Note: Data for 2024 are WIPO estimates. This hypothetical "conversion ratio" reflects the proportion of direct resident patent applications converted into PCT applications. The ratio is defined for the top 20 origins in terms of PCT applications filed in 2024 divided by resident patent applications (including regional applications and excluding PCT national phase entries) filed in 2023. In theory, the conversion ratio ought to be between 0 and 1. However, it may exceed 1, because some applications do not have priority claims associated with prior resident filings. For example, an applicant from Israel may forgo filing an application at the Israel Patent Office and opt instead to file a first application at the USPTO, then convert that prior filing into a PCT application.

Source: WIPO Statistics Database, March 2025.

PCT applications by applicant type

The business sector share of applications grew to 89.1% in 2024.

A11. Distribution of PCT applications by applicant type, 2010–2024

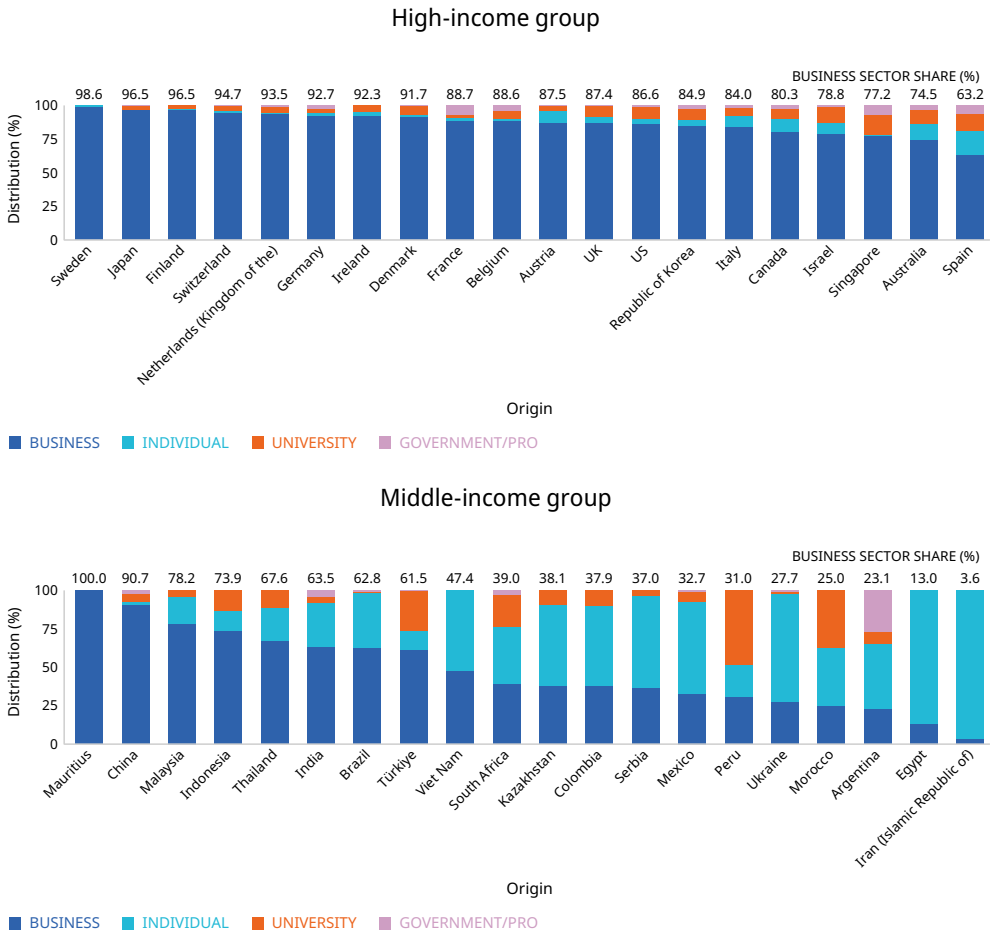


Note: The government and public research organization (PRO) sector includes private non-profit organizations and hospitals. The university sector includes all educational institutions. For confidentiality reasons, data are based on the publication date.

Source: WIPO Statistics Database, March 2025.

Almost 91% of all PCT applications originating in China were filed by businesses.

A12. Distribution of PCT applications by applicant type for the top 20 origins by income group, 2024

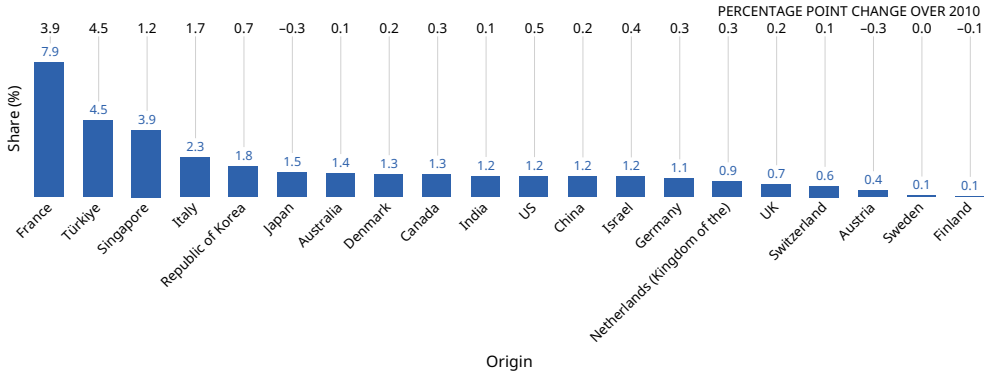


Note: The government and PRO sector includes private non-profit organizations and hospitals. The university sector includes all educational institutions. Lower and upper middle-income groups have been merged. Low-income countries are omitted due to insufficient data. For confidentiality reasons, data are based on published applications and on the publication date.

Source: WIPO Statistics Database, March 2025.

Collaboration between the business and public sectors was relatively high in France.

A13. Share of PCT applications with business and public sector co-applicants for the top 20 origins, 2024

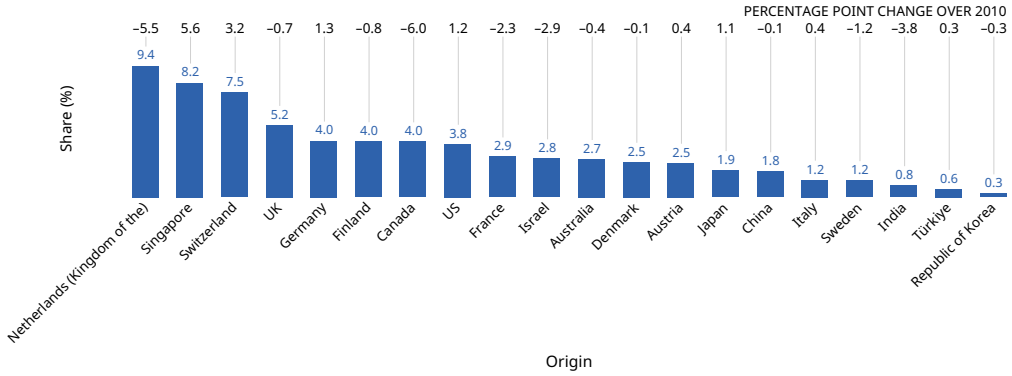


Note: The public sector comprises the university sector and the government and PRO sector. The government and PRO sector includes private non-profit organizations and hospitals. The university sector includes all educational institutions. For confidentiality reasons, data are based on published applications and on the publication date.

Source: WIPO Statistics Database, March 2025.

Applicants from the Kingdom of the Netherlands filed a relatively large proportion of PCT applications together with foreign co-applicants.

A14. Share of PCT applications with foreign co-applicants for the top 20 origins, 2024



Note: Counts are based on corporate applicants only (excluding individual applicants) and on all applicants named in PCT applications (not only the first named applicant). For confidentiality reasons, data are based on published applications and on the publication date.

Source: WIPO Statistics Database, March 2025.

Top PCT applicants

Huawei Technologies remained the top PCT applicant in 2024.

A15. Top 50 business PCT applicants, 2022–2024

Overall ranking	Change in position from 2023	Applicant	Origin	Published PCT applications 2022	2023	2024
1	0	HUAWEI TECHNOLOGIES CO., LTD.	China	7,689	6,494	6,600
2	0	SAMSUNG ELECTRONICS CO., LTD.	Republic of Korea	4,387	3,924	4,640
3	0	QUALCOMM INCORPORATED	US	3,855	3,410	3,848
4	2	LG ELECTRONICS INC.	Republic of Korea	1,793	1,887	2,083
5	3	CONTEMPORARY AMPEREX TECHNOLOGY CO., LIMITED	China	266	1,799	1,993
6	–1	BOE TECHNOLOGY GROUP CO.,LTD	China	1,884	1,988	1,959
7	–3	MITSUBISHI ELECTRIC CORPORATION	Japan	2,320	2,152	1,956
8	6	BEIJING XIAOMI MOBILE SOFTWARE CO., LTD.	China	913	1,603	1,889
9	–2	TELEFONAKTIEBOLAGET LM ERICSSON (PUBL)	Sweden	2,158	1,863	1,886
10	0	NIPPON TELEGRAPH AND TELEPHONE CORPORATION	Japan	1,884	1,760	1,877
11	0	ZTE CORPORATION	China	1,479	1,738	1,851
12	0	PANASONIC INTELLECTUAL PROPERTY MANAGEMENT CO., LTD.	Japan	1,776	1,722	1,718
13	4	LG ENERGY SOLUTION, LTD.	Republic of Korea	1,186	1,423	1,452
14	–5	GUANG DONG OPPO MOBILE TELECOMMUNICATIONS CORP., LTD	China	1,963	1,766	1,252
15	0	NEC CORPORATION	Japan	1,428	1,592	1,241
16	2	MICROSOFT TECHNOLOGY LICENSING, LLC	US	1,271	1,350	1,237
16	3	ROBERT BOSCH CORPORATION	Germany	1,290	1,307	1,237
18	5	GOOGLE INC.	US	830	903	1,236
19	–6	VIVO MOBILE COMMUNICATION CO., LTD.	China	1,515	1,631	1,212
20	9	APPLE INC.	US	822	761	1,202
21	–5	SONY GROUP CORPORATION	Japan	1,513	1,433	1,134
22	–1	NTT DOCOMO, INC.	Japan	764	1,016	976
23	–3	MURATA MANUFACTURING CO., LTD.	Japan	1,043	1,051	867
24	10	TENCENT TECHNOLOGY (SHENZHEN) COMPANY LIMITED	China	690	677	832
25	0	FUJIFILM CORPORATION	Japan	1,181	826	804
26	9	APPLIED MATERIALS, INC.	US	856	638	788
27	0	BEIJING ZITIAO NETWORK TECHNOLOGY CO., LTD.	China	278	810	760
28	3	KONINKLIJKE PHILIPS ELECTRONICS N.V.	Netherlands (Kingdom of the)	737	749	755
29	–1	SONY SEMICONDUCTOR SOLUTIONS CORPORATION	Japan	789	781	733
30	7	NOKIA TECHNOLOGIES OY	Finland	718	628	725
31	–1	HONOR DEVICE CO., LTD.	China	304	753	723
32	8	BAYERISCHE MOTOREN WERKE AKTIENGESELLSCHAFT	Germany	489	537	636
33	–7	DENSO CORPORATION	Japan	857	814	635
35	3	SIEMENS AKTIENGESELLSCHAFT	Germany	656	589	630
36	0	KYOCERA CORPORATION	Japan	508	632	622
37	2	BASF SE	Germany	507	545	618
38	23	LENOVO (BEIJING) CO., LTD.	China	319	362	583
39	87	INTERDIGITAL VC HOLDINGS, INC.	US	56	208	561
40	–18	CHANGXIN MEMORY TECHNOLOGIES, INC.	China	786	954	551
41	2	HITACHI, LTD.	Japan	563	515	520
43	8	SCHAEFFLER TECHNOLOGIES AG & CO. KG	Germany	488	434	497
44	4	LG CHEM, LTD.	Republic of Korea	587	444	477
45	9	FANUC CORPORATION	Japan	484	398	466
46	22	TOKYO ELECTRON LIMITED	Japan	335	337	464
47	87	HUAWEI CLOUD COMPUTING TECHNOLOGIES CO., LTD.	China	181	203	460
48	8	JFE STEEL CORPORATION	Japan	357	387	458
49	–5	HITACHI ASTEMO, LTD.	Japan	517	501	454
50	49	NOKIA SHANGHAI BELL CO., LTD.	China	240	241	434
51	11	DA TANG MOBILE COMMUNICATIONS EQUIPMENT CO., LTD.	China	375	360	429
52	1	CANON KABUSHIKI KAISHA	Japan	298	400	416
52	30	FUJITSU LIMITED	Japan	251	290	416

Note: For confidentiality reasons, data are based on published applications and on the publication date.
Source: WIPO Statistics Database, March 2025.

Digital communication technologies accounted for the biggest proportion of PCT applications for six of the top 10 applicants.

A16. Share of technology fields for the top 10 business applicants, 2024

	Applicant									
Field of technology	Huawei Tech.	Samsung Electr.	Qualcomm	LG Electr.	CATL	BOE Tech. Group	Mitsubishi Electr.	Xiaomi Mobile Software	LM Ericsson	NTT
Electrical machinery, apparatus, energy	2.2	3.8	0.8	2.5	76.6	1.3	17.0	0.2	0.4	2.5
Audio-visual technology	5.0	9.5	4.5	9.3	0.2	26.2	1.8	2.1	2.6	4.2
Telecommunications	10.4	9.8	12.0	7.6	0.1	3.8	2.6	4.1	15.5	10.2
Digital communication	44.2	32.2	56.6	44.4	0.3	2.1	5.9	89.9	63.0	25.0
Basic communication processes	1.3	0.7	2.7	0.1	0.0	0.9	1.7	0.0	1.3	0.9
Computer technology	22.0	21.6	13.7	5.5	2.5	12.7	8.5	2.2	10.8	26.2
IT methods for management	0.4	1.0	0.3	0.3	0.3	0.7	3.7	0.0	0.4	4.3
Semiconductors	2.6	0.9	2.5	2.9	2.0	34.4	5.1	0.0	0.1	1.6
Optics	3.1	2.9	0.4	1.6	0.0	13.2	2.3	0.5	0.6	8.6
Measurement	2.6	2.4	4.9	2.2	4.9	1.2	7.8	0.8	3.7	6.9
Analysis of biological materials	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.1
Control	0.8	0.6	0.6	0.8	0.3	0.6	6.8	0.1	0.6	2.3
Medical technology	1.0	2.0	0.4	1.2	0.1	0.3	1.2	0.0	0.2	2.6
Organic fine chemistry	0.1	0.0	0.0	0.0	0.3	0.3	0.2	0.0	0.0	0.0
Biotechnology	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.4
Pharmaceuticals	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Macromolecular chemistry, polymers	0.1	0.1	0.0	0.1	1.4	0.0	0.3	0.0	0.0	0.0
Food chemistry	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Basic materials chemistry	0.2	0.3	0.0	0.1	0.7	0.3	0.4	0.0	0.0	0.1
Materials, metallurgy	0.2	0.1	0.0	0.2	0.5	0.1	0.4	0.0	0.0	0.1
Surface technology, coating	0.2	0.2	0.0	0.2	1.3	0.3	0.2	0.0	0.0	0.7
Micro-structural and nano-technology	0.0	0.0	0.1	0.0	0.0	0.2	0.0	0.0	0.1	0.0
Chemical engineering	0.1	0.5	0.0	0.8	1.4	0.3	0.7	0.0	0.0	0.1
Environmental technology	0.0	0.3	0.0	0.3	0.3	0.0	0.7	0.0	0.0	0.0
Handling	0.0	1.3	0.1	2.0	1.6	0.1	2.6	0.0	0.1	0.2
Machine tools	0.0	0.2	0.0	0.0	1.8	0.1	2.3	0.0	0.0	0.2
Engines, pumps, turbines	0.0	0.3	0.0	0.9	0.1	0.1	3.9	0.0	0.0	0.2
Textile and paper machines	0.0	0.1	0.0	0.2	0.0	0.1	0.0	0.0	0.0	0.0
Other special machines	0.0	0.3	0.0	0.2	0.3	0.1	0.3	0.0	0.1	0.3
Thermal processes and apparatus	0.1	2.4	0.0	2.1	0.1	0.0	17.6	0.0	0.1	0.1
Mechanical elements	0.4	0.6	0.0	0.9	0.5	0.3	0.2	0.0	0.1	0.2
Transport	2.7	0.2	0.3	2.3	2.7	0.2	4.5	0.1	0.2	0.5
Furniture, games	0.1	2.2	0.1	3.9	0.1	0.1	0.4	0.0	0.1	0.5
Other consumer goods	0.2	3.3	0.0	6.8	0.0	0.1	0.9	0.1	0.1	0.5
Civil engineering	0.1	0.2	0.0	0.4	0.1	0.1	0.2	0.0	0.0	1.0

Note: CATL is Contemporary Amperex Technology, Limited and NTT is the Nippon Telegraph and Telephone Corporation. For confidentiality reasons, data are based on published applications and on the publication date. WIPO's IPC technology concordance table (available at: www.wipo.int/web/ip-statistics) was used to convert IPC symbols into 35 corresponding technology fields.

Source: WIPO Statistics Database, March 2025.

Since 1993, the University of California has been the top PCT applicant from the university sector.

A17. Top 50 university PCT applicants, 2022–2024

Overall ranking	Change in position from 2023	Applicant	Origin	Published PCT applications 2022	2023	2024
42	–1	UNIVERSITY OF CALIFORNIA	US	552	532	519
116	4	BOARD OF REGENTS OF THE UNIVERSITY OF TEXAS SYSTEM	US	187	217	216
140	–15	TSINGHUA UNIVERSITY	China	174	209	188
150	–50	ZHEJIANG UNIVERSITY	China	309	240	175
155	7	SEOUL NATIONAL UNIVERSITY	Republic of Korea	160	168	170
156	47	JOHNS HOPKINS UNIVERSITY	US	160	141	167
166	–12	LELAND STANFORD JUNIOR UNIVERSITY	US	217	180	162
167	–8	MASSACHUSETTS INSTITUTE OF TECHNOLOGY	US	161	170	161
183	77	UNIVERSITY OF MICHIGAN	US	109	115	150
219	–12	NATIONAL UNIVERSITY OF SINGAPORE	Singapore	138	139	130
226	–157	SUZHOU UNIVERSITY	China	303	332	127
237	–7	UNIVERSITY OF TOKYO	Japan	118	128	120
256	–9	SOUTHEAST UNIVERSITY	China	99	120	114
263	–38	OSAKA UNIVERSITY	Japan	95	132	111
268	–3	HANYANG UNIVERSITY	Republic of Korea	149	112	109
268	88	PEKING UNIVERSITY	China	72	85	109
272	–25	TOHOKU UNIVERSITY	Japan	82	120	107
279	–52	KOREA UNIVERSITY	Republic of Korea	147	131	105
286	1	UNIVERSITY OF FLORIDA	US	99	105	102
290	75	COLUMBIA UNIVERSITY	US	85	83	101
290	7	YONSEI UNIVERSITY	Republic of Korea	148	103	101
307	29	UNIVERSITY OF ARIZONA	US	108	89	97
310	1	NANYANG TECHNOLOGICAL UNIVERSITY	Singapore	119	97	96
319	75	YALE UNIVERSITY	US	40	77	93
322	–35	KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY	Republic of Korea	112	105	92
337	–81	SOUTH CHINA UNIVERSITY OF TECHNOLOGY	China	110	117	88
349	–4	HARVARD UNIVERSITY	US	88	87	85
358	–60	UNIVERSITY OF PITTSBURGH	US	71	102	83
364	30	NORTHWESTERN UNIVERSITY	US	96	77	82
374	–44	CATHOLIC UNIVERSITY	Republic of Korea	80	90	78
374	99	PURDUE UNIVERSITY	US	61	63	78
390	–54	UNIVERSITY OF PENNSYLVANIA	US	87	89	75
404	–25	UNIVERSITY OF WASHINGTON	US	83	80	73
420	–41	CORNELL UNIVERSITY	US	90	80	71
420	–64	KYOTO UNIVERSITY	Japan	79	85	71
435	–49	UNIVERSITY OF COLORADO	US	79	79	69
438	69	UNIVERSITY OF NORTH CAROLINA	US	45	59	68
446	35	KYUNGPOOK NATIONAL UNIVERSITY	Republic of Korea	55	62	66
452	80	OXFORD UNIVERSITY INNOVATION LIMITED	UK	68	56	65
464	89	ÉCOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE	Switzerland	46	54	64
464	68	SHANDONG UNIVERSITY	China	98	56	64
473	16	TEL AVIV UNIVERSITY	Israel	53	61	63
473	–51	DUKE UNIVERSITY	US	82	71	63
478	3	SHANGHAI JIAOTONG UNIVERISTY	China	88	62	62
488	10	NANJING UNIVERSITY OF POSTS AND TELECOMMUNICATIONS	China	35	60	61
488	–256	JIANGSU UNIVERSITY	China	125	127	61
488	–183	JIANGNAN UNIVERSITY	China	128	99	61
497	46	UNIVERSITY OF CHICAGO	US	41	55	60
497	213	ULSAN NATIONAL INSTITUTE OF SCIENCE AND TECHNOLOGY	Republic of Korea	51	41	60
512	–199	JIANGSU UNIVERSITY OF SCIENCE AND TECHNOLOGY	China	71	96	59
512	–39	ARIZONA BOARD OF REGENTS, ACTING FOR AND ON BEHALF OF ARIZONA STATE UNIVERSITY	US	57	63	59
512	–48	WISCONSIN ALUMNI RESEARCH FOUNDATION	US	48	64	59

Note: The university sector includes all types of educational institutions. For confidentiality reasons, data are based on published applications and on the publication date.

Source: WIPO Statistics Database, March 2025.

The Shenzhen Institute of Advanced Technology remained the top PCT applicant for the government and PRO sector in 2024.

A18. Top 30 government and PRO PCT applicants, 2022–2024

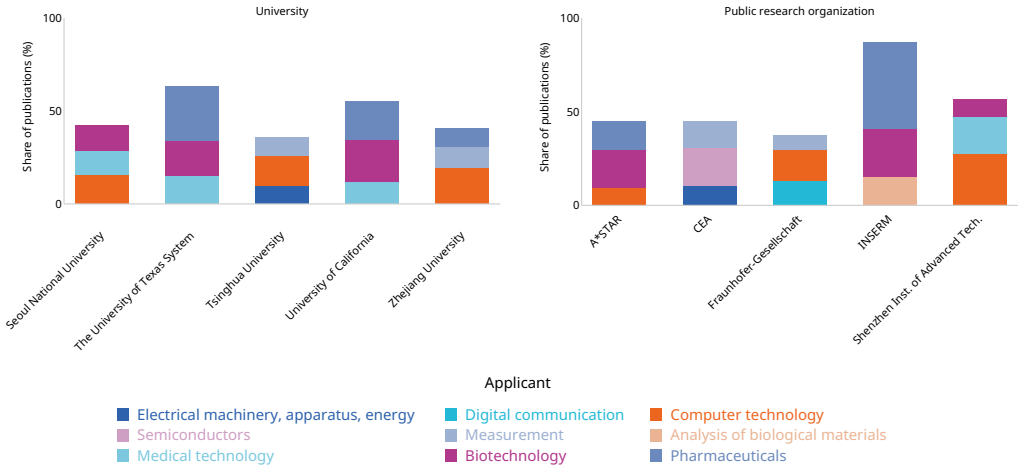
Overall ranking	Change in position from 2023	Applicant	Origin	Published PCT applications		
				2022	2023	2024
34	–1	SHENZHEN INSTITUTE OF ADVANCED TECHNOLOGY	China	486	696	631
99	4	FRAUNHOFER-GESELLSCHAFT ZUR FÖRDERUNG DER ANGEWANDTEN FORSCHUNG E.V.	Germany	367	238	254
130	5	COMMISSARIAT À L'ÉNERGIE ATOMIQUE ET AUX ÉNERGIES ALTERNATIVES	France	209	202	200
217	–13	INSTITUT NATIONAL DE LA SANTÉ ET DE LA RECHERCHE MÉDICALE (INSERM)	France	130	140	132
229	23	AGENCY FOR SCIENCE, TECHNOLOGY AND RESEARCH	Singapore	88	118	125
237	36	KOREA ELECTRONICS TECHNOLOGY INSTITUTE	Republic of Korea	103	110	120
300	–35	CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE (CNRS)	France	119	112	99
319	429	BEIJING SUPERSTRING ACADEMY OF MEMORY TECHNOLOGY	China	0	39	93
344	–31	NATIONAL INSTITUTE OF ADVANCED INDUSTRIAL SCIENCE AND TECHNOLOGY	Japan	89	96	86
398	16	CONSEJO SUPERIOR DE INVESTIGACIONES CIENTÍFICAS (CSIC)	Spain	71	73	74
404	–3	MAX-PLANCK-GESELLSCHAFT ZUR FÖRDERUNG DER WISSENSCHAFTEN E.V.	Germany	80	75	73
420	–22	U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES	US	90	76	71
427	297	ELECTRONICS AND TELECOMMUNICATIONS RESEARCH INSTITUTE OF KOREA	Republic of Korea	15	40	70
446	–15	COUNCIL OF SCIENTIFIC AND INDUSTRIAL RESEARCH	India	64	73	66
497	–130	KOREA RESEARCH INSTITUTE OF CHEMICAL TECHNOLOGY	Republic of Korea	72	82	60
497	35	SLOAN-KETTERING INSTITUTE FOR CANCER RESEARCH	US	65	56	60
641	250	NEDERLANDSE ORGANISATIE VOOR TOEGEPAST- NATUURWETENSCHAPPELIJK ONDERZOEK TNO	Netherlands (Kingdom of the)	45	32	46
666	82	BATTELLE MEMORIAL INSTITUTE	US	52	39	44
677	–66	SHANGHAI INSTITUTE OF MATERIA MEDICA, CHINESE ACADEMY OF SCIENCES	China	40	48	43
753	304	KOREA INSTITUTE OF MACHINERY & MATERIALS	Republic of Korea	22	27	39
753	–133	RIKEN (THE INSTITUTE OF PHYSICAL AND CHEMICAL RESEARCH)	Japan	63	47	39
788	161	KOREA INSTITUTE OF SCIENCE AND TECHNOLOGY	Republic of Korea	35	30	37
788	–4	DEUTSCHES ZENTRUM FÜR LUFT- UND RAUMFAHRT E.V.	Germany	46	37	37
806	38	NATIONAL RESEARCH COUNCIL OF CANADA	Canada	39	34	36
833	263	KOREA ELECTROTECHNOLOGY RESEARCH INSTITUTE	Republic of Korea	27	26	35
857	200	COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANISATION	Australia	40	27	34
874	137	SCRIPPS RESEARCH INSTITUTE	US	40	28	33
904	192	KOREA INSTITUTE OF MATERIALS SCIENCE	Republic of Korea	21	26	32
954	375	DALIAN INSTITUTE OF CHEMICAL PHYSICS, CHINESE ACADEMY OF SCIENCES	China	30	21	30
954	226	VIB VZW	Belgium	17	24	30
954	103	KOREA RESEARCH INSTITUTE OF BIOSCIENCE AND BIOTECHNOLOGY	Republic of Korea	43	27	30
954	142	NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY	Japan	24	26	30

Note: The government and PRO sector includes private non-profit organizations and hospitals. For confidentiality reasons, data are based on published applications and on the publication date.

Source: WIPO Statistics Database, March 2025.

The University of Texas System and INSERM each had a high share of PCT applications in the pharmaceutical field.

A19. Share of the top three technology fields for the top five universities and PROs, 2024



Note: A*STAR is the Agency for Science, Technology and Research, CEA is the Commissariat à l'Énergie Atomique et aux Énergies Alternatives, Fraunhofer-Gesellschaft is the Fraunhofer-Gesellschaft zur Förderung der angewandten Forschung, INSERM is the Institut National de la Santé et de la Recherche Médicale, and Shenzhen Inst. of Advanced Tech. is the Shenzhen Institute of Advanced Technology. PROs include private non-profit organizations and hospitals. For confidentiality reasons, data are based on published applications and on the publication date. WIPO's IPC technology concordance table (available at: www.wipo.int/web/ip-statistics) was used to convert IPC symbols into 35 corresponding technology fields.

Source: WIPO Statistics Database, March 2025.

PCT applications by technology field

Digital communication was the fastest-growing field in 2024.

A20. PCT applications by technology field, 2020–2024

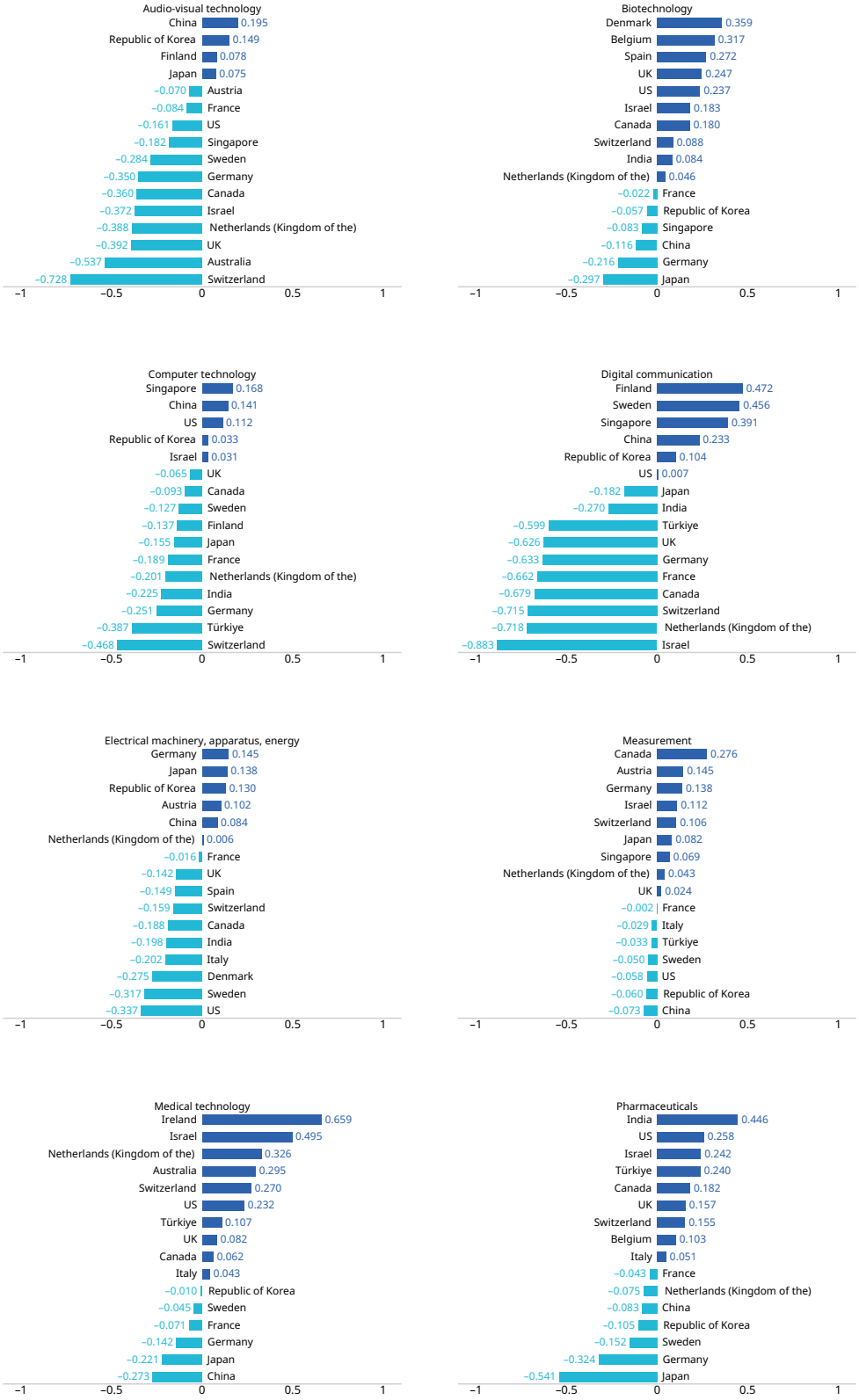
	Technical field	Publication year					2024 share (%)	Change from 2023 (%)
		2020	2021	2022	2023	2024		
I	**Electrical engineering**							
1	Electrical machinery, apparatus, energy	17,367	18,230	19,362	21,088	22,784	8.6	8.0
2	Audio-visual technology	11,534	10,839	10,157	9,501	9,235	3.5	–2.8
3	Telecommunications	6,445	6,376	6,429	6,302	6,169	2.3	–2.1
4	Digital communication	22,079	23,609	25,666	25,125	27,613	10.5	9.9
5	Basic communication processes	1,610	1,647	1,698	1,698	1,595	0.6	–6.1
6	Computer technology	24,344	26,109	28,233	27,280	25,631	9.7	–6.0
7	IT methods for management	5,891	5,298	5,374	5,037	4,661	1.8	–7.5
8	Semiconductors	8,862	8,346	8,914	9,413	8,973	3.4	–4.7
II	**Instruments**							
9	Optics	8,371	7,920	7,399	7,125	6,537	2.5	–8.3
10	Measurement	12,704	12,158	12,648	11,831	11,729	4.4	–0.9
11	Analysis of biological materials	2,062	2,154	2,250	1,994	1,923	0.7	–3.6
12	Control	5,457	5,181	5,254	4,537	4,238	1.6	–6.6
13	Medical technology	17,501	18,553	19,020	17,873	17,088	6.5	–4.4
III	**Chemistry**							
14	Organic fine chemistry	6,351	6,155	6,496	6,384	6,215	2.4	–2.6
15	Biotechnology	7,985	8,747	9,336	9,694	9,730	3.7	0.4
16	Pharmaceuticals	10,767	12,160	12,561	12,430	11,732	4.4	–5.6
17	Macromolecular chemistry, polymers	4,656	4,479	4,655	4,542	4,477	1.7	–1.4
18	Food chemistry	2,383	2,469	2,579	2,518	2,352	0.9	–6.6
19	Basic materials chemistry	5,712	5,484	5,553	5,370	5,435	2.1	1.2
20	Materials, metallurgy	4,685	4,314	4,636	4,866	5,166	2.0	6.2
21	Surface technology, coating	4,014	3,834	3,981	4,023	4,287	1.6	6.6
22	Micro-structural and nano-technology	456	440	424	389	373	0.1	–4.1
23	Chemical engineering	5,285	5,231	5,509	5,175	5,185	2.0	0.2
24	Environmental technology	3,020	2,771	2,841	2,707	2,703	1.0	–0.1
IV	**Mechanical engineering**							
25	Handling	6,413	6,258	6,579	6,091	6,182	2.3	1.5
26	Machine tools	4,315	4,308	4,283	3,908	3,774	1.4	–3.4
27	Engines, pumps, turbines	5,123	4,443	4,376	4,175	4,186	1.6	0.3
28	Textile and paper machines	2,952	2,623	2,425	2,193	2,218	0.8	1.1
29	Other special machines	7,483	7,232	7,278	6,934	6,781	2.6	–2.2
30	Thermal processes and apparatus	4,306	3,928	4,037	4,207	3,764	1.4	–10.5
31	Mechanical elements	5,847	5,162	5,048	5,121	5,164	2.0	0.8
32	Transport	11,290	10,118	10,061	10,840	10,925	4.1	0.8
V	**Other fields**							
33	Furniture, games	4,718	4,491	4,932	4,549	4,386	1.7	–3.6
34	Other consumer goods	6,045	5,842	6,338	6,158	5,378	2.0	–12.7
35	Civil engineering	6,502	6,319	5,941	5,444	5,367	2.0	–1.4

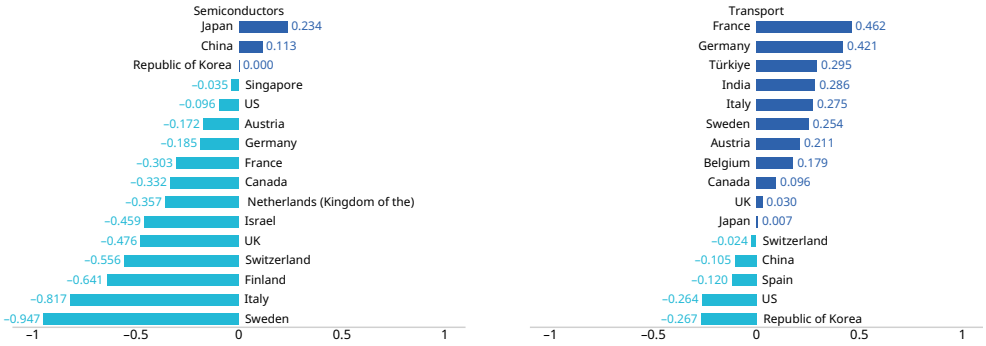
Note: For confidentiality reasons, data are based on published applications and on the publication date. WIPO's IPC technology concordance table (available at: www.wipo.int/web/ip-statistics) was used to convert IPC symbols into 35 corresponding technology fields.

Source: WIPO Statistics Database, March 2025.

A relatively large proportion of PCT filings from China and Japan related to semiconductors.

A21. Relative specialization index for the top 10 technology fields, 2024





Note: This index corrects for the effects of country size and focuses on concentration in specific technology fields. It captures whether applicants in a country tend to have a lower or a higher propensity to file in certain technology fields. It is calculated using the following formula:

$$RSI = Log\left(\frac{F_{cr} \sum F_{cr}}{\sum F_c \sum F_r}\right)$$

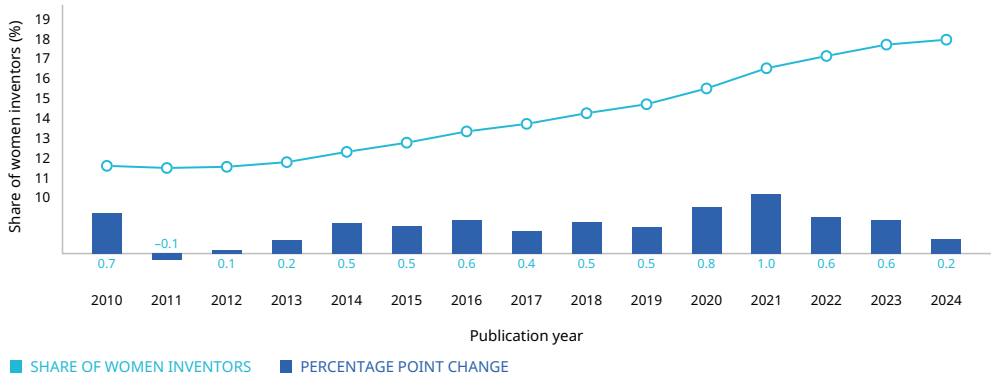
where FC and Fr denote applications from country c and in a technology field r. A positive value for a technology indicates that a country has a relatively high share of PCT filings related to that technology field. For confidentiality reasons, data are based on published applications and on the publication date. WIPO's IPC technology concordance table (available at: www.wipo.int/web/ip-statistics) was used to convert IPC symbols into 35 corresponding technology fields.

Source: WIPO Statistics Database, March 2025.

Participation of women inventors in PCT applications

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

A22. Share of women among listed inventors in PCT applications, 2010–2024

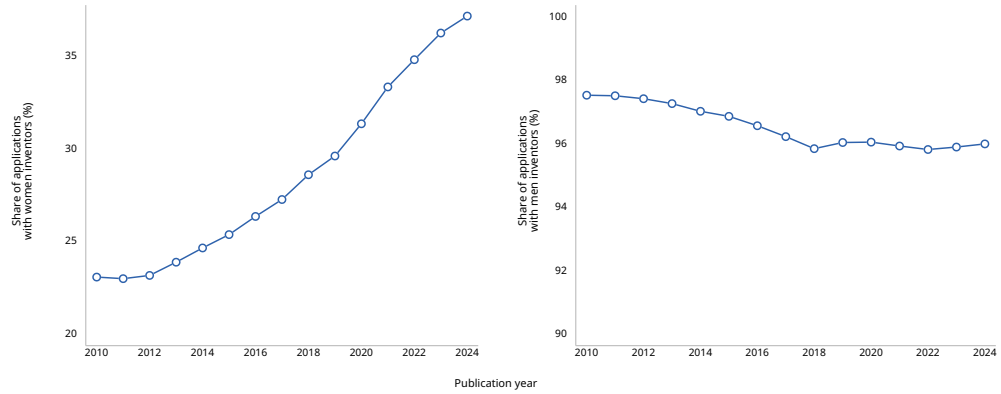


Note: For further details on methodology, refer to www.wipo.int/en/web/economics.

Source: WIPO Statistics Database, March 2025.

In 2024, 96% of all PCT applications listed at least one man as inventor, whereas 37.1% listed at least one woman as inventor.

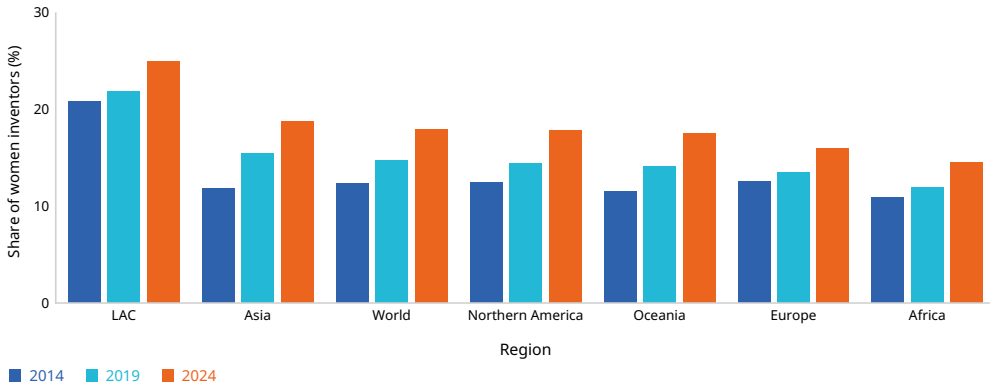
A23. Share of PCT applications with at least one woman as inventor and with at least one man as inventor, 2010–2024



Note: For further details on methodology, refer to www.wipo.int/en/web/economics.
Source: WIPO Statistics Database, March 2025.

The share of women inventors listed in PCT applications has grown in every region over the past decade.

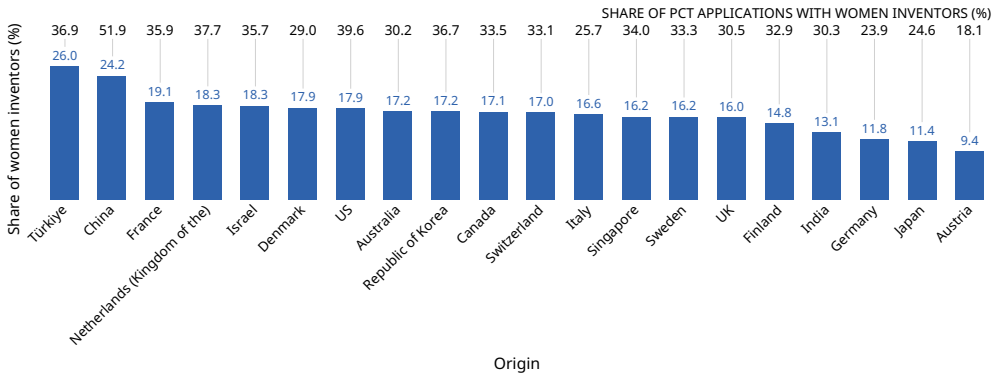
A24. Share of women among listed inventors in PCT applications by geographical region, 2014, 2019 and 2024



Note: LAC is Latin America and the Caribbean. For further details on methodology, refer to www.wipo.int/en/web/economics.
Source: WIPO Statistics Database, March 2025.

China and Türkiye have comparatively higher proportions of women listed as inventors in PCT applications.

A25. Share of women among listed inventors and share of PCT applications with at least one woman as inventor for the top 20 origins, 2024



Note: Data are based on published applications and on the publication date. For further details on methodology, refer to www.wipo.int/en/web/economics.

Source: WIPO Statistics Database, March 2025.

PCT applications from Latin America and the Caribbean in the field of textile and paper machines was the only field where the majority of inventors were women

A26. Share of women among listed inventors in PCT applications by geographical region and technology field, 2022–2024

	Region						
Field of technology	Africa	Asia	Europe	Latin America and the Caribbean	Northern America	Oceania	World
Electrical machinery, apparatus, energy	6.5	15.6	9.0	13.3	11.5	9.0	13.8
Audio-visual technology	16.7	17.0	9.0	6.5	14.9	9.5	15.7
Telecommunications		15.5	10.4	0.0	13.4	6.0	14.2
Digital communication	7.7	21.9	13.5	15.4	16.7	9.9	19.3
Basic communication processes		13.2	7.8		11.0	4.2	11.8
Computer technology	9.7	18.7	13.9	13.5	16.0	15.5	17.2
IT methods for management	7.7	19.8	13.8	9.3	16.8	13.2	18.0
Semiconductors		15.8	14.0	19.0	13.1	25.0	15.1
Optics		15.8	10.9	25.0	12.8	14.8	14.3
Measurement	18.9	16.2	11.0	14.6	14.7	12.4	14.7
Analysis of biological materials	11.8	28.0	31.0	29.2	26.7	31.3	28.2
Control	9.5	13.6	9.9	15.7	12.6	7.1	12.5
Medical technology	15.1	20.0	17.4	26.3	17.6	17.3	18.4
Organic fine chemistry	10.0	25.1	29.5	36.9	24.1	29.6	25.9
Biotechnology	27.0	31.8	35.5	43.5	30.1	29.6	32.0
Pharmaceuticals	30.9	31.0	34.9	46.6	28.0	31.3	30.7
Macromolecular chemistry, polymers		18.4	24.3	34.8	21.3	22.6	20.4
Food chemistry	20.0	31.2	38.3	41.7	30.3	26.7	33.1
Basic materials chemistry	17.1	18.3	27.6	36.1	23.0	21.6	22.2
Materials, metallurgy	13.6	15.2	16.9	27.3	16.4	16.9	15.8
Surface technology, coating	29.4	14.4	16.1	18.8	15.6	22.5	15.1
Micro-structural and nano-technology		19.9	16.2	46.2	19.0	25.7	19.1
Chemical engineering	7.4	17.1	17.4	21.5	16.2	13.1	16.9
Environmental technology	4.5	15.4	13.8	29.0	15.4	11.0	15.0
Handling	6.2	14.3	7.0	8.4	11.1	7.3	11.3
Machine tools	10.0	12.4	6.3	21.2	9.6	13.5	10.4
Engines, pumps, turbines	33.3	13.2	6.0	4.0	7.6	6.8	9.5
Textile and paper machines		17.6	17.6	51.7	17.7	21.4	17.7
Other special machines	8.0	16.5	13.9	19.6	14.7	16.3	15.3
Thermal processes and apparatus	0.0	13.3	7.7	8.7	9.3	4.1	11.5
Mechanical elements	11.5	11.4	5.0	5.2	7.7	9.3	8.6
Transport	0.0	12.8	7.3	5.6	7.5	5.7	10.0
Furniture, games	13.0	17.0	11.1	24.1	13.1	12.3	14.7
Other consumer goods	36.4	15.9	15.1	24.2	16.6	19.0	15.8
Civil engineering	6.8	15.1	6.4	9.7	9.5	4.3	11.1

Note: This table shows the share of women inventors for every region and each technical field in which at least 10 inventors are listed. For further details on methodology, refer to www.wipo.int/en/web/economics. WIPO's IPC technology concordance table (available at: www.wipo.int/web/ip-statistics) was used to convert IPC symbols into 35 corresponding technology fields.

Source: WIPO Statistics Database, March 2025.

Women accounted for about one-third of inventors listed in PCT applications from applicants residing in China and active in pharmaceuticals.

A27. Share of women among listed inventors in PCT applications for the top 10 origins by technology field, 2024

Field of technology	Origin									
	China	US	Japan	Republic of Korea	Germany	France	UK	Switzerland	India	Netherlands (Kingdom of the)
Electrical machinery, apparatus, energy	21.9	11.4	8.0	14.6	7.1	11.7	9.5	9.4	13.2	10.2
Audio-visual technology	23.8	15.2	8.9	14.8	8.9	8.0	8.3	9.0	10.0	7.6
Telecommunications	20.7	13.4	11.9	12.2	6.9	11.3	7.4	10.4	13.5	7.9
Digital communication	27.0	16.8	19.1	14.0	9.0	9.0	8.0	6.2	10.1	12.0
Basic communication processes	20.7	10.9	3.9	8.7	5.1	11.2	13.6	2.9	15.6	5.5
Computer technology	22.9	16.0	11.6	16.1	13.8	13.7	10.6	15.9	15.7	15.1
IT methods for management	24.6	17.0	14.9	23.6	14.3	15.4	10.9	16.1	10.1	21.0
Semiconductors	23.6	13.0	9.1	14.8	12.0	19.4	10.1	10.4	5.7	11.1
Optics	24.5	12.8	10.0	14.1	8.6	15.8	10.8	10.9	20.0	11.8
Measurement	22.9	14.7	9.2	12.5	7.6	13.2	9.6	10.2	12.0	12.5
Analysis of biological materials	34.5	26.4	18.9	26.7	22.9	33.4	24.3	35.1	23.9	29.1
Control	19.9	12.5	9.0	14.6	8.7	11.4	7.5	8.3	11.0	13.2
Medical technology	26.0	17.5	15.2	17.7	15.0	18.9	16.9	15.5	12.3	18.6
Organic fine chemistry	27.3	23.8	16.5	31.7	25.0	42.5	23.2	23.7	9.4	30.0
Biotechnology	35.7	30.1	18.6	34.9	32.6	39.6	31.1	32.3	24.4	29.7
Pharmaceuticals	33.0	27.9	19.1	33.9	30.3	40.5	30.5	32.5	14.1	31.8
Macromolecular chemistry, polymers	25.4	21.0	13.7	19.8	22.5	26.2	23.3	20.9	10.7	20.1
Food chemistry	35.6	30.5	25.7	33.4	30.4	35.6	44.1	42.0	19.2	36.9
Basic materials chemistry	26.1	22.9	13.9	18.2	26.3	34.2	22.9	23.3	15.5	23.6
Materials, metallurgy	21.8	16.3	9.2	14.1	12.2	21.0	16.5	15.9	9.9	13.5
Surface technology, coating	21.2	15.7	11.5	12.4	13.3	21.0	19.5	15.1	12.8	17.9
Micro-structural and nano-technology	25.1	18.7	8.8	15.8	9.9	15.3	17.1		17.6	17.2
Chemical engineering	23.3	16.2	10.4	13.5	13.7	23.2	19.1	16.4	15.3	16.7
Environmental technology	22.8	15.7	9.0	11.6	9.8	19.2	19.9	7.0	22.3	8.0
Handling	19.7	11.1	10.4	14.5	4.9	6.7	6.0	9.7	6.8	8.8
Machine tools	20.0	10.2	6.6	9.3	4.9	11.0	5.8	4.2	16.3	10.5
Engines, pumps, turbines	22.7	7.7	5.2	8.8	4.4	8.9	3.1	5.6	4.2	13.5
Textile and paper machines	26.2	17.7	13.7	17.3	13.5	24.0	17.9	12.9	16.7	26.4
Other special machines	22.0	14.6	11.8	17.6	10.7	17.7	12.0	15.0	12.7	17.2
Thermal processes and apparatus	20.6	9.3	6.5	10.8	8.7	8.6	10.8	7.5	10.1	4.9
Mechanical elements	18.2	7.6	5.8	10.6	4.5	7.2	5.2	2.7	8.2	5.0
Transport	20.1	7.7	6.7	9.0	5.7	9.8	7.1	6.3	10.0	7.4
Furniture, games	19.0	13.3	14.2	15.4	9.8	17.4	8.6	8.9	16.7	19.0
Other consumer goods	19.1	16.2	11.7	12.1	13.3	18.9	15.6	12.5	16.2	20.6
Civil engineering	19.5	9.6	8.1	10.0	4.5	9.4	7.6	4.7	9.6	8.8

Note: For further details on methodology, refer to www.wipo.int/en/web/economics. WIPO's IPC technology concordance table (available at: www.wipo.int/web/ip-statistics) was used to convert IPC symbols into 35 corresponding technology fields.

Source: WIPO Statistics Database, March 2025.

Top geographical clusters of inventors in PCT applications

The top three clusters in 2020–2024 accounted for nearly one-quarter of total PCT applications, combined.

A28. Top 50 PCT clusters, 2020–2024

Ranking	Change in position from 2019–2023	Cluster	Origin	PCT applications	Share of total PCT applications (%)	Change from 2019–2023 (%)
1	0	Tokyo–Yokohama	Japan	135,129	10.3	0.3
2	0	Shenzhen–Hong Kong–Guangzhou	China / China, Hong Kong SAR	117,542	9.0	1.0
3	0	Seoul	Republic of Korea	71,318	5.4	6.3
4	0	San Jose–San Francisco, CA	US	50,813	3.9	3.1
5	0	Beijing	China	49,792	3.8	17.2
6	0	Shanghai–Suzhou	China	42,819	3.3	10.6
7	0	Osaka–Kobe–Kyoto	Japan	38,307	2.9	–0.4
8	0	San Diego, CA	US	26,713	2.0	8.8
9	0	Boston–Cambridge, MA	US	19,333	1.5	1.9
10	0	Nagoya	Japan	16,724	1.3	–2.7
11	0	Paris	France	16,328	1.2	4.3
12	0	Daejeon	Republic of Korea	14,927	1.1	6.5
13	0	New York City, NY	US	13,705	1.0	–1.7
14	0	Los Angeles, CA	US	11,832	0.9	–0.1
15	0	Hangzhou	China	11,128	0.8	–0.9
16	1	Munich	Germany	10,925	0.8	2.1
17	-1	Seattle, WA	US	10,884	0.8	–2.5
18	0	Stuttgart	Germany	9,177	0.7	–1.8
19	0	Qingdao	China	8,334	0.6	–1.3
20	2	Nanjing	China	8,242	0.6	4.9
21	0	Eindhoven	Netherlands (Kingdom of the)	7,982	0.6	1.1
22	-2	Houston, TX	US	7,796	0.6	–3.4
23	0	Wuhan	China	7,526	0.6	1.7
24	0	Tel Aviv–Jerusalem	Israel	7,160	0.5	–1.7
25	2	London	UK	6,981	0.5	6.5
26	0	Minneapolis, MN	US	6,655	0.5	0.3
27	-2	Cologne	Germany	6,609	0.5	–5.9
28	1	Washington, DC–Baltimore, MD	US	6,264	0.5	6.2
29	-1	Stockholm	Sweden	5,933	0.5	–1.8
30	0	Philadelphia, PA	US	5,752	0.4	1.5
31	12	Ningde	China	5,547	0.4	60.4
32	0	Frankfurt am Main	Germany	5,485	0.4	–0.3
33	0	Singapore	Singapore / Malaysia	5,410	0.4	3.4
34	0	Bengaluru	India	4,983	0.4	7.1
35	4	Hefei	China	4,723	0.4	22.8
36	-1	Amsterdam–Rotterdam	Netherlands (Kingdom of the)	4,363	0.3	0.9
37	-6	Chicago, IL	US	4,205	0.3	–24.5
38	0	Zürich	Switzerland	3,994	0.3	3.4
39	-3	Heidelberg–Mannheim	Germany	3,937	0.3	0.2
40	-3	Taipei–Hsinchu	Taiwan, Province of China	3,803	0.3	–2.1
41	4	Denver, CO	US	3,473	0.3	6.4
42	0	Dallas, TX	US	3,289	0.3	–4.9
43	1	Nuremberg–Erlangen	Germany	3,240	0.2	–4.6
44	-3	Berlin	Germany	3,188	0.2	–8.5
45	2	Cambridge	UK	3,142	0.2	0.6
46	3	Macau–Zhuhai	China	3,122	0.2	1.4
47	-1	Copenhagen	Denmark	3,112	0.2	–0.4
48	2	Raleigh, NC	US	3,042	0.2	–0.1
49	4	Helsinki	Finland	3,012	0.2	3.5
50	-10	Portland, OR	US	2,980	0.2	–18.2

Note: For further details on methodology, refer to the Special theme of the 2020 edition of the *PCT Yearly Review*. Data presented in previous years may vary slightly due to constant improvements in geocoding.

Source: WIPO Statistics Database, March 2025.

Almost 46% of PCT applications from San Diego related to digital communication in 2020–2024.

A29. Top 15 technology fields for the top 20 PCT clusters, 2020–2024

Rank	Cluster	Field of technology															
		Digital communication	Computer technology	Electrical machinery, apparatus, energy	Audio-visual technology	Medical technology	Measurement	Semiconductors	Pharmaceuticals	Biotechnology	Telecommunications	Transport	Optics	IT methods for management	Organic fine chemistry	Other consumer goods	All other fields
1	Tokyo–Yokohama	6.0	9.7	8.1	5.1	4.9	5.5	4.9	1.2	1.7	2.3	4.4	4.8	3.7	1.8	2.1	33.8
2	Shenzhen–Hong Kong–Guangzhou	26.2	18.9	6.4	8.0	3.1	3.6	2.5	1.3	1.2	5.9	2.0	3.3	1.3	0.6	2.6	13.2
3	Seoul	13.6	11.6	6.2	7.1	6.8	2.8	4.4	4.0	3.3	5.0	2.0	2.8	3.7	2.1	3.6	21.1
4	San Jose–San Francisco, CA	12.2	22.6	4.0	5.4	7.1	4.3	5.8	5.8	6.3	2.3	1.7	4.0	2.8	1.7	0.5	13.3
5	Beijing	29.6	18.9	2.6	8.2	2.5	3.4	7.6	2.4	2.3	2.8	1.4	3.3	2.1	1.2	0.4	11.7
6	Shanghai–Suzhou	8.8	11.6	6.9	2.8	7.3	4.6	3.8	7.8	4.8	1.5	3.2	2.4	1.3	5.3	1.5	26.4
7	Osaka–Kobe–Kyoto	2.0	3.6	13.4	4.2	4.9	6.4	7.0	2.4	2.3	2.4	2.1	4.2	1.3	1.9	1.2	40.6
8	San Diego, CA	45.6	7.7	1.1	4.5	4.1	3.8	1.5	5.7	5.0	9.1	0.5	0.9	0.5	2.0	0.3	7.7
9	Boston–Cambridge, MA	1.7	6.7	3.2	1.7	11.7	4.2	1.3	21.5	17.7	1.0	1.1	1.8	1.0	5.6	0.8	19.0
10	Nagoya	2.8	2.6	21.3	5.7	3.6	6.3	3.2	0.8	1.1	0.8	11.4	1.7	0.7	0.7	0.5	36.5
11	Paris	6.5	6.6	6.9	1.5	4.2	5.0	0.7	3.9	3.3	1.7	13.2	2.1	1.0	5.7	2.3	35.2
12	Daejeon	1.5	3.3	32.8	1.8	2.5	5.9	3.8	3.0	2.5	0.7	2.5	1.8	0.9	4.4	2.3	30.2
13	New York City, NY	4.7	13.9	1.9	1.0	9.8	3.1	1.9	16.7	8.5	1.5	0.7	1.1	4.9	8.3	2.0	20.2
14	Los Angeles, CA	3.8	13.3	3.5	9.6	20.3	3.4	0.9	7.5	4.8	1.6	3.1	3.2	2.9	1.5	1.9	18.5
15	Hangzhou	8.2	27.4	3.6	4.3	6.3	4.9	1.8	4.2	3.3	1.5	2.6	1.4	7.5	2.5	0.4	20.1
16	Munich	14.2	10.9	9.1	2.7	3.3	5.7	1.5	2.1	1.8	3.4	13.4	1.8	1.4	0.7	1.1	26.9
17	Seattle, WA	12.6	43.9	1.9	3.9	3.8	1.9	1.0	4.8	4.7	2.4	0.9	2.3	5.5	0.8	0.5	9.1
18	Stuttgart	3.5	6.5	15.7	2.1	2.7	10.9	1.4	1.0	1.1	0.8	14.1	2.0	0.5	0.2	0.7	37.1
19	Qingdao	5.1	7.2	2.7	3.7	1.3	3.9	0.9	0.7	0.9	0.9	2.3	5.4	1.4	0.6	19.1	43.9
20	Nanjing	6.7	11.2	7.1	2.2	4.5	6.9	1.4	7.7	5.5	2.7	2.5	1.4	2.2	3.8	0.6	33.4

Note: For further details on methodology, refer to the Special theme of the 2020 edition of the PCT Yearly Review. WIPO's IPC technology concordance table (available at: www.wipo.int/web/ip-statistics) was used to convert IPC symbols into 35 corresponding technology fields.

Source: WIPO Statistics Database, March 2025.

Statistical table

A30. PCT applications by office and origin, 2023–2024

Name	PCT applications filed in 2024 (international phase)		PCT applications filed in 2023 (international phase)	
	At receiving office	By country of origin	At receiving office	By country of origin
African Intellectual Property Organization	4	n.a.	4	n.a.
African Regional Intellectual Property Organization	1	n.a.	1	n.a.
Albania	3	8	0	10
Algeria	14	15	11	13
Andorra	n.a.	3	n.a.	4
Angola (c)	0	0	0	0
Antigua and Barbuda	0	0	0	0
Argentina	n.a.	29	n.a.	25
Armenia	0	3	0	3
Australia	1,409	1,572	1,377	1,496
Austria	516	1,532	444	1,548
Azerbaijan	7	8	6	10
Bahamas	n.a.	0	n.a.	3
Bahrain	0	5	0	9
Bangladesh	n.a.	0	n.a.	1
Barbados (c)	0	7	0	16
Belarus	14	13	10	16
Belgium	0	1,310	0	1,342
Belize	0	0	0	0
Benin (d)	0	0	0	0
Bermuda	n.a.	8	n.a.	15
Bhutan	n.a.	0	n.a.	1
Bosnia and Herzegovina	3	4	0	1
Botswana	0	0	0	0
Brazil	619	637	509	514
Brunei Darussalam	0	0	0	0
Bulgaria	25	39	31	45
Burkina Faso (d)	0	1	0	1
Cabo Verde	0	0	0	0
Cambodia	0	0	0	0
Cameroon (d)	0	3	0	5
Canada	1,740	2,388	1,791	2,399
Central African Republic (d)	0	0	0	0
Chad (d)	0	0	0	0
Chile	188	227	145	179
China	74,763	70,160	73,770	69,527
Colombia	10	73	26	110
Comoros (d)	0	0	0	0
Congo (d)	0	0	0	0
Costa Rica	1	2	1	5
Côte d'Ivoire (d)	0	1	0	0
Croatia	10	24	19	45
Cuba	7	7	5	5
Cyprus	0	51	0	66
Czech Republic	120	148	140	179
Democratic People's Republic of Korea	7	7	1	1
Democratic Republic of the Congo	n.a.	1	n.a.	0
Denmark	333	1,539	336	1,536
Djibouti	0	0	0	0
Dominica	0	0	0	0
Dominican Republic	3	3	3	3
Ecuador	2	21	1	12
Egypt	55	64	35	39
El Salvador	3	2	0	0
Equatorial Guinea (d)	0	0	0	0
Estonia	0	53	0	33
Eswatini (a)	0	0	0	0
Ethiopia	n.a.	1	n.a.	0
Eurasian Patent Organization	13	n.a.	10	n.a.
European Patent Office	39,159	n.a.	38,631	n.a.
Finland	768	2,004	756	1,540
France	1,680	8,125	1,992	7,911

Name	PCT applications filed in 2024 (international phase)		PCT applications filed in 2023 (international phase)	
	At receiving office	By country of origin	At receiving office	By country of origin
Gabon (d)	0	0	0	0
Gambia (a)	0	0	0	0
Georgia	12	14	5	6
Germany	1,376	16,721	1,409	16,944
Ghana	0	1	0	2
Greece	51	103	64	114
Grenada	0	0	0	0
Guatemala	0	3	0	1
Guinea (d)	0	0	0	0
Guinea-Bissau (d)	0	0	0	0
Holy See	n.a.	0	n.a.	3
Honduras	0	0	0	0
Hungary	142	172	117	149
Iceland	19	55	7	43
India	2,416	4,552	1,220	3,725
Indonesia	66	109	12	144
International Bureau	14,018	n.a.	14,173	n.a.
Iran (Islamic Republic of)	30	425	34	350
Iraq	5	6	1	1
Ireland	11	729	9	769
Israel	1,246	1,715	1,341	1,904
Italy	306	3,099	336	3,104
Jamaica	1	1	1	4
Japan	46,830	48,397	47,372	48,992
Jordan	6	12	13	19
Kazakhstan	42	46	22	23
Kenya	8	8	16	22
Kuwait	0	1	0	1
Kyrgyzstan	0	0	0	0
Lao People's Democratic Republic (c)	0	1	0	0
Latvia	16	29	18	30
Lebanon	n.a.	4	n.a.	3
Lesotho	0	0	0	1
Liberia	0	1	0	1
Libya	1	1	1	2
Liechtenstein (b)	0	166	0	171
Lithuania	1	22	0	42
Luxembourg	0	396	0	309
Madagascar (c)	0	1	0	1
Malawi	0	0	0	0
Malaysia	110	121	115	127
Mali (d)	0	0	0	0
Malta	0	39	0	39
Marshall Islands	n.a.	1	n.a.	3
Mauritania (d)	0	0	0	0
Mauritius	1	46	0	38
Mexico	94	163	76	149
Micronesia (Federated States of)	n.a.	0	n.a.	1
Monaco	0	20	0	13
Mongolia	0	0	0	0
Montenegro (c)	0	8	0	11
Morocco	64	74	44	46
Mozambique (a)	0	0	0	0
Namibia (a)	0	4	0	4
Nepal	n.a.	1	n.a.	1
Netherlands (Kingdom of the)	711	4,310	703	4,256
New Zealand	140	286	152	278
Nicaragua	0	0	0	0
Niger (d)	0	0	0	0
Nigeria (c)	0	5	0	4
North Macedonia	5	6	4	5
Norway	293	718	295	686
Oman	4	8	2	3
Pakistan	n.a.	2	n.a.	5
Palau	n.a.	0	n.a.	1
Panama	0	5	2	7

Name	PCT applications filed in 2024 (international phase)		PCT applications filed in 2023 (international phase)	
	At receiving office	By country of origin	At receiving office	By country of origin
Papua New Guinea	0	0	0	0
Paraguay	n.a.	1	n.a.	0
Peru	32	33	25	27
Philippines	33	36	5	8
Poland	162	340	181	370
Portugal	48	239	46	224
Qatar	1	6	17	20
Republic of Korea	23,677	23,851	22,164	22,277
Republic of Moldova	2	5	4	6
Romania	32	51	29	43
Russian Federation	707	709	730	681
Rwanda	0	0	0	0
Saint Kitts and Nevis	0	0	0	4
Saint Lucia (c)	0	0	0	1
Saint Vincent and the Grenadines (c)	0	0	0	0
Samoa	0	0	0	1
San Marino	0	4	0	11
Sao Tome and Principe (c)	0	0	0	0
Saudi Arabia	42	492	25	392
Senegal (d)	0	1	0	2
Serbia	17	27	21	36
Seychelles	0	5	0	6
Sierra Leone (a)	0	0	0	0
Singapore	842	1,771	865	1,811
Slovakia	24	47	37	58
Slovenia	41	122	31	95
South Africa	75	174	79	188
Spain	833	1,528	811	1,465
Sri Lanka (c)	0	23	0	9
Sudan	0	0	0	1
Sweden	1,183	3,762	1,324	4,301
Switzerland	59	5,324	45	5,398
Syrian Arab Republic	2	3	0	0
Tajikistan	0	0	0	0
Thailand	76	163	61	144
Togo (d)	0	0	0	0
Trinidad and Tobago	0	0	0	0
Tunisia	4	8	4	8
Türkiye	1,995	1,985	1,897	1,913
Turkmenistan	0	1	0	5
Uganda	2	6	1	2
Ukraine	68	112	65	90
United Arab Emirates (c)	0	160	0	135
United Kingdom	3,171	5,861	3,349	5,567
United Republic of Tanzania (a)	0	0	0	0
United States of America	51,251	54,087	52,969	55,618
Uruguay	n.a.	9	n.a.	11
Uzbekistan	3	6	0	1
Venezuela (Bolivarian Republic of)	n.a.	1	n.a.	2
Viet Nam	16	31	12	19
Zambia	0	0	0	0
Zimbabwe	0	0	0	4
Others	0	211	0	237
Total	**273,900**	**273,900**	**272,416**	**272,416**

Note: Data for 2024 are WIPO estimates.

(a) The African Regional Intellectual Property Organization (ARIPO) is the competent receiving office.

(b) The Office of Switzerland is the competent receiving office.

(c) The International Bureau is the competent receiving office.

(d) The African Intellectual Property Organization (OAPI) is the competent receiving office.

n.a. indicates not applicable, as it is not an office of a PCT member state, or else the office does not act as a PCT receiving office.

B. Statistics on PCT national phase entries

Highlights

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 B1).[3] 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 (figure B11).

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 (figure B2). 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.

The USPTO (139,230) received the highest number of the NPEs in 2023, followed by the European Patent Office (EPO) (122,700) and the China National Intellectual Property Administration (CNIPA) (90,663) (figure B10). Of the top 20 offices, eight received more NPEs in 2023 than in the previous year. Among these offices, Indonesia (+8%), Germany (+6.3%) and China (+3.7%) saw the sharpest growth. In contrast, the offices of the Russian Federation (–25.8%), New Zealand (–10.6%) and Mexico (–8.5%) experienced a fall in 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 B5). 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.

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.

3 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.

Of the 139,230 NPEs received at the USPTO, applicants from Japan (21.6% of the total), China (19.2%) and the US (17.3%) initiated the largest shares (figure B11). Combined, these same three economies also accounted for the majority of NPEs initiated at all the top 20 offices apart from New Zealand (49.8%), South Africa (46.6%) and the Russian Federation (44.6%). Applicants from either the US (14 offices), Japan (5) or China (1) accounted for the largest share of NPEs in each of the top 20 offices.

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 B12). 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 non-resident filings through the PCT route (figure B14). 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 (figure B13). 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.

Applicants residing in Denmark, Switzerland and the UK initiated a high average number of NPEs for every PCT application filed, averaging between 4 and 4.6 NPEs per PCT application (figure B7). In contrast, applicants from China and Türkiye averaged between 1.1 and 0.8 NPE per PCT application, respectively.

Twenty-seven of the top 50 applicants in foreign-oriented patent families mainly used the PCT System to file internationally

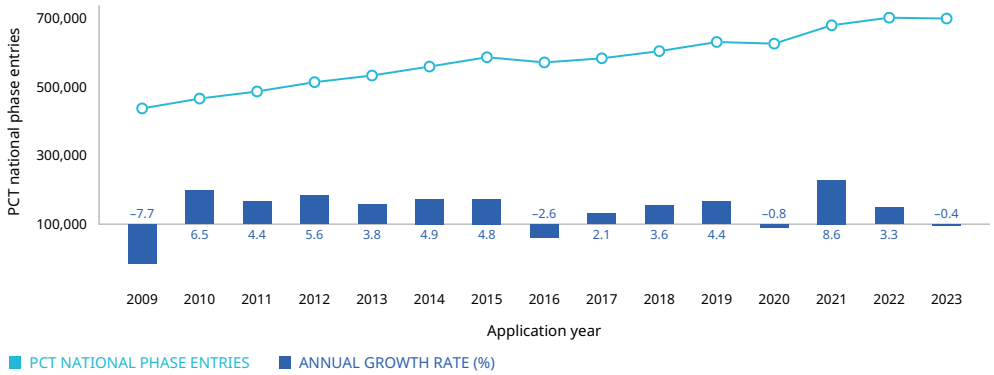
Huawei of China maintained its position as the company that created the highest number of foreign-oriented patent families using the PCT route, with 12,061 such families established between 2019 and 2021 (figure B16). Following Huawei were Samsung Electronics, LG Electronics and BOE Technology Group, each with between 5,200 and 8,000 families. Among the top 10 companies, Qualcomm (+76.6%), Samsung Electronics (+12.2%), Huawei (+12.1%) and NEC (+11%) witnessed double-digit increases in foreign-oriented patent families created using the PCT compared to 2018–2020.

Between 2019 and 2021, 27 of the top 50 applicants in terms of foreign-oriented patent families relied primarily on the PCT System to protect their innovations abroad (table B17). Microsoft Technology, Nippon Telegraph & Telephone, Qualcomm, and ZTE used the PCT route for over 99% of foreign-oriented patent families. Compared to 2016–2018, 33 of the top 50 applicants increased their use of the PCT route in 2019–2021. LG Energy Solution has seen its share of foreign-oriented patent families using the PCT route increase from 57.6% in 2016–2018 to 96,4% in 2019–2021.Several top 50 applicants in foreign-oriented patent families have relied very little on the PCT System, for instance, Ford Global Technologies, Seiko Epson and SK Hynix.

Global trends in PCT national phase entries

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

B1. Trend in PCT national phase entries, 2009–2023

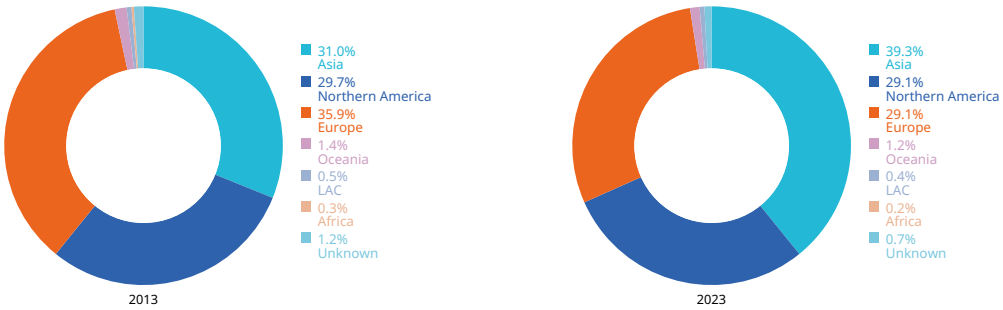


Note: WIPO estimates. National phase data from patent offices are available up to 2023. Data may differ from previous editions due to a change in methodology at the USPTO, where requests for continued examination are now excluded from the USPTO NPE count.

Source: WIPO Statistics Database, March 2025.

Asia accounted for over 39% of PCT national phase entries in 2023.

B2. PCT national phase entries by region, 2013 and 2023



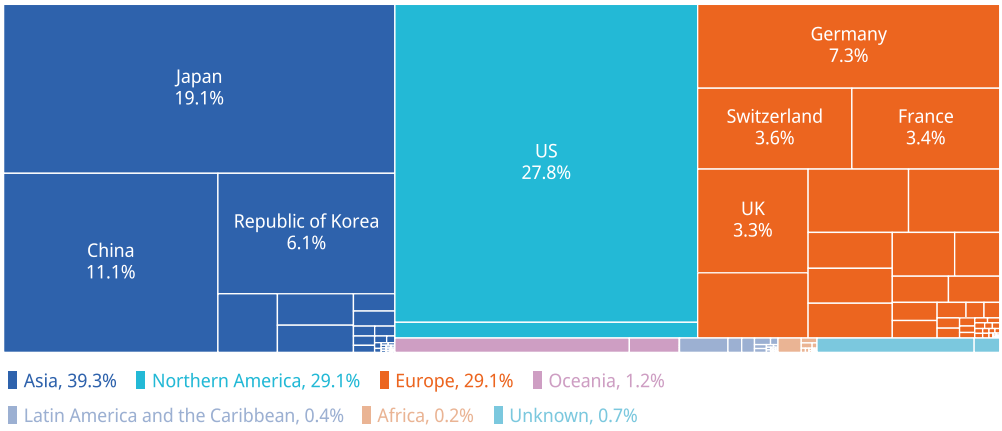
Note: Each region includes the following number of origins: Africa (26), Asia (36), Europe (44), Latin America and the Caribbean (LAC) (24), Northern America (3) and Oceania (6).

Source: WIPO Statistics Database, March 2025.

National phase entries by origin

Applicants from the US initiated almost 28% of all PCT national phase entries in 2023.

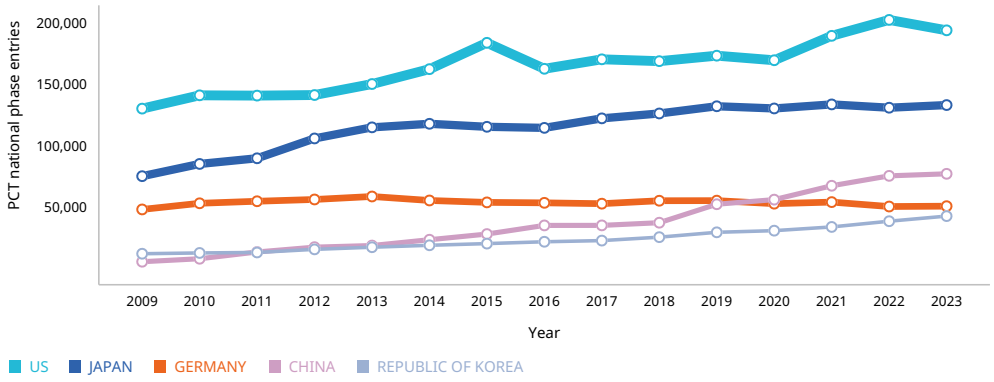
B3. Distribution of PCT national phase entries by region and origin, 2023



Source: WIPO Statistics Database, March 2025.

Since 2009, applicants from Japan and the US have initiated the highest number of PCT national phase entries worldwide.

B4. Trends in PCT national phase entries for the top five origins, 2009–2023

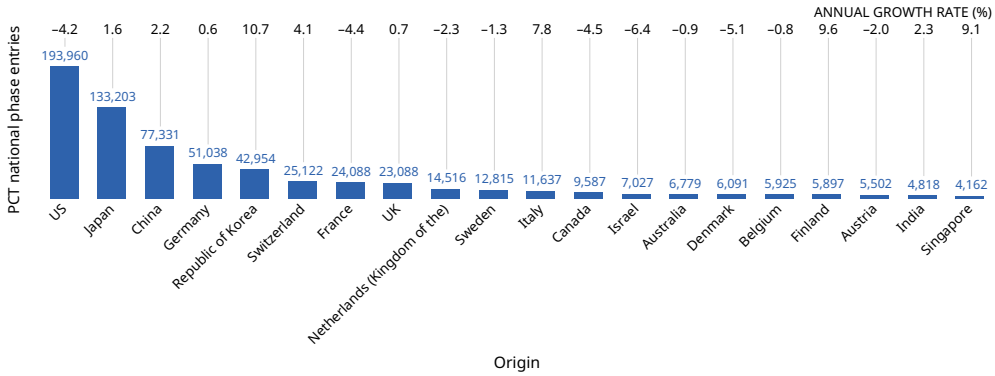


Note: Data may differ from previous editions due to a change in methodology at the USPTO, where requests for continued examination are now excluded from the USPTO NPE count.

Source: WIPO Statistics Database, March 2025.

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

B5. PCT national phase entries for the top 20 origins, 2023



Source: WIPO Statistics Database, March 2025.

Africa and Asia were the regions with the highest growth in PCT national phase entries in 2023.

B6. PCT national phase entries for the top origins by region, 2021–2023

Region	Origin	2021	2022	2023	Regional share 2023 (%)	Change from 2022 (%)
Africa	South Africa	733	713	673	59.7	–5.6
	Mauritius	42	177	156	13.8	–11.9
	Morocco	68	36	116	10.3	222.2
	Kenya	4	5	52	4.6	940.0
	Egypt	36	40	35	3.1	–12.5
	Tunisia	9	12	29	2.6	141.7
	Botswana		2	13	1.2	550.0
	Algeria	8	5	10	0.9	100.0
	Others	117	74	44	3.9	–40.5
	Total*	**1,017**	**1,064**	**1,128**	**0.2**	**6.0**
Asia	Japan	133,736	131,064	133,203	48.5	1.6
	China	67,639	75,673	77,331	28.2	2.2
	Republic of Korea	34,144	38,811	42,954	15.7	10.7
	Israel	7,269	7,508	7,027	2.6	–6.4
	India	4,276	4,708	4,818	1.8	2.3
	Singapore	4,071	3,814	4,162	1.5	9.1
	Türkiye	1,477	1,342	1,444	0.5	7.6
	Saudi Arabia	1,555	1,389	1,259	0.5	–9.4
	Malaysia	332	391	423	0.2	8.2
	China, Hong Kong SAR	407	423	403	0.1	–4.7
	Others	1,292	1,421	1,367	0.5	–3.8
	Total*	**256,198**	**266,544**	**274,391**	**39.3**	**2.9**
Europe	Germany	54,343	50,758	51,038	25.1	0.6
	Switzerland	22,229	24,138	25,122	12.4	4.1
	France	25,750	25,191	24,088	11.9	–4.4
	UK	21,606	22,930	23,088	11.4	0.7
	Netherlands (Kingdom of the)	15,063	14,860	14,516	7.1	–2.3
	Sweden	13,314	12,980	12,815	6.3	–1.3
	Italy	10,891	10,798	11,637	5.7	7.8
	Denmark	6,148	6,421	6,091	3.0	–5.1
	Belgium	5,813	5,972	5,925	2.9	–0.8
	Finland	5,294	5,380	5,897	2.9	9.6
	Others	23,165	23,757	22,856	11.3	–3.8
	Total*	**203,616**	**203,185**	**203,073**	**29.1**	**–0.1**
Latin America and the Caribbean	Brazil	1,351	1,504	1,400	49.2	–6.9
	Mexico	424	351	397	13.9	13.1
	Chile	448	411	370	13.0	–10.0

Region	Origin	2021	2022	2023	Regional share 2023 (%)	Change from 2022 (%)
	Cuba	72	123	213	7.5	73.2
	Argentina	101	127	99	3.5	–22.0
	Colombia	188	148	95	3.3	–35.8
	Barbados	178	80	92	3.2	15.0
	Costa Rica	44	46	38	1.3	–17.4
	Curaçao	4	10	24	0.8	140.0
	Peru	47	48	22	0.8	–54.2
	Others	537	230	98	3.4	–57.4
	Total*	**3,394**	**3,078**	**2,848**	**0.4**	**–7.5**
Northern America	US	189,497	202,421	193,960	95.3	–4.2
	Canada	10,377	10,034	9,587	4.7	–4.5
	Bermuda	97	84	58	0.0	–31.0
	Total*	**199,971**	**212,539**	**203,605**	**29.1**	**–4.2**
Oceania	Australia	7,172	6,844	6,779	82.4	–0.9
	New Zealand	1,244	1,321	1,446	17.6	9.5
	Others	7	23	6	0.1	–73.9
	Total*	**8,423**	**8,188**	**8,231**	**1.2**	**0.5**
Unknown*		6,281	6,402	5,224	0.7	–18.4
World		**678,900**	**701,000**	**698,500**	**n.a.**	**–0.4**

Note: World totals are WIPO estimates. This table shows the top countries in each region (with a maximum of 10 countries per region) where applicants filed more than 10 PCT national phase entries in 2023. Data for all origins are reported in statistical table B18.

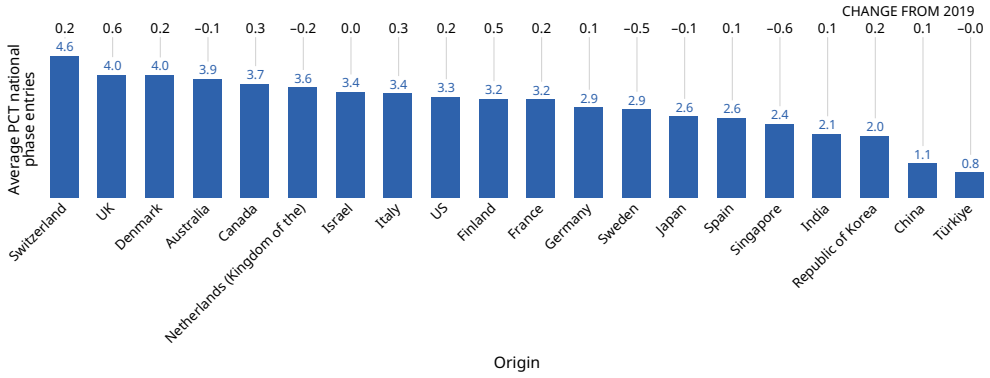
* indicates share of world total.

n.a. indicates not applicable.

Source: WIPO Statistics Database, March 2025.

Applicants residing in Switzerland initiated an average of 4.6 NPEs per PCT application.

B7. Average number of national phase entries per PCT application for the top 20 origins, 2023



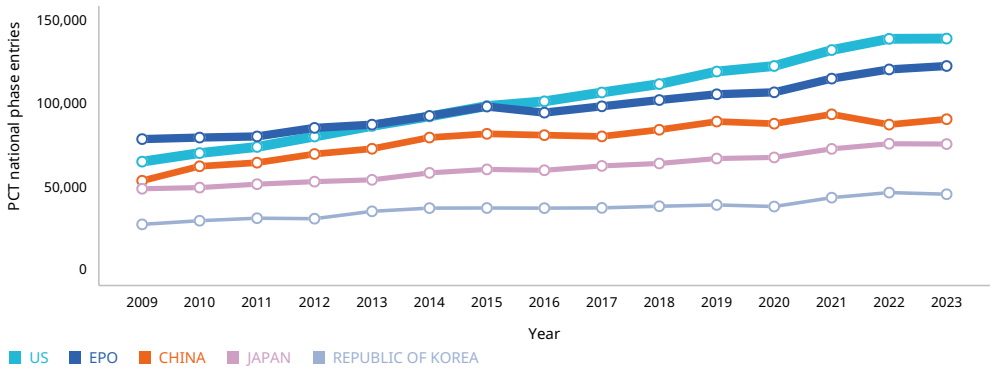
Note: The average is defined as the number of national phase entries initiated in 2023 divided by the average number of PCT applications filed in the two preceding years.

Source: WIPO Statistics Database, March 2025.

National phase entries by office

The USPTO and the EPO attracted the most PCT national phase entries in 2023.

B8. Trends in PCT national phase entries for the top five offices, 2009–2023

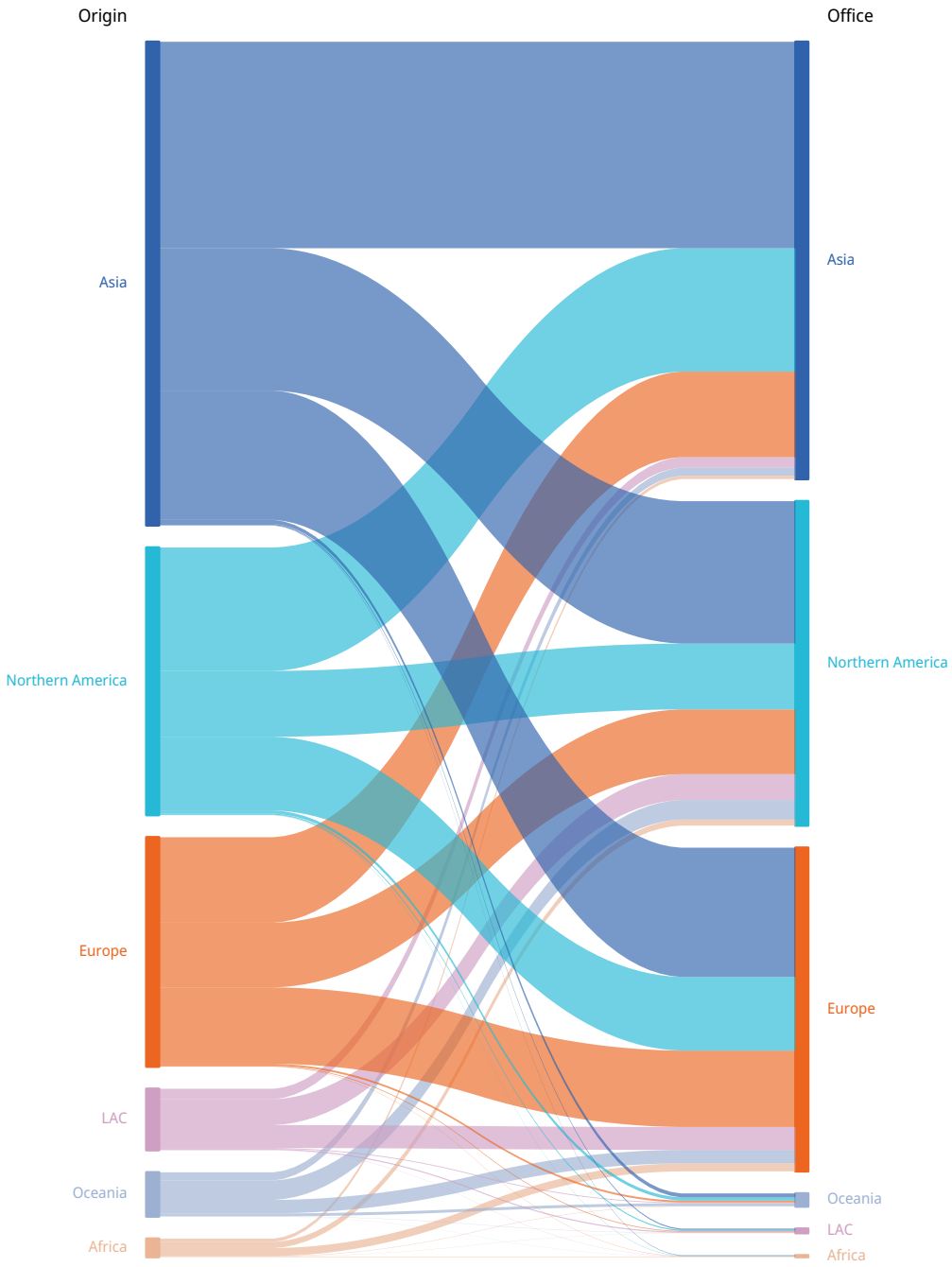


Note: EPO is the European Patent Office. Data may differ from previous editions due to a change in methodology at the USPTO, where requests for continued examination are now excluded from the USPTO NPE count.

Source: WIPO Statistics Database, March 2025.

Applicants residing in Asia initiated a large proportion of national phase entries in their home region.

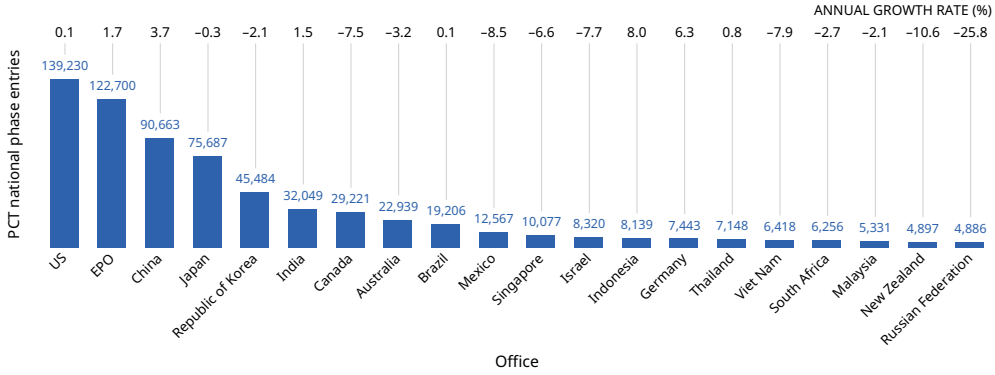
B9. Flow of national phase entries between region of origin and regions of destination, 2023



Note: LAC is Latin America and the Caribbean.
Source: WIPO Statistics Database, March 2025.

Indonesia saw the sharpest growth among top 20 offices in 2023.

B10. PCT national phase entries for the top 20 offices, 2023



Note: This table shows data for the 20 offices to have received the most PCT national phase entries. NPE data may not be available at some offices. EPO is the European Patent Office.

Source: WIPO Statistics Database, March 2025.

Applicants residing in Japan were responsible for a large proportion of PCT national phase entries initiated at the office of Japan, with 38.4% of the total.

B11. Flow of national phase entries for the top 20 offices and the top 10 origins as a percentage of total national phase entries at respective offices, 2023

	Origin										
Office	US	Japan	China	Germany	Republic of Korea	Switzerland	France	UK	Netherlands (Kingdom of the)	Sweden	Other origins
US	17.3	21.6	19.2	8.0	8.5	1.7	3.4	3.3	1.8	1.7	13.5
EPO	27.4	12.6	14.2	8.8	6.9	3.4	4.6	3.1	2.4	2.6	14.0
China	27.1	28.9	0.9	9.8	8.3	3.7	3.7	2.5	2.7	1.7	10.6
Japan	21.9	38.4	9.4	5.3	6.4	3.4	2.5	2.2	1.8	1.1	7.6
Republic of Korea	33.0	22.6	10.6	7.1	4.4	3.5	3.0	3.0	1.9	1.4	9.5
India	34.9	11.6	11.5	6.3	6.7	4.1	2.8	3.4	2.3	2.6	13.7
Canada	46.0	3.8	5.4	5.9	2.2	4.6	4.2	4.7	0.2	1.7	21.2
Australia	42.1	5.4	8.0	4.9	2.8	4.6	2.9	5.5	1.8	1.9	20.2
Brazil	37.1	5.1	8.3	7.7	2.3	6.9	4.2	3.7	2.7	2.9	19.1
Mexico	44.8	5.8	6.2	6.7	2.1	5.8	3.2	3.8	3.0	1.6	17.1
Singapore	35.9	13.0	14.6	4.6	2.5	4.5	2.9	3.7	1.4	1.1	15.7
Israel	46.5	3.7	3.2	5.4	1.2	6.3	3.6	5.0	2.4	1.2	21.3
Indonesia	24.7	20.8	14.7	3.7	8.5	4.3	2.0	2.5	3.8	1.2	13.8
Germany	20.0	50.6	7.3	9.9	3.0	1.8	0.4	0.6	0.6	0.4	5.4
Thailand	20.9	34.0	10.6	4.7	4.5	3.7	2.6	2.2	1.7	1.3	13.9
Viet Nam	32.0	20.2	14.7	3.6	10.2	2.4	1.6	2.0	1.3	0.9	11.1
South Africa	30.7	2.3	13.6	6.6	2.2	6.0	4.1	7.6	2.1	2.6	22.3
Malaysia	24.2	17.4	14.7	5.7	6.0	6.0	2.2	5.8	1.8	1.8	14.4
New Zealand	40.4	4.6	4.9	4.7	2.1	4.8	2.8	6.7	2.3	1.5	25.3
Russian Federation	17.7	7.4	19.5	6.8	6.8	11.5	3.9	5.1	2.6	0.5	18.1

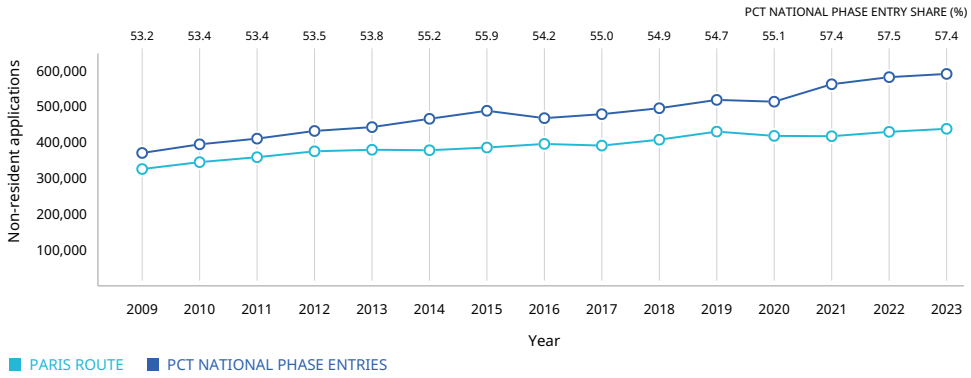
Note: This table shows data for the 20 offices to have received the most PCT national phase entries and the 10 origins to have entered the most PCT national phase entries. NPE data by origin may not be available at some offices. EPO is the European Patent Office.

Source: WIPO Statistics Database, March 2025.

Patent applications by filing route

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

B12. Trend in non-resident patent applications by filing route, 2009–2023

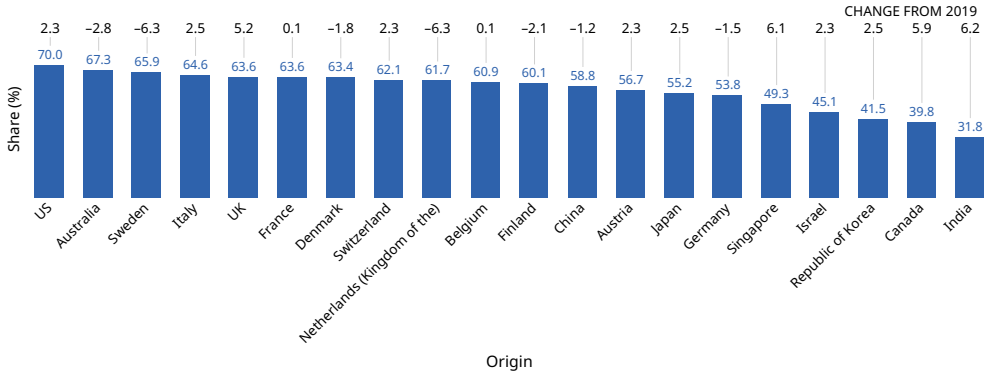


Note: These data are WIPO estimates. Data may differ from previous editions due to a change in methodology at the USPTO, where requests for continued examination are now excluded from the USPTO NPE count.

Source: WIPO Statistics Database, March 2025.

Applicants from the US filed 70% of patent applications abroad via the PCT route.

B13. Share of PCT national phase entries in total filings abroad for the top 20 origins, 2023

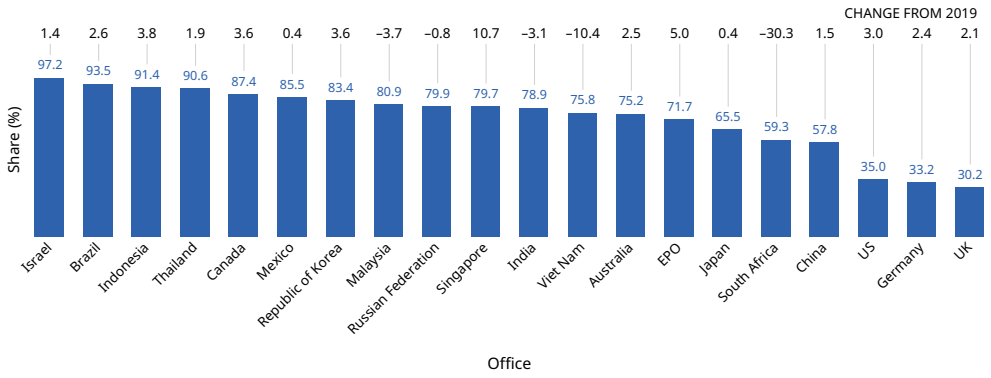


Note: Share is defined as the number of PCT national phase entries initiated abroad divided by the total number of patent applications filed abroad. It includes data from the 20 origins that filed the most applications abroad in 2023.

Source: WIPO Statistics Database, March 2025.

Brazil, Israel, Indonesia and Thailand received more than 90% of non-resident patent applications via the PCT route in 2023.

B14. Share of PCT national phase entries in total non-resident filings for the top 20 offices, 2023



Note: Share is defined as non-resident PCT national phase entries initiated divided by the total number of non-resident patent applications filed. It includes data from the 20 offices to have received the most non-resident filings in 2023; that is, data from countries that are members of the PCT System and who provided data broken down by filing route. EPO is the European Patent Office.

Source: WIPO Statistics Database, March 2025.

Applicants from Switzerland used the PCT route for nearly all patent applications filed at the office of Indonesia.

B15. Share of PCT national phase entries in total non-resident filings for the top 10 origins and the top 20 offices, 2023

	Origin									
Office	US	Japan	China	Germany	Republic of Korea	Switzerland	France	UK	Netherlands (Kingdom of the)	Sweden
US	n.a.	39.4	45.0	42.8	26.1	44.2	51.8	39.2	54.2	51.0
China	60.8	56.7	n.a.	57.5	37.7	71.0	71.9	72.8	72.8	66.3
EPO	69.8	72.1	83.8	n.a.	67.6	n.a.	n.a.	n.a.	n.a.	n.a.
Japan	62.1	n.a.	73.8	67.9	61.6	69.5	75.4	71.8	74.8	72.5
Republic of Korea	91.0	72.3	88.5	84.7	n.a.	90.7	90.4	92.2	77.2	87.5
India	80.6	79.1	91.8	68.1	64.6	83.0	79.4	88.2	79.1	95.7
Canada	84.1	92.9	86.5	88.3	90.9	92.0	87.5	95.2	95.5	93.4
Australia	70.9	74.5	74.9	83.1	75.5	86.8	84.6	84.5	79.8	86.7
Brazil	92.9	91.8	96.8	90.1	97.0	97.2	92.2	95.6	97.7	98.0
Germany	22.2	58.8	58.5	n.a.	15.6	13.3	9.8	23.1	37.8	9.1
China, Hong Kong SAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mexico	80.8	91.0	89.7	85.7	83.8	92.4	93.5	92.6	95.4	83.0
Singapore	79.9	77.1	88.3	79.8	47.3	88.2	82.9	90.4	88.3	91.9
South Africa	86.8	92.3	21.3	92.1	88.3	98.7	94.2	93.3	91.0	98.8
Indonesia	98.7	84.1	93.1	96.2	90.4	99.4	97.6	98.5	98.1	98.9
UK	50.8	32.1	57.5	3.1	6.5	1.6	11.5	n.a.	27.3	0.9
Viet Nam	81.5	81.0	77.8	80.1	61.6	85.2	82.3	82.3	86.5	86.6
Thailand	98.2	84.7	91.8	95.7	86.5	98.9	98.4	98.1	98.4	98.9
Israel	97.7	96.6	96.1	95.2	95.4	98.9	92.6	99.1	100.0	100.0
Malaysia	81.1	71.1	86.1	84.7	82.6	93.5	89.5	89.3	81.7	98.0

Note: This figure includes data from the 20 offices to have received the most non-resident filings in 2023, regardless of whether or not they accept applications for entry into the national phase. EPO is the European Patent Office.

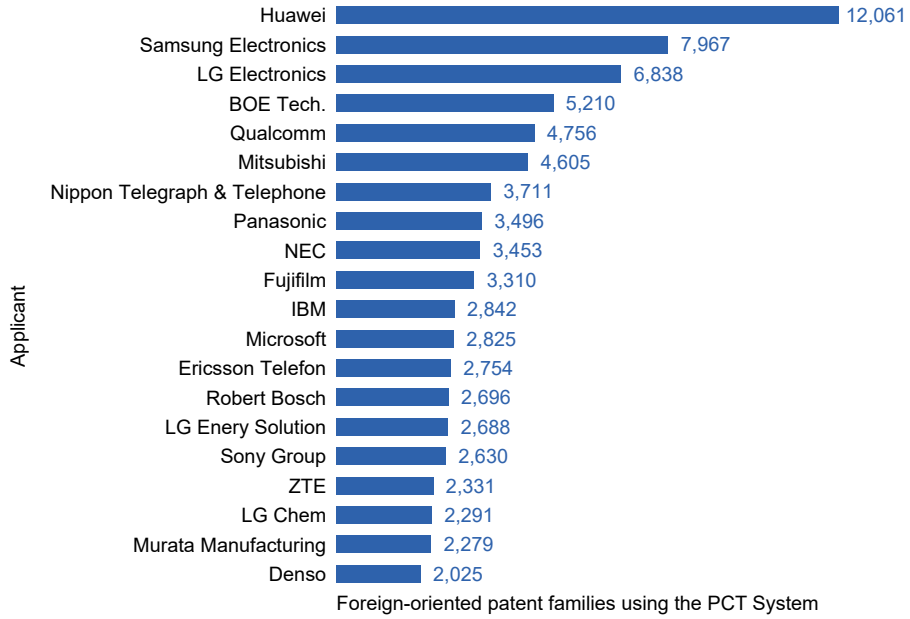
n.a. indicates not applicable.

Source: WIPO Statistics Database, March 2025.

Top applicants in foreign-oriented patent families

Huawei had by far the highest number of foreign-oriented patent families using the PCT route in 2019–2021.

B16. Top 20 applicants in foreign-oriented patent families using the PCT System, 2019–2021



Note: The number of patent applications in foreign-oriented patent families as reported in the autumn 2024 edition of PATSTAT may be incomplete for the most recent years. A patent family is a set of interrelated patent applications filed at one or more offices to protect the same invention. Patent applications in a family are interlinked by one or more of the following: priority claim, PCT national phase entry, continuation, continuation-in-part, internal priority, and addition or division. Foreign-oriented patent families have at least one filing at an office other than the applicant's home office.

Source: WIPO Statistics Database and EPO PATSTAT Database, March 2025.

The top three applicants in foreign-oriented patent families in 2019–2021 relied primarily on the PCT System for the protection of their innovations abroad.

B17. Top 50 applicants in foreign-oriented patent families, 2016–2018 and 2019–2021

		Foreign-oriented patent families		Foreign-oriented patent families using the PCT route (%)	
Rank	Applicant	2016–2018	2019–2021	2016–2018	2019–2021
1	SAMSUNG ELECTRONICS CO LTD	13,212	15,539	44.7	51.3
2	HUAWEI TECH CO LTD	8,455	12,387	96.9	97.4
3	LG ELECTRONICS INC	4,486	9,378	62.2	72.9
4	CANON KK	9,392	8,222	10.6	11.4
5	TOYOTA MOTOR CORP	6,979	7,391	3.9	2.4
6	BOE TECHNOLOGY GROUP CO LTD	8,127	7,073	63.8	73.7
7	SAMSUNG DISPLAY CO LTD	4,484	6,845	3.6	7
8	BOSCH GMBH ROBERT	6,412	6,759	48.2	39.9
9	HONDA MOTOR CO LTD	5,941	6,070	26.8	15.4
10	HYUNDAI MOTOR CO LTD	4,708	5,748	0.1	4
11	MITSUBISHI ELECTRIC CORP	6,367	5,430	87.3	84.8
12	QUALCOMM INC	1,597	4,799	97.8	99.1
13	KIA CORP	3	4,412	0	3.2
14	IBM	1,767	4,226	62.3	67.3
15	SEIKO EPSON CORP	4,291	4,164	4.6	0.4
16	FUJIFILM CORP	3,794	4,131	82.7	80.1
17	FORD GLOBAL TECH LLC	7,226	3,890	2.6	0.7
18	NEC CORP	2,705	3,808	90.6	90.7
19	PANASONIC IP MAN CO LTD	3,808	3,805	73.3	91.9
20	UNIV NORTHEASTERN	3,887	3,803	3.6	5.5
21	NIPPON TELEGRAPH & TELEPHONE	1,535	3,723	99.6	99.7
22	INTEL CORP	2,796	3,528	49.5	16.8
23	BAYERISCHE MOTOREN WERKE AG	4,489	3,519	27.5	34.5
24	MURATA MANUFACTURING CO	2,740	3,412	68.6	66.8
25	DENSO CORP	3,661	3,125	61	64.8
26	SIEMENS AG	4,376	2,923	61.8	64.4
27	MICRON TECHNOLOGY INC	1,197	2,852	68	34.5
28	MICROSOFT TECHNOLOGY LICENSING LLC	2,549	2,849	96.4	99.2
29	ERICSSON TELEFON AB L M	2,330	2,788	97.6	98.8
30	LG ENERGY SOLUTION LTD	33	2,788	57.6	96.4
31	SONY GROUP CORP	195	2,764	90.3	95.2
32	SK HYNIX INC	2,468	2,720	0.2	0.3
33	BEIJING XIAOMI MOBILE SOFTWARE CO LTD	1,139	2,565	73	69
34	RICOH CO LTD	2,747	2,544	12	12.3
35	SAUDI ARABIAN OIL CO	682	2,414	99.6	70.5
36	LG CHEMICAL LTD	4,001	2,369	93.8	96.7
37	HITACHI LTD	2,261	2,365	48.3	37.3
38	ZTE CORP	1,648	2,338	99.3	99.7
39	LG DISPLAY CO LTD	2,243	2,297	1.3	3.2
40	NOKIA TECHNOLOGIES OY	1,544	2,295	75.6	72.4
41	TOSHIBA CORP	2,531	2,255	9.8	9.9
42	FUJITSU LTD	4,043	2,214	15.1	23.2
43	TOKYO ELECTRON LTD	1,617	2,194	26.8	31.7
44	PANASONIC IP MAN CORP	2,977	2,162	34.1	45.1
45	SHARP KK	3,068	2,033	68.8	50.8
46	SCHAEFFLER TECHNOLOGIES AG	1,986	1,999	49	49.2
47	NTT DOCOMO INC	1,352	1,985	98.9	96.8
48	GUANGDONG OPPO MOBILE TELECOMMUNICATIONS CORP LTD	1,820	1,975	98.6	86.6
49	SONY SEMICONDUCTOR SOLUTIONS CORP	1,390	1,965	98.3	98.9
50	KIOXIA CORP	319	1,935	3.4	3.5

Note: The number of patent applications in foreign-oriented patent families as reported in the autumn 2024 edition of PATSTAT may be incomplete for the most recent years. A patent family is a set of interrelated patent applications filed at one or more offices to protect the same invention. Patent applications in a family are interlinked by one or more of the following: priority claim, PCT national phase entry, continuation, continuation in part, internal priority, and addition or division. Foreign-oriented patent families have at least one filing at an office other than the applicant's home office.

Source: WIPO Statistics Database and EPO PATSTAT Database, March 2025.

Statistical table

B18. PCT national phase entries by office and origin, 2022–2023

Name	PCT national phase entries in 2023		PCT national phase entries in 2022	
	at designated office	by country of origin	at designated office	by country of origin
African Intellectual Property Organization	328	n.a.	380	n.a.
African Regional Intellectual Property Organization	754	n.a.	833	n.a.
Albania	1	4	..	4
Algeria	590	10	627	5
Andorra	n.a.	10	n.a.	12
Angola	78	0	70	0
Antigua and Barbuda	4	9	5	66
Argentina	n.a.	99	n.a.	127
Armenia	1	16	7	5
Australia	22,939	6,779	23,707	6,844
Austria	462	5,502	420	5,613
Azerbaijan	30	5	40	3
Bahamas	n.a.	15	n.a.	10
Bahrain	456	13	469	2
Bangladesh	n.a.	7	n.a.	4
Barbados	..	92	60	80
Belarus	44	13	44	28
Belgium (c)	..	5,925	..	5,972
Belize	39	8	..	10
Benin (d)	..	1	..	4
Bosnia and Herzegovina	6	9	10	14
Botswana	3	13	..	2
Brazil	19,206	1,400	19,191	1,504
Brunei Darussalam	..	1	149	0
Bulgaria	8	89	..	128
Burkina Faso (d)	..	0	..	3
Cabo Verde	..	0	..	0
Cambodia	31	15	71	10
Cameroon (d)	..	1	..	4
Canada	29,221	9,587	31,604	10,034
Central African Republic (d)	..	0	..	0
Chad (d)	..	0	..	0
Chile	2,806	370	2,759	411
China	90,663	77,331	87,416	75,673
China, Hong Kong SAR	n.a.	403	n.a.	423
China, Macao SAR	n.a.	0	n.a.	2
Colombia	1,712	95	1,885	148
Comoros (d)	..	1	..	0
Congo (d)	..	0	..	0
Cook Islands	n.a.	1	n.a.	0
Costa Rica	481	38	577	46
Côte d'Ivoire (d)	..	0	..	0
Croatia	3	39	3	48
Cuba	32	213	..	123
Curaçao	n.a.	24	n.a.	10
Cyprus (c)	..	162	..	132
Czech Republic	17	562	27	571
Democratic People's Republic of Korea	4	8	7	24
Denmark	81	6,091	74	6,421
Djibouti	..	0	7	1
Dominica	2	0	..	0
Dominican Republic	219	8	226	32
Ecuador	383	8	476	9
Egypt	1,350	35	1,298	40
El Salvador	138	0	146	2
Equatorial Guinea (d)	..	0	..	0
Estonia	4	127	4	112
Eswatini (a)	..	2	..	0
Eurasian Patent Organization	2,527	n.a.	2,867	n.a.
European Patent Office	122,700	n.a.	120,634	n.a.
European Union	n.a.	44	n.a.	25
Fiji	n.a.	1	n.a.	3
Finland	26	5,897	34	5,380

Name	PCT national phase entries in 2023		PCT national phase entries in 2022	
	at designated office	by country of origin	at designated office	by country of origin
France (c)	..	24,088	..	25,191
Gabon (d)	..	0	..	0
Gambia	..	0	88	0
Georgia	129	12	151	8
Germany	7,443	51,038	7,005	50,758
Ghana	14	2	14	1
Greece (c)	..	248	..	205
Grenada	..	4	6	4
Guatemala	270	1	282	1
Guernsey	n.a.	3	n.a.	1
Guinea (d)	..	0	..	0
Guinea-Bissau (d)	..	0	..	0
Guyana	n.a.	0	n.a.	0
Holy See	n.a.	0	n.a.	6
Honduras	163	0	189	0
Hungary	43	464	69	382
Iceland	..	114	2	120
India	32,049	4,818	31,577	4,708
Indonesia	8,139	36	7,533	58
Iran (Islamic Republic of)	363	111	412	90
Iraq	..	1	..	0
Ireland (c)	..	2,962	..	2,998
Israel	8,320	7,027	9,011	7,508
Italy (c)	180	11,637	144	10,798
Jamaica	15	8	..	5
Japan	75,687	133,203	75,892	131,064
Jordan	287	24	299	12
Kazakhstan	196	16	107	15
Kenya	93	52	47	5
Kuwait	735	0	707	15
Kyrgyzstan	6	3	..	0
Lao People's Democratic Republic	39	0	45	0
Latvia (c)	..	60	..	79
Lebanon	n.a.	20	n.a.	10
Lesotho	..	0	..	0
Liberia	158	1	212	0
Libya	..	1	..	3
Liechtenstein (b)	..	446	..	585
Lithuania (c)	..	84	..	93
Luxembourg	253	1,581	302	1,486
Madagascar	23	1	24	0
Malawi	..	0	..	24
Malaysia	5,331	423	5,445	391
Mali (d)	..	1	..	0
Malta (c)	..	121	..	162
Marshall Islands	n.a.	1	n.a.	0
Mauritania (d)	..	9	..	0
Mauritius	..	156	..	177
Mexico	12,567	397	13,731	351
Monaco (c)	..	61	..	73
Mongolia	96	0	76	18
Montenegro	..	0	..	0
Morocco	2,074	116	2,285	36
Mozambique	..	2	16	0
Myanmar	n.a.	0	n.a.	1
Namibia	46	1	3	12
Netherlands (Kingdom of the) (c)	..	14,516	..	14,860
New Zealand	4,897	1,446	5,479	1,321
Nicaragua	..	1	..	0
Niger (d)	..	0	..	1
Nigeria	..	6	828	0
North Macedonia	..	7	..	11
Norway	514	2,704	516	2,797
Oman	774	20	643	6
Pakistan	n.a.	4	n.a.	0
Panama	..	21	..	33

Name	PCT national phase entries in 2023		PCT national phase entries in 2022	
	at designated office	by country of origin	at designated office	by country of origin
Papua New Guinea	..	0	30	0
Paraguay	n.a.	1	n.a.	0
Peru	1,107	22	1,234	48
Philippines	3,866	35	3,982	12
Poland	41	903	39	927
Portugal	20	491	23	669
Qatar	793	76	..	38
Republic of Korea	45,484	42,954	46,478	38,811
Republic of Moldova	3	14	6	2
Romania	23	77	9	69
Russian Federation	4,886	1,638	6,581	1,819
Rwanda	2	0	1	0
Saint Kitts and Nevis	2	0	3	10
Saint Lucia	..	0	..	0
Saint Vincent and the Grenadines	7	0	1	0
Samoa	..	3	..	19
San Marino	..	7	..	13
Sao Tome and Principe	..	0	..	0
Saudi Arabia	4,709	1,259	3,902	1,389
Senegal (d)	..	0	..	4
Serbia	10	55	14	30
Seychelles	10	9	13	11
Sierra Leone	..	1	..	0
Singapore	10,077	4,162	10,788	3,814
Slovakia	14	169	6	144
Slovenia (c)	..	198	..	206
South Africa	6,256	673	6,432	713
Spain	265	3,976	87	4,202
Sri Lanka	221	52	249	65
Sudan	..	3	..	1
Sweden	62	12,815	68	12,980
Switzerland	69	25,122	83	24,138
Syrian Arab Republic	23	3	13	2
Tajikistan	..	3	..	0
Thailand	7,148	398	7,090	433
Togo (d)	..	0	..	0
Trinidad and Tobago	131	0	148	0
Tunisia	192	29	166	12
Türkiye	371	1,444	334	1,342
Turkmenistan	..	0	..	3
Uganda	3	1	..	1
Ukraine	1,721	74	1,743	123
United Arab Emirates	3,083	300	2,620	402
United Kingdom	2,901	23,088	2,894	22,930
United Republic of Tanzania	..	0	..	2
United States of America	139,230	193,960	139,075	202,421
Uruguay	n.a.	11	n.a.	46
Uzbekistan	227	0	196	1
Vanuatu	n.a.	0	n.a.	1
Venezuela (Bolivarian Republic of)	n.a.	2	n.a.	2
Viet Nam	6,418	26	6,966	50
Zambia	9	0	9	1
Zimbabwe	..	1	3	1
Others	863	5,283	447	6,486
Total	**698,500**	**698,500**	**701,000**	**701,000**

Note: World totals are WIPO estimates. Offices of destination are designated and/or elected offices.

(a) The African Regional Intellectual Property Organization is the competent designated or elected office.

(b) The Office of Switzerland is the competent designated or elected office.

(c) The European Patent Office is the competent designated or elected office.

(d) The African Intellectual Property Organization is the competent designated or elected office.

.. indicates data are unknown.

n.a. indicates not applicable.

Source: WIPO Statistics Database, March 2025.

C. Statistics on the performance of the PCT System

Highlights

The International Bureau

In addition to its role as a receiving office (RO), the International Bureau (IB) of WIPO is responsible for functions relating to the international phase of the PCT System, including examining formalities, translating parts of PCT applications and patentability reports, and publishing PCT applications.

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 C1). 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.

Nearly all PCT applications were filed electronically

Applicants filed 99.4% of PCT applications electronically and the remaining 0.6% on paper in 2024 (figure C2). Since electronic means of filing were first made available to applicants, their use has continuously increased. In 2014, PCT applications filed electronically accounted for 91.3% of the total.

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 (figure C3). 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) (figure C4). 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.

The IB examined over 96% of PCT applications within two weeks of receipt

In 2024, the IB performed a PCT-required formalities examination for 85.4% of PCT applications within one week of receipt and 96.3% within two weeks (figure C5). This corresponds to the largest proportions in the last 10 years. By contrast, in 2014 only 57.4% of PCT applications had their formality examination completed within two weeks.

Nearly 80% of publications occurred within a week following the expiration of the 18-month period from the priority date, and almost all (99.7%) were published within two weeks of this deadline (figure C6). When an international search report (ISR) is unavailable at the time of publication, an application is republished together with its ISR, once available. In 2024, 97.5% of PCT patent applications were republished within two months of receipt of the ISR, marking the biggest proportion in the past decade (figure C7).

The receiving offices

A PCT application is filed with a RO, which can be a national or regional patent office or the IB. ROs are responsible for receiving PCT applications, examining compliance with PCT formality requirements, receiving payment of fees and transmitting copies of an application for further processing to the IB and the appropriate International Searching Authority (ISA).

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 (figure C12). 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 (figure C14). Australia, Israel and the Republic of Korea transmitted all applications to the IB within four weeks of the filing date (figure C15). Among the top 20 ROs, 17 transmitted more than 75% of PCT applications within this timeframe.

The proportion of PCT applications transmitted by ROs to the ISAs within four weeks varied slightly from that transmitted to the IB (figure C16). This percentage surpassed 80% for half of the top 20 ROs and exceeded 50% for 16 of them.

The International Searching Authorities

Each PCT application must undergo an international search by an ISA. Once an ISA has performed a search, the applicant receives an ISR containing a list of documents relevant to assessing the invention's patentability. The ISA also establishes a written opinion, providing a detailed analysis of the potential patentability of the invention in view of the documents found during the search.

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

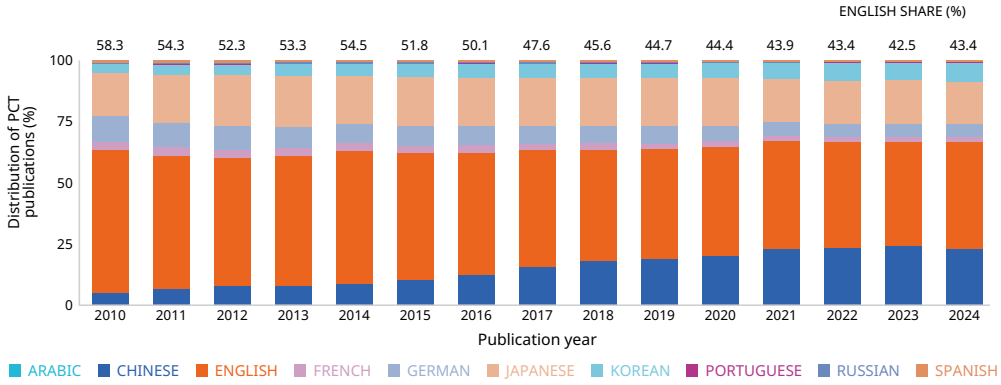
In 2024, a total of 266,101 ISRs were issued. Of these, 83,911 ISRs were issued by the EPO and 65,673 by the office of China (figure C17). Together, these two ISAs accounted for 56.2% of all ISRs issued. Among the top 10 ISAs, India (+43.3%), the US (+12.3%) and the Republic of Korea (+5.2%) saw the 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 (figure C20). 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 (figure C21). Eight ISAs transmitted all such ISRs within the required nine months, and 20 transmitted more than 90% within the timeframe.

PCT applications by publication language and filing medium

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

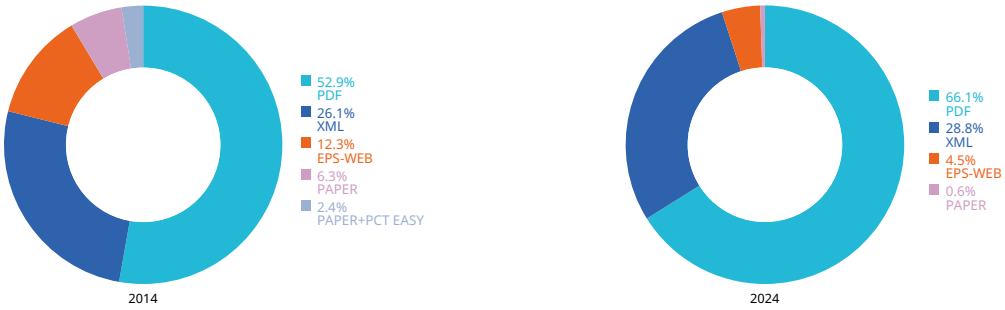
C1. Distribution of PCT applications by language of publication, 2010–2024



Source: WIPO Statistics Database, March 2025.

PCT applications filed on paper accounted for 0.6% of the total in 2024.

C2. Distribution of PCT applications by filing medium, 2014 and 2024



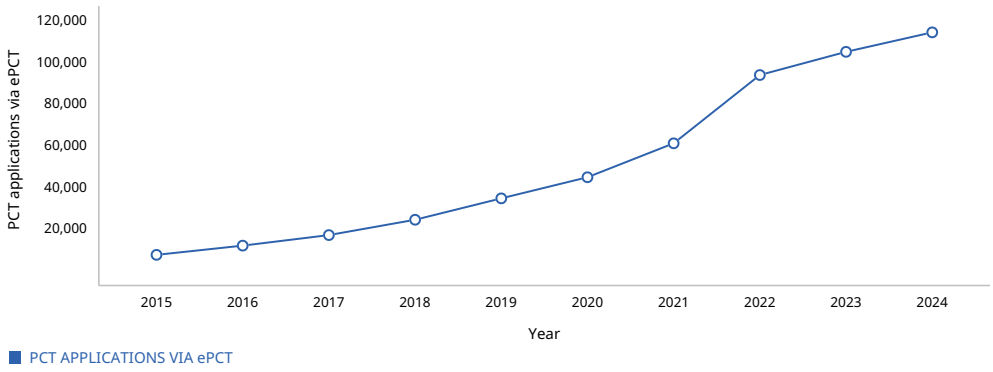
Note: PDF, EFS-WEB and XML are the three fully electronic filing mediums. Since 2015, PCT applications can no longer be filed using PCT-EASY.

Source: WIPO Statistics Database, March 2025.

PCT applications filed using ePCT

About 114,000 PCT applications were filed using ePCT in 2024.

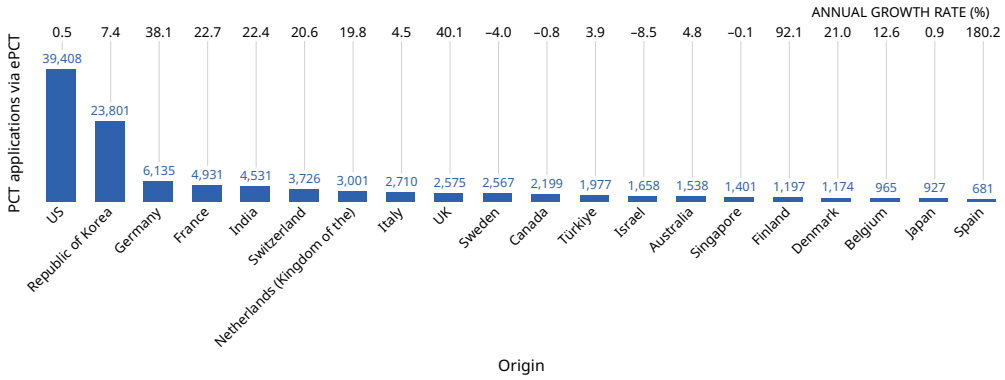
C3. Trend in PCT applications filed using ePCT, 2015–2024



Source: WIPO Statistics Database, March 2025.

Applicants from Germany and France sharply increased their use of ePCT to file PCT applications in 2024.

C4. PCT applications filed using ePCT for the top 20 origins, 2024

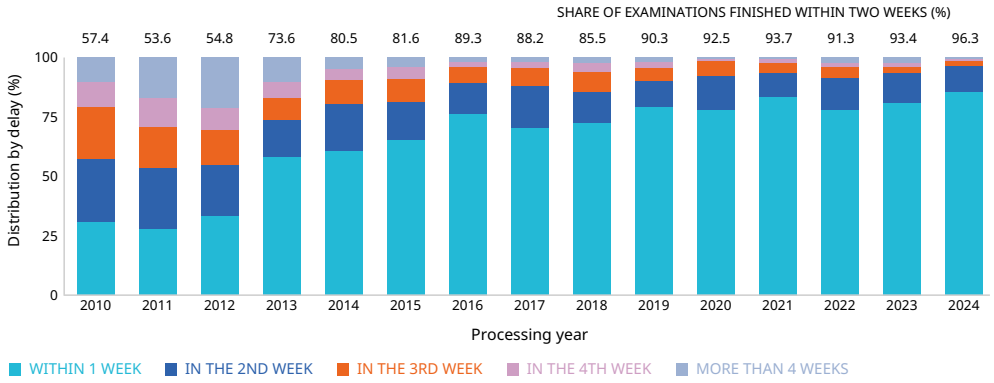


Source: WIPO Statistics Database, March 2025.

Timeliness in processing PCT applications by the International Bureau

In 2024, the International Bureau examined over 96% of PCT applications within two weeks of receipt.

C5. Timeliness of formalities examination, 2010–2024

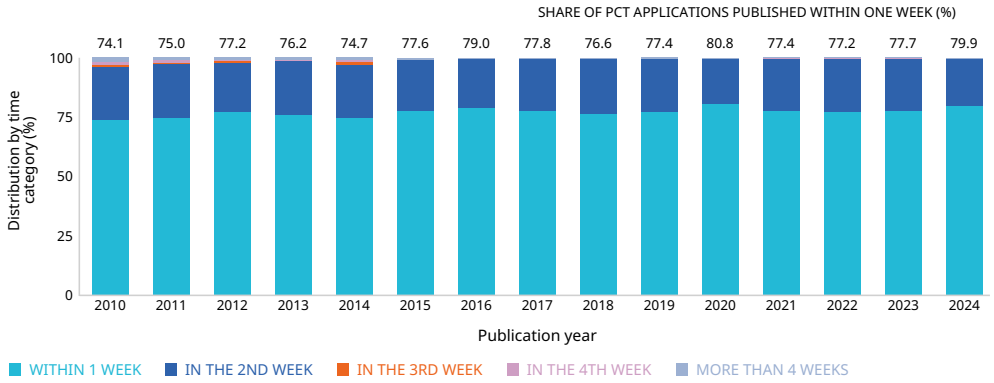


Note: The International Bureau (IB) performs a formality examination of PCT applications and related documents promptly upon receipt. Once the formality examination of a PCT application is completed, the IB sends a form to the applicant acknowledging receipt of the application. Timeliness is calculated as the time between the date of receipt of the record copy of the PCT application and the date of issuance of form PCT/IB/301.

Source: WIPO Statistics Database, March 2025.

In 2024, almost 80% of PCT applications were published within one week of expiration of the 18-month limit.

C6. Timeliness in publishing PCT applications, 2010–2024

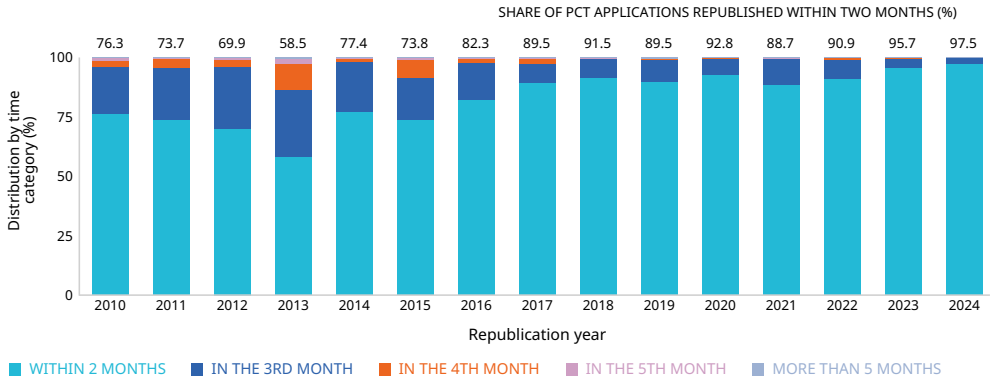


Note: PCT applications and related documents are to be published "promptly" after the expiration of 18 months from the priority date, unless the applicant requests early publication, or the application is withdrawn or considered withdrawn. Timeliness is calculated as the time between the time limit of 18 months from the priority date and the actual publication date.

Source: WIPO Statistics Database, March 2025.

In 2024, 97.5% of republications occurred within two months of receipt of an ISR.

C7. Timeliness in republishing PCT applications with international search reports, 2010–2024



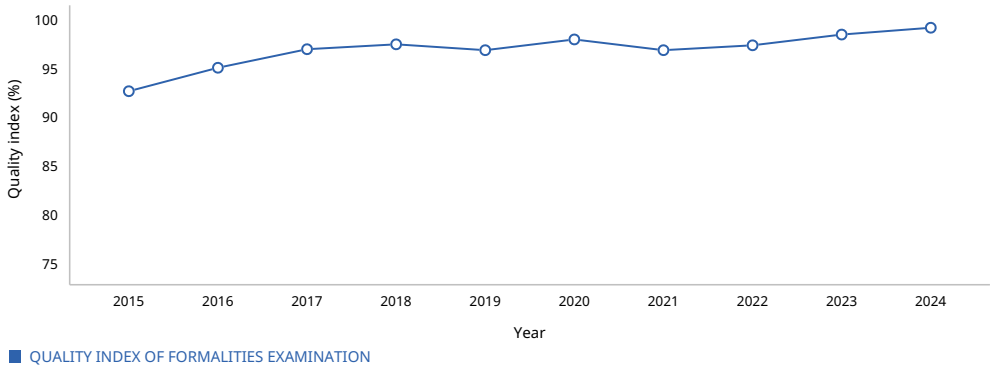
Note: The International Bureau (IB) is required to publish applications even in the absence of an international search report (ISR). In such cases, the application is republished along with an ISR once the report is received. Timeliness is calculated as the time elapsed between the date of receipt of the ISR at the IB and the date of republication by the IB.

Source: WIPO Statistics Database, March 2025.

Efficiency in processing PCT applications by the International Bureau

The formalities examination quality index grew to 99.2% in 2024.

C8. Formalities examination quality index, 2015–2024

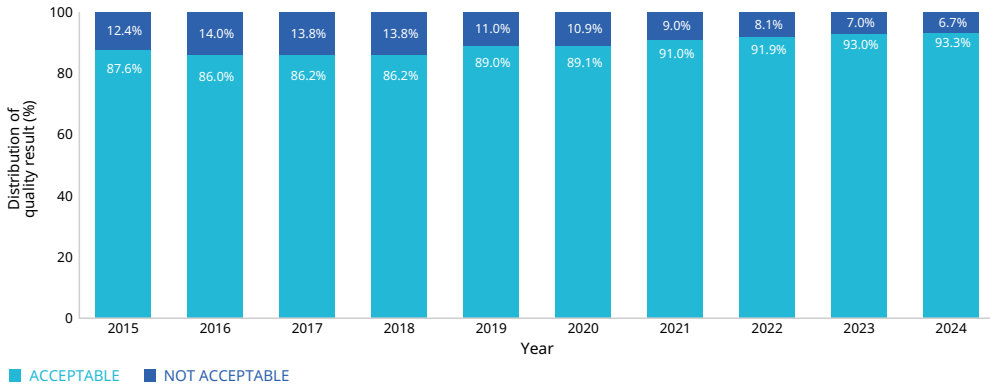


Note: In order to measure the quality of the formalities examination by the International Bureau (IB) in a simple and comprehensive manner, the IB has developed an aggregate quality index, calculated as the average of four lead quality indicators. Three of these indicators are based on the timeliness of key transactions. The quality index is the simple average of: (i) the percentage of PCT/IB/301 forms (notification of receipt of a PCT application) sent within five weeks of the IB receiving a PCT application; (ii) the percentage of PCT applications published within six months and three weeks of the international filing date; (iii) the percentage of republications with an international search report (ISR) within two months of the IB receiving the ISR; and (iv) the PCT Operations quality control error rate.

Source: WIPO Statistics Database, March 2025.

In 2024, the share of IB-provided translations of an acceptable quality reached 93.3%.

C9. Translation quality indicator, 2015–2024

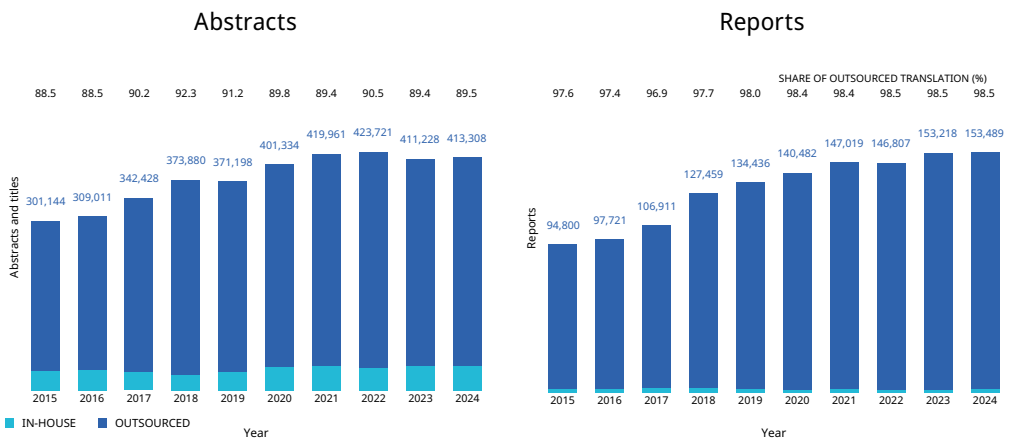


Note: The IB-provided translation quality indicator shows the average quality of abstracts and reports translated by external suppliers and in-house translators combined, based on the results regular quality control checks conducted by the International Bureau. This indicator aggregates the results of the quality control performed by the IB across all language combinations and document types.

Source: WIPO Statistics Database, March 2025.

Since 2019, at least 98% of report translations have been outsourced.

C10. Distribution of translation work, 2015–2024

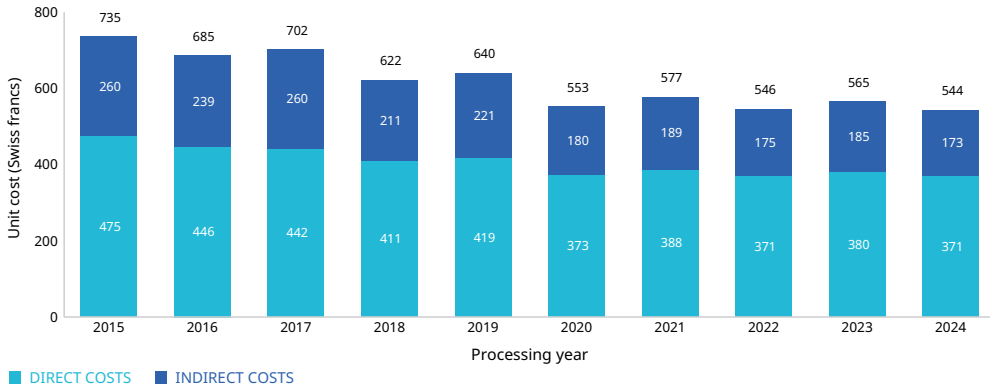


Note: Translations by the International Bureau (IB) are intended to enhance the patent system's disclosure function by making the technological information in PCT applications accessible in languages other than the language in which the original documents were filed. In order to meet this objective, the IB ensures that all titles and abstracts of PCT applications are available in English and French, and that all international search and preliminary examination reports are available in English.

Source: WIPO Statistics Database, March 2025.

The average cost of processing a published PCT application was 544 Swiss francs in 2024.

C11. Unit cost of processing a published PCT application, 2015–2024



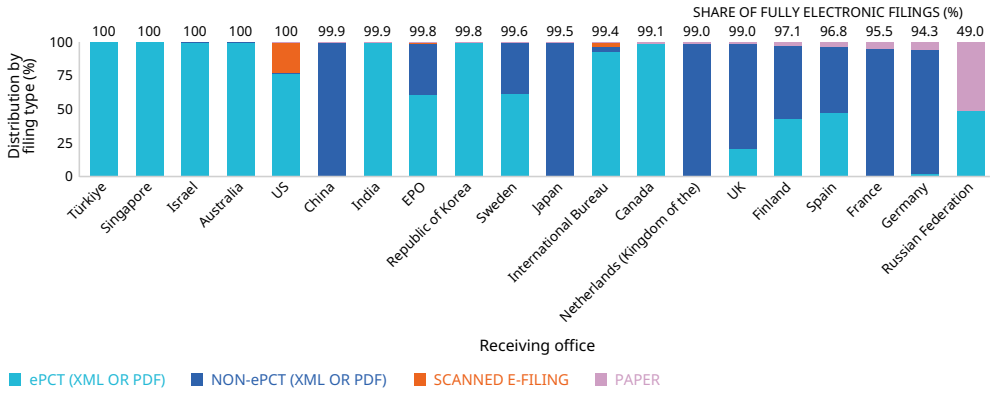
Note: The efficiency of the International Bureau (IB) in processing PCT applications can be measured by the unit cost of processing, defined as the average total cost of publishing a PCT application. Average total cost is determined by total PCT System expenditure, plus a proportion of expenditure on support and management activities. The unit cost includes the cost of all PCT activities, including translation, communication, management, and so on. Costs have direct and indirect components. Direct costs reflect expenditure incurred by the IB in administering the PCT System and related programs. Indirect costs reflect expenditure for support activities, such as buildings and information technology. Indirect costs are weighted in order to take into account only that share attributable to the PCT System. The unit cost is calculated by dividing the total cost of production by the number of PCT applications published.

Source: WIPO Statistics Database, March 2025.

Receiving offices

Over 94% of PCT applications were filed electronically at 19 of the top 20 offices.

C12. Distribution of PCT applications by filing medium, top 20 receiving offices, 2024

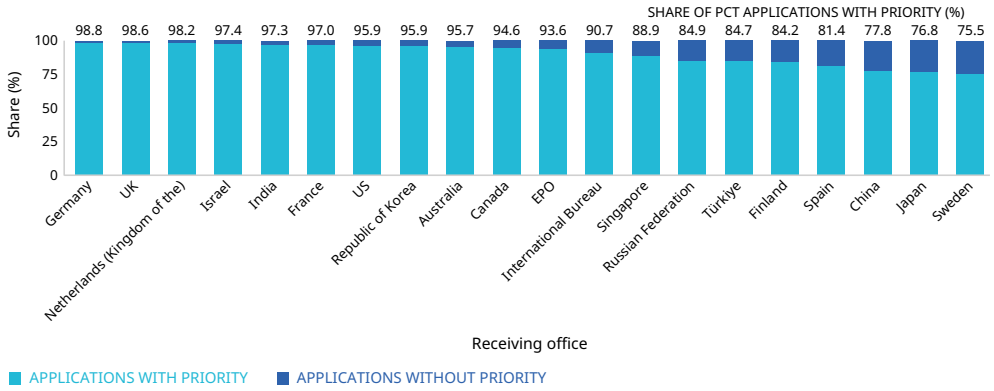


Note: EPO is the European Patent Office.

Source: WIPO Statistics Database, March 2025.

More than three-quarters of PCT applications filed at the top 20 offices were based on priority filings.

C13. Share of PCT applications with priority filings, top 20 receiving offices, 2024

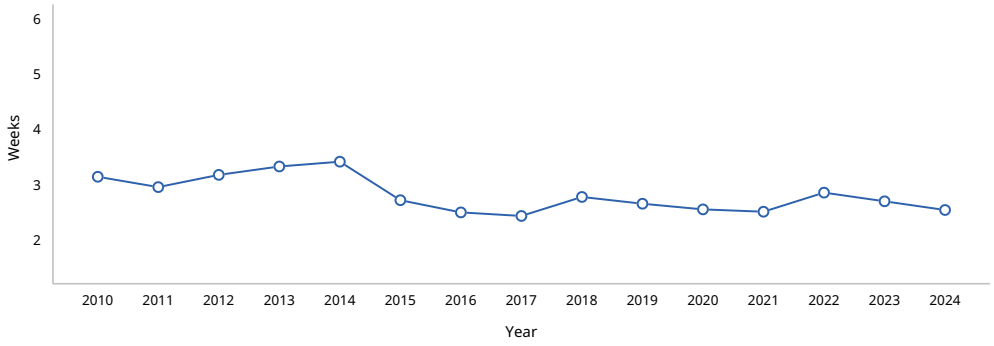


Note: EPO is the European Patent Office.

Source: WIPO Statistics Database, March 2025.

Since 2015, receiving offices transmitted PCT applications to the International Bureau in under three weeks, on average.

C14. Average timeliness in transmitting PCT applications to the International Bureau, 2010–2024

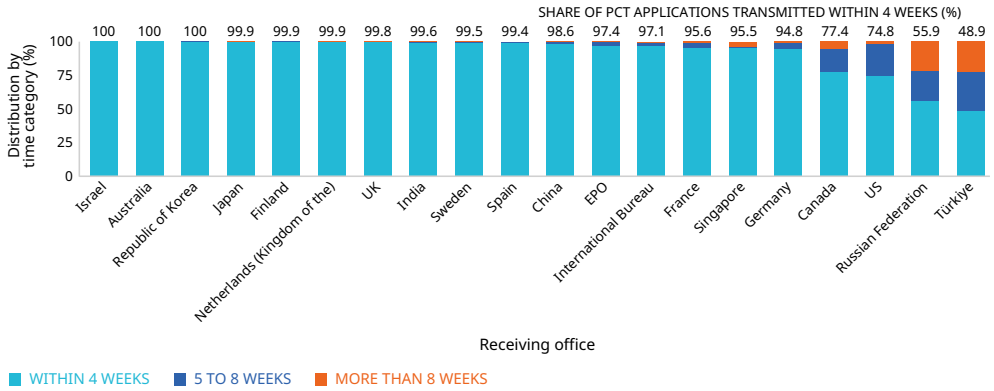


Note: The copy of the PCT application – known as the record copy – sent by the receiving office (RO) must reach the International Bureau (IB) before expiration of the 13th month from the priority date. PCT applications are usually filed before the expiration of 12 months from the priority date. When this occurs, the IB should receive the application within one month of the international filing date. Timeliness is calculated as the time elapsed between the international filing date and the date on which the IB received the PCT application from the RO. Applications transmitted under PCT Rule 19.4 are excluded.

Source: WIPO Statistics Database, March 2025.

Sixteen of the top 20 receiving offices transmitted at least 94% of PCT applications to the International Bureau within four weeks.

C15. Timeliness in transmitting PCT applications to the International Bureau, top 20 receiving offices, 2024

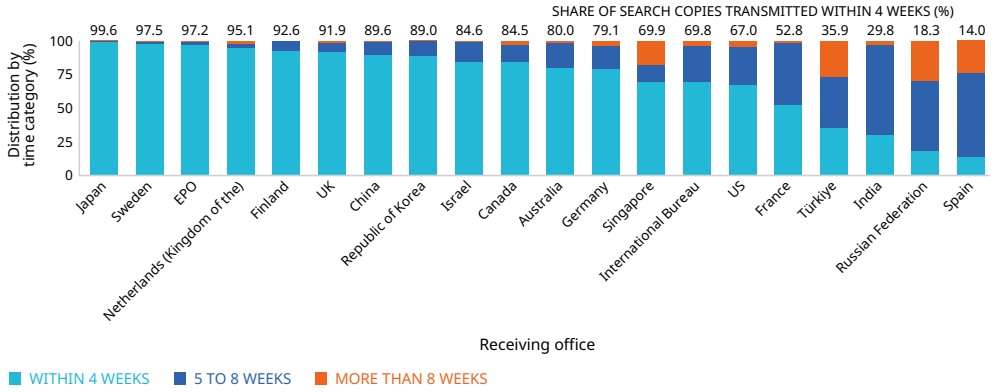


Note: The copy of the PCT application – known as the record copy – sent by the RO must reach the IB before expiration of the 13th month from the priority date. PCT applications are usually filed before the expiration of 12 months from the priority date. When this occurs, the IB should receive the application within one month of the international filing date. Timeliness is calculated as the time elapsed between the international filing date and the date on which the IB received the PCT application from the RO. Applications transmitted under PCT Rule 19.4 are excluded. Time categories are not linked to legal provisions within the PCT System. EPO is the European Patent Office.

Source: WIPO Statistics Database, March 2025.

Sixteen of the top 20 receiving offices transmitted most PCT applications to International Searching Authorities within four weeks.

C16. Timeliness in transmitting PCT applications to International Searching Authorities, top 20 receiving offices, 2024



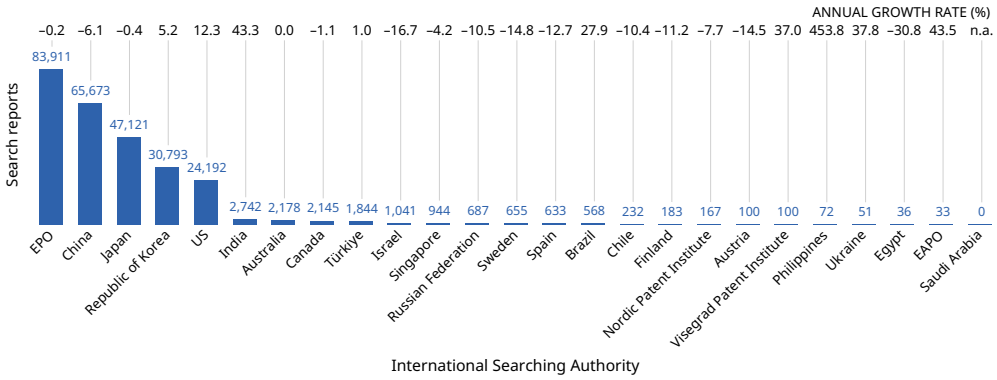
Note: Timeliness is calculated as the time elapsed between the international filing date and the date on which the International Searching Authority (ISA) received the PCT application – known as the search copy – from the receiving office. Dates of search fee payments are not used, due to the unavailability of data. Applications transmitted under the terms of PCT Rule 19.4 are excluded. Time categories are not linked to legal provisions within the PCT System. EPO is the European Patent Office.

Source: WIPO Statistics Database, March 2025.

International Searching Authorities

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

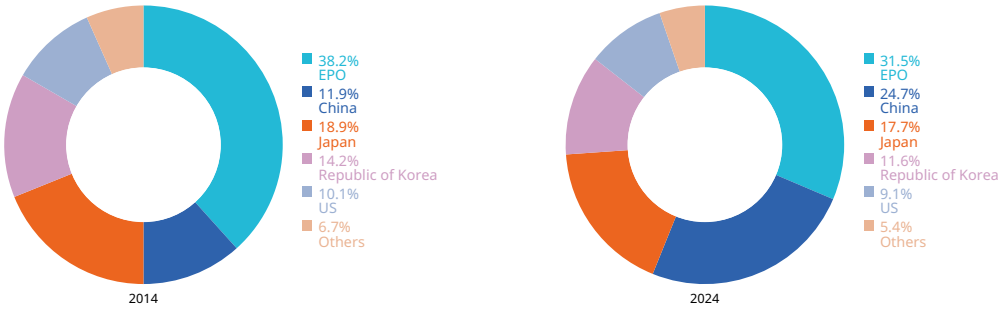
C17. International search reports issued by International Searching Authority, 2024



Note: EAPO is the Eurasian Patent Office and EPO is the European Patent Office.
Source: WIPO Statistics Database, March 2025.

The share of international search reports issued by the office of China has more than doubled over the past decade.

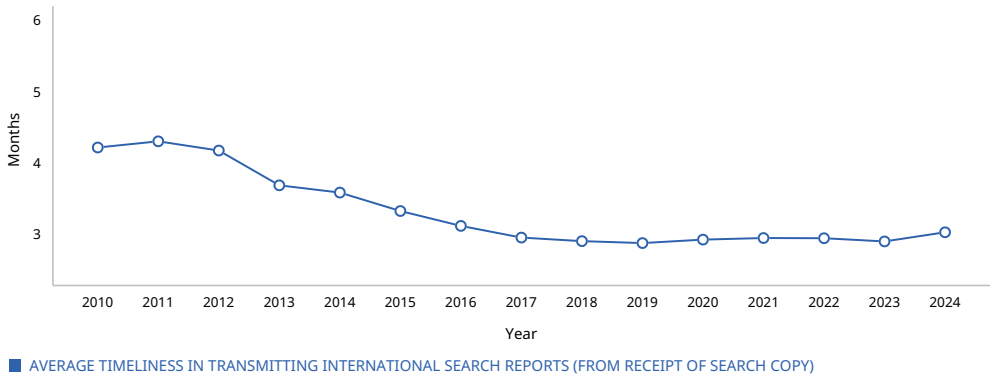
C18. Distribution of international search reports issued by International Searching Authority, 2014 and 2024



Note: EPO is the European Patent Office.
Source: WIPO Statistics Database, March 2025.

Since 2016, the average timeliness in transmitting international search reports to the International Bureau has been about three months.

C19. Average timeliness in transmitting international search reports to the International Bureau, measured from the date of receipt of the search copy, 2010–2024

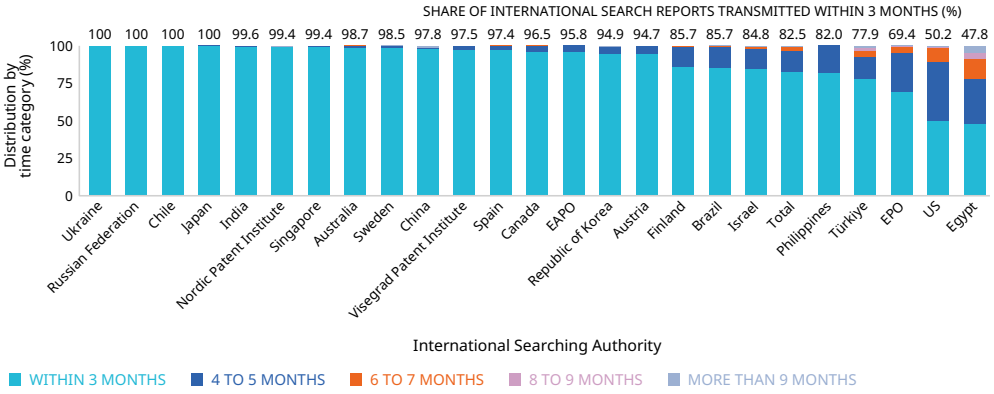


Note: The International Searching Authority (ISA) must establish an international search report (ISR) within three months of receiving a copy of an application – known as the search copy – or nine months from the priority date (or, if no priority is claimed, from the international filing date), whichever expires later. Timeliness is calculated as the time between the date the ISA receives a copy of the PCT application and the date when it transmits the ISR to the International Bureau (or, if applicable, the date of receipt of the declaration under Article 17(2)(a)). This figure shows timeliness in establishing the ISR where the applicable time limit for establishing an ISR under Rule 42 is three months after the date of receipt of the search copy.

Source: WIPO Statistics Database, March 2025.

Four ISAs fully met the deadline for transmitting all international search reports to the International Bureau within three months of the date of receipt of the search copy.

C20. Timeliness in transmitting international search reports to the International Bureau, measured from date of receipt of the search copy by International Searching Authority, 2024

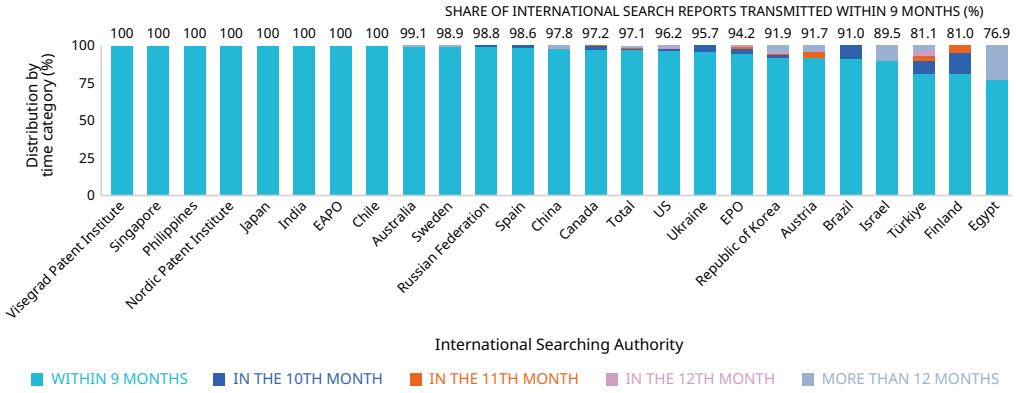


Note: The International Searching Authority (ISA) must establish an international search report (ISR) within three months of receiving a copy of an application – known as the search copy – or nine months from the priority date (or, if no priority is claimed, from the international filing date), whichever expires later. Timeliness is calculated as the time between the date when the ISA receives a copy of the PCT application and the date when it transmits the ISR to the International Bureau (or, if applicable, the date of receipt of the declaration under Article 17(2)(a)). This figure shows timeliness in establishing an ISR where the applicable time limit for establishing an ISR under Rule 42 is three months from receipt of the search copy. When the date of receipt of the search copy is unknown and the ISA is the same office as the receiving office, we consider the search copy to have been received on the international filing date and calculate the timeliness accordingly. EAPO is the Eurasian Patent Office and EPO is the European Patent Office.

Source: WIPO Statistics Database, March 2025.

Eight International Searching Authorities fully met the deadline to transmit all international search reports to the International Bureau within nine months of the priority date.

C21. Timeliness in transmitting international search reports to the International Bureau, measured from priority date by International Searching Authority, 2024

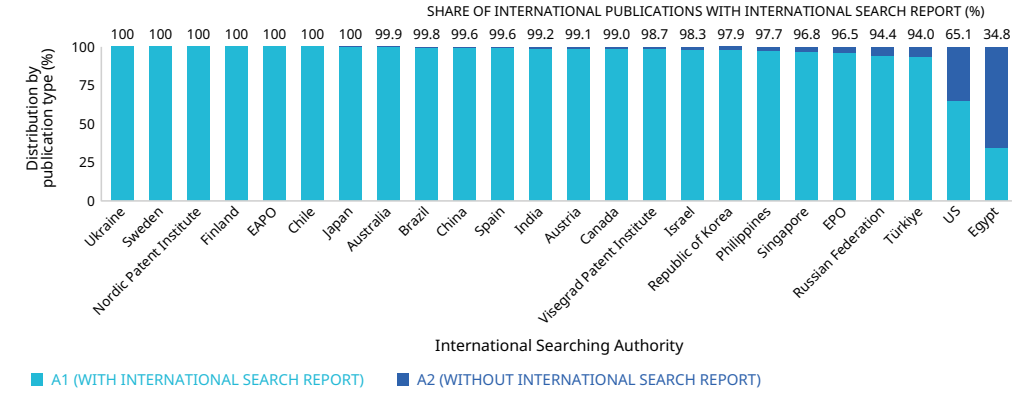


Note: The International Searching Authority (ISA) must establish an international search report (ISR) within three months of receiving a copy of an application – known as the search copy – or nine months from the priority date (or, if no priority is claimed, from the international filing date), whichever expires later. Timeliness is calculated as the time elapsed between the priority date and the date on which the ISA transmits the ISR to the International Bureau (or, if applicable, the date of receipt of the declaration under Article 17(2)(a)) for ISRs where the deadline is nine months from the priority date. This figure shows timeliness in establishing the ISR where the applicable time limit for establishing an ISR under Rule 42 is nine months from the priority date (or international filing date if no priority is claimed). ISRs are excluded when the date of receipt of the search copy is unknown and the ISA is not the same office as the receiving office. EAPO is the Eurasian Patent Office and EPO is the European Patent Office.

Source: WIPO Statistics Database, March 2025.

The International Bureau published more than 90% of PCT applications together with an international search report for 22 International Searching Authorities.

C22. Share of published PCT applications with or without an international search report by International Searching Authority, 2024

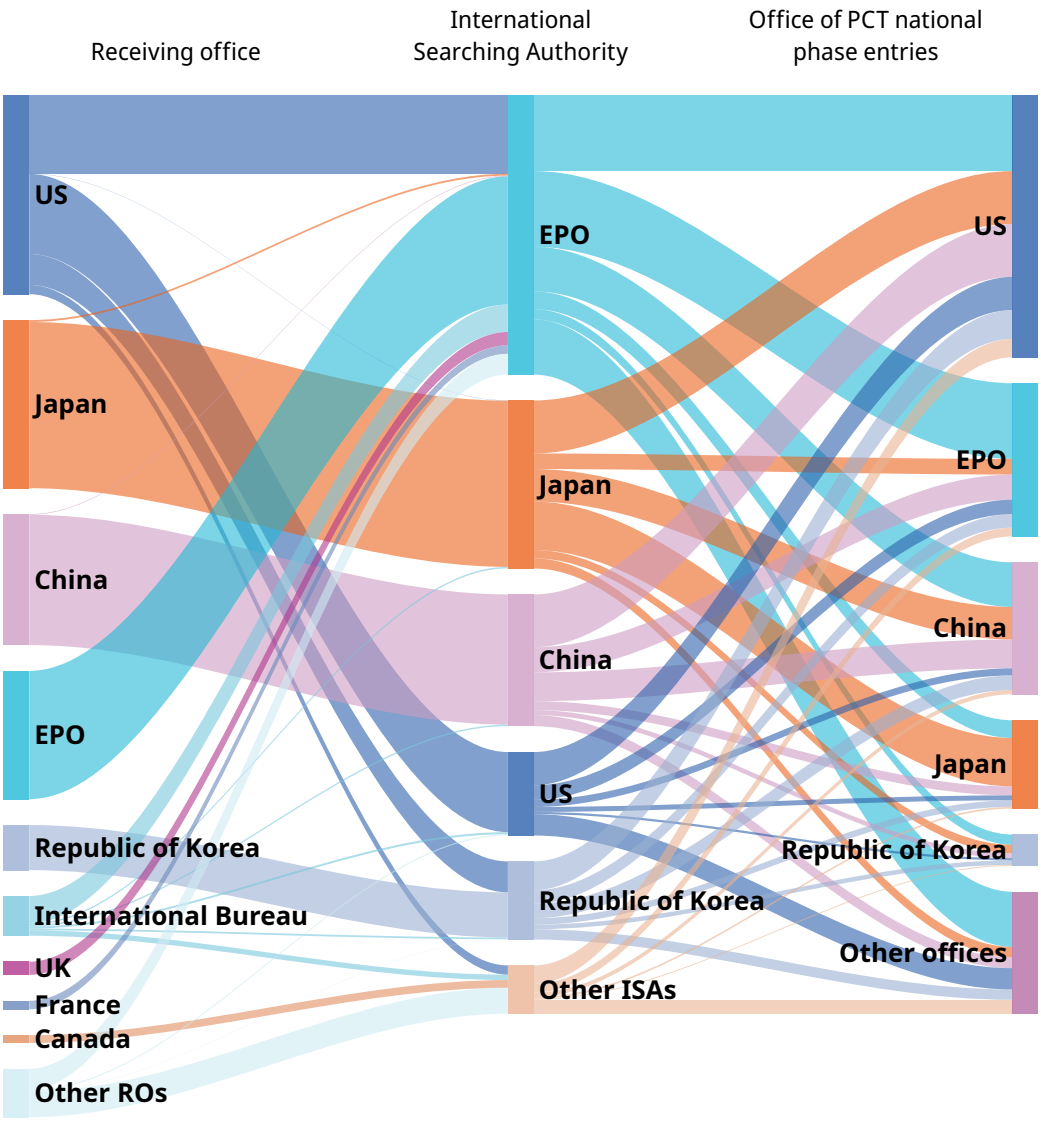


Note: A further measure of the performance of an ISA is the proportion of ISRs transmitted to the IB in time for publication with the PCT application, known as A1 publication. EAPO is the Eurasian Patent Office and EPO is the European Patent Office.

Source: WIPO Statistics Database, March 2025.

A large proportion of PCT applications filed at the office of the US had an international search report (ISR) produced by the European Patent Office. This latter office also issued ISRs for nearly half of national phase entries at offices other than the top five.

C23. Flow of PCT applications transmitted from the top nine receiving offices to the top five International Searching Authorities and the top five offices of PCT national phase entries, 2019–2021



Note: The 2019–2021 period refers to the years of PCT national phase entry and corresponds to the latest available data. National phase entry (NPE) data may be incomplete. This figure shows the flow of PCT applications between selected receiving offices (ROs), International Searching Authorities (ISAs) and offices of NPEs. Data for the offices of NPEs are based on fractional counts of PCT applications. Each RO may specify one or more ISA as competent for PCT applications with it. EPO is the European Patent Office.

Source: WIPO Statistics Database and EPO PATSTAT Database, March 2025.

Supplementary International Searching Authorities

The European Patent Office issued 22 of the 26 supplementary international search reports in 2024.

C24. Distribution of supplementary international search reports by Supplementary International Searching Authority, 2022–2024

	Year		
Supplementary international searching authority	2022	2023	2024
Austria		3	2
European Patent Office	48	28	22
Nordic Patent Institute			1
Singapore	3		
Sweden	1	1	
Ukraine	1		1
Total	**53**	**32**	**26**

Note: Data for 2024 may be incomplete.
Source: WIPO Statistics Database, March 2025.

International Preliminary Examining Authorities

The number of international preliminary reports on patentability issued by the US more than doubled in 2024.

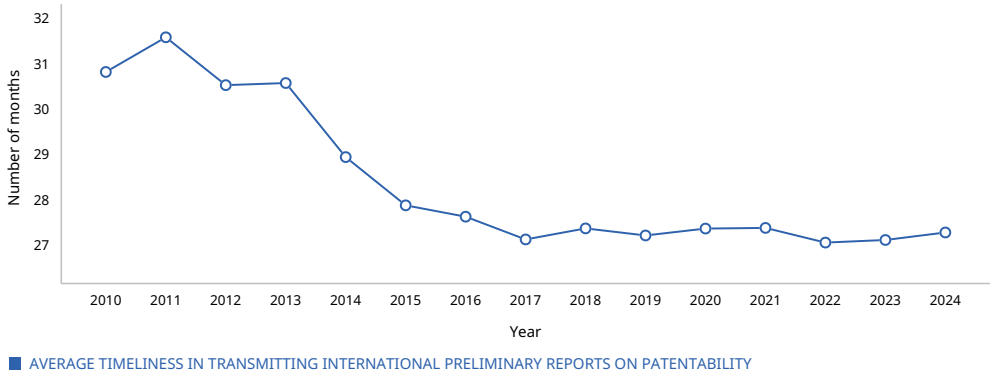
C25. Distribution of international preliminary reports on patentability by International Preliminary Examining Authority, 2022–2024

International preliminary examining authority	Year			2024 share (%)	Change from (%)
	2022	2023	2024		
Australia	420	446	331	4.0	–25.8
Austria	4	2	3	0.0	50.0
Brazil	87	93	82	1.0	–11.8
Canada	145	153	112	1.3	–26.8
Chile	17	7	10	0.1	42.9
China	372	254	207	2.5	–18.5
Egypt	0	8	5	0.1	–37.5
Eurasian Patent Organization	1	3	2	0.0	–33.3
European Patent Office	5,175	4,951	4,672	55.8	–5.6
Finland	39	27	16	0.2	–40.7
India	59	53	59	0.7	11.3
Israel	75	90	63	0.8	–30.0
Japan	1,400	1,412	1,381	16.5	–2.2
Nordic Patent Institute	32	46	29	0.3	–37.0
Philippines	1	0	1	0.0	n.a.
Republic of Korea	107	114	101	1.2	–11.4
Russian Federation	45	29	20	0.2	–31.0
Singapore	80	66	37	0.4	–43.9
Spain	53	33	33	0.4	0.0
Sweden	69	62	58	0.7	–6.5
Türkiye	53	34	35	0.4	2.9
Ukraine	9	2	4	0.0	100.0
US	689	517	1,103	13.2	113.3
Visegrad Patent Institute	1	1	2	0.0	100.0
Total	**8,933**	**8,403**	**8,366**	**100.0**	**–0.4**

Note: Data for 2024 may be incomplete.
n.a. indicates not applicable.
Source: WIPO Statistics Database, March 2025.

Since 2015, the average timeliness in transmitting international preliminary reports on patentability to the International Bureau has fluctuated between 27 and 28 months.

C26. Average timeliness in transmitting international preliminary reports on patentability to the International Bureau, 2010–2024

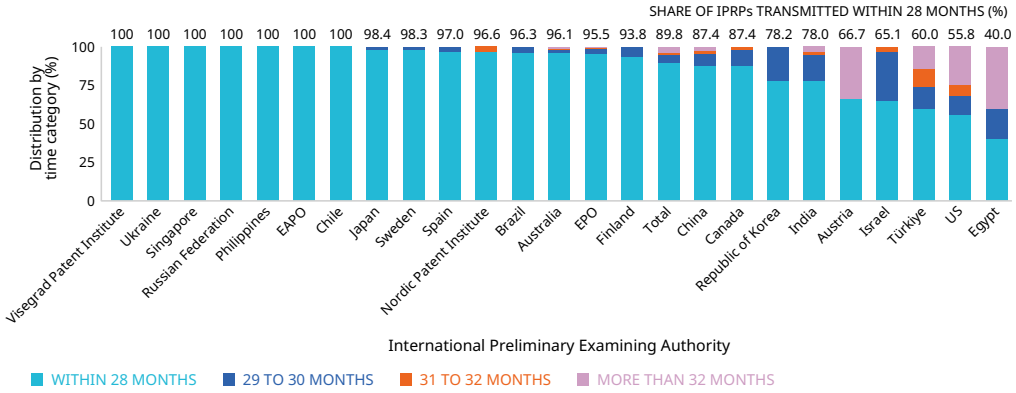


Note: Timeliness is calculated as the time elapsed between the priority date and the date on which the International Bureau received an international preliminary report on patentability (IPRP) from an International Preliminary Examining Authority (IPEA).

Source: WIPO Statistics Database, March 2025.

Seven offices transmitted all international preliminary reports on patentability to the International Bureau within 28 months of the priority date.

C27. Timeliness in transmitting international preliminary reports on patentability to the International Bureau by International Preliminary Examining Authority, 2024



Note: This figure presents the same timeliness information for 2024 as that presented in figure C26, but breaks it down by International Preliminary Examining Authority (IPEA) and time category. Timeliness is calculated as the time elapsed between the priority date and the date when the International Bureau received an international preliminary report on patentability (IPRP) from an IPEA. EAPO is the Eurasian Patent Office and EPO is the European Patent Office.

Source: WIPO Statistics Database, March 2025.

PCT-Patent Prosecution Highway pilots

Japan was the main office of later examination for PCT-Patent Prosecution Highway (PPH) requests in 2024.

C28. Distribution of PCT-PPH requests by office of earlier and later examination, 2024

	Office of earlier examination												
Office of later examination	**Japan**	**EPO**	**US**	**China**	**Republic of Korea**	**Canada**	**Israel**	**Australia**	**Singapore**	**Russian Federation**	**Spain**	**Others**	**Total**
Japan	1,224	450	67	86	54	8	6	2	2	0	1	4	1,904
China	350	602	84	0	96	15	9	0	8	16	0	3	1,183
Republic of Korea	135	179	76	53	89	5	8	0	5	0	0	15	565
EPO	180	0	140	99	51	25	7	3	0	0	0	0	505
Canada	20	153	118	12	17	43	1	5	1	0	2	6	378
Australia	29	172	99	0	28	19	3	0	4	0	0	4	358
Singapore	34	83	23	23	11	5	5	3	0	0	0	0	187
Mexico	51	65	8	16	7	1	0	0	0	0	11	0	159
Philippines	49	14	37	0	8	0	0	0	0	0	0	0	108
Brazil	13	62	19	4	1	0	0	0	0	0	0	3	102
Israel	1	64	10	7	1	0	6	0	1	0	0	2	92
Colombia	6	21	43	0	1	0	0	4	0	0	0	6	81
Hungary	0	0	0	74	0	0	0	0	0	0	0	2	76
Russian Federation	1	24	3	13	2	2	2	0	0	0	0	1	48
Chile	3	17	1	10	8	1	0	1	0	0	0	0	41
New Zealand	2	0	17	0	1	3	1	9	0	0	0	3	36
UK	17	0	9	2	0	0	0	2	0	0	0	1	31
EAPO	1	15	0	0	0	0	0	0	0	0	0	0	16
Others	10	3	2	0	1	1	0	1	0	0	0	1	19
Total	**2,126**	**1,924**	**756**	**399**	**376**	**128**	**48**	**30**	**21**	**16**	**14**	**51**	**5,889**

Note: EPO is the European Patent Office and EAPO is the Eurasian Patent Office. Data for several offices of later examination, such as those of Germany and the US, are unavailable.

Source: WIPO, based on data from the Japan Patent Office, March 2025.

Annexes

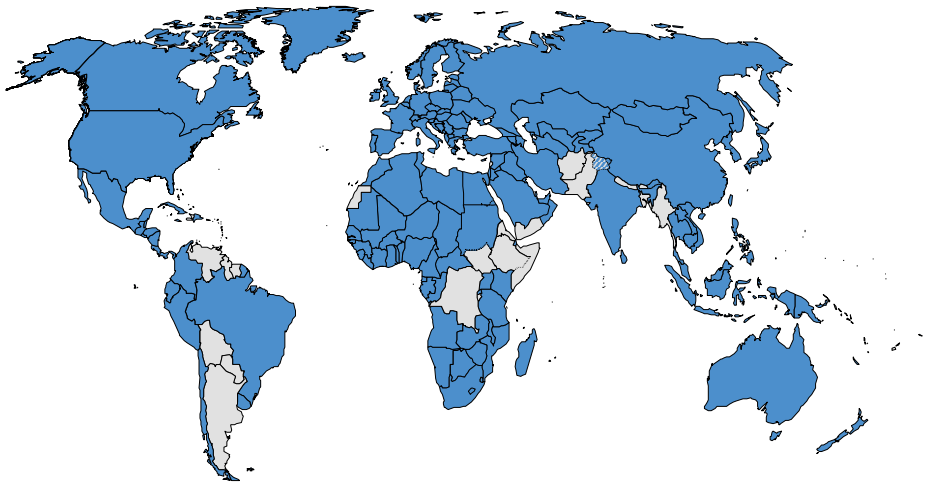
A brief presentation of the Patent Cooperation Treaty

The Patent Cooperation Treaty (PCT) is an international treaty administered by the World Intellectual Property Organization (WIPO). Since entering into force in 1978, the PCT has served as an alternative to the Paris Convention route for pursuing patent rights in different countries. The PCT System makes it possible to seek patent protection for an invention simultaneously in multiple countries by filing a single "international" patent application instead of filing several separate national or regional patent applications. When first established, the PCT System comprised 18 members. By the end of 2024, it comprised 158 Contracting States, as shown on the map below. A table listing all PCT Contracting States is provided at the end of this review.

Advantages of the Patent Cooperation Treaty

Applicants and patent offices of Contracting States benefit from uniform formality requirements, international search, supplementary international search and preliminary examination reports, and centralized international publication. Unlike the Paris Convention route, applicants can delay examination procedures at national patent offices, as well as the payment of associated legal fees and translation costs. By deferring national and regional procedures, applicants gain time to make decisions on the potential commercialization of their invention and the markets in which to seek patent protection. The reports produced by the international authorities which applicants receive during the international phase – concerning relevant prior art and the potential patentability of their inventions – help them make well-informed decisions.

Contracting States in 2024



Source: WIPO, March 2025.

In addition, the PCT System is intended to reduce unnecessary duplication and to support work-sharing between offices. Under the PCT System, an applicant must file a patent application with a receiving office (RO) and have one of the International Searching Authorities (ISA) provide an international search report (ISR) and a written opinion on the potential patentability of the invention in question. The International Bureau (IB) of WIPO then publishes the application in PATENTSCOPE, its online database. Following receipt of the ISR and the written opinion, the applicant can choose to request a supplementary international search (SIS) be undertaken by a Supplementary International Searching Authority (SISA), have an international preliminary examination (IPE) of the application undertaken by an International Preliminary Examining Authority (IPEA) or take no further action. Under the PCT, an applicant generally has a minimum of 30 months from the earliest filing (priority) date during which to enter the national phase in the patent offices of or acting for PCT member countries in which patent protection is desired.

International phase

The international phase usually continues for a period of 18 months and mainly involves the filing and formal examination of the application, international search, international publication, optional SIS and optional IPE.

Filing applications

Typically, applicants seeking protection for an invention in more than one country first file a national or regional patent application at their national or regional patent office. Within 12 months of the filing date of that first application (a time limit set by the Paris Convention), applicants must file an international application under the PCT with an RO – the respective national or regional patent office, or the IB – thereby beginning the international phase. Only a national or resident of a PCT Contracting State can file a PCT application. Where several applicants are named in a PCT application, only one needs to comply with this requirement. Because the application has legal effect in all Contracting States, applicants can effectively postpone the requirement to pay certain substantial fees and costs, such as that of translating the application into national languages.

The RO transmits a copy of the application to the IB, which is responsible for:

- receiving and storing all application documents;
- performing a second formality examination;
- translating the title and abstract of the application and certain associated documents into English and/or French, where necessary;
- publishing the application and related documents in PATENTSCOPE; and
- communicating documents to offices and third parties.

International search

Applications are subjected to an international search carried out by an ISA to identify the prior art relevant to the patentability of the invention in question, establish an ISR and provide a written opinion on the invention's potential patentability. The opinion provided can assist an applicant in deciding whether to continue seeking protection for their invention. If the written opinion is unfavorable, an applicant can choose to amend the application in order to improve the probability of obtaining a patent, or withdraw the application before international publication and before incurring additional costs or else do nothing.

Supplementary international search

Since January 1, 2009, the SIS service has afforded applicants the option of requesting additional searches by ISAs other than the one that carried out the initial search. This service aims to give applicants the option of obtaining a more comprehensive overview of the prior art in the international phase by allowing them to have an additional search performed in an ISA's specialty language. Applicants can request a SIS report by a SISA up to 22 months from the filing (priority) date.

International preliminary examination

After receiving an ISA's written opinion, applicants can request an optional IPE – a second evaluation of the invention's patentability – to be carried out by an IPEA, usually on an amended version of the application (all ISAs are also IPEAs). The resultant international preliminary report on patentability (IPRP) can further assist an applicant in determining whether to enter the national phase and contains useful information for elected offices in the national phase.

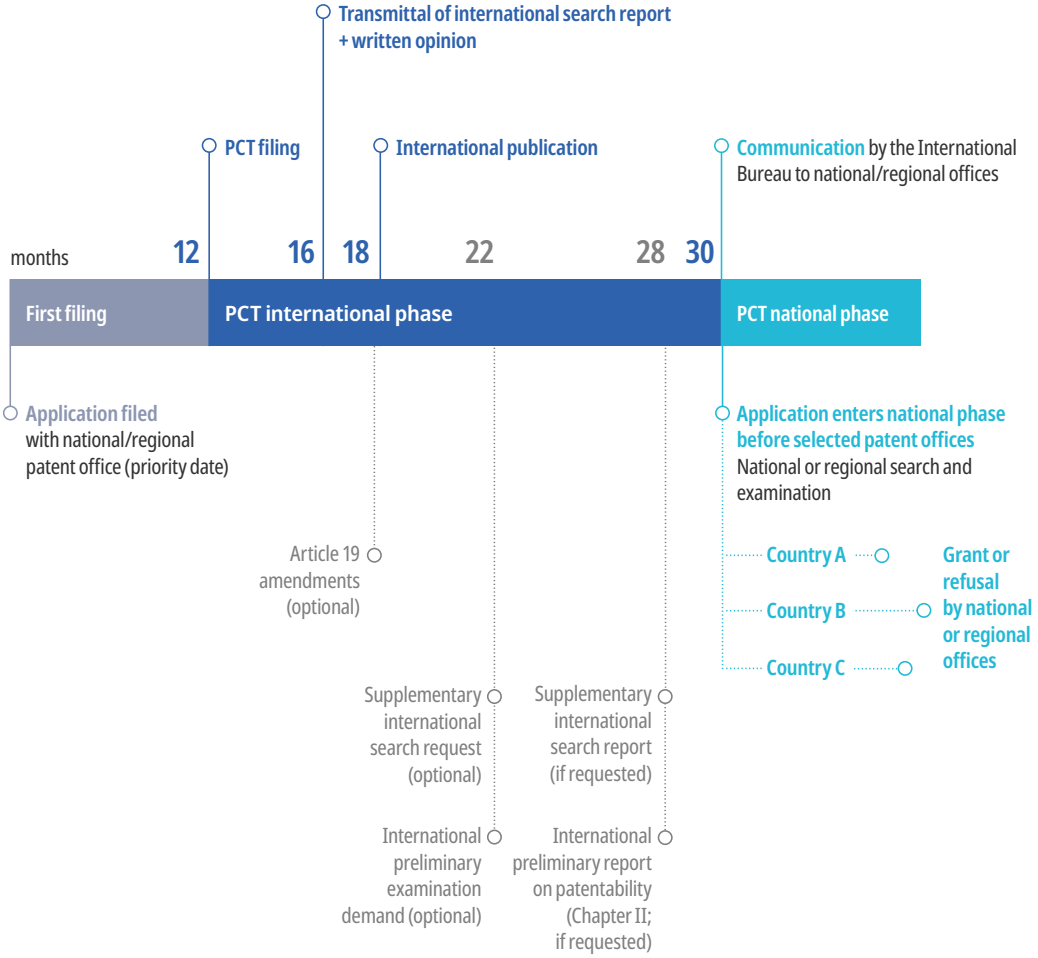
National phase

Applicants have at least 18 months from the international filing date before an application needs to enter the national phase at individual patent offices. This delay affords additional time – compared to that allowed under the Paris Convention – to evaluate the chances of obtaining a patent and plan how to use the invention commercially in those countries in which protection is sought. In the national phase, certain PCT protections continue to apply. During this phase, the particular patent office processes the application in accordance with its national patent laws and decides whether to grant patent protection. The time required for processing varies between patent offices.

Patent Prosecution Highway

PCT-Patent Prosecution Highway (PCT-PPH) pilots are bilateral agreements between patent offices enabling applicants to request the accelerated processing of national phase applications. Under such agreements, an applicant receiving a written opinion or an IPRP indicating that at least one claim in the PCT application has novelty, an inventive step or industrial applicability may request that other participating patent offices take up the processing of the application out of turn. An applicant may request the PCT-PPH procedure when entering the national phase of the PCT in a participating designated state. The advantage for PCT applicants is that patent applications are processed faster and more efficiently by designated (or elected) offices. Participating offices also benefit from having a reduced examination workload, as well as additional knowledge sharing.

Overview of the PCT System



Benefits

- One PCT application with legal effect in all PCT Contracting States
- Harmonized formal requirements
- Receive patentability information to support strategic decision-making
- Postpone significant costs for national processing by 18 months

Source: WIPO, March 2025.

For more information on the PCT, please visit www.wipo.int/pct.

Data description

Data presented in this review were drawn from the WIPO Statistics Database. Due to a delay in transmitting PCT applications to WIPO, the figures for the international phase of the PCT for 2024 are estimates.

Publication of PCT applications usually takes place every Thursday. The years 2014 and 2020 each had 53 Thursdays instead of the 52 in other years, which slightly affects trends in statistics based on published PCT applications.

For the national phase of the PCT System, statistics are based on data supplied to WIPO by national and regional patent offices – data which WIPO often receives six months or more after the end of the year in question. Therefore, the latest year for which data are available is 2023. Data may be missing for some offices and incomplete for some origins. Data are available for most, if not all, of the larger offices. With the 2023 data supplied to WIPO corresponding to 99.8% of the world total, only a very small proportion of the total is estimated. Missing data are usually estimated using linear extrapolation and averaging adjacent data points.

In 2024, the United States Patent and Trademark Office (USPTO) changed its methodology for extracting PCT national phase entry (NPE) data by removing requests for continued examination (RCE) and has revised its NPE data for the period 2000–2023.

Income groups correspond to those used by the World Bank and groupings by region are based on the United Nations (UN) definition of regions.

The figures cited in this review are subject to revision. Regular updates are available at WIPO's IP Statistics Data Center and Statistical Country Profiles at: www.wipo.int/web/ip-statistics.

Acronyms

ARIPO	African Regional Intellectual Property Organization
CNIPA	China National Intellectual Property Administration
EAPO	Eurasian Patent Organization
EPO	European Patent Office
GPPH	Global Patent Prosecution Highway
IB	International Bureau of WIPO
IP	intellectual property
IPC	International Patent Classification
IPE	international preliminary examination
IPEA	International Preliminary Examining Authority
IPRP	international preliminary report on patentability
ISA	International Searching Authority
ISR	international search report
JPO	Japan Patent Office
KIPO	Korean Intellectual Property Office
LAC	Latin America and the Caribbean
NPE	national phase entry
OAPI	African Intellectual Property Organization
PCT	Patent Cooperation Treaty
PCT-PPH	Patent Cooperation Treaty-Patent Prosecution Highway
PDF	portable document format
PRO	public research organization
RO	receiving office
SIS	supplementary international search
SISA	Supplementary International Searching Authority (authority specified for supplementary search)
SISR	supplementary international search report
UK	United Kingdom
US	United States of America
USPTO	United States Patent and Trademark Office
WIPO	World Intellectual Property Organization
XML	extensible markup language

Glossary

Applicant: An individual or legal entity that files a patent application. There may be more than one applicant named in an application. For PCT statistics, the place of residence of the first named applicant is used to determine the origin of a PCT application.

Application: The procedure for requesting IP rights at a patent office which then examines the application and decides whether to grant protection. Also refers to a set of documents submitted to an office by an applicant.

Authority specified for supplementary international search (SISA): An International Searching Authority (ISA) that provides a supplementary international search service – also known as a Supplementary International Searching Authority (SISA).

Chapter I of the PCT: The provisions in the PCT regulating the filing of PCT applications, the international searches and written opinions of ISAs, and the international publication of PCT applications – and which provide for the communication of PCT applications plus related documents to designated offices.

Chapter II of the PCT: The provisions in the PCT regulating the optional international preliminary examination (IPE) procedure.

Designated office: A national or regional office of, or acting for, a state designated in a PCT application under Chapter I of the PCT.

Designated state: A Contracting State in which protection for an invention is sought, as specified in the PCT application.

Elected office: The national or regional office of, or acting for, a state elected by an applicant under Chapter II of the PCT where the applicant intends to use the results of the international preliminary examination.

Filing abroad: For statistical purposes, an application filed by a resident of a given state or jurisdiction at an IP office of another state or jurisdiction. For example, an application filed at the Japan Patent Office (JPO) by an applicant domiciled in Lithuania is considered an application abroad from the perspective of Lithuania. This differs from a "non-resident application," which describes an application filed by a resident of a foreign state or jurisdiction from the perspective of the office receiving the application; so, the example above would be a non-resident application from the point of view of the JPO.

Foreign-oriented patent families: A patent family is a set of interrelated patent applications filed at one or more offices to protect the same invention. Patent applications within a family are interlinked by one or more of the following: priority claim, PCT national phase entry, continuation, continuation-in-part, internal priority, and addition or division. Foreign-oriented patent families have at least one filing at an office other than the applicant's home office.

Global Patent Prosecution Highway (GPPH): The GPPH pilot is a single, multilateral agreement between a group of offices. It allows applicants to make a request for accelerated processing at any participating office, based on work products from any of the other participating offices (including PCT reports), using a single set of qualifying requirements.

International application: See "PCT application."

International authority: A national or regional patent office or intergovernmental organization that undertakes specific functions, as prescribed by the PCT.

International Bureau (IB) of WIPO: In the context of the PCT, the IB of WIPO handles certain processing tasks for all PCT applications filed at receiving offices worldwide. It also acts as a receiving office for all PCT applications from Contracting States.

International filing date: The date on which a receiving office receives a PCT application, and confirms that certain formal requirements have been met.

International Patent Classification (IPC): An internationally recognized patent classification system, the IPC has a hierarchical structure of language-independent symbols and is divided into sections, classes, subclasses and groups. IPC symbols are assigned according to the technical features in a patent application. A patent application that relates to multiple technical features can be assigned several IPC symbols.

International phase of the PCT: The international phase consists of five main stages:

1. filing of a PCT application by an applicant and its processing by the receiving office;
2. establishment of an ISR and a written opinion by an ISA;
3. publication of the PCT application and related documents;
4. optional establishment of an SISR by a SISA; and
5. optional establishment of an IPRP by an IPEA.

For further details on the international phase, see annex, A brief presentation of the Patent Cooperation Treaty.

International Preliminary Examining Authority (IPEA): A national or regional patent office or intergovernmental organization appointed by the PCT Assembly to carry out international preliminary examinations (IPEs). Its task is to establish the IPRP (Chapter II of the PCT).

International preliminary report on patentability (Chapter II of the PCT) (IPRP): A preliminary, nonbinding opinion established by an IPEA at the request of an applicant as to whether a claimed invention appears to be novel, involve an inventive step (i.e., is non-obvious) and be industrially applicable. Prior to January 1, 2004, this report was known as the "International Preliminary Examination Report. "

International search report (ISR): A report established by an ISA containing citations of documents (prior art) considered relevant for determining in particular the novelty and inventive step of an invention as claimed. The ISR also includes a classification of the subject matter of an invention and an indication of the fields searched, as well as any electronic databases searched.

International Searching Authority (ISA): A national patent office or intergovernmental organization appointed by the PCT Assembly to carry out international searches. ISAs establish ISRs and written opinions on PCT applications.

Invention: A new solution to a technical problem. To obtain patent rights, an invention must be novel, involve an inventive step and be industrially applicable, as judged by a person skilled in the art.

National phase entry (NPE): The national phase under the PCT follows the international phase of the PCT procedure and consists of the entry and processing of an international application in those individual countries or regions in which the applicant seeks protection for an invention. An entry must in general take place within 30 months from the priority date of the application, although longer time periods are afforded by some offices. NPE involves the payment of fees and, where necessary, the submission of a translation of the PCT application.

Non-resident application: For statistical purposes, a "non-resident" application refers to an application filed at the IP office of, or acting for, a state or jurisdiction in which the first named applicant in an application is not domiciled. For example, an application filed at the Japan Patent Office (JPO) by an applicant residing in Senegal is considered a non-resident application from the perspective of the JPO. Non-resident applications are sometimes referred to as foreign applications.

Origin: For statistical purposes, the origin of an application means the country or territory of residence (or nationality, in the absence of a valid residence) of the first named applicant in an application.

Paris Convention: The Paris Convention for the Protection of Industrial Property is an international convention signed in Paris (France) on March 20, 1883. It is one of the first and most important intellectual property treaties. The Paris Convention establishes, among other things, the "right of priority" principle, which enables a patent applicant to claim a priority of up to 12 months when filing an application in countries other than the original country of filing.

Paris route: Applications for patent protection filed directly with the national/regional office of, or acting for, the relevant state or jurisdiction in accordance with the Paris Convention (as opposed to the "national phase under the PCT"). The Paris route is also called the "direct route" or "national route."

Patent: An exclusive right granted by law to an applicant for an invention for a limited period of time (generally 20 years from the date of filing). The patent system is designed to encourage innovation by providing innovators with time-limited exclusive legal rights, enabling them to appropriate returns from their innovative activity. In return, the applicant is obliged to disclose the invention to the public in a manner that enables others skilled in the art to replicate it. The patent system is also designed to balance the interests of applicants (exclusive rights) with the interests of society (disclosure of the invention). Patents are granted by national or regional patent offices and limited to the jurisdiction of the issuing authority. Patent rights can be sought by filing an application directly with the relevant national or regional office(s), or by filing a PCT application.

Patent Cooperation Treaty (PCT): An international treaty administered by WIPO, the PCT allows applicants to seek patent protection for an invention simultaneously in a large number of countries (PCT Contracting States) by filing a single PCT international application. The decision as to the granting of a patent, which remains under the control of a national or regional patent office, takes place during what is called the "national phase".

PATENTSCOPE: Provides access, free of charge, to all published PCT applications along with related documents, and to the national or regional patent collections from numerous offices worldwide. Since April 2006, the PATENTSCOPE search system has been the official publication source for PCT applications.

PCT application: A patent application filed through the WIPO-administered PCT, also known as an international application.

PCT route: The procedure outlined in the PCT, as opposed to the Paris route.

PCT System: The PCT, an international treaty administered by WIPO, facilitates the seeking of patent rights in a large number of jurisdictions. The PCT System simplifies the process of multiple national patent filings by making it unnecessary to file a separate application in each jurisdiction within the 12-month period under the Paris Convention. However, the decision on whether to grant patent rights remains the prerogative of national and regional patent offices, and patent rights remain limited to the jurisdiction of the patent-granting authority. The PCT application process starts with the international phase, during which an international search and, possibly, a preliminary examination are performed, and concludes with the national phase, during which a national or regional patent office decides on the patentability of an invention according to national law.

PCT-Patent Prosecution Highway pilots (PCT-PPH): A number of bilateral agreements signed between patent offices that enable applicants to request an accelerated examination procedure, because of positive patentability findings made by the International Searching and/or International Preliminary Examining Authority, in the written opinion of an International Searching Authority, the written opinion of an International Preliminary Examining Authority or the international preliminary report on patentability.

Prior art: All information disclosed to the public about an invention, in any form, before a given date. Information on prior art can assist in determining whether a claimed invention is new and involves an inventive step (i.e., is non-obvious) for the purposes of international searches and international preliminary examination (IPE).

Priority date: The filing date of an application on the basis of which priority is claimed.

Publication of PCT application: The IB publishes a PCT application and related documents promptly after the expiration of 18 months from the priority date. If a PCT application is withdrawn or considered withdrawn before the technical preparations for publication are completed, the application is not published. An applicant can request early publication of a PCT application.

Receiving office (RO): A patent office – or the IB – at which a PCT application is filed. The role of the RO is to check and process an application in accordance with the regulations governing the PCT.

Resident application: For statistical purposes, a resident application refers to an application filed with the IP office of, or acting for, the state or jurisdiction in which the first named applicant in the application has residence. For example, an application filed with the Japan Patent Office (JPO) by a resident of Japan is considered a resident application by the JPO. Resident applications are sometimes referred to as "domestic applications."

Supplementary international search report (SISR): A report, similar to the ISR, established during the supplementary international search, that allows an applicant to request, in addition to the main international search, one or more supplementary international searches, each to be carried out by an international authority other than the ISA conducting the main international search. The SISR primarily focuses on the patent documentation in the language in which that SISA specializes.

Supplementary International Searching Authority (SISA): See "Authority specified for supplementary international search."

World Intellectual Property Organization (WIPO): A United Nations specialized agency dedicated to the promotion of innovation and creativity for the economic, social and cultural development of all countries through a balanced and effective international intellectual property (IP) system. Established in 1967, WIPO's mandate is to promote the protection of IP globally through cooperation among states and in collaboration with other international organizations.

Written opinion of the ISA (WOSA): For every PCT application filed on or after January 1, 2004, an ISA establishes, at the same time that it establishes the ISR, a preliminary and non-binding written opinion on whether a claimed invention appears to be novel, involve an inventive step and is industrially applicable.

PCT Contracting States

During 2024, Urugay became bound by the PCT, bringing the number of contracting states to 158.

Albania	Germany	Oman
Algeria	Ghana	Panama
Angola	Greece	Papua New Guinea
Antigua and Barbuda	Grenada	Peru
Armenia	Guatemala	Philippines
Australia	Guinea	Poland
Austria	Guinea-Bissau	Portugal
Azerbaijan	Honduras	Qatar
Bahrain	Hungary	Republic of Korea
Barbados	Iceland	Republic of Moldova
Belarus	India	Romania
Belgium	Indonesia	Russian Federation
Belize	Iran (Islamic Republic of)	Rwanda
Benin	Iraq	Saint Kitts and Nevis
Bosnia and Herzegovina	Ireland	Saint Lucia
Botswana	Israel	Saint Vincent and the Grenadines
Brazil	Italy	Samoa
Brunei Darussalam	Jamaica	San Marino
Bulgaria	Japan	Sao Tome and Principe
Burkina Faso	Jordan	Saudi Arabia
Cabo Verde	Kazakhstan	Senegal
Cambodia	Kenya	Serbia
Cameroon	Kuwait	Seychelles
Canada	Kyrgyzstan	Sierra Leone
Central African Republic	Lao People's Democratic Republic	Singapore
Chad	Latvia	Slovakia
Chile	Lesotho	Slovenia
China	Liberia	South Africa
Colombia	Libya	Spain
Comoros	Liechtenstein	Sri Lanka
Congo	Lithuania	Sudan
Costa Rica	Luxembourg	Sweden
Côte d'Ivoire	Madagascar	Switzerland
Croatia	Malawi	Syrian Arab Republic
Cuba	Malaysia	Tajikistan
Cyprus	Mali	Thailand
Czech Republic	Malta	Togo
Democratic People's Republic of Korea	Mauritania	Trinidad and Tobago
Denmark	Mauritius	Tunisia
Djibouti	Mexico	Türkiye
Dominica	Monaco	Turkmenistan
Dominican Republic	Mongolia	Uganda
Ecuador	Montenegro	Ukraine
Egypt	Morocco	United Arab Emirates
El Salvador	Mozambique	United Kingdom
Equatorial Guinea	Namibia	United Republic of Tanzania
Estonia	Netherlands	United States of America
Eswatini	New Zealand	Uruguay
Finland	Nicaragua	Uzbekistan
France	Niger	Viet Nam
Gabon	Nigeria	Zambia
Gambia	North Macedonia	Zimbabwe
Georgia	Norway	

Source: WIPO, March 2025.

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